



GENERAL DATA SHEET

Well: Well Type: Basin: Tenement: Objective: Status:	Longtom-2 & ST1 Exploration Gippsland VIC/P-54 Admiral Formation Sandstones P & A	Operator: Partners:	Apache Energy Limited Apache Northwest Pty Ltd Nexus Energy Vic P54 Pty Ltd
Spudded: TD Reached: Kicked Off Sidetrack: TD Reached in Sidetrack Rig Released:	09:00 hrs 10 November, 2004 15:00 hrs 19 November, 2004 06:00 hrs 17 December, 2004 10:00 hrs 18 December, 2004 14:30 hrs 22 December, 2004	Latitude: Longitude: Northing: Easting:	38° 06' 11.89" S 148° 19' 00.92" E 5,781,904.33 mN 615,462.43 mE
Total Depth: Longtom-2 Longtom-2 ST1 RT Elevation: Water Depth: Drill. Contr.: Rig (Type):	mTVDAHD (mMDRT) -2385.1 (2422.0) -2118.1 (2148.0) 21.5 m above AHD 56.8 m below AHD Diamond Offshore Ocean Patriot (Semi-Sub)	Datum: Projection:	GDA94, Spheroid GRS80 MGA Zone 55, CM 147° E

Hole and Casing Details

Hole Size (mm)	Interval (mMDRT)	Interval (mTVDAHD)	Casing Size (mm)	Depth (mMDRT)	Depth (mTVDAHD)
Longtom-2					
914	78.3 to 111.0	-56.8 to -89.5	762	110.0	-88.5
311	111.0 to 1009.0	-89.5 to -987.4	244	995.2	-973.6
216	1009.0 to 2422.0	-987.4 to -2385.1	178	2420.0	-2383.2
Longtom-2 ST1 kicked off at 1960.0 mMDRT.					
152	1960.0 to 2148.0	-1934.5 to -2118.1	No casing set in sidetrack.		

MWD/LWD Logs

Bit No.	Log Suite	Interval (mMDRT)	Max °C	Hole Size (mm)	Remarks
Longtom-2					
2	DGR-EWRP4-ACAL-BAT-PM	111.0 to 1009.0	26	311	All recorded data recovered at surface.
3	DGR-EWRP4-ACAL-BAT-SLD-CNP-PM	1009.0 to 2312.0	99	216	All recorded data recovered at surface.
4	DGR-EWRP4-ACAL-BAT-SLD-CNP-PM	2312.0 to 2422.0	90	216	POOH to run wireline logs. SDL tool failed prior to running in hole.

General Data Sheet (Cont.)

Wireline Logs

Suite	Run	Log Suite	Interval (mMDRT)	BHT (°C)	Remarks
Longtom-2					
1	1	RCI-GR	N/A	N/A	Hung up at 1854.0 mMDRT. POOH.
	2	RCI-GR	N/A	N/A	Unable to pass 1854.0 mMDRT. POOH.
	3	RCI-GR	N/A	N/A	Unable to pass 1815.0 mMDRT. POOH.
	4	RCI-GR	N/A	N/A	Unable to pass 1919.0 mMDRT. POOH.
	5	VSP/Checkshot Survey	2377.0 to 220.0	N/A	29 levels recorded.
	6	CCL-GR	2035.0 to 2072.0	N/A	GR stopped functioning. POOH.
	7	CCL-GR	2350.0 to 1900.0	N/A	

* Hours since circulation stopped.

Cement Plugs

Plug No.	Interval (mMDRT)	Tagged
Longtom-2		
1JW	2274.0 to 2230.0	Y
1RS	2230.0 to 2172.0	Y
2a	2172.0 to 2062.0	N
2b	2062.0 to 1986.0	N
3	1980.0 to 1960.0	N
Longtom-2 ST1		
4a	2148.0 to 2078.0	Y
4b	2078.0 to 1976.0	N
4c	1976.0 to 1881.0	Y
5	907.0 to 802.0	Y
6	170.0 to 100.0	N

Testing: Drillstem testing was carried out over the following intervals:

DST #1: Lower Admiral Formation

Depths: -2153.1 to -2161.4 mTVDAHD (2184.0 to 2192.5 mMDRT)
-2180.8 to -2211.0 mTVDAHD (2212.5 to 2243.5 mMDRT)

Results: Cumulative Gas Produced = 7.65 mmscf
Cumulative Condensate = 20.2 bbl
Avg Condensate/Gas Ratio = 2.6 bbl/mmscf
Cumulative Water Produced = 11.1 bbl
Average Water/Gas Ratio = 1.45 bbl/mmscf
Final Gas Flow Rate = 19.1 mmscf/d (unstabilised, at the end of the test)
Extrapolated Stabilised Flow = 13.6 mmscf/d at Psf=1472 psia
Wellhead AOF = 14.9 mmscf/d

DST #2: Upper Admiral Formation

Depths: -1999.1 to -2018.2 mTVDAHD (2026.0 to 2045.5 mMDRT)
-2083.5 to -2091.8 mTVDAHD (2112.5 to 2121.0 mMDRT)
-2095.2 to -2112.7 mTVDAHD (2124.5 to 2142.5 mMDRT)

Results: No flow to surface.

General Data Sheet (Cont.)

Coring: Two conventional cores were cut in Longtom-2 ST1.

Core #1: -2082.6 to -2100.0 mTVDAHD (2112.0 to 2130.0 mMDRT)
18.0 m cut (97.8% recovery)

Core #2: -2100.0 to -2118.1 mTVDAHD (2130.0 to 2148.0 mMDRT)
18.0 m cut (100% recovery)

Comments: The surface position is 4.2 m on a bearing of 150.0° (T) from the intended Longtom-2 location.

No logs were run in Longtom-2 ST1. Depths (mTVDAHD) have been calculated based on correlation of core gamma (Longtom-2 ST1) with FEWD gamma (Longtom-2).



D I A M O N D
O F F S H O R E

Ocean Patriot

1,500 FSW Semisubmersible

General Description

Design	Trosvik Bingo 3000
Dimensions	334'6" x 239'5"
Normal Operating draft	77'
Towing Draft	33'
VDL Drilling	5,793,748 lbs
VDL Transit	4,272,559 lbs
VDL Survival	4,735,529 lbs
Quarters Capacity	100
Outfitted water depth	1,500 fsw
Minimum water depth	230 fsw
Usable deck space	

Drilling Equipment

Derrick	Unite D'ingen 185'
	1,000,000lbs, 14 lines
Drawworks	Oilwell E-3000, 3,000hp
	Rated depth 25,000'
Rotary Table	Oilwell A49 ½,
Top Drive	Varco TDS-4S
Motion Compensator	Rucker Model 18-400
	400,000lb capacity
Pipehandling	Maritime Hydraulic Racking
	System
	Varco AR3200 Iron Roughneck

Mud Circulating System

Mud Pumps	3 x National / Oilwell Triplex
	1,600hp
Solids Control	4 x Thule VSM 100 shale
	shakers

Storage Capacities

Liquid mud – surface	1900 bbls
Liquid Mud – Total	2329 bbls
Base Oil	N/A
Brine	N/A
Bulk Sack Storage	540,000lbs
Bulk P Tanks	20,000 cu ft

Power Equipment

Main Power	4 x EMD L12-645 F178
	7600KW
Emergency Power	1 x SSCM Poyaud 520KW



Subsea Equipment

BOP's	2 x Cameron UII Double 18 ¾" 15,000 psi
Annulars	2 x Cameron D Type 18 ¾" 10,000 psi
Riser	30 jts 50' Regan FCH-8
Tensioners	6 x double 80,000lbs Rucker/Shaffer
	50' stroke. Total 960,000lbs

Cranes

2 x Liebherr BOS 1500/50 43.34 mt boom
1 x Normar BOP Carrier

Mooring System

5 x 12 Ton Bruce .
3 x 12 Ton Stevpris
8 x 5,250' 84mm K3 stud link chain
4 x Pusnes double windlass winches

Miscellaneous

- * Rig has worked in WD approaching 3,000 fsw in past
- * Rig is well equipped for Xmas tree handling
- * For rig move – Minimum of 1 x 125 ST bollard pull AHT required

Contact Information

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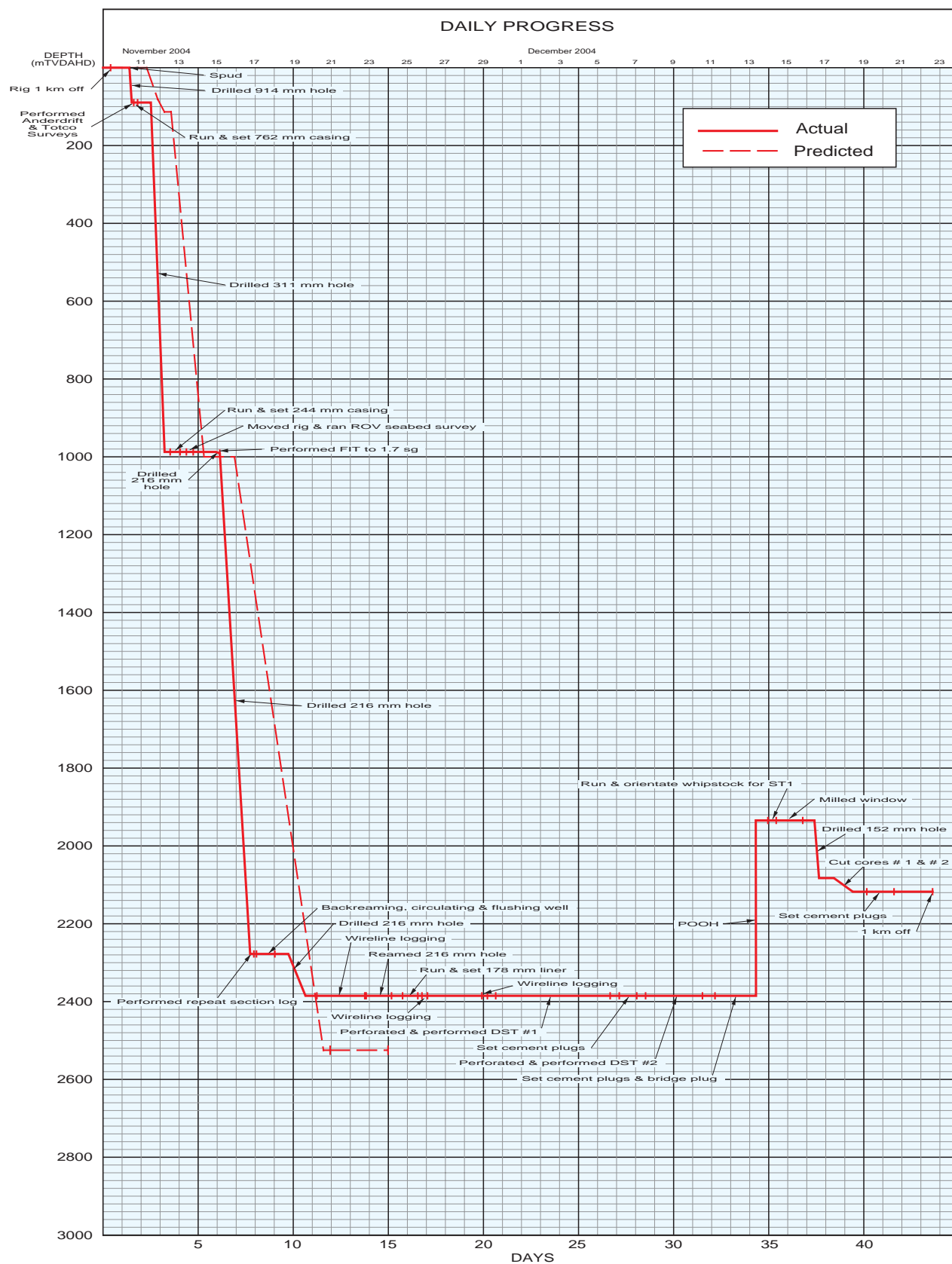
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LONGTOM-2 & ST1



LATITUDE :	38° 06' 11.89" S	UTM:	5,781,904.33 mN	
LONGITUDE :	148° 19' 00.92" E		615,462.43 mE	
ELEVATION R.T.:	21.5 m above AHD	LONGTOM-2		
WATER DEPTH :	56.8 m below AHD	SPUD DATE:	10 November 2004, 09:00 hrs	
SEA BED :	78.3 m below R.T.	REACHED T.D.:	19 November 2004, 15:00 hrs	
STATUS :	P & A			
RIG :	Ocean Patriot	LONGTOM-2 ST1		
RIG RELEASED :	22 December 2004, 14:30 hrs	KICKED OFF:	17 December 2004, 06:00 hrs	
		REACHED T.D.:	18 December 2004, 10:00 hrs	

VIC/P-54
GIPPSLAND BASINLONGTOM-2 ST1
WELL HISTORY

Author : WCR	Date : June 2005
Drawn : Perth Exploration Dept.	Plan No. WHu8949

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	(m)	(m)		1	6/11/2004

RIG	FIELD NAME	AUTH TMD	PLANNED DOW	DOM	DOL
UNSPECIFIED Ocean Patriot OP		(m)		1.00	

SUPERVISOR	OIM
H. Everhart	B. Scott

COUNTRY	DISTRICT	STATE / PROV	COUNTY / PARRISH	RIG PHONE NO	RIG FAX NO
AUSTRALIA					

AFE #	AFE COSTS	DAILY COSTS	CUMULATIVE COSTS
	DHC: 0	DHC: 1,675,117.30	DHC: 1,675,117.30
PERMIT #	CWC: 0	CWC: 0.00	CWC: 0.00
VIC/P54	TOTAL: 0	TOTAL: 1,675,117.00	TOTAL: 1,675,117.30

LAST SFTY MEETING	BLOCK	FORMATION	BHA HRS OF SERVICE
8/11/2004	VicP54		

LAST SURVEY	ACTUAL LEAKOFF EMW	LAST CASING	NEXT CASING
TMD INC AZM	(SG)	(mm) @ (m)	(mm) @ (m)

CURRENT OPERATIONS

Under tow to Longtom-2

24 HR FORECAST

Under tow to Longtom -2

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	00:00	24.00	MIRU	S	01	Rig underway @ 0000 hrs, leaving Martha-1 location (Santos) in Otway Basin. ETA Longtom-2 @ 1000 hrs 10/11/04 @ 2200 hrs, 101 miles traveled, 226 miles to go, ETA Longtom-2 2200 8/11/2004 @ 5 knts Far Grip on secondary tow bridle (one leg of primary tow bridle broken) Wrangler on remaining leg of primary bridle - not towing

24.00 = Total Hours Today

06:00 UPDATE

0000 to 0600 Rig under tow to Longtom-2 ETA 2200 hrs 8/11/04

MUD PUMPS / HYDRAULICS

	STROKE	SPM	LINER	FLOW RATE			SPM	PPSR
#					SPP:	PUMPS #		
#					AV (DP): (m/min)	AV Riser: (m/min)	PUMPS #	
#					AV (DC): (m/min)	HP/in2:	PUMPS #	

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
Apache	2		OMS	11	
DODI	15		TMS	12	
DOGC	28		Marcomm	2	
Fugro	6		MI	1	
Dowell Schlumberger	2		Cameron	1	

Total Personnel on Board: 80

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	76	0	85		161
CEMENT	73	0	84		157
DIESEL	396	518	445		1,359
GEL, FRESH	14	87	12		113
WATER, DRILLING	217	340	347		904
WATER, POTABLE	256	655	399		1,310

Total Water 2,214

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
HELICOPTER	1 Pax Arr 3 Pax Depart	SUPPLY BOAT	Far Grip Primary tow vessel

APACHE ENERGY LIMITED DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	(m)	(m)		1	6/11/2004

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Wrangler on standby		

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
	2,308	-2,308			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
06:00	8 / 180	2 / / 12	0.76 / 180 / 12	/	-18 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
8/11/2004 / (kPa)	8/11/2004 / (kPa)	/ (kPa)	8/11/2004					

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA		

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD (m)	TVD (m)	DFS	REPT NO 2	DATE 7/11/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME		AUTH TMD (m)	PLANNED DOW	DOM 2.00		DOL	
SUPERVISOR H. Everhart				OIM B. Scott					
COUNTRY AUSTRALIA	DISTRICT	STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO	
AFE #		AFE COSTS DHC: 0		DAILY COSTS DHC: 234,774.00		CUMULATIVE COSTS DHC: 1,909,891.30			
PERMIT #		CWC: 0		CWC: 0.00		CWC: 0.00			
VIC/P54		TOTAL: 0		TOTAL: 234,774.00		TOTAL: 1,909,891.30			
LAST SFTY MEETING 7/11/2004	BLOCK VicP54		FORMATION				BHA HRS OF SERVICE		
LAST SURVEY TMD INC AZM		ACTUAL LEAKOFF EMW (SG)		LAST CASING (mm) @ (m)		NEXT CASING (mm) @ (m)			

CURRENT OPERATIONS

Under tow to Longtom-2 ETA 0200 hrs 9/11/04

24 HR FORECAST

Rig under tow

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	00:00	24.00	MIRU	S	01	Rig under tow to Longtom-2, ETA 0200 hrs 9/11/04. Averaged 4.7knots over this period.
24.00 = Total Hours Today						

06:00 UPDATE

0000 to 0600 Rig under tow to Longtom-2, ETA 0200 hrs 9/11/04. Averaged 4.1knots over this period.

MUD PUMPS / HYDRAULICS

MUD PUMPS / HYDRAULICS					SPR		
#	STROKE	SPM	LINER	FLOW RATE	SPP:	PUMPS #	PPSR
#					AV (DP): (m/min)	AV Riser: (m/min)	
#					AV (DC): (m/min)	HP/in2:	
#							

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
Apache	2		OMS	11	
DODI	15		TMS	12	
DOGC	28		Marcomm	2	
Fugro	6		MI	1	
Dowell Schlumberger	2		Cameron	1	

Total Personnel on Board: 80

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	76	0	85		161
CEMENT	73	0	84		157
DIESEL	391	429	426		1,246
GEL, FRESH	14	87	12		113
WATER, DRILLING	185	340	347		872
WATER, POTABLE	235	650	391		1,276

Total Water 2,148

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Wrangler on standby	SUPPLY BOAT	Grip on tow bridle

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
	2,308	-2,308			

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	(m)	(m)		2	7/11/2004

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
06:00	6 / 150	2 / / 12	0.61 / 150 / 4	/	-18 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
7/11/2004 / 712.573 (kPa)	7/11/2004 / 356.287 (kPa)	/ (kPa)	7/11/2004		7/11/2004			

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	1	

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD (m)	TVD (m)	DFS	REPT NO 3	DATE 8/11/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME		AUTH TMD (m)	PLANNED DOW	DOM 3.00	DOL		
SUPERVISOR H. Everhart				OIM B. Scott					
COUNTRY AUSTRALIA	DISTRICT	STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO	
AFE #	AFE COSTS DHC: 0		DAILY COSTS DHC: 212,556.00		CUMULATIVE COSTS DHC: 2,122,447.30				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 212,556.00		TOTAL: 2,122,447.30				
LAST SFTY MEETING 7/11/2004	BLOCK VicP54		FORMATION				BHA HRS OF SERVICE		
LAST SURVEY TMD INC AZM		ACTUAL LEAKOFF EMW (SG)		LAST CASING (mm) @ (m)		NEXT CASING (mm) @ (m)			

CURRENT OPERATIONS

On tow to Longtom #2

24 HR FORECAST

Move onto Longtom #2, run anchors

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	08:00	8.00	MIRU	S	01	Rig undertow to Longtom-2, ETA 0200 hrs 9/11/04
08:00	10:00	2.00	MIRU	U	01	Stopped tow, Passed #5 PCC to MV Wrangler for anchor inspection - one deficiency noted and repaired (welded shackle nut on pendant to collar).
10:00	13:00	3.00	MIRU	U	01	Passed #4 PCC to MV Wrangler for anchor inspection - one deficiency noted and repaired (welded shackle nut on pendant to collar).
13:00	00:00	11.00	MIRU	S	01	Rig under tow to Longtom-2, ETA 0700 hrs 9/11/04

24.00 = Total Hours Today

06:00 UPDATE

0000 to 0600 hrs Rig undertow to Longtom-2, ETA 0700 hrs 9/11/04. Averaged 4.33 knots over this period.

MUD PUMPS / HYDRAULICS

	STROKE	SPM	LINER	FLOW RATE			SPM	PPSR
#					SPP:		PUMPS #	
#					AV (DP): (m/min)	AV Riser: (m/min)	PUMPS #	
#					AV (DC): (m/min)	HP/in2:	PUMPS #	

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
Apache	2		OMS	11	
DODI	15		TMS	12	
DOGC	28		Marcomm	2	
Fugro	6		MI	1	
Dowell Schlumberger	2		Cameron	1	

Total Personnel on Board: 80

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
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CEMENT	73	0	84		157
DIESEL	391	429	426		1,246
GEL, FRESH	14	87	12		113
WATER, DRILLING	185	340	347		872
WATER, POTABLE	235	650	391		1,276

Total Water 2,148

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	(m)	(m)		3	8/11/2004

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Wrangler on standby	SUPPLY BOAT	Grip lead tug

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
	2,308	-2,308			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
06:00	1 /	1 / / 12	0.30 / 150 / 4	/	-18 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
7/11/2004 / 712.573 (kPa)	7/11/2004 / 356.287 (kPa)	/ (kPa)	7/11/2004		7/11/2004			7/11/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	2	

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD (m)	TVD (m)	DFS	REPT NO 4	DATE 9/11/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME		AUTH TMD (m)	PLANNED DOW	DOM 4.00	DOL 1.00		
SUPERVISOR H. Everhart / C. Wilson				OIM B. Scott					
COUNTRY AUSTRALIA	DISTRICT	STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO	
AFE #	AFE COSTS DHC: 0		DAILY COSTS DHC: 263,369.00		CUMULATIVE COSTS DHC: 2,385,816.30				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 263,369.00		TOTAL: 2,385,816.30				
LAST SFTY MEETING 7/11/2004	BLOCK VicP54		FORMATION					BHA HRS OF SERVICE	
LAST SURVEY TMD INC AZM		ACTUAL LEAKOFF EMW (SG)		LAST CASING (mm) @ (m)		NEXT CASING 19,354.800 (mm) @ 34.59 (m)			

CURRENT OPERATIONS

Making-up 762mm casing to PGB in moonpool

24 HR FORECAST

Complete running anchors and spud well.

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	06:00	6.00	MIRU	S	01	Continued to tow rig towards Longtom-2 location. Location at 06:00hrs 38deg 08' South and 148deg 17' E. Speed 4.33 knots.
06:00	09:30	3.50	MIRU	S	01	Commenced run into location. Passed anchor 5 PCC to Pacific Wrangler - held anchor over drop zone.
09:30	16:30	7.00	MIRU	S	01	Ran anchors. Anchor 5 on bottom 09:23hrs. PCC 5 passed back to the rig at 10:10hrs (1200m of chain out) PCC 4 passed to the Pacific Wrangler at 10:14hrs. Anchor 4 on bottom at 11:37hrs. PCC 4 passed back to the rig at 12:10hrs - Initially only able to get 900m of chain out. Heaved in on anchor 4 to 600m and re-ran same - 1088m of chain out with boat. Welder secured crown pin on anchor 2. PCC 8 passed to the Pacific Wrangler at 12:27hrs. Anchor 8 on bottom at 12:49hrs. PCC 8 passed back to the rig at 13:53hrs. PCC 1 passed to the Pacific Wrangler at 15:25hrs. Inspected anchor 1 and jewelry. Anchor 1 on bottom at 16:02hrs. PCC 1 passed back to the rig at 16:40hrs (918m of chain out with boat)
16:30	18:00	1.50	C-DRL	S	14	Picked-up HWDP. Made-up 762mm running tool and cement stand and racked-back same. Commenced ballasting down rig. Continued to run secondary anchors. Recovered tow bridle from the Far Grip. PCC 3 passed to the Pacific Wrangler at 16:45hrs. Inspected anchor 3 and jewelry. Anchor 3 on bottom at 17:34hrs. PCC 3 passed back to the rig at 18:07hrs (1060m of chain out with boat). PCC 7 passed to the Far Grip at 17:03hrs. Inspected anchor 7 and jewelry. Anchor 7 on bottom at 18:05hrs. PCC 7 passed back to the rig at 18:52hrs (958m of chain out with boat).
18:00	23:00	5.00	C-DRL	S	14	Made-up 762mm BHA and racked-back same. Continued to run secondary anchors. PCC 2 passed to the Pacific Wrangler at 18:27hrs. Replaced crown shackle on anchor 2. Anchor 2 on bottom at 20:44hrs. PCC 2 passed back to the rig at 21:20hrs. PCC 6 passed to the Far Grip at 18:55hrs. Repaired jewelry on anchor 6. Anchor 6 on bottom at 20:50hrs. PCC 6 passed back to the rig at 21:42hrs. Pre-tensioned anchors - anchors 2 and 7 slipping.
23:00	00:00	1.00	C-DRL	S	14	Made-up 127mm drillpipe whilst re-running anchors. PCC 2 passed to the Pacific Wrangler at 22:49hrs. Anchor 2 on bottom at 23:50hrs. PCC 7 passed to the Far Grip at 23:04hrs.

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 01:00 hrs. Continued to pick-up drillpipe whilst re-running anchors.

01:00 - 02:30 hrs. Ballasted rig down through transition zone

02:30 - 04:00 hrs. Removed Santos PGB from moonpool trolley. Made-up Apache PGB and attached guidelines.

04:00 - 06:00 hrs. Held JSA and ran 762mm casing into PGB.

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longatom-2		10/11/2004	(m)	(m)	(m)		4	9/11/2004

MUD PUMPS / HYDRAULICS

SPR

	STROKE	SPM	LINER	FLOW RATE			SPM	PPSR
#					SPP:		PUMPS #	
#					AV (DP): (m/min)	AV Riser: (m/min)	PUMPS #	
#					AV (DC): (m/min)	HP/in2:	PUMPS #	

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
Apache	3		TMS	13	
DODI	16		Sperry MWD	1	
DOGC	25		MI	1	
Fugro	6		Cameron	1	
Dowell Schlumberger	2		Drilling Fluids Engineering	1	
OMS	4				

Total Personnel on Board: 73

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	76	0	85		161
CEMENT	73	0	84		157
DIESEL	391	429	426		1,246
GEL, FRESH	14	87	12		113
WATER, DRILLING	185	340	347		872
WATER, POTABLE	235	650	391		1,276

Total Water 2,148

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Far Grip (on location)	HELICOPTER	VH-BZU (5 pax on, 12 pax off)
SUPPLY BOAT	Pacific Wrangler (on location)		

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
	2,308	-2,308			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	13 / 280	2 / / 10	0.30 / 280 / 4	/	-18 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
7/11/2004 / 712,573 (kPa)	7/11/2004 / 356,287 (kPa)	/ (kPa)	7/11/2004		7/11/2004			7/11/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	3	

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG 33.83 (m)	TMD 33.83 (m)	TVD 33.83 (m)	DFS 1.00	REPT NO 5	DATE 10/11/2004
RIG UNSPECIFIED Ocean Patriot OP			FIELD NAME		AUTH TMD (m)	PLANNED DOW	DOM	DOL 2.00	
SUPERVISOR H. Everhart / C. Wilson					OIM B. Scott				
COUNTRY AUSTRALIA	DISTRICT		STATE / PROV		COUNTY / PARRISH		RIG PHONE NO	RIG FAX NO	
AFE #	AFE COSTS DHC: 0		DAILY COSTS DHC: 320,101.00		CUMULATIVE COSTS DHC: 2,705,917.30				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 320,101.00		TOTAL: 2,705,917.30				
LAST SFTY MEETING 7/11/2004	BLOCK VicP54		FORMATION				BHA HRS OF SERVICE		
LAST SURVEY TMD 33.83 (m) INC 1.000 AZM 0.000			ACTUAL LEAKOFF EMW (SG)		LAST CASING 12,903.200 (mm) @ 33.50 (m)		NEXT CASING 6,197.600 (mm) @ 304.80 (m)		

CURRENT OPERATIONS

Making-up cement stinger and laying out same

24 HR FORECAST

M/U 311mm BHA and drill 311mm hole. Circulate hole clean.

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	01:00	1.00	C-DRL	S	14	Continued to pick-up drillpipe whilst cross-tensioning anchors and positioning rig over location. Anchor 2 1098m of chain out by boat. PCC 2 passed back to the rig at 00:30hrs. Anchor 7 on bottom at 00:25hrs. PCC 7 passed back to the rig at 01:10hrs.
01:00	02:30	1.50	MIRU	S	01	Ballasted rig down through the transition zone. Rigged-up to run 762mm casing.
02:30	04:00	1.50	C-CSG	S	40	Moved guidebase into the moonpool and installed guidelines.
04:00	05:30	1.50	C-CSG	S	40	Held JSA and ran 762mm conductor.
05:30	06:30	1.00	C-CSG	S	40	Laid out 762mm handling equipment. Made-up running tool to the 762mm wellhead. Ran 762mm casing into PGB and secured same.
06:30	09:00	2.50	C-DRL	S	12	Ran in the hole with the 914mm BHA and tagged seabed at 78.32m (AHD). Performed Anderdrift survey - 0 deg. Performed seabed survey.
09:00	11:30	2.50	C-DRL	S	10	Drilled 914mm hole from 78.32m to 111m.
11:30	12:00	0.50	C-DRL	S	88	Performed Anderdrift survey at TD - 1 deg. Swept hole with 7.9m3 of of PHG and displaced well to 23.8m3 of PHG.
12:00	12:30	0.50	C-DRL	S	15	Performed wiper trip back to the mudline and ran in the hole.
12:30	13:00	0.50	C-DRL	S	88	Displaced the hole with 23.8m3 of PHG. Dropped Totco.
13:00	14:00	1.00	C-DRL	S	12	Pulled out of the hole and racked back BHA. Recovered the Totco Survey - 1 deg.
14:00	16:00	2.00	C-CSG	S	40	Picked-up cement stinger and 762mm running tool and made-up same. Engaged the running tool and ran in the hole with the casing to 109.92m. Washed through obstruction at 107m.
16:00	16:30	0.50	C-CSG	S	40	Centred rig over the well to reduce angle of the PGB.
16:30	17:00	0.50	C-CSG	S	41	Rigged-up cement hose and broke circulation with Dowell. Pressure tested the surface lines to 13800kPa.
17:00	19:00	2.00	C-CSG	S	41	Cemented casing with 32.2m3 of 1.9SG Class G cement and displaced with 4.45m3 of seawater.
19:00	22:00	3.00	C-CSG	S	45	Waited on cement. Picked-up 6 stands of 127mm drillpipe.
22:00	22:30	0.50	C-CSG	S	41	Rigged-down cement hose
22:30	23:00	0.50	C-CSG	S	40	Released running tool. Pulled out of the hole and laid out same. Angle on PGB 1deg before and after releasing the running tool.
23:00	00:00	1.00	C-CSG	S	14	Picked-up 127mm drillpipe.

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 03:30 hrs. Continued to pick-up drillpipe to get to section TD.

03:30 - 04:00 hrs. Performed rig service - adjusted draw-works brake.

04:00 - 04:30 hrs. Continued to pick-up drillpipe to get to section TD.

04:30 - 06:00 hrs. Made-up 476mm wellhead running tool and Dowell cement head and racked-back same.

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	33.83 (m)	33.83 (m)	33.83 (m)	1.00	5	10/11/2004

06:00 UPDATE

Final Well Location;

GDA 94 Datum

Latitude 38deg 06' 11.89"S

Longitude 148deg 19' 00.92"E

Easting 615460.40m

Northing 5781904.23m

Rig heading 45deg

Rig is 4.2m on a bearing of 151deg from the intended location.

Anchor Positions;

- 1 616316mE 5782119mN 74.5deg Azimuth
- 2 616474mE 5781628mN 105.4deg Azimuth
- 3 615620mE 5780897mN 170.3deg Azimuth
- 4 615083mE 5780742mN 198.1deg Azimuth
- 5 614252mE 5781630mN 255.7deg Azimuth
- 6 614443mE 5782213mN 286.3deg Azimuth
- 7 615248mE 5782848mN 345.4deg Azimuth
- 8 615704mE 5782804mN 14.7deg Azimuth

BIT DATA

BIT / RUN	SIZE	MANUF.	TYPE	SERIAL NO.	JETS OR TFA	DEPTH IN / DATE IN	I-O-D-L-B-G-O-R
1 / 1	1,066.80	Security	XNIC	10426284	704/640/640/640/////	23.87 / 10/11/2004	0-0-----

BIT OPERATIONS

BIT / RUN	WOB	RPM	FLOW	PRESS	P BIT	HRS	24Hr PROG	24Hr ROP	CUM HRS	CUM PROG	CUM ROP
1 / 1	0.0 / 0.0	60 / 60	12,889.3	33,302	0	2.00	9.96	4.98	2.00	9.96	4.98

BHA / HOLE CONDITIONS

BHA	1	JAR S/N	JAR HRS	BIT	1
BHA WT. BELOW JARS	STRING WT. UP	STRING WT. DN	STRING WT. ROT	TORQUE / UNITS	BHA LENGTH
				3,676 N-m	19.74

ITEM DESCRIPTION	NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE	CONN TYPE
Tri-Cone Bit	1	0.17	16,774.16		7.6	API REG
Hole Opener	1	0.53	23,215.60		7.6	API REG
Near Bit Stabilizer	1	0.57	9,514.84		7.6	API REG
Float Sub	1	0.23	6,197.60	1,935.48	7.6	API REG
Steering Tool	1	0.89	5,887.72	1,894.84	7.6	API REG
Drill Collar	3	8.43	6,129.02	1,935.48	7.6	API REG
Cross Over	1	0.34	5,443.22	1,935.48	6.6	API REG
Drill Collar	3	8.24	4,999.99	1,854.20	6.6	API REG
Cross Over	1	0.34	4,193.54	1,813.56	4.5	NC50IF

MUD PROPERTIES

MUD TYPE										SEAWATER GEL			
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	Cl	Ca	H2S	KCL	LGS
156	/	/	/	/	/	/79.9	10.00/	/					
DENS	12.58	ECD		PP		DAILY COST	15,208	CUM COST	17,021	% OIL			

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	33.83 (m)	33.83 (m)	33.83 (m)	1.00	5	10/11/2004

MUD PUMPS / HYDRAULICS

SPR

	STROKE	SPM	LINER	FLOW RATE			SPM	PPSR
#1	12.0	70	152.4	730,690.17	SPP: 33,302 (kPa) AV (DP): (m/min) AV Riser: (m/min) AV (DC): (m/min) HP/in2: 0.015 (kW/cm ²)	PUMPS #1		
#2	12.0	70	152.4	730,690.17		PUMPS #2		
#3	12.0	70	152.4	730,690.17		PUMPS #3		

SOLIDS CONTROL

SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
/	/	/				

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
Apache	5		TMS	13	
DODI	16		Sperry MWD	2	
DOGC	24		MI	1	
Fugro	6		Cameron	1	
Dowell Schlumberger	2		Drilling Fluids Equipment	1	
OMS	3		Sperry Mudlogging	4	

Total Personnel on Board: 78

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	76	0	85		161
CEMENT	107	0	0		107
DIESEL	353	355	386		1,094
GEL, FRESH	64	0	12		76
WATER, DRILLING	319	340	347		1,006
WATER, POTABLE	158	635	379		1,172

Total Water 2,178

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Far Grip (Eden)	HELICOPTER	VH-BHI (7 pax on, 2 pax off)
SUPPLY BOAT	Pacific Wrangler (on location)		

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
	2,308	-2,308			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	5 / 230	1 / / 10	0.15 / 230 / 10	/	-18 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
7/11/2004 / 712,573 (kPa)	7/11/2004 / 356,287 (kPa)	/ (kPa)	7/11/2004		7/11/2004			7/11/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	4	

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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SURVEYS

TYPE	MD	DEG	AZI	TVD	N/S	E/W	V. SECT	D.L.
Anderd	33.83	1.000	0.000	0.00	0.00	0.00	0.00	

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD 33.83 (m)	TVD 33.83 (m)	DFS 2.00	REPT NO 6	DATE 11/11/2004
RIG UNSPECIFIED Ocean Patriot OP			FIELD NAME		AUTH TMD (m)	PLANNED DOW	DOM	DOL 3.00	
SUPERVISOR H. Everhart / C. Wilson					OIM B. Scott				
COUNTRY AUSTRALIA	DISTRICT		STATE / PROV		COUNTY / PARRISH		RIG PHONE NO	RIG FAX NO	
AFE #	AFE COSTS DHC: 0		DAILY COSTS DHC: 309,448.67		CUMULATIVE COSTS DHC: 3,015,365.97				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 309,449.00		TOTAL: 3,015,365.97				
LAST SFTY MEETING 7/11/2004	BLOCK VicP54		FORMATION					BHA HRS OF SERVICE	
LAST SURVEY TMD 295.15 (m) INC 1.070 AZM 52.660			ACTUAL LEAKOFF EMW (SG)		LAST CASING 12,903.200 (mm) @ 33.53 (m)		NEXT CASING 6,197.600 (mm) @ 304.80 (m)		

CURRENT OPERATIONS

24 HR FORECAST

Continue to drill 311mm hole. Run 244mm casing and run BOP

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	03:30	3.50	1-DRL	S	14	Continued to pick-up 127mm drillpipe.
03:30	04:00	0.50	1-DRL	S	51	Serviced TDS and adjusted draw-works brake.
04:00	04:30	0.50	1-DRL	S	14	Continued to pick-up 127mm drillpipe.
04:30	05:30	1.00	1-CSG	S	14	Made-up Dowell cement head to stand of HWDP and racked back same.
05:30	06:00	0.50	1-CSG	S	14	Made-up 476mm wellhead running tool and racked back same.
06:00	06:30	0.50	1-CSG	S	14	Made-up Dowell deepsea express cross-over and laid out same.
06:30	09:00	2.50	1-DRL	S	14	Made-up MWD tools and motor.
09:00	10:00	1.00	1-DRL	S	32	Downloaded MWD tools
10:00	11:00	1.00	1-DRL	S	14	Continued to pick-up 311mm BHA
11:00	11:30	0.50	1-DRL	T	50	Changed-out alignment cylinder on the TDS.
11:30	12:30	1.00	1-DRL	S	12	Ran in the hole with the BHA and tagged cement at 104m.
12:30	00:00	11.50	1-DRL	S	10	Drilled cement and casing shoe to 110m. Drilled 311mm hole from 111m to 711m. Average ROP 52m/hr.

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 05:00 hrs. Continued to drill 311mm hole from 711m to 1009m. (Average ROP 59.6m/hr)

05:00 - 06:00 hrs. Swept hole with 23.8m3 of hi-vis and displaced well with 47.7m3 of PHG and 27m3 of 1.15SG KCl.

BIT DATA

BIT / RUN	SIZE	MANUF.	TYPE	SERIAL NO.	JETS OR TFA	DEPTH IN / DATE IN	I-O-D-L-B-G-O-R
2 / 2	311.15	Hycalog	DS40HFGN	200363	14/14/14/14/14/14/14/14	33.83 / 11/11/2004	0-0-----

BIT OPERATIONS

BIT / RUN	WOB	RPM	FLOW	PRESS	P BIT	HRS	24Hr PROG	24Hr ROP	CUM HRS	CUM PROG	CUM ROP
2 / 2	0.0 / 0.0	75 / 75	77,979.5	152,236	78,249,378	9.30	182.88	19.66	9.30	182.88	19.66

BHA	2	JAR S/N	BHA / HOLE CONDITIONS				JAR HRS	BIT	2
BHA WT. BELOW JARS	STRING WT. UP		STRING WT. DN		STRING WT. ROT		TORQUE / UNITS		BHA LENGTH
							9,211 N-m		78.51

ITEM DESCRIPTION	NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE	CONN TYPE
Polycrystalline Diamond Bit	1	0.09	7,899.40		167.6	API REG
Positive Displacement Motor	1	2.62	6,197.60		167.6	API REG
Cross Over	1	0.27	5,994.40		167.6	API REG
Integral Blade Stabilizer	1	0.70	7,899.40		167.6	API REG
Float Sub	1	0.24	5,181.60	1,935.48	167.6	API REG
Logging while Drilling	4	6.64	5,181.60		167.6	API REG

APACHE ENERGY LIMITED

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DAILY DRILLING REPORT

WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	33.83 (m)	33.83 (m)	2.00	6	11/11/2004

BHA	2	JAR S/N	BHA / HOLE CONDITIONS				JAR HRS	BIT	2
ITEM DESCRIPTION			NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE	CONN TYPE	
Drill Collar			5	13.97	5,161.28	1,894.84	167.0	API REG	
Drilling Jar			1	3.01	5,322.57	1,935.48	167.6	API REG	
Drill Collar			3	8.24	5,322.57	1,935.48	167.6	API REG	
Cross Over			1	0.34	4,193.54	1,854.20	114.3	NC50IF	
Heavy Weight Drill Pipe			15	42.39	3,225.80	1,935.48	114.3	NC50IF	

MUD PROPERTIES										MUD TYPE	SEAWATER GEL		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	CI	Ca	H2S	KCL	LGS
146	11/7	/	/	/	/	/79.9	9.00/	/	300	40			

DENS	12.58	ECD	PP	DAILY COST	10.298	CUM COST	27.319	% OIL
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MUD PUMPS / HYDRAULICS								SPR		
	STROKE	SPM	LINER	FLOW RATE				SPM	PPSR	
#1	12.0	80	152.4	835,074.48	SPP: 152,236 (kPa)			PUMPS #1		
#2	12.0	80	152.4	835,074.48	AV (DP): 0.4 (m/min) AV Riser: (m/min)			PUMPS #2		
#3	12.0	80	152.4	835,074.48	AV (DC): 0.5 (m/min) HP/in2: 15,773,016.986			PUMPS #3		

SOLIDS CONTROL						
SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
/	/	/				

PERSONNEL DATA					
COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
Dowell Schlumberger	2		Sperry Mudlogging	4	
OMS	3		Weatherford	3	
TMS	12		Apache	6	
Sperry MWD	2		DODI	16	
MI	1		DOGC	25	
Cameron	1		Fugro	4	
Drilling Fluids Equipment	1				

Total Personnel on Board: 80

MATERIALS ON LOCATION					
MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	160	0	0		160
CEMENT	107	0	0		107
DIESEL	445	355	323		1,123
GEL, FRESH	53	0	0		53
WATER, DRILLING	488	340	202		1,030
WATER, POTABLE	173	635	627		1,435

Total Water 2,465

SUPPORT CRAFT			
NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Far Grip (On location)	HELICOPTER	VH-BZU (13 pax on, 15 pax off)
SUPPLY BOAT	Pacific Wrangler (en-route to Melbourne)		

DECKLOG					
MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
	2,308	-2,308			

WEATHER					
TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	3 / 250	1 / / 10	0.15 / 250 / 10	/	-18 (°C)

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	33.83 (m)	33.83 (m)	2.00	6	11/11/2004

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
7/11/2004 / 712,573 (kPa)	7/11/2004 / 356,287 (kPa)	/ (kPa)	7/11/2004		7/11/2004			7/11/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	5	

DATUM SECTION

RT TO AHD	(m)	AIR GAP	WATER DEPTH	56.82 (m)
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SURVEYS

TYPE	MD	DEG	AZI	TVD	N/S	E/W	V. SECT	D.L.
	0.00	0.000	0.000	0.00	0.00	0.00	0.00	
	34.37	0.850	147.070	34.37	-0.21	0.14	-0.21	0.74
	43.03	0.890	146.910	43.03	-0.32	0.21	-0.32	0.14
	51.11	1.010	154.860	51.11	-0.44	0.27	-0.44	0.66
	59.51	1.070	154.250	59.50	-0.58	0.34	-0.58	0.22
	85.54	0.940	157.280	85.53	-0.99	0.53	-0.99	0.16
	94.25	0.770	146.690	94.24	-1.11	0.59	-1.11	0.80
	102.93	0.790	157.770	102.92	-1.21	0.64	-1.21	0.52
	111.69	0.600	172.170	111.67	-1.32	0.67	-1.32	0.88
	129.43	0.460	168.460	129.42	-1.48	0.70	-1.48	0.24
	146.69	0.600	185.700	146.68	-1.63	0.70	-1.63	0.37
	172.59	0.730	188.210	172.58	-1.93	0.67	-1.93	0.15
	181.32	0.710	181.730	181.31	-2.04	0.66	-2.04	0.29
	190.13	0.700	174.980	190.12	-2.15	0.66	-2.15	0.28
	198.71	0.710	178.960	198.69	-2.26	0.67	-2.26	0.17
	207.42	0.560	173.050	207.40	-2.35	0.67	-2.35	0.56
	216.21	0.460	168.630	216.20	-2.43	0.68	-2.43	0.37
	224.99	0.320	152.680	224.98	-2.49	0.70	-2.49	0.60
	233.78	0.310	146.160	233.77	-2.53	0.73	-2.53	0.13
	242.53	0.250	96.830	242.51	-2.55	0.76	-2.55	0.82
	251.38	0.300	87.280	251.36	-2.55	0.80	-2.55	0.23
	260.04	0.470	59.730	260.02	-2.53	0.85	-2.53	0.85
	268.79	0.650	65.060	268.77	-2.49	0.93	-2.49	0.64
	277.54	0.940	47.410	277.52	-2.42	1.03	-2.42	1.29
	295.15	1.070	52.660	295.13	-2.22	1.27	-2.22	0.27

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WELL NAME Longtom-2			API #	SPUD DATE 24 HRS PROG 10/11/2004 298.00 (m)		TMD 1,009.00 (m)	TVD 1,009.00 (m)	DFS 3.00	REPT NO 7	DATE 12/11/2004
RIG UNSPECIFIED Ocean Patriot OP			FIELD NAME			AUTH TMD (m)	PLANNED DOW	DOM		DOL 4.00
SUPERVISOR H. Everhart / C. Wilson					OIM B. Scott					
COUNTRY AUSTRALIA		DISTRICT		STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO
AFE #		AFE COSTS DHC: 0			DAILY COSTS DHC: 519,163.68			CUMULATIVE COSTS DHC: 3,649,307.97		
PERMIT #		CWC: 0			CWC: 0.00			CWC: 0.00		
VIC/P54		TOTAL: 0			TOTAL: 519,164.00			TOTAL: 3,649,307.97		
LAST SFTY MEETING 7/11/2004		BLOCK VicP54		FORMATION					BHA HRS OF SERVICE	
LAST SURVEY TMD 295.15 INC 1.070 AZM 52.660				ACTUAL LEAKOFF EMW (SG)		LAST CASING 244.000 (mm) @ 1,009.00 (m)			NEXT CASING 178.000 (mm) @ 2,525.00 (m)	

CURRENT OPERATIONS

Running riser and BOP's.

24 HR FORECAST

Run BOP's and riser.

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	05:00	5.00	S-DRL	S	10	Continued to drill 311mm hole from 711m to 1009m. Average ROP 59.6m/hr.
05:00	06:00	1.00	S-DRL	S	88	Swept hole with 23.8m3 of hi-vis and displaced well with 47.7m3 of PHG and 27m3 of 1.15SG KCl.
06:00	08:00	2.00	S-DRL	S	12	Pulled out of the hole with 127mm drillpipe.
08:00	09:30	1.50	S-DRL	S	12	Pulled out of the hole with the BHA and racked-back same.
09:30	10:00	0.50	S-DRL	S	32	Downloaded MWD tools and racked-back same.
10:00	11:30	1.50	S-CSG	S	40	Rigged-up to run 244mm casing.
11:30	12:00	0.50	S-CSG	S	40	Made-up 244mm casing shoe, intermediate and float and checked same - OK.
12:00	17:30	5.50	S-CSG	S	40	Ran in the hole with 244mm casing to 896m. Filled casing with PHG initially then seawater. Guideline #4 spear released from guidepost.
17:30	18:30	1.00	S-CSG	S	40	Laid down TAM packer and made-up 476mm wellhead to no-cross joint.
18:30	20:30	2.00	S-CSG	S	40	Made-up cement stinger to running tool. Engaged running tool and ran in the hole with the 244mm casing.
20:30	21:00	0.50	S-CSG	S	40	Landed and latched 476mm wellhead housing with 68mt weight down. Confirmed latch with 22.7mt overpull.
21:00	21:30	0.50	S-CSG	S	88	Made-up cement hose. Circulated casing with 35.8m3 of seawater.
21:30	22:00	0.50	S-CSG	S	41	Broke circulation with Dowell and pressure tested the cement line to 34500kPa.
22:00	23:30	1.50	S-CSG	S	41	Mixed and pumped 16m3 of 1.5SG Class G lead cement and 5m3 of 1.9SG Class G tail cement. Displaced cement with 1.59m3 of seawater with the cement unit.
23:30	00:00	0.50	S-CSG	S	41	Displaced cement with 32.5m3 of seawater with the rig pumps.

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 00:30 hrs. Continued to displace the cement with seawater with the rig pumps. Plugs did not bump after pumping half the volume of the shoe track. Estimated TOC 400m.

00:30 - 02:00 hrs. Rigged-down cement hose. Backed-out running tool and pulled out of the hole jetting the wellhead. Re-established guideline #4.

02:00 - 04:00 hrs. Rigged-up to run BOP's.

04:00 - 06:00 hrs. Held JSA and made-up 2 joints of riser. Changed out 2 dogs on first riser joint. Dropped rattle-gun socket down riser and into the ocean.

BIT DATA

BIT / RUN	SIZE	MANUF.	TYPE	SERIAL NO.	JETS OR TFA	DEPTH IN / DATE IN	I-O-D-L-B-G-O-R
2 / 2	311.15	Hycalog	DS40HFGN	200363	16/16/16/16/////	33.83 / 11/11/2004	1-2-BT-G-D-1-EC-TD

BIT OPERATIONS

BIT OPERATIONS											
BIT / RUN	WOB	RPM	FLOW	PRESS	P BIT	HRS	24Hr PROG	24Hr ROP	CUM HRS	CUM PROG	CUM ROP
2 / 2	0.0 / 0.0	70 / 80	15.141.6	262.001	4	3.13	90.83	29.02	12.43	273.71	22.02

BHA	2	JAR S/N		BHA / HOLE CONDITIONS			JAR HRS		BIT	2
BHA WT. BELOW JARS		STRING WT. UP		STRING WT. DN	STRING WT. ROT		TORQUE / UNITS		BHA LENGTH	
							9.211 N-m		78.51	

APACHE ENERGY LIMITED

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DAILY DRILLING REPORT

WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	298.00 (m)	1,009.00 (m)	1,009.00 (m)	3.00	7	12/11/2004

BHA	2	JAR S/N	BHA / HOLE CONDITIONS				JAR HRS	BIT	2
ITEM DESCRIPTION	NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE	CONN TYPE			
Polycrystalline Diamond Bit	1	0.09	7,899.40		167.6	API REG			
Positive Displacement Motor	1	2.62	6,197.60		167.6	API REG			
Cross Over	1	0.27	5,994.40		167.6	API REG			
Integral Blade Stabilizer	1	0.70	7,899.40		167.6	API REG			
Float Sub	1	0.24	5,181.60	1,935.48	167.6	API REG			
Logging while Drilling	4	6.64	5,181.60		167.6	API REG			
Drill Collar	5	13.97	5,161.28	1,894.84	167.0	API REG			
Drilling Jar	1	3.01	5,322.57	1,935.48	167.6	API REG			
Drill Collar	3	8.24	5,322.57	1,935.48	167.6	API REG			
Cross Over	1	0.34	4,193.54	1,854.20	114.3	NC50IF			
Heavy Weight Drill Pipe	15	42.39	3,225.80	1,935.48	114.3	NC50IF			

MUD PROPERTIES											MUD TYPE	SEA WATER GEL		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	Cl	Ca	H2S	KCL	LGS	
146	11/7	/	/	/	/	/85.6	9.50/	/	400	60				
DENS	12.58	ECD		PP		DAILY COST	22,190	CUM COST	49,509	% OIL				

MUD PUMPS / HYDRAULICS						SPR			
	STROKE	SPM	LINER	FLOW RATE			SPM	PPSR	
#1	12.0	80	152.4	835,074.48	SPP: 262,001 (kPa)	PUMPS #1			
#2	12.0	80	152.4	835,074.48	AV (DP): 0.4 (m/min) AV Riser: (m/min)	PUMPS #2			
#3	12.0	80	152.4	835,074.48	AV (DC): 0.5 (m/min) HP/in2: 0.163 (kW/cm ²)	PUMPS #3			

SOLIDS CONTROL						
SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
/	/	/				

PERSONNEL DATA					
COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
Dowell Schlumberger	2		Sperry Mudlogging	4	
OMS	3		Weatherford	3	
TMS	12		Apache	5	
Sperry MWD	2		DODI	16	
MI	2		DOGC	25	
Cameron	1		Fugro	4	
Drilling Fluids Equipment	1				

Total Personnel on Board: 80

MATERIALS ON LOCATION					
MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	142	0	0		142
CEMENT	107	0	0		107
DIESEL	437	355	311		1,103
GEL, FRESH	14	0	0		14
WATER, DRILLING	247	340	202		789
WATER, POTABLE	173	635	624		1,432

Total Water 2,221

SUPPORT CRAFT			
NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Far Grip (On location)	HELICOPTER	VH-BZU (6 pax on, 6 pax off)
SUPPLY BOAT	Pacific Wrangler (Melbourne)		

DECKLOG					
MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
	2,067	-2,067			

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	298.00 (m)	1 009.00 (1 009.00 (3.00	7	12/11/2004

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	8 / 235	2 / / 10	0.30 / 225 / 10	/	-18 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
7/11/2004 / 712.573 (kPa)	7/11/2004 / 356.287 (kPa)	/ (kPa)	7/11/2004		7/11/2004			7/11/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	6	

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD 1 009.00 (TVD 1 009.00 (DFS 4.00	REPT NO 8	DATE 13/11/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME			AUTH TMD (m)	PLANNED DOW	DOM	DOL 5.00	
SUPERVISOR H. Everhart / C. Wilson					OIM B. Scott				
COUNTRY AUSTRALIA	DISTRICT	STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO	
APE #	APE COSTS DHC: 0		DAILY COSTS DHC: 282,373.72		CUMULATIVE COSTS DHC: 3,931,681.69				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 282,374.00		TOTAL: 3,931,681.69				
LAST SFTY MEETING 7/11/2004	BLOCK VicP54		FORMATION					BHA HRS OF SERVICE	
LAST SURVEY TMD 295.15 INC 1.070 AZM 52.660			ACTUAL LEAKOFF EMW (SG)		LAST CASING 244.000 (mm) @ 1,009.00 (m)		NEXT CASING 178.000 (mm) @ 2,525.00 (m)		

CURRENT OPERATIONS

Making-up 216mm BHA.

24 HR FORECAST

Test BOP's. M/U BHA and drillpipe. Drill shoe.

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	00:30	0.50	S-CSG	S	41	Continued to displace the cement with seawater with the rig pumps. Plugs did not bump after pumping half the volume of the shoe track. Estimated TOC 400m.
00:30	02:00	1.50	S-CSG	S	41	Rigged-down cement hose. Backed-out running tool and pulled out of the hole jetting the wellhead. Re-established guideline #4.
02:00	04:00	2.00	S-NUP	S	43	Rigged-up to run BOP's.
04:00	06:00	2.00	S-NUP	S	43	Held JSA and picked-up 2 joints of riser and a pup joint. Changed out 2 dogs on first riser joint. Dropped rattle-gun socket down riser and into the ocean.
06:00	08:30	2.50	S-NUP	S	43	Skidded BOP's into the moonpool and attached guidelines and service loops.
08:30	09:30	1.00	S-NUP	S	43	Moved rig 15m off location. ROV conducted seabed survey - no socket found.
09:30	11:00	1.50	S-NUP	S	43	Lowered BOP through splash zone and connected pod lines
11:00	11:30	0.50	S-NUP	S	43	Pressure tested the choke and kill lines to 1380kpa for 5 minutes and 27600kPa for 10 minutes.
11:30	13:30	2.00	S-NUP	S	43	Held JSA. Picked-up and made-up slip joint and landing joint and made-up same.
13:30	16:00	2.50	S-NUP	S	43	Connected choke, kill and booster lines to slip joint.
16:00	16:30	0.50	S-NUP	S	43	Pressure tested the choke and kill lines to 1380kpa for 5 minutes and 27600kPa for 10 minutes.
16:30	17:00	0.50	S-NUP	S	43	Re-positioned the rig over location.
17:00	17:30	0.50	S-NUP	S	43	Guideline 4 pulled out of the guidepost whilst pulling-up to latch SDL ring.
17:30	18:30	1.00	S-NUP	S	43	Pulled-up and latched SDL ring with 4.5mT overpull. Re-latched guideline.
18:30	19:00	0.50	S-NUP	S	43	Installed pod line saddles.
19:00	19:30	0.50	S-NUP	S	43	Landed BOP's and confirmed latch with ROV. Took 22.7mT overpull. Bullseye readings - PGB 1.25deg to 1.5deg, BOP 0.75deg to 1deg and Riser 0.5deg to 1deg.
19:30	20:00	0.50	S-NUP	S	43	Removed bolts from the slip joint and scoped out same.
20:00	22:00	2.00	S-NUP	S	43	Laid down landing joint. Made-up diverter to slip joint and landed same. Took 4.5mT overpull.
22:00	23:00	1.00	S-NUP	S	43	Laid down riser handling equipment.
23:00	00:00	1.00	S-NUP	S	43	Closed shear rams and pressure tested the casing and BOP connector to 1380kPa for 5 minutes and 27600kPa for 15 minutes.

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 01:30 hrs. Pressure tested the kill line failsafe valves against the shear rams and casing with 1380kPa for 5 minutes and 27600kPa for 10 minutes

01:30 - 02:30 hrs. Ran in the hole with the 476mm running tool, jetted the BOP' and engaged tool.

02:30 - 05:00 hrs. Pressure tested the BOP's to 1380kPa for 5 minutes and 27600kPa for 10 minutes (Annulars to 20700kPa).

05:00 - 05:30 hrs. Released running tool, pulled out of the hole and laid out same.

05:30 - 06:00 hrs. Commenced making-up 216mm BHA.

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	1 009.00	1 009.00	4 00	8	13/11/2004

MUD PROPERTIES										MUD TYPE	IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	CI	Ca	H2S	KCL	LGS
44	20/4	1/1	4.5/	2.0/9.0	/	/85.6	8.00/	/1.20	42,000	500			0.4
DENS		14.74	ECD		PP		DAILY COST	40,056	CUM COST	89,565	% OIL		

MUD PUMPS / HYDRAULICS								SPR			
#	STROKE	SPM	LINER	FLOW RATE	SPP:			PUMPS #	SPM	PPSR	
#					AV (DP): 0.4 (m/min) AV Riser: (m/min)			PUMPS #			
#					AV (DC): 0.5 (m/min) HP/in2:			PUMPS #			

SOLIDS CONTROL							
SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS	
/	/	/					

PERSONNEL DATA							
COMPANY	QTY	HOURS	COMPANY	QTY	HOURS		
Dowell Schlumberger	2		Sperry Mudlogging	4			
OMS	3		Weatherford	3			
TMS	12		Apache	5			
Sperry MWD	2		DODI	16			
MI	2		DOGC	25			
Cameron	1		Fugro	4			
Drilling Fluids Equipment	1						
Total Personnel on Board: 80							

MATERIALS ON LOCATION						
MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL	
BARITE BULK	142	0	0		142	
CEMENT	89	0	0		89	
DIESEL	427	355	296		1,078	
GEL, FRESH	14	0	0		14	
WATER, DRILLING	235	340	26		601	
WATER, POTABLE	179	635	619		1,433	

Total Water 2,034

SUPPORT CRAFT			
NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Far Grip (On location)	HELICOPTER	VH-BHI (freight flight)
SUPPLY BOAT	Pacific Wrangler (Melbourne)		

DECKLOG					
MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
	2,067	-2,067			

WEATHER					
TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	14 / 225	3 / / 8	0.30 / 225 / 8	/	-18 (°C)

SAFETY DRILLS								
RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
7/11/2004 / 712,573 (kPa)	7/11/2004 / 356,287 (kPa)	13/11/2004 / 190,295 (kPa)	7/11/2004		7/11/2004			7/11/2004

INCIDENT REPORT	
INCIDENT TYPE	NONE
LOST TIME?	NO
DAYS W/O LTA	7
INCIDENT DESCRIPTION	

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longatom-2		10/11/2004	(m)	1 009.00 (1 009.00 (4.00	8	13/11/2004

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD 1 009.00 (TVD 1 009.00 (DFS 5.00	REPT NO 9	DATE 14/11/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME			AUTH TMD (m)	PLANNED DOW	DOM	DOL 6.00	
SUPERVISOR H. Everhart / C. Wilson					OIM B. Scott				
COUNTRY AUSTRALIA	DISTRICT	STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO	
AFE #	AFE COSTS DHC: 0		DAILY COSTS DHC: 291,670.02		CUMULATIVE COSTS DHC: 4,223,351.71				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 291,670.00		TOTAL: 4,223,351.71				
LAST SFTY MEETING 14/11/2004	BLOCK VicP54		FORMATION					BHA HRS OF SERVICE	
LAST SURVEY TMD 295.15 INC 1.070 AZM 52.660			ACTUAL LEAKOFF EMW (SG)		LAST CASING 244.000 (mm) @ 1,009.00 (m)		NEXT CASING 178.000 (mm) @ 2,525.00 (m)		

CURRENT OPERATIONS

Drilling 216mm hole at 1120m

24 HR FORECAST

Drill 216mm hole.

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	01:30	1.50	S-NUP	S	43	Pressure tested the kill line failsafe valves against the shear rams and casing with 1380kPa for 5 minutes and 27600kPa for 10 minutes
01:30	02:30	1.00	S-NUP	S	43	Ran in the hole with the 476mm running tool, jettied the BOP's and engaged tool.
02:30	05:00	2.50	S-NUP	S	43	Pressure tested the BOP's to 1380kPa for 5 minutes and 27600kPa for 10 minutes (Annulars to 20700kPa).
05:00	05:30	0.50	S-NUP	S	43	Released running tool, pulled out of the hole and laid out same.
05:30	06:00	0.50	S-NUP	S	43	Function tested the diverter and overboard lines.
06:00	07:30	1.50	P-DRL	S	14	Picked-up 216mm MWD tools.
07:30	09:00	1.50	P-DRL	S	32	Downloaded MWD tools.
09:00	13:00	4.00	P-DRL	S	14	Made-up 216mm BHA.
13:00	16:00	3.00	P-DRL	S	14	Ran in the hole picking-up 127mm drillpipe to 749m.
16:00	16:30	0.50	P-DRL	S	12	Pulled out of the hole from 749m to 291m racking back 127mm drillpipe.
16:30	19:30	3.00	P-DRL	S	14	Ran in the hole picking-up 127mm drillpipe to 922m.
19:30	20:30	1.00	P-DRL	S	12	Pulled out of the hole from 922m to 377m racking back 127mm drillpipe.
20:30	23:00	2.50	P-DRL	S	14	Ran in the hole picking-up 127mm drillpipe to 964m.
23:00	00:00	1.00	P-DRL	S	42	Washed down and tagged top of cement at 964m. Drilled cement plugs, float and cement.

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 01:30 hrs. Continued to drill cement plugs and cement to 980m.

01:30 - 02:30 hrs. Displaced the well to 1.25SG IDCAP mud whilst drilling cement and shoe. Cleaned out rathole and drilled 3m of new hole to 1012m.

02:30 - 03:00 hrs. Displaced choke and kill lines to mud.

03:00 - 03:30 hrs. Lined-up Dowell and broke circulation. Presssure tested line to 6900kPa. Performed FIT to 1.7SG with 4423kPa.

03:30 - 06:00 hrs. Drilled 216mm hole from 1012m to 1120m. Average ROP 43.2m/hr.

BIT DATA

BIT / RUN	SIZE	MANUF.	TYPE	SERIAL NO.	JETS OR TFA	DEPTH IN / DATE IN	I-O-D-L-B-G-O-R
3 / 3	215.90	Hycalog	DSX104HG	109117	12/12/12/12/13/////	307.54 / 14/11/2004	0-0-----

BIT OPERATIONS

BIT / RUN	WOB	RPM	FLOW	PRESS	P BIT	HRS	24Hr PROG	24Hr ROP	CUM HRS	CUM PROG	CUM ROP	
BHA	3	JAR S/N		BHA / HOLE CONDITIONS					JAR HRS		BIT	3
BHA WT. BELOW JARS		STRING WT. UP		STRING WT. DN		STRING WT. ROT		TORQUE / UNITS		BHA LENGTH		
										88.58		
ITEM DESCRIPTION					NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE	CONN TYPE		
Polycrystalline Diamond Bit					1	0.07	5.486.40		101.6	API REG		

APACHE ENERGY LIMITED

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DAILY DRILLING REPORT

WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	1,009.00	1,009.00	5.00	9	14/11/2004

BHA	3	JAR S/N	BHA / HOLE CONDITIONS				JAR HRS	BIT	3
ITEM DESCRIPTION	NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE	CONN TYPE			
Positive Displacement Motor	1	2.34	4,274.82		114.3	NC50 IF			
Integral Blade Stabilizer	1	0.62	5,321.30		114.3	NC50 IF			
Float Sub	1	0.15	4,274.82	1,813.56	114.3	NC50 IF			
Logging while Drilling	4	8.41	4,274.82		114.3	NC50 IF			
Integral Blade Stabilizer	1	0.50	4,193.54	1,813.56	114.3	NC50 IF			
Drill Collar	9	25.47	4,153.15	1,854.71	114.3	NC50 IF			
Drilling Jar	1	2.90	4,112.26		114.3	NC50 IF			
Drill Collar	2	5.73	4,193.54	1,854.71	114.3	NC50 IF			
Heavy Weight Drill Pipe	15	42.39	3,225.80	1,935.48	114.3	NC50 IF			

MUD PROPERTIES											MUD TYPE	IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	Cl	Ca	H2S	KCL	LGS	
54	18/5	1/1	4.5/	3.0/9.0	/	/	8.00/	/1.20	51,000	20				0.3
DENS	14.98	ECD	15.70	PP	DAILY COST		18,109	CUM COST	107,674	% OIL				

MUD PUMPS / HYDRAULICS							SPR		
	STROKE	SPM	LINER	FLOW RATE				SPM	PPSR
#					SPP:		PUMPS #		
#					AV (DP): 0.4 (m/min) AV Riser: (m/min)		PUMPS #		
#					AV (DC): 0.5 (m/min) HP/in2:		PUMPS #		

SOLIDS CONTROL						
SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
/	/	/				

PERSONNEL DATA						
COMPANY	QTY	HOURS	COMPANY	QTY	HOURS	
Dowell Schlumberger	2		Sperry Mudlogging	4		
OMS	3		Weatherford	3		
TMS	12		Apache	5		
Sperry MWD	2		DODI	16		
MI	2		DOGC	25		
Cameron	1		Fugro	4		
Drilling Fluids Equipment	1					

Total Personnel on Board: 80

MATERIALS ON LOCATION					
MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	110	0	0		110
CEMENT	89	0	0		89
DIESEL	417	355	283		1,055
GEL, FRESH	14	0	0		14
WATER, DRILLING	319	340	26		685
WATER, POTABLE	179	635	414		1,228

Total Water 1,913

SUPPORT CRAFT			
NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Far Grip (On location)	SUPPLY BOAT	Pacific Wrangler (En-route to the Rig)

DECKLOG					
MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
	2,067	-2,067			

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	1 009.00 (1 009.00 (5.00	9	14/11/2004

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	13 / 180	1 / / 7	0.15 / 180 / 7	/	-18 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
4/11/2004 / 190.295 (kPa)	14/11/2004 / 142.721 (kPa)	13/11/2004 / 190.295 (kPa)	14/11/2004	28/11/2004	14/11/2004			14/11/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	8	

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG 802.00 (m)	TMD 1,811.00 (m)	TVD 1,811.00 (m)	DFS 6.00	REPT NO 10	DATE 15/11/2004		
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME			AUTH TMD (m)	PLANNED DOW	DOM	DOL 7.00			
SUPERVISOR H. Everhart / C. Wilson					OIM B. Scott						
COUNTRY AUSTRALIA	DISTRICT		STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO		
APE #	APE COSTS DHC: 0		DAILY COSTS DHC: 474,983.48		CUMULATIVE COSTS DHC: 4,698,335.19						
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00						
VIC/P54	TOTAL: 0		TOTAL: 474,983.00		TOTAL: 4,698,335.19						
LAST SFTY MEETING 14/11/2004	BLOCK VicP54		FORMATION					BHA HRS OF SERVICE			
LAST SURVEY TMD 1,802.39 (m) INC 7.250 AZM 48.260			ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 244.000 (mm) @ 1,009.00 (m)		NEXT CASING 178.000 (mm) @ 2,525.00 (m)				
CURRENT OPERATIONS Drilling 216mm hole at 2038m.											
24 HR FORECAST Drill 216mm hole to TD.											
OPERATIONS SUMMARY											
FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY					
00:00	01:30	1.50	P-DRL	S	42	Continued to drill cement plugs and cement to 980m.					
01:30	02:30	1.00	P-DRL	S	42	Displaced the well to 1.25SG IDCAP mud whilst drilling cement and shoe. Cleaned out rathole and drilled 3m of new hole to 1012m.					
02:30	03:00	0.50	P-DRL	S	88	Displaced choke and kill lines to mud.					
03:00	03:30	0.50	P-DRL	S	42	Lined-up Dowell and broke circulation. Presssure tested line to 6900kPa. Performed FIT to 1.7SG with 4423kPa.					
03:30	00:00	20.50	P-DRL	S	10	Drilled 216mm hole from 1012m to 1811m. Average ROP 39m/hr.					
24.00 = Total Hours Today											
06:00 UPDATE											
00:00 - 06:00 hrs. Continued to drill 216mm hole from 1811m to 2036m. Average ROP 37.5m/hr. Control drilled from 2030m at 50m/hr.											
BIT DATA											
BIT / RUN	SIZE	MANUF.	TYPE	SERIAL NO.	JETS OR TFA		DEPTH IN / DATE IN		I-O-D-L-B-G-O-R		
3 / 3	215.90	Hycalog	DSX104HG	109117	12/12/12/12/13/////		307.54 / 14/11/2004		0-0-----		
BIT OPERATIONS											
BIT / RUN	WOB	RPM	FLOW	PRESS	P BIT	HRS	24Hr PROG	24Hr ROP	CUM HRS	CUM PROG	CUM ROP
3 / 3	3.0 / 22.0	70 / 80	2,725.0	21,112	10,429	20.00	1,517.46	75.87	20.00	1,517.46	75.87
BHA	3	JAR S/N	DAH02122	BHA / HOLE CONDITIONS				JAR HRS	24.00	BIT	3
BHA WT. BELOW JARS		STRING WT. UP		STRING WT. DN		STRING WT. ROT		TORQUE / UNITS		BHA LENGTH	
		113.3		108.8		108.8		6,779 N-m		88.58	
ITEM DESCRIPTION					NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE	CONN TYPE	
Polycrystalline Diamond Bit					1	0.07	5,486.40		101.6	API REG	
Positive Displacement Motor					1	2.34	4,274.82		114.3	NC50 IF	
Integral Blade Stabilizer					1	0.62	5,321.30		114.3	NC50 IF	
Float Sub					1	0.15	4,274.82	1,813.56	114.3	NC50 IF	
Logging while Drilling					4	8.41	4,274.82		114.3	NC50 IF	
Integral Blade Stabilizer					1	0.50	4,193.54	1,813.56	114.3	NC50 IF	
Drill Collar					9	25.47	4,153.15	1,854.71	114.3	NC50 IF	
Drilling Jar					1	2.90	4,112.26		114.3	NC50 IF	
Drill Collar					2	5.73	4,193.54	1,854.71	114.3	NC50 IF	
Heavy Weight Drill Pipe					15	42.39	3,225.80	1,935.48	114.3	NC50 IF	

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	802.00 (m)	1 811.00 (1 811.00 (6.00	10	15/11/2004

MUD PROPERTIES										MUD TYPE	IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	CI	Ca	H2S	KCL	LGS
47	19/11	3/4	4.2/	3.0/11.0	/	/11.4	8.70/	0.05/1.24	48,000	1,000		55	2.4
DENS	1.27	ECD	1.35	PP		DAILY COST	32.753	CUM COST	140.427	% OIL			

MUD PUMPS / HYDRAULICS								SPR					
#	STROKE	SPM	LINER	FLOW RATE					SPM	PPSR			
#					SPP: 21,112 (kPa)			PUMPS #					
#					AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)			PUMPS #					
#					AV (DC): 178.9 (m/min HP/in2: 73.464 (kW/cm			PUMPS #					

SOLIDS CONTROL							
SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS	
105 / 0	105 / 0	120 / 0					

PERSONNEL DATA							
COMPANY			QTY	HOURS	COMPANY		
Dowell Schlumberger			2		Sperry Mudlogging		
OMS			3		Weatherford		
TMS			12		Apache		
Sperry MWD			2		DODI		
MI			2		DOGC		
Cameron			1		Fugro		
Drilling Fluids Equipment			1				

Total Personnel on Board: 80

MATERIALS ON LOCATION						
MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL	
BARITE BULK	75	0	0		75	
CEMENT	89	85	0		174	
DIESEL	502	581	283		1,366	
GEL, FRESH	14	42	0		56	
WATER, DRILLING	199	365	26		590	
WATER, POTABLE	193	300	414		907	

Total Water 1,497

SUPPORT CRAFT			
NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Far Grip (En route to Eden)	SUPPLY BOAT	Pacific Wrangler (On location)

DECKLOG					
MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
	1,952	-1,952			

WEATHER					
TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	22 / 225	4 / / 8	1.50 / 225 / 8	/	0 (°C)

SAFETY DRILLS								
RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
14/11/2004 / 27,600 (kPa)	14/11/2004 / 20,700 (kPa)	13/11/2004 / 27,600 (kPa)	14/11/2004	28/11/2004	14/11/2004			14/11/2004

INCIDENT TYPE		INCIDENT DESCRIPTION
NONE		
LOST TIME?		NO
DAYS W/O LTA		9

DATUM SECTION				
RT TO AHD	(m)	AIR GAP		WATER DEPTH
				56.82 (m)

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	802.00 (m)	1,811.00 (1,811.00 (6.00	10	15/11/2004

SURVEYS

TYPE	MD	DEG	AZI	TVD	N/S	E/W	V. SECT	D.L.
	309.21	0.770	146.690	309.19	-2.22	1.42	0.11	2.91
	337.70	0.790	157.770	337.67	-2.57	1.60	0.09	0.16
	366.42	0.600	172.170	366.39	-2.90	1.70	0.01	0.27
	424.64	0.460	168.460	424.61	-3.43	1.78	-0.18	0.07
	481.27	0.600	185.700	481.24	-3.95	1.80	-0.43	0.11
	566.25	0.730	188.210	566.21	-4.93	1.68	-1.02	0.05
	594.89	0.710	181.730	594.85	-5.28	1.65	-1.23	0.09
	623.80	0.700	174.980	623.76	-5.64	1.66	-1.40	0.09
	651.93	0.710	178.960	651.88	-5.98	1.68	-1.56	0.05
	680.50	0.560	173.050	680.45	-6.30	1.70	-1.70	0.17
	709.36	0.460	168.630	709.31	-6.55	1.74	-1.79	0.11
	738.17	0.320	152.680	738.12	-6.74	1.80	-1.83	0.18
	767.01	0.310	146.160	766.96	-6.87	1.88	-1.83	0.04
	795.70	0.250	96.830	795.65	-6.95	1.98	-1.78	0.25
	824.74	0.300	87.280	824.69	-6.95	2.12	-1.66	0.07
	853.15	0.470	59.730	853.10	-6.89	2.30	-1.48	0.26
	881.85	0.650	65.060	881.80	-6.76	2.54	-1.20	0.20
	910.57	0.940	47.410	910.52	-6.53	2.87	-0.81	0.39
	968.35	1.070	52.660	968.29	-5.88	3.64	0.19	0.08
	1,025.79	1.380	33.860	1,025.71	-4.98	4.46	1.35	0.26
	1,055.31	1.470	38.910	1,055.22	-4.39	4.89	2.02	0.16
	1,084.15	1.450	38.450	1,084.06	-3.82	5.35	2.70	0.02
	1,110.42	1.500	43.020	1,110.32	-3.31	5.79	3.34	0.15
	1,140.98	1.630	41.280	1,140.87	-2.69	6.35	4.14	0.14
	1,169.60	1.900	39.200	1,169.47	-2.02	6.92	4.97	0.29
	1,198.15	2.050	43.590	1,198.00	-1.28	7.57	5.90	0.22
	1,227.48	1.960	42.910	1,227.32	-0.53	8.27	6.88	0.10
	1,285.12	2.780	45.340	1,284.91	1.17	9.94	9.18	0.43
	1,342.67	2.750	51.910	1,342.39	3.00	12.02	11.90	0.17
	1,428.08	3.430	52.870	1,427.68	5.81	15.67	16.47	0.24
	1,457.25	3.550	48.990	1,456.79	6.93	17.05	18.22	0.27
	1,515.81	3.870	57.080	1,515.23	9.19	20.07	21.97	0.31
	1,601.75	4.290	57.360	1,600.95	12.50	25.21	28.08	0.15
	1,630.37	4.380	57.320	1,629.49	13.67	27.04	30.24	0.09
	1,659.04	5.120	55.380	1,658.06	14.99	29.01	32.61	0.79
	1,687.66	5.810	50.900	1,686.55	16.63	31.18	35.32	0.85
	1,716.34	5.980	52.620	1,715.08	18.45	33.50	38.23	0.26
	1,773.64	6.990	49.610	1,772.01	22.52	38.53	44.63	0.56
	1,802.39	7.250	48.260	1,800.54	24.86	41.21	48.13	0.32

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG 501.00 (m)	TMD 2,312.00 (m)	TVD 2,301.00 (m)	DFS 7.00	REPT NO 11	DATE 16/11/2004		
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME		AUTH TMD (m)	PLANNED DOW	DOM	DOL 8.00				
SUPERVISOR H. Everhart / C. Wilson					OIM B. Scott						
COUNTRY AUSTRALIA	DISTRICT		STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO		
APE #	APE COSTS DHC: 0		DAILY COSTS DHC: 494,045.92		CUMULATIVE COSTS DHC: 5,192,381.11						
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00						
VIC/P54	TOTAL: 0		TOTAL: 494,046.00		TOTAL: 5,192,381.11						
LAST SFTY MEETING 14/11/2004	BLOCK VicP54		FORMATION					BHA HRS OF SERVICE			
LAST SURVEY TMD 2,232.27 (m) INC 13.750 AZM 40.700			ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 244.000 (mm) @ 1,009.00 (m)		NEXT CASING 178.000 (mm) @ 2,525.00 (m)				
CURRENT OPERATIONS Circulating well through choke with BOP closed.											
24 HR FORECAST Circulate hole clean, Flow check and perform bit trip.											
OPERATIONS SUMMARY											
FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY					
00:00	17:00	17.00	P-DRL	S	10	Drilled 216mm hole from 1811m to 2312m. ROP dropped to below 5m/h. Decision made to POH. Average ROP 29.4m/hr.					
17:00	21:30	4.50	P-DRL	U	32	Performed repeat section log from 2312m to 2100m.					
21:30	00:00	2.50	P-DRL	S	12	Pulled out of the hole from 2100m to 1816m. Worked through tight hole at 2016m, 1946m, 1862m, 1846m, and 1816m. Maximum overpull 36mT at 1816m.					
24.00 = Total Hours Today											
06:00 UPDATE											
00:00 - 01:00 hrs. Continued to pull out of the hole, working pipe through tight hole at 1816m and 1750m. Maximum overpull 36mT at 1816m. Hole was not taking correct fill at 1750m.											
01:00 - 01:30 hrs. Backreamed out of the hole from 1750m to 1671m. Observed gas reading of 11%.											
01:30 - 02:30 hrs. Flow checked well - static. Circulated well - observed gas peaks of 66%, 63%, 91% and 96%. No indications on surface of increase in flow from the well. Mudloggers suspected gas trap not calibrated.											
02:30 - 03:00 hrs. Flow checked well - static. Performed quick calibration of gas trap - Indicated gas trap readings potentially incorrect (readings may have been exaggerated by up to 70 times).											
03:00 - 04:30 hrs. Ran in the hole and monitored the well on the trip tank - Hole returning correct amount of fluid. 6m of fill encountered when on bottom. Calibrated gas system whilst running in the hole.											
04:30 - 05:00 hrs. Commenced circulating bottoms-up. Took 2m3 gain after pumping 20.7m3. Mud coming out of the rotary - shut well in and closed diverter.											
05:00 - 05:30 hrs. Monitored pressures. SIDPP 0kPa, SICP 3381kPa.											
05:30 - 06:00 hrs. Commenced circulating well through choke.											
BIT DATA											
BIT / RUN	SIZE	MANUF.	TYPE	SERIAL NO.	JETS OR TFA		DEPTH IN / DATE IN		I-O-D-L-B-G-O-R		
3 / 3	215.90	Hycalog	DSX104HG	109117	12/12/12/12/13/////		307.54 / 14/11/2004		0-0-----		
BIT OPERATIONS											
BIT / RUN	WOB	RPM	FLOW	PRESS	P BIT	HRS	24Hr PROG	24Hr ROP	CUM HRS	CUM PROG	CUM ROP
3 / 3	1.5 / 21.8	26 / 97	2,100.0	21,525	6,344	11.90	486.00	40.84	31.90	2,003.46	62.80
BHA	3	JAR S/N	DAH02024	BHA / HOLE CONDITIONS				JAR HRS	48.00	BIT	3
BHA WT. BELOW JARS		STRING WT. UP		STRING WT. DN		STRING WT. ROT		TORQUE / UNITS		BHA LENGTH	
20.4		131.0		127.0		127.0		10,846 N-m		88.58	
ITEM DESCRIPTION				NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE	CONN TYPE		
Polycrystalline Diamond Bit				1	0.07	5,486.40		101.6	API REG		
Positive Displacement Motor				1	2.34	4,274.82		114.3	NC50 IF		
Integral Blade Stabilizer				1	0.62	5,321.30		114.3	NC50 IF		
Float Sub				1	0.15	4,274.82	1,813.56	114.3	NC50 IF		

APACHE ENERGY LIMITED

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DAILY DRILLING REPORT

WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	501.00 (m)	2,312.00 (	2,301.00 (	7.00	11	16/11/2004

BHA	3	JAR S/N	DAH02024	BHA / HOLE CONDITIONS				JAR HRS	48.00	BIT	3
ITEM DESCRIPTION				NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE	CONN TYPE		
Logging while Drilling				4	8.41	4,274.82		114.3	NC50 IF		
Integral Blade Stabilizer				1	0.50	4,193.54	1,813.56	114.3	NC50 IF		
Drill Collar				9	25.47	4,153.15	1,854.71	114.3	NC50 IF		
Drilling Jar				1	2.90	4,112.26		114.3	NC50 IF		
Drill Collar				2	5.73	4,193.54	1,854.71	114.3	NC50 IF		
Heavy Weight Drill Pipe				15	42.39	3,225.80	1,935.48	114.3	NC50 IF		

MUD PROPERTIES										MUD TYPE	IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	Cl	Ca	H2S	KCL	LGS
45	20/10	2/3	5.5/	2.0/10.0	/	/26.0	9.30/20.00	0.40/2.60	54.000	360			2.6
DENS		1.25	ECD	1.32	PP		DAILY COST	30.095	CUM COST	170.522	% OIL		

MUD PUMPS / HYDRAULICS						SPR			
	STROKE	SPM	LINER	FLOW RATE				SPM	PPSR
#1	12.0	65	6.0	1,048.56	SPP: 21,525 (kPa)		PUMPS #1	50	4,278
#2	12.0	65	6.0	1,048.56	AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)		PUMPS #2		
#3	12.0	65	6.0	1,048.56	AV (DC): 178.9 (m/min HP/in2: 34.436 (kW/cm		PUMPS #3	50	4,140

SOLIDS CONTROL						
SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
145 / 0	145 / 0	120 / 0				

PERSONNEL DATA					
COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
Dowell Schlumberger	2		Apache	5	
OMS	3		DODI	16	
TMS	12		DOGC	25	
Sperry MWD	2		Fugro	2	
MI	2		Baker Atlas	8	
Sperry Mudlogging	4				

Total Personnel on Board: 81

MATERIALS ON LOCATION					
MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	67	83	0		150
CEMENT	89	170	0		259
DIESEL	487	568	150		1,205
GEL, FRESH	14	42	0		56
WATER, DRILLING	516	0	26		542
WATER, POTABLE	197	202	403		802

Total Water 1,344

SUPPORT CRAFT			
NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Far Grip (On location)	HELICOPTER	VH-BZU (17 pax on, 16 pax off)
SUPPLY BOAT	Pacific Wrangler (On location)		

DECKLOG					
MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
	1.891	-1.891			

WEATHER					
TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	2 / 225	2 / / 8	0.25 / 225 / 8	/	-1 (°C)

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	501.00 (m)	2,312.00 (m)	2,301.00 (m)	7.00	11	16/11/2004

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
14/11/2004 / 27,600 (kPa)	14/11/2004 / 20,700 (kPa)	13/11/2004 / 27,600 (kPa)	14/11/2004	28/11/2004	14/11/2004			14/11/2004

INCIDENT REPORT

INCIDENT TYPE	FIRST AID	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	10	

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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SURVEYS

TYPE	MD	DEG	AZI	TVD	N/S	E/W	V. SECT	D.L.
	1,831.13	8.020	46.490	1,829.02	27.45	44.02	51.85	0.84
	1,888.71	9.670	44.640	1,885.92	33.66	50.33	60.43	0.87
	1,917.47	10.450	43.250	1,914.24	37.28	53.82	65.26	0.85
	1,946.13	11.230	41.770	1,942.38	41.25	57.46	70.40	0.87
	1,974.87	11.300	41.500	1,970.57	45.45	61.19	75.74	0.09
	2,001.48	11.640	41.340	1,996.65	49.42	64.69	80.76	0.38
	2,031.15	12.130	40.390	2,025.68	54.04	68.68	86.54	0.53
	2,088.39	12.900	39.670	2,081.56	63.54	76.66	98.21	0.41
	2,174.27	13.470	40.330	2,165.18	78.54	89.25	116.64	0.21
	2,203.50	13.660	40.550	2,193.59	83.76	93.70	123.10	0.20
	2,232.27	13.750	40.700	2,221.54	88.93	98.14	129.54	0.10

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2			API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD 2,311.00 (TVD 2,298.40 (DFS 8.00	REPT NO 12	DATE 17/11/2004
RIG UNSPECIFIED Ocean Patriot OP			FIELD NAME			AUTH TMD (m)	PLANNED DOW	DOM		DOL 9.00
SUPERVISOR H. Everhart / C. Wilson					OIM B. Scott					
COUNTRY AUSTRALIA		DISTRICT		STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO
AFE #		AFE COSTS DHC: 0			DAILY COSTS DHC: 277,724.96			CUMULATIVE COSTS DHC: 5,477,306.07		
PERMIT #		CWC: 0			CWC: 0.00			CWC: 0.00		
VIC/P54		TOTAL: 0			TOTAL: 277,725.00			TOTAL: 5,477,306.07		
LAST SFTY MEETING 14/11/2004		BLOCK VicP54		FORMATION					BHA HRS OF SERVICE	
LAST SURVEY TMD 2,232.27 INC 13.750 AZM 40.700				ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 244.000 (mm) @ 1,009.00 (m)			NEXT CASING 178.000 (mm) @ 2,525.00 (m)	

CURRENT OPERATIONS

Laying out mud motor

24 HR FORECAST

Pull out of the hole and change the bit. RIH & drill to TD.

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	01:00	1.00	P-DRL	S	12	Continued to pull out of the hole, working pipe through tight hole at 1816m and 1750m. Maximum overpull 36mT at 1816m. Hole was not taking correct fill at 1750m - had swabbed in 0.83m3.
01:00	01:30	0.50	P-DRL	S	23	Backreamed out of the hole from 1750m to 1671m. Observed gas reading of 11%.
01:30	02:30	1.00	P-DRL	T	88	Flow checked well - static. Circulated well - observed gas peaks of 66%, 63%, 91% and 96%. No indications on surface of increase in flow from the well. Mudloggers suspected gas trap not calibrated.
02:30	03:00	0.50	P-DRL	T	80	Flow checked well - static. Performed quick calibration of gas trap - Indicated gas trap readings potentially incorrect (readings may have been exaggerated by up to 70 times).
03:00	04:30	1.50	P-DRL	T	12	Ran in the hole and monitored the well on the trip tank - Hole returning correct amount of fluid. 6m of fill encountered when on bottom. Calibrated gas system whilst running in the hole.
04:30	05:00	0.50	P-DRL	T	88	Commenced circulating bottoms-up. Took 2m3 gain after pumping 20.7m3. Mud coming out of the rotary - shut well in and closed diverter.
05:00	06:30	1.50	P-DRL	T	74	Monitored pressures. SIDPP 0kPa, SICP 3381kPa. Prepared kill sheets.
06:30	09:30	3.00	P-DRL	T	74	Circulated the influx out via the choke.
09:30	10:00	0.50	P-DRL	T	74	Displaced riser with 1.26SG mud. Flushed the BOP with water and displaced the choke and kill lines with 1.26SG mud. Opened well and monitored on the trip tank - static.
10:00	12:00	2.00	P-DRL	T	88	Circulated 2 x full circulations of 1.26SG mud. Background gas level 20-30%.
12:00	14:30	2.50	P-DRL	T	88	Circulated the well and increased the mud weight to 1.32SG.
14:30	15:30	1.00	P-DRL	T	15	Flushed choke and kill lines with 1.32SG mud. Performed 10 stand check trip to 2013m.
15:30	16:30	1.00	P-DRL	T	12	Ran in the hole from 2013m to 2311m - 2m of fill.
16:30	18:30	2.00	P-DRL	T	88	Circulated bottoms-up - Maximum gas 16.4%. Circulated until gas levels reduced to less than 4%.
18:30	21:00	2.50	P-DRL	T	12	Flow checked well - static. Pulled out of the hole from 2311m to 1645m. Maximum overpull 9mT at 1650m. Hole taking correct fill.
21:00	00:00	3.00	P-DRL	S	23	Backreamed out of the hole from 1645m to 1173m.

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 00:30 hrs. Continued to backream out of the hole from 1173m to 995m (casing shoe).

00:30 - 01:30 hrs. Circulated bottoms-up - No Gas. Flow checked well - static.

01:30 - 03:30 hrs. Pulled out of the hole from the casing shoe to 290m. Flow checked well prior to pulling BHA through the BOP's.

03:30 - 04:30 hrs. Pulled out of the hole and racked back BHA.

04:30 - 05:30 hrs. Download MWD tools and rack back same (continued to download tools whilst racked back)

05:30 - 06:00 hrs. Laid out mud motor.

BIT DATA

BIT / RUN	SIZE	MANUF.	TYPE	SERIAL NO.	JETS OR TFA	DEPTH IN / DATE IN	I-O-D-L-B-G-O-R
3 / 3	215.90	Hycalog	DSX104HG	109117	12/12/12/12/13/////	307.54 / 14/11/2004	0-0-----

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2,311.00	2,298.40	8.00	12	17/11/2004

BIT OPERATIONS

BIT / RUN	WOB	RPM	FLOW	PRESS	P BIT	HRS	24Hr PROG	24Hr ROP	CUM HRS	CUM PROG	CUM ROP
BHA	3	JAR S/N						JAR HRS		BIT	3
BHA WT. BELOW JARS	STRING WT. UP	STRING WT. DN	STRING WT. ROT	TORQUE / UNITS	BHA LENGTH						
					88.58						

BHA / HOLE CONDITIONS

ITEM DESCRIPTION	NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE	CONN TYPE
Polycrystalline Diamond Bit	1	0.07	5,486.40		101.6	API REG
Positive Displacement Motor	1	2.34	4,274.82		114.3	NC50 IF
Integral Blade Stabilizer	1	0.62	5,321.30		114.3	NC50 IF
Float Sub	1	0.15	4,274.82	1,813.56	114.3	NC50 IF
Logging while Drilling	4	8.41	4,274.82		114.3	NC50 IF
Integral Blade Stabilizer	1	0.50	4,193.54	1,813.56	114.3	NC50 IF
Drill Collar	9	25.47	4,153.15	1,854.71	114.3	NC50 IF
Drilling Jar	1	2.90	4,112.26		114.3	NC50 IF
Drill Collar	2	5.73	4,193.54	1,854.71	114.3	NC50 IF
Heavy Weight Drill Pipe	15	42.39	3,225.80	1,935.48	114.3	NC50 IF

MUD PROPERTIES

VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	CI	Ca	H2S	KCL	LGS
45	19/11	4/11	5.0/	2.0/13.0	/	/25.0	10.00/	0.60/2.80	56,000	200			2.4
DENS	1.33	ECD	1.33	PP		DAILY COST	13,299	CUM COST	183,821	% OIL			

MUD GAS

AVG. CONN		AVG. TRIP	16	AVG. BKGRD	4
MAX. CONN		MAX. TRIP	16	MAX. DRL	90

MUD PUMPS / HYDRAULICS

SPR

	STROKE	SPM	LINER	FLOW RATE			SPM	PPSR
#1	12.0				SPP:	PUMPS #1	40	3,795
#2	12.0				AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)	PUMPS #2	40	3,795
#					AV (DC): 178.9 (m/min HP/in2:	PUMPS #		

SOLIDS CONTROL

SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
145 / 0	145 / 0	120 / 0				

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
Dowell Schlumberger	2		Apache	5	
OMS	3		DODI	16	
TMS	12		DOGC	25	
Sperry MWD	2		Fugro	2	
MI	2		Baker Atlas	8	
Sperry Mudlogging	4				

Total Personnel on Board: 81

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	118	0	0		118
CEMENT	74	85	0		159
DIESEL	474	561	150		1,185
GEL, FRESH	14	42	0		56
WATER, DRILLING	500	0	26		526
WATER, POTABLE	212	198	403		813

Total Water 1,339

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2,311.00 (2,298.40 (8.00	12	17/11/2004

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Far Grip (Melbourne)	SUPPLY BOAT	Pacific Wrangler (On location)

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
	1,848	-1,848			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	8 / 45	1 / / 10	0.25 / 45 / 10	/	0 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
14/11/2004 / 27,600 (kPa)	14/11/2004 / 20,700 (kPa)	13/11/2004 / 27,600 (kPa)	14/11/2004	28/11/2004	14/11/2004			14/11/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	11	

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG 34.00 (m)	TMD 2,345.00 (m)	TVD 2,331.30 (m)	DFS 9.00	REPT NO 13	DATE 18/11/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME		AUTH TMD (m)	PLANNED DOW	DOM	DOL 10.00		
SUPERVISOR H. Everhart, C. Wilson, J. Wrenn					OIM B. Scott				
COUNTRY AUSTRALIA	DISTRICT	STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO	
AFE #	AFE COSTS DHC: 0		DAILY COSTS DHC: 284,971.68		CUMULATIVE COSTS DHC: 5,762,277.75				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 284,972.00		TOTAL: 5,762,277.75				
LAST SFTY MEETING 14/11/2004	BLOCK VicP54		FORMATION					BHA HRS OF SERVICE	
LAST SURVEY TMD 2,319.46 (m) INC 12.540 AZM 43.590			ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 244.000 (mm) @ 1,009.00 (m)		NEXT CASING 178.000 (mm) @ 2,525.00 (m)		

CURRENT OPERATIONS

Drilling 216 mm hole at 2377 m.

24 HR FORECAST

Drill ahead to TD. Pull out of hole for logging

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	00:30	0.50	P-DRL	S	23	Continued to backream out of hole from 1173 - 995 m (casing shoe)
00:30	01:30	1.00	P-DRL	S	88	Circulated bottoms up. No gas. Flow checked well - static
01:30	03:30	2.00	P-DRL	S	12	Pulled out of hole from casing shoe - 290 m. Flow checked well prior to pulling BHA through BOP
03:30	04:30	1.00	P-DRL	S	12	Pulled out of hole and racked back BHA
04:30	05:30	1.00	P-DRL	S	32	Download MWD tools and rack back same (continued to download tools whilst racked back)
05:30	06:30	1.00	P-DRL	S	14	PU / LD DP or DC
06:30	07:00	0.50	P-DRL	S	51	Service TDS, blocks and dolly while continue to download MWD tools
07:00	08:00	1.00	P-DRL	S	14	Made up new BHA
08:00	09:00	1.00	P-DRL	S	12	Ran in hole with new BHA
09:00	17:00	8.00	P-DRL	S	12	Continued run in hole with drill pipe. Reamed out tight spots at 1894 m, 1941 m, 1945 m, 2068 m, 2078 m, and 2102 m.
17:00	21:00	4.00	P-DRL	S	10	Washed down 6 m of fill. Drilled 216 mm hole from 2311 - 2342 m. Take surveys every connection with MWD
21:00	23:30	2.50	P-DRL	S	88	Total gas reading of 20% at 2342 m. Circulate and weight up mud to 1.38 SG. Flushed choke, kill and booster lines to 1.38 SG mud. Took SCR's with new mud
23:30	00:00	0.50	P-DRL	S	10	Drilled 216 mm hole from 2342 - 2345 m.

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 06:00 hrs. Drilled 216 mm hole from 2345 - 2377 m.

Flow checked well at 2352 m after 19.5% gas peak - Static

Performed 15 min flow check after 38% gas peak at 2357 m - Static

Performed 15 min flow check after 1.27 m3 gain in pits at 2368 m - Static (gain most likely from rig movement)

Allowed mud weight to increase to 1.4SG due to gas peaks. Background gas level dropped off to <5% at this mud weight.

BIT DATA

BIT / RUN	SIZE	MANUF.	TYPE	SERIAL NO.	JETS OR TFA	DEPTH IN / DATE IN	I-O-D-L-B-G-O-R
3 / 3	215.90	Hycalog	DSX104HG	109117	12/12/12/12/13/////	1,009.00 / 14/11/2004	4-7-RO-T-D- I-BT-PR
4 / 4	215.90	Smith	GFHI 300 D	MR 6520	16/16/16/////	2,311.00 / 18/11/2004	0-0-----

BIT OPERATIONS

BIT / RUN	WOB	RPM	FLOW	PRESS	P BIT	HRS	24Hr PROG	24Hr ROP	CUM HRS	CUM PROG	CUM ROP
3 / 3	1.5 / 21.8	26 / 97	2,100.0	21,525	6,344		0.00	40.84	31.90	2,003.46	62.80
4 / 4	5.0 / 10.0	76 / 122	2,103.3	20,500	6,507	4.80	34.00	7.08	4.00	34.00	7.08

APACHE ENERGY LIMITED

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DAILY DRILLING REPORT

WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	34.00 (m)	2,345.00 (	2,331.30 (	9.00	13	18/11/2004

BHA	4	JAR S/N	DAH 02122	BHA / HOLE CONDITIONS			JAR HRS	52.80	BIT	4
BHA WT. BELOW JARS	STRING WT. UP		STRING WT. DN		STRING WT. ROT		TORQUE / UNITS		BHA LENGTH	
16.8	134.0		123.0		125.0		20,065 N-m		282.26	

ITEM DESCRIPTION	NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE	CONN TYPE
Tri-Cone Bit	1	0.25	216.00		4.5	API REG
Intergral Blade Stabilizer	1	1.34	209.55	88.90	4.5	NC50 IF
Float Sub	1	0.50	168.27	71.44	4.5	NC50 IF
Logging while Drilling	4	27.60	171.45		4.5	NC50 IF
Intergral Blade Stabilizer	1	1.63	209.55	71.44	4.5	NC50 IF
Drill Collar	9	83.57	165.10	69.85	4.5	NC50 IF
Drilling Jar	1	9.51	161.93		4.5	NC50 IF
Drill Collar	2	18.79	165.10	73.03	4.5	NC50 IF
Heavy Weight Drill Pipe	15	139.07	165.10	76.20	4.5	NC50 IF

MUD PROPERTIES										MUD TYPE	IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	CI	Ca	H2S	KCL	LGS
45	20/14	5/12	5.2/	3.0/14.0	/	/31.4	9.00/0.05	0.25/3.20	54,000	240			4.1

DENS	1.30	ECD	1.33	PP	DAILY COST		8,371	CUM COST	192,192	% OIL	
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MUD GAS													
AVG. CONN				AVG. TRIP				AVG. BKGRD				4	
MAX. CONN				MAX. TRIP				MAX. DRL				90	

MUD PUMPS / HYDRAULICS								SPR		
	STROKE	SPM	LINER	FLOW RATE					SPM	PPSR
#1	12.0	65	6.0	1,048.56	SPP: 20,500 (kPa)			PUMPS #1	40	3,036
#2	12.0	65	6.0	1,048.56	AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)			PUMPS #2	40	3,036
#					AV (DC): 178.9 (m/min HP/in2: 35.380 (kW/cm			PUMPS #		

SOLIDS CONTROL						
SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
145 / 0	145 / 0	120 / 0				

PERSONNEL DATA					
COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
Baker Atlas	7		Sperry Mudlogging	5	
Dowell Schlumberger	2		Apache	6	
OMS	3		DODI	14	
TMS	12		DOGC	26	
Sperry MWD	2		Fugro	2	
MI	2				

Total Personnel on Board: 81

MATERIALS ON LOCATION					
MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	118	0	0		118
CEMENT	74	85	0		159
DIESEL	458	559	150		1,167
GEL, FRESH	14	42	0		56
WATER, DRILLING	488	0	26		514
WATER, POTABLE	222	194	403		819

Total Water 1,333

SUPPORT CRAFT			
NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Far Grip (In Town)	HELICOPTER	VH-BZU (4 pax on, 4 pax off)
SUPPLY BOAT	Pacific Wrangler (On location)		

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	34.00 (m)	2,345.00 (m)	2,331.30 (m)	9.00	13	18/11/2004

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
	1.889	-1.889			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR / PER	CURRENT SPEED / DIR	TEMP
00:00	2 /	1 / / 10	0.25 / / 6	/	0 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
14/11/2004 / 27.600 (kPa)	14/11/2004 / 20.700 (kPa)	13/11/2004 / 27.600 (kPa)	14/11/2004	28/11/2004	14/11/2004			14/11/2004

INCIDENT REPORT

INCIDENT TYPE	FIRST AID	INCIDENT DESCRIPTION	Mud logger touched bare, burnt out wires on Calcmeter
LOST TIME?	NO		
DAYS W/O LTA	12		

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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SURVEYS

TYPE	MD	DEG	AZI	TVD	N/S	E/W	V. SECT	D.L.
MWD	2,292.01	13.360	41.520	2,279.62	99.48	107.34	146.35	0.22
MWD	2,319.46	12.540	43.590	2,306.37	104.01	111.50	152.48	1.03

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

Page 1 of 3

WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG 77.00 (m)	TMD 2 422.00 (m)	TVD 2 406.60 (m)	DFS 10.00	REPT NO 14	DATE 19/11/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME		AUTH TMD (m)	PLANNED DOW	DOM	DOL 11.00		
SUPERVISOR H. Everhart / J. Wrenn				OIM B. Scott					
COUNTRY AUSTRALIA	DISTRICT	STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO	
APE #	APE COSTS DHC: 0		DAILY COSTS DHC: 327,427.00		CUMULATIVE COSTS DHC: 6,097,704.75				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 327,427.00		TOTAL: 6,097,704.75				
LAST SFTY MEETING 14/11/2004	BLOCK VicP54		FORMATION				BHA HRS OF SERVICE		
LAST SURVEY TMD 2,376.11 (m) INC 11.960 AZM 45.760			ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 244.000 (mm) @ 1,009.00 (m)		NEXT CASING 178.000 (mm) @ 2,525.00 (m)		

CURRENT OPERATIONS

Running in hole with wireline log #1 - RCI

24 HR FORECAST

Complete POOH. Wireline logging

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	15:00	15.00	P-DRL	S	10	Drilled 216 mm hole from 2345 - 2422 m. Ave ROP 5.13 m/hr Flow check at 2352 m after 19.5% gas peak - Static Flow check after 38% gas peak at 2357 m - Static Flow check after 1.27 m3 gain in pits at 2368 m - Static (gain most likely from rig movement) Flow checked drilling break at 2394 m - Static 2.2m3/hr dynamic losses from 2408m - healed by 2412m
15:00	17:00	2.00	P-DRL	S	12	Performed short trip from 2422 - 2147 m and ran back in hole to TD. No drag and no fill observed
17:00	19:00	2.00	P-DRL	S	88	Circulated up trip gas from short trip, 3.27%, continued to circulate and condition mud
19:00	22:00	3.00	P-DRL	S	12	15 min flow check. Pumped out of hole from 2422 - 1850 m. Worked through tight spot at 2058 m
22:00	00:00	2.00	P-DRL	S	12	Continued to POOH wet from 1850 - 1237 m.

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 00:30 Cont POH to 990 m
 00:30 - 01:00 Flow Checked static, pumped slug
 01:00 - 02:00 Cont POH from 990m to 290m
 02:00 - 04:30 Flow checked @ 290m static, POH with BHA, Downloaded MWD, removed RA sources and L/Dn bit
 04:30 - 05:00 Held JSA with WLL crew, R/Up compensator line
 05:00 - 06:00 P/Up WLL tools, RCI

BIT DATA

BIT / RUN	SIZE	MANUF.	TYPE	SERIAL NO.	JETS OR TFA	DEPTH IN / DATE IN	I-O-D-L-B-G-O-R
4 / 4	215.90	Smith	GFHI 300 D	MR 6520	16/16/16/////	2,311.00 / 18/11/2004	3-6-BT-G-E- 3-WT-TD

BIT OPERATIONS

BIT / RUN	WOB	RPM	FLOW	PRESS	P BIT	HRS	24Hr PROG	24Hr ROP	CUM HRS	CUM PROG	CUM ROP
4 / 4	9.0 / 14.0	100 / 120	2,067.0	21,373	6,375	15.00	77.00	5.13	19.80	111.00	5.61

BHA	4	JAR S/N	DAH 02122	BHA / HOLE CONDITIONS			JAR HRS	67.80	BIT	4
BHA WT. BELOW JARS		STRING WT. UP		STRING WT. DN	STRING WT. ROT	TORQUE / UNITS		BHA LENGTH		
16.8		134.0		123.0	125.0	20.065 N-m		282.26		

ITEM DESCRIPTION	NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE	CONN TYPE
Tri-Cone Bit	1	0.25	216.00		4.5	API REG
Integral Blade Stabilizer	1	1.34	209.55	88.90	4.5	NC50 IF
Float Sub	1	0.50	168.27	71.44	4.5	NC50 IF
Logging while Drilling	4	27.60	171.45		4.5	NC50 IF
Integral Blade Stabilizer	1	1.63	209.55	71.44	4.5	NC50 IF

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	77.00 (m)	2 422.00 (2 406.60 (10.00	14	19/11/2004

BHA	4	JAR S/N	DAH 02122	BHA / HOLE CONDITIONS				JAR HRS	67.80	BIT	4
ITEM DESCRIPTION				NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE	CONN TYPE		
Drill Collar				9	83.57	165.10	69.85	4.5	NC50 IF		
Drilling Jar				1	9.51	161.93		4.5	NC50 IF		
Drill Collar				2	18.79	165.10	73.03	4.5	NC50 IF		
Heavy Weight Drill Pipe				15	139.07	165.10	76.20	4.5	NC50 IF		

MUD PROPERTIES										MUD TYPE	IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	Cl	Ca	H2S	KCL	LGS
45	21/16	6/12	4.8/	1.0/16.0	/	/34.0	9.00/0.10	0.12/3.00	54.000	400			4.4

DENS	1.40	ECD	1.51	PP	DAILY COST		5.054	CUM COST	197,246	% OIL	
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MUD GAS											
AVG. CONN				AVG. TRIP				AVG. BKGRD			
MAX. CONN				MAX. TRIP				MAX. DRL			

MUD PUMPS / HYDRAULICS						SPR					
	STROKE	SPM	LINER	FLOW RATE				SPM	PPSR		
#1	12.0	65	6.0	1,048.56	SPP: 21,373 (kPa)		PUMPS #1				
#2	12.0	65	6.0	1,048.56	AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)		PUMPS #2				
#					AV (DC): 178.9 (m/min HP/in2: 34.064 (kW/cm		PUMPS #				

SOLIDS CONTROL											
SHAKER #1		SHAKER #2		SHAKER #3		DESILTER HRS		DESANDER HRS		CENT #1 HRS	
165 / 0		145 / 0		120 / 0							

PERSONNEL DATA											
COMPANY				QTY	HOURS	COMPANY				QTY	HOURS
Dowell Schlumberger				2		Apache				5	
OMS				3		DODI				14	
TMS				11		DOGC				27	
Sperry MWD				2		Fugro				2	
MI				2		Baker Atlas				8	
Sperry Mudlogging				5		PetroTech				1	

Total Personnel on Board: 82

MATERIALS ON LOCATION											
MATERIALS			RIG	WORKBOAT 1		WORKBOAT 2		OTHER		TOTAL	
BARITE BULK			100	0		0				100	
CEMENT			74	85		0				159	
DIESEL			441	553		150				1,144	
GEL, FRESH			14	42		0				56	
WATER, DRILLING			445	0		26				471	
WATER, POTABLE			212	190		403				805	

Total Water 1,276

SUPPORT CRAFT											
NAME/TYPE			REMARKS			NAME/TYPE			REMARKS		
SUPPLY BOAT			Far Grip (In Town)			HELICOPTER			VH-BZU (8 pax on, 7 pax off)		
SUPPLY BOAT			Pacific Wrangler (On location)								

DECKLOG											
MAX VDL		ACT VDL		AVL VDL		LEG PEN (BOW)		LEG PEN (PORT)		LEG PEN (S'BOARD)	
		1.848		-1.848							

WEATHER											
TIME		WIND		SWELL		WAVE		CURRENT		TEMP	
		SPEED / DIR		HT / DIR / PER		HT / DIR/ PER		SPEED / DIR			
00:00		15 / 250		1 / / 12		3.00 / 250 / 12		/		0 (°C)	

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	77.00 (m)	2 422.00 (2 406.60 (10.00	14	19/11/2004

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
14/11/2004 / 27,600 (kPa)	14/11/2004 / 20,700 (kPa)	13/11/2004 / 27,600 (kPa)	14/11/2004	28/11/2004	14/11/2004			14/11/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	13	

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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SURVEYS

TYPE	MD	DEG	AZI	TVD	N/S	E/W	V. SECT	D.L.
MWD	2,348.12	12.180	45.640	2,334.37	108.38	115.81	158.61	0.59
MWD	2,376.11	11.960	45.760	2,361.74	112.47	119.99	164.46	0.24

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD 2 422.00 (TVD 2 406.60 (DFS 11.00	REPT NO 15	DATE 20/11/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME		AUTH TMD (m)	PLANNED DOW	DOM	DOL 12.00		
SUPERVISOR H. Everhart / J. Wrenn				OIM B. Scott					
COUNTRY AUSTRALIA	DISTRICT	STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO	
AFE #	AFE COSTS DHC: 0		DAILY COSTS DHC: 292,199.00		CUMULATIVE COSTS DHC: 6,389,903.75				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 292,199.00		TOTAL: 6,389,903.75				
LAST SFTY MEETING 14/11/2004	BLOCK VicP54		FORMATION					BHA HRS OF SERVICE	
LAST SURVEY TMD 2,376.11 INC 11.960 AZM 45.760		ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 244.000 (mm) @ 1,009.00 (m)		NEXT CASING 178.000 (mm) @ 2,525.00 (m)			

CURRENT OPERATIONS

Pumping out of hole

24 HR FORECAST

Pump out of hole. Run wireline logs

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	00:30	0.50	P-DRL	S	12	Continued to pull out of hole to 990 m
00:30	01:00	0.50	P-DRL	S	80	Flow checked well at shoe - static. Pumped slug
01:00	02:00	1.00	P-DRL	S	12	Continued to POOH from 990 - 290 m
02:00	04:30	2.50	P-DRL	S	12	Flow checked well at BHA. POOH with BHA. Downloaded MWD, removed RA sources and broke off bit
04:30	05:00	0.50	P-EVAL	U	32	Held JSA with wireline crew. Rigged up compensator line
05:00	07:00	2.00	P-EVAL	U	32	Picked up and surface tested tool string #1 - RCI. Ran in hole to 100 m and opened compensator
07:00	09:00	2.00	P-EVAL	U	32	Ran in hole with RCI tool to 1854 m. Could not pass 1854 m after working tool string repeatedly
09:00	10:30	1.50	P-EVAL	T	32	Reconfigured tool, removed bottom chambers and attached holefinder to tool string #1
10:30	13:00	2.50	P-EVAL	T	32	Ran in hole with tool string, opened compensator at 100 m. Continued to run in hole and stood up at 1854 m. Worked tool string repeatedly but could not pass.
13:00	14:30	1.50	P-EVAL	T	32	POOH and laid down RCI tool string. Rubber holefinder left in hole from bottom of tool string
14:30	15:00	0.50	P-EVAL	T	32	Rigged down compensator line and wireline sheaves
15:00	21:00	6.00	P-EVAL	T	12	Laid down MWD / FEWD tools from BHA. Made up new bit and ran in hole to 1600 m
21:00	00:00	3.00	P-EVAL	T	23	Reamed 216 mm hole from 1600 - 1858 m Gas peak from 1600 m was 4.07%. Background gas ran at 0.75 - 1.5% String started taking weight at 1842 m. Increased torque and weight at 1858 m before bit fell through obstruction. Reamed through section 3 times.

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 05:00 Continued to ream 216 mm hole from 1858 - 2422 m. Background gas was 0.75 - 1.75%

Reamed out obstructions at 2021 m and 2282 m three times

String took constant weight from 2387 m to TD. Reamed out

05:00 - 06:00 Circulated and conditioned mud to clean shakers. Boosted riser with booster pump

Flow checked well for 15 mins prior to pumping out

BIT DATA

BIT / RUN	SIZE	MANUF.	TYPE	SERIAL NO.	JETS OR TFA	DEPTH IN / DATE IN	I-O-D-L-B-G-O-R
4 / 4	215.90	Smith	GFHI 300 D	MR 6520	16/16/16/16/16/16	2,311.00 / 18/11/2004	3-6-BT-G-E- 3-WT-TD
5 / 5	215.90	Hycalog	DSX104HG	109683	12/12/12/12/12/12	2,422.00 / 20/11/2004	1-1-NO-A-D- I-NO-TD

BIT OPERATIONS

BIT / RUN	WOB	RPM	FLOW	PRESS	P BIT	HRS	24Hr PROG	24Hr ROP	CUM HRS	CUM PROG	CUM ROP
4 / 4	9.0 / 14.0	100 / 120	2,067.0	21,373	6,375			5.13	19.80	111.00	5.61
5 / 5	/ 2.5	100 / 120	2,103.3	16,536	1,304	3.00			3.00		

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00	2 406.60	11.00	15	20/11/2004

BHA	5	JAR S/N	DAH 02122	BHA / HOLE CONDITIONS				JAR HRS	70.80	BIT	5
BHA WT. BELOW JARS		STRING WT. UP		STRING WT. DN		STRING WT. ROT		TORQUE / UNITS		BHA LENGTH	
15.0		125.0		120.0		122.0		4,000 N-m		254.66	
ITEM DESCRIPTION				NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE		CONN TYPE	
Polycrystalline Diamond Bit				1	0.25	216.00		4.5		API REG	
Intergral Blade Stabilizer				1	1.34	209.55	88.90	4.5		NC50 IF	
Float Sub				1	0.50	168.27	71.44	4.5		NC50 IF	
Intergral Blade Stabilizer				1	1.63	209.55	71.44	4.5		NC50 IF	
Drill Collar				9	83.57	165.10	69.85	4.5		NC50 IF	
Drilling Jar				1	9.51	161.93		4.5		NC50 IF	
Drill Collar				2	18.79	165.10	73.03	4.5		NC50 IF	
Heavy Weight Drill Pipe				15	139.07	165.10	76.20	4.5		NC50 IF	

MUD PROPERTIES										MUD TYPE	IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	Cl	Ca	H2S	KCL	LGS
51	25/16	6/13	4.0/	2.0/16.0	/	0.65/35.0	9.50/0.10	0.20/2.80	54,000	280			3.9
DENS	1.40	ECD	1.52	PP	DAILY COST		10,501	CUM COST	207,747	% OIL			

MUD GAS													
AVG. CONN				AVG. TRIP				1	AVG. BKGRD				1
MAX. CONN				MAX. TRIP				4	MAX. DRL				2

MUD PUMPS / HYDRAULICS								SPR			
	STROKE	SPM	LINER	FLOW RATE					SPM	PPSR	
#1	12.0	65	6.0	1,048.56	SPP: 16,536 (kPa)			PUMPS #1			
#2	12.0	65	6.0	1,048.56	AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)			PUMPS #2			
#					AV (DC): 178.9 (m/min HP/in2: 7.090 (kW/cm ²)			PUMPS #			

SOLIDS CONTROL													
SHAKER #1		SHAKER #2		SHAKER #3		DESILTER HRS		DESANDER HRS		CENT #1 HRS		CENT #2 HRS	
165 / 145		145 / 145		120 / 120									

PERSONNEL DATA													
COMPANY				QTY	HOURS	COMPANY				QTY	HOURS		
Dowell Schlumberger				2		Apache				5			
OMS				3		DODI				14			
TMS				11		DOGC				27			
Sperry MWD				2		Fugro				2			
MI				2		Baker Atlas				8			
Sperry Mudlogging				5		PetroTech				1			

Total Personnel on Board: 82

MATERIALS ON LOCATION													
MATERIALS			RIG	WORKBOAT 1		WORKBOAT 2		OTHER		TOTAL			
BARITE BULK			100	0		0				100			
CEMENT			74	85		0				159			
DIESEL			528	440		150				1,118			
GEL, FRESH			50	0		0				50			
WATER, DRILLING			440	0		26				466			
WATER, POTABLE			206	186		403				795			

Total Water 1,261

SUPPORT CRAFT													
NAME/TYPE			REMARKS				NAME/TYPE			REMARKS			
SUPPLY BOAT			Far Grip (In Town)				SUPPLY BOAT			Pacific Wrangler (On location)			

DECKLOG													
MAX VDL		ACT VDL		AVL VDL		LEG PEN (BOW)		LEG PEN (PORT)		LEG PEN (S'BOARD)			
		1,848		-1,848									

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00 (2 406.60 (11.00	15	20/11/2004

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	3 / 225	1 / / 12	1.00 / 225 / 12	/	0 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
14/11/2004 / 27.600 (kPa)	14/11/2004 / 20.700 (kPa)	13/11/2004 / 27.600 (kPa)	14/11/2004	28/11/2004	14/11/2004			14/11/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	14	

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD 2 422.00 (TVD 2 406.60 (DFS 12.00	REPT NO 16	DATE 21/11/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME		AUTH TMD (m)	PLANNED DOW	DOM	DOL 13.00		
SUPERVISOR H. Everhart / J. Wrenn				OIM B. Scott					
COUNTRY AUSTRALIA	DISTRICT	STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO	
AFE #	AFE COSTS DHC: 0		DAILY COSTS DHC: 438,867.33		CUMULATIVE COSTS DHC: 6,828,771.08				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 438,867.00		TOTAL: 6,828,771.08				
LAST SFTY MEETING 21/11/2004	BLOCK VicP54		FORMATION				BHA HRS OF SERVICE		
LAST SURVEY TMD 2,376.11 INC 11.960 AZM 45.760			ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 244.000 (mm) @ 1,009.00 (m)		NEXT CASING 178.000 (mm) @ 2,525.00 (m)		

CURRENT OPERATIONS

Rigging up wet connect and side entry sub onto 5" DP

24 HR FORECAST

Run Log #4 - RCI on 5" DP.

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	05:00	5.00	P-EVAL	T	23	Continued to ream 216 mm hole from 1858 - 2422 m. Background gas was 0.75 - 1.75% (1.75% at TD bottoms up) Reamed out obstructions at 2021 m and 2282 m three times String took consistant weight from 2387 m to TD. Reamed out same.
05:00	06:00	1.00	P-EVAL	T	88	Circulated and conditioned mud to clean shakers. Boosted riser with booster pump. Max gas 2% Flow checked well for 15 mins prior to pumping out
06:00	11:00	5.00	P-EVAL	T	12	Pumped out of hole from 2422 - 1200 m. Worked tight spot at 1794 m. Max overpull 25K. Worked through three times. No further overpull or drag. Discovered washout on stand 53. Laid out full stand.
11:00	12:00	1.00	P-EVAL	T	88	Circulated bottoms up and boosted riser at 1200 m. Flow checked well and pumped slug
12:00	14:30	2.50	P-EVAL	T	12	Continued to POOH. Flow checked at shoe and at BHA. Broke off bit and racked back BHA
14:30	15:00	0.50	P-EVAL	T	32	Held JSA. Rigged up compensator line and wireline sheaves
15:00	20:00	5.00	P-EVAL	T	32	Made up tools for logging run #3 - RCI. Ran in hole with RCI and unable to pass 1815 m. Pulled tools out of hole
20:00	20:30	0.50	P-EVAL	T	32	Rigged down compensator line and wireline sheaves
20:30	21:30	1.00	P-EVAL	U	32	Rigged up to run RCI tool on 5" DP
21:30	22:30	1.00	P-EVAL	U	32	Tested Simphor wet connect and RCI with wireline
22:30	00:00	1.50	P-EVAL	U	32	Held JSA. Made up 5" DP to Simphor and RCI. Ran in hole with Logging run #4 - RCI on 5" DP to 99 m. Drifted each stand with 2.375" drift

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 04:30 Continued to run in hole with logging run #4 - RCI on 5" DP to 1500 m. Drifted DP to 2 3/8"

04:30 - 06:00 Circulated 2 x string contents. Held JSA and ran wet connect through DP to logging string head

BIT DATA

BIT / RUN	SIZE	MANUF.	TYPE	SERIAL NO.	JETS OR TFA	DEPTH IN / DATE IN	I-O-D-L-B-G-O-R
5 / 5	215.90	Hycalog	DSX104HG	109683	12/12/12/12/12/////	2,422.00 / 20/11/2004	1-1-NO-A-D- I-NO-TD

BIT OPERATIONS

BIT / RUN	WOB	RPM	FLOW	PRESS	P BIT	HRS	24Hr PROG	24Hr ROP	CUM HRS	CUM PROG	CUM ROP
5 / 5	/ 2.5	100 / 120	2,103.3	16,550	7,511	5.00	584.00	116.80	8.00	584.00	73.00

BHA	5	JAR S/N	DAH 02122	BHA / HOLE CONDITIONS				JAR HRS	75.80	BIT	5
BHA WT. BELOW JARS	STRING WT. UP		STRING WT. DN		STRING WT. ROT		TORQUE / UNITS		BHA LENGTH		
15.0	134.0		123.0		125.0		8,000 N-m		254.66		

ITEM DESCRIPTION	NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE	CONN TYPE
Polycrystalline Diamond Bit	1	0.25	216.00		4.5	API REG
Integral Blade Stabilizer	1	1.34	209.55	88.90	4.5	NC50 IF

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00	2 406.60	12.00	16	21/11/2004

BHA	5	JAR S/N	DAH 02122	BHA / HOLE CONDITIONS				JAR HRS	75.80	BIT	5
ITEM DESCRIPTION				NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE	CONN TYPE		
Float Sub				1	0.50	168.27	71.44	4.5	NC50 IF		
Integral Blade Stabilizer				1	1.63	209.55	71.44	4.5	NC50 IF		
Drill Collar				9	83.57	165.10	69.85	4.5	NC50 IF		
Drilling Jar				1	9.51	161.93		4.5	NC50 IF		
Drill Collar				2	18.79	165.10	73.03	4.5	NC50 IF		
Heavy Weight Drill Pipe				15	139.07	165.10	76.20	4.5	NC50 IF		

MUD PROPERTIES										MUD TYPE	IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	Cl	Ca	H2S	KCL	LGS
48	19/16	4/9	4.0/	1.0/15.7	/	0.50/35.0	9.00/0.15	0.25/3.40	54.000	320			3.9
DENS		1.40	ECD	1.52	PP		DAILY COST	10.501	CUM COST	218.248	% OIL		

MUD GAS													
AVG. CONN				AVG. TRIP				1	AVG. BKGRD				1
MAX. CONN				MAX. TRIP				4	MAX. DRL				2

MUD PUMPS / HYDRAULICS								SPR			
	STROKE	SPM	LINER	FLOW RATE					SPM	PPSR	
#1	12.0	65	6.0	1,048.56	SPP: 16,550 (kPa)			PUMPS #1			
#2	12.0	65	6.0	1,048.56	AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)			PUMPS #2			
#					AV (DC): 178.9 (m/min HP/in2: 40.838 (kW/cm			PUMPS #			

SOLIDS CONTROL							
SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS	
165 / 145	145 / 145	120 / 120					

PERSONNEL DATA							
COMPANY		QTY	HOURS	COMPANY		QTY	HOURS
PetroTech		1		MI		2	
Expro		3		Sperry Mudlogging		2	
Halliburton		2		Apache		5	
AWT		1		DODI		14	
Dowell Schlumberger		2		DOGC		27	
OMS		3		Fugro		2	
TMS		11		Baker Atlas		11	

Total Personnel on Board: 86

MATERIALS ON LOCATION						
MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL	
BARITE BULK	82	0	83		165	
CEMENT	74	0	43		117	
DIESEL	512	0	733		1,245	
GEL, FRESH	50	0	42		92	
WATER, DRILLING	422	0	243		665	
WATER, POTABLE	195	0	655		850	

Total Water 1,515

SUPPORT CRAFT			
NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Pacific Wrangler (In Town)	HELICOPTER	VH-BZU (9 pax on, 5 pax off)
SUPPLY BOAT	Far Grip (On Location)	HELICOPTER	VH-JGO (0 pax on, 0 pax off)

DECKLOG					
MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
	1,848	-1,848			

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00 (2 406.60 (12.00	16	21/11/2004

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	7 / 225	15 / / 12	1.50 / 225 / 12	/	0 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
14/11/2004 / 27.600 (kPa)	14/11/2004 / 20.700 (kPa)	13/11/2004 / 27.600 (kPa)	14/11/2004	28/11/2004	14/11/2004			21/11/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	15	

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2				API #		SPUD DATE 10/11/2004		24 HRS PROG (m)		TMD 2 422.00 (TVD 2 406.60 (DFS 13.00		REPT NO 17		DATE 22/11/2004					
BHA		6		JAR S/N				BHA / HOLE CONDITIONS						JAR HRS				BIT		6			
ITEM DESCRIPTION						NO. JTS		LENGTH		O.D.		I.D.		CONN SIZE		CONN TYPE							
Integral Blade Stabilizer						1		1.63		209.55		71.44		4.5		NC50 IF							
Drill Collar						9		83.57		165.10		69.85		4.5		NC50 IF							
Drilling Jar						1		9.51		161.93				4.5		NC50 IF							
Drill Collar						2		18.79		165.10		73.03		4.5		NC50 IF							
Heavy Weight Drill Pipe						15		139.07		165.10		76.20		4.5		NC50 IF							
MUD PROPERTIES												MUD TYPE		IDCAP D									
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	Cl	Ca	H2S	KCL	LGS										
56	20/13	4/11	4.1/	1.0/16.0	/	/35.0	9.00/0.10	0.15/3.00	52.500	320			3.9										
DENS		1.41		ECD		1.52		PP		DAILY COST		7,353		CUM COST		225,601		% OIL					
MUD GAS																							
AVG. CONN								AVG. TRIP				1				AVG. BKGRD				1			
MAX. CONN								MAX. TRIP				4				MAX. DRL				2			
MUD PUMPS / HYDRAULICS														SPR									
	STROKE	SPM	LINER	FLOW RATE								SPM	PPSR										
#					SPP: AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min) AV (DC): 178.9 (m/min HP/in2:						PUMPS #												
#											PUMPS #												
#											PUMPS #												
SOLIDS CONTROL																							
SHAKER #1		SHAKER #2		SHAKER #3		DESILTER HRS		DESANDER HRS		CENT #1 HRS		CENT #2 HRS											
165 / 145		145 / 145		120 / 120																			
PERSONNEL DATA																							
COMPANY				QTY	HOURS	COMPANY				QTY	HOURS												
Dowell Schlumberger				2		DOGC				27													
OMS				3		Fugro				2													
TMS				11		Baker Atlas				11													
MI				2		PetroTech				1													
Sperry Mudlogging				2		Expro				3													
Apache				5		Halliburton				2													
DODI				14		AWT				1													
Total Personnel on Board: 86																							
MATERIALS ON LOCATION																							
MATERIALS		RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL																	
BARITE BULK		82	0	83		165																	
CEMENT		74	0	43		117																	
DIESEL		497	0	723		1,220																	
GEL, FRESH		50	0	42		92																	
WATER, DRILLING		410	0	243		653																	
WATER, POTABLE		194	0	650		844																	
Total Water 1,497																							
SUPPORT CRAFT																							
NAME/TYPE		REMARKS				NAME/TYPE		REMARKS															
SUPPLY BOAT		Far Grip (In Town)				SUPPLY BOAT		Pacific Wrangler (On location)															
DECKLOG																							
MAX VDL		ACT VDL		AVL VDL		LEG PEN (BOW)		LEG PEN (PORT)		LEG PEN (S'BOARD)													
		1,848		-1,848																			
WEATHER																							
TIME		WIND		SWELL		WAVE		CURRENT		TEMP													
		SPEED / DIR		HT / DIR / PER		HT / DIR/ PER		SPEED / DIR															
00:00		7 / 225		15 / / 12		1.50 / 225 / 12		/		0 (°C)													

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00 (2 406.60 (13.00	17	22/11/2004

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
14/11/2004 / 27,600 (kPa)	14/11/2004 / 20,700 (kPa)	13/11/2004 / 27,600 (kPa)	14/11/2004	28/11/2004	14/11/2004			21/11/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	16	

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD 2 422.00 (TVD 2 406.60 (DFS 14.00	REPT NO 18	DATE 23/11/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME			AUTH TMD (m)	PLANNED DOW	DOM	DOL 15.00	
SUPERVISOR H. Everhart / J. Wrenn					OIM B. Scott				
COUNTRY AUSTRALIA	DISTRICT		STATE / PROV		COUNTY / PARRISH		RIG PHONE NO	RIG FAX NO	
APE #	APE COSTS DHC: 0		DAILY COSTS DHC: 307,015.00		CUMULATIVE COSTS DHC: 7,429,189.08				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 307,015.00		TOTAL: 7,429,189.08				
LAST SFTY MEETING 21/11/2004	BLOCK VicP54		FORMATION					BHA HRS OF SERVICE	
LAST SURVEY TMD 2,376.11 INC 11.960 AZM 45.760			ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 244.000 (mm) @ 1,009.00 (m)		NEXT CASING 178.000 (mm) @ 2,525.00 (m)		

CURRENT OPERATIONS

Pumping out of hole to run 178 mm liner

24 HR FORECAST

Pull out of hole. Run 178 mm liner

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	01:00	1.00	P-EVAL	U	12	Continued run in hole from 1516 - 1910 m
01:00	02:00	1.00	P-EVAL	U	23	Reamed tight hole from 1910 - 1942 m
02:00	02:30	0.50	P-EVAL	U	12	Continued to RIH from 1942 - 2060 m
02:30	03:30	1.00	P-EVAL	U	74	Reamed tight hole at 2060 m. Flowline gas rapidly increased to 40%. Shut well in on BOP and monitored for pressures. SIDPP = 0 Kpa, SICP = 0 Kpa. While monitoring well pressures, boosted riser to clear gas. Max gas from boosting riser was 78%
03:30	06:00	2.50	P-EVAL	U	74	Circulated bottoms up from 2060 m through choke manifold at 40 SPM. Max gas = 28% reducing to 0% at completion of bottoms up
06:00	06:30	0.50	P-EVAL	U	74	Flushed BOP's, choke and kill lines and poor boy degasser with sea water then displaced system to 1.4 SG mud. Flow checked well through choke for 15 mins - static
06:30	07:30	1.00	P-EVAL	U	74	Opened BOP and circulated bottoms up at 2060 m. Max gas peak of 28% reduced to 5% prior to continuing to RIH
07:30	08:30	1.00	P-EVAL	U	12	Continued to RIH from 2060 - 2422 m. No tight spots encountered.
08:30	10:30	2.00	P-EVAL	U	88	Circulated well and worked pipe at TD. Max gas at bottoms up = 78% reduced to 10%. Obtained rotary torque figures at 2420 m for liner running - 4067 N.m at 20 and 30 RPM
10:30	20:30	10.00	P-EVAL	U	88	Continued to circulate and work pipe with background gas readings of 10 - 11%. Raised mud weight to 1.43 SG mud and background gas reduced to 6%. Flushed choke, kill and booster lines with 1.43 SG mud. Obtained slow pump rates with 1.43 SG mud. Had problems with Mud Loggers gas sensor. Total Gas Sensor and Gas Chromatograph were recalibrated and rechecked. Final gas reading before wiper trip was 0%. 15 min flow check before wiper trip - static
20:30	21:30	1.00	P-EVAL	U	12	Pulled out of hole wet from 2422 - 2282 m
21:30	22:00	0.50	P-EVAL	U	50	Repaired derrick racking arm shear pins
22:00	23:00	1.00	P-EVAL	U	12	Continued to pull out of hole wet from 2282 - 2150 m
23:00	00:00	1.00	P-EVAL	U	23	Backreamed out of hole from 2150 - 2004 m

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 01:30 Continued to backream out of hole to 1750 m
 01:30 - 02:30 Flow checked well and RIH to 1947 m. Tight hole at 1844, 1871, 1895, 1921 and 1936 m
 02:30 - 03:30 Ream from 1947 - 2150 m
 03:30 - 04:00 RIH from 2150 - 2422 m. No fill
 04:00 - 05:00 Circulated bottoms up. Max gas 1%
 05:00 - 06:00 Flow checked - static. Pumped out of hole from 2422 - 2241 m

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00 (2 406.60 (14.00	18	23/11/200

BIT DATA

BIT / RUN	SIZE	MANUF.	TYPE	SERIAL NO.	JETS OR TFA	DEPTH IN / DATE IN	I-O-D-L-B-G-O-R
6 / 6	215.90	Hycalog	DSX104HG	109683	12/12/12/12/12/////	2,442.00 / 22/11/2004	0-0-----

BIT OPERATIONS

BIT / RUN	WOB	RPM	FLOW	PRESS	P BIT	HRS	24Hr PROG	24Hr ROP	CUM HRS	CUM PROG	CUM ROP
6 / 6	/ 3.0	40 / 120	1,900.0	15,847	6,304	3.00			3.00		

BHA	6	JAR S/N	DAH 02122	BHA / HOLE CONDITIONS		JAR HRS	77.80	BIT	6
BHA WT. BELOW JARS		STRING WT. UP		STRING WT. DN	STRING WT. ROT	TORQUE / UNITS		BHA LENGTH	
15.0		130.0		125.0	127.0	N-m		254.66	

ITEM DESCRIPTION	NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE	CONN TYPE
Polycrystalline Diamond Bit	1	0.25	216.00		4.5	API REG
Intergral Blade Stabilizer	1	1.34	209.55	88.90	4.5	NC50 IF
Float Sub	1	0.50	168.27	71.44	4.5	NC50 IF
Intergral Blade Stabilizer	1	1.63	209.55	71.44	4.5	NC50 IF
Drill Collar	9	83.57	165.10	69.85	4.5	NC50 IF
Drilling Jar	1	9.51	161.93		4.5	NC50 IF
Drill Collar	2	18.79	165.10	73.03	4.5	NC50 IF
Heavy Weight Drill Pipe	15	139.07	165.10	76.20	4.5	NC50 IF

MUD PROPERTIES

MUD PROPERTIES										MUD TYPE	IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	Cl	Ca	H2S	KCL	LGS
45	20/17	6/12	4.0/	1.0/17.0	/	/28.5	9.00/0.20	0.10/3.20	61.100	280			3.5

DENS	1.44	ECD	1.55	PP		DAILY COST		CUM COST	225,601	% OIL	
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MI IN GAS

AVG. CONN		AVG. TRIP	28	AVG. BKGRD	
MAX. CONN		MAX. TRIP	78	MAX. DRL	1

MUD PUMPS / HYDRAULICS

	STROKE	SPM	LINER	FLOW RATE	SPP: 15,847 (kPa) AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min) AV (DC): 178.9 (m/min HP/in2: 30.962 (kW/cm		SPM	PPSR
#2	12.0	60	6.0	969.07		PUMPS #2	40	2,928
#3	12.0	60	6.0	969.07		PUMPS #3	40	3,100
#						PUMPS #		

SOLIDS CONTROL

SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
165 / 145	145 / 145	120 / 120				

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
Dowell Schlumberger	2		Fugro	2	
OMS	3		Baker Atlas	5	
TMS	11		PetroTech	1	
MI	1		Expro	12	
Sperry Mudlogging	2		Halliburton	4	
Apache	4		AWT	1	
DODI	14		WEATHERFORD	3	
DOGC	27				

Total Personnel on Board: 92

MATERIALS ON LOCATION

MATERIALS ON LOCATION					
MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	68	0	83		151
CEMENT	82	0	43		125
DIESEL	483	0	717		1,200
GEL, FRESH	50	0	42		92
WATER, DRILLING	391	0	243		634

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00 (2 406.60 (14.00	18	23/11/2004

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
WATER, POTABLE	179	0	645		824

Total Water 1,458

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Pacific Wrangler (In Town)	HELICOPTER	VH-BZU (16 pax on, 8 pax off)
SUPPLY BOAT	Far Grip (On Location)	HELICOPTER	VH-BZU (11 pax on, 7 pax off)

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
	1.848	-1.848			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	4 / 225	1 / / 10	1.50 / 180 / 10	/	0 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
14/11/2004 / 27.600 (kPa)	14/11/2004 / 20.700 (kPa)	13/11/2004 / 27.600 (kPa)	14/11/2004	28/11/2004	14/11/2004			21/11/2004

INCIDENT REPORT

INCIDENT TYPE NONE INCIDENT DESCRIPTION
 LOST TIME? NO
 DAYS W/O LTA 17

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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WELL NAME Longtom-2			API #		SPUD DATE 10/11/2004		24 HRS PROG (m)		TMD 2 422.00 (TVD 2 406.60 (DFS 15.00		REPT NO 19		DATE 24/11/200	
RIG UNSPECIFIED Ocean Patriot OP			FIELD NAME						AUTH TMD (m)		PLANNED DOW		DOM		DOL 16.00			
SUPERVISOR H. Everhart / J. Wrenn						OIM B. Scott												
COUNTRY AUSTRALIA		DISTRICT			STATE / PROV			COUNTY / PARRISH			RIG PHONE NO			RIG FAX NO				
AFE #		AFE COSTS DHC: 0				DAILY COSTS DHC: 379,861.67				CUMULATIVE COSTS DHC: 7,809,050.75								
PERMIT #		CWC: 0				CWC: 0.00				CWC: 0.00								
VIC/P54		TOTAL: 0				TOTAL: 379,862.00				TOTAL: 7,809,050.75								
LAST SFTY MEETING 21/11/2004		BLOCK VicP54			FORMATION									BHA HRS OF SERVICE				
LAST SURVEY TMD 2,376.11 INC 11.960 AZM 45.760					ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 244.000 (mm) @ 1,009.00 (m)					NEXT CASING 178.000 (mm) @ 2,525.00 (m)						

CURRENT OPERATIONS

Circulating through bridge at 2094 m with 178 mm liner

24 HR FORECAST

Run and cement 178 mm liner. Run VSP log

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	01:30	1.50	P-EVAL	U	23	Continued to backream from 2004 - 1750 m
01:30	02:30	1.00	P-EVAL	U	12	Flow checked well - static. Ran in hole from 1750 - 1947 m. Hole tight at 1844, 1871, 1895, 1921 and 1936 m. Worked and reamed through obstructions
02:30	03:30	1.00	P-EVAL	U	23	Reamed 216 mm hole from 1947 - 2150 m
03:30	04:00	0.50	P-EVAL	U	12	Continued to run in hole from 2150 - 2422 m
04:00	05:00	1.00	P-EVAL	U	88	Circulated bottoms up from 2422 m. Max gas at bottoms up was 1%
05:00	10:00	5.00	P-EVAL	U	12	Pumped out of hole from 2422 - 1200 m
10:00	11:00	1.00	P-EVAL	U	88	Circulated bottoms up at 1200 m, Flow checked for 15 mins - static. Pumped slug. Dropped hollow drift in preparation for running liner
11:00	11:30	0.50	P-EVAL	U	12	Pulled out of hole from 1200 - 990 m
11:30	12:30	1.00	P-EVAL	U	51	Slipped and cut 112 ft of drilling line
12:30	14:30	2.00	P-EVAL	U	12	Continued to POOH from 990 - 245 m
14:30	15:00	0.50	P-EVAL	U	12	Pulled out of hole with 216 mm BHA and racked in derrick
15:00	15:30	0.50	P-EVAL	U	50	Attempted to set 6 1/2" slips. Slip segment cracked. Changed out segment. No debris fell down hole
15:30	16:30	1.00	P-EVAL	U	12	Continued to pull 216 mm BHA and racked back in derrick
16:30	17:30	1.00	P-CSG	U	40	Held PJSM. Rigged up to run 178 mm liner. Made up 178 mm pumpin sub to TDS
17:30	18:00	0.50	P-CSG	U	40	Threadlocked reamer shoe to to 178 mm liner and torqued up
18:00	18:30	0.50	P-CSG	U	50	Repaired casing board camera
18:30	19:00	0.50	P-CSG	U	40	Made up three joint shoe track to shoe including two internal floats, threadlocking joints. Made up next joint of 178 mm liner with internal ball catcher installed. Filled 178 mm liner with mud and checked floats functioning correctly
19:00	00:00	5.00	P-CSG	U	40	Continued to pick up and make up 178 mm liner and ran in hole with liner to 940 m

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 03:00 Continued running 178 mm liner from 940 - 1530 m

03:00 - 04:30 Made up 178 mm liner hanger

04:30 - 06:00 Continued run in hole with 178 mm liner on landing string

BIT DATA

BIT / RUN	SIZE	MANUF.	TYPE	SERIAL NO.	JETS OR TFA	DEPTH IN / DATE IN	I-O-D-L-B-G-O-R
6 / 6	215.90	Hycalog	DSX104HG	109683	12/12/12/12/12/////	2,422.00 / 22/11/2004	0-1-CT-C-D- I-NO-TD

BIT OPERATIONS

BIT / RUN	WOB	RPM	FLOW	PRESS	P BIT	HRS	24Hr PROG	24Hr ROP	CUM HRS	CUM PROG	CUM ROP
6 / 6	/ 3.0	40 / 120	1.900.0	15.847	6.304				3.00		

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00	2 406.60	15.00	19	24/11/2004

BHA	6	JAR S/N	BHA / HOLE CONDITIONS				JAR HRS	BIT	6
BHA WT. BELOW JARS	STRING WT. UP	STRING WT. DN	STRING WT. ROT	TORQUE / UNITS	BHA LENGTH				254.66

ITEM DESCRIPTION	NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE	CONN TYPE
Polycrystalline Diamond Bit	1	0.25	216.00		4.5	API REG
Integral Blade Stabilizer	1	1.34	209.55	88.90	4.5	NC50 IF
Float Sub	1	0.50	168.27	71.44	4.5	NC50 IF
Integral Blade Stabilizer	1	1.63	209.55	71.44	4.5	NC50 IF
Drill Collar	9	83.57	165.10	69.85	4.5	NC50 IF
Drilling Jar	1	9.51	161.93		4.5	NC50 IF
Drill Collar	2	18.79	165.10	73.03	4.5	NC50 IF
Heavy Weight Drill Pipe	15	139.07	165.10	76.20	4.5	NC50 IF

MUD PROPERTIES										MUD TYPE	IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	CI	Ca	H2S	KCL	LGS
45	22/16	6/9	3.8/	1.0/17.5	/	0.25/28.5	9.20/0.20	0.10/3.20	62,000	320			3.8
DENS	1.44	ECD	1.55	PP		DAILY COST		CUM COST	225,601	% OIL			

MUD GAS													
AVG. CONN					AVG. TRIP					AVG. BKGRD			
MAX. CONN					MAX. TRIP	1				MAX. DRL	1		

MUD PUMPS / HYDRAULICS					SPR			
	STROKE	SPM	LINER	FLOW RATE	SPP: 15,847 (kPa) AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min) AV (DC): 178.9 (m/min HP/in2: 30.962 (kW/cm		SPM	PPSR
#2	12.0	60	6.0	969.07		PUMPS #2		
#3	12.0	60	6.0	969.07		PUMPS #3		
#						PUMPS #		

SOLIDS CONTROL						
SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
165 / 145	145 / 145	120 / 120				

PERSONNEL DATA					
COMPANY			COMPANY		
QTY	HOURS		QTY	HOURS	
PetroTech	1		MI	1	
Expro	12		Sperry Mudlogging	2	
Halliburton	4		Apache	4	
AWT	1		DODI	14	
WEATHERFORD	3		DOGC	27	
Dowell Schlumberger	2		Fugro	2	
OMS	3		Baker Atlas	5	
TMS	11				

Total Personnel on Board: 92

MATERIALS ON LOCATION					
MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	47	77	83		207
CEMENT	82	85	43		210
DIESEL	469	536	717		1,722
GEL, FRESH	50	42	42		134
WATER, DRILLING	319	322	243		884
WATER, POTABLE	179	206	645		1,030

Total Water 1,914

SUPPORT CRAFT			
NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Far Grip (On location)	SUPPLY BOAT	Pacific Wrangler (On location)

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00 (2 406.60 (15.00	19	24/11/2004

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
	1.848	-1.848			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	5 / 65	2 / / 8	2.00 / 65 / 8	/	0 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
14/11/2004 / 27.600 (kPa)	14/11/2004 / 20.700 (kPa)	13/11/2004 / 27.600 (kPa)	14/11/2004	28/11/2004	14/11/2004			21/11/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	18	

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD 2 422.00 (TVD 2 406.60 (DFS 16.00	REPT NO 20	DATE 25/11/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME		AUTH TMD (m)	PLANNED DOW	DOM	DOL 17.00		
SUPERVISOR H. Everhart / J. Wrenn				OIM B. Scott					
COUNTRY AUSTRALIA	DISTRICT	STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO	
AFE #	AFE COSTS DHC: 0		DAILY COSTS DHC: 0.00		CUMULATIVE COSTS DHC: 7,809,050.75				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 0.00		TOTAL: 7,809,050.75				
LAST SFTY MEETING 21/11/2004	BLOCK VicP54		FORMATION				BHA HRS OF SERVICE		
LAST SURVEY TMD 2,376.11 INC 11.960 AZM 45.760		ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 178.000 (mm) @ 2,420.00 (m)		NEXT CASING 178.000 (mm) @ 2,525.00 (m)			

CURRENT OPERATIONS

Picking up 4 1/2" tubing

24 HR FORECAST

Run 178 mm RTTS on 114 mm tubing to flex tubing / test liner

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	03:00	3.00	P-CSG	S	40	Continued to RIH with 178 mm liner from 940 - 1530 m
03:00	04:30	1.50	P-CSG	S	40	Picked up and made up 178 mm liner hanger as per Baker instructions
04:30	07:30	3.00	P-CSG	S	40	Continued to run in hole with 178 mm liner on 5" DP to 2418 m. Liner took weight intermittently from 1896 - 2094 m where TDS was connected and liner had to be washed through to 2094 m
07:30	08:00	0.50	P-CSG	S	40	Washed down a double, picked up cement head and made up cement hose
08:00	08:30	0.50	P-CSG	S	40	Positioned 178 mm liner hanger top at 877 m and shoe at 2420 m. Rotated and circulated 28.8 m3 of mud. No losses observed.
08:30	09:30	1.00	P-CSG	S	40	Released ball and circulated at 0.3 m3/min. Ball landed with 1.9 m3 overdisplacement. held 13000 KPa for 5 mins
09:30	10:00	0.50	P-CSG	S	40	Set 180MT down and pressured up to 19300 KPa and held for 15 mins to release tool. Bled down to 2750 KPa and picked up to neutral weight - 77MT confirmed tool released. Set down 32MT on tool. Pressured up to 25500 KPa to shear out ball.
10:00	10:30	0.50	P-CSG	S	40	Circulated one casing volume - 28.8 m3. Max gas - 1.52%
10:30	12:30	2.00	P-CSG	S	41	Broke circulation with Dowell. Tested lines to 34500 KPa for 5 mins. Mixed and pumped 10.5 m3 of 1.9 SG cement slurry. Displaced with Dowell. Pumped plug after 36.4 m3 pumped CIP @ 12:23, Est TOC 1670m, based on displacement.
12:30	13:00	0.50	P-CSG	S	41	Dowell pressure tested liner to 24100 KPa (3500 psi) for 15 mins
13:00	13:30	0.50	P-CSG	S	40	Set packer by setting down 27MT to shear out dogs. Nipped down surface cement hose
13:30	14:00	0.50	P-CSG	S	40	Pressure tested packer against lower annular to 27500 KPa (4000 psi) for 15 mins
14:00	14:30	0.50	P-CSG	S	40	Released packer running tool and circulated bottoms up from 877 m. No cement returns observed.
14:30	16:30	2.00	P-CSG	S	40	Racked back cement stand and pulled out of hole from 877 m. Laid out running tool assy
16:30	17:30	1.00	P-CSG	S	40	Broke out and laid down cmt stand from derrick
17:30	18:00	0.50	P-EVAL	S	32	Rigged up Atlas wireline sheaves and compensating line
18:00	18:30	0.50	P-EVAL	S	32	Made up Atlas tool assy #1 - VSP
18:30	23:30	5.00	P-EVAL	S	32	Ran in hole with logging run #1 - VSP and logged hole
23:30	00:00	0.50	P-EVAL	S	32	Laid down wireline tool assy

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 00:30 Continued to rig down wireline and compensator line

00:30 - 03:00 Laid down 6 1/2" BHA

03:00 - 04:00 Rearrange tubulars in derrick to enable racking 4 1/2" tubing

04:00 - 05:30 Hold JSA. R/U 4 1/2" tubing equipment. Continued to lay out 4 1/2" tubing, measure and rabbit same and rabbit 9 x 4 1/2" tubing pup joints

05:30 - 06:00 Pick up TST and RD on top of 3 1/2" DP mule shoe and start picking up 4 1/2" tubing

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00 (2 406.60 (16.00	20	25/11/2004

MUD PROPERTIES										MUD TYPE	IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	CI	Ca	H2S	KCL	LGS
45	21/15	5/9	4.2/	1.0/17.2	/	0.20/28.0	8.50/0.10	0.05/3.20	57,000	380			3.5
DENS		1.45	ECD	1.55	PP	DAILY COST		CUM COST				% OIL	

MUD GAS													
AVG. CONN				AVG. TRIP				AVG. BKGRD					
MAX. CONN				MAX. TRIP				MAX. DRL					
				1				1					

MUD PUMPS / HYDRAULICS							SPR		
	STROKE	SPM	LINER	FLOW RATE	SPP: AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min) AV (DC): 178.9 (m/min HP/in2:		SPM	PPSR	
#						PUMPS #			
#						PUMPS #			
#						PUMPS #			

SOLIDS CONTROL													
SHAKER #1		SHAKER #2		SHAKER #3		DESILTER HRS		DESANDER HRS		CENT #1 HRS		CENT #2 HRS	
165 / 145		145 / 145		120 / 120									

PERSONNEL DATA							
COMPANY		QTY	HOURS	COMPANY		QTY	HOURS
PetroTech		1		MI		1	
Expro		12		Sperry Mudlogging		3	
Halliburton		4		Apache		4	
AWT		1		DODI		14	
WEATHERFORD		3		DOGC		27	
Dowell Schlumberger		2		Fugro		2	
OMS		3		Baker Atlas		5	
TMS		10					

Total Personnel on Board: 92

MATERIALS ON LOCATION													
MATERIALS		RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL							
BARITE BULK		47	77	83		207							
CEMENT		71	85	43		199							
DIESEL		451	525	695		1,671							
GEL, FRESH		50	42	42		134							
WATER, DRILLING		282	322	243		847							
WATER, POTABLE		174	206	637		1,017							

Total Water 1,864

SUPPORT CRAFT													
NAME/TYPE		REMARKS				NAME/TYPE		REMARKS					
SUPPLY BOAT		Pacific Wrangler (On Location)				HELICOPTER		VH-BZU (9 pax on, 9 pax off)					
SUPPLY BOAT		Far Grip (On Location)											

DECKLOG													
MAX VDL		ACT VDL		AVL VDL		LEG PEN (BOW)		LEG PEN (PORT)		LEG PEN (S'BOARD)			
		1,848		-1,848									

WEATHER													
TIME		WIND		SWELL		WAVE		CURRENT		TEMP			
		SPEED / DIR		HT / DIR / PER		HT / DIR/ PER		SPEED / DIR					
00:00		5 / 100		2 / / 8		2.00 / 113 / 8		/		0 (°C)			

SAFETY DRILLS													
RAMS		ANNULARS		CASING		BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL		
14/11/2004 / 27,600 (kPa)		14/11/2004 / 20,700 (kPa)		13/11/2004 / 27,600 (kPa)		14/11/2004	28/11/2004	14/11/2004			21/11/2004		

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longatom-2		10/11/2004	(m)	2 422.00 (2 406.60 (16.00	20	25/11/2004

INCIDENT REPORT

INCIDENT TYPE	FIRST AID	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	19	

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD 2 422.00 (TVD 2 406.60 (DFS 17.00	REPT NO 21	DATE 26/11/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME		AUTH TMD (m)	PLANNED DOW	DOM	DOL 18.00		
SUPERVISOR H. Everhart / J. Wrenn				OIM S. De Freitas					
COUNTRY AUSTRALIA	DISTRICT	STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO	
AFE #	AFE COSTS DHC: 0		DAILY COSTS DHC: 454,303.54		CUMULATIVE COSTS DHC: 8,548,456.29				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 454,304.00		TOTAL: 8,548,456.29				
LAST SFTY MEETING 21/11/2004	BLOCK VicP54		FORMATION				BHA HRS OF SERVICE		
LAST SURVEY TMD 2,376.11 INC 11.960 AZM 45.760			ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 178.000 (mm) @ 2,420.00 (m)		NEXT CASING 178.000 (mm) @ 2,525.00 (m)		

CURRENT OPERATIONS

Circulating hole at maximum rate at 1434 m bit depth

24 HR FORECAST

Scrape liner, test liner. Dummy run with Subsea equip

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	00:30	0.50	P-EVAL	S	32	Continued to rig down wireline sheaves and compensator line
00:30	03:00	2.50	P-EVAL	S	12	Laid down 165 mm BHA
03:00	04:00	1.00	P-EVAL	S	12	Rearrange tubulars in derrick to enable racking 114 mm tubing
04:00	05:00	1.00	P-EVAL	S	12	Hold JSA. R/U 114 mm tubing equipment. Continued to lay out 114 mm tubing, measured and rabbited same and rabbited 9 x 114 mm tubing pup joints
05:00	07:30	2.50	P-EVAL	S	12	Picked up TST and RD on top of 88.9 mm DP mule shoe and started picking up 114 mm tubing
07:30	08:30	1.00	P-EVAL	S	12	Made up cement hose to well test line in derrick for testing well test equipment
08:30	10:30	2.00	P-EVAL	S	12	Continued to make up and run 114 mm tubing and ran in hole to 214 m
10:30	12:00	1.50	P-EVAL	S	12	Pulled out of hole with 114 mm tubing and racked back in derrick. Laid down TST, RD and 88.9 mm DP mule shoe
12:00	14:00	2.00	P-EVAL	S	12	Made up 178 mm scraper to 152 mm bit and ran in hole using stands of tubing from derrick to 214 m
14:00	20:00	6.00	P-EVAL	S	12	Continued to run in hole, picking up 114 mm tubing from deck to 886 m
20:00	20:30	0.50	P-EVAL	T	12	Attempted to work string past obstruction at 886 m
20:30	23:00	2.50	P-EVAL	T	12	Pulled out of hole from 886 m racking 114 mm tubing in derrick. Cross over from 114mm tbgt to 88.9mm bit sub was 158.75mm. Changed crossover to 127.4 mm OD.
23:00	00:00	1.00	P-EVAL	T	12	Ran in hole with bit and scraper again running tubing from derrick to 147 m.

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 02:30 Continued to run in hole with 114 mm tubing from derrick from 147 - 895 m
 02:30 - 05:30 Continued run in hole picking up 114 mm tubing from deck from 895 - 1434 m
 05:30 - 06:00 Circulated 2 x bottoms up at 1434 m

BIT DATA

BIT / RUN	SIZE	MANUF.	TYPE	SERIAL NO.	JETS OR TFA	DEPTH IN / DATE IN	I-O-D-L-B-G-O-R
7 / 7	152.40	Reed	SL12TKPR	NR 2616	32/32/32////////	877.00 / 26/11/2004	0-0-NO-A-E- I-NO-TD

BIT OPERATIONS

BIT / RUN	WOB	RPM	FLOW	PRESS	P BIT	HRS	24Hr PROG	24Hr ROP	CUM HRS	CUM PROG	CUM ROP
BHA	7	JAR S/N						JAR HRS		BIT	7
BHA WT. BELOW JARS		STRING WT. UP		STRING WT. DN		STRING WT. ROT		TORQUE / UNITS		BHA LENGTH	
										2.56	
ITEM DESCRIPTION					NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE	CONN TYPE	
Tri-Cone Bit					1	0.21	152.40				
Scraper					1	0.98	152.40	38.10			

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2				API #		SPUD DATE 10/11/2004		24 HRS PROG (m)		TMD 2 422.00 (TVD 2 406.60 (DFS 17.00		REPT NO 21		DATE 26/11/2004					
BHA		7		JAR S/N				BHA / HOLE CONDITIONS						JAR HRS				BIT		7			
ITEM DESCRIPTION						NO. JTS		LENGTH		O.D.		I.D.		CONN SIZE		CONN TYPE							
Bit Sub						1		0.89		120.60		57.15											
Cross Over						1		0.48		128.59		57.15											
MUD PROPERTIES														MUD TYPE		IDCAP D							
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT		Ph/pM		Pf/Mf		Cl		Ca		H2S	KCL	LGS					
45	21/15	5/9	4.2/	1.0/17.2	/	0.20/28.0		8.50/0.10		0.05/3.20		57.000		380				3.5					
DENS		1.45		ECD		1.55		PP		DAILY COST		CUM COST		225.601		% OIL							
MUD GAS																							
AVG. CONN								AVG. TRIP								AVG. BKGRD							
MAX. CONN								MAX. TRIP				1				MAX. DRL				1			
MUD PUMPS / HYDRAULICS										SPR													
STROKE		SPM		LINER		FLOW RATE								SPM		PPSR							
#								SPP:						PUMPS #									
#								AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)						PUMPS #									
#								AV (DC): 178.9 (m/min HP/in2:						PUMPS #									
SOLIDS CONTROL																							
SHAKER #1		SHAKER #2		SHAKER #3		DESILTER HRS		DESANDER HRS		CENT #1 HRS		CENT #2 HRS											
165 / 145		145 / 145		120 / 120																			
PERSONNEL DATA																							
COMPANY					QTY	HOURS	COMPANY					QTY	HOURS										
PetroTech					1		Sperry Mudlogging					3											
Expro					12		Apache					3											
Halliburton					4		DODI					14											
AWT					2		DOGC					27											
WEATHERFORD					4		Fugro					2											
Dowell Schlumberger					2		Baker Atlas					3											
OMS					3		BAKER OIL TOOLS					1											
TMS					10		ICOR					1											
MI					1																		
Total Personnel on Board: 93																							
MATERIALS ON LOCATION																							
MATERIALS		RIG		WORKBOAT 1		WORKBOAT 2		OTHER		TOTAL													
BARITE BULK		47		77		83				207													
CEMENT		71		85		43				199													
DIESEL		437		515		695				1,647													
GEL, FRESH		50		42		42				134													
WATER, DRILLING		253		322		243				818													
WATER, POTABLE		191		316		637				1,144													
Total Water 1.962																							
SUPPORT CRAFT																							
NAME/TYPE		REMARKS				NAME/TYPE		REMARKS															
SUPPLY BOAT		Pacific Wrangler (In Town)				HELICOPTER		VH-BZU (17 pax on, 16 pax off)															
SUPPLY BOAT		Far Grip (On Location)																					
DECKLOG																							
MAX VDL		ACT VDL		AVL VDL		LEG PEN (BOW)		LEG PEN (PORT)		LEG PEN (S'BOARD)													
		1.848		-1.848																			
WEATHER																							
TIME		WIND		SWELL		WAVE		CURRENT		TEMP													
		SPEED / DIR		HT / DIR / PER		HT / DIR/ PER		SPEED / DIR															
00:00		4 / 90		2 / / 7		2.00 / 135 / 7		/		0 (°C)													

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00 (2 406.60 (17.00	21	26/11/2004

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
14/11/2004 / 27,600 (kPa)	14/11/2004 / 20,700 (kPa)	13/11/2004 / 27,600 (kPa)	14/11/2004	28/11/2004	14/11/2004			21/11/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	20	

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00 (2 406.60 (18.00	22	27/11/2004

RIG	FIELD NAME	AUTH TMD	PLANNED DOW	DOM	DOL
UNSPECIFIED Ocean Patriot OP		(m)			19.00

SUPERVISOR	OIM
H. Everhart / J. Wrenn	S. De Freitas

COUNTRY	DISTRICT	STATE / PROV	COUNTY / PARRISH	RIG PHONE NO	RIG FAX NO
AUSTRALIA					

AFE #	AFE COSTS	DAILY COSTS	CUMULATIVE COSTS
	DHC: 0	DHC: 371,223.80	DHC: 8,919,680.09
PERMIT #	CWC: 0	CWC: 0.00	CWC: 0.00
VIC/P54	TOTAL: 0	TOTAL: 371,224.00	TOTAL: 8,919,680.09

LAST SFTY MEETING	BLOCK	FORMATION	BHA HRS OF SERVICE
21/11/2004	VicP54		

LAST SURVEY	ACTUAL LEAKOFF EMW	LAST CASING	NEXT CASING
TMD 2,376.11 INC 11.960 AZM 45.760	1.70 (SG)	178.000 (mm) @ 2,420.00 (m)	178.000 (mm) @ 2,525.00 (m)

CURRENT OPERATIONS

Testing BOP's

24 HR FORECAST

Test BOP's, Set Packer, RIH with test string

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	02:30	2.50	P-EVAL	T	12	Continued to run in hole with 152.4 mm bit and 177.8 mm scraper from 147 - 896 m
02:30	05:30	3.00	P-EVAL	S	12	Held PJSM. Continued running in hole with 152.4 mm bit and scraper picking up 114.3 mm tubing from deck from 896 - 1434 m
05:30	06:30	1.00	P-EVAL	S	88	Circulated 2 x bottoms up at 1434 m at maximum pump rate and pressure. Tested Expro well test equipment to 34450 KPa while circulating
06:30	10:30	4.00	P-EVAL	S	12	Made up RTTS and continued to pick up 114.3 mm tubing from deck and ran in hole with same from 1434 - 2010 m
10:30	11:30	1.00	P-EVAL	S	88	Circulated 2 x bottoms up at bit depth of 2010 m at maximum pressure. Tested Expro well test equipment to 34450 KPa while circulating
11:30	13:30	2.00	P-EVAL	S	12	Continued to pick up 114.3 mm tubing from deck and ran in hole from 2010 - 2307 m bit depth
13:30	14:30	1.00	P-EVAL	S	88	Circulated 2 x hole volume at max pressure and pump rate
14:30	15:00	0.50	P-EVAL	S	12	Continued to run in hole picking up 114.3 mm tubing from deck from 2307 - 2347 m
15:00	16:00	1.00	P-EVAL	S	40	Made up circulating assembly in string - nipples up and pressure tested surface lines to 41,340 KPa
16:00	16:30	0.50	P-EVAL	S	40	Set RTTS at 897 m and pressure test 177.8 mm liner to 1,720 / 34,450 KPa for 5 / 15 mins
16:30	18:00	1.50	P-EVAL	S	40	Unseat RTTS and nipples down surface lines. Pumped slug and broke out circulating assy. Laid out 2 x XO subs, FOSV and SE sub
18:00	21:00	3.00	P-EVAL	S	12	Pulled out of hole with 114.3 mm tubing from 2347 - 1434 m. laid out 6 joints tubing to deck for completion assemblies and racked rest in derrick
21:00	21:30	0.50	P-EVAL	S	12	Laid out RTTS assembly
21:30	00:00	2.50	P-EVAL	S	12	Continued to pull out of hole with 114.3 mm tubing racking stands in derrick and laying out tubing pup joints to deck

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 01:00 Continued to pull out of hole with 114.3 mm tubing laying down 9 x tubing pup joints, 177.8 mm scraper and 152.4 mm bit
 01:00 - 02:30 Made up Expro dummy sub run and ran in hole with same. Functioned middle and upper pipe rams for space out marks
 02:30 - 03:30 Pulled out of hole with Subsea dummy run and measured spaceout marks
 03:30 - 05:30 Held PJSM. Picked up sub sea test tools and torqued connections before laying back down on deck
 05:30 - 06:00 Made up stand of 127 mm HWDP below test plug and ran in hole to test BOP's

BIT DATA

BIT / RUN	SIZE	MANUF.	TYPE	SERIAL NO.	JETS OR TFA	DEPTH IN / DATE IN	I-O-D-L-B-G-O-R
7 / 7	152.40	Reed	SL12TKPR	NR 2616	32/32/32/IIIIII	877.00 / 26/11/2004	0-0-NO-A-E- I-NO-TD

BIT OPERATIONS

BIT / RUN	WOB	RPM	FLOW	PRESS	P BIT	HRS	24Hr PROG	24Hr ROP	CUM HRS	CUM PROG	CUM ROP
7 / 7	/	/	2,498.0	23,420	603						

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00	2 406.60	18.00	22	27/11/2004

BHA	7	JAR S/N		BHA / HOLE CONDITIONS				JAR HRS		BIT	7
BHA WT. BELOW JARS		STRING WT. UP		STRING WT. DN		STRING WT. ROT		TORQUE / UNITS		BHA LENGTH	
										2.56	
ITEM DESCRIPTION				NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE	CONN TYPE		
Tri-Cone Bit				1	0.21	152.40					
Scraper				1	0.98	152.40	38.10				
Bit Sub				1	0.89	120.60	57.15				
Cross Over				1	0.48	128.59	57.15				

MUD PROPERTIES										MUD TYPE	IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	Cl	Ca	H2S	KCL	LGS
45	21/15	5/10	4.0/	1.0/17.2	/	0.20/29.0	9.20/0.10	0.15/2.75	57,000	380			3.5
DENS	1.45	ECD	1.55	PP		DAILY COST		CUM COST	225.601	% OIL			

MUD GAS													
AVG. CONN			AVG. TRIP			AVG. BKGRD							
MAX. CONN			MAX. TRIP			MAX. DRL			1				

MUD PUMPS / HYDRAULICS					SPR				
	STROKE	SPM	LINER	FLOW RATE	SPP: 23,420 (kPa) AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min) AV (DC): 178.9 (m/min HP/in2: 3.892 (kW/cm²		SPM	PPSR	
#1	12.0	85	6.0	1,374.10		PUMPS #1			
#2	12.0	85	6.0	1,374.10		PUMPS #2			
#						PUMPS #			

SOLIDS CONTROL						
SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
165 / 145	145 / 145	120 / 120				

PERSONNEL DATA									
COMPANY				QTY	HOURS	COMPANY			
BAKER OIL TOOLS				1		TMS			
ICOR				1		MI			
PetroTech				1		Sperry Mudlogging			
Expro				12		Apache			
Halliburton				4		DODI			
AWT				2		DOGC			
WEATHERFORD				4		Fugro			
Dowell Schlumberger				2		Baker Atlas			
OMS				3					

Total Personnel on Board: 93

MATERIALS ON LOCATION						
MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL	
BARITE BULK	39	77	83		199	
CEMENT	71	85	43		199	
DIESEL	417	505	695		1,617	
GEL, FRESH	50	42	42		134	
WATER, DRILLING	223	322	243		788	
WATER, POTABLE	196	312	637		1,145	

Total Water 1,933

SUPPORT CRAFT			
NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Pacific Wrangler (On Location)	SUPPLY BOAT	Far Grip (In Town)

DECKLOG					
MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
	1,848	-1,848			

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00 (2 406.60 (18.00	22	27/11/2004

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	3 / 270	2 / / 7	2.00 / 23 / 7	/	0 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
14/11/2004 / 27.600 (kPa)	14/11/2004 / 20.700 (kPa)	13/11/2004 / 27.600 (kPa)	14/11/2004	28/11/2004	14/11/2004			21/11/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	21	

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD 2 422.00 (TVD 2 406.60 (DFS 19.00	REPT NO 23	DATE 28/11/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME		AUTH TMD (m)	PLANNED DOW	DOM	DOL 20.00		
SUPERVISOR H. Everhart / J. Wrenn				OIM S. De Freitas					
COUNTRY AUSTRALIA	DISTRICT	STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO	
AFE #	AFE COSTS DHC: 0		DAILY COSTS DHC: 370,859.80		CUMULATIVE COSTS DHC: 9,290,539.89				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 370,860.00		TOTAL: 9,290,539.89				
LAST SFTY MEETING 28/11/2004	BLOCK VicP54		FORMATION					BHA HRS OF SERVICE	
LAST SURVEY TMD 2,376.11 INC 11.960 AZM 45.760			ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 178.000 (mm) @ 2,420.00 (m)		NEXT CASING 178.000 (mm) @ 2,525.00 (m)		

CURRENT OPERATIONS

Running CCL - GR log on wireline

24 HR FORECAST

Set production packer. Run DST tools and guns in hole

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	01:00	1.00	P-EVAL	S	12	Continued to pull out of hole with 114.3 mm tubing laying down 9 x tubing pup joints, 177.8 mm scraper and 152.4 mm bit
01:00	02:30	1.50	P-EVAL	S	33	Made up Expro dummy sub, ran in hole and landed out at 74.38 m. Functioned middle and upper pipe rams for space out marks
02:30	03:30	1.00	P-EVAL	S	33	Pulled out of hole with Subsea dummy run and measured spaceout marks. Laid down dummy sub.
03:30	05:30	2.00	P-EVAL	S	33	Held PJSM. Picked up sub sea test tools and torqued connections before laying back down on deck.
05:30	06:30	1.00	P-EVAL	S	43	Made up BOP test tool and ran in hole on 127 mm DP to test BOP's
06:30	08:00	1.50	P-EVAL	T	43	Broke circulation with Dowell. Attempted to test BOP's. No test
08:00	08:30	0.50	P-EVAL	T	43	Released test tool and pulled out of hole
08:30	09:00	0.50	P-EVAL	T	43	Made up wash sub to bottom of test tool and ran in hole to test BOP's
09:00	10:00	1.00	P-EVAL	T	43	Jet BOP's and wellhead. Land test tool in wellhead at 74.38 m
10:00	11:00	1.00	P-EVAL	T	43	Broke circulation with Dowell. Attempted to test BOP's. No test. Released test tool and pulled out of hole from 74.38m
11:00	12:30	1.50	P-EVAL	T	43	Made up 5 stds HWDP and 8 stds 127 mm DP with wash sub on bottom and ran in hole with weight set test tool, landing test tool in wellhead at 74.38 m
12:30	17:30	5.00	P-EVAL	S	43	Pressure tested BOP rams to 1720 / 27560 kPa for 5 / 10 mins and annulars to 20670 kPa. Functioned BOP on blue pod from drill floor remote panel.
17:30	19:30	2.00	P-EVAL	S	43	Pulled out of hole from 445 m with 127 mm DP and HWDP below weight set test tool. Laid out test tool and jetting sub.
19:30	21:30	2.00	P-EVAL	S	33	Picked up and torqued connections on testing flowhead. Laid back down on deck
21:30	22:00	0.50	P-EVAL	S	33	Laid out extra 6 x 114.3 mm tubing joints from derrick
22:00	23:00	1.00	P-EVAL	S	33	Rigged up Atlas wireline sheaves and compensator line
23:00	00:00	1.00	P-EVAL	S	33	Obtained radio silence. Atlas made up Baker production packer to wireline and started ran in hole

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 02:30 Continued to run in hole with production packer and wireline CCI / GR. Logged hole with GR from 2035 - 2072 m before GR stopped functioning.

02:30 - 04:00 Pulled out of hole with production packer at 5 m/min while waiting on decision for next operation

04:00 - 05:30 Pulled out of hole with production packer. Obtained radio silence and rigged down production packer.

05:30 - 06:00 Picked up slimhole CCL / GR and ran in hole

BIT DATA

BIT / RUN	SIZE	MANUF.	TYPE	SERIAL NO.	JETS OR TFA	DEPTH IN / DATE IN	I-O-D-L-B-G-O-R
7 / 7	152.40	Reed	SL12TKPR	NR 2616	32/32/32////////	877.00 / 26/11/2004	0-0-NO-A-E- I-NO-TD

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longatom-2		10/11/2004	(m)	2 422.00	2 406.60	19.00	23	28/11/2004

BIT OPERATIONS

BIT / RUN	WOB	RPM	FLOW	PRESS	P BIT	HRS	24Hr PROG	24Hr ROP	CUM HRS	CUM PROG	CUM ROP
7 / 7	/	/	2,498.0	23,420	603		40.00			40.00	

BHA / HOLE CONDITIONS

BHA	7	JAR S/N		JAR HRS		BIT	7
BHA WT. BELOW JARS	STRING WT. UP	STRING WT. DN	STRING WT. ROT	TORQUE / UNITS		BHA LENGTH	
				N-m		2.56	

ITEM DESCRIPTION	NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE	CONN TYPE
Tri-Cone Bit	1	0.21	152.40			
Scraper	1	0.98	152.40	38.10		
Bit Sub	1	0.89	120.60	57.15		
Cross Over	1	0.48	128.59	57.15		

MUD PROPERTIES

VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	CI	Ca	H2S	KCL	LGS
45	17/12	4/8	4.7/	1.0/17.0	/	/27.0	9.50/0.10	0.20/2.70	54,500	400			3.2

DENS	1.45	ECD	1.55	PP	DAILY COST	CUM COST	225,601	% OIL	
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MUD GAS

AVG. CONN		AVG. TRIP		AVG. BKGRD	
MAX. CONN		MAX. TRIP	1	MAX. DRL	1

MUD PUMPS / HYDRAULICS

SPR

STROKE	SPM	LINER	FLOW RATE		SPM	PPSR
#				SPP: 23,420 (kPa)	PUMPS #	
#				AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)	PUMPS #	
#				AV (DC): 178.9 (m/min HP/in2: 3.892 (kW/cm ²)	PUMPS #	

SOLIDS CONTROL

SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
165 / 145	145 / 145	120 / 120				

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
AWT	2		DOGC	27	
WEATHERFORD	4		Fugro	2	
Dowell Schlumberger	2		Baker Atlas	3	
OMS	3		BAKER OIL TOOLS	1	
TMS	10		ICOR	1	
MI	1		PetroTech	1	
Sperry Mudlogging	3		Expro	12	
Apache	3		Halliburton	4	
DODI	14				

Total Personnel on Board: 93

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	36	77	83		196
CEMENT	71	85	43		199
DIESEL	376	500	695		1,571
GEL, FRESH	50	42	42		134
WATER, DRILLING	199	322	243		764
WATER, POTABLE	204	308	637		1,149

Total Water 1,913

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Pacific Wrangler (On Location)	SUPPLY BOAT	Far Grip (In Town)

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00 (2 406.60 (19.00	23	28/11/2004

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
	1.848	-1.848			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	5 / 225	2 / / 7	1.00 / 225 / 7	/	0 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
28/11/2004 / 27.600 (kPa)	28/11/2004 / 20.700 (kPa)	13/11/2004 / 27.600 (kPa)	28/11/2004	12/12/2004	28/11/2004			28/11/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	22	

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00 (2 406.60 (20.00	24	29/11/2004

RIG	FIELD NAME	AUTH TMD	PLANNED DOW	DOM	DOL
UNSPECIFIED Ocean Patriot OP		(m)			21.00

SUPERVISOR	OIM
H. Everhart / J. Wrenn	S. De Freitas

COUNTRY	DISTRICT	STATE / PROV	COUNTY / PARRISH	RIG PHONE NO	RIG FAX NO
AUSTRALIA					

AFE #	AFE COSTS	DAILY COSTS	CUMULATIVE COSTS
	DHC: 0	DHC: 419,591.80	DHC: 9,710,131.69
PERMIT #	CWC: 0	CWC: 0.00	CWC: 0.00
VIC/P54	TOTAL: 0	TOTAL: 419,592.00	TOTAL: 9,710,131.69

LAST SFTY MEETING	BLOCK	FORMATION	BHA HRS OF SERVICE
28/11/2004	VicP54		

LAST SURVEY	ACTUAL LEAKOFF EMW	LAST CASING	NEXT CASING
TMD 2,376.11 INC 11.960 AZM 45.760	1.70 (SG)	178.000 (mm) @ 2,420.00 (m)	(mm) @ (m)

CURRENT OPERATIONS
Rigging up sheave in V-door. Rigging up drill floor for SSTT tools

24 HR FORECAST
Land DST string. Pressure test. Circ diesel. Prepare to perf

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	02:30	2.50	P-EVAL	S	33	Continued to run in hole with production packer and wireline CCL / GR. Logged hole with GR from 2035 - 2072 m before GR stopped functioning.
02:30	04:00	1.50	P-EVAL	T	72	Pulled out of hole with production packer at 5 m/min while waiting on decision for next operation
04:00	05:30	1.50	P-EVAL	T	33	Pulled out of hole with production packer. Obtained radio silence and rigged down production packer.
05:30	07:30	2.00	P-EVAL	U	33	Picked up slimhole CCL / GR and logged hole from 2350 - 1900 m. Laid down logging tools
07:30	10:30	3.00	P-EVAL	T	33	Obtained radio silence. Made up F-2 production packer on CCL / GR and ran in hole. Set packer at 1996.5 m wireline measurement.
10:30	11:00	0.50	P-EVAL	S	33	Rigged down wireline equipment and compensator line
11:00	15:30	4.50	P-EVAL	S	33	Held PJSM. Picked up and made up 85.7 mm, 6spf, 60 deg Dominator TCP guns
15:30	18:30	3.00	P-EVAL	S	33	Continued to RIH picking up DST BHA
18:30	20:00	1.50	P-EVAL	S	33	Nippled up test sub assy and surface test line. Pressure tested line to 44790 kPa. Tested DST BHA against TST to 3445 / 44790 kPa for 5 / 15 mins. Nippled down test hose and sub assy.
20:00	00:00	4.00	P-EVAL	S	33	Continued to RIH with DST assy on 114.3 mm tubing from 300 - 1832 m

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 01:00 Continue ran in hole with DST assy on 114.3 mm tubing from 1832 - 2148 m
 01:00 - 02:00 Tested DST BHA and 114.3 mm tubing against TST to 3445 / 44790 kPa for 5 / 15 mins
 02:00 - 04:00 Picked up single of 114.3 mm tubing, XO, white painted joint of 127 mm DP and ran in hole on 127 mm DP. Landed out in production packer with 4.5 MT down. Picked up to neutral weight.
 04:00 - 04:30 Broke circulation through kill line. Closed LPR and MPR for space out marks. Pressured up annulus to 7580 kPa and sheared TST open. Hold for 5 mins to test seal assy - OK
 04:30 - 05:30 Opened BOP and unseated packer. Pulled out of hole and verified spaceout. Laid down sgile of 127 mm DP.
 05:30 - 06:00 Rigged up ESD panel on rig floor. Hung subsea control line sheave in V-door A frame and prepared to pick up space out joints and SSTT tools

MUD PROPERTIES

MUD PROPERTIES										MUD TYPE		IDCAP D	
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	Cl	Ca	H2S	KCL	LGS
49	17/11	4/6	4.8/	1.0/16.5	/	0.20/28.0	9.50/0.10	0.18/2.85	54.000	480			2.5
DENS	1.45	ECD	1.55	PP	DAILY COST		CUM COST		225.601	% OIL			

MUD GAS

AVG. CONN	AVG. TRIP	AVG. BKGRD
MAX. CONN	MAX. TRIP	MAX. DRL
	1	1

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00 (2 406.60 (20.00	24	29/11/2004

MUD PUMPS / HYDRAULICS

SPR

	STROKE	SPM	LINER	FLOW RATE			SPM	PPSR
#					SPP:		PUMPS #	
#					AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)		PUMPS #	
#					AV (DC): 178.9 (m/min HP/in2:		PUMPS #	

SOLIDS CONTROL

SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
165 / 145	145 / 145	120 / 120				

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
Halliburton	4		DODI	16	
AWT	2		DOGC	24	
WEATHERFORD	4		Fugro	2	
Dowell Schlumberger	2		Baker Atlas	3	
OMS	3		BAKER OIL TOOLS	1	
TMS	10		ICOR	1	
MI	1		PetroTech	2	
Sperry Mudlogging	2		Expro	12	
Apache	5				

Total Personnel on Board: 94

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	36	77	83		196
CEMENT	71	85	43		199
DIESEL	362	497	695		1,554
GEL, FRESH	50	42	42		134
WATER, DRILLING	175	322	243		740
WATER, POTABLE	213	304	637		1,154

Total Water 1,894

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Pacific Wrangler (On Location)	HELICOPTER	VH-BZU (4 pax on, 3 pax off)
SUPPLY BOAT	Far Grip (In Town)		

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
	1,848	-1,848			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	2 / 225	1 / / 7	1.00 / / 7	/	0 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
28/11/2004 / 27,600 (kPa)	28/11/2004 / 20,700 (kPa)	13/11/2004 / 27,600 (kPa)	28/11/2004	12/12/2004	28/11/2004			28/11/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION	
LOST TIME?	NO		
DAYS W/O LTA	23		

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD 2 422.00 (m)	TVD 2 406.60 (m)	DFS 21.00	REPT NO 25	DATE 30/11/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME		AUTH TMD (m)	PLANNED DOW	DOM	DOL 22.00		
SUPERVISOR R. Stone / J. Wrenn				OIM S. De Freitas					
COUNTRY AUSTRALIA	DISTRICT	STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO	
AFE #	AFE COSTS DHC: 0		DAILY COSTS DHC: 357,186.80		CUMULATIVE COSTS DHC: 10,067,318.49				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 357,187.00		TOTAL: 10,067,318.49				
LAST SFTY MEETING 28/11/2004	BLOCK VicP54		FORMATION				BHA HRS OF SERVICE		
LAST SURVEY TMD 2,376.11 INC 11.960 AZM 45.760			ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 178.000 (mm) @ 2,420.00 (m)		NEXT CASING (mm) @ (m)		

CURRENT OPERATIONS

Initial one hour buildup after perforating and flowing against closed choke for 15 mins

24 HR FORECAST

Flow well to cleanup. Main buildup. Multirate flow period

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	01:00	1.00	P-EVAL	S	33	Continued ran in hole with DST assy on 114.3 mm tubing from 1832 - 2148 m
01:00	02:00	1.00	P-EVAL	S	33	Tested DST BHA and 114.3 mm tubing against TST to 3445 / 44790 kPa for 5 / 15 mins
02:00	04:00	2.00	P-EVAL	S	33	Picked up single of 114.3 mm tubing, XO, white painted joint of 127 mm DP and ran in hole on 127 mm DP. Landed out in production packer with 4.5 MT down. Picked up to neutral weight.
04:00	04:30	0.50	P-EVAL	S	33	Broke circulation through kill line. Closed LPR and MPR for space out marks. Pressured up annulus to 7580 kPa and sheared TST open. Held for 5 mins to test seal assy - OK.
04:30	05:30	1.00	P-EVAL	S	33	Opened BOP and unseated packer. Pulled out of hole and verified spaceout. Laid down sgle of 127 mm DP.
05:30	06:30	1.00	P-EVAL	S	33	Rigged up ESD panel on rig floor. Hung subsea control line sheave in V-door A frame and prepared to pick up space out joints and SSTT tools.
06:30	09:30	3.00	P-EVAL	S	33	Made up pup joint and single of 114.3 mm tubing for space out. Made up SSTT and connected control hoses. Function tested as per Expro procedures. Made up double of 114.3 mm tubing above lubricator valve.
09:30	12:30	3.00	P-EVAL	S	33	Unlocked SELECT valve with 15850 kPa down annulus. Tested SSTT and SS lubricator to 3450 / 44790 kPa for 5 / 15 mins. Locked SELECT valve by pressuring up annulus to 15850 kPa and holding for 15 mins. Nippled down test line and sub assy.
12:30	13:30	1.00	P-EVAL	S	33	Laid out bails. Nippled up wireline sheave hang off sub to TDS and picked up extended bails
13:30	15:30	2.00	P-EVAL	T	33	Found leak on SSLV line. Laid out extended bails, broke off hang sub and rigged up to POOH. Pulled to SSLV and rectified problem. Pressure tested control line - OK and ran back in hole. Rigged up hang off sub and extended bails
15:30	16:30	1.00	P-EVAL	S	33	Picked up SSTT and made up 114.3 mm tubing pup joint below that.
16:30	20:00	3.50	P-EVAL	S	33	Nippled down tubing power tong equipment. Nippled up SSTT flow, kill and control lines.
20:00	22:00	2.00	P-EVAL	S	33	Pressure tested kill line and flow wing valve against SSLV to 3450 / 44790 kPa for 5 / 15 mins. Pressure tested flowline against Expro choke and SSLV to 3450 / 37900 kPa for 5 / 15 mins
22:00	23:00	1.00	P-EVAL	S	33	Unlock kill line check valve. Ran in hole and land out in wellhead. Indications of 4.25 m of seals engaged in packer.
23:00	23:30	0.50	P-EVAL	T	33	Removed twist in kill line which was hanging up on bottom of dolly track and pressure tested connection again to 44790 kPa
23:30	00:00	0.50	P-EVAL	S	33	Function tested all ESD stations. Response from all stations was under 8 seconds to close production wing valve.

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 00:30 Completed function testing Expro ESD stations

00:30 - 01:30 Pressured up annulus to 15850 kPa to cycle SELECT valve to lock.

01:30 - 02:00 Pressured up annulus to 6890 kPa to cycle OMNI valve to circulating position

02:00 - 02:30 Topped up diesel tank on deck to have required diesel to displace well. Held JSA for pumping diesel

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00	2 406.60	21.00	25	30/11/2004

06:00 UPDATE

02:30 - 04:00 Displaced tubing to diesel with 83 bbls diesel and displaced surface lines with sea water.

04:00 - 05:00 Pressured up annulus to 6890 kPa to cycle OMNI from circulating to well test position. Held pre-perforating JSA and walked through test package to complete pre-perforating checklists

05:00 - 05:30 Held 6890 kPa on annulus. Perforated well with 37690 kPa down tubing with Dowell

05:30 - 06:00 Flowed well for 15 mins against closed choke. Shut well in for initial buildup period

MUD PROPERTIES

MUD PROPERTIES										MUD TYPE	IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	CI	Ca	H2S	KCL	LGS
45	17/11	4/7	4.8/	1.0/16.7	/	/27.0	9.50/0.10	0.15/2.85	53.000	480			3.2
DENS	1.44	ECD	1.55	PP	DAILY COST			CUM COST	225.601	% OIL			

MUD GAS

AVG. CONN	AVG. TRIP	AVG. BKGRD
MAX. CONN	MAX. TRIP	MAX. DRL
	1	1

MUD PUMPS / HYDRAULICS

SPR

STROKE	SPM	LINER	FLOW RATE			SPM	PPSR
#				SPP:		PUMPS #	
#				AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)		PUMPS #	
#				AV (DC): 178.9 (m/min HP/in2:		PUMPS #	

SOLIDS CONTROL

SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
165 / 145	145 / 145	120 / 120				

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
DODI	15		AWT	2	
DOGC	25		WEATHERFORD	4	
Fugro	2		Dowell Schlumberger	2	
BAKER OIL TOOLS	1		OMS	2	
ICOR	1		TMS	10	
PetroTech	2		MI	1	
Expro	12		Sperry Mudlogging	2	
Halliburton	3		Apache	5	

Total Personnel on Board: 89

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	36	77	83		196
CEMENT	71	85	43		199
DIESEL	352	491	649		1,492
GEL, FRESH	50	42	42		134
WATER, DRILLING	325	0	243		568
WATER, POTABLE	216	300	661		1,177

Total Water 1,745

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Pacific Wrangler (On Location)	HELICOPTER	VH-BZU (4 pax on, 9 pax off)
SUPPLY BOAT	Far Grip (On Location)		

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
2,560	0	2,560			

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00 (/	2 406.60 (/	21.00	25	30/11/2004

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	5 / 23	1 / / 8	1.00 / 225 / 8	/	0 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABANDON DRILL
28/11/2004 / 27.600 (kPa)	28/11/2004 / 20.700 (kPa)	13/11/2004 / 27.600 (kPa)	28/11/2004	12/12/2004	28/11/2004			28/11/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	24	

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD 2 422.00 (TVD 2 406.60 (DFS 22.00	REPT NO 26	DATE 1/12/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME			AUTH TMD (m)	PLANNED DOW	DOM	DOL 23.00	
SUPERVISOR R. Stone / J. Wrenn					OIM S. De Freitas				
COUNTRY AUSTRALIA	DISTRICT	STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO	
AFE #	AFE COSTS DHC: 0		DAILY COSTS DHC: 331,409.80		CUMULATIVE COSTS DHC: 10,398,728.29				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 331,410.00		TOTAL: 10,398,728.29				
LAST SFTY MEETING 28/11/2004	BLOCK VicP54		FORMATION				BHA HRS OF SERVICE		
LAST SURVEY TMD 2,376.11 INC 11.960 AZM 45.760			ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 178.000 (mm) @ 2,420.00 (m)		NEXT CASING (mm) @ (m)		

CURRENT OPERATIONS

Well shut in for main buildup period

24 HR FORECAST

Kill well. Pull DST tools and tubing

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	00:30	0.50	P-EVAL	S	33	Completed function testing Expro ESD stations. All stations functioned production wing valve with 8 seconds
00:30	01:30	1.00	P-EVAL	S	33	Pressured up annulus to 15850 kPa to cycle SELECT valve to lock.
01:30	02:00	0.50	P-EVAL	S	33	Pressured up annulus to 6890 kPa to cycle OMNI valve to circulating position
02:00	02:30	0.50	P-EVAL	S	33	Topped up diesel tank on deck to have required diesel to displace well. Held JSA for pumping diesel down well.
02:30	04:00	1.50	P-EVAL	S	33	Displaced tubing to diesel with 83 bbls diesel and displaced surface lines with sea water.
04:00	05:00	1.00	P-EVAL	S	33	Pressured up annulus to 6890 kPa to cycle OMNI from circulating to well test position. Held pre-perforating JSA and walked through test package to complete pre-perforating checklists
05:00	05:30	0.50	P-EVAL	S	33	Held 6890 kPa on annulus. Perforated well by pressuring up to 37690 kPa down tubing with Dowell to fire guns
05:30	06:00	0.50	P-EVAL	S	33	Flowed well for 15 mins against closed choke. Shut well in for initial buildup period
06:00	07:00	1.00	P-EVAL	S	33	Held pre-flow JSA. Pressured up annulus to 6890 kPa. Officially opened well at 06:50 hrs for main flow period
07:00	19:00	12.00	P-EVAL	S	33	Flow well to flare boom through testing choke manifold and separator. Maintained 7500 kPa on annulus to keep OMNI valve open
19:00	00:00	5.00	P-EVAL	S	33	Shut well in downhole for main buildup period. Bled down tubing to 6200 kPa Shut SSTT master valve and bled down surface lines. Monitored for flow for 15 mins Opened kill wing valve and flushed across SSTT with drill water. Nipped up SSTT flowline to rigs choke manifold and pressure tested to 20670 kPa Locked kill line check valve on SSTT into open position and checked ability to pump through back to Dowell - OK

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 06:00 Continued with main buildup period. Continued with preparations on rig to kill well and prepare to pull DST assy

MUD PROPERTIES

VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	CI	Ca	H2S	KCL	LGS
45	17/11	4/6	4.8/	1.0/16.7	/	/27.0	9.50/0.10	0.15/2.90	53,000	500			3.3
DENS	1.44	ECD	1.55	PP		DAILY COST		CUM COST	225,601	% OIL			

MUD GAS

AVG. CONN		AVG. TRIP		AVG. BKGRD	
MAX. CONN		MAX. TRIP	1	MAX. DRL	1

MUD PUMPS / HYDRAULICS

	STROKE	SPM	LINER	FLOW RATE			SPR	
#					SPP:		SPM	PPSR
#					AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)		PUMPS #	
#					AV (DC): 178.9 (m/min HP/in2:		PUMPS #	

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00 (2 406.60 (22.00	26	1/12/2004

SOLIDS CONTROL

SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
165 / 145	145 / 145	120 / 120				

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
Apache	5		Halliburton	3	
DODI	15		AWT	2	
DOGC	26		WEATHERFORD	4	
Fugro	2		Dowell Schlumberger	2	
BAKER OIL TOOLS	1		OMS	2	
ICOR	1		TMS	9	
PetroTech	2		MI	1	
Expro	12		Sperry Mudlogging	2	

Total Personnel on Board: 89

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	36	77	83		196
CEMENT	71	85	43		199
DIESEL	338	486	641		1,465
GEL, FRESH	50	42	42		134
WATER, DRILLING	295	0	243		538
WATER, POTABLE	218	296	655		1,169

Total Water 1,707

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Pacific Wrangler (On Location)	SUPPLY BOAT	Far Grip (On Location)

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
2,560	2,076	484			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	15 / 18	3 / / 8	3.00 / 225 / 8	/	0 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
28/11/2004 / 27,600 (kPa)	28/11/2004 / 20,700 (kPa)	13/11/2004 / 27,600 (kPa)	28/11/2004	12/12/2004	28/11/2004			28/11/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	25	

DATUM SECTION

RT TO AHD	(m)	AIR GAP	WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2			API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD 2 422.00 (TVD 2 406.60 (DFS 23.00	REPT NO 27	DATE 2/12/2004
RIG UNSPECIFIED Ocean Patriot OP			FIELD NAME			AUTH TMD (m)	PLANNED DOW	DOM		DOL 24.00
SUPERVISOR R. Stone / J. Wrenn					OIM S. De Freitas					
COUNTRY AUSTRALIA		DISTRICT		STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO
AFE #		AFE COSTS DHC: 0			DAILY COSTS DHC: 352,059.80			CUMULATIVE COSTS DHC: 10,750,788.09		
PERMIT #		CWC: 0			CWC: 0.00			CWC: 0.00		
VIC/P54		TOTAL: 0			TOTAL: 352,060.00			TOTAL: 10,750,788.09		
LAST SFTY MEETING 28/11/2004		BLOCK VicP54		FORMATION					BHA HRS OF SERVICE	
LAST SURVEY TMD 2,376.11 INC 11.960 AZM 45.760				ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 178.000 (mm) @ 2,420.00 (m)			NEXT CASING (mm) @ (m)	

CURRENT OPERATIONS

Flow checking well at choke manifold - well static

24 HR FORECAST

Clear gas from well. Pull DST string #1

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	07:00	7.00	P-EVAL	S	33	Continued with main buildup period. Continued with preparations on rig to kill well and prepare to pull DST assy. Flushed out across flow head to choke manifold. Dowell confirmed check valve locked open. Pressure tested kill line connection that was broken to 20670 kPa
07:00	07:30	0.50	P-EVAL	S	33	Well shut in at SSLV. Monitored annulus pressure and monitored trip tank.
07:30	08:00	0.50	P-EVAL	T	33	Adjusted mud weight in pits due to salt water contamination
08:00	09:00	1.00	P-EVAL	S	33	Pressured up to 20670 kPa on kill valve with Dowell. Locked open SELECT valve with 15850 kPa down annulus with rig pumps. Opened kill valve and bullheaded 17.48 m3 (110 bbls) of 1.44 SG mud with Dowell. Flow checked for 15 mins - static
09:00	15:00	6.00	P-EVAL	S	33	Opened MPR's. Picked up DST string 10 m to unseat packer. Closed UPR's and commenced reverse circulating with rig pumps thru choke at 984 l/min. Max gas was 53% and average gas was 30%
15:00	15:30	0.50	P-EVAL	S	33	Flow checked well via choke - well not static
15:30	19:30	4.00	P-EVAL	S	33	Circulated conventionally at 1.27m3/min. Bottoms up gas of 33%. Increased flow rate to 1.43m3/min while increasing mud weight to 1.5 SG. Gas level declined slowly to 4%
19:30	20:00	0.50	P-EVAL	S	33	Flow checked well via choke at shaker header box - well not completely static
20:00	22:00	2.00	P-EVAL	S	33	Circulated conventionally at 1.43 m3/min for 12050 kPa via choke. Bottoms up gas of 44%
22:00	22:30	0.50	P-EVAL	S	33	Flow checked well via choke at shaker header box - well not completely static
22:30	23:30	1.00	P-EVAL	S	33	Continued circulating via choke at 1.43 m3/min for 12400 kPa. Bottoms up gas of 23%
23:30	00:00	0.50	P-EVAL	S	33	Flow checked well at choke manifold - well flowing slightly at 79 l/hr

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 01:00 Continued to circulate conventionally via choke at 1.43 m3/min for 12400 kPa. Max gas of 40.1% at bottoms up

01:00 - 01:30 Flow checked well at choke manifold - well flowing slightly at 74 l/hr

01:30 - 04:00 Continued to circulate conventionally via choke. Noted that could only pump at 0.953 m3/min for 1378 kPa. Max gas at bottoms up was 36%

04:00 - 05:30 Closed choke and pressured up wellbore to 7580 kPa and attempted to cycle OMNI valve from well test to circulating position. Increased OMNI operating pressure to 8610 kPa in attempt to cycle OMNI valve and clear obstruction to circulating. Boosted riser to change mud from 1.42 SG to 1.5 SG in riser while attempting to function OMNI valve

05:30 - 06:00 Flow checked well at choke manifold - well not flowing

MUD PROPERTIES

VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	Cl	Ca	H2S	KCL	LGS
45	17/11	4/6	4.8/	1.0/16.7	/	/27.0	9.50/0.10	0.15/2.90	53,000	500			3.3
DENS	1.44	ECD	1.55	PP	DAILY COST	CUM COST	225,601	% OIL					

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00 (2 406.60 (23.00	27	2/12/2004

MUD GAS

AVG. CONN	AVG. TRIP	AVG. BKGRD
	1	1
MAX. CONN	MAX. TRIP	MAX. DRL

MUD PUMPS / HYDRAULICS

SPR

STROKE	SPM	LINER	FLOW RATE	SPP:	PUMPS #	PPSR
#				AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)	PUMPS #	
#				AV (DC): 178.9 (m/min HP/in2:	PUMPS #	

SOLIDS CONTROL

SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
165 / 145	145 / 145	120 / 120				

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
PetroTech	2		MI	1	
Expro	12		Sperry Mudlogging	2	
Halliburton	4		Apache	5	
AWT	2		DODI	14	
WEATHERFORD	4		DOGC	27	
Dowell Schlumberger	2		Fugro	2	
OMS	1		BAKER OIL TOOLS	1	
TMS	9		ICOR	1	

Total Personnel on Board: 89

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	95	0	83		178
CEMENT	71	85	43		199
DIESEL	323	475	633		1,431
GEL, FRESH	50	42	42		134
WATER, DRILLING	295	0	243		538
WATER, POTABLE	226	292	655		1,173

Total Water 1,711

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Pacific Wrangler (On Location)	HELICOPTER	VH-BZU (3 pax on, 3 pax off)
SUPPLY BOAT	Far Grip (On Location)		

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
2,560	2,076	484			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	7 / 15	2 / / 8	2.50 / 225 / 8	/	0 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
28/11/2004 / 27,600 (kPa)	28/11/2004 / 20,700 (kPa)	13/11/2004 / 27,600 (kPa)	28/11/2004	12/12/2004	28/11/2004			28/11/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	26	

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longatom-2		10/11/2004	(m)	2 422.00 (2 406.60 (23.00	27	2/12/2004

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD 2 422.00 (TVD 2 406.60 (DFS 24.00	REPT NO 28	DATE 3/12/2004
RIG UNSPECIFIED Ocean Patriot OP			FIELD NAME		AUTH TMD (m)	PLANNED DOW	DOM	DOL 25.00	
SUPERVISOR R. Stone / J. Wrenn					OIM S. De Freitas				
COUNTRY AUSTRALIA	DISTRICT		STATE / PROV		COUNTY / PARRISH		RIG PHONE NO	RIG FAX NO	
AFE #	AFE COSTS DHC: 0		DAILY COSTS DHC: 345,415.80		CUMULATIVE COSTS DHC: 11,096,203.89				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 345,416.00		TOTAL: 11,096,203.89				
LAST SFTY MEETING 28/11/2004	BLOCK VicP54		FORMATION				BHA HRS OF SERVICE		
LAST SURVEY TMD 2,376.11 INC 11.960 AZM 45.760			ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 178.000 (mm) @ 2,420.00 (m)		NEXT CASING (mm) @ (m)		

CURRENT OPERATIONS

POOH with 114.3 mm tubing

24 HR FORECAST

Pull Tubing. RIH 88.9 mm DP. Circ. POOH DP, Tubing, DST tool

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	01:00	1.00	P-EVAL	T	33	Continued to circulate conventionally via choke at 1.43 m3/min for 12400 kPa. Max gas of 40.1% at bottoms up which reduced to background gas level of 5%
01:00	01:30	0.50	P-EVAL	T	33	Flow checked well at choke manifold - well flowing slightly at 74 l/hr
01:30	04:00	2.50	P-EVAL	T	33	Continued to circulate conventionally via choke. Noted that could only pump at 0.953 m3/min for 1378 kPa. Max gas at bottoms up was 36% reducing down to 5%
04:00	05:30	1.50	P-EVAL	T	33	Closed choke and pressured up wellbore to 7580 kPa and attempted to cycle OMNI tool from well test to circulating position. Increased OMNI operating pressure to 8610 kPa in attempt to cycle OMNI valve and clear obstruction to circulating. Boosted riser to change mud from 1.42 SG to 1.5 SG in riser while attempting to function OMNI valve
05:30	06:00	0.50	P-EVAL	T	33	Flow checked well at choke manifold - well not flowing
06:00	07:00	1.00	P-EVAL	T	33	Continued to pressure up on annulus to 8610 kPa attempting to cycle OMNI tool
07:00	08:00	1.00	P-EVAL	T	33	Pressured up annulus to 10335 kPa and cycled OMNI tool. Pressure restriction in string now cleared
08:00	12:00	4.00	P-EVAL	T	33	Circulated out gas conventionally through choke, 11024 kPa at 1.43 m3/min. Max gas was 41% reducing to 5%. Increased mud weight to 1.62 SG.
12:00	12:30	0.50	P-EVAL	T	33	Flow checked via choke while displacing riser to 1.62 SG
12:30	13:30	1.00	P-EVAL	T	33	Flushed across BOP as per Diamond procedure to clear any gas from BOP
13:30	14:00	0.50	P-EVAL	T	33	Flow checked from under UPR - 3500kpa trapped pressure. Bled off same and observed for flow. Opened rams on BOP. Bled off pressure slowly on lower hydril and opened same
14:00	15:30	1.50	P-EVAL	T	33	Broke circulation at 0.49 m3/min increasing to 1.457 m3/min once riser volume displaced. max gas 15%, btms up gas 10%, final gas 2%
15:30	16:30	1.00	P-EVAL	S	33	Flow checked well. Nipped down SSTT flow and kill lines
16:30	18:00	1.50	P-EVAL	S	33	Laid out SSTT, extended bails and wireline hangoff sub
18:00	22:30	4.50	P-EVAL	T	33	Made up circulating assy and circulated well. Btms up gas of 22% reducing to 3.9%. Increased mud weight to 1.69 SG
22:30	23:00	0.50	P-EVAL	T	33	Flow checked well - static
23:00	00:00	1.00	P-EVAL	S	33	Nipped down circulating assy and started POOH with SSLV assy

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 01:30 Continued to POOH with SSLV and SSTT. Serviced connector on test tree and laid down

01:30 - 02:30 Made up XO and ran in hole with 127 mm DP to seal assy 10 m above packer

02:30 - 03:30 Circulated out gas conventionally. Max gas 18.2% reducing down to 1.8% . Flow checked well - static

03:30 - 06:00 POOH with 127 mm DP and rack in derrick. Change handling equipment and continued to POOH with 114.3 mm tubing racking tubing in derrick

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00	2 406.60	24.00	28	3/12/2004

MUD PROPERTIES										MUD TYPE	IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	CI	Ca	H2S	KCL	LGS
46	24/17	8/9	5.0/	1.0/21.0	/	/21.0	9.50/0.70	0.15/2.65	54,000	520			2.7
DENS		1.60	ECD	1.87	PP	DAILY COST		CUM COST		225.601	% OIL		

MUD GAS													
AVG. CONN				AVG. TRIP				AVG. BKGRD					
MAX. CONN				MAX. TRIP				MAX. DRL				1	

MUD PUMPS / HYDRAULICS										SPR			
	STROKE	SPM	LINER	FLOW RATE							SPM	PPSR	
#1	12.0	90	6.0	1,453.60	SPP:					PUMPS #1			
#					AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)					PUMPS #			
#					AV (DC): 178.9 (m/min HP/in2:					PUMPS #			

SOLIDS CONTROL													
SHAKER #1		SHAKER #2		SHAKER #3		DESILTER HRS		DESANDER HRS		CENT #1 HRS		CENT #2 HRS	
165 / 145		145 / 145		120 / 120									

PERSONNEL DATA													
COMPANY				QTY	HOURS	COMPANY				QTY	HOURS		
Expro				12		Sperry Mudlogging				2			
Halliburton				4		Apache				5			
AWT				2		DODI				15			
WEATHERFORD				4		DOGC				26			
Dowell Schlumberger				2		Fugro				2			
OMS				2		BAKER OIL TOOLS				1			
TMS				9		ICOR				1			
MI				1		PetroTech				2			

Total Personnel on Board: 90

MATERIALS ON LOCATION													
MATERIALS			RIG	WORKBOAT 1		WORKBOAT 2		OTHER		TOTAL			
BARITE BULK			44	0		83				127			
CEMENT			71	85		43				199			
DIESEL			309	473		629				1,411			
GEL, FRESH			50	42		42				134			
WATER, DRILLING			254	0		243				497			
WATER, POTABLE			229	288		645				1,162			

Total Water 1,659

SUPPORT CRAFT													
NAME/TYPE		REMARKS				NAME/TYPE		REMARKS					
SUPPLY BOAT		Pacific Wrangler (On Location)				HELICOPTER		VH-BZU (6 pax on, 5 pax off)					
SUPPLY BOAT		Far Grip (On Location)											

DECKLOG													
MAX VDL		ACT VDL		AVL VDL		LEG PEN (BOW)		LEG PEN (PORT)		LEG PEN (S'BOARD)			
2,560		2,034		526									

WEATHER													
TIME		WIND		SWELL		WAVE		CURRENT		TEMP			
		SPEED / DIR		HT / DIR / PER		HT / DIR/ PER		SPEED / DIR					
00:00		5 / 7		2 / / 8		2.00 / 225 / 8		/		0 (°C)			

SAFETY DRILLS													
RAMS		ANNULARS		CASING		BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL		
28/11/2004 / 27,600 (kPa)		28/11/2004 / 20,700 (kPa)		13/11/2004 / 27,600 (kPa)		28/11/2004	12/12/2004	28/11/2004			28/11/2004		

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longatom-2		10/11/2004	(m)	2 422.00 (2 406.60 (24.00	28	3/12/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	27	

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD 2 422.00 (m)	TVD 2 406.60 (m)	DFS 25.00	REPT NO 29	DATE 4/12/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME			AUTH TMD (m)	PLANNED DOW	DOM	DOL 26.00	
SUPERVISOR R. Stone / J. Wrenn					OIM S. De Freitas				
COUNTRY AUSTRALIA	DISTRICT	STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO	
AFE #	AFE COSTS DHC: 0		DAILY COSTS DHC: 345,056.80		CUMULATIVE COSTS DHC: 11,441,260.69				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 345,057.00		TOTAL: 11,441,260.69				
LAST SFTY MEETING 28/11/2004	BLOCK VicP54		FORMATION				BHA HRS OF SERVICE		
LAST SURVEY TMD 2,376.11 INC 11.960 AZM 45.760			ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 178.000 (mm) @ 2,420.00 (m)		NEXT CASING (mm) @ (m)		

CURRENT OPERATIONS

Pulling out of hole with 88.9 mm DP

24 HR FORECAST

POOH with DST tools. RIH with cmt stinger. Cement perms

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	01:30	1.50	P-EVAL	S	33	Continued to POOH with SSLV and SSTT. Serviced connector on test tree and laid down
01:30	02:30	1.00	P-EVAL	T	33	Made up XO and ran in hole with 127 mm DP to put seal assy 10 m above packer
02:30	03:30	1.00	P-EVAL	T	33	Circulated out gas conventionally. Max gas 18.2% reducing down to 1.8% . Flow checked well - static
03:30	08:00	4.50	P-EVAL	T	33	POOH with 127 mm DP and racked in derrick. Changed handling equipment and continued to POOH with 114.3 mm tubing racking 40 stds of tubing in derrick
08:00	08:30	0.50	P-EVAL	T	51	Serviced rollers on TDS
08:30	15:00	6.50	P-EVAL	S	33	Picked up from deck and ran in hole with 40 stds of 88.9 mm DP
15:00	15:30	0.50	P-EVAL	S	33	Continued to RIH with 3 stds of 127 mm DP putting seal assy 10 m from packer
15:30	22:00	6.50	P-EVAL	T	33	Broke circulation with 0.416 m3/min staging up to 1.38 m3/min flowrate for 24804 kPa. Restriction in string causing pressure increase. Maximum 46.5% gas 7m3 from bottoms up. Gas came down slowly to 2% after 3 times bottoms up. Increased mud weight to 1.80 SG all round. (in hindsight suspect gas liberated from string when pulled halfway out of hole - some trapped volume in blanks under slickline firing head).
22:00	00:00	2.00	P-EVAL	T	33	Held extended flow check on well. Monitored well on trip tank. Displaced choke, kill and booster line to 1.8 SG mud

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 02:00 Continued with extended flow check on well. Lost total of 0.16 m3 from trip tank during flowcheck
 02:00 - 03:00 Circulated bottoms up to check for gas. Max gas of 3.81% dropping down to 0.89% when stopped circulating. Flow checked well and pumped slug
 03:00 - 06:00 Pulled out of hole with string. Racked 3 stds of 127 mm DP, changed handling equipment then continued to pull 88.9 mm DP and rack in derrick

MUD PROPERTIES

MUD PROPERTIES										MUD TYPE	IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	CI	Ca	H2S	KCL	LGS
58	26/19	8/10	4.0/	1.0/27.0	/	/23.0	9.50/1.00	0.15/2.70	54,500	560			1.7
DENS	1.80	ECD	1.96	PP	DAILY COST			CUM COST	225,601	% OIL			

MUD GAS

AVG. CONN		AVG. TRIP		AVG. BKGRD	
MAX. CONN		MAX. TRIP	1	MAX. DRL	1

MUD PUMPS / HYDRAULICS

MUD PUMPS / HYDRAULICS					SPR			
STROKE	SPM	LINER	FLOW RATE	SPP:	SPM		PPSR	
#2	12.0	83	6.0		PUMPS #2			
#					PUMPS #			
#					PUMPS #			

AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)

AV (DC): 178.9 (m/min HP/in2:

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longatom-2		10/11/2004	(m)	2 422.00 (2 406.60 (25.00	29	4/12/2004

SOLIDS CONTROL

SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
145 / 145	120 / 120	105 / 105				

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
PetroTech	2		MI	1	
Expro	12		Sperry Mudlogging	2	
Halliburton	4		Apache	5	
AWT	2		DODI	15	
WEATHERFORD	4		DOGC	26	
Dowell Schlumberger	2		Fugro	2	
OMS	2		BAKER OIL TOOLS	1	
TMS	9		ICOR	1	

Total Personnel on Board: 90

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	85	0	0		85
CEMENT	71	85	43		199
DIESEL	302	470	625		1,397
GEL, FRESH	50	42	42		134
WATER, DRILLING	253	0	243		496
WATER, POTABLE	224	284	640		1,148

Total Water 1,644

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Pacific Wrangler (On Location)	HELICOPTER	VH-BZU (1 pax on, 1 pax off)
SUPPLY BOAT	Far Grip (On Location)		

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
2,560	2,034	526			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	2 / 12	5 / / 8	0.50 / 90 / 8	/	0 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
28/11/2004 / 27,600 (kPa)	28/11/2004 / 20,700 (kPa)	13/11/2004 / 27,600 (kPa)	28/11/2004	12/12/2004	28/11/2004			28/11/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	28	

DATUM SECTION

RT TO AHD	(m)	AIR GAP	WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD 2 422.00 (TVD 2 406.60 (DFS 26.00	REPT NO 30	DATE 5/12/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME		AUTH TMD (m)	PLANNED DOW	DOM	DOL 27.00		
SUPERVISOR R. Stone / J. Wrenn				OIM S. De Freitas					
COUNTRY AUSTRALIA	DISTRICT	STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO	
AFE #	AFE COSTS DHC: 0		DAILY COSTS DHC: 326,015.80		CUMULATIVE COSTS DHC: 11,767,276.49				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 326,016.00		TOTAL: 11,767,276.49				
LAST SFTY MEETING 5/12/2004	BLOCK VicP54		FORMATION					BHA HRS OF SERVICE	
LAST SURVEY TMD 2,376.11 INC 11.960 AZM 45.760			ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 178.000 (mm) @ 2,420.00 (m)		NEXT CASING (mm) @ (m)		

CURRENT OPERATIONS

Waiting on cement across bottom perms before tagging and pressure testing

24 HR FORECAST

Weight / pressure test cement plug. POOH and RIH with DST #2

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	02:00	2.00	P-EVAL	T	33	Continued with extended flow check on well. Lost total of 0.16 m3 from trip tank during flowcheck
02:00	03:00	1.00	P-EVAL	T	33	Circulated bottoms up to check for gas. Max gas of 3.81% dropping down to 0.89% when stopped circulating. Flow checked well and pumped slug
03:00	09:00	6.00	P-EVAL	S	33	Pulled out of hole with string. Racked 3 stds of 127 mm DP, changed handling equipment then continued to pull 40 stds 88.9 mm DP and racked in derrick. Changed handling equipment and pulled 114.3 mm tubing racking in derrick. Flowed checked well before pulling DST tools through BOP - static
09:00	15:00	6.00	P-EVAL	S	33	Pulled out of hole with DST tools and TCP guns. Had to vent trapped gas out of 165 m of blank joints in TCP string below disabled firing head. Laid down all blanks and used guns
15:00	17:00	2.00	P-EVAL	S	33	Picked up mule shoe and 29 joints of 73.03 mm cement stinger from deck and ran in hole
17:00	17:30	0.50	P-EVAL	S	33	Made up seal assy for 127 mm F-2 production packer into string
17:30	20:00	2.50	P-EVAL	S	33	Ran in hole with cement stinger and seal assy on 88.9 mm DP from 294 - 1438 m
20:00	22:30	2.50	P-EVAL	S	33	Continued to run in hole with 127 mm DP from 1438 - 2280 m, mule shoe depth putting seals 6 m above packer
22:30	23:00	0.50	P-EVAL	S	33	Circulated hole free of gas. Bottoms up gas of 40.95% reducing to below 1% - short peak indicates little or no new gas entered the wellbore
23:00	23:30	0.50	P-EVAL	T	50	Experienced power loss due to #1 EMD overheating and rig blacked out. Recified problem
23:30	00:00	0.50	P-EVAL	S	33	Ran in hole and landed off seal assy in production packer at 1999.2 m. Rigged up valves for testing packer against seal assy

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 01:00 Lined up Dowell down kill line. Tested lines, closed BOP and pressure tested seal bore against packer to 27560 kPa

01:00 - 02:00 Pulled out of hole from 2280 to 2170 m and ran back to 2280 m mule shoe depth

02:00 - 03:00 Circulated bottoms up

03:00 - 04:00 Held PJSM. Tested lines to 20670 kPa. Mixed and pumped 3.18 m3 of 1.9 SG cement. Displaced with 11.45 m3 of 1.8 SG mud. CIP at 04:00

04:00 - 05:00 Pulled out of hole from 2274 - 2169 m

05:00 - 05:30 Closed upper annular and reversed circulated 14.3 m3 of 1.8 SG mud, Dumped 3.18 m3 of cement and water spacer.

05:30 - 06:00 Waited on cement. Rigged down pump-in assy and prepared to RIH and tag cement

MUD PROPERTIES

MUD PROPERTIES										MUD TYPE	IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	Cl	Ca	H2S	KCL	LGS
61	29/15	6/10	3.0/	1.0/27.0	/	/18.0	9.00/1.00	0.15/2.70	53,000	560			2.4
DENS	1.80		ECD	1.85	PP		DAILY COST		CUM COST	225,601		% OIL	

DENS	1.80	ECD	1.85	PP	DAILY COST	CUM COST	225,601	% OIL	
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MUD GAS

AVG. CONN	AVG. TRIP	AVG. BKGRD
MAX. CONN	MAX. TRIP	MAX. DRL

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00 (2 406.60 (26.00	30	5/12/2004

MUD PUMPS / HYDRAULICS

	STROKE	SPM	LINER	FLOW RATE			SPM	PPSR
#2	12.0	90	6.0	1,453.60	SPP:	PUMPS #2		
#					AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)	PUMPS #		
#					AV (DC): 178.9 (m/min HP/in2:	PUMPS #		

SOLIDS CONTROL

SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
165 / 165	120 / 120	105 / 105				

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
AWT	2		DODI	15	
WEATHERFORD	4		DOGC	26	
Dowell Schlumberger	2		Fugro	2	
OMS	2		BAKER OIL TOOLS	1	
TMS	9		ICOR	1	
MI	1		PetroTech	2	
Sperry Mudlogging	2		Expro	12	
Apache	5		Halliburton	4	

Total Personnel on Board: 90

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	85	0	0		85
CEMENT	71	85	43		199
DIESEL	291	467	625		1,383
GEL, FRESH	50	42	42		134
WATER, DRILLING	175	0	243		418
WATER, POTABLE	235	280	640		1,155

Total Water 1,573

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Pacific Wrangler (On Location)	SUPPLY BOAT	Far Grip (On Location)

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
2,560	2,034	526			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	5 / 5	1 / / 8	1.00 / 90 / 8	/	0 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
28/11/2004 / 27,600 (kPa)	28/11/2004 / 20,700 (kPa)	13/11/2004 / 27,600 (kPa)	28/11/2004	12/12/2004	5/12/2004			5/12/2004

INCIDENT REPORT

INCIDENT TYPE NONE INCIDENT DESCRIPTION
 LOST TIME? NO
 DAYS W/O LTA 29

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD 2 422.00 (TVD 2 406.60 (DFS 27.00	REPT NO 31	DATE 6/12/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME			AUTH TMD (m)	PLANNED DOW	DOM	DOL 28.00	
SUPERVISOR R. Stone / J. Wrenn					OIM S. De Freitas				
COUNTRY AUSTRALIA	DISTRICT	STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO	
AFE #	AFE COSTS DHC: 0		DAILY COSTS DHC: 341,641.80		CUMULATIVE COSTS DHC: 12,266,434.96				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 341,642.00		TOTAL: 12,266,434.96				
LAST SFTY MEETING 5/12/2004	BLOCK VicP54		FORMATION					BHA HRS OF SERVICE	
LAST SURVEY TMD 2,376.11 INC 11.960 AZM 45.760			ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 178.000 (mm) @ 2,420.00 (m)		NEXT CASING 178.000 (mm) @ 2,525.00 (m)		

CURRENT OPERATIONS

Circulating well to even mud weight

24 HR FORECAST

Pull out of hole. Pick up and run in hole with DST string #2

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	01:00	1.00	P-EVAL	S	33	Lined up Dowell down kill line. Tested lines, closed BOP and pressure tested seal bore against packer to 27560 kPa for 10 mins - OK
01:00	02:00	1.00	P-EVAL	S	33	Pulled out of hole from 2280 to 2070 m and ran back to 2280 m mule shoe depth
02:00	03:00	1.00	P-EVAL	S	33	Circulated bottoms up at 2280 m. Max gas of 3% reducing down to below 1%
03:00	04:00	1.00	P-EVAL	T	33	Held PJSM. Tested lines to 20670 kPa. Mixed and pumped cement plug #1a with 3.18 m3 of 1.9 SG cement. Displaced with 11.45 m3 of 1.8 SG mud. CIP at 04:00
04:00	05:00	1.00	P-EVAL	T	33	Pulled out of hole from 2274 - 2169 m. Underdisplaced cement slurry by 0.8 m3 but slurry did not U tube out of cement stinger
05:00	05:30	0.50	P-EVAL	T	33	Closed upper annular and reverse circulated out excess cement pumping at 0.49 m3/min for 4825 kPa. Dumped approx 1.59 m3 of cement and 1.59 m3 of water preflush
05:30	15:00	9.50	P-EVAL	T	33	Waited on cement. Surface samples did not harden completely. At 10:30hrs RIH to 2171m, no tag. At 12:30 hrs attempted to tag top of cement down to 2172 m, no tag
15:00	15:30	0.50	P-EVAL	T	33	Washed down from 2172 m and tagged top of cement at 2230 m. Weight tested with 3.5 MT
15:30	16:00	0.50	P-EVAL	T	33	Circulated bottoms up at 2230 m at 1.45 m3/min for 24800 kPa. No cement contaminated returns at bottoms up
16:00	17:30	1.50	P-EVAL	S	33	Made up cementing assy to string. Pressure tested lines to 20670 kPa. Dowell pumped plug #1b across perfs from 2230m to 2167m. Pumped 2.86 m3 of 1.9 SG cement slurry and displaced until water behind was 0.3 m3 from end of cement stinger.
17:30	18:00	0.50	P-EVAL	S	33	Nipped down cementing assy from string and pulled out of hole from 2230 - 2167 m
18:00	19:00	1.00	P-EVAL	S	33	Nipped up reverse circulating hose and reverse circulated out excess cement at 0.66 m3/min with maximum 2750 kPa. Dumped total of 1.59 m3 cement at surface
19:00	00:00	5.00	P-EVAL	S	33	Nipped down reverse circulating hose, pulled back to 2155m and waited on cement to harden 22:00 hrs - Ran in hole to 2168 m in attempt to tag cement, no tag 22:45 hrs - Ran in hole to 2169 m in attempt to tag cement, no tag

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 01:30 Tagged cement at 2172 m with 2.27 MT down. Rigged up cement line down kill line and pressure tested line to 31000 kPa. Closed MPR and pressure tested cement plug to 27560 kPa for 15 mins - OK

01:30 - 03:30 Circulated bottoms up at 2172 m. Max gas of 1% reducing to 0.1%. with 1.8 SG mud. Displaced hole with 1.44 SG mud. Flushed choke, kill and booster lines with 1.44 SG mud.

03:30 - 04:00 Flow checked well for 30 mins - static

04:00 - 06:00 Circulated to check for gas and condition mud to 1.44 SG all round. No gas on bottoms up

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00 (2 406.60 (27.00	31	6/12/2004

MUD PROPERTIES										MUD TYPE	IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	CI	Ca	H2S	KCL	LGS
63	23/15	6/8	3.5/	1.0/27.0	/	/18.0	9.00/1.00	0.15/2.70	53,000	560			2.4
DENS		1.80	ECD	1.85	PP	DAILY COST			CUM COST	225.601	% OIL		

MUD GAS													
AVG. CONN				AVG. TRIP				AVG. BKGRD					
MAX. CONN				MAX. TRIP				MAX. DRL				1	

MUD PUMPS / HYDRAULICS					SPR			
	STROKE	SPM	LINER	FLOW RATE	SPP: AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min) AV (DC): 178.9 (m/min HP/in2:		SPM	PPSR
#2	12.0	90	12.0	5,824.66		PUMPS #2		
#						PUMPS #		
#						PUMPS #		

SOLIDS CONTROL													
SHAKER #1		SHAKER #2		SHAKER #3		DESILTER HRS		DESANDER HRS		CENT #1 HRS		CENT #2 HRS	
145 / 145		120 / 120		105 / 105									

PERSONNEL DATA					
COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
DOGC	26		WEATHERFORD	4	
Fugro	2		Dowell Schlumberger	2	
BAKER OIL TOOLS	1		OMS	2	
ICOR	1		TMS	9	
PetroTech	2		MI	1	
Expro	12		Sperry Mudlogging	2	
Halliburton	4		Apache	5	
AWT	2		DODI	15	

Total Personnel on Board: 90

MATERIALS ON LOCATION													
MATERIALS		RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL							
BARITE BULK		85	0	0		85							
CEMENT		62	85	43		190							
DIESEL		283	465	625		1,373							
GEL, FRESH		50	42	42		134							
WATER, DRILLING		148	0	243		391							
WATER, POTABLE		238	276	640		1,154							

Total Water 1,545

SUPPORT CRAFT													
NAME/TYPE		REMARKS				NAME/TYPE		REMARKS					
SUPPLY BOAT		Pacific Wrangler (On Location)				HELICOPTER		VH-JGO (Frieght only)					
SUPPLY BOAT		Far Grip (In Town)											

DECKLOG													
MAX VDL		ACT VDL		AVL VDL		LEG PEN (BOW)		LEG PEN (PORT)		LEG PEN (S'BOARD)			
2,560		2,043		517									

WEATHER													
TIME		WIND		SWELL		WAVE		CURRENT		TEMP			
		SPEED / DIR		HT / DIR / PER		HT / DIR/ PER		SPEED / DIR					
00:00		5 / 8		1 / / 8		0.80 / 113 / 8		/		0 (°C)			

SAFETY DRILLS													
RAMS		ANNULARS		CASING		BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL		
28/11/2004 / 27,600 (kPa)		28/11/2004 / 20,700 (kPa)		13/11/2004 / 27,600 (kPa)		28/11/2004	12/12/2004	5/12/2004			5/12/2004		

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longatom-2		10/11/2004	(m)	2 422.00 (2 406.60 (27.00	31	6/12/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	30	

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00 (2 406.60 (28.00	32	7/12/2004

RIG	FIELD NAME	AUTH TMD	PLANNED DOW	DOM	DOL
UNSPECIFIED Ocean Patriot OP		(m)			29.00

SUPERVISOR	OIM
C. Wilson / J. Wrenn	S. De Freitas

COUNTRY	DISTRICT	STATE / PROV	COUNTY / PARRISH	RIG PHONE NO	RIG FAX NO
AUSTRALIA					

AFE #	AFE COSTS	DAILY COSTS	CUMULATIVE COSTS
	DHC: 0	DHC: 452,862.80	DHC: 12,719,297.76
PERMIT #	CWC: 0	CWC: 0.00	CWC: 0.00
VIC/P54	TOTAL: 0	TOTAL: 452,863.00	TOTAL: 12,719,297.76

LAST SFTY MEETING	BLOCK	FORMATION	BHA HRS OF SERVICE
5/12/2004	VicP54		

LAST SURVEY	ACTUAL LEAKOFF EMW	LAST CASING	NEXT CASING
TMD 2,376.11 INC 11.960 AZM 45.760	1.70 (SG)	178.000 (mm) @ 2,420.00 (m)	(mm) @ (m)

CURRENT OPERATIONS

Rigging up long bails to blocks

24 HR FORECAST

Complete RIH with DST #2. Perforate and flow well

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	01:30	1.50	P-EVAL	S	33	Tagged cement at 2172 m with 2.27 MT down. Rigged up cement line down kill line and pressure tested line to 31000 kPa. Closed MPR and pressure tested cement plug to 27560 kPa for 15 mins - OK
01:30	03:30	2.00	P-EVAL	S	33	Circulated bottoms up at 2172 m. Max gas of 1% reducing to 0.1%. with 1.8 SG mud. Displaced hole with 1.44 SG mud. Flushed choke, kill and booster lines with 1.44 SG mud.
03:30	04:00	0.50	P-EVAL	S	33	Flow checked well for 30 mins - static
04:00	06:30	2.50	P-EVAL	S	33	Circulated to check for gas and condition mud to 1.44 SG all round. No gas on bottoms up. Flow checked well - static
06:30	10:00	3.50	P-EVAL	S	33	Pumped slug and pulled out of hole from 2172 - 284 m racking 127 mm and 88.9 mm DP in derrick
10:00	12:30	2.50	P-EVAL	S	33	Laid down seal assy and laid down 73.02 mm tubing from string to deck
12:30	14:30	2.00	P-EVAL	S	33	Picked up TCP guns for DST #2
14:30	16:00	1.50	P-EVAL	S	33	Picked up rest of DST #2 sub assy tools to 209 m
16:00	16:30	0.50	P-EVAL	S	33	Made up testing assy and nipped up testing line. Tested line to 44785 kPa
16:30	17:00	0.50	P-EVAL	T	33	Attempted to pressure test string against TST and Full Open Safety Valve. FOSV leaking. Changed out FOSV
17:00	17:30	0.50	P-EVAL	S	33	Pressure tested DST string to 3445 / 44785 kPa for 5 / 15 mins - OK. Nipped down test sub assy
17:30	22:30	5.00	P-EVAL	S	33	Continued to RIH with DST string #2 on 114.3 mm tubing from 209 - 2068 m
22:30	00:00	1.50	P-EVAL	S	33	Made up test sub assy and pressure tested DST string to 3445 / 44785 kPa for 5 / 15 mins - OK. Nipped down test sub assy

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 02:30 Picked up and made up SSTT c/w control hoses and tested to Expro procedures. Made up Lubricator with control lines, pressure tested control lines, and picked up 2 singles of 114.3 mm tubing.

02:30 - 03:00 Made up pump in sub and tested string down to TST valve to 3445 / 44785 kPa for 5 / 15 mins. Attempted to close lubricator valve for inflow test against lubricator. Lubricator valve not closing.

03:00 - 04:00 Pulled out of hole to lubricator to troubleshoot problem. Found cracked fitting at lubricator. Replaced and re-pressure tested line at surface.

04:00 - 05:30 Ran in hole with tubing and lubricator valve, rigged up test string, pressured up string to 44785 kPa, closed lubricator and inflow tested lubricator valve by bleeding down above valve to 3445 kPa - OK

05:30 - 06:00 Made up wireline sheave hangoff sub to TDS and installed long bails.

MUD PROPERTIES

VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	Cl	Ca	H2S	KCL	LGS
55	18/15	6/8	3.0/	1.0/16.0	/	/16.0	9.50/0.80	0.17/1.50	54,000	620			1.9
DENS	1.43	ECD	1.43	PP	DAILY COST		CUM COST		225.601	% OIL			

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

Page 2 of 3

WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longatom-2		10/11/2004	(m)	2 422.00 (	2 406.60 (	28.00	32	7/12/2004

MUD GAS

AVG. CONN	AVG. TRIP	AVG. BKGRD
MAX. CONN	MAX. TRIP	MAX. DRL
	1	1

MUD PUMPS / HYDRAULICS

SPR

STROKE	SPM	LINER	FLOW RATE	SPP:	PUMPS #	PPSR
#				AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)	PUMPS #	
#				AV (DC): 178.9 (m/min HP/in2:	PUMPS #	
#					PUMPS #	

SOLIDS CONTROL

SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
165 / 165	120 / 120	105 / 105				

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
DOGC	28		WEATHERFORD	4	
Fugro	2		Dowell Schlumberger	2	
BAKER OIL TOOLS	1		OMS	2	
ICOR	1		TMS	9	
PetroTech	2		MI	1	
Expro	12		Sperry Mudlogging	2	
Halliburton	4		Apache	5	
AWT	2		DODI	15	

Total Personnel on Board: 92

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	85	0	0		85
CEMENT	62	85	43		190
DIESEL	467	261	625		1,353
GEL, FRESH	50	42	42		134
WATER, DRILLING	148	0	243		391
WATER, POTABLE	248	272	640		1,160

Total Water 1,551

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Pacific Wrangler (On Location)	HELICOPTER	VH-BZU (Pax on 10, Pax off 8)
SUPPLY BOAT	Far Grip (In Melbourne)		

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
2,560	2,164	396			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	13 / 90	1 / / 8	1.50 / 90 / 8	/	0 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
28/11/2004 / 27,600 (kPa)	28/11/2004 / 20,700 (kPa)	13/11/2004 / 27,600 (kPa)	28/11/2004	12/12/2004	5/12/2004			5/12/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	31	

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longatom-2		10/11/2004	(m)	2 422.00 (2 406.60 (28.00	32	7/12/2004

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD 2 422.00 (TVD 2 406.60 (DFS 29.00	REPT NO 33	DATE 8/12/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME			AUTH TMD (m)	PLANNED DOW	DOM	DOL 30.00	
SUPERVISOR C. Wilson / J. Wrenn					OIM S. De Freitas				
COUNTRY AUSTRALIA	DISTRICT	STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO	
AFE #	AFE COSTS DHC: 0		DAILY COSTS DHC: 329,673.80		CUMULATIVE COSTS DHC: 13,048,971.56				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 329,674.00		TOTAL: 13,048,971.56				
LAST SFTY MEETING 5/12/2004	BLOCK VicP54		FORMATION					BHA HRS OF SERVICE	
LAST SURVEY TMD 2,376.11 INC 11.960 AZM 45.760			ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 178.000 (mm) @ 2,420.00 (m)		NEXT CASING (mm) @ (m)		

CURRENT OPERATIONS

Building more mud volume at 1.8 SG weight

24 HR FORECAST

Kill well. POOH with DST string #2. RIH with cmt stinger

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	02:30	2.50	P-EVAL	S	33	Picked up and made up SSTT c/w control hoses and tested to Expro procedures. Made up Lubricator with control lines, pressure tested control lines, and picked up 2 singles of 114.3 mm tubing.
02:30	03:00	0.50	P-EVAL	S	33	Made up pump in sub and tested string down to TST valve to 3445 / 44785 kPa for 5 / 15 mins. Attempted to close lubricator valve for inflow test against lubricator. Lubricator valve not closing.
03:00	04:00	1.00	P-EVAL	T	33	Pulled out of hole to lubricator to troubleshoot problem. Found cracked fitting at lubricator. Replaced and re-pressure tested line at surface.
04:00	05:30	1.50	P-EVAL	T	33	Ran in hole with tubing and lubricator valve, rigged up test string, pressured up string to 44785 kPa, closed lubricator and inflow tested lubricator valve by bleeding down above valve to 3445 kPa - OK
05:30	08:00	2.50	P-EVAL	S	33	Made up wireline sheave hangoff sub to TDS and installed long bails. Picked up and made up flow head
08:00	10:30	2.50	P-EVAL	S	33	Rigged down Weatherford equipment. Made up coflexip, cement and control hoses to flow head
10:30	11:00	0.50	P-EVAL	T	33	Problem with flow wing valve quick exhaust. Expro fixed problem
11:00	12:00	1.00	P-EVAL	S	33	Flushed through kill wing valve to Expro manifold with Dowell. Tested kill wing valve to 44785 kPa for 15 mins. Tested across flow head and down to Expro choke to 37895 kPa for 15 mins. Function tested ESD from rig Floor - response time 5 sec. Tested production wing valve to 44785 kPa for 15 mins. All tests OK
12:00	12:30	0.50	P-EVAL	S	33	Landed off DST string in wellhead at 74 m. Good indications of seals entering production packer.
12:30	13:30	1.00	P-EVAL	S	33	Closed SELECT Tester Valve and sheared TST with 15847 kPa for 15 mins - Cycled OMNI tool to circulating position.
13:30	15:00	1.50	P-EVAL	S	33	Dowell displaced DST string with 83 bbls diesel and displaced with 3 bbls water
15:00	16:00	1.00	P-EVAL	S	33	Cycled OMNI tool to well test position and opened SELECT tester valve
16:00	17:00	1.00	P-EVAL	S	33	Dowell fired TCP guns with 38585 kPa. Positive indication confirmed by Expro 16:15 hrs - Well shut in at SELECT tester valve. Expro monitored initial buildup pressure
17:00	20:30	3.50	P-EVAL	S	33	Opened SELECT tester valve and attempted to flow well through Expro choke. No indications of well flowing.
20:30	22:30	2.00	P-EVAL	S	33	Shut well in at SELECT tester valve for buildup period
22:30	23:00	0.50	P-EVAL	S	33	Cycled OMNI to circulating position
23:00	23:30	0.50	P-EVAL	S	33	Displaced diesel out of string to flare with 86 bbls of 1.44 SG mud. Good indications of clean mud at Expro choke
23:30	00:00	0.50	P-EVAL	S	33	Cycled OMNI to test position and commenced flushing all surface equipment with water

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 00:30 Continued to flush all surface lines with drill water

00:30 - 01:00 Closed kill wing valve and pressured up annulus to 15847 kPa to lock open SELECT tester valve

01:00 - 01:30 Closed flow wing valve. Disconnected coflexip hose from flowhead. Locked open kill wing check valve and removed blank from rigs poorboy degasser.

01:30 - 02:00 Opened MPR's and unstung from packer picking up 10 m.

02:00 - 02:30 Circulated bottoms up through kill line with rig pumps.

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00	2 406.60	29.00	33	8/12/2004

06:00 UPDATE

02:30 - 04:00 Gas levels increased rapidly close to bottoms up at 02:20 hrs with max of 43.8% before well shut in on BOP with 12 bbls gain in pits. SIDPP = 0, SICP = 0. Continued to circulate over 1.5 times bottoms up through choke with 1.44 SG mud. Gas levels after poorboy degasser staying constant at 5.0 - 5.6% for last 30 mins

04:00 - 06:00 Continue circulating well through choke and pumping 1.8 SG from reserve pits until 1.8 SG mud all round well

MUD PROPERTIES

MUD TYPE IDCAP D

VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	CI	Ca	H2S	KCL	LGS
64	26/11	6/7	3.0/	1.0/16.0	/	/14.0	9.00/0.70	0.15/1.80	54.000	520			2.5
DENS	1.43	ECD	1.43	PP	DAILY COST			CUM COST	225.601	% OIL			

MUD GAS

AVG. CONN		AVG. TRIP		AVG. BKGRD	
MAX. CONN		MAX. TRIP	1	MAX. DRL	1

MUD PUMPS / HYDRAULICS

SPR

	STROKE	SPM	LINER	FLOW RATE			SPM	PPSR
#3	12.0	40	6.0	643.52	SPP:	PUMPS #3		
#					AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)	PUMPS #		
#					AV (DC): 178.9 (m/min HP/in2:	PUMPS #		

SOLIDS CONTROL

SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
165 / 165	120 / 120	105 / 105				

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
TMS	9		ICOR	1	
MI	1		PetroTech	2	
Sperry Mudlogging	2		Expro	12	
Apache	5		Halliburton	4	
DODI	15		AWT	2	
DOGC	28		WEATHERFORD	4	
Fugro	2		Dowell Schlumberger	2	
BAKER OIL TOOLS	1		OMS	2	

Total Personnel on Board: 92

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	85	0	0		85
CEMENT	62	85	43		190
DIESEL	446	255	625		1,326
GEL, FRESH	50	42	42		134
WATER, DRILLING	87	0	243		330
WATER, POTABLE	253	268	640		1,161

Total Water 1,491

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Pacific Wrangler (On Location)	SUPPLY BOAT	Far Grip (In Melbourne)

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
2,560	2,192	368			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	17 / 113	3 / / 6	3.00 / 113 / 6	/	0 (°C)

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00 (2 406.60 (29.00	33	8/12/2004

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
28/11/2004 / 27,600 (kPa)	28/11/2004 / 20,700 (kPa)	13/11/2004 / 27,600 (kPa)	28/11/2004	12/12/2004	5/12/2004			5/12/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	32	

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD 2 422.00 (TVD 2 406.60 (DFS 30.00	REPT NO 34	DATE 9/12/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME			AUTH TMD (m)	PLANNED DOW	DOM	DOL 31.00	
SUPERVISOR C. Wilson / J. Wrenn					OIM S. De Freitas				
COUNTRY AUSTRALIA	DISTRICT	STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO	
AFE #	AFE COSTS DHC: 0		DAILY COSTS DHC: 379,082.80		CUMULATIVE COSTS DHC: 13,428,054.36				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 379,083.00		TOTAL: 13,428,054.36				
LAST SFTY MEETING 5/12/2004	BLOCK VicP54		FORMATION					BHA HRS OF SERVICE	
LAST SURVEY TMD 2,376.11 INC 11.960 AZM 45.760			ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 178.000 (mm) @ 2,420.00 (m)		NEXT CASING (mm) @ (m)		

CURRENT OPERATIONS

Pulling out of hole with DST #2 string

24 HR FORECAST

POOH DST #2 string. RIH cmt string. Cmt across perms

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	00:30	0.50	P-EVAL	S	33	Continued to flush all surface lines with drill water
00:30	01:00	0.50	P-EVAL	S	33	Closed kill wing valve and pressured up annulus to 15847 kPa to lock open SELECT tester valve
01:00	01:30	0.50	P-EVAL	S	33	Closed flow wing valve. Disconnected coflexip hose from flowhead. Locked open kill wing check valve and removed blank from rigs poorboy degasser.
01:30	02:00	0.50	P-EVAL	S	33	Opened MPR's and unstung from packer picking up 10 m.
02:00	02:30	0.50	P-EVAL	S	33	Circulated bottoms up conventionally through flowhead kill line with rig pumps.
02:30	04:00	1.50	P-EVAL	T	74	Gas levels increased rapidly close to bottoms up at 02:20 hrs with max of 43.8% before well shut in on BOP with 1.9 m3 gain in pits. SIDPP = 0, SICP = 0. Continued to circulate over 1.5 times bottoms up through choke with 1.44 SG mud. Gas levels after poorboy degasser staying constant at 5.0 - 5.6% for last 30 mins
04:00	05:00	1.00	P-EVAL	T	74	Continued circulating well through choke and pumping 1.8 SG from reserve pits until 1.8 SG mud all way round well
05:00	08:00	3.00	P-EVAL	T	74	Stopped circulating to build mud volume. Well closed in on choke and monitored pressures. SIDPP and SICP both increased by 2415 kPa
08:00	10:30	2.50	P-EVAL	T	74	Circulated well through choke at 1.21 m3/min continuing to displace well and surface pits with 1.8 SG mud. Bottoms up gas was 3% reducing to below 1%
10:30	11:00	0.50	P-EVAL	T	74	Displaced riser to 1.8 SG mud
11:00	12:00	1.00	P-EVAL	T	74	Flow checked across UPR's - static. Flushed across BOP and opened rams
12:00	13:00	1.00	P-EVAL	S	33	Displaced kill line with 1.8 SG mud and circulated bottoms up - No gas
13:00	14:30	1.50	P-EVAL	S	33	Rigged down kill side hoses to flow head. Rigged up power tongs for pulling out of hole and laying down DST assy
14:30	16:00	1.50	P-EVAL	S	33	Broke all service breaks on flow head and laid down to deck
16:00	17:00	1.00	P-EVAL	S	33	Laid down long bails and installed short 350 T bails and tubing elevators
17:00	22:30	5.50	P-EVAL	S	33	Pulled out of hole breaking all service breaks on SSLV and SSTT before laying down to deck
22:30	00:00	1.50	P-EVAL	S	33	Picked up 2 stds of 114.3 mm tubing and one std of 127 mm HWDP and ran in hole. Installed diverter bag before ran in hole

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 00:30 Attempted to engage packer with seal assy and tag no-go locator. Only able to go into seal assy 2.5 m. Pumped down string and confirmed OMNI tool in blank position

00:30 - 01:00 Cycled OMNI tool into well test position. Ran in hole with seal assy and tagged no-go locator on packer - OK

01:00 - 02:30 Picked up until bottom of seal assy 4 m above packer. Circulated well until gas free. Max gas at bottoms up was 25.1% reducing down to 1%

02:30 - 03:00 Flow checked well - static

03:00 - 04:00 Pumped slug and pulled out of hole to pup joint in 114.3 tubing string

04:00 - 04:30 Port crane shut down - unable to clear V-door to lay down pup joint out of string

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00	2 406.60	30.00	34	9/12/2004

06:00 UPDATE

04:30 - 06:00 Laid out 2 x singles and 1 x pup joint of 114.3 mm tubing and continued to pull out of hole with DST #2 string

MUD PROPERTIES											MUD TYPE	IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	CI	Ca	H2S	KCL	LGS	
54	21/15	6/9	3.0/	1.0/27.0	/	/17.0	9.50/1.20	0.17/1.30	54.000	560				3.0
DENS	1.78	ECD	1.88	PP	DAILY COST			CUM COST	225.601	% OIL				

MUD GAS

AVG. CONN	AVG. TRIP	AVG. BKGRD
MAX. CONN	MAX. TRIP	MAX. DRL
	1	1

MUD PUMPS / HYDRAULICS

SPR

	STROKE	SPM	LINER	FLOW RATE			SPM	PPSR
#2	12.0	76	6.0	1,226.47	SPP:	PUMPS #2		
#					AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)	PUMPS #		
#					AV (DC): 178.9 (m/min HP/in2:	PUMPS #		

SOLIDS CONTROL

SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
165 / 165	120 / 120	105 / 105				

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
TMS	10		PetroTech	1	
MI	1		Expro	11	
Sperry Mudlogging	2		Halliburton	4	
Apache	6		AWT	2	
DODI	15		WEATHERFORD	4	
DOGC	28		Dowell Schlumberger	2	
Fugro	2		OMS	3	
BAKER OIL TOOLS	1				

Total Personnel on Board: 92

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	35	0	0		35
CEMENT	62	85	43		190
DIESEL	441	244	625		1,310
GEL, FRESH	50	42	42		134
WATER, DRILLING	70	0	243		313
WATER, POTABLE	257	264	640		1,161

Total Water 1,474

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Pacific Wrangler (On Location)	HELICOPTER	VH-BZU (Pax on 11, Pax off 8)
SUPPLY BOAT	Far Grip (On route to rig)	HELICOPTER	VH-BZU (Pax on 2, Pax off 5)

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
2,560	2,192	368			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR / PER	CURRENT SPEED / DIR	TEMP
00:00	15 / 90	2 / / 7	2.50 / 90 / 7	/	0 (°C)

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00 (2 406.60 (30.00	34	9/12/2004

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
28/11/2004 / 27,600 (kPa)	28/11/2004 / 20,700 (kPa)	13/11/2004 / 27,600 (kPa)	28/11/2004	12/12/2004	5/12/2004			5/12/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	33	

DATUM SECTION

RT TO AHD	(m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD 2 422.00 (TVD 2 406.60 (DFS 31.00	REPT NO 35	DATE 10/12/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME		AUTH TMD (m)	PLANNED DOW	DOM	DOL 32.00		
SUPERVISOR C. Wilson / K. Corps				OIM S. De Freitas					
COUNTRY AUSTRALIA	DISTRICT	STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO	
AFE #	AFE COSTS DHC: 0		DAILY COSTS DHC: 445,498.80		CUMULATIVE COSTS DHC: 13,873,553.16				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 445,499.00		TOTAL: 13,873,553.16				
LAST SFTY MEETING 5/12/2004	BLOCK VicP54		FORMATION				BHA HRS OF SERVICE		
LAST SURVEY TMD 2,376.11 INC 11.960 AZM 45.760			ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 178.000 (mm) @ 2,420.00 (m)		NEXT CASING (mm) @ (m)		
CURRENT OPERATIONS WOC - POH with stinger assembly									
24 HR FORECAST WOC - Lay out 114mm tubing string.									

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	00:30	0.50	P-EVAL	T	33	Attempted to engage packer with seal assy and tag no-go locator. Only able to go into seal assy 2.5 m. Pumped down string and confirmed OMNI tool in blank position
00:30	01:00	0.50	P-EVAL	T	33	Cycled OMNI tool into well test position. Ran in hole with seal assy and tagged no-go locator on packer - OK
01:00	02:30	1.50	P-EVAL	T	33	Picked up until bottom of seal assy 4 m above packer. Circulated well until gas free. Max gas at bottoms up was 25.1% reducing down to 1%
02:30	03:00	0.50	P-EVAL	T	33	Flow checked well - static
03:00	04:00	1.00	P-EVAL	S	33	Pumped slug and pulled out of hole to pup joint in 114mm tubing string
04:00	04:30	0.50	P-EVAL	T	50	Port crane shut down - unable to clear V-door to lay down pup joint out of string
04:30	10:30	6.00	P-EVAL	S	33	Laid out 2 x singles and 1 x pup joint of 114mm tubing and continued to pull out of hole with DST #2 string to TCP guns.
10:30	13:00	2.50	P-EVAL	S	33	Held JSA - Laid out TCP guns. Visual inspection indicated guns had fired.
13:00	19:30	6.50	P-EVAL	S	44	Picked up 73mm mule shoe RIH 20 joints 73mm drill pipe in singles. Crossed over to 89mm drill pipe and ran in hole.
19:30	20:00	0.50	P-EVAL	S	44	Crossed over to 127mm drill pipe and ran in hole.
20:00	20:30	0.50	P-EVAL	T	50	Identified elevators not attached correctly to bails. Stopped job, rectified problem and spoke to drill crew about correct rigging up procedure.
20:30	22:00	1.50	P-EVAL	S	44	Continued to run in hole on 127mm drill pipe. Tagged top of cement @ 2170.4m.
22:00	00:00	2.00	P-EVAL	S	44	Pulled back to 2169m. Closed Pipe rams and circulated through the choke, holding 1000kPa back pressure. Max gas on bottoms up 23.7%. Continued circulating 2x bottoms up - gas dropped back to 1.6%.

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 00:30 Continued circulating 1x bottoms up - circulating mud system into balance. Gas levels dropped to 0.8%

00:30 - 01:00 Flow checked well - steady minimal flow. 0.04m3 gained in 1/2 hr. Possible suspected balancing of the mud system.

01:00 - 01:30 Circulated B/U through the choke - background gas dropped to 0.2%.

01:30 - 02:00 Circulated conventionallly and cleaned riser and BOP's. Max gas - 2%.

02:00 - 02:30 Flow checked well - static.

02:30 - 03:00 Rigged up cement head and hose. Held JSA.

03:00 - 03:30 Pressure tested lines. Mixed and pumped 2.6m3 1.9SG cement slurry and set Abandonment plug 2A from 2170m to 2062m. Under-displaced cement with 11.9m3 1.8SG mud.

03:30 - 04:30 Rigged down cement head and hose. Pulled out of hole 4 stands to 2054m and rigged up to reverse circulate.

04:30 - 05:00 Reverse circulated well. Estimated 0.75m3 cement returned to surface.

05:00 - 06:00 Pulled out of hole to 1670m.

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
L onatom-2		10/11/2004	(m)	2 422 00 (2 406 60 (31 00	35	10/12/200

06:00 UPDATE

1 first aid case reported, 21 proactive safety measures.

Bails incident discussed at pre-tour meetings. Incident report to follow.

MUD PROPERTIES											MUD TYPE	IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	CI	Ca	H2S	KCL	LGS	
65	18/16	6/9	4.0/	1.0/27.0	/	/17.0	9.50/1.20	0.17/1.35	53,000	580				3.0
DENS	1.80	ECD	1.88	PP	DAILY COST			CUM COST			225,601	% OIL		

MUD GAS

AVG. CONN		AVG. TRIP		AVG. BKGRD	
MAX. CONN		MAX. TRIP	1	MAX. DRL	1

MUD PUMPS / HYDRAULICS

SPR

	STROKE	SPM	LINER	FLOW RATE			SPM	PPSR
#					SPP:	PUMPS #		
#					AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)	PUMPS #		
#					AV (DC): 178.9 (m/min HP/in2:	PUMPS #		

SOLIDS CONTROL

SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
/	/	/				

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
Diamond 3rd party	2		Fugro	6	
SMITH SERVICES	1		BAKER OIL TOOLS	1	
TMS	10		Expro	1	
MI	1		Halliburton	4	
Sperry Mudlogging	2		WEATHERFORD	4	
Apache	6		Dowell Schlumberger	2	
DODI	15		OMS	2	
DOGC	27		SCHLUMBERGER	2	

Total Personnel on Board: 86

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	60	0	0		60
CEMENT	62	85	43		190
DIESEL	431	244	552		1,227
GEL, FRESH	50	42	42		134
WATER, DRILLING	213	0	0		213
WATER, POTABLE	257	264	630		1,151

Total Water 1,364

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Far Grip (On Location)	HELICOPTER	VH-BZU (11 Pax on, 10 Pax off)
SUPPLY BOAT	Pacific Wrangler (Eden)	HELICOPTER	VH-BZU (8 Pax on, 15 Pax off)

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
2,560	2,192	368			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	1 / 90	6 / / 1	0.55 / 90 / 1	/	0 (°C)

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longatom-2		10/11/2004	(m)	2 422.00 (2 406.60 (31.00	35	10/12/2004

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
28/11/2004 / 27,600 (kPa)	28/11/2004 / 20,700 (kPa)	13/11/2004 / 27,600 (kPa)	28/11/2004	12/12/2004	5/12/2004			5/12/2004

INCIDENT REPORT

INCIDENT TYPE FIRST AID INCIDENT DESCRIPTION Driller struck on hand by brake handle-minor bruising. RTW
LOST TIME? NO
DAYS W/O LTA 34

DATUM SECTION

RT TO AHD	21.50 (m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00 (2 406.60 (32.00	36	11/12/2004

RIG	FIELD NAME	AUTH TMD	PLANNED DOW	DOM	DOL
UNSPECIFIED Ocean Patriot OP		(m)			33.00

SUPERVISOR	OIM
C. Wilson / K. Corps	S. De Freitas

COUNTRY	DISTRICT	STATE / PROV	COUNTY / PARRISH	RIG PHONE NO	RIG FAX NO
AUSTRALIA					

AFE #	AFE COSTS	DAILY COSTS	CUMULATIVE COSTS
	DHC: 0	DHC: 363,567.80	DHC: 14,237,120.96
PERMIT #	CWC: 0	CWC: 0.00	CWC: 0.00
VIC/P54	TOTAL: 0	TOTAL: 363,568.00	TOTAL: 14,237,120.96

LAST SFTY MEETING	BLOCK	FORMATION	BHA HRS OF SERVICE
5/12/2004	VicP54		

LAST SURVEY	ACTUAL LEAKOFF EMW	LAST CASING	NEXT CASING
TMD 2,376.11 INC 11.960 AZM 45.760	1.70 (SG)	178.000 (mm) @ 2,420.00 (m)	(mm) @ (m)

CURRENT OPERATIONS
Completing P&A plug 2A

24 HR FORECAST
POH. Run Bridge plug and cement. POH and make up whipstock

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	00:30	0.50	P-EVAL	T	44	Continued circulating 1x bottoms up - circulating mud system into balance. Gas levels dropped to 0.8%
00:30	01:00	0.50	P-EVAL	T	44	Flow checked well - steady minimal flow. 0.04m3 gained in 1/2 hr. Possible suspected balancing of the mud system.
01:00	01:30	0.50	P-EVAL	T	44	Circulated B/U through the choke - background gas dropped to 0.2%.
01:30	02:00	0.50	P-EVAL	T	44	Circulated conventionally and cleaned riser and BOP's. Max gas - 2%.
02:00	02:30	0.50	P-EVAL	T	44	Flow checked well - static.
02:30	03:00	0.50	P-EVAL	S	44	Rigged up cement head and hose. Held JSA.
03:00	03:30	0.50	P-EVAL	S	44	Pressure tested lines. Mixed and pumped 2.6m3 1.9SG cement slurry and set Abandonment plug #2a from 2170m to 2062m. Under-displaced cement with 11.9m3 1.8SG mud.
03:30	04:30	1.00	P-EVAL	S	44	Rigged down cement head and hose. Pulled out of hole 4 stands to 2054m and rigged up to reverse circulate.
04:30	05:00	0.50	P-EVAL	S	44	Reverse circulated well. Estimated 0.75m3 cement returned to surface.
05:00	07:00	2.00	P-EVAL	S	44	Pulled out of hole to 89mm drill pipe @ 1347m.
07:00	08:30	1.50	P-EVAL	S	44	Held JSA. Rigged up to run 114mm tubing. Ran in hole with 22 stands 114mm tubing to 1987m.
08:30	12:30	4.00	P-EVAL	S	44	Pumped slug - Pulled out of hole - laid out 114mm tubing in singles.
12:30	14:00	1.50	P-EVAL	S	44	Ran in hole with 22 stands 114mm tubing to 1987m.
14:00	16:30	2.50	P-EVAL	S	44	Pulled out of hole - laid out 114mm tubing in singles.
16:30	18:00	1.50	P-EVAL	S	44	Ran in hole with 22 stands 114mm tubing to 1987m.
18:00	21:00	3.00	P-EVAL	S	44	Pulled out of hole - laid out 114mm tubing in singles.
21:00	22:00	1.00	P-EVAL	S	44	Ran in hole with 11 stands 114mm tubing to 1662m.
22:00	23:00	1.00	P-EVAL	S	44	Pumped slug - Pulled out of hole - laid out 114mm tubing in singles.
23:00	00:00	1.00	P-EVAL	S	44	Held JSA. Rigged up for slip and cut operations.

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 02:00 Slipped and cut drill line.
02:00 - 02:30 Chaged out bails and elevators.
02:30 - 04:30 RIH on 127mm DP and tagged TOC @ 2061m.
04:30 - 05:30 Pulled back and made up cement head and hose. Held JSA.
05:30 - 06:00 Tested lines. Mixed and pumped 1.8m3 of 1.9SG cement.

MUD PROPERTIES

MUD TYPE										IDCAP D			
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	Cl	Ca	H2S	KCL	LGS
65	18/16	7/9	5.0/	1.0/27.0	/	/17.0	9.50/1.20	0.17/1.35	54.000	580			3.0

DENS	1.80	ECD	1.88	PP	DAILY COST	CUM COST	225,601	% OIL
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Lonatom-2		10/11/2004	(m)	2 422.00 (2 406.60 (32.00	36	11/12/2004

MUD GAS

AVG. CONN		AVG. TRIP		AVG. BKGRD	
MAX. CONN		MAX. TRIP	1	MAX. DRL	1

MUD PUMPS / HYDRAULICS

SPR

#	STROKE	SPM	LINER	FLOW RATE			SPM	PPSR
#					SPP:		PUMPS #	
#					AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)		PUMPS #	
#					AV (DC): 178.9 (m/min HP/in2:		PUMPS #	

SOLIDS CONTROL

SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
/	/	/				

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
TMS	10		OMS	3	
MI	1		SCHLUMBERGER	2	
Sperry Mudlogging	4		Diamond 3rd party	2	
Apache	4		SECURITY	1	
DODI	15		PETROTECH	1	
DOGC	27		Dowell Schlumberger	1	
BAKER OIL TOOLS	1		FUGRO	2	
WEATHERFORD	2				

Total Personnel on Board: 76

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	60	0	56		116
CEMENT	47	85	43		175
DIESEL	422	244	549		1,215
GEL, FRESH	50	42	42		134
WATER, DRILLING	104	0	0		104
WATER, POTABLE	275	264	628		1,167

Total Water 1,271

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Far Grip (On Location)	HELICOPTER	VH-BZU (6 Pax on, 16 Pax off)
SUPPLY BOAT	Pacific Wrangler (Eden)		

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
2,560	2,192	368			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	308,662 / 90	0 / /	/ 90 /	/	0 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
28/11/2004 / 27,600 (kPa)	28/11/2004 / 20,700 (kPa)	13/11/2004 / 27,600 (kPa)	28/11/2004	12/12/2004	5/12/2004			5/12/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	35	

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longatom-2		10/11/2004	(m)	2 422.00 (2 406.60 (32.00	36	11/12/2004

DATUM SECTION

RT TO AHD		AIR GAP		WATER DEPTH	
	21.50 (m)				56.82 (m)

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	2 422.00 (2 406.60 (33.00	37	12/12/2004

RIG	FIELD NAME	AUTH TMD	PLANNED DOW	DOM	DOL
UNSPECIFIED Ocean Patriot OP		(m)			34.00

SUPERVISOR	OIM
C. Wilson / K. Corps	S. De Freitas

COUNTRY	DISTRICT	STATE / PROV	COUNTY / PARRISH	RIG PHONE NO	RIG FAX NO
AUSTRALIA					

AFE #	AFE COSTS	DAILY COSTS	CUMULATIVE COSTS
	DHC: 0	DHC: 331,121.80	DHC: 14,568,242.76
PERMIT #	CWC: 0	CWC: 0.00	CWC: 0.00
VIC/P54	TOTAL: 0	TOTAL: 331,122.00	TOTAL: 14,568,242.76

LAST SFTY MEETING	BLOCK	FORMATION	BHA HRS OF SERVICE
12/12/2004	VicP54		

LAST SURVEY	ACTUAL LEAKOFF EMW	LAST CASING	NEXT CASING
TMD 2,376.11 INC 11.960 AZM 45.760	1.70 (SG)	178.000 (mm) @ 2,420.00 (m)	(mm) @ (m)

CURRENT OPERATIONS
Displacing well to 1.26SG mud.

24 HR FORECAST
Set cement - POH. Run whipstock. Mill window in casing.

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	02:00	2.00	P-EVAL	S	44	Slipped and cut drill line.
02:00	02:30	0.50	P-EVAL	S	44	Changed out bails and elevators.
02:30	04:30	2.00	P-EVAL	S	44	RIH on 127mm DP and tagged TOC @ 2061m.
04:30	05:30	1.00	P-EVAL	S	44	Pulled back and made up side entry sub and cement hose. Held JSA.
05:30	06:00	0.50	P-EVAL	S	44	Tested lines. Mixed and pumped 1.8m3 of 1.9SG cement.
06:00	06:30	0.50	P-EVAL	S	44	Nippled down cement hose and laid out side entry sub. Commenced pulling out of the hole. Excessive backflow ("U" tubing) up the drillstring. Made-up side entry sub complete with TIW's.
06:30	08:30	2.00	P-EVAL	T	44	Reverse circulated cement plug out of the hole. Mud weight out of the hole 1.62 SG. Dumped 3m3 of contaminated mud and cement. Circulated well conventionally.
08:30	09:30	1.00	P-EVAL	T	44	Rigged-up cement hose and pressure tested same. Pumped balanced cement plug #2b from 2060m to 1986m and displaced same.
09:30	10:00	0.50	P-EVAL	S	44	Nippled-down cement hose and sub assembly and pulled out of the hole to 1983m.
10:00	11:30	1.50	P-EVAL	S	44	Nippled-up reverse circulating assembly and reverse circulated. Dumped 2.2m3 of contaminated mud.
11:30	18:00	6.50	P-EVAL	S	44	Pulled out of hole to 73mm mule shoe assembly. Troubleshot problems with 127mm and 89mm air operated elevators (Problem likely caused by mud contamination due to "U tubing" problem).
18:00	19:00	1.00	P-EVAL	S	44	Laid out 73mm drill pipe and mule shoe.
19:00	20:00	1.00	P-EVAL	S	44	Rigged down 73mm handling equipment. Rigged up to run bridge plug on 89mm drill pipe.
20:00	00:00	4.00	P-EVAL	S	44	Made up bridge plug and running tool and ran in hole on 89mm drill pipe, crossing over to 127mm drill pipe.

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 02:00 Continued RIH to 1981m Set bridge plug and released running tool.
 02:00 - 02:30 Held JSA. Nippled-up side entry sub assembly and cement hose.
 02:30 - 03:00 Tested lines. Mixed and pumped 1.2 m3 1.9SG cement slurry.
 03:00 - 04:00 Nippled-down cement hose and sub assembly and pulled out of the hole to 1960m. Excessive backflow ("U" tubing) up the drillstring. Nippled up side entry sub and cement hose and reverse circulated. All cement dumped at surface.
 04:00 - 05:00 Nippled-down cement hose and sub assembly. RIH to 1980m. Nippled up side entry sub and cement hose. Pressure tested lines.
 05:00 - 05:30 Pressure tested bridge plug to 6,900 kPa /15 mins.
 05:30 - 06:00 Nippled-down cement hose and sub assembly. Began displacing well to 1.26 SG mud.

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
L onatom-2		10/11/2004	(m)	2 422 00 (2 406 60 (33 00	37	12/12/2004

MUD PROPERTIES											MUD TYPE	IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	CI	Ca	H2S	KCL	LGS	
53	17/10	6/7	5.0/	1.0/10.0	/	/14.0	9.50/1.20	0.09/1.00	46,000	400				1.8
DENS	1.25	ECD		PP		DAILY COST		CUM COST	225,601	% OIL				

MUD GAS														
AVG. CONN			AVG. TRIP			AVG. BKGRD								
MAX. CONN			MAX. TRIP			MAX. DRL			1					

MUD PUMPS / HYDRAULICS										SPR				
	STROKE	SPM	LINER	FLOW RATE							SPM	PPSR		
#					SPP:					PUMPS #				
#					AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)					PUMPS #				
#					AV (DC): 178.9 (m/min HP/in2:					PUMPS #				

SOLIDS CONTROL														
SHAKER #1		SHAKER #2		SHAKER #3		DESILTER HRS		DESANDER HRS		CENT #1 HRS		CENT #2 HRS		
/		/		/										

PERSONNEL DATA														
COMPANY				QTY	HOURS	COMPANY				QTY	HOURS			
BAKER OIL TOOLS				1		FUGRO				2				
WEATHERFORD				2		TMS				10				
OMS				3		MI				1				
SCHLUMBERGER				2		Sperry Mudlogging				4				
Diamond 3rd party				2		Apache				4				
SECURITY				1		DODI				15				
PETROTECH				1		DOGC				27				
Dowell Schlumberger				1										

Total Personnel on Board: 76

MATERIALS ON LOCATION														
MATERIALS			RIG		WORKBOAT 1		WORKBOAT 2		OTHER		TOTAL			
BARITE BULK			56		0		56				112			
CEMENT			39		85		43				167			
DIESEL			407		244		557				1,208			
GEL, FRESH			50		42		42				134			
WATER, DRILLING			70		0		0				70			
WATER, POTABLE			280		264		630				1,174			

Total Water 1,244

SUPPORT CRAFT														
NAME/TYPE			REMARKS				NAME/TYPE			REMARKS				
SUPPLY BOAT			Far Grip (On Location)				SUPPLY BOAT			Pacific Wrangler (Eden)				

DECKLOG														
MAX VDL		ACT VDL		AVL VDL		LEG PEN (BOW)		LEG PEN (PORT)		LEG PEN (S'BOARD)				
2,560		2,192		368										

WEATHER														
TIME		WIND		SWELL		WAVE		CURRENT		TEMP				
		SPEED / DIR		HT / DIR / PER		HT / DIR/ PER		SPEED / DIR						
00:00		3 / 90		6 / /		0.61 / 90 /		/		0 (°C)				

SAFETY DRILLS														
RAMS		ANNULARS		CASING		BOP DRILL		NEXT BOP PRESS TEST		FIRE DRILL		H2S DRILL		ABAN DRILL
28/11/2004 / 27,600 (kPa)		28/11/2004 / 20,700 (kPa)		13/11/2004 / 27,600 (kPa)		28/11/2004		12/12/2004		5/12/2004				12/12/2004

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longatom-2		10/11/2004	(m)	2 422.00 (2 406.60 (33.00	37	12/12/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	36	

DATUM SECTION

RT TO AHD	21.50 (m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD 2 422.00 (TVD 2 406.60 (DFS 34.00	REPT NO 38	DATE 13/12/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME		AUTH TMD (m)	PLANNED DOW	DOM	DOL 35.00		
SUPERVISOR C. Wilson / K. Corps				OIM S. De Freitas					
COUNTRY AUSTRALIA	DISTRICT	STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO	
AFE #	AFE COSTS DHC: 0		DAILY COSTS DHC: 337,167.13		CUMULATIVE COSTS DHC: 14,905,409.89				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 337,167.00		TOTAL: 14,905,409.89				
LAST SFTY MEETING 12/12/2004	BLOCK VicP54		FORMATION				BHA HRS OF SERVICE		
LAST SURVEY TMD 2,376.11 INC 11.960 AZM 45.760			ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 178.000 (mm) @ 2,420.00 (m)		NEXT CASING (mm) @ (m)		

CURRENT OPERATIONS

RIH with milling/whipstock assembly.

24 HR FORECAST

Set whipstock. Mill window in casing. POH.

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	02:00	2.00	P-EVAL	S	44	Continued to run in hole to 1981m. Set bridge plug and released running tool.
02:00	02:30	0.50	P-EVAL	S	44	Held JSA. Nipped-up side entry sub assembly and cement hose.
02:30	03:00	0.50	P-EVAL	S	44	Tested lines. Mixed and pumped 1.2 m3 1.9SG cement slurry.
03:00	04:00	1.00	P-EVAL	T	44	Nipped-down cement hose and sub assembly and pulled out of the hole to 1960m. Excessive backflow ("U" tubing) up the drillstring. Nipped up side entry sub & cement hose and reverse circulated. All cement dumped at surface.
04:00	05:00	1.00	P-EVAL	T	44	Nipped-down cement hose and sub assembly. Ran in hole to 1980m. Nipped up side entry sub and cement hose. Pressure tested lines.
05:00	05:30	0.50	P-EVAL	S	44	Pressure tested bridge plug to 6,900 kPa / 15 mins. (41,800 kPa pressure equivalent @ bridge plug)
05:30	06:30	1.00	P-EVAL	S	44	Nipped-down cement hose and sub assembly. Displaced well to 1.26 SG mud.
06:30	07:30	1.00	P-EVAL	S	44	Nipped-up side entry sub assembly and cement hose. Tested lines. Mixed and pumped 1.2 m3 1.9SG cement slurry and set abandonment plug #3 from 1980m to 1960m.
07:30	08:00	0.50	P-EVAL	S	44	Nipped-down cement hose and sub assembly. Pulled out of hole to 1959m.
08:00	09:00	1.00	P-EVAL	S	44	Nipped up side entry sub & cement hose and reverse circulated. Contaminated mud dumped at surface.
09:00	12:30	3.50	P-EVAL	S	44	Pumped slug. Pulled out of hole - laid out bridge plug running tool. ***Well name changed to Longtom-2 ST-1***
12:30	13:00	0.50	P-EVAL	S	43	Made up BOP jetting sub and ran in hole.
13:00	14:30	1.50	P-EVAL	S	43	Jetted and functioned BOP stack. Jetted wellhead.
14:30	15:30	1.00	P-EVAL	S	43	Made up weight set BOP test plug and ran in hole.
15:30	18:30	3.00	P-EVAL	S	43	Tested BOP's - 1,700kPa / 27,600kPa for 5mins / 10mins.
18:30	20:00	1.50	P-EVAL	S	43	Rigged down test hose. Pulled out of hole - laid out BOP test tool and jetting sub.
20:00	22:30	2.50	P-EVAL	S	43	Rigged up and tested surface valves and lines - 1,700kPa / 27,600kPa for 5mins / 10mins.
22:30	23:00	0.50	P-EVAL	S	43	Rigged down surface testing equipment.
23:00	00:00	1.00	P-EVAL	S	43	Made up 152mm milling/whipstock assembly.

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 02:00 Continued making up 152mm milling/whipstock assembly. Scribed in hole and surface tested MWD.
 02:00 - 03:00 Ran in hole, picking up 89mm HWD.
 03:00 - 05:30 Ran in hole on 89mm drill pipe to liner lap 877m.
 05:30 - 06:00 Continued running in hole to 1020m.

No incidents reported. 10 proactive safety measures.

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longatom-2		10/11/2004	(m)	2 422.00	2 406.60	34.00	38	13/12/2004

MUD PROPERTIES										MUD TYPE	IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	CI	Ca	H2S	KCL	LGS
53	17/10	6/7	5.0/	1.0/10.0	/	/14.0	9.50/1.20	0.09/1.00	46,000	400			1.8
DENS		1.25	ECD		PP		DAILY COST		CUM COST	225.601	% OIL		

MUD GAS													
AVG. CONN		AVG. TRIP		AVG. BKGRD									
MAX. CONN		MAX. TRIP	1	MAX. DRL								1	

MUD PUMPS / HYDRAULICS										SPR			
	STROKE	SPM	LINER	FLOW RATE							SPM	PPSR	
#					SPP:					PUMPS #			
#					AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)					PUMPS #			
#					AV (DC): 178.9 (m/min HP/in2:					PUMPS #			

SOLIDS CONTROL													
SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS							
/	/	/											

PERSONNEL DATA													
COMPANY				QTY	HOURS	COMPANY				QTY	HOURS		
BAKER OIL TOOLS				1		FUGRO				2			
WEATHERFORD				2		TMS				10			
OMS				3		MI				1			
SCHLUMBERGER				2		Sperry Mudlogging				4			
Diamond 3rd party				2		Apache				4			
SECURITY				1		DODI				15			
PETROTECH				1		DOGC				27			
Dowell Schlumberger				1									

Total Personnel on Board: 76

MATERIALS ON LOCATION													
MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL								
BARITE BULK	56	0	56		112								
CEMENT	36	85	43		164								
DIESEL	392	283	540		1,215								
GEL, FRESH	50	42	42		134								
WATER, DRILLING	157	0	0		157								
WATER, POTABLE	283	274	625		1,182								

Total Water 1,339

SUPPORT CRAFT													
NAME/TYPE	REMARKS				NAME/TYPE	REMARKS							
SUPPLY BOAT	Far Grip (On Location)				SUPPLY BOAT	Pacific Wrangler (Eden)							

DECKLOG													
MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)								
2,560	2,192	368											

WEATHER													
TIME	WIND	SWELL	WAVE	CURRENT	TEMP								
	SPEED / DIR	HT / DIR / PER	HT / DIR/ PER	SPEED / DIR									
00:00	5 / 90	7 / /	0.91 / 90 / 6	/	0 (°C)								

SAFETY DRILLS													
RAMS	ANNULARS	CASING	BOP	NEXT BOP	FIRE	H2S	MAN	ABAN					
DRILL			DRILL	PRESS TEST	DRILL	DRILL	OVERBOARD	DRILL					
28/11/2004 / 27,600 (kPa)	28/11/2004 / 20,700 (kPa)	13/12/2004 / 27,600 (kPa)	13/12/2004	27/12/2004	5/12/2004								12/12/2004

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longatom-2		10/11/2004	(m)	2 422.00 (2 406.60 (34.00	38	13/12/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	37	

DATUM SECTION

RT TO AHD	21.50 (m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	1,955.00 (1,961.00 (35.00	39	14/12/2004

RIG	FIELD NAME	AUTH TMD	PLANNED DOW	DOM	DOL
UNSPECIFIED Ocean Patriot OP		(m)			36.00

SUPERVISOR	OIM
C. Wilson / K. Corps	S. De Freitas

COUNTRY	DISTRICT	STATE / PROV	COUNTY / PARRISH	RIG PHONE NO	RIG FAX NO
AUSTRALIA					

AFE #	AFE COSTS	DAILY COSTS	CUMULATIVE COSTS
	DHC: 0	DHC: 363,916.40	DHC: 15,269,326.29
PERMIT #	CWC: 0	CWC: 0.00	CWC: 0.00
VIC/P54	TOTAL: 0	TOTAL: 363,916.00	TOTAL: 15,269,326.29

LAST SFTY MEETING	BLOCK	FORMATION	BHA HRS OF SERVICE
12/12/2004	VicP54		

LAST SURVEY	ACTUAL LEAKOFF EMW	LAST CASING	NEXT CASING
TMD 2,376.11 INC 11.960 AZM 45.760	1.70 (SG)	178.000 (mm) @ 2,420.00 (m)	(mm) @ (m)

CURRENT OPERATIONS
RIH with new milling assembly.

24 HR FORECAST
RIH - complete milling window. POH.

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	02:00	2.00	3-DRL	S	14	Continued making up 152mm milling/whipstock assembly. Scribed in hole and surface tested MWD.
02:00	03:00	1.00	3-DRL	S	12	Ran in hole, picking up 89mm HWDP.
03:00	06:30	3.50	3-DRL	S	12	Ran in hole on 89mm drill pipe. Carefully ran through liner lap @ 877m. Continued running in hole to 1275m.
06:30	08:30	2.00	3-DRL	S	12	Crossed over to 127mm drill pipe and ran in hole to 1954m.
08:30	09:30	1.00	3-DRL	S	12	Broke circulation - orientated whipstock 42 deg right of high side. Ran down and tagged cement @ 1960.3m. Set whipstock with 25MT down weight and sheared off.
09:30	11:30	2.00	3-DRL	S	86	Commenced milling window from 1955.2m to 1958m.
11:30	12:00	0.50	3-DRL	T	21	String stuck @ 1958m. Worked free with 32MT overpull.
12:00	12:30	0.50	3-DRL	S	86	Continued to mill window from 1958m to 1959m.
12:30	16:00	3.50	3-DRL	T	21	Picked up off bottom to remove hose caught under elevators. String became stuck @ 1958m. Worked string with max 68MT overpull, max 23MT setback and 12.5 kNM torque while pumping Hi-Vis sweeps.
16:00	16:30	0.50	3-DRL	T	50	Replaced cracked shear pin in racking arm.
16:30	20:30	4.00	3-DRL	T	21	Worked string with decreasing drag back to 1862m - unable to rotate or go down. String became free @ 1829m and pulled with no drag.
20:30	21:00	0.50	3-DRL	T	23	Pumped out of hole to 1780m.
21:00	21:30	0.50	3-DRL	T	12	Pulled out of hole to 1690m. Broke circulation and checked circulating pressures. Pumped slug.
21:30	23:30	2.00	3-DRL	T	12	Continued to pull out of hole from 1690m to above liner lap @ 875m.
23:30	00:00	0.50	3-DRL	T	88	Circulated bottoms up. 300g metal collected @ ditch magnets. Performed post-jarring derrick inspection while circulating.

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 00:30 Boosted riser. Continued post-jarring derrick inspection.
 00:30 - 01:30 Performed post-jarring Top drive/travelling block inspection.
 01:30 - 03:00 POH to BHA.
 03:00 - 06:00 Inspected mills - mills in gauge. Wear on one side indicates junk dragging. Laid out MWD tools. Changed out window mill and lower watermelon mill. Picked up drill collars and jars and made up new milling BHA.

No incidents reported. 21 proactive safety measures.

BHA	8	JAR S/N		BHA / HOLE CONDITIONS	JAR HRS		BIT	
BHA WT. BELOW JARS	STRING WT. UP	STRING WT. DN	STRING WT. ROT	TORQUE / UNITS	BHA LENGTH			
	90.9	90.9	90.9	2,600 N-m	125.75			

ITEM DESCRIPTION	NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE	CONN TYPE
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APACHE ENERGY LIMITED

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DAILY DRILLING REPORT

WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	1 955.00	1 961.00	35.00	39	14/12/2004

BHA	8	JAR S/N	BHA / HOLE CONDITIONS				JAR HRS	BIT
ITEM DESCRIPTION	NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE	CONN TYPE		
Window Mill	1	0.33	139.70	38.10				
Watermelon Mill	1	1.67	149.23	38.10				
Flex Jt	1	2.00	120.65	38.10		3 1/2 H		
Watermelon Mill	1	1.65	153.90	68.28				
MWD Tool	1	10.45	120.65	50.80				
Heavy Weight Drill Pipe	12	109.65	123.83					

MUD PROPERTIES										MUD TYPE	IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	Cl	Ca	H2S	KCL	LGS
51	15/13	4/5	5.0/	1.0/10.0	/	/13.0	8.50/1.00	0.08/1.10	48,000	510			1.8

DENS	1.25	ECD	PP	DAILY COST	CUM COST	225,601	% OIL
------	------	-----	----	------------	----------	---------	-------

MUD GAS				AVG. BKGRD	
AVG. CONN		AVG. TRIP			
MAX. CONN		MAX. TRIP	1	MAX. DRL	1

MUD PUMPS / HYDRAULICS					SPR		
STROKE	SPM	LINER	FLOW RATE		SPM	PPSR	
#				SPP:	PUMPS #		
#				AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)	PUMPS #		
#				AV (DC): 178.9 (m/min HP/in2:	PUMPS #		

SOLIDS CONTROL						
SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
/	/	/				

PERSONNEL DATA							
COMPANY	QTY	HOURS	COMPANY	QTY	HOURS		
SCHLUMBERGER	2		MI	1			
Diamond 3rd party	4		Sperry Mudlogging	4			
SECURITY	2		Apache	5			
PETROTECH	1		DODI	15			
Dowell Schlumberger	2		DOGC	29			
FUGRO	2		BAKER OIL TOOLS	1			
TMS	10		OMS	3			

Total Personnel on Board: 81

MATERIALS ON LOCATION					
MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	56	0	56		112
CEMENT	36	85	43		164
DIESEL	385	276	531		1,192
GEL, FRESH	50	42	42		134
WATER, DRILLING	151	0	0		151
WATER, POTABLE	287	270	620		1,177

Total Water 1,328

SUPPORT CRAFT			
NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Far Grip (On Location)	SUPPLY BOAT	Pacific Wrangler (On Location)

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	1 955.00 (1 961.00 (35.00	39	14/12/2004

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
HELICOPTER	VH-BZU (14 Pax on, 9 Pax off)		

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
2,560	2,192	368			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	17 / 225	7 / /	0.91 / 90 / 6	/	0 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
28/11/2004 / 27.600 (kPa)	28/11/2004 / 20.700 (kPa)	13/12/2004 / 27.600 (kPa)	13/12/2004	27/12/2004	5/12/2004			12/12/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	38	

DATUM SECTION

RT TO AHD		AIR GAP		WATER DEPTH	
	21.50 (m)				56.82 (m)

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD 1 955.00 (TVD 1 961.00 (DFS 36.00	REPT NO 40	DATE 15/12/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME			AUTH TMD (m)	PLANNED DOW	DOM	DOL 37.00	
SUPERVISOR C. Wilson / K. Corps					OIM S. De Freitas				
COUNTRY AUSTRALIA	DISTRICT	STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO	
AFE #	AFE COSTS DHC: 0		DAILY COSTS DHC: 313,847.73		CUMULATIVE COSTS DHC: 15,583,174.02				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 313,848.00		TOTAL: 15,583,174.02				
LAST SFTY MEETING 12/12/2004	BLOCK VicP54		FORMATION					BHA HRS OF SERVICE	
LAST SURVEY TMD 2,376.11 INC 11.960 AZM 45.760			ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 178.000 (mm) @ 2,420.00 (m)		NEXT CASING (mm) @ (m)		

CURRENT OPERATIONS

Making up 152mm drilling assembly.

24 HR FORECAST

Drill to coring point. POH and run coring assembly.

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	00:30	0.50	3-DRL	T	88	Boosted riser. Continued post-jarring derrick inspection.
00:30	01:30	1.00	3-DRL	T	51	Performed post-jarring Top drive/travelling block inspection.
01:30	03:00	1.50	3-DRL	T	12	Pulled out of hole to BHA.
03:00	04:30	1.50	3-DRL	T	14	Inspected mills - mills in gauge. Wear on one side indicated junk dragging. Laid out MWD tools. Changed out window mill and lower watermelon mill.
04:30	07:30	3.00	3-DRL	T	14	Picked up drill collars and jars and made up new milling BHA.
07:30	09:30	2.00	3-DRL	T	12	Ran in hole on 89mm drill pipe. Carefully ran through liner lap @ 877m. Continued running in hole to 944m.
09:30	11:00	1.50	3-DRL	T	12	Crossed over to 127mm drill pipe and ran in hole to 1829m.
11:00	12:30	1.50	3-DRL	T	23	Washed and lightly reamed to 1959m.
12:30	18:00	5.50	3-DRL	S	86	Milled window and drilled formation from 1959m to 1967.7m, pumping hi-Vis sweeps as required.
18:00	19:30	1.50	3-DRL	S	80	Pulled back through window with pumps on and no rotary. Hole/window condition good. Flow checked well - static. Pulled 5 stands to 1793m - hole fill correct.
19:30	22:30	3.00	3-DRL	S	12	Pumped slug. Pulled out of hole to top of liner lap @ 876m.
22:30	23:00	0.50	3-DRL	S	88	Circulated bottoms up. Flow checked well.
23:00	00:00	1.00	3-DRL	S	12	Pumped slug. Pulled out of hole to 300m.

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 01:00 Continued to pull out of hole from 300m to BHA.

01:00 - 03:00 Jars discovered not to be closed properly. Attempted to stroke jars in and out at rotary table - no go. Racked jars on top of drill collar stand.

03:00 - 04:00 Continued to pull out of hole. Laid out milling BHA.

04:00 - 06:00 Made up 152mm drilling BHA and ran in hole to 500m.

No incidents reported. 23 proactive safety measures.

BHA	8	JAR S/N		BHA / HOLE CONDITIONS			JAR HRS		BIT		
BHA WT. BELOW JARS		STRING WT. UP		STRING WT. DN		STRING WT. ROT		TORQUE / UNITS		BHA LENGTH	
										125.75	
ITEM DESCRIPTION				NO. JTS		LENGTH	O.D.	I.D.		CONN SIZE	CONN TYPE
Window Mill				1		0.33	139.70	38.10			
Watermelon Mill				1		1.67	149.23	38.10			
Flex Jt				1		2.00	120.65	38.10			3 1/2 H
Watermelon Mill				1		1.65	153.90	68.28			
MWD Tool				1		10.45	120.65	50.80			
Heavy Weight Drill Pipe				12		109.65	123.83				

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	1 955.00	1 961.00	36.00	40	15/12/2004

BHA	8	JAR S/N	BHA / HOLE CONDITIONS				JAR HRS			BIT	
ITEM DESCRIPTION			NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE		CONN TYPE		

MUD PROPERTIES										MUD TYPE	IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	CI	Ca	H2S	KCL	LGS
48	15/13	5/7	5.0/	1.0/10.0	/	/15.0	9.00/0.09	0.05/1.10	48,000	520			1.8
DENS		1.25	ECD		PP		DAILY COST		CUM COST	225.601	% OIL		

MUD GAS					
AVG. CONN		AVG. TRIP		AVG. BKGRD	
MAX. CONN		MAX. TRIP	1	MAX. DRL	1

MUD PUMPS / HYDRAULICS						SPR		
	STROKE	SPM	LINER	FLOW RATE	SPP: AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min) AV (DC): 178.9 (m/min HP/in2:		SPM	PPSR
#						PUMPS #		
#						PUMPS #		
#						PUMPS #		

SOLIDS CONTROL						
SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
/	/	/				

PERSONNEL DATA							
COMPANY		QTY	HOURS	COMPANY		QTY	HOURS
BAKER OIL TOOLS		4		FUGRO		2	
OMS		3		TMS		10	
SCHLUMBERGER		2		MI		1	
Diamond 3rd party		4		Sperry Mudlogging		4	
SECURITY		2		Apache		4	
PETROTECH		1		DODI		14	
Dowell Schlumberger		2		DOGC		29	

Total Personnel on Board: 82

MATERIALS ON LOCATION					
MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	56	0	56		112
CEMENT	36	85	43		164
DIESEL	377	266	521		1,164
GEL, FRESH	50	42	42		134
WATER, DRILLING	151	0	0		151
WATER, POTABLE	306	266	620		1,192

Total Water 1,343

SUPPORT CRAFT			
NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Far Grip (On Location)	HELICOPTER	VH-BZU (3 Pax on, 1 Pax off)
SUPPLY BOAT	Pacific Wrangler (On Location)		

DECKLOG					
MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
2,560	2,192	368			

APACHE ENERGY LIMITED
DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	(m)	1 955.00 (1 961.00 (36.00	40	15/12/2004

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	4 / 225	7 / /	0.91 / 90 / 6	/	0 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
28/11/2004 / 27.600 (kPa)	28/11/2004 / 20.700 (kPa)	13/12/2004 / 27.600 (kPa)	13/12/2004	27/12/2004	5/12/2004			12/12/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	39	

DATUM SECTION

RT TO AHD		AIR GAP		WATER DEPTH	
	21.50 (m)				56.82 (m)

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	157.00 (m)	2 112.00 (m)	2 004.00 (m)	37.00	41	16/12/2004

RIG	FIELD NAME	AUTH TMD	PLANNED DOW	DOM	DOL
UNSPECIFIED Ocean Patriot OP		(m)			38.00

SUPERVISOR	OIM
C. Wilson / K. Corps	S. De Freitas

COUNTRY	DISTRICT	STATE / PROV	COUNTY / PARRISH	RIG PHONE NO	RIG FAX NO
AUSTRALIA					

AFE #	AFE COSTS	DAILY COSTS	CUMULATIVE COSTS
	DHC: 0	DHC: 315,000.40	DHC: 15,898,174.42
PERMIT #	CWC: 0	CWC: 0.00	CWC: 0.00
VIC/P54	TOTAL: 0	TOTAL: 315,000.00	TOTAL: 15,898,174.42

LAST SFTY MEETING	BLOCK	FORMATION	BHA HRS OF SERVICE
12/12/2004	VicP54		

LAST SURVEY	ACTUAL LEAKOFF EMW	LAST CASING	NEXT CASING
TMD 2,376.11 INC 11.960 AZM 45.760	1.70 (SG)	178.000 (mm) @ 2,420.00 (m)	(mm) @ (m)

CURRENT OPERATIONS

RIH with coring assembly

24 HR FORECAST

Core to section TD. POH. RIH for second core sample.

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	01:00	1.00	3-DRL	S	12	Continued to pull out of hole from 300m to BHA.
01:00	03:00	2.00	3-DRL	T	72	Jars discovered not to be closed properly. Attempted to stroke jars in and out at rotary table - no go. Racked jars on top of drill collar stand.
03:00	04:00	1.00	3-DRL	S	12	Continued to pull out of hole. Laid out milling BHA - no unusual wear observed on mills.
04:00	05:30	1.50	3-DRL	S	14	Made up 152mm drilling assembly, drill collars and HWDP.
05:30	07:30	2.00	3-DRL	S	12	Ran in hole with 152mm drilling assembly on 89mm drill pipe. Ran carefully through liner lap @ 877m. Continued running in hole to 944m.
07:30	09:30	2.00	3-DRL	S	12	Crossed over to 127mm drill pipe and ran in hole to 1954m. Rotated from 1854m to 1967m. No signs of junk on bottom of hole.
09:30	15:00	5.50	3-DRL	S	10	Drilled 152mm hole from 1967m to 2112m Ave ROP - 26.4m/hr
15:00	16:00	1.00	3-DRL	S	88	Circulated bottoms up. Flow checked well - static.
16:00	18:00	2.00	3-DRL	S	23	Pulled out of hole to 1955m, backreaming tight hole from 2069m to 2050m and from 2012m to 1992m. Max overpull 22.7MT.
18:00	22:00	4.00	3-DRL	S	12	Pumped slug & pulled out of hole. Laid out 152mm drilling assembly and jars. Racked drill collars and HWDP.
22:00	00:00	2.00	3-DRL	S	14	Picked up core barrels and made up 152mm coring assembly.

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 00:30 Ran in hole to 75m drifting 120mm drill collars and 89mm HWDP.
 00:30 - 01:30 Drift became stuck in 89mm HWDP. Broke out stand and recovered drift.
 01:30 - 02:00 Continued RIH, drifting 89mm HWDP.
 02:00 - 04:00 Ran in hole on 89mm drill pipe to 1339m.
 04:00 - 05:30 Crossed over to 127mm drill pipe and continued running in hole to 1950m.
 05:30 - 06:00 Broke circulation and established SCR's. Recorded up and down weights.

No incidents reported. 24 proactive safety measures.

BIT DATA

BIT / RUN	SIZE	MANUF.	TYPE	SERIAL NO.	JETS OR TFA	DEPTH IN / DATE IN	I-O-D-L-B-G-O-R
8 / 1	155.58	Reed	DS59H	H47709	16/16/16/16/16/16	1,967.70 / 16/12/2004	0-0-NO-A-D- I-NO-TD

BIT OPERATIONS

BIT / RUN	WOB	RPM	FLOW	PRESS	P BIT	HRS	24Hr PROG	24Hr ROP	CUM HRS	CUM PROG	CUM ROP
8 / 1	2.3 / 0.5	80 / 140	1,324.9	13,790	1,358	5.50	144.30	26.24	5.00	144.30	26.24

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	157.00 (m)	2 112.00 (2 004.00 (37.00	41	16/12/2004

BHA	10	JAR S/N	DAH 02697	BHA / HOLE CONDITIONS			JAR HRS	22.50	BIT	8
BHA WT. BELOW JARS	STRING WT. UP		STRING WT. DN		STRING WT. ROT		TORQUE / UNITS		BHA LENGTH	
6.5	210.0		205.0		210.0		2,700 N-m		179.53	

ITEM DESCRIPTION	NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE	CONN TYPE
Window Mill	1	0.33	139.70	38.10		
Watermelon Mill	1	1.67	149.23	38.10		
Flex Jt	1	2.00	120.65	38.10		3 1/2 H
Watermelon Mill	1	1.65	153.90	68.28		
Heavy Weight Drill Pipe	1	9.15	123.83			
Spirall Drill Collar	2	18.52	120.65			
Drilling Jar	1	9.00	120.65			
Spirall Drill Collar	4	36.71	120.65			
Heavy Weight Drill Pipe	11	100.50	88.90			

MUD PROPERTIES										MUD TYPE	IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	CI	Ca	H2S	KCL	LGS
46	14/14	5/7	4.0/	1.0/11.0	/	/19.0	/1.10	0.09/1.50	47,000	480			2.9
DENS		1.28	ECD		PP		DAILY COST		CUM COST	225,601	% OIL		

MUD GAS														
AVG. CONN			AVG. TRIP			AVG. BKGRD			1					
MAX. CONN			MAX. TRIP			MAX. DRL			1					

MUD PUMPS / HYDRAULICS							SPR		
	STROKE	SPM	LINER	FLOW RATE				SPM	PPSR
#2	12.0	83	6.0	1,340.04	SPP: 13,790 (kPa)		PUMPS #2	40	4,344
#3	12.0				AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)		PUMPS #3	40	4,619
#					AV (DC): 178.9 (m/min HP/in2: 4.649 (kW/cm ²)		PUMPS #		

SOLIDS CONTROL						
SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
165 / 145	120 / 120	105 / 105				

PERSONNEL DATA									
COMPANY				QTY	HOURS	COMPANY			
OMS				3		TMS			
Diamond 3rd party				2		MI			
SECURITY				2		Sperry Mudlogging			
PETROTECH				1		Apache			
Dowell Schlumberger				2		DODI			
FUGRO				2		DOGC			

Total Personnel on Board: 74

MATERIALS ON LOCATION						
MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL	
BARITE BULK	54	0	56		110	
CEMENT	36	85	43		164	
DIESEL	369	264	520		1,153	
GEL, FRESH	50	42	42		134	
WATER, DRILLING	81	0	0		81	
WATER, POTABLE	306	262	617		1,185	

Total Water 1,266

SUPPORT CRAFT			
NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Far Grip (On Location)	SUPPLY BOAT	Pacific Wrangler (On Location)

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2		10/11/2004	157.00 (m)	2 112.00 (2 004.00 (37.00	41	16/12/2004

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
HELICOPTER	VH-BZU (1 Pax on, 9 Pax off)		

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
2.560	2.243	317			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	6 / 202	6 / /	0.61 / 202 / 1	/	0 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
28/11/2004 / 27.600 (kPa)	28/11/2004 / 20.700 (kPa)	13/12/2004 / 27.600 (kPa)	13/12/2004	27/12/2004	5/12/2004			12/12/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	40	

DATUM SECTION

RT TO AHD		AIR GAP		WATER DEPTH	
	21.50 (m)				56.82 (m)

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2 ST-1		10/11/2004	(m)	2 112.00 (2 004.00 (38.00	42	17/12/2004

RIG	FIELD NAME	AUTH TMD	PLANNED DOW	DOM	DOL
UNSPECIFIED Ocean Patriot OP		(m)			39.00

SUPERVISOR	OIM
C. Wilson / K. Corps	S. De Freitas

COUNTRY	DISTRICT	STATE / PROV	COUNTY / PARRISH	RIG PHONE NO	RIG FAX NO
AUSTRALIA					

AFE #	AFE COSTS	DAILY COSTS	CUMULATIVE COSTS
	DHC: 0	DHC: 346,463.73	DHC: 16,244,638.16
PERMIT #	CWC: 0	CWC: 0.00	CWC: 0.00
VIC/P54	TOTAL: 0	TOTAL: 346,464.00	TOTAL: 16,244,638.16

LAST SFTY MEETING	BLOCK	FORMATION	BHA HRS OF SERVICE
12/12/2004	VicP54		

LAST SURVEY	ACTUAL LEAKOFF EMW	LAST CASING	NEXT CASING
TMD 2,376.11 INC 11.960 AZM 45.760	1.70 (SG)	178.000 (mm) @ 2,420.00 (m)	178.000 (mm) @ 2,525.00 (m)

CURRENT OPERATIONS

Cutting core #2.

24 HR FORECAST

Cut core #2. POH. Begin P&A programme.

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	00:30	0.50	3-DRL	S	12	Ran in hole to 75m drifting 120mm drill collars and 89mm HWDP.
00:30	01:30	1.00	3-DRL	T	12	Drift became stuck in 89mm HWDP. Broke out stand and recovered drift. (drift was larger than it needed to be)
01:30	02:00	0.50	3-DRL	S	12	Continued running in hole, drifting 89mm HWDP.
02:00	04:00	2.00	3-DRL	S	12	Ran in hole on 89mm drill pipe to 1339m, drifting the pipe.
04:00	05:30	1.50	3-DRL	S	12	Crossed over to 127mm drill pipe and continued running in hole to 1950m.
05:30	06:00	0.50	3-DRL	S	88	Broke circulation and established SCR's. Recorded up and down weights.
06:00	07:00	1.00	3-DRL	S	23	Reamed from 1950m, through casing window, to 1977m. Washed down to 2112m - 3m of fill on bottom.
07:00	07:30	0.50	3-DRL	S	23	Circulated bottoms up - no gas.
07:30	08:00	0.50	3-DRL	S	31	Dropped ball. Recorded SCR's and up and down weights.
08:00	12:00	4.00	3-DRL	S	31	Cut core #1 from 2112m to 2130m. Max gas - 5.65%. Ave ROP - 4.5m/hr.
12:00	12:30	0.50	3-DRL	S	12	Flow checked well - static. Pulled out of hole from 2130m to 1995m - hole taking correct fluid.
12:30	13:30	1.00	3-DRL	S	12	Pumped slug and continued pulling out of hole to 1539m.
13:30	18:30	5.00	3-DRL	T	50	Racking arm would not retract - unable to trip. Located and rectified racking arm problem.
18:30	22:00	3.50	3-DRL	S	12	Held JSA - Continued pulling out of hole from 1539m to to BHA. L/O jars.
22:00	22:30	0.50	3-DRL	S	14	Held JSA. Rigged up and removed inner core barrels. Total core recovered - 17.61m (97.8%)
22:30	00:00	1.50	3-DRL	S	14	Made up new inner core barrels. Checked bit condition.

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 04:00 Picked up jars - ran in hole with coring assembly #2.

04:00 - 04:30 Broke circulation and established SCR's. Recorded up and down weights. Washed and reamed through casing window. Continued running in hole to 2123m.

04:30 - 05:00 Washed down from 2123m and tagged bottom @ 2130m (2m fill). Circulated bottoms up.

05:00 - 05:30 Dropped ball. Recorded SCR's and up and down weights.

05:30 - 06:00 Began cutting core #2 from 2030m.

No incidents reported. 24 proactive safety measures

BIT DATA

BIT / RUN	SIZE	MANUF.	TYPE	SERIAL NO.	JETS OR TFA	DEPTH IN / DATE IN	I-O-D-L-B-G-O-R
9 / 1	152.40	Security		7971459	12/12/12/12/12/////	2,112.00 / 17/12/2004	0-2-CR-N-D- I-NO-TD

APACHE ENERGY LIMITED

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DAILY DRILLING REPORT

WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
L onotom-2 ST-1		10/11/2004	(m)	2 112.00 (	2 004.00 (	38.00	42	17/12/200

BIT OPERATIONS

BIT / RUN	WOB	RPM	FLOW	PRESS	P BIT	HRS	24Hr PROG	24Hr ROP	CUM HRS	CUM PROG	CUM ROP
9 / 1	2.3 / 6.8	90 / 110	760.0	13,500	1,390	4.00	18.00	4.50	4.00	18.00	4.50

BHA	11	JAR S/N	DAH 02697	BHA / HOLE CONDITIONS					JAR HRS	29.00	BIT	9
BHA WT. BELOW JARS	STRING WT. UP		STRING WT. DN		STRING WT. ROT		TORQUE / UNITS		BHA LENGTH			
7.3	93.0		93.0		93.0		2,712 N-m		194.05			

ITEM DESCRIPTION				NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE	CONN TYPE
Core Bit				1	0.25	152.40			
Near Bit Stabilizer				1	0.92	120.65			
Core Barrel				1	7.93	120.65			
Integral Blade Stabilizer				1	1.22	120.65			
Core Barrel				1	7.93	120.65			
Integral Blade Stabilizer				1	1.22	120.65			
Cross Over				1	0.37	120.65			
Ball catching sub				1	0.33	120.65			
Spirall Drill Collar				6	55.23	120.65			
Heavy Weight Drill Pipe				6	54.96	120.65			
Drilling Jar				1	9.00	120.65			
Heavy Weight Drill Pipe				6	54.69	88.90			

MUD PROPERTIES

MUD TYPE											IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	Cl	Ca	H2S	KCL	LGS
47	14/14	5/7	5.0/	1.0/11.0	/	/18.0	/1.00	0.93/1.40	44,500	510			2.6
DENS	1.27	ECD		PP	DAILY COST			CUM COST	225,601	% OIL			

MUD GAS

AVG. CONN			AVG. TRIP			AVG. BKGRD	1
MAX. CONN			MAX. TRIP	1		MAX. DRL	5

MUD PUMPS / HYDRAULICS

SPR

	STROKE	SPM	LINER	FLOW RATE	SPP: 13,500 (kPa) AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min) AV (DC): 178.9 (m/min HP/in2: 2.731 (kW/cm²		SPM	PPSR
#2	12.0	47	6.0	757.08		PUMPS #2	59	9,653
#						PUMPS #		
#						PUMPS #		

SOLIDS CONTROL

SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
165 / 145	120 / 120	105 / 105				

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
DOGC	29		FUGRO	2	
OMS	3		TMS	10	
Diamond 3rd party	2		MI	1	
SECURITY	2		Sperry Mudlogging	4	
PETROTECH	1		Apache	4	
Dowell Schlumberger	2		DODI	14	

Total Personnel on Board: 74

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	54	0	56		110
CEMENT	77	44	43		164
DIESEL	351	259	516		1,126
GEL, FRESH	50	42	42		134
WATER, DRILLING	60	0	0		60
WATER, POTABLE	321	258	610		1,189

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2 ST-1		10/11/2004	(m)	2 112.00 (2 004.00 (38.00	42	17/12/2004

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
Total Water	1,249				

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Far Grip (On Location)	HELICOPTER	VH-BZU (7 Pax on, 7 Pax off)
SUPPLY BOAT	Pacific Wrangler (On Location)		

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
2,560	2,326	234			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	5 / 112	5 / /	0.30 / 112 / 1	/	0 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
28/11/2004 / 27.600 (kPa)	28/11/2004 / 20.700 (kPa)	13/12/2004 / 27.600 (kPa)	13/12/2004	27/12/2004	12/12/2004			12/12/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	41	

DATUM SECTION

RT TO AHD	21.50 (m)	AIR GAP		WATER DEPTH	56.82 (m)
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CURRENT OPERATIONS
WOC - lay out 89mm HWDP and 121mm DC's.
24 HR FORECAST
Set P&A plugs 4a, 4b, 4c and 5. Lay out 89mm drill pipe.

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	04:00	4.00	3-DRL	S	12	Picked up jars - ran in hole with coring assembly #2.
04:00	04:30	0.50	3-DRL	S	23	Broke circulation and established SCR's. Recorded up and down weights. Washed and reamed through casing window. Continued running in hole to 2123m.
04:30	05:00	0.50	3-DRL	S	88	Washed down from 2123m and tagged bottom @ 2130m (2m fill). Circulated bottoms up - no gas.
05:00	05:30	0.50	3-DRL	S	88	Dropped ball. Recorded SCR's and up and down weights.
05:30	10:00	4.50	3-DRL	S	31	Cut core #2 from 2130m-2148m. Max Gas - 4.2%. Ave ROP - 3.3m/hr.
10:00	10:30	0.50	3-DRL	S	12	Flow checked well - static. Pulled out of hole from 2148m to 1950m - hole taking correct fluid.
10:30	11:00	0.50	3-DRL	S	12	Pulled out of the hole through the window - hole taking correct fill
11:00	15:00	4.00	3-DRL	S	12	Pumped slug and pulled out of hole. Pulled out at a controlled rate from 1000m to preserve core.
15:00	16:30	1.50	3-DRL	S	14	Laid out jars and recovered core #2. Cut 18m, recovered 18m (100%)
16:30	17:00	0.50	3-DRL	S	14	Laid out core barrels and coring bit.
17:00	18:00	1.00	3-DRL	S	14	Laid out 121mm drill collars.
18:00	18:30	0.50	3-DRL	S	14	Rigged up 73mm handling equipment.
18:30	19:30	1.00	3-DRL	S	12	Held JSA. Ran in hole to 202m, picking up 73mm DP.
19:30	22:00	2.50	3-DRL	S	12	Crossed over to 89mm drill pipe and ran in hole to 1347m.
22:00	00:00	2.00	3-DRL	S	12	Crossed over to 127mm drill pipe and ran in hole to 2054m.

06:00 UPDATE

No incidents reported. 24 proactive safety measures.

BIT / RUN	SIZE	MANUF.	TYPE	SERIAL NO.	JETS OR TFA	DEPTH IN / DATE IN	I-O-D-L-B-G-O-R
10 / RR 1	152.40	Security		7971459	12/12/12/12/12/////	2,130.00 / 18/12/2004	1-2-CT-N-D- I-PN-TD

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
L onotom-2 ST-1		10/11/2004	(m)	2 112.00	2 004.00	39.00	43	18/12/2004

BIT OPERATIONS

BIT / RUN	WOB	RPM	FLOW	PRESS	P BIT	HRS	24Hr PROG	24Hr ROP	CUM HRS	CUM PROG	CUM ROP
10 / RR 1	2.3 / 6.8	90 / 110	760.4	8,274	891	5.50	18.00	3.27	5.50	18.00	3.27

BHA	12	JAR S/N	BHA / HOLE CONDITIONS					JAR HRS	BIT	10
BHA WT. BELOW JARS	STRING WT. UP		STRING WT. DN		STRING WT. ROT		TORQUE / UNITS		BHA LENGTH	
							N-m		194.05	

ITEM DESCRIPTION	NO. JTS	LENGTH	O.D.	I.D.	CONN SIZE	CONN TYPE
Core Bit	1	0.25	152.40			
Near Bit Stabilizer	1	0.92	120.65			
Core Barrel	1	7.93	120.65			
Integral Blade Stabilizer	1	1.22	120.65			
Core Barrel	1	7.93	120.65			
Integral Blade Stabilizer	1	1.22	120.65			
Cross Over	1	0.37	120.65			
Ball catching sub	1	0.33	120.65			
Spirall Drill Collar	6	55.23	120.65			
Heavy Weight Drill Pipe	6	54.96	120.65			
Drilling Jar	1	9.00	120.65			
Heavy Weight Drill Pipe	6	54.69	88.90			

MUD PROPERTIES

MUD PROPERTIES										MUD TYPE	IDCAP D		
VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	Cl	Ca	H2S	KCL	LGS
47	14/14	5/6	4.0/	1.0/10.0	/	/17.0	/1.00	0.94/1.35	44,500	520			1.9
DENS	1.27	ECD		PP		DAILY COST		CUM COST	225,601	% OIL			

MUD GAS

AVG. CONN	AVG. TRIP	AVG. BKGRD	1
MAX. CONN	MAX. TRIP	MAX. DRL	5

MUD PUMPS / HYDRAULICS

SPR

	STROKE	SPM	LINER	FLOW RATE	SPP: 8,274 (kPa) AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min) AV (DC): 178.9 (m/min HP/in2: 1.751 (kW/cm²)		SPM	PPSR
#2	12.0	47	6.0	757.08		PUMPS #2	59	11,101
#						PUMPS #		
#						PUMPS #		

SOLIDS CONTROL

SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
165 / 145	120 / 120	105 / 105				

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
FUGRO	2		DOGC	29	
TMS	10		OMS	3	
MI	1		Diamond 3rd party	2	
Sperry Mudlogging	4		SECURITY	2	
Apache	4		PETROTECH	1	
DODI	14		Dowell Schlumberger	2	

Total Personnel on Board: 74

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	54	0	56		110
CEMENT	77	44	43		164
DIESEL	348	255	516		1,119
GEL, FRESH	50	42	42		134
WATER, DRILLING	59	0	0		59
WATER, POTABLE	327	255	610		1,192

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2 ST-1		10/11/2004	(m)	2 112.00	2 004.00	39.00	43	18/12/2004

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
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Total Water 1,251

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Far Grip (On Location)	SUPPLY BOAT	Pacific Wrangler (Enroute to Melbourne)

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
2,560	2,326	234			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR / PER	CURRENT SPEED / DIR	TEMP
00:00	3 / 90	1 / / 3	1.30 / 90 / 3	5 /	0 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
28/11/2004 / 27.600 (kPa)	28/11/2004 / 20.700 (kPa)	13/12/2004 / 27.600 (kPa)	13/12/2004	27/12/2004	12/12/2004			12/12/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	42	

DATUM SECTION

RT TO AHD	21.50 (m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2 ST-1			API #	SPUD DATE24 HRS PROG		TMD	TVD	DFS	REPT NO	DATE
				10/11/2004 18.00 (m)		2 130.00 (2 122.00 (40.00	44	19/12/2004
RIG UNSPECIFIED Ocean Patriot OP			FIELD NAME				AUTH TMD (m)	PLANNED DOW	DOM	DOL 41.00
SUPERVISOR C. Wilson / K. Corps					OIM S. De Freitas					
COUNTRY AUSTRALIA		DISTRICT		STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO
AFE #		AFE COSTS DHC: 0			DAILY COSTS DHC: 329,743.73			CUMULATIVE COSTS DHC: 16,876,681.62		
PERMIT #		CWC: 0			CWC: 0.00			CWC: 0.00		
VIC/P54		TOTAL: 0			TOTAL: 329,744.00			TOTAL: 16,876,681.62		
LAST SFTY MEETING 19/12/2004		BLOCK VicP54		FORMATION					BHA HRS OF SERVICE	
LAST SURVEY TMD 2,376.11 INC 11.960 AZM 45.760				ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 178.000 (mm) @ 2,420.00 (m)			NEXT CASING 178.000 (mm) @ 2,525.00 (m)	

CURRENT OPERATIONS

POH - laying out 89mm drill pipe.

24 HR FORECAST

Lay out 89mm drill pipe. Set P&A plug #6. Pull BOP's

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	00:30	0.50	3-DRL	S	44	RIH from 2054m. Washed down last stand and tagged bottom @ 2148m.
00:30	01:30	1.00	3-DRL	S	44	Circulated bottoms up, ensuring mud system in balance. Max gas - 0.2%
01:30	02:00	0.50	3-DRL	S	44	Spaced out and rigged up side entry sub and hose.
02:00	03:00	1.00	3-DRL	S	44	Held JSA. Pressure tested lines. Pumped balanced plug #4A from 2148m to 2062m with 3.2m3 1.9SG slurry and displaced same.
03:00	03:30	0.50	3-DRL	S	44	Rigged down cement hose. Racked side entry stand and pulled back 3 stands. Rigged up side entry sub and reverse circulating hose.
03:30	04:00	0.50	3-DRL	S	44	Reverse circulated string. 2.5m3 contaminated mud dumped (1.62m3 cement returned to surface)
04:00	05:00	1.00	3-DRL	S	44	Rigged down reverse circulating hose and racked side entry sub stand. Pulled out of hole until stinger inside milled window @ 1960m.
05:00	07:30	2.50	3-DRL	S	45	Laid out 89mm HWDP while WOC.
07:30	08:00	0.50	3-DRL	S	44	Ran in the hole and tagged cement plug #4A at 2078.4m.
08:00	09:00	1.00	3-DRL	S	44	Rigged up side entry sub and cement hose. Held JSA. Pressure tested lines. Pumped balanced plug #4b from 2078m to 1976m with 2.2m3 1.9SG slurry and displaced same.
09:00	10:00	1.00	3-DRL	S	44	Rigged-down cement hose and sub assembly and pulled out of the hole to 1976m.
10:00	10:30	0.50	3-DRL	S	44	Rigged-up reverse circulating assembly and reverse circulated. Dumped 1.27m3 of contaminated mud (0.63m3 of cement).
10:30	11:30	1.00	3-DRL	S	44	Rigged-up cement hose and pressure tested same. Pumped balanced cement plug #4C from 1976m to 1890m with 3.2m3 1.9SG slurry and displaced same.
11:30	12:00	0.50	3-DRL	S	44	Rigged-down cement hose and sub assembly and pulled out of the hole to 1881m.
12:00	12:30	0.50	3-DRL	S	44	Rigged-up reverse circulating assembly and reverse circulated. Dumped 3.2m3 of contaminated mud (1.3m3 of cement).
12:30	13:00	0.50	3-DRL	S	45	Pulled out of hole to 1818m.
13:00	13:30	0.50	3-DRL	S	88	Circulated well to inhibited mud.
13:30	17:00	3.50	3-DRL	S	45	Waited on cement. Laid out 89mm HWDP.
17:00	17:30	0.50	3-DRL	S	44	Run in hole and tagged cement @ 1881m.
17:30	19:30	2.00	3-DRL	S	44	Pumped slug. Pulled out of hole from 1881m to 950m.
19:30	20:00	0.50	3-DRL	S	44	Spotted 8m3 Hi-Vis pill. Pulled out of hole to 907m.
20:00	21:00	1.00	3-DRL	S	44	Changed out elevators. Made up side entry sub assembly and cement hose. Held JSA.
21:00	22:00	1.00	3-DRL	S	44	Pressure tested lines. Pumped balanced plug #5 from 907m to 800m with 4.2m3 1.9SG slurry and displaced same.
22:00	22:30	0.50	3-DRL	S	44	Pulled out of hole to 802m. Rigged up side entry sub and reverse circulating hose.
22:30	23:00	0.50	3-DRL	S	44	Reverse circulated string. Dumped 3.3m3 contaminated mud (0.8m3 cement).
23:00	23:30	0.50	3-DRL	S	44	Laid out side entry sub and reverse circulating hose. Changed out elevators.

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2 ST-1		10/11/2004	18.00 (m)	2 130.00 (2 122.00 (40.00	44	19/12/2004

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
23:30	00:00	0.50	3-DRL	T	44	Pumped slug. Pulled out of hole from 802m to 659m - Unable to lay out 89mm drill pipe due to gail forced (up to 55knot) winds, preventing the use of cranes.

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 01:00 Waited on cement - Continued to pull out of hole to 73mm drill pipe.
 01:00 - 02:00 Waited on cement - Laid out 73mm Drill pipe.
 02:00 - 03:30 Waited on cement - Ran in hole 89mm drill pipe to 770m.
 03:30 - 04:00 Waited on cement - Laid out 89mm drill pipe.
 04:00 - 04:30 Waited on cement - Ran in hole to 780m. Changed out elevators. Picked up 127mm drill pipe and made up top drive. Washed down and tagged P&A plug #5 @ 802m
 04:30 - 06:00 Pumped slug. Pulled out of hole laying out 89mm drill pipe to 550m.

No incidents reported. 18 proactive safety measures.

MUD PROPERTIES

VIS	PV/YP	GELS	WL/HTHP	FC/T.SOL	OIL/WAT	%Sand/MBT	Ph/pM	Pf/Mf	CI	Ca	H2S	KCL	LGS
42	14/13	5/6	4.0/	1.0/10.0	/	/18.0	/0.09	0.75/1.10	38,500	580			2.0
DENS	1.25	ECD			PP		DAILY COST		CUM COST	225.601	% OIL		

MUD GAS

AVG. CONN	AVG. TRIP	AVG. BKGRD	
			1
MAX. CONN	MAX. TRIP	MAX. DRL	
	1		5

MUD PUMPS / HYDRAULICS

SPR

	STROKE	SPM	LINER	FLOW RATE			SPM	PPSR
#					SPP:		PUMPS #	
#					AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)		PUMPS #	
#					AV (DC): 178.9 (m/min HP/in2:		PUMPS #	

SOLIDS CONTROL

SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
/	/	/				

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
FUGRO	2		DOGC	29	
TMS	10		OMS	3	
MI	1		Diamond 3rd party	2	
Sperry Mudlogging	4		SECURITY	2	
Apache	4		PETROTECH	1	
DODI	14		Dowell Schlumberger	2	

Total Personnel on Board: 74

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	54	0	56		110
CEMENT	55	44	43		142
DIESEL	332	255	510		1,097
GEL, FRESH	50	42	42		134
WATER, DRILLING	17	0	0		17
WATER, POTABLE	330	255	604		1,189

Total Water 1,206

APACHE ENERGY LIMITED DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2 ST-1		10/11/2004	18.00 (m)	2 130.00 (2 122.00 (40.00	44	19/12/2004

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Far Grip (On Location)	SUPPLY BOAT	Pacific Wrangler (Melbourne)

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
2.560	2.326	234			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	17 / 240	2 / / 5	6.00 / 240 / 5	37 /	0 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
28/11/2004 / 27.600 (kPa)	28/11/2004 / 20.700 (kPa)	13/12/2004 / 27.600 (kPa)	13/12/2004	27/12/2004	19/12/2004			19/12/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	43	

DATUM SECTION

RT TO AHD		AIR GAP		WATER DEPTH	
	21.50 (m)				56.82 (m)

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2 ST-1		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD 2 130.00 (TVD 2 122.00 (DFS 41.00	REPT NO 45	DATE 20/12/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME		AUTH TMD (m)	PLANNED DOW	DOM	DOL 42.00		
SUPERVISOR C. Wilson / K. Corps				OIM S. De Freitas					
COUNTRY AUSTRALIA	DISTRICT	STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO	
AFE #	AFE COSTS DHC: 0		DAILY COSTS DHC: 339,137.73		CUMULATIVE COSTS DHC: 17,215,819.36				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 339,138.00		TOTAL: 17,215,819.36				
LAST SFTY MEETING 19/12/2004	BLOCK VicP54		FORMATION					BHA HRS OF SERVICE	
LAST SURVEY TMD 2,376.11 INC 11.960 AZM 45.760			ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 178.000 (mm) @ 2,420.00 (m)		NEXT CASING (mm) @ (m)		

CURRENT OPERATIONS

WOW to pull BOP's.

24 HR FORECAST

Pull BOP's and anchors.

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	01:00	1.00	3-DRL	T	73	Waited on cement. Continued to pull out of hole to 73mm drill pipe - Unable to lay out 89mm drill pipe due to g forced winds preventing the use of cranes.
01:00	02:00	1.00	3-DRL	S	45	Waited on cement. Laid out 73mm Drill pipe.
02:00	03:30	1.50	3-DRL	T	73	Waited on cement - Ran in hole 89mm drill pipe to 770m.
03:30	04:00	0.50	3-DRL	S	45	Waited on cement - Laid out 89mm drill pipe.
04:00	04:30	0.50	3-DRL	S	45	Waited on cement - Ran in hole to 780m. Changed out elevators. Picked up 127mm drill pipe and made up top drive. Washed down and tagged P&A plug #5 @ 802m
04:30	07:30	3.00	3-DRL	S	14	Pumped slug. Pulled out of hole laying out all 89mm drill pipe.
07:30	08:30	1.00	3-DRL	S	12	Ran in hole excess 89mm drill pipe to 315m.
08:30	10:30	2.00	3-DRL	S	14	Pulled out of hole laying out 89mm drill pipe.
10:30	12:00	1.50	3-DRL	S	44	Made up mule shoe and ran in hole on 127mm drill pipe to 170m. Rigged up side entry sub and cement hose. Held JSA. Pressure tested lines. Pumped balanced plug #6 from 170m to 100m with 2.7m3 1.9SG slurry and displaced same.
12:00	13:00	1.00	3-DRL	S	12	Rigged-down cement hose and sub assembly and pulled out of hole to 100m. Rigged-up reverse circulating assembly and reverse circulated. Dumped 0.65m3 of contaminated mud (0.2m3 of cement).
13:00	14:00	1.00	3-DRL	S	88	Circulated well to seawater. Displaced riser and choke & kill lines.
14:00	15:00	1.00	3-DRL	S	12	Pulled out of hole - Flushed BOP stack.
15:00	16:00	1.00	3-DRL	S	81	Made up jet sub and ran in hole. Functioned BOP components and jetted same. Pulled out of hole and laid out jetting sub.
16:00	17:30	1.50	3-DRL	T	81	Picked up wear bushing running tool and ran in hole. Attempted to engage wear bushing without success. Pulled out of hole - incorrect running tool.
17:30	19:00	1.50	3-DRL	S	81	Picked up correct wear bushing running tool and ran in hole. Engaged wear bushing and pulled out of hole. Laid out running tool.
19:00	21:00	2.00	3-DRL	S	81	Held JSA - rigged up to pull BOP's and riser.
21:00	21:30	0.50	3-DRL	S	81	Made up diverter running tool. Pulled diverter and laid out same.
21:30	23:00	1.50	3-DRL	S	81	Picked up riser landing joint. Stroked down slip joint.
23:00	00:00	1.00	3-DRL	T	73	Seas too rough to unlatch BOP's and pull through splash zone onto BOP trolley. Prepared decks for rig move.

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 06:00 Seas too rough to unlatch BOP's and pull through splash zone onto BOP trolley. Prepared decks for rig move.

No incidents reported. 22 proactive safety measures.

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2 ST-1		10/11/2004	(m)	2 130.00 (2 122.00 (41.00	45	20/12/2004

MUD GAS

AVG. CONN		AVG. TRIP		AVG. BKGRD	1
MAX. CONN		MAX. TRIP	1	MAX. DRL	5

MUD PUMPS / HYDRAULICS

SPR

	STROKE	SPM	LINER	FLOW RATE			SPM	PPSR
#					SPP:		PUMPS #	
#					AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)		PUMPS #	
#					AV (DC): 178.9 (m/min HP/in2:		PUMPS #	

SOLIDS CONTROL

SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
/	/	/				

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
FUGRO ROV	4		OMS	2	
TMS	10		Diamond 3rd party	2	
MI	1		Dowell Schlumberger	2	
Sperry Mudlogging	4		SMITH	1	
Apache	3		MO47	2	
DODI	15		FUGRO Survey	2	
DOGC	28		CAMERON	1	

Total Personnel on Board: 77

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	54	0	56		110
CEMENT	45	44	43		132
DIESEL	328	255	494		1,077
GEL, FRESH	50	42	42		134
WATER, DRILLING	379	0	0		379
WATER, POTABLE	340	255	200		795

Total Water 1,174

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Far Grip (On Location)	HELICOPTER	VH-BZU (1 Pax on, 9 Pax off)
SUPPLY BOAT	Pacific Wrangler (Enroute to Rig)		

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
2,560	2,007	553			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	13 / 225	3 / 225 / 6	1.00 / 225 / 3	35 / 225	0 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
28/11/2004 / 27,600 (kPa)	28/11/2004 / 20,700 (kPa)	13/12/2004 / 27,600 (kPa)	13/12/2004	27/12/2004	19/12/2004			19/12/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION	
LOST TIME?	NO		
DAYS W/O LTA	44		

DATUM SECTION

RT TO AHD	21.50 (m)	AIR GAP		WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2 ST-1		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD 2 130.00 (TVD 2 122.00 (DFS 42.00	REPT NO 46	DATE 21/12/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME		AUTH TMD (m)	PLANNED DOW	DOM	DOL 43.00		
SUPERVISOR D. Kirkwood / K. Corps				OIM S. De Freitas					
COUNTRY AUSTRALIA	DISTRICT	STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO	
AFE #	AFE COSTS DHC: 0		DAILY COSTS DHC: 411,681.73		CUMULATIVE COSTS DHC: 17,627,501.09				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 411,682.00		TOTAL: 17,627,501.09				
LAST SFTY MEETING 19/12/2004	BLOCK VicP54		FORMATION				BHA HRS OF SERVICE		
LAST SURVEY TMD 2,376.11 INC 11.960 AZM 45.760			ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 178.000 (mm) @ 2,420.00 (m)		NEXT CASING (mm) @ (m)		

CURRENT OPERATIONS

Pulling Secondary anchors.

24 HR FORECAST

Hook Far Grip onto Tow Bridle. Pull Primary anchors. Move.

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	07:00	7.00	RDMO	T	73	Seas too rough to unlatch BOP's and pull through splash zone onto BOP trolley. Prepared decks for rig move.
07:00	09:30	2.50	RDMO	S	81	Unlatched the BOP's and pulled clear from the wellhead/PGB with ROV assistance. Nippled down pod line storm loops - removed choke, kill and booster lines.
09:30	10:00	0.50	RDMO	S	81	Secured SDL ring and released from riser.
10:00	10:30	0.50	RDMO	S	81	Laid out riser landing joint.
10:30	11:00	0.50	RDMO	S	81	Laid out slip joint.
11:00	12:00	1.00	RDMO	S	81	Pulled 2 joints of riser and landed BOP's on BOP carriage.
12:00	13:00	1.00	RDMO	S	81	Nippled down guide lines from BOP stack.
13:00	14:00	1.00	RDMO	T	81	Dogs would not release riser from BOP stack - Worked dogs free.
14:00	16:00	2.00	RDMO	S	81	Released riser from BOP's and laid out same. Rigged down riser handling equipment.
16:00	17:00	1.00	RDMO	S	44	Made up 508mm x 762mm casing cutter assembly.
17:00	18:00	1.00	RDMO	S	44	Ran in hole with casing cutter assembly and landed out in wellhead with ROV assistance.
18:00	18:30	0.50	RDMO	S	44	Centered rig over wellhead.
18:30	19:30	1.00	RDMO	S	44	Cut 508mm casing below wellhead. Lock ring released from 762mm housing prematurely. Pulled out of hole and laid out 508mm casing cutoff.
19:30	21:30	2.00	RDMO	T	44	Changed out grapple, centraliser and spacer on casing cutter. Ran in hole and landed out with spear in top of 762mm conductor.
21:30	23:00	1.50	RDMO	S	44	Cut 762mm conductor below seabed - confirmed with ROV.
23:00	00:00	1.00	RDMO	S	44	POH with PGB and 762mm conductor cutoff. Landed out PGB on carrier in moonpool.

24.00 = Total Hours Today

06:00 UPDATE

00:00 - 02:00 Released conductor cutoff from PGB. Pulled cutoff to rig floor and laid out same. Skidded PGB carrier secured and secured PGB.

02:00 - 03:00 Held JSA - Prepared for pulling anchors. Boats moved into position adjacent to relevant PCC cradles.

03:00 - 03:30 No.6 PCC passed to Pacific Wrangler and ran out. No.2 PCC passed to Far Grip and ran out.

03:30 - 05:00 No.6 and No. 2 anchor chased in. No. 6 PCC passed back to the rig.

05:00 - 05:30 No. 7 PCC passed to Pacific Wrangler and ran out. No.2 PCC passed back to the rig.

05:30 - 06:00 No.3 PCC passed to Far Grip and ran out. No.7 anchor chased in.

No incidents reported. 21 proactive safety measures.

MUD GAS

AVG. CONN		AVG. TRIP		AVG. BKGRD	1
MAX. CONN		MAX. TRIP	1	MAX. DRL	5

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2 ST-1		10/11/2004	(m)	2 130.00 (2 122.00 (42.00	46	21/12/2004

MUD PUMPS / HYDRAULICS

SPR

	STROKE	SPM	LINER	FLOW RATE			SPM	PPSR
#					SPP:		PUMPS #	
#					AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)		PUMPS #	
#					AV (DC): 178.9 (m/min HP/in2:		PUMPS #	

SOLIDS CONTROL

SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
/	/	/				

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
DOGC	28		SPERRY MWD	3	
OMS	2		FUGRO ROV	4	
Diamond 3rd party	2		TMS	10	
Dowell Schlumberger	2		MI	1	
SMITH	1		SPERRY Mudlogging	4	
MO47	2		Apache	3	
FUGRO Survey	2		DODI	15	
CAMERON	1				

Total Personnel on Board: 80

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	54	84	56		194
CEMENT	45	88	43		176
DIESEL	310	593	480		1,383
GEL, FRESH	50	42	42		134
WATER, DRILLING	366	668	0		1,034
WATER, POTABLE	348	239	197		784

Total Water 1,818

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Far Grip (On Location)	HELICOPTER	VH-BZU (7 Pax on, 4 Pax off)
SUPPLY BOAT	Pacific Wrangler (Enroute to Rig)		

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
2,560	0	2,560			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	10 / 225	1 / 225 / 3	1.00 / 225 / 3	20 / 225	0 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
28/11/2004 / 27,600 (kPa)	28/11/2004 / 20,700 (kPa)	13/12/2004 / 27,600 (kPa)	13/12/2004	27/12/2004	19/12/2004			19/12/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	45	

DATUM SECTION

RT TO AHD	21.50 (m)	AIR GAP	21.50	WATER DEPTH	56.82 (m)
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APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME Longtom-2 ST-1		API #	SPUD DATE 10/11/2004	24 HRS PROG (m)	TMD 2 130.00 (TVD 2 122.00 (DFS 43.00	REPT NO 47	DATE 22/12/2004
RIG UNSPECIFIED Ocean Patriot OP		FIELD NAME		AUTH TMD (m)	PLANNED DOW	DOM	DOL 44.00		
SUPERVISOR D. Kirkwood / K. Corps				OIM S. De Freitas					
COUNTRY AUSTRALIA	DISTRICT	STATE / PROV		COUNTY / PARRISH		RIG PHONE NO		RIG FAX NO	
AFE #	AFE COSTS DHC: 0		DAILY COSTS DHC: 246,281.73		CUMULATIVE COSTS DHC: 17,873,782.82				
PERMIT #	CWC: 0		CWC: 0.00		CWC: 0.00				
VIC/P54	TOTAL: 0		TOTAL: 246,282.00		TOTAL: 17,873,782.82				
LAST SFTY MEETING 19/12/2004	BLOCK VicP54		FORMATION				BHA HRS OF SERVICE		
LAST SURVEY TMD 2,376.11 INC 11.960 AZM 45.760			ACTUAL LEAKOFF EMW 1.70 (SG)		LAST CASING 178.000 (mm) @ 2,420.00 (m)		NEXT CASING (mm) @ (m)		

CURRENT OPERATIONS

24 HR FORECAST

OPERATIONS SUMMARY

FROM	TO	HRS	PHASE	C	CODE	ACTIVITY SUMMARY
00:00	02:00	2.00	RDMO	S	44	Released conductor cutoff from PGB. Pulled cutoff to rig floor and laid out same. Skidded PGB carrier secured PGB.
02:00	03:00	1.00	RDMO	S	01	Held JSA - Prepared for pulling anchors. Boats moved into position adjacent to relevant PCC cradles.
03:00	03:30	0.50	RDMO	S	01	No.6 PCC passed to Pacific Wrangler and ran out. No.2 PCC passed to Far Grip and ran out.
03:30	05:00	1.50	RDMO	S	01	No.6 and No. 2 anchor chased in. No. 6 PCC passed back to the rig.
05:00	05:30	0.50	RDMO	S	01	No. 7 PCC passed to Pacific Wrangler and ran out. No.2 PCC passed back to the rig.
05:30	06:30	1.00	RDMO	S	01	No.3 PCC passed to Far Grip and ran out. No.7 anchor chased in.
06:30	07:00	0.50	RDMO	S	01	No.3 anchor chased in. No. 7 PCC passed back to the rig. No.8 PCC passed to Pacific Wrangler and ran out.
07:00	08:00	1.00	RDMO	S	01	No.3 PCC passed back to the rig. Far grip hooked up to tow bridle.
08:00	09:00	1.00	RDMO	S	01	No.8 anchor chased in. No.8 PCC passed back to the rig.
09:00	11:30	2.50	RDMO	S	01	No.4 PCC passed to Pacific Wrangler and ran out. No.4 Anchor chased in and PCC passed back to the rig.
11:30	13:30	2.00	RDMO	S	01	No.1 PCC passed to Pacific Wrangler and ran out. No.1 anchor chased in and PCC passed back to the rig.
13:30	14:30	1.00	RDMO	S	01	No.5 PCC passed to Pacific Wrangler and ran out. No.5 anchor decked on Pacific Wrangler for tow to Grayling-1.
END OF LONGTOM-2						

14.50 = Total Hours Today

MUD GAS

AVG. CONN		AVG. TRIP		AVG. BKGRD	1
MAX. CONN		MAX. TRIP	1	MAX. DRL	5

MUD PUMPS / HYDRAULICS

					SPR		
#	STROKE	SPM	LINER	FLOW RATE		SPM	PPSR
					SPP:	PUMPS #	
					AV (DP): 113.7 (m/min AV Riser: 16.6 (m/min)	PUMPS #	
					AV (DC): 178.9 (m/min HP/in2:	PUMPS #	

SOLIDS CONTROL

SHAKER #1	SHAKER #2	SHAKER #3	DESILTER HRS	DESANDER HRS	CENT #1 HRS	CENT #2 HRS
/	/	/				

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
FUGRO ROV	4		MI	1	
TMS	10		SPERRY Mudlogging	4	

APACHE ENERGY LIMITED

DAILY DRILLING REPORT

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WELL NAME	API #	SPUD DATE	24 HRS PROG	TMD	TVD	DFS	REPT NO	DATE
Longtom-2 ST-1		10/11/2004	(m)	2 130.00 (2 122.00 (43.00	47	22/12/2004

PERSONNEL DATA

COMPANY	QTY	HOURS	COMPANY	QTY	HOURS
Apache	3		SMITH	1	
DODI	15		MO47	2	
DOGC	28		FUGRO Survey	2	
OMS	2		CAMERON	1	
Diamond 3rd party	2		SPERRY MWD	3	
Dowell Schlumberger	2				

Total Personnel on Board: 80

MATERIALS ON LOCATION

MATERIALS	RIG	WORKBOAT 1	WORKBOAT 2	OTHER	TOTAL
BARITE BULK	54	84	56		194
CEMENT	45	88	43		176
DIESEL	301	582	468		1,351
GEL, FRESH	50	42	42		134
WATER, DRILLING	355	668	0		1,023
WATER, POTABLE	339	237	196		772

Total Water 1,795

SUPPORT CRAFT

NAME/TYPE	REMARKS	NAME/TYPE	REMARKS
SUPPLY BOAT	Far Grip (On Tow Bridle)	SUPPLY BOAT	Pacific Wrangler (Following Rig)

DECKLOG

MAX VDL	ACT VDL	AVL VDL	LEG PEN (BOW)	LEG PEN (PORT)	LEG PEN (S'BOARD)
2,560	0	2,560			

WEATHER

TIME	WIND SPEED / DIR	SWELL HT / DIR / PER	WAVE HT / DIR/ PER	CURRENT SPEED / DIR	TEMP
00:00	8 / 180	1 / 180 / 3	1.00 / 180 / 3	15 / 180	0 (°C)

SAFETY DRILLS

RAMS	ANNULARS	CASING	BOP DRILL	NEXT BOP PRESS TEST	FIRE DRILL	H2S DRILL	MAN OVERBOARD	ABAN DRILL
28/11/2004 / 27.600 (kPa)	28/11/2004 / 20.700 (kPa)	13/12/2004 / 27.600 (kPa)	13/12/2004	27/12/2004	19/12/2004			19/12/2004

INCIDENT REPORT

INCIDENT TYPE	NONE	INCIDENT DESCRIPTION
LOST TIME?	NO	
DAYS W/O LTA	46	

DATUM SECTION

RT TO AHD		AIR GAP		WATER DEPTH	
	21.50 (m)		21.50		56.82 (m)

DAILY GEOLOGICAL REPORT

Date:	11 November 2004	Rig:	Ocean Patriot
Report Number:	5	Bit Diameter:	12 ¼" (311 mm)
Report Period:	06:00 - 06:00 Hours	Last Casing:	762 mm @ 109.9 m MDRT
Spud Date:	10-Nov-2004 08:30 Hours	Integrity Test:	0.00 ppg EMW @ 0.0 m MDRT
Days From Spud:	0.9	Mud Weight:	8.70 ppg
Depth @ 0600 Hrs:	111.0 mMDRT	Mud Type:	Seawater/ High Vis-Sweeps
Lag Depth:	111.0 mMDRT	Mud Chlorides:	N/A
Last Depth:	N/A	Last Survey:	Totco Survey
Progress:	111.0 m	Deviation:	1.0°
Water Depth:	56.8 m		
RT:	21.5 m		

OPERATIONS SUMMARY

24 HOUR SUMMARY: Drilled 60 mm (26") by 914mm (36") hole section to section TD of 111.0 mMDRT, displaced hole, ran and cemented 508 mm (20") casing.

NEXT 24 HOURS: Make up 311 mm (12 ¼") bottom hole assembly and drill to section TD.

CURRENT OPERATION @ 06:00 HRS (11-Nov-2004): Making up 311 mm (12 ¼") bottom hole assembly.

GEOLOGICAL SUMMARY

LITHOLOGY

INTERVAL: Returns to Seabed.
ROP (Range):
Av. ROP:

HYDROCARBON FLUORESCENCE

Returns to seafloor.

GAS SUMMARY

No Gas Data

SAMPLE QUALITY

Returns to seabed

REMARKS

This is the first Daily Geological Report for Longtom-2. The report number matches the Daily Drilling Report.

The Ocean Patriot came on hire for Longtom-2 1 km off location at 09:00 hours on the 9th November 2004. Primary anchors were run prior to making up a bottom hole assembly consisting of a 26" (660 mm) bit and 36" (914 mm) hole opener. Longtom-2 was spudded at 08:30 hours on the 10th November 2004 after secondary anchors were secured. The 660 mm (26") by 914 mm (36") hole section was drilled to a section TD of 111.0 mMDRT. At TD a 16 m³ (100 bbl) gel pill was pumped and the hole swept clean with 7.9 m³ of prehydrated gel (PHG) prior to displacing to 23.8 m³ of PHG. The hole was then wiped clean back to the mudline and a Totco survey dropped. The drilling assembly was then pulled out of hole and racked back.

The rig floor was then rigged up to run 762 mm (30") conductor and 508 mm (20") tapered casing. The conductor was lowered onto the seafloor and the casing was run down to 107.0 m, where, due to an obstruction, it was washed down to a landing depth of 109.9 mMDRT and cemented in place.

Current operation at 06:00 hours (EST), making up 311 mm (12 ¼") drilling assembly consisting of a Hycalog PDC bit and MWD tools for the acquisition of realtime gamma ray, resistivity, sonic and directional data.

The final well coordinates for Longtom-2 are as follows:

Projection: MGA, Zone 55, CM 147 East

UTM: 615,462.43 mE
5,781,904.33 mN

Datum: GDA90

Latitude: 38°06'11.89" S

Longitude: 148°19' 00.92" E

Rig heighting depths are:

RT-Seabed: 78.32 m

RT-AHD: 21.5 m

Water Depth: 56.82 m

The final rig heading is 45.48° True. This position is 4.2 m at a bearing of 150.0° (T) from the intended Longtom-2 position.

WELLSITE GEOLOGISTS

Cliff Menhennitt / John Sonogo

DAILY GEOLOGICAL REPORT

Date:	12 November 2004	Rig:	Ocean Patriot
Report Number:	6	Bit Diameter:	12.25 in
Report Period:	06:00 - 06:00 Hours	Last Casing:	762 mm @ 109.9 m MDRT
Spud Date:	10-Nov-2004 08:30 Hours	Integrity Test:	0.00 ppg EMW @ 0.0 m MDRT
Days From Spud:	1.9	Mud Weight:	8.70 ppg
Depth @ 0600 Hrs:	1009.0 mMDRT		ppg
	-987.4 mTVDAHD	Mud Type:	Seawater/ High Vis-Sweeps
Lag Depth:	1009.0 mMDRT	Mud Chlorides:	350 mg/L
Last Depth:	111.0 m MDRT		ppg
Progress:	898.0 m	Last Survey:	795.70 mMDRT
Water Depth:	56.8 m	Deviation:	Inc. 1.07°
RT:	21.5 m		Az. 52.66°

OPERATIONS SUMMARY

24 HOUR SUMMARY: Drilled ahead 311 mm (12 ¼") hole to section TD of 1009.0 mMDRT.

NEXT 24 HOURS: Pull out of hole and lay out 311 mm (12 ¼") drilling assembly, run and cement 244 mm (9 5/8") casing, rig up and run riser and BOPs.

CURRENT OPERATION @ 06:00 HRS (12-Nov-2004): Circulating hole clean.

GEOLOGICAL SUMMARY

LITHOLOGY

INTERVAL: 111.0 to 1009.0 m MDRT (-89.5 m TVDAHD)
ROP (Range): 34.0 to 209.0 m/h
Av. ROP: 107.0 m/h

HYDROCARBON FLUORESCENCE

No Shows

GAS SUMMARY

No Gas Data

CALCIMETRY

Interval (MDRT)	Calcite Range	Dolomite Range

SAMPLE QUALITY

Returns to sea floor

WIRELINE

MUD DATA

DATE MUD CHECK	MUD TYPE	MW ()	pH	KCl ()	Cl ()	Barite ()	Rm ()	Rmf ()	Rmc ()

RUN SUMMARY

Run #	Tool String	Log From Depth ()	Log To Depth ()	Repeat From Depth ()	Repeat To Depth ()	Comments

TEMPERATURE DATA

Date Mud Checked:

Date Time Circulation Stopped:

Circulation Time:

Run #	Run Date	Tool String	Max BHT ()	Max BHT Depth ()	Date Time Logger on Bottom	Time Since Circ. Stopped (h)

REMARKS

The 311 mm (12 ¼") drilling assembly consisting of a Hycalog PDC bit and MWD tools for the acquisition of gamma ray, resistivity, sonic and directional data was run into hole tagging cement at 104.0 mMDRT. The shoe track and shoe were drilled out to 110.0 mMDRT and the 311 mm (12 ¼") hole was continued to section TD of 1009.0 mMDRT (-987.4 mTVDAHD). The hole was then swept clean with 23.8 m3 of hi-vis and then displaced with 47.7 m3 of prehydrated gel (PHG) and 27 m3 of 1.15 SG KCL prior to pulling out.

WELLSITE GEOLOGISTS

Cliff Menhennitt John Sonogo

DAILY GEOLOGICAL REPORT

Date:	13 November 2004	Rig:	Ocean Patriot
Report Number:	7	Bit Diameter:	N/A
Report Period:	06:00 - 06:00 Hours	Last Casing:	762 mm @ 109.9 m MDRT
Spud Date:	10-Nov-2004 08:30 Hours	Integrity Test:	N/A
Days From Spud:	2.9	Mud Weight:	8.70 ppg
Depth @ 0600 Hrs:	1009.0 mMDRT -987.4 mTVDAHD	Mud Type:	Seawater/ High Vis-Sweeps
Lag Depth:	1009.0 mMDRT	Mud Chlorides:	400 mg/L
Last Depth:	1009.0 mMDRT		
Progress:	0 m		
Water Depth:	56.8 m	Last Survey:	968.35 mMDRT
RT:	21.5 m	Deviation:	Inc. 1.07° Az. 52.66°

OPERATIONS SUMMARY

24 HOUR SUMMARY: Drilled 311 mm (12 1/4") hole to section TD of 1009.0 mMDRT, pulled out of hole, download MWD tools and racked back BHA, ran and cemented 244 mm (9 5/8") casing.

NEXT 24 HOURS: Run riser and BOP's.

CURRENT OPERATION @ 06:00 HRS (13-Nov-2004): Rigging up to run BOP's.

GEOLOGICAL SUMMARY

LITHOLOGY

INTERVAL: No drilling.
ROP (Range):
Av. ROP:

REMARKS

The 311 mm (12 1/4") hole was swept clean prior to flow checking and pulling out of hole. At surface the BHA was racked back and the Sperry-Sun MWD tools were downloaded successfully. The rig floor was then rigged up to run 244 mm (9 5/8") casing. The casing was run down to a landing depth of 995.3 mMDRT and circulated with 35.8 m³ of seawater prior to cementing in place. The cement hose was then rigged down and the rig floor was rigged up to run BOP's.

WELLSITE GEOLOGISTS

Cliff Menhennitt / John Sonogo

DAILY GEOLOGICAL REPORT

Date:	14 November 2004	Rig:	Ocean Patriot
Report Number:	8	Bit Diameter:	
Report Period:	06:00 - 06:00 Hours	Last Casing:	244 mm (9 5/8") @ 995.3 m MDRT
Spud Date:	10-Nov-2004 08:30 Hours	Integrity Test:	
Days From Spud:	3.9	Mud Weight:	10.30 ppg
Depth @ 0600 Hrs:	1009.0 mMDRT	Mud Type:	KCL/ IDCAP D
	1008.9 mTVDAHD	Mud Chlorides:	42000 mg/L
Lag Depth:	1009.0 mMDRT		
Last Depth:	1009.0 mMDRT		
Progress:	0 m		
Water Depth:	56.8 m	Last Survey:	968.35 mMDRT
RT:	21.5 m	Deviation:	Inc. 1.07° Az. 52.66°

OPERATIONS SUMMARY

24 HOUR SUMMARY: Ran and tested BOP's, commenced making up 216 mm (8 1/2") bottom hole assembly.

NEXT 24 HOURS: Make up 216 mm (8 1/2") bottom hole assembly and run in hole, drill ahead 216 mm (8 1/2") hole.

CURRENT OPERATION @ 06:00 HRS (14-Nov-2004): Making up 216mm (8 1/2") Bottom Hole Assembly.

GEOLOGICAL SUMMARY

LITHOLOGY

INTERVAL: No drilling.
ROP (Range):
Av. ROP:

REMARKS

After skidding the BOP's, the rig was moved 15 m off location and the choke and kill lines were pressure tested. The rig was then repositioned over the location and BOP's were landed and latched. The casing was pressure tested and a 476 mm running tool was run in hole and BOP's were tested to 27,600 kPa. The running tool was then pulled out of hole and laid out.

WELLSITE GEOLOGISTS

Cliff Menhennitt John Sonogo

DAILY GEOLOGICAL REPORT

Date:	15 November 2004	Rig:	Ocean Patriot
Report Number:	9	Bit Diameter:	12.25 in
Report Period:	06:00 - 06:00 Hours	Last Casing:	244 mm (9 5/8") @ 995.3 m MDRT
Spud Date:	10-Nov-2004 08:30 Hours	Integrity Test:	14.2 ppg EMW @ 1014.0 m MDRT
Days From Spud:	4.9	Mud Weight:	10.3 ppg
Depth @ 0600 Hrs:	1119.0 mMDRT		
	1097.4 mTVDAHD	Mud Type:	KCl / IdcapD
Lag Depth:	1100.0 mMDRT	Mud Chlorides:	42000 mg/L
Last Depth:	1009.0 mMDRT		
Progress:	10.0 m		
Water Depth:	56.8 m	Last Survey:	1084.15 mMDRT
RT:	21.5 m	Deviation:	Inc. 1.45°
			Az. 38.45°

OPERATIONS SUMMARY

24 HOUR SUMMARY: Made up 216mm (8 1/2") bottom hole assembly and ran in, drilled out shoe and float track, performed Formation Integrity Test (FIT) to 1.7 sg EMW, drilled ahead.

NEXT 24 HOURS: Drill ahead 216 mm (8 1/2") hole to section TD.

CURRENT OPERATION @ 06:00 HRS (15-Nov-2004): Drilling ahead 216 mm (8 1/2") hole.

GEOLOGICAL SUMMARY

LITHOLOGY

INTERVAL: 1009.0 to 1060.0 m MDRT (-987.4 to -1038.4 mTVDAHD)
ROP (Range): 22.0 to 136.0 m/h
Av. ROP: 74.0 m/h

CALCISILTITE grading in part to SILTY MARL.

CEMENT (5 to 80%, decreasing with depth).

CALCISILTITE (20 to 70%): medium grey to dark greenish grey, light grey in part, trace to 5% silt, minor to common calcite cement, grades in part to silty marl, trace to 5% micropyrrite, trace to 5% moderate green glauconite, trace fossil fragments, soft to firm, amorphous to locally sub blocky.

SILTY MARL (10 to 35%, from 1030.0 mMDRT): very light grey to light grey, common silt, rare very fine quartz grains, common calcite cement, trace micropyrrite, soft to firm, amorphous to sub blocky.

INTERVAL: 1060.0 to 1100.0 m MDRT (-1038.4 to -1078.4 mTVDAHD)
ROP (Range): 27.0 to 128.0 m/h
Av. ROP: 94.0 m/h

Interbedded CALCISILTITE (grading in part to SILTY MARL) and CALCARENITE.

CALCISILTITE (52 to 65%): medium grey to dark greenish grey, light grey in part, trace to 5% silt, minor to common calcite cement, grades in part to silty marl, trace to 5% micropyrrite, trace to 5% moderate green glauconite, trace fossil fragments, soft to firm, amorphous to locally sub blocky.

SILTY MARL (5 to 15%, decreasing with depth): very light grey to light grey, common silt, rare very fine quartz grains, common calcite cement, trace micropyrrite, soft to firm, amorphous to sub blocky.

CALCARENITE (30 to 33%): very light grey to light olive grey, 5 to 10% very fine to fine grained quartz, trace very fine greenish grey glauconite, trace micropyrrite, rare fossil fragments (forams), pyritised in part, 10 to 20% argillaceous, sub rounded, soft to moderately firm, sub blocky.

HYDROCARBON FLUORESCENCE

No Shows

GAS SUMMARY

No Gas

REMARKS

A 216 mm (8 1/2") drilling assembly consisting of a Reed DSX104HG PDC bit, 6 3/4" motor with 8 1/4" stab and Sperry Sun LWD tools for the acquisition of porosity, density, sonic and caliper data (in recorded only mode) was made up and run into the hole.

The cement was tagged at 984.0 mMDRT and whilst drilling out the float and shoe track, the well was displaced to 1.23 sg (10.3 ppg) KCl/ IdcapD mud. On displacing, 5.0 m of new formation was drilled to 1014.0 mMDRT before conducting a formation integrity test (FIT) to 1.7 sg EMW and drilling ahead.

WELLSITE GEOLOGISTS

Cliff Menhennitt / John Sonogo

DAILY GEOLOGICAL REPORT

Date:	16 November 2004	Rig:	Ocean Patriot
Report Number:	10	Bit Diameter:	8.5 in
Report Period:	06:00 - 06:00 Hours	Last Casing:	244 mm (9 5/8") @ 995.3 mMDRT
Spud Date:	10-Nov-2004 08:30 Hours	Integrity Test:	14.2 ppg EMW @ 1012.0 mMDRT
Days From Spud:	5.9	Mud Weight:	10.6 ppg
Depth @ 0600 Hrs:	2036.0 mMDRT -2008.9 mTVDAHD	Mud Type:	KCL/ IdcapD
Lag Depth:	2010.0 mMDRT	Mud Chlorides:	48000 mg/L
Last Depth:	1119.0 mMDRT		
Progress:	917.0 m		
Water Depth:	56.8 m	Last Survey:	2001.48 mMDRT
RT:	21.5 m	Deviation:	Inc. 11.64° Az. 41.34°

OPERATIONS SUMMARY

24 HOUR SUMMARY: Drilled ahead 216 mm (8 1/2") hole.

NEXT 24 HOURS: Drill to TD, circulate hole clean and pull out, rig up for wireline logging.

CURRENT OPERATION @ 06:00 HRS (16-Nov-2004): Drilling ahead 216 mm (8 1/2") hole.

GEOLOGICAL SUMMARY

LITHOLOGY

INTERVAL: 1100.0 to 1150.0 mMDRT (-1078.4 to -1128.4 mTVDAHD)
ROP (Range): 21.0 to 78.0 m/h
Av. ROP: 60.0 m/h

ARGILLACEOUS CALCISILTITE interbedded with CALCARENITE grading in part to SILTY MARL.

CALCARENITE (20 - 33%): white very light grey, trace very fine to fine grained quartz, trace very fine greenish grey glauconite, trace micropyrte, rare fossil fragments (forams), 10 to 20% argillaceous, sub rounded, soft to moderately firm, sub blocky.

SILTY MARL (5 - 15%): very light grey to light grey, common silt, rare very fine quartz grains, common calcite cement, trace micropyrte, soft to firm, amorphous to sub blocky.

CALCISILTITE (52 - 70%): medium grey to light greenish grey, light grey in part, 10 to 15% silt, minor to common calcite cement, grades in part to silty marl, 5 to 10% micropyrte, rare nodular pyrite, trace to 5% moderate green glauconite, minor fossils and fossil fragments, minor argillaceous matrix, trace crystalline calcite, soft to firm, amorphous to sub blocky.

INTERVAL: 1150.0 to 1200.0 mMDRT (-1128.4 to -1178.4 mTVDAHD)
ROP (Range): 38.0 to 96.0 m/h
Av. ROP: 76.0 m/h

ARGILLACEOUS CALCISILTITE interbedded with CALCARENITE grading in part to SILTY MARL.

CALCARENITE (9 to 25%): white very light grey, trace very fine to fine grained quartz, trace very fine greenish grey glauconite, trace micropyrte, rare fossil fragments (forams), 10% argillaceous matrix, sub rounded, soft to moderately firm, sub blocky.

SILTY MARL (Trace to 10%): very light grey to light grey, common silt, rare very fine quartz grains, common calcite cement, trace micropyrte, soft to firm, amorphous to sub blocky.

ARGILLACEOUS CALCISILTITE (70 to 90%): medium grey to light greenish grey, light grey in part, 10 to 15% silt, minor to common calcite cement, grades in part to silty marl, minor to common micropyrte, trace nodular pyrite, trace moderate green glauconite, minor fossils and fossil fragments, abundant argillaceous matrix, trace crystalline calcite, soft to firm, amorphous to sub blocky.

INTERVAL: 1200.0 to 1290.0 mMDRT (-1178.4 to -1268.3 mTVDAHD)
ROP (Range): 24.0 to 129.0 m/h
Av. ROP: 77.0 m/h

Interbedded CALCARENITE and ARGILLACEOUS CALCISILTITE.

CALCARENITE (15 to 40%): white very light grey, very fine to medium grained, trace very fine to fine grained quartz, nil to trace trace very fine greenish grey glauconite, trace micropyrinite, rare fossil fragments (forams), up to 10% argillaceous matrix, sub rounded, soft to moderately firm, sub blocky.

ARGILLACEOUS CALCISILTITE (60 to 85%): generally as above; medium grey to light greenish grey, light grey in part, up to 10% silt, minor to common calcite cement, grades in part to silty marl, minor micropyrinite, nil to trace trace nodular pyrite, trace moderate blue green glauconite, trace fossils and fossil fragments, abundant argillaceous matrix, trace crystalline calcite, soft to firm, amorphous to sub blocky.

INTERVAL: 1290.0 to 1510.0 mMDRT (-1268.3 to -1487.9 mTVDAHD)
ROP (Range): 23.0 to 126.0 m/h
Av. ROP: 26.0 m/h

Interbedded SANDSTONE, SILTY CLAYSTONE and COAL seams.

SANDSTONE (50 to 90%): predominantly white to light grey, light brownish grey in part, dominantly returned loose with nil trace hard cemented finer grained aggregates, very fine to very coarse grained, predominantly medium to coarse, minor very coarse and fine, angular to sub rounded, minor well rounded, trace bit fractured grains, moderately sorted, trace strong silica cement, trace intergranular pyrite cement, trace light brownish grey argillaceous matrix, trace nodular pyrite, poor to fair inferred porosity. No shows.

SILTY CLAYSTONE (10 to 50%): generally as above; medium grey to brownish grey, soft to moderately firm, sub blocky, common carbonaceous specks and fragments, abundant silty matrix, trace micropyrinite, trace micromica, weakly calcareous.

COAL (30%): commonly dusky brown to brownish black, minor moderate brown, earthy to subvitreous lustre, blocky to sub conchoidal fracture, commonly argillaceous, lignitic.

COAL (nil to 40%): commonly dusky brown to brownish black, minor moderate brown, earthy to subvitreous lustre, blocky to sub fissile, minor sub conchoidal fracture, commonly argillaceous, lignitic.

INTERVAL: 1510.0 to 1580.0 mMDRT (-1487.9 to -1557.8 mTVDAHD)
ROP (Range): 57.0 to 71.0 m/h
Av. ROP: 6.0 m/h

Interbedded SANDSTONE, SILTY CLAYSTONE and COAL seams.

SANDSTONE (10 to 60%): Quartzose, predominantly white to light grey, medium to coarse, dominantly medium, sub rounded to rounded, rare sub angular, moderately well sorted, trace bit fractured grains, trace to 5% silica cement, trace light brownish grey argillaceous matrix, silty in part, trace nodular pyrite, trace micropyrinite, fair to good inferred porosity, no shows.

SILTY CLAYSTONE (10 to 55%): medium grey to brownish grey, soft to moderately firm, sub blocky, common carbonaceous specks and fragments, abundant silty matrix, trace micropyrinite, trace micromica, trace coaly fragments, weakly calcareous.

COAL (10 to 80%): dusky brown to brownish black, minor moderate brown, earthy to subvitreous lustre, blocky to sub conchoidal fracture, slightly argillaceous in part, lignitic.

INTERVAL: 1580.0 to 1640.0 mMDRT (-1557.8 to -1617.7 mTVDAHD)
ROP (Range): 71.0 to 181.0 m/h
Av. ROP: 106.0 m/h

Interbedded WEATHERED VOLCANICS, SANDSTONE and SILTY CLAYSTONE with trace to minor COAL seams.

SANDSTONE (14 to 25%): white to light grey, fine to medium dominantly medium, sub angular to sub rounded, moderately sorted, trace silica cement, common white to light brownish grey argillaceous matrix, silty in part, trace nodular pyrite, trace micropyrinite, poor inferred porosity, no shows, possible quartz vein at 1620.0 mMDRT, clear to translucent, medium to very coarse, dominantly very coarse, sub angular, rare angular, poorly sorted, trace to 5% siliceous cement, trace micropyrinite, loose, poor inferred porosity, no shows.

SILTY CLAYSTONE (40 to 80%): light brown to pale yellowish brown, 10 to 20% silt, rare very fine quartz, trace carbonaceous flecks, trace micromicaceous, trace micropyrinite, rare nodular pyrite, soft, dispersive in part.

VOLCANIC (5 to 32%): white, greenish grey, bit crushed, soft to firm, aggregated in part, 10 to 20% silt, minor feldspar laths in aggregates, trace altered yellowish grey feldspar, trace micaceous, minor chlorite, trace micropyrite, localised nodular pyrite, minor, pale blue green and light grey microcrystalline angular aggregates, hard.

COAL (Trace to 10%): brownish black, minor moderate brown, subvitreous lustre, blocky to sub conchoidal fracture, slightly argillaceous in part, lignitic.

INTERVAL: 1640.0 to 1670.0 mMDRT (-1617.7 to -1647.6 mTVDAHD)
ROP (Range): 63.0 to 63.0 m/h
Av. ROP: 4.0 m/h

Interbedded SANDSTONE and SILTY CLAYSTONE.

SANDSTONE (5 to 14%): white to light grey, fine to medium, dominantly fine, sub angular to sub rounded, moderately sorted, trace to 5% silica cement, common white to argillaceous matrix, silty in part, trace calcite cement, trace nodular pyrite, trace micropyrite, local aggregates, good inferred porosity, no shows.

SILTY CLAYSTONE (14 to 80%): light brownish grey to light olive grey, soft, amorphous, sub blocky in part, abundant silt, rare very fine sand, trace carbonaceous flecks, trace micromicaceous, trace to 2% micropyrite, trace nodular pyrite, grading in part to claystone.

COAL (Trace): brownish black, minor moderate brown, subvitreous lustre, blocky to sub conchoidal fracture, slightly argillaceous in part, lignitic.

INTERVAL: 1670.0 to 1750.0 mMDRT (-1647.6 to -1727.2 mTVDAHD)
ROP (Range): 28.0 to 78.0 m/h
Av. ROP: 49.0 m/h

Interbedded CLAYSTONE (grading in part to SILTY CLAYSTONE) and SANDSTONE with trace COAL seams.

CLAYSTONE (40 to 80%): light brownish grey to light olive grey, soft to firm, sub blocky to amorphous, trace to 5% silt, trace micropyrite, trace micromicaceous.

SILTY CLAYSTONE (14 to 50%): light grey to light olive grey, soft, amorphous, sub blocky in part, abundant silt, rare very fine sand, trace carbonaceous flecks, trace micromicaceous, trace to 2% micropyrite, trace nodular pyrite, grading in part to Claystone as above.

SANDSTONE (5 to 18%): white to light grey, fine to medium, dominantly fine, sub angular to sub rounded, moderately sorted, trace to 5% silica cement, trace feldspar, trace mica, common white argillaceous matrix, silty in part, trace calcite cement, minor siliceous cement, trace nodular pyrite, trace micropyrite, common aggregates, poor inferred porosity, no shows.

COAL (Trace, above 1700.0 mMDRT): brownish black, minor moderate brown, subvitreous lustre, blocky to sub conchoidal fracture, slightly argillaceous in part, lignitic.

INTERVAL: 1750.0 to 1790.0 mMDRT (-1727.2 to -1766.9 mTVDAHD)
ROP (Range): 34.0 to 114.0 m/h
Av. ROP: 58.0 m/h

CLAYSTONE interbedded and intergradational with SILTY CLAYSTONE and SANDSTONE.

CLAYSTONE (35 to 80%): light bluish grey to greenish grey, firm, sub blocky, trace to 5% silt, trace micropyrite, trace micromicaceous.

SILTY CLAYSTONE (10 to 40%): light grey to light olive grey, soft, amorphous, sub blocky in part, abundant silt, rare very fine sand, trace carbonaceous flecks, trace micromicaceous, trace to 2% micropyrite, trace nodular pyrite, grading in part to Claystone as above.

SANDSTONE (Trace to 25%) : white to light grey, silt to very fine, dominantly very fine, sub rounded, poorly sorted, trace to 5% silica cement, trace mica, common white argillaceous matrix, silty in part, minor calcite cement, trace weak siliceous cement, trace micropyrite, commonly aggregated, poor inferred porosity, no shows.

INTERVAL: 1790.0 to 1860.0 mMDRT (-1766.9 to -1836.2 mTVDAHD)
ROP (Range): 30.0 to 93.0 m/h
Av. ROP: 57.0 m/h

SILTY CLAYSTONE grading to CLAYSTONE in part, interbedded with SANDSTONE.

SILTY CLAYSTONE (5 to 80%): white to pale brown, firm, sub blocky, abundant silt, minor very fine sand, 5 to 10% carbonaceous flecks, trace micromicaceous, local trace pyrite nodules.

SILTY CLAYSTONE (Trace to 45%) : light grey to light olive grey, soft, amorphous, sub blocky in part, abundant silt, grades in part to Siltstone, rare very fine sand, trace carbonaceous flecks, trace micromicaceous, trace to 2% micropyrinite, trace nodular pyrite.

CLAYSTONE (5 to 35%): light grey to medium light grey, light bluish grey in part, firm, sub blocky, trace silt, rare very fine quartz grains, trace micropyrinite, local trace pyrite nodules, trace carbonaceous specks, trace micromicaceous.

SANDSTONE (Trace to 25%): white to light grey, fine to medium, loose, dominantly fine, sub angular to sub rounded, poorly sorted, trace to 5% silica cement, trace mica, common white argillaceous matrix, minor calcite cement, trace micropyrinite, moderate inferred porosity, no shows.

INTERVAL: 1860.0 to 1930.0 mMDRT (-1836.2 to -1910.1 mTVDAHD)
ROP (Range): 36.0 to 105.0 m/h
Av. ROP: 57.0 m/h

CLAYSTONE grading in part to SILTY CLAYSTONE, interbedded with SANDSTONE.

CLAYSTONE (Trace to 80%): pale brown to light brownish grey, soft, dispersive, rarely sub blocky, minor silt, rare very fine quartz, trace carbonaceous flecks, trace micromicaceous, trace micropyrinite, local trace nodular pyrite, rare trace brownish black, coal fragments, subvitreous lustre, blocky to sub conchoidal fracture, lignitic.

SILTY CLAYSTONE (18 to 80%): white to yellowish grey, soft, dispersive, rarely sub blocky, abundant silt, 5 to 10% carbonaceous flecks, trace micromicaceous, trace micropyrinite, local trace pyrite nodules.

SANDSTONE (Trace to 2%): white, aggregates, soft to firm, fine to medium grained, sub angular to sub rounded, dominantly sub rounded, poorly sorted, abundant white clay matrix, local trace chloritic clay, trace mica, rare micropyrinite, poor inferred porosity, no shows.

INTERVAL: 1930.0 to 1970.0 mMDRT (-1910.1 to -1939.5 mTVDAHD)
ROP (Range): 34.0 to 86.0 m/h
Av. ROP: 60.0 m/h

Interbedded and intergradational CLAYSTONE (grading to SILTY CLAYSTONE) and SANDSTONE.

SILTY CLAYSTONE (5 to 15%) white to yellowish grey, soft to firm, amorphous, sub blocky in part, minor silt, rare very fine quartz, trace mica, trace carbonaceous flecks and micro-laminae, trace micropyrinite.

SILTY CLAYSTONE (25 to 28%) : light grey to light olive grey, firm to hard, sub blocky, abundant silt to very fine quartz, grades in part to Siltstone, 5 to 10% carbonaceous flecks and micro-laminae, trace micromicaceous, trace micropyrinite, local trace pyrite nodules.

SANDSTONE (15 to 25%): white, aggregates, firm to hard, friable in part, fine to medium grained, sub angular to sub rounded, dominantly sub rounded, poorly sorted, abundant white clay matrix, local trace chloritic clay, minor siliceous cement, trace to 5% carbonaceous flecks, rare carbonaceous laminae, trace mica, rare micropyrinite, poor inferred porosity, no shows.

CLAYSTONE (35 to 60%): pale brown to light brownish grey, soft, dispersive, rarely sub blocky, minor silt, rare very fine quartz, trace carbonaceous flecks, trace micromicaceous, trace micropyrinite, local trace nodular pyrite, rare trace brownish black, coal fragments, subvitreous lustre, blocky to sub conchoidal fracture, lignitic.

INTERVAL: 1970.0 to 2010.0 mMDRT (-1944.5 to -1983.6 mTVDAHD)
ROP (Range): 17.0 to 81.0 m/h
Av. ROP: 50.0 m/h

Interbedded SANDSTONE, SILTSTONE (grading locally to SANDY SILTSTONE) and CLAYSTONE.

SANDSTONE (20 to 70%): white, aggregated to loose, firm to hard, friable in part, fine to medium grained, dominantly fine, sub angular to sub rounded, dominantly sub rounded, poorly sorted, abundant white clay matrix, minor siliceous cement, trace to 5% carbonaceous flecks, trace mica, rare micropyrinite, poor inferred porosity, no shows.

SILTSTONE (20 to 25%): very light grey to light bluish grey, firm to hard, blocky, abundant silt, rare very fine quartz, 5 to 10% carbonaceous flecks and micro-laminae, trace micromicaceous, trace micropyrinite, local trace nodular pyrite, grading in part to Silty Claystone.

SANDY SILTSTONE (20 to 40%): very light grey to light bluish grey, firm to hard, blocky, abundant silt, 5 to 10% very fine to fine sand, 5 to 10% carbonaceous flecks and micro-laminae, trace micromicaceous, trace micropyrinite, local trace nodular pyrite, grading in part to Siltstone as above.

CLAYSTONE (10 to 60%): light bluish grey to light olive grey, firm to hard, blocky, trace silt, trace micromicaceous, trace carbonaceous flecks



HYDROCARBON FLUORESCENCE

No Shows

GAS SUMMARY

No Gas

REMARKS

Drilled ahead 216 mm (8 ½") hole to 06:00 hours depth of 2036.0 mMDRT (-2008.9 mTVDAHD).

WELLSITE GEOLOGISTS

Cliff Menhennitt / John Sonego

DAILY GEOLOGICAL REPORT

Date:	17 November 2004	Rig:	Ocean Patriot
Report Number:	11	Bit Diameter:	8.50 in
Report Period:	06:00 - 06:00 Hours	Last Casing:	244 mm (9 ⁵ / ₈ ") @ 995.3 m MDRT
Spud Date:	10-Nov-2004 08:30 Hours	Integrity Test:	14.2 ppg EMW @ 1012.0 m MDRT
Days From Spud:	6.9	Mud Weight:	10.6 ppg
Depth @ 0600 Hrs:	2312.0 mMDRT		
	2277.5 mTVDAHD	Mud Type:	KCL/ IdcapD
Lag Depth:	2312.0 mMDRT	Mud Chlorides:	48000 mg/L
Last Depth:	2036.0 mMDRT		
Progress:	276.0 m		
Water Depth:	56.8 m	Last Survey:	2232.27 mMDRT
RT:	21.5 m	Deviation:	Inc. 13.75°
			Az. 40.70°

OPERATIONS SUMMARY

24 HOUR SUMMARY: Drilled 216 mm (8 1/2") hole to 2312.0 mMDRT (-2277.5 mTVDAHD). Pulled out to 1671.0 mMDRT working through tight hole sections, flow check for gas (static), run back to bottom, well taking gains, shut in well, circulate through choke.

NEXT 24 HOURS: Control well, pull out of hole, change out bit, run in hole to 2312.0 mMDRT and continue drilling 216 mm (8 1/2") hole to TD.

CURRENT OPERATION @ 06:00 HRS (17-Nov-2004): Well shut in. Circulating through choke.

GEOLOGICAL SUMMARY

LITHOLOGY

INTERVAL: 2010.0 to 2075.0 m MDRT (-1983.6 to -2047.2 m TVDAHD)
ROP (Range): 18.0 to 65.0 m/h
Av. ROP: 46.0 m/h

Interbedded CLAYSTONE and SANDSTONE grading to SANDY SILTSTONE in part.

CLAYSTONE (30 to 90%): light bluish grey to light olive grey, firm to hard, blocky, trace silt, trace micromicaceous, trace carbonaceous flecks.

SANDSTONE (5 to 30%): Quartzose, white to very light grey, returned loose, trace friable aggregates, very fine to fine grained, minor medium, angular to sub angular, well sorted, minor argillaceous matrix, trace moderate red and black lithic grains, poor inferred porosity, no shows.

SANDY SILTSTONE (5 to 20%): very light grey to light bluish grey, firm to hard, blocky, abundant silt, 5 to 10% very fine to fine sand, 5 to 10% carbonaceous flecks and micro-laminae, trace micromicaceous, trace micropyrte, local trace nodular pyrite, grading in part to Siltstone.

INTERVAL: 2075.0 to 2115.0 m MDRT (-2047.2 to -2086.1 m TVDAHD)
ROP (Range): 30.0 to 68.0 m/h
Av. ROP: 47.0 m/h

Interbedded CLAYSTONE (FERRUGINISED in part) and SANDSTONE grading in part to SANDY SILTSTONE.

CLAYSTONE (60 to 90%): light bluish grey to light olive grey, firm to hard, blocky, trace silt, trace micromicaceous, trace carbonaceous flecks.

SANDSTONE (5 to 15%): white to very light grey, returned loose, trace friable aggregates, very fine to fine grained, minor medium, angular to sub angular, well sorted, minor argillaceous matrix, trace moderate red and black lithic grains, poor inferred porosity, no shows.

SANDY SILTSTONE (3 to 20%): very light grey to light bluish grey, firm to hard, blocky, abundant silt, 5 to

10% very fine to fine sand, 5 to 10% carbonaceous flecks and micro-laminae, trace micromicaceous, trace micropyrinite, local trace nodular pyrite, grading in part to Siltstone.

FERRUGINOUS CLAYSTONE (Trace to 10%): moderate reddish brown, mottled moderate brown in part, soft, amorphous to occasionally sub blocky, trace silt and very fine quartz grains in part, non calcareous.

INTERVAL: 2115.0 to 2285.0 m MDRT (-2086.1 to -2251.2 m TVDAHD)
ROP (Range): 23.0 to 94.0 m/h
Av. ROP: 51.0 m/h

Interbedded CLAYSTONE and SANDSTONE grading in part to SANDY SILTSTONE.

CLAYSTONE (5 to 50%, generally decreasing with depth): light bluish grey to light olive grey, firm to hard, blocky, trace silt, trace micromicaceous, trace carbonaceous flecks.

SANDSTONE (30 to 80%): white to very light grey, returned loose, trace friable aggregates, very fine to fine grained, minor medium, angular to sub angular, well sorted, minor argillaceous matrix, trace moderate red and black lithic grains, poor inferred porosity, no shows.

SANDY SILTSTONE (10 to 30%): very light grey to light bluish grey, firm to hard, blocky, abundant silt, 5 to 10% very fine to fine sand, 5 to 10% carbonaceous flecks and micro-laminae, trace micromicaceous, trace micropyrinite, local trace nodular pyrite, grading in part to Siltstone.

INTERVAL: 2285.0 to 2312.0 m MDRT (-2251.2 to -2277.5 m TVDAHD)
ROP (Range): 3.0 to 58.0 m/h
Av. ROP: 24.0 m/h

Interbedded CLAYSTONE, SANDSTONE (grading to SANDY SILTSTONE in part) and VOLCANICLASTICS.

FERRUGINOUS CLAYSTONE (Trace to 10%): pale reddish brown to predominantly moderate reddish brown, generally very soft to soft, occasionally moderately firm, amorphous, trace sub blocky, trace very fine grained quartz, trace silt, non calcareous.

VOLCANICLASTIC (10 to 50 %, increasing with depth): light grey to light greenish grey (5G 8/1), rare very light grey, moderately firm to hard, amorphous to sub blocky in firmer fraction, 5 to 10% silt, trace very fine sand (sand fraction possibly being washed out of cuttings), rare coarse sand, pitted, sub angular, weak trace feldspar laths, trace mica, abundant altered chlorite-rich clay matrix, trace very coarse grained siliceous agglomerates, trace micromicaceous, trace micropyrinitic, trace black lithics, very hard; rare greyish blue green siliceous grains, cryptocrystalline, bladed, very weak trace pyritic micro-veining, very hard; 5 to 10% moderate brown to light brown lithics with trace altered plagioclase and trace black lithics, trace mica, commonly firm, silicified, firm to hard in part, bit crushed in part.

CLAYSTONE (10 to 20%): light bluish grey to light olive grey, firm to hard, blocky, trace silt, trace micromicaceous, trace carbonaceous flecks.

SANDSTONE (25 to 70%): white to very light grey, returned loose, trace friable aggregates, very fine to fine grained, minor medium, angular to sub angular, well sorted, minor argillaceous matrix, trace moderate red and black lithic grains, poor inferred porosity, no shows.

SANDY SILTSTONE (10 to 40%): very light grey to light bluish grey, firm to hard, blocky, abundant silt, 5 to 10% very fine to fine sand, 5 to 10% carbonaceous flecks and micro-laminae, trace micromicaceous, trace micropyrinite, local trace nodular pyrite, grading in part to Siltstone.

HYDROCARBON FLUORESCENCE

No Shows

GAS SUMMARY

No Gas Data available.

REMARKS

The 216 mm (8 ½") hole was drilled to 2312.0 mMDRT (-2277.5 mTVDAHD) where a decrease in rate of penetration resulted in a decision change out the bit. On pulling the drill string to surface the hole was wiped at 60 m/hr from 2312.0 to 2100.0 mMDRT and then pulled to 1816.0 mMDRT with tight hole sections encountered at 2016.0, 1946.0, 1862.0, 1846.0 and 1816.0 mMDRT. A maximum overpull of 36 mT was recorded at 1816.0 mMDRT.

The drill string was then pulled to 1671.0 mMDRT and on recording a gas peak was flow checked and determined to be static. On circulating, gas peaks were recorded but were considered to be anomalous. The well was flow checked again and determined to be static and the drill string was then run to bottom, where, on circulating bottoms up the well took a gain of 2 m³ after pumping 27 m³. The well was then shut in and circulated through the choke.

WELLSITE GEOLOGISTS

Cliff Menhennitt / John Sonogo

DAILY GEOLOGICAL REPORT

Date:	18 November 2004	Rig:	Ocean Patriot
Report Number:	12	Bit Diameter:	8.50 in
Report Period:	06:00 - 06:00 Hours	Last Casing:	244 mm (9 ⁵ / ₈ ") @ 995.3 m MDRT
Spud Date:	10-Nov-2004 08:30 Hours	Integrity Test:	14.2 ppg EMW @ 1012.0 m MDRT
Days From Spud:	7.9	Mud Weight:	11.0 ppg
Depth @ 0600 Hrs:	2312.0 mMDRT		
	2277.5 mTVDAHD	Mud Type:	KCl/ IdcapD
Lag Depth:	2312.0 mMDRT	Mud Chlorides:	53000 mg/L
Last Depth:	2312.0 mMDRT		
Progress:	0.0 m		
Water Depth:	56.8 m	Last Survey:	2232.27 mMDRT
RT:	21.5 m	Deviation:	Inc. 13.75° Az. 40.70°

OPERATIONS SUMMARY

24 HOUR SUMMARY: Monitored pressures on bottom and circulated influx out through the choke line, increased mud weight and circulated bottoms up until 4% gas recorded, pulled out of hole to surface, downloaded MWD tools.

NEXT 24 HOURS: Change out bit run back in hole, drill to TD.

CURRENT OPERATION @ 06:00 HRS (17-Nov-2004): Replacing drill bit.

GEOLOGICAL SUMMARY

LITHOLOGY

INTERVAL: No new lithology.
ROP (Range):
Av. ROP:

REMARKS

The well was monitored on bottom and the influx circulated out via the choke line. The riser was displaced with 10.6 ppg (1.26 sg) mud and the well was monitored on the trip tank and determined to be static. While continuing to circulate the mud weight was increased to 11.0 ppg (1.32 sg) and a ten stand check trip was performed to 2013.0 mMDRT.

Returning to bottom the well was circulated and a maximum gas peak of 16.4% recorded. Circulation continued until gas levels reduced to 4%. Following a static flow check the drill string was pulled out of hole to 1645.0 mMDRT with a maximum overpull of 9 mT. The drill string was then back reamed to the casing shoe and the well flow checked and determined to be static before pulling out to surface. At surface the Sperry Sun MWD tools were downloaded and racked back and the mud motor laid out.

WELLSITE GEOLOGISTS

Cliff Menhennitt / John Sonogo

DAILY GEOLOGICAL REPORT

Date:	19 November 2004	Rig:	Ocean Patriot
Report Number:	13	Bit Diameter:	8.50 in
Report Period:	06:00 - 06:00 Hours	Last Casing:	244 mm (9 5/8") @ 995.3 m MDRT
Spud Date:	10-Nov-2004 08:30 Hours	Integrity Test:	1.7 ppg EMW @ 995.0 m MDRT
Days From Spud:	8.9	Mud Weight:	11.3 ppg
Depth @ 0600 Hrs:	2377.0 mMDRT		
	2341.1 mTVDAHD	Mud Type:	KCl/ IdcapD
Lag Depth:	2375.0 mMDRT	Mud Chlorides:	54000 mg/L
Last Depth:	2312.0 mMDRT		
Progress:	65.0 m		
Water Depth:	56.8 m	Last Survey:	2348.12 mMDRT
RT:	21.5 m	Deviation:	Inc. 12.18°
			Az. 45.64°

OPERATIONS SUMMARY

24 HOUR SUMMARY: Change out bit, run in hole to 2312.0 mMDRT, resume drilling 216 mm (8 1/2") hole section.

NEXT 24 HOURS: Drill to TD, POOH, download and rack back BHA, rig up for Wireline Run#1.

CURRENT OPERATION @ 06:00 HRS (19-Nov-2004): Drilling 216 mm (8 1/2") hole.

GEOLOGICAL SUMMARY

LITHOLOGY

INTERVAL: 2312.0 to 2330.0 m MDRT (-2277.7 m TVDAHD)
ROP (Range): 4.0 to 56.0 m/h
Av. ROP: 29.0 m/h

Interbedded VOLCANOCLASTICS, SANDY SILTSTONE and CLAYSTONE with minor COAL.

VOLCANICLASTIC (67 to 74%): light grey to light greenish grey (5G 8/1), rare very light grey, porphyritic?, hard to extremely hard, 5 to 10% silt, 10 to 20% medium to coarse quartz, rare very coarse, angular to sub angular, pitted, trace alkaline feldspar, trace mica, abundant altered chlorite-rich clay matrix, weak trace calcitic in part, granular in part, rare calcite veining, trace pyrite nodules, trace siderite, trace very coarse grained siliceous aggregates, trace micromicaceous, trace micropyrritic, trace black lithics, very hard; rare greyish blue green siliceous grains, cryptocrystalline, commonly bladed, very hard; 5 to 10% moderate brown to moderate reddish brown lithics with trace fine to medium angular quartz, trace black lithics, trace mica, silicified and hard in part, bit crushed and firm in part.

COAL (2 to 10%, maximum at 2327.5 mMDRT): brownish black, greyish black, dull lustre, rare sub vitreous lustre, commonly uneven fracture, sub blocky in part, slightly argillaceous in part, grades in part to carbonaceous claystone, trace micropyrrite.

CLAYSTONE (Trace): yellowish grey to light olive grey, soft, rarely firm, 5 to 10% coaly fragments, brownish black, subvitreous lustre, blocky to sub conchoidal fracture, lignitic, trace micropyrrite.

SANDY SILTSTONE (8 to 10%): very light grey to light bluish grey, firm to hard, blocky, abundant silt, 5 to 10% very fine to fine sand, 5 to 10% carbonaceous flecks and micro-laminae, trace micromicaceous, trace micropyrrite, local trace nodular pyrite, grading in part to Siltstone.

INTERVAL: 2330.0 to 2342.5 m MDRT
ROP (Range): 7.0 to 21.0 m/h
Av. ROP: 11.0 m/h

Interbedded VOLCANICLASTICS, SANDY SILTSTONE, CALCAREOUS CLAYSTONE and CLAYSTONE.

VOLCANICLASTIC (13 to 68%): light grey to light greenish grey (5G 8/1), rare very light grey, hard to extremely hard, 5 to 10% silt, 10 to 20% medium to coarse quartz, rare very coarse, angular to sub angular,

pitted, trace alkaline feldspar, trace mica, abundant altered chlorite-rich clay matrix, weak trace calcitic in part, granular in part, rare calcite veining, trace pyrite nodules, trace siderite, trace very coarse grained siliceous aggregates, trace micromicaceous, trace micropyrictic, trace black lithics, very hard; rare greyish blue green siliceous grains, cryptocrystalline, commonly bladed, very hard; 5 to 10% moderate brown to moderate reddish brown lithics with trace fine to medium angular quartz, trace black lithics, trace mica, silicified and hard in part, bit crushed and firm in part.

SANDY SILTSTONE (20 to 70%): white to yellowish grey, light brown in part, firm to hard, commonly aggregated, 20 to 30% silt, trace very fine quartz, trace white argillaceous matrix, 5 to 10% calcareous, trace mica, trace micropyrictic, rare calcareous concretions in 2342.5 mMDRT, very coarse sand sized, grains composed of silt to very fine grained quartz, abundant calcite cement, common micropyrictic, thin calcareous coating.

CALCAREOUS CLAYSTONE (10 to 40%): light grey to medium bluish grey, rare medium grey, firm to very hard, sub blocky to blocky, trace dolomitic in part, trace silt, cryptocrystalline.

CLAYSTONE (5%, at 2342.5 mMDRT): yellowish grey to light olive grey, soft, rarely firm, trace coaly fragments, brownish black, subvitreous lustre, blocky to sub conchoidal fracture, lignitic, trace micropyrictic.

INTERVAL: 2342.5 to 2375.0 m MDRT
ROP (Range): 6.0 to 20.0 m/h
Av. ROP: 10.0 m/h

Interbedded VOLCANIC SANDSTONE, SANDY SILTSTONE and CALCAREOUS CLAYSTONE with trace CARBONACEOUS CLAYSTONE.

VOLCANIC SANDSTONE (77 to 96%): moderate yellowish green, white in part, loose, poor to moderately sorted, very hard individual grains, medium to coarse quartz, dominantly medium, angular to sub angular, pitted, 5 to 10% feldspar, commonly altered, trace mica, abundant pale green silicified grains, cryptocrystalline, trace olivine, very hard; trace black grains, hard, granular in part (pyroxene? based on cleavage), trace moderate orange pink (10R 7/4) grains, trace siderite, trace black lithics, trace siliceous cement, trace micropyrictic, weak trace nodular pyrite, no shows.

CARBONACEOUS CLAYSTONE (Trace) : brownish black, greyish black, dull lustre, uneven fracture, sub blocky, slightly argillaceous in part, grades in part to carbonaceous claystone, trace micropyrictic

SANDY SILTSTONE (Trace to 10%): white to yellowish grey, light brown in part, firm to hard, commonly aggregated, 20 to 30% silt, trace very fine quartz, trace white argillaceous matrix, 5 to 10% calcareous, trace mica, trace micropyrictic, rare calcareous concretions in 2342.5 mMDRT, very coarse sand sized, grains composed of silt to very fine grained quartz, abundant calcite cement, common micropyrictic, thin calcareous coating.

CALCAREOUS CLAYSTONE (Trace to 10%): light grey to medium bluish grey, rare medium grey, firm to very hard, sub blocky to blocky, trace dolomitic in part, trace silt, cryptocrystalline.

CLAYSTONE (5%, at 2342.5 mMDRT): yellowish grey to light olive grey, soft, rarely firm, trace coaly fragments, brownish black, subvitreous lustre, blocky to sub conchoidal fracture, lignitic, trace micropyrictic.

HYDROCARBON FLUORESCENCE

No Shows

GAS SUMMARY

ROP AND TOTAL GAS READINGS:

Interval (mMDRT)	ROP range (m/hr)	ROP avg (m/hr)	Total Gas range (%)	Total Gas average Background (%)
2312.0 – 2330.0	6.3 - 64.5	15.4	2.71 – 19.72	9.62
2330.0 – 2342.5	4.4 - 51.0	10.7	2.82 – 7.81	4.96
2342.5 – 2377.0	4.4 - 23.6	7.9	1.28 – 2.03	5.99

BACKGROUND GAS:

Gas Intervals (mMDRT)	C1 (ppm)	C2 (ppm)	C3 (ppm)	Tot iC4 (ppm)	Tot nC4 (ppm)
2312.0 – 2330.0	Not reliable	28596	3637	3296	5705
2330.0 – 2342.5	12468	5812	5909	6184	5412
2342.5 – 2377.0	13229	1590	1174	1351	1383

GAS PEAKS:

Gas Peaks Depth (mMDRT)	Total Gas (%) / (BKGND)	C1 (ppm)	C2 (ppm)	C3 (ppm)	iC4 (ppm)	NC4 (ppm)
2347	9.4/5.6	-	-	-	-	-
2350	13.3/6.5	-	-	-	-	-
2351	19.5/6.5	-	-	-	-	-
2353	23.6/6.5	-	-	-	-	-
2360	7.5/5.8	15689	1013	262	-	-
2370	8.7/5.8	20980	2151	1605	782	686

REMARKS

After downloading the MWD tools the bit was changed out for a Smith GFH1300 DFS Tricone and run into 2312.0 mMDRT encountering tight spots requiring reaming at 1894.0, 1941.0, 1945.0, 2068.0, 2078.0 and 2102.0 mMDRT. The well was drilled to 2342.0 mMDRT where total gas increased to 20%. The well was circulated and mud weight increased to 11.5 ppg (1.38 sg). Drilling continued to the 06:00 hours depth of 2377.0 mMDRT, flow checking the well when required.

WELLSITE GEOLOGISTS

Cliff Menhennitt / John Sonogo

DAILY GEOLOGICAL REPORT

Date:	20 November 2004	Rig:	Ocean Patriot
Report Number:	14	Bit Diameter:	8.50 in
Report Period:	06:00 - 06:00 Hours	Last Casing:	244 mm (9 ⁵ / ₈ ") @ 995.3 m MDRT
Spud Date:	10-Nov-2004 08:30 Hours	Integrity Test:	14.2 ppg EMW @ 995.0 m MDRT
Days From Spud:	9.9	Mud Weight:	11.70 ppg
Depth @ 0600 Hrs:	2422.0 mMDRT	Mud Type:	KCl/ Idcap D
	2385.2 mTVDAHD	Mud Chlorides:	54000 mg/L
Lag Depth:	2422.0 mMDRT		
Last Depth:	2377.0 mMDRT	Last Survey:	2376.11 mMDRT
Progress:	45.0 m	Deviation:	Inc. 11.96°
Water Depth:	56.8 m		Az. 45.76°
RT:	21.5 m		

OPERATIONS SUMMARY

24 HOUR SUMMARY: Drilled 216 mm (8 1/2") hole to 2422.0 mMDRT, pull out of hole, download MWD tools, break out and lay down tools, rig up for Wireline Run#1 Baker Atlas RCI-GR.

NEXT 24 HOURS: Complete Wireline Run#1 Baker Atlas RCI-GR, commence Run#2 SWC.

CURRENT OPERATION @ 06:00 HRS (20-Nov-2004): Wireline Run#1 Baker Atlas RCI-GR.

GEOLOGICAL SUMMARY

LITHOLOGY

INTERVAL: 2375.0 to 2422.0 m MDRT (-2339.2 m TVDAHD)
ROP (Range): 2.0 to 21.0 m/h
Av. ROP: 7.0 m/h

VOLCANIC SANDSTONE with thin interbeds of CLAYSTONE (CARBONACEOUS in part and SILICEOUS below 2405 mMDRT) and SANDY SILTSTONE.

VOLCANIC SANDSTONE (82 to 97%): moderate yellowish green, white in part, returned loose, poor to moderately sorted, very hard individual grains, medium to coarse quartz, dominantly medium, trace very coarse, angular to sub angular, pitted, 5 to 10% feldspar, commonly altered, trace mica, abundant pale green silicified grains, cryptocrystalline, trace olivine, very hard; trace black grains, hard, granular in part, trace moderate orange pink (10R 7/4) grains, trace siderite, trace black lithics, trace siliceous cement, trace micropyrte, weak trace nodular pyrite, no shows.

CLAYSTONE (2 to 5%): light grey to medium bluish grey, rare medium grey, firm to very hard, sub blocky to blocky, trace dolomitic in part, trace silt, cryptocrystalline.

SILICIFIED CLAYSTONE (10 to 15%, below 2405.0 mMDRT): medium grey, light brownish grey, light olive grey, hard to very hard, blocky, amorphous, highly silicified.

CARBONACEOUS CLAYSTONE (Trace): brownish black, greyish black, dull lustre, uneven fracture, sub blocky, slightly argillaceous in part, grades in part to carbonaceous claystone, trace micropyrte

SANDY SILTSTONE (Nil to 2%, above 2385.0 mMDRT): white to yellowish grey, light brown in part, firm to hard, commonly aggregated, 20 to 30% silt, trace very fine quartz, trace white argillaceous matrix, 5 to 10% calcareous, trace mica, trace micropyrte, rare calcareous concretions in 2342.5 mMDRT, very coarse sand sized, grains composed of silt to very fine grained quartz, abundant calcite cement, common micropyrte, thin calcareous coating.

HYDROCARBON FLUORESCENCE

No Shows

GAS SUMMARY

ROP AND TOTAL GAS

Interval (mMDRT)	ROP range (m/hr)	ROP avg (m/hr)	Total Gas range (%)	Total Gas average Background (%)
2375.0 – 2422.0	1.5 – 23.6	7.0	0.9 – 12.8	4.7

CHROMATOGRAPH BACKGROUND GAS

Gas Intervals (mMDRT)	C1 (ppm)	C2 (ppm)	C3 (ppm)	Tot iC4 (ppm)	Tot nC4 (ppm)
2375.0 – 2422.0	10763	1487	1248	1102	1231

GAS PEAKS

Gas Peaks Depth (mMDRT)	Total Gas (%) / (BKGND)	C1 (ppm)	C2 (ppm)	C3 (ppm)	iC4 (ppm)	NC4 (ppm)
No Peaks						

REMARKS

The 216 mm (8 ½”) hole was drilled from 2378.0 to 2422.0 mMDRT (-2385.1 mTVDAHD). After circulating bottoms up a short trip was performed from 2422.0 to 2147.0 mMDRT. On returning to bottom the 3.5% trip gas was circulated out, and the well was flow checked static. The drill string was then pulled to 990.0 mMDRT, pumping between 2422.0 to 1850.0 mMDRT, and working through a tight spot at 2058.0 mMDRT. At 990.0 mMDRT the well was again flow checked static and a slug was pumped prior to pulling to 290.0 mMDRT and performing a final flow check and pulling to surface.

At surface the Sperry Sun MWD tools were downloaded and broken out and the rig floor was rigged up for wireline logging. Run#1: RCI-GR was then rigged up and run into hole.

WELLSITE GEOLOGISTS

Cliff Menhennitt / John Sonogo

DAILY GEOLOGICAL REPORT

Date:	21 November 2004	Rig:	Ocean Patriot
Report Number:	15	Bit Diameter:	216mm (8 1/2")
Report Period:	06:00 - 06:00 Hours	Last Casing:	244 mm (9 5/8") @ 995.3 mMDRT
Spud Date:	10-Nov-2004 08:30 Hours	Integrity Test:	14.7 ppg EMW @ 995.0 mMDRT
Days From Spud:	10.9	Mud Weight:	11.7 ppg
Depth @ 0600 Hrs:	2422.0 mMDRT	Mud Type:	KCl/ IdcapD
	2405.7 mTVDAHD	Mud Chlorides:	54000 mg/L
Lag Depth:	2422.0 mMDRT		
Last Depth:	2422.0 mMDRT		
Progress:	0 m		
Water Depth:	56.8 m	Last Survey:	2376.11 mMDRT
RT:	21.5 m	Deviation:	Inc. 11.96°
			Az. 45.76°

OPERATIONS SUMMARY

24 HOUR SUMMARY: Ran in hole with wireline Run#1: RCI-GR, stood up at 1854.0 mMDRT, pulled out of hole and reconfigured tool with hole finder and knuckle joint. Ran in hole and stood up at 1854.0 mMDRT. Pulled out of hole and laid down RCI-GR, ran in hole with bit and drill pipe for wiper trip.

NEXT 24 HOURS: Pump out of hole, back reaming if necessary, rig up and run Wireline Run#1 RCI-GR.

CURRENT OPERATION @ 06:00 HRS (21-Nov-2004): Pumping out of hole.

GEOLOGICAL SUMMARY

LITHOLOGY

INTERVAL: No new formation drilled
ROP (Range):
Av. ROP:

REMARKS

Ran in hole with Wireline Run#1 RCI-GR to 1854.0 mMDRT where an obstruction was encountered that could not be passed. The RCI-GR was then pulled out of hole, the 10 and 4 litre chambers removed, and a double knuckle joint, hole finder and centralizer fitted to the bottom of the tool string. The tool was run back in the hole and stood up at the same depth. The tool string was worked repeatedly but the obstruction could not be passed. The tool was then pulled to surface and rigged down. The hole finder was missing from the tool string when it returned to surface.

A 216 mm (8 1/2") drillstring comprising Reed Hycalog DSX104 PDC bit was made up and run in hole pumping from 1600.0 to 1858.0 mMDRT and reaming where necessary. On bottom the well was flow checked prior to pumping out to surface.

WELLSITE GEOLOGISTS

Cliff Menhennitt / John Sonego

DAILY GEOLOGICAL REPORT

Date:	22 November 2004	Rig:	Ocean Patriot
Report Number:	16	Bit Diameter:	216mm (8 1/2")
Report Period:	06:00 - 06:00 Hours	Last Casing:	244 mm (9 5/8") @ 995.3 m MDRT
Spud Date:	10-Nov-2004 08:30 Hours	FIT:	14.20 ppg EMW @ 1012.0 m MDRT
Days From Spud:	11.9	Mud Weight:	11.70 ppg
Depth @ 0600 Hrs:	2422.0 mMDRT	Mud Type:	KCL/ Idcap D
	2405.7 mTVDAHD	Mud Chlorides:	52500 mg/L
Lag Depth:	2422.0 mMDRT		
Last Depth:	2422.0 mMDRT		
Progress:	0 m		
Water Depth:	56.8 m	Last Survey:	2376.11 mMDRT
RT:	21.5 m	Deviation:	Inc. 11.96° Az. 45.76°

OPERATIONS SUMMARY

24 HOUR SUMMARY: Ran in hole with RCI-GR on wireline, worked through tight section at 1660.0 mMDRT, continued to run in hole to 1817.0 mMDRT where the tool stood up. Pulled out of hole on RCI-GR, rigged up RCI-GR on PCL, ran in hole.

NEXT 24 HOURS: Complete RCI-GR pressure and sampling programme.

CURRENT OPERATION @ 06:00 HRS (22-Nov-2004): Running in hole with RCI-GR on Pipe Conveyed Logging (PCL).

GEOLOGICAL SUMMARY

LITHOLOGY

INTERVAL: No new lithology.
ROP (Range):
Av. ROP:

HYDROCARBON FLUORESCENCE

No Shows

GAS SUMMARY

No Gas Data

REMARKS

At surface the drill string was racked back and the rig floor was rigged up to run RCI-GR. Ran in hole with RCI-GR to 1660.0 mMDRT where tight and sticky was encountered. The tool was worked down through sticky hole to 1805.0 mMDRT and then worked down to 1817.0 mMDRT where it stood up. The tool was then pulled to surface and reconfigured to be run on drillpipe.

The RCI-GR was then run on drillpipe down to a depth of 1500.0 mMDRT where a side entry sub was fitted to the drillstring.

WELLSITE GEOLOGISTS

Cliff Menhennitt / John Sonego

DAILY GEOLOGICAL REPORT

Date:	23 November 2004	Rig:	Ocean Patriot
Report Number:	17	Bit Diameter:	216mm (8½" in)
Report Period:	06:00 - 06:00 Hours	Last Casing:	244 mm (9 ⅝") @ 995.3 m MDRT
Spud Date:	10-Nov-2004 08:30 Hours	FIT:	14.20 ppg EMW @ 1012.0 m MDRT
Days From Spud:	12.9	Mud Weight:	11.70 ppg
Depth @ 0600 Hrs:	2422.0 mMDRT		
	2406.7 mTVDAHD	Mud Type:	KCI/ IdcapD
Lag Depth:	2422.0 mMDRT	Mud Chlorides:	52500 mg/L
Last Depth:	2422.0 mMDRT		
Progress:	0 m		
Water Depth:	56.8 m	Last Survey:	2376.78 mMDRT
RT:	21.5 m	Deviation:	Inc. 11.96° Az. 45.76°

OPERATIONS SUMMARY

24 HOUR SUMMARY: Ran RCI-GR on drillpipe, after experiencing tight hole from 1867 the tool stood up at 1919.0 mMDRT, worked tool with up to 30klbs compression and 20klbs extension, unable to get past obstruction and hole sticky. Pulled out to 1535.0 mMDRT where the side entry sub and wireline were removed, continued POOH to surface, laid out RCI tool and rigged down Baker Atlas. Made up 216 mm (8 1/2") bottom hole assembly and ran in hole reaming tight spots at 1910, 1925 and 1942mMDRT. Continued to run in hole to 2060.0 mMDRT where gas levels increased sharply to 40%. The well was flow checked and shut in, no shut in pressure was recorded. The well was then circulated through the choke line. Gas levels up to 78% were recorded before decreasing.

NEXT 24 HOURS: Continue to circulate high gas levels, continue wiper trip to bottom, pull out of hole, run liner.

CURRENT OPERATION @ 06:00 HRS (23-Nov-2004): Well shut in, circulating gas through choke line.

GEOLOGICAL SUMMARY

REMARKS

Continued to run in hole with RCI-GR on drillpipe to 1500.0 mMDRT where side entry sub was fitted to the drillstring. The tool was then run down to 1919.0 mMDRT, working through a tight hole section at 1867.0 mMDRT, where further tight hole was encountered. Despite a 30 k down weight being applied to the drill string the tool was not able to be run past this point. The drill string was then pulled to 1535.0 mMDRT where the side entry sub and wet connected were unlatched prior to pulling to surface.

At surface the RCI-GR was broken out and wireline equipment rigged down. A 216 mm (8 1/2") drilling assembly was then made up on 5" drillpipe and run into hole to 2060.0 mMDRT reaming through tight spots at 1910.0, 1925.0 and 1942.0 mMDRT. While reaming out of the hole the gas levels increased to 40%. The well was flow checked and determined to be flowing and was shut-in and circulated through choke line. A maximum gas level of 78.7% was recorded before decreasing.

WELLSITE GEOLOGISTS

Cliff Menhennitt / John Sonego

DAILY GEOLOGICAL REPORT

Date:	24 November 2004	Rig:	Ocean Patriot
Report Number:	18	Bit Diameter:	8.50 in
Report Period:	06:00 - 06:00 Hours	Last Casing:	244 mm (9 5/8") @ 995.3 m MDRT
Spud Date:	10-Nov-2004 08:30 Hours	FIT:	14.20 ppg EMW @ 1012.0 m MDRT
Days From Spud:	13.9	Mud Weight:	11.70 ppg
Depth @ 0600 Hrs:	2422.0 mMDRT	Mud Type:	KCL/ IdcapD
	2406.7 mTVDAHD	Mud Chlorides:	52000 mg/L
Lag Depth:	2422.0 mMDRT		
Last Depth:	2422.0 mMDRT		
Progress:	0 m		
Water Depth:	56.8 m	Last Survey:	2376.78 mMDRT
RT:	21.5 m	Deviation:	Inc. 11.96° Az. 45.76°

OPERATIONS SUMMARY

24 HOUR SUMMARY: BOPs, choke and kill lines and poor boy degaser were flushed with seawater and displaced to 11.7 ppg (1.4 sg) mud. Bottoms up were then circulated from 2060.0 mMDRT recording a maximum gas peak of 28%. Background gas levels were reduced to 5% and the drill string was run to 2422.0 mMDRT. On circulating bottoms up at TD a max gas peak was recorded of 78%. Background gas levels were reduced to 10% and on increasing mud weight to 11.9 ppg (1.43 sg) levels were further reduced to 6%.

NEXT 24 HOURS: Pump out of hole, run and cement 178 mm (7") liner.

CURRENT OPERATION @ 06:00 HRS (24-Nov-2004): Pumping out of hole.

GEOLOGICAL SUMMARY

LITHOLOGY

INTERVAL: N.
ROP (Range):
Av. ROP:

REMARKS

The BOPs, choke and kill lines and poor boy degaser were flushed with seawater and displaced to 11.7 ppg (1.4 sg). The well was then flowed checked static, BOPs opened and bottoms up circulated from 2060.0 mMDRT recording a maximum gas peak of 28%. On reducing background gas levels to 5% the drill string was continued to be run into hole to TD (2422.0 mMDRT).

At TD bottoms up were circulated and a maximum gas peak of 78% was recorded. While circulating and working the drill string, background gas levels were reduced to 10% but were not able to be reduced further. The mud weight was then increased to 11.9 ppg (1.43 sg) reducing background gas levels to 6%. This level of background gas was unable to be circulated out and it was determined that the Sperry Sun Total Gas Detector system results were spurious and recalibrated.

Carbide checks were run through the gas detection systems to ensure it was functioning correctly. The well was flow checked static and the drill string pulled out of hole wet to 2150.0 mMDRT where a further carbide check was performed (max peak recorded 3.64%). The drill string was then backreamed to 1750.0 mMDRT flow checked and run in hole to TD (2422.0 mMDRT), encountering tight hole sections requiring reaming at 1844.0, 1871.0, 1895.0, 1921.0 and 1936.0 mMDRT and between 1947.0 to 2150.0 mMDRT. Bottoms up were circulated (max gas peak 1%) at TD and the well was flow checked static before commencing to pump out of hole.

WELLSITE GEOLOGISTS

John Sonego

DAILY GEOLOGICAL REPORT

Date:	25 November 2004	Rig:	Ocean Patriot
Report Number:	19	Bit Diameter:	8.5 in
Report Period:	06:00 - 06:00 Hours	Last Casing:	244 mm (9 5/8") @ 995.3 m MDRT
Spud Date:	10-Nov-2004 08:30 Hours	FIT:	14.2 ppg EMW @ 1012.0 mMDRT
Days From Spud:	14.9	Mud Weight:	12.0 ppg
Depth @ 0600 Hrs:	2422.0 mMDRT	Mud Type:	KCL/ IdcapD
	2406.7 mTVDAHD	Mud Chlorides:	62000 mg/L
Lag Depth:	2422.0 mMDRT		
Last Depth:	2422.0 mMDRT		
Progress:	0 m		
Water Depth:	56.8 m	Last Survey:	2376.78 mMDRT
RT:	21.5 m	Deviation:	Inc. 11.96° Az. 45.76°

OPERATIONS SUMMARY

24 HOUR SUMMARY: Pumped 216 mm (8 1/2") drill string to 1200.0 mMDRT and then pulled to surface and racked back. Ran 178 mm (7") liner to 06:00 hours depth of 2094.0 mMDRT.

NEXT 24 HOURS: Run 178 mm (7") liner to TD and cement, conduct Baker Atlas VSP checkshots, run RTTS.

CURRENT OPERATION @ 06:00 HRS (25-Nov-2004): Running 178 mm (7") liner.

GEOLOGICAL SUMMARY

LITHOLOGY

INTERVAL: No new lithology.
ROP (Range):
Av. ROP:

REMARKS

The 216 mm (8 1/2") bottom hole assembly was pumped out of hole to 1200.0 mMDRT and then pulled to surface and racked back.

A rig floor safety meeting was held and the rig floor was then rigged up to run the 178 mm (7") liner which was run to a 06:00 hours depth of 2094.0 mMDRT.

WELLSITE GEOLOGISTS

John Sonogo

DAILY GEOLOGICAL REPORT

Date:	26 November 2004	Rig:	Ocean Patriot
Report Number:	20	Bit Diameter:	
Report Period:	06:00 - 06:00 Hours	Last Casing:	244 mm (9 5/8") @ 995.3 mMDRT
Spud Date:	10-Nov-2004 08:30 Hours	FIT:	14.2 ppg EMW @ 1012.0 mMDRT
Days From Spud:	15.9	Mud Weight:	21.1 ppg
Depth @ 0600 Hrs:	2422.0 mMDRT	Mud Type:	KCL/ IdcapD
	2406.7 mTVDAHD	Mud Chlorides:	57000 mg/L
Lag Depth:	2422.0 mMDRT		
Last Depth:	2422.0 mMDRT		
Progress:	0 m		
Water Depth:	56.8 m	Last Survey:	2376.78 mMDRT
RT:	21.5 m	Deviation:	Inc. 11.96° Az. 45.76°

OPERATIONS SUMMARY

24 HOUR SUMMARY: Cemented the 178 mm (7") liner to 1670.0 mMDRT, ran in hole with and completed Baker Atlas VSP checkshot survey.

NEXT 24 HOURS: Run 114 mm (4 1/2") tubing.

CURRENT OPERATION @ 06:00 HRS (26-Nov-2004): Picking up 114 mm (4 1/2") tubing.

GEOLOGICAL SUMMARY

LITHOLOGY

INTERVAL: No new lithology.
ROP (Range):
Av. ROP:

REMARKS

The 178 mm (7") liner was washed down from 2094.0 mMDRT to 2419.0 mMDRT where it was rotated and bottoms up circulated with 28.8 m³ of mud (maximum gas peak of 1.52%) prior to cementing in place with 10.5 m³ of 1.9 sg cement slurry. The liner and packer pressure against the lower annulus were then pressure tested to 24100 KPa (3500 psi) and 27500 KPa (4000 psi), respectively, prior to releasing the packer running tool. Bottoms up were circulated from 877.0 mMDRT and the cement stand pulled to surface and racked back.

The Baker Atlas VSP checkshot survey was then rigged up on wireline and run in hole, tagging top of cement at 2377.0 mMDRT. Twenty nine levels were acquired from this depth to loss of signal at 220.0 mMDRT. On pulling out of hole the Baker Atlas VSP checkshot survey was rigged down and laid out. The rig floor was then rigged up to run 114 mm (4 1/2") tubing.

This represents the last Daily Geological Report for Longtom-2.

WELLSITE GEOLOGISTS

John Sonogo

DAILY GEOLOGICAL REPORT

Date:	12 December 2004	Rig:	Ocean Patriot
Report Number:	36	Bit Diameter:	
Report Period:	06:00 - 06:00 Hours	Last Casing:	7" liner @ 2420.0 mMDRT
Spud Date:	10-Nov-2004 08:30 Hours	Integrity Test:	N/A
Days From Spud:	31.9	Mud Weight:	15.00 ppg
Depth @ 0600 Hrs:	2422.0 mMDRT		
	2385.1 mTVDAHD	Mud Type:	KCL/ Idcap D
Lag Depth:	2422.0 mMDRT	Mud Chlorides:	54000 mg/L
Last Depth:	2422.0 mMDRT		
Progress:	0 m		
Water Depth:	56.8 m	Last Survey:	2376.78 mMDRT
RT:	21.5 m	Deviation:	Inc. 11.96° Az. 45.76°

OPERATIONS SUMMARY

24 HOUR SUMMARY: Lay out tubing, slip and cut drilling line, set abandonment plug.

NEXT 24 HOURS: Set bridge plug, run whipstock, mill casing window for sidetrack.

CURRENT OPERATION @ 06:00 HRS (12-Dec-2004): Set abandonment plug 2B

GEOLOGICAL SUMMARY

LITHOLOGY

INTERVAL: No drilling
ROP (Range):
Av. ROP:

REMARKS

Following testing of Longtom-2 abandonment plug 2a was set from 2170.0 to 2062.0 mMDRT. 114 mm tubing was laid out before slipping and cutting the drilling line.

The cement stinger was run into the hole on 127 mm drill pipe tagging the top of the cement plug at 2061.0 mMDRT. The cement head was made up and cement pumped for plug 2B.

WELLSITE GEOLOGISTS

Richard Stear

DAILY GEOLOGICAL REPORT

Date:	13 December 2004	Rig:	Ocean Patriot
Report Number:	37	Bit Diameter:	
Report Period:	06:00 - 06:00 Hours	Last Casing:	7" liner @ 2420.0 mMDRT
Spud Date:	10-Nov-2004 08:30 Hours	Integrity Test:	N/A
Days From Spud:	32.9	Mud Weight:	10.5 ppg
Depth @ 0600 Hrs:	2422.0 mMDRT	Mud Type:	KCL/ Idcap D
	2385.1 mTVDAHD	Mud Chlorides:	46000 mg/L
Lag Depth:	2422.0 mMDRT		
Last Depth:	2422.0 mMDRT		
Progress:	0 m		
Water Depth:	56.8 m	Last Survey:	2376.78 mMDRT
RT:	21.5 m	Deviation:	Inc. 11.96° Az. 45.76°

OPERATIONS SUMMARY

24 HOUR SUMMARY: Re-pumped plug 2B due to excessive U tubing, POOH and laid out 73 mm drill pipe and mule shoe, ran and set bridge plug at 1981.0 mMDRT, attempted to set cement plug on bridge plug (excessive U tubing again), reverse circulate cement out of string, pressure test bridge plug, displace well to 1.26 sg mud.

NEXT 24 HOURS: Set plug, POOH, run whipstock, mill window.

CURRENT OPERATION @ 06:00 HRS (13-Dec-2004): Displace well to 1.26 sg mud

GEOLOGICAL SUMMARY

LITHOLOGY

INTERVAL: No drilling
ROP (Range):
Av. ROP:

REMARKS

After displacing the cement for plug 2B excessive U tubing occurred requiring the cement to be reverse circulated out of the string. Plug 2B was then re pumped and set from 2060.0 to 1986.0 mMDRT. The cementing assembly was pulled back to 1983.0 mMDRT and the string reverse circulated with 2.2 m3 of contaminated mud dumped. The cementing string was pulled out to the 73 mm mule shoe assembly which was then laid out.

A bridge plug was picked up and run into the hole on 89 and 127 mm drill pipe and set at 1981.0 mMDRT. Cement lines were rigged up and pressure tested and a cement plug pumped on top of the bridge plug. The drill pipe was pulled back to 1960.0 mMDRT however excessive U tubing again occurred resulting in the cement being reverse circulated out of the cementing string. The cementing string was back into the hole to 1980.0 mMDRT and the well displaced to 1.26 sg mud prior to attempting to set cement on the bridge plug again.

WELLSITE GEOLOGISTS

Richard Stear

DAILY GEOLOGICAL REPORT

Date:	14 December 2004	Rig:	Ocean Patriot
Report Number:	38	Bit Diameter:	
Report Period:	06:00 - 06:00 Hours	Last Casing:	7" liner @ 2420.0 mMDRT
Spud Date:	10-Nov-2004 08:30 Hours	Integrity Test:	N/A
Days From Spud:	33.9	Mud Weight:	10.50 ppg
Depth @ 0600 Hrs:	2422.0 mMDRT		
	2385.1 mTVDAHD	Mud Type:	KCL/ Idcap D
Lag Depth:	2422.0 mMDRT	Mud Chlorides:	46000 mg/L
Last Depth:	2422.0 mMDRT		
Progress:	0 m		
Water Depth:	56.8 m	Last Survey:	2376.78 mMDRT
RT:	21.5 m	Deviation:	Inc. 11.96°
			Az. 45.76°

OPERATIONS SUMMARY

24 HOUR SUMMARY: Set cement plug on bridge plug, POOH, commence operations on Longtom-2 ST1

NEXT 24 HOURS: Operations on Longtom-2 ST1

CURRENT OPERATION @ 06:00 HRS (14-Dec-2004): Operations on Longtom-2 ST1

GEOLOGICAL SUMMARY

LITHOLOGY

INTERVAL: No drilling
ROP (Range):
Av. ROP:

REMARKS

After displacing the well to 1.26 sg mud the cement hose was rigged up and pressure tested and cement plug 3 set on the bridge plug from 1980.0 to 1960.0 mMDRT. The drill pipe was pulled back to 1959.0 mMDRT and the string reverse circulated before pulling out of the hole and laying out the bridge plug running tool.

At this point the well was renamed Longtom-2 ST1 and operations are covered in the Longtom-2 ST1 report.

WELLSITE GEOLOGISTS

Richard Stear

DAILY GEOLOGICAL REPORT

Date:	14 December 2004	Rig:	Ocean Patriot
Report Number:	38	Bit Diameter:	6.00 in
Report Period:	06:00 - 06:00 Hours	Last Casing:	7" @ 1960.0 mMDRT
Spud Date:	10-Nov-2004 08:30 Hours	Integrity Test:	N/A
Days From Spud:	33.9	Mud Weight:	10.50 ppg
Depth @ 0600 Hrs:	1960.0 mMDRT	Mud Type:	KCl / Idcap D
	1934.5 mTVDAHD	Mud Chlorides:	45000 mg/L
Lag Depth:	1960.0 mMDRT		
Last Depth:	N/A		
Progress:	1960.0 m		
Water Depth:	56.8 m	Last Survey:	1946.13 mMDRT
RT:	21.5 m	Deviation:	11.23 Inc.°
			41.77 Az.°

OPERATIONS SUMMARY

24 HOUR SUMMARY: Commence operations on Longtom-2 ST1, test BOP, pick up whipstock and milling assembly, RIH

NEXT 24 HOURS: Set whipstock, mill casing window, POOH with milling assembly, pick up drilling assembly and RIH to drill to core point

CURRENT OPERATION @ 06:00 HRS (14-Dec-2004): RIH with whipstock

GEOLOGICAL SUMMARY

LITHOLOGY

INTERVAL: No drilling
ROP (Range):
Av. ROP:

REMARKS

The BOP was pressure tested before making up the 152 mm milling and whipstock assembly. The assembly was then run into the hole.

WELLSITE GEOLOGISTS

Richard Stear

DAILY GEOLOGICAL REPORT

Date:	15 December 2004	Rig:	Ocean Patriot
Report Number:	39	Bit Diameter:	6.00 in
Report Period:	06:00 - 06:00 Hours	Last Casing:	178 mm (7") @ 1955.2 mMDRT
Spud Date:	10-Nov-2004 08:30 Hours	FIT:	14.2 ppg EMW @ 1012.0 mMDRT
Days From Spud:	34.9	Mud Weight:	10.5 ppg
Depth @ 0600 Hrs:	1959.0 mMDRT		
	1933.5 mTVDAHD	Mud Type:	KCl / Idcap D
Lag Depth:	1959.0 mMDRT	Mud Chlorides:	48000.00 mg/L
Last Depth:	1960.0 mMDRT		
Progress:	0 m		
Water Depth:	56.8 m	Last Survey:	1946.13 mMDRT
RT:	21.5 m	Deviation:	Inc. 11.23° Az. 41.77°

OPERATIONS SUMMARY

24 HOUR SUMMARY: RIH, set whipstock, mill casing window from 1955.2 to 1959.0 mMDRT, string stuck at 1958, work string up hole, became free at 1862.0 mMDRT. POOH, inspect and change out mills.

NEXT 24 HOURS: RIH, complete milling window, POOH.

CURRENT OPERATION @ 06:00 HRS (15-Dec-2004): Running in hole with new milling assembly.

GEOLOGICAL SUMMARY

LITHOLOGY

INTERVAL: No new lithology drilled

REMARKS

Continued running into the hole with the whipstock. Broke circulation and oriented whipstock 42 degrees right of high side. Ran down and tagged cement at 1960.3 mMDRT. Set the whipstock with 25 mt down weight and sheared off. Commenced milling the window from 1955.2 m to 1958.0 mMDRT.

The string became stuck at 1958.0 mMDRT. Worked free with 32 mt overpull. Milling the window continued from 1958.0 to 1959.0 mMDRT. While picking up off bottom to remove a hose caught under elevators the string became stuck at 1958.0 mMDRT. The string was worked with a maximum overpull of 68 mt, 32 mt set down, and 12.5 kNm torque while pumping Hi-Vis sweeps.

The string was worked with decreasing drag back to 1829.0 mMDRT, unable to rotate or go back down. The string became free at 1862.0 mMDRT and pulled with no drag. The string was then pumped out of the hole to 1780.0 mMDRT. Pulling out of the hole continued to 1690 mMDRT where circulation was broken and circulating pressures checked. A slug was then pumped and pulling out of hole continued to above the liner lap at 875.0 mMDRT.

Bottoms up was circulated and 300 g of metal collected on the ditch magnets. A post jarring inspection was performed on the derrick, top drive and travelling block, the riser was boosted for 30 minutes during this operation.

The BHA was pulled out to surface and inspected. The mills were in gauge but wear on one side indicated junk was being dragged. The MWD tools were laid out and the mills changed out.

WELLSITE GEOLOGISTS

Richard Stear, Cliff Menhennit

DAILY GEOLOGICAL REPORT

Date:	16 December 2004	Rig:	Ocean Patriot
Report Number:	40	Bit Diameter:	6.00 in
Report Period:	06:00 - 06:00 Hours	Last Casing:	7" @ 1960.0 mMDRT
Spud Date:	10-Nov-2004 08:30 Hours	Integrity Test:	0.0 ppg EMW @ 0.0 mMDRT
Days From Spud:	35.9	Mud Weight:	10.5 ppg
Depth @ 0600 Hrs:	1967.7 mMDRT		
	1942.2 mTVDAHD	Mud Type:	KCl / Idcap D
Lag Depth:	1967.7 mMDRT	Mud Chlorides:	48000 mg/L
Last Depth:	1959.0 m MDRT		
Progress:	8.7 m		
Water Depth:	56.8 m	Last Survey:	1961.00 mMDRT
RT:	21.5 m	Deviation:	Inc. 11.30°
			Az. 41.77°

OPERATIONS SUMMARY

24 HOUR SUMMARY: Continue making un BHA with new mills. RIH and mill to 1967.7 mMDRT. POOH and laid out milling assembly. Commenced making up drilling assembly.

NEXT 24 HOURS: RIH with drilling assembly. Drill to core point. POOH.

CURRENT OPERATION @ 06:00 HRS (16-Dec-2004): RIH with drilling assembly

GEOLOGICAL SUMMARY

LITHOLOGY

INTERVAL: 1959.0 to 1967.7 m MDRT

ROP (Range): 15.0 to 22.0 m/h

Av. ROP: 16.5 m/h

CEMENT with minor SANDSTONE

SANDSTONE: (5%) white to translucent, returned loose, fine to predominantly medium grained, sub angular to sub rounded, dominantly sub rounded, moderately sorted, common white clay matrix, trace nodular pyrite, fair inferred porosity, no shows.

CEMENT: (95%) Samples also have common metal shavings.

GAS SUMMARY

Background Gas							
INTERVAL (m MDRT)	Total Gas (%)	C1 (ppm)	C2 (ppm)	C3 (ppm)	iC4 (ppm)	nC4 (ppm)	C5 (ppm)
1959.0 - 1967.0	0	0	0	0	0	0	0

REMARKS

Making up of the milling bottom hole assembly continued. The assembly was then run into the hole passing the liner lap at 877 m carefully and washing and lightly reaming from 1829 m to 1959 mMDRT. The window was milled and new formation drilled from 1959 m to 1967.7 mMDRT, pumping Hi-Vis sweeps as required. The drilling assembly was then pulled back through the window with the pumps on and no rotary. The hole and window condition were good, and a flow check was static. Five stands were then pulled and hole fill was observed to be correct. A slug was then pumped and the drill string pulled out to the top of the liner lap. Bottoms up was then circulated and a flow check conducted. A slug was pumped and the drilling assembly pulled out of the hole to the surface and the milling bottom hole assembly was laid out. Picking up of the drilling assembly then commenced.

WELLSITE GEOLOGISTS

Cliff Menhennitt

DAILY GEOLOGICAL REPORT

Date:	17 December 2004	Rig:	Ocean Patriot
Report Number:	41	Bit Diameter:	6.00 in
Report Period:	06:00 - 06:00 Hours	Last Casing:	7" @ 1960.0 mMDRT
Spud Date:	10-Nov-2004 08:30 Hours	Integrity Test:	N/A
Days From Spud:	36.9	Mud Weight:	10.7 ppg
Depth @ 0600 Hrs:	2112.0 mMDRT		
	-2083.5 mTVDAHD	Mud Type:	KCl / IdcapD
Lag Depth:	2112.0 mMDRT	Mud Chlorides:	47000 mg/L
Last Depth:	1967.6 mMDRT		
Progress:	144.4 m		
Water Depth:	56.8 m	Last Survey:	1967.71 mMDRT
RT:	21.5 m	Deviation:	Inc. 11.30°
			Az. 41.77°

OPERATIONS SUMMARY

24 HOUR SUMMARY: RIH with drilling assembly. Drilled from 1867 m to 2112 mMDRT. CBU and flow check. POOH back reaming tight sections from 2069 m to 2050 mMDRT and 2012 m to 1992 mMDRT. Laid out drilling assembly. Picked up coring assembly. RIH with coring assembly to 1950 mMDRT, broke circulation and established SCRs, recorded up and down weights.

NEXT 24 HOURS: Cut core #1, POOH and lay out core. RIH and cut core #2.

CURRENT OPERATION @ 06:00 HRS (17-Dec-2004): Broke circulation at 1950 mMDRT and established SCRs.

GEOLOGICAL SUMMARY

LITHOLOGY

INTERVAL: 1967.7 to 1990.0 mMDRT (-1942.0 to -1963.9 mTVDAHD)
ROP (Range): 37.0 to 104.0 m/h
Av. ROP: 57.0 m/h

SANDSTONE with minor interbedded CLAYSTONE

SANDSTONE (90%) : white to translucent grains, predominantly returned loose, trace friable aggregates, fine to predominantly medium grained, trace medium to coarse grains, sub angular to sub rounded, minor angular, dominantly sub rounded, moderately well sorted, common white argillaceous matrix in aggregates, trace nodular pyrite, fair inferred porosity, no shows.

CLAYSTONE (10%) : medium light grey to light olive grey, firm to moderately hard, sub blocky to blocky, trace to 5% silt, rare very fine quartz, trace micropyrte, trace micromicaceous, rare carbonaceous flecks.

COAL (Trace) : brownish black, minor moderate brown, subvitreous lustre, blocky to sub conchoidal fracture, slightly argillaceous in part, lignitic.

CEMENT (0-50%)

INTERVAL: 1990.0 to 2010.0 mMDRT (-1963.9 to -1983.5 mTVDAHD)
ROP (Range): 33.0 to 95.0 m/h
Av. ROP: 62.0 m/h

SANDSTONE with interbedded CLAYSTONE and SILTY CLAYSTONE

SILTY CLAYSTONE: (10 - 50%) light grey to light olive grey, firm to moderately hard, sub blocky, abundant silt to very fine quartz, grades in part to Siltstone, 5 to 10% carbonaceous flecks and microlaminae, trace micromicaceous, trace micropyrte.

CLAYSTONE: (10 - 50%) as above, medium light grey to light olive grey, firm to moderately hard, sub blocky to blocky, trace to 5% silt, rare very fine quartz, trace micropyrinite, trace micromicaceous, rare carbonaceous flecks..

SANDSTONE: (30 - 70%) generally as above, white to translucent grains, predominantly returned loose, trace friable aggregates, fine to predominantly medium grained, trace medium to coarse grains, sub angular to sub rounded, minor angular, dominantly sub rounded, moderately well sorted, common white argillaceous matrix in aggregates, trace nodular pyrite, fair inferred porosity, no shows.

INTERVAL: 2010.0 to 2075.0 mMDRT (-1983.5 to -2047.3 mTVDAHD)
ROP (Range): 26.0 to 94.0 m/h
Av. ROP: 50.0 m/h

CLAYSTONE with intrebedded SANDSTONE and minor SILTY CLAYSTONE

CLAYSTONE: (0 - 95%) generally as above, medium light grey to light olive grey, firm to moderately hard, sub blocky to blocky, trace to 5% silt, trace very fine quartz, trace micropyrinite, trace micromicaceous, trace carbonaceous flecks, no calcareous.

SILTY CLAYSTONE: (0 - 10%) generally as above, light grey to light olive grey, firm to moderately hard, sub blocky, abundant silt to very fine quartz, grades in part to Siltstone, 5 to 10% carbonaceous flecks and microlaminae, trace micromicaceous, trace micropyrinite.

SANDSTONE: (5 - 40%) white to translucent grains, predominantly returned loose, trace friable aggregates, fine to medium grained, trace medium to coarse grains, sub angular to sub rounded, minor angular, dominantly sub rounded, moderately well sorted, common white argillaceous matrix in aggregates, trace nodular pyrite, fair inferred porosity, no shows.

INTERVAL: 2075.0 to 2112.0 mMDRT (-2047.3 to -2083.5 mTVDAHD)
ROP (Range): 11.0 to 81.0 m/h
Av. ROP: 30.0 m/h

CLAYSTONE with interbedded SANDSTONE, SILTY CLAYSTONE, and trace FERRUGINOUS CLAYSTONE.

CLAYSTONE: (0 - 85%) generally as above, medium light grey to light olive grey, firm to moderately hard, sub blocky to blocky, trace to 5% silt, trace very fine quartz, trace micropyrinite, trace micromicaceous, trace carbonaceous flecks, no calcareous.

SANDSTONE: (10 - 40%) generally as above, white to translucent grains, predominantly returned loose, trace friable aggregates, fine to medium grained, trace medium to coarse grains, sub angular to sub rounded, minor angular, dominantly sub rounded, moderately well sorted, common white to light grey argillaceous matrix in aggregates, trace lithic grains, trace weathered feldspar grains, poor to fair inferred porosity, no shows.

SILTY CLAYSTONE 10% : as above

FERRUGINOUS CLAYSTONE: (Trace) moderate brown to moderate reddish brown, moderately hard, sub blocky to blocky, minor silt in part, non calcareous.

HYDROCARBON FLUORESCENCE

No Shows

GAS SUMMARY

Background Gas							
INTERVAL (mMDRT)	Total Gas (%)	C1 (ppm)	C2 (ppm)	C3 (ppm)	iC4 (ppm)	nC4 (ppm)	C5 (ppm)
1967.7 - 1990.0	0.9	6757	237	54	5	7	7
1990.0 - 2010.0	0.7	5416	185	35	10	11	34
2010.0 - 2075.0	2.0	20100	836	256	53	60	104
2075.0 - 2112.0	0.6	4657	199	53	10	13	21
2037.5 (Peak)	10.58/2.0	85646	3397	997	147	168	121

CALCIMETRY

Interval (mMDRT)	Calcite Range	Dolomite Range
1967-2112	1.8-5.4	0-4.41

REMARKS

The drilling assembly was run into the hole to 1967 mMDRT while being rotated from 1954 m to 1967 mMDRT. Additional care was taken while passing the liner lap at 877 mMDRT. New hole was then drilled from 1867 m to 2112 mMDRT.

Bottoms up was circulated and a flow check conducted (Static), before pulling out of the hole to 1955 mMDRT. Some tight hole conditions were experienced and back reaming was necessary from 2069 m to 2050 mMDRT, and 2012 m to 1992 mMDRT. A maximum overpull of 27 t was recorded. A slug was then pumped and the drill string pulled out of the hole.

The drilling assembly was laid out and the coring assembly picked up. The coring assembly was run into the hole to 1950 mMDRT where circulation was broken, SCRs established, and up and down weights recorded.

WELLSITE GEOLOGIST

Cliff Menhennit

DAILY GEOLOGICAL REPORT

Date:	18 December 2004	Rig:	Ocean Patriot
Report Number:	42	Bit Diameter:	6.00 in
Report Period:	06:00 - 06:00 Hours	Last Casing:	7" @ 1960.0 mMDRT
Spud Date:	10-Nov-2004 08:30 Hours	Integrity Test:	N/A
Days From Spud:	37.9	Mud Weight:	10.6 ppg
Depth @ 0600 Hrs:	2130.0 mMDRT	Mud Type:	KCl / IdcapD
	2101.3 mTVDAHD	Mud Chlorides:	44500 mg/L
Lag Depth:	2130.0 mMDRT		
Last Depth:	2112.0 m MDRT		
Progress:	18.0 m		
Water Depth:	56.8 m	Last Survey:	1967.71 mMDRT
RT:	21.5 m	Deviation:	Inc. 11.30°
			Az. 41.77°

OPERATIONS SUMMARY

24 HOUR SUMMARY: Washed and reamed from 1950 m to 2112 mMDRT and CBU. Dropped ball recorded SCRs and weights. Cut core #1 from 2112 m to 2130 mMDRT. Flow check (Static), POOH to 1995 mMDRT. Pump slug and POOH to 1539. Repair racking arm. POOH to surface and lay out core tubes. Pick up core tubes for core #2 and RIH. Establish SCRs and record weights. Wash down from 2123 m to 2130 mMDRT. Tag bottom and CBU. Dropped ball and recorded SCRs and down weights. Commenced cutting core #2.

NEXT 24 HOURS: Complete cutting core #2, POOH and recover core.

CURRENT OPERATION @ 06:00 HRS (18-Dec-2004): Cutting core #2 at 2139 mMDRT

GEOLOGICAL SUMMARY

LITHOLOGY

INTERVAL: 2112.0 to 2130.0 m MDRT (-2083.5 to -2101.28 m TVDAHD)
ROP (Range): 1.9 to 27.1 m/h
Av. ROP: 11.5 m/h

Core chip descriptions supplied in separate document.

HYDROCARBON FLUORESCENCE

No Shows

GAS SUMMARY

Background Gas							
INTERVAL (m MDRT)	Total Gas (%)	C1 (ppm)	C2 (ppm)	C3 (ppm)	iC4 (ppm)	nC4 (ppm)	C5 (ppm)
2112-2130	0.5	4094	151	41	5	6	5
2122.5 (Peak)	5.6/0.5	40814	1487	411	46	50	46

REMARKS

The coring assembly was reamed from 1950 m to 1977 mMDRT, through the casing window, and washed down from 1977 m to 2112 mMDRT. Three metres of fill was noted on the bottom of the hole. Bottoms up was circulated. The ball was dropped and SCRs and up and down weights recorded.

Core #1 was cut from 2112 m to 2130 mMDRT. A flow check was conducted (Static) and the coring assembly pulled out of the hole to 1995 mMDRT. A slug was pumped and pulling out of the hole continued to 1539 mMDRT. Some time was lost at this point due to a drill pipe racking arm problem. Pulling out of the hole continued and the core recovered. Recovery was 17.61 m (97.8%)

The coring assembly was made up with new inner barrels and the bit condition checked. After picking up jars coring assembly #2 was run into the hole to 1950 mMDRT. Circulation was broken and SCRs and up and down weights recorded. The coring assembly was washed and reamed through the casing window and running in continued to 2123 mMDRT. The assembly was washed down from 2123 mMDRT and bottom tagged at 2130 mMDRT. Two metres of fill was noted on the bottom of the hole. Bottoms up was circulated. The ball was dropped and SCRs and up and down weights recorded.

Cutting of core #2 commenced.

WELLSITE GEOLOGIST

Cliff Menhennitt

DAILY GEOLOGICAL REPORT

Date:	19 December 2004	Rig:	Ocean Patriot
Report Number:	43	Bit Diameter:	6.00 in
Report Period:	06:00 - 06:00 Hours	Last Casing:	7" @ 1960.0 mMDRT
Spud Date:	10-Nov-2004 08:30 Hours	Integrity Test:	N/A
Days From Spud:	38.9	Mud Weight:	10.50 ppg
Depth @ 0600 Hrs:	2148.0 mMDRT	Mud Type:	KCl / Idcap D
	2118.9 mTVDAHD	Mud Chlorides:	44500 mg/L
Lag Depth:	2148.0 mMDRT		
Last Depth:	2130.0 mMDRT		
Progress:	18.0 m		
Water Depth:	56.8 m	Last Survey:	1967.71 mMDRT
RT:	21.5 m	Deviation:	Inc. 11.30°
			Az. 41.77°

OPERATIONS SUMMARY

24 HOUR SUMMARY: Continued cutting Core #2 from 2130 m to 2148 mMDRT. Flow check (Static), POOH to 1950 mMDRT, pumped slug and POOH to surface. Laid out jars and recovered core (18m - 100%). Laid out core barrel and drill collars. RIH with stinger and set abandonment plug from 2148 m to 2062 mMDRT. Continued abandonment operations.

NEXT 24 HOURS: Continue with P&A operations

CURRENT OPERATION @ 06:00 HRS (19-Dec-2004): Laying out drill collars.

GEOLOGICAL SUMMARY

LITHOLOGY

INTERVAL: 2130.0 to 2148.0 m MDRT (-2101.28 to -2118.9 m TVDAHD)
ROP (Range): 0.9 to 31 m/h
Av. ROP: 4.2 m/h

Core chip descriptions supplied in separate document.

HYDROCARBON FLUORESCENCE

No Shows

GAS SUMMARY

Background Gas							
INTERVAL (m MDRT)	Total Gas (%)	C1 (ppm)	C2 (ppm)	C3 (ppm)	iC4 (ppm)	nC4 (ppm)	C5 (ppm)
2130-2148	0.5	4149	160	44	10	2	2
2136 (Peak)	4.28/0.5	49712	1767	503	119	19	19
2143 (Peak)	4.10/0.5	49749	1925	513	123	19	22

REMARKS

Core #2 was cut from 2130 m to 2148 mMDRT. A flow check was conducted (Static) and the coring assembly pulled out to 1950 mMDRT. A slug was pumped and pulling out of the hole continued to surface. The jars were laid out and the core was recovered. Core recovery was 18 m (100%). The core barrels and bit were laid out, followed by the 121mm drill collars.

The equipment for handling 73 mm drill pipe was rigged up and after a JSA a cement stinger was run into the hole to 202.0 mMDRT where the drill pipe was crossed over to 89 mm. Running into the hole continued to 1347.0 mMDRT where the drill pipe was crossed over to 127 mm. Running in continued washing down the last stand and tagging bottom at 3148.0 mMDRT. Bottoms up was circulated. A side entry sub and hose were rigged up, and after a JSA the lines were tested and a cement slurry was mixed and pumped. An abandonment plug was set from 2148.0 to 2062.0 mMDRT.

The cement hose was rigged down and the side entry sub stand was racked back. Three stands of drill pipe were pulled and the side entry sub stand rigged up with a reverse circulating hose. The drill string was reverse circulated and 2.5 m³ of contaminated mud dumped. The reverse circulating hose was rigged down and the side entry sub stand racked back. The drill string was pulled out of the hole until the stinger was inside the milled casing window. Heavy weight drill pipe and 121 mm drill collars were laid out.

WELLSITE GEOLOGISTS

Cliff Menhennitt

Bits Summary Report

Legal Well Name: Longtom-2
 Common Well Name: Longtom-2
 Event Name: OFFSHORE-ORIG DRLG
 Contractor Name: UNSPECIFIED
 Rig Name: Ocean Patriot

Start: 6/11/2004
 Rig Release:
 Rig Number: OP

Spud Date: 10/11/2004
 End:

Bit No/ Run	Size (mm)	Make/ Type	IADC Code	Serial Number	TFA (mm ²) JETS (/32")	TMD In/ Out (m)	Total Drilled (m)	Cum./ Tot Rot Hours	ROP	WOB Min/Max (Tonnes)	RPM	Pump Press (kPa)	Pump Output (L/min)	deltaP Bit (kPa)	Nozzle Velocity (m/s)	HHP (kW/cm ²)	API Cond. I O D L B G O R
1/ 1	914.40	Security XNIC	/ 1-1-1	10426284	1,315.8 28/25/25/25/ / / / /	23.87/ 33.83	9.96	2.00 2.00	4.98	0.0/ 0.0	60 60	33,302	12,889.3	185,856	163.3	6,192.413	-- - - -
Remarks																	
2/ 2	311.15	Hycalog DS40HFGNU	/	200363	506.7 16/16/16/16/ / / / /	33.83/ 307.54	273.71	12.43 14.43	22.02	0.0/ 0.0	70 80	262,001	15,141.6	4	0.8	0.163	1-2-BT-G D- I-EC-TD
Remarks																	
3/ 3	215.90	Hycalog DSX104HG	/ PDC	109117	368.6 12/12/12/12/13 / / / /	1,009.00/ 2,311.00	2,003.46	31.90 46.33	62.80	1.5/ 22.0	26 97	21,525	2,100.0	6,344	94.9	34.436	4-7-RO-T D- I-BT-PR
Remarks																	
4/ 4	215.90	Smith GFHI 300 D	/ 5.1.7	MR 6520	380.0 16/16/16/ / / / / /	2,311.00/ 2,422.00	111.00	19.80 66.13	5.61	5.0/ 14.0	76 122	21,373	2,067.0	6,375	90.7	34.064	3-6-BT-G E- 3-WT-TD
Remarks																	
5/ 5	215.90	Hycalog DSX104HG	/ PDC	109683	356.3 12/12/12/12/12 / / / /	2,422.00/ 2,442.00	584.00	8.00 74.13	73.00	/ 2.5	100 120	16,550	2,103.3	7,511	98.4	40.838	-1-NO-A D- I-NO-TD
Remarks																	
6/ 6	215.90	Hycalog DSX104HG	/ PDC	109683	356.3 12/12/12/12/12 / / / /	2,422.00/ 2,422.00		3.00 77.13		/ 3.0	40 120	15,847	1,900.0	6,304	88.9	30.962	-1-CT-C D- I-NO-TD
Remarks																	
7/ 7	152.40	Reed SL12TKPR	/ 1.2.7	NR 2616	1,520.1 32/32/32/ / / / / /	877.00/ 2,347.00	40.00					23,420	2,498.0	603	27.4	3.892	--NO-A E- I-NO-TD
Remarks																	
8/ 1	152.40	Hycalog 211	/ PDC	H47709	506.7 16/16/16/16/ / / / /	1,967.70/ 2,112.00	144.30	5.00 82.13	26.24	2.3/ 0.5	80 140	13,790	1,324.9	1,358	43.6	4.649	--NO-A D- I-NO-TD
Remarks																	

Bits Summary Report

Legal Well Name: Longtom-2
 Common Well Name: Longtom-2
 Event Name: OFFSHORE-ORIG DRLG
 Contractor Name: UNSPECIFIED
 Rig Name: Ocean Patriot

Start: 6/11/2004
 Rig Release:
 Rig Number: OP

Spud Date: 10/11/2004
 End:

Bit No/ Run	Size (mm)	Make/ Type	IADC Code	Serial Number	TFA (mm ²) JETS (/32")	TMD In/ Out (m)	Total Drilled (m)	Cum./ Tot Rot Hours	ROP	WOB Min/Max (Tonnes)	RPM	Pump Press (kPa)	Pump Output (L/min)	deltaP Bit (kPa)	Nozzle Velocity (m/s)	HHP (kW/cm ²)	API Cond. I O D L B G O R
9/ 1	152.40	Security	/ PDC	7971459	356.3 12/12/12/12/12 / / / /	2,112.00/ 2,130.00	18.00	4.00 86.13	4.50	2.3/ 6.8	90 110	13,500	760.0	1,390	44.2	2.731	-2-CR-N D- I-NO-TD
Remarks																	
10/ RR 1	152.40	Security Core Bit	/ PDC	7971459	356.3 12/12/12/12/12 / / / /	2,130.00/ 2,148.00	18.00	5.50 91.63	3.27	2.3/ 6.8	90 110	8,274	760.4	891	35.6	1.751	1-2-CT-N D- I-PN-TD
Remarks																	

Fluids Recap

Apache Energy Ltd

Longtom-2

Bass Strait- Victoria

Wildcat - Exploration

Vic P-54



Prepared by:

Nigel Warman



M-I L.L.C.
ONE-TRAX
DRILLING FLUID DATA MANAGEMENT SYSTEM

Operator: Apache Energy Ltd
Well Name: Longtom-2
Field/Area: Bass Strait- Victoria
Description: Wildcat - Exploration
Location: Vic P-54
Warehouse: Melbourne
Contractor: Diamond Offshore

Spud Date: 10/11/2004
TD Date: 19/11/2004
Location Code: 7001
Project Engineer: Nigel Warman
Sales Engineer: Jasdeep Singh
Sales Engineer: Glen Sharpe
M-I Well No. 16144

Comments: All reporting at 24:00 hours as per IADC report

Type	Size mm	Depth m	TVD m	Hole mm	Max MW sp.gr.	Fluid 1	Fluid2	Drilling Problem	Days	Cost \$
Casing	762	110	110	914	1.05	Spud Mud	N/A	N/A	1	9449.72
Casing	244	1009	1009	311	1.05	Spud Mud	N/A	N/A	2	20504.53
Liner	178	2422	2422	216	1.8	KCL/Polymer		Gas-Cut Mud	29	172693.97
Side Track	.	2148	2148	127	1.25	KCL/Polymer		None	9	8655.08

Total Depth: 2422 m TVD: 2422 m Water Depth: 57 m Drilling Days: 41 Total Cost: 211,303.30

**DRILLING FLUIDS RECAP FOR APACHE ENERGY
LONGTOM 2**

CONTENTS:

- **DISCUSSION BY INTERVAL**
- **DAILY DISCUSSION REPORT**
- **COST BY INTERVAL**
- **DAILY VOLUME SUMMARY SHEET**
- **TOTAL MATERIAL COST**
- **HYDRAULICS REPORT**
- **DRILLING FLUIDS SUMMARY**
- **PRODUCT CONSUMPTION**
- **DAILY MUD REPORTS**

**DRILLING FLUIDS RECAP FOR APACHE ENERGY
LONGTOM 2**

**DISCUSSION
BY
INTERVAL**

DRILLING FLUIDS RECAP FOR APACHE ENERGY LONGTOM 2

SUMMARY:

Apache Energy Ltd was the operator of vertical exploration wildcat gas well, Longtom-2, Vic/P54, Victoria, Australia using Ocean Patriot semi submersible rig owned by Diamond Offshore. Its primary target was gas in Admiral formation at 2045 m SS.

The rig Ocean Patriot towed from the Martha-1 (Santos) Otway Basin and arrived on location on the 9th November 2004.

Longtom-2 was spudded on the 10th November 2004 at 09:00 hrs. The 914 mm (36 x 26") hole was drilled to 111 m using sea water and Gel sweeps. The 762mm (30" x 20") conductor casing was run and cemented in place with no troubles at 109.9 m.

The 311mm (12¼") hole was drilled to 1009 m with sea water and PHG gel sweeps and 244mm (9⅝") casing was set and cemented with no troubles.

The 216 mm (8½") inch BHA was made up and RIH. The Top of Cement was tagged at 964 meters. This was drilled out with seawater and PHG sweeps. After the shoe track and rat hole was cleaned, the hole was displaced to the KCl/IdcapD/Hibtrol system. There were some mud losses at the shakers (through the sand traps) during the displacement. Two of the VSM Thule shakers were dressed with 105 mesh screens with 10 mesh scalpers on top, the other two VSM Thule shakers were dressed with 120 mesh screens and 10 mesh scalper screens on top, as there was only 8 x 105 mesh screens available.

New hole was drilled to 1012 meters where a FIT was performed and obtained a 1.7 sg equivalent mud weight.

Drilling 216mm hole proceeded with ROP's from 40 – 100 meters per hour pumping 2120 lt/min. Shortly after commencing drilling new hole the header box filled with cuttings and had to be shovelled manually into the shakers. This was due to bad flow design of the cuttings box and shaker configuration. This continued to be the case for the next several hours until compressed air was used to unsettle the cuttings.

At approximately 1400 meters the mud weight started to increase due to drill solids and the DFE Centrifuge was introduced into the solids removal system. The Centrifuge was removing solids at 2.34 sg and the active mud weight was reduced to and maintained at 1.24 sg. The de-silter was run to check its efficiency for approximately 1 hour, adjusting feed rate and pressure and changing cones. Although the discharge was weighed at 1.68 sg, the losses were high (60-100 bph) and the de-silter was taken out of the system. Due to the list of the rig in stormy

DRILLING FLUIDS RECAP FOR APACHE ENERGY LONGTOM 2

weather, high losses occurred at the shakers, with a steady loss from beneath the shaker basket itself. Mud losses at the shaker were aggravated as the mud flowed from one end to the other in the header box in rough seas and rig movement. The riser boost pump was activated around 1900m as well, to ensure cutting transport out of the large diameter geometry.

Around 1900 meters the centrifuge was shut down and a gradual increase in the mud weight (up to 1.28 sg) occurred and the centrifuge was brought back on line. The sand section was penetrated at 2030m and the weight continued to increase. At this time the 105 mesh screens (shakers 3 and 4) were replaced by 145 mesh screens. This, along with operating the centrifuge, resulted in a reduction of mud weight, which was then maintained at 1.24 sg.

A 50 bbl high-vis (DuoTec) sweep was pumped at approximately 2000m to clean hole before entering production zone. The remaining section was then control drilled through the sand interval. The mud weight again increased to 1.28sg, and weight reduction of the system by dilution with un-weighted premix back to 1.25sg took place. Drilling continued with ROP's averaging 29m/h without incident. An unexpected formation change reducing the ROP's to 5 m/h prompted a bit change. After circulating bottoms up, the pipe was slugged for a trip.

Up to this stage of the hole, no indications whatsoever were seen at the logging unit of gas from the formation and it was assumed that the well was dry.

A repeat section log (MWD) was made from 2100m to 2312m, with 6 meters of fill on bottom. The trip was made with over-pull the near the top of the sand (2016m) and then from 1946m upwards. While back-reaming from 1750m to 1671m (coal section), the logging unit recorded 11% gas. The well was flow checked and the pipe was then run back in to bottom. As circulating began, a 2m³ gain was seen in at the surface and immediately the well was shut in. The kick gas was slowly circulated through the choke and continued until certain all kick volume had been circulated out. The active pit was weighted up to 1.32 sg and a 10 stand wiper trip was made to check hole condition. Once gas readings came down to 3%, the bit was tripped again, encountering some tight hole from 1650m to 1300m, associated with coal measures. Back-reaming was required to the shoe through this section. A slug was pumped at the casing shoe and the trip continued, racking back the BHA and loaded and surface tested MWD tools and completed rig service

After running back in the hole with a new bit, commenced drilling ahead slowly with ROP's of 1 – 3 m/hr from 2376m. At 2400m 2 x 145 mesh screens on shaker 1 were changed to 2 x 165 mesh screens. At 2422m, suspected lost circulation started the mixing of a LCM pill in the slug tank but this had to transfer it into pit 2 as a

DRILLING FLUIDS RECAP FOR APACHE ENERGY LONGTOM 2

1.65sg slug was required for a 10 stand wiper trip. During the wiper trip 30 bbls of 1.1 sg mud was transferred from pit 5 to pit 3 to lower the active pit mud weight from 1.43 sg to 1.4 sg. When the bit reached TD and the mud was circulated the DFE centrifuge was turned on to help maintain the 1.4 sg mud weight prior to POOH to run logs.

The logging tools but got stuck at 1564m when running in, so the logging tools were pulled out of the hole and bit ran in the hole for another wiper trip. The hole was reamed to 2421m then the bit was pulled out to the shoe without incident. A flow check was performed then a slug was pumped. Pulling out of the hole continued. Logging tools were then run into the hole but they got stuck at approximately 1560m, so the logging tools were pulled out of the hole.

The logging tools were rigged up on the end of the drill string and run into the hole to get to TD. They got stuck at 1917m and were pulled out of the hole. The logging tools were laid down and a bit was ran back into the hole to complete a wiper trip to TD.

Due to excessive gas bubble percolating up the hole during running in hole, the well was shut in at 2058m and circulated through the choke. The bit was further run in to bottom and the well was circulated and mud weight increased from 1.41 sg to 1.44 sg to control gas. A short trip was made to 1750m to ream out claystone sections and run back in to bottom. After bottoms up the string was pumped out to 1200m and then further pulled out of hole after pumping a slug.

The 7" liner was lowered into the well to 2420m without any troubles and hanged off at 883m inside the last casing. It was cemented as per plan with good returns observed. After WOC the 4 ½" tubing was run in hole with a scraper.

The well was flow tested for 12 hrs followed by 12 hrs build up. No multi rate flow test was performed. The well was killed by bull heading 1.44 sg mud below the packer and then reversed out. During reverse out large amount of gas were encountered in the mud which was not reducing. Consequently the mud weight was raised from 1.45 sg to 1.5 sg and the gas level gradually reduced from 35% to 5%. These mud weights where then eventually increased to 1.8 sg to kill the well.

After running in with a cement stinger the first cement plug was set from 2274 to 2169m, after running in to confirm TOC it was found the plug was 40m lower then projected top. With the second plug then set from 2230-2169 this plug proved to be good with TOC at 2169 and holding 4000psi. After laying out the stinger assembly a new set of guns was made up and run in hole to commence the testing programme.

DRILLING FLUIDS RECAP FOR APACHE ENERGY LONGTOM 2

With no results from the second test the well was then circulated clean and once again gas levels peaked at 35.6% with this the 1.8sg mud was used to kill this section.

There where then casing plugs set from 2062-1986m with the first one failing then re-setting the second one in the same area which proved to be good, with this then laying down 27/8" tubing and making up a 7" bridge plug which was then run into hole on 3 1/2" drill string, un-stinging the bridge plug then setting cement from 1980-1960m pulling back and circulating out cement, the plug was then pressured tested to 3000psi and the well displaced to 1.25sg mud.

Baker whip-stock was RIH to 1960 and orientated to the correct position then milling proceeded, when pulling back over-pull occurred and the pipe become stuck, with working the pipe the obstruction was cleared. When out of the hole two milling tools showed signs of wear and these where then changed out and RIH.

The second milling run proved to be successful with the window cut, the assembly was POH and a 6" drilling assembly RIH drilling from 1960-2112m.

There two coring runs from 2112-2139 and 2130-2148 both cores where successful.

DRILLING FLUIDS RECAP FOR APACHE ENERGY LONGTOM 2

Interval I	78.5-111 meters	914mm Hole	762mm casing
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MUD TYPE : Seawater / PHG / Guar Gum sweeps

MUD RELATED
HOLE PROBLEMS : None

MUD PROPERTIES :

Mud Weight:	1.05 sg
YP:	10-15 k Pa
API FL:	N / C
Funnel Vis:	> 100 se/qt
Hardness:	40 mg/l
MBT:	30 ppb

OPERATIONS:

Longtom-2 was spudded on 10th Nov 2004. The 914mm hole was drilled with a bit and hole opener to 111m in 3 hrs. The 762 mm casing was lowered and cemented in place.

MUD

72m³ (455bbl) of 30 ppb Gel was mixed with no time to pre-hydrate, in preparation for spudding. After the transition zone was passed, drill water was taken on board and the drill water transfer pump had to be primed before filling the pits. No kill mud was prepared. While drilling, seawater was pumped from the slug pit (sea chest) and the hole was swept with 50 bbl PHG mud each tool joint through the rotary table. A 50 bbl pill was placed covering the BHA prior to connections. At TD a 50 bbl PHG sweep was pumped and hole displaced with 150 bbl of unflocculated mud. A trip to the seabed and back to bottom was made and the hole again displaced to unflocculated gel. A total of 113m³ (710bbl) of gel was used for this section and 211.7m³ (1332bbl) left over was carried over for next section.

SOLIDS CONTROL:

None used as returns were directed to seabed.

OBSERVATIONS AND RECOMMENDATIONS:

No changes are proposed.

DRILLING FLUIDS RECAP FOR APACHE ENERGY LONGTOM 2

Interval II	111 m-1009m	311mm Hole section	244mm casing
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MUD TYPE : Seawater / PHG / Flocculated gel sweeps

MUD RELATED
HOLE PROBLEMS : None

MUD PROPERTIES:

Mud Weight: 1.05 sg
YP: 10-12 kPa
API FL: N / C
Funnel Vis: > 100 se/qt
Hardness: 40 mg/l
MBT: 30 ppb

OPERATIONS:

The 311 mm drilling assembly was made up and run in hole. The BHA included a MWD logging suite with a motor, directional, gamma ray, and resistivity tools. Cement was tagged and the shoe track drilled with sea water pumped at 1100 gpm. A 50 bbl gel sweep was pumped after drilling cement and further drilling was progressed using sea water. A sweep regime of 50 bbl Prehydrated Gel each 15m drilled was followed, with 50 bbl of PHG spotted prior to connections to cover the BHA. The formation drilled was limestone. From 800m onwards, PHG flocculated with seawater (2:1) was pumped mid stand due to mixing difficulties related to delivery of bulk gel to the surge hopper, and the rate of drilling (80m/hr). TD was reached at 1009m where a 150 bbl sweep was pumped, consisting of flocculated PHG / seawater (3:1). A displacement volume of 300 bbls PHG was pumped and spotted, followed by another displacement 200 bbls of 6% KCl, weighted to 1.15sg to cover the lower section of hole for shale stability while running casing. The last 25 bbls KCl mud was left in the string, which was pulled dry. A heavy weight pill was made but not needed. No tight hole was encountered while trip out and a wiper trip was deemed unnecessary. The 216mm casing was run and cemented in place as per program with no hole troubles, although the plug was not bumped.

DRILLING FLUIDS RECAP FOR APACHE ENERGY LONGTOM 2

MUD:

211m³ of PHG mud from the previous section was carried over to this section and an additional 350m³ of 30 ppb Gel was mixed on the run as drilling progressed. After taking more gel onboard from the work boat, the delivery line from the pod to the surge tanks appeared to be blocked. Eventually a bentonite pod was isolated off line and two compressors were utilised to get product going at the required mixing rate. As volumes became lower (mixing rate at 200 bbls per hour and drill rate requiring 250 bbls of sweeps/spots, a pit was flocculated and sweeps pumped from there at mid-stand so mixing could catch up. By TD enough PHG was on the surface for the 300 bbls displacement and the 170 bbl flocculated sweep. Also, a weighted 1.15sg KCl (6%) displacement pill was spotted to cover the bottom of the hole up to 640m.

SOLIDS CONTROL:

No solids control was used as returns were to seabed.

OBSERVATIONS AND RECOMMENDATIONS:

No changes are recommended as the PHG sweep system is the most cost effective way to drill this interval. There should be a contingency for adequate product delivery to the surge tanks above the hoppers. Keeping product coming to this tank proved the biggest challenge, apart from the large quantity of PHG needed to be mixed. The budgeted cost over run is due mainly because planning had anticipated flocculating most of the 3000 bbls of sweeps. Also the barite consumption used for the slug wasn't costed.

DRILLING FLUIDS RECAP FOR APACHE ENERGY LONGTOM 2

Interval I11	1009 – 2422 meters	216mm Section	7" Liner
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MUD TYPE : KCl / IDCAP D / HIBTROL

MUD RELATED
HOLE PROBLEMS : Weight increase to control well bore pressures (gas influx), depleting KCl levels.

MUD PROPERTIES :

Mud Weight:	1.23-1.145sg
YP:	18-33
PV	18-21
API FL:	4 – 5.5 cc
KCl:	5.5%-7%
Funnel Vis:	41 – 46sec/qt
6 RPM:	8 - 11
Hardness:	200-1100 mg/l
Drill Solids:	1-1.5%
PH:	8.0 - 10

OPERATIONS:

The 244mm casing shoe track and rat hole were drilled out with a 216mm bit and the hole was displaced to 1.24 sg KCl/IdcapD/Hibtrol mud. No bit balling was experienced, as was the case on the offset well, requiring a bit trip to clear the bit. This indicated the mud system had sufficient inhibition for the lithology encountered. Drilled ahead to 2312 m with no hole related problems. From the top of the sand, 2035m, the drill rate was controlled at 40 m/hr for MWD logging purposes. As the ROP slowed to less than 5m/h in the lower target formation (Admiral Sand), a bit trip was required. On the tripout, a repeat section log (MWD) 2100 back to 2312m was made. The bit was tripped, with some tight hole encountered above the sand (2016m), and then pulled free. Further tight hole overpulled at 1946m, 1862m, 1846m and 1816m. Back reaming was required from 1750m to 1671m (coal section) and the was bit run back to bottom with 6m fill. Circulation began and a 2m³ gain was seen after pumping 20.7m³. Mud came out of the rotary and the well was immediately shut in on the inner rams and the diverter closed. SICP recorded a 3381 kPa reading. The influx was slowly circulated out through the choke with a 230 bbl gain in the pits. The mud weight was increased to 1.32sg while circulating and the pipe worked. 35% gas was read at the logging unit.

DRILLING FLUIDS RECAP FOR APACHE ENERGY LONGTOM 2

A 10 stand check trip was made (2m fill) and the gas was circulated until <4% (maximum 16%). The bit was then tripped out, encountering tight hole that required backreaming from 1650m to the shoe. The BHA was racked back, the MWD downloaded and the mud motor laid out. A rock bit was run back in the hole.

MUD:

All mud was treated with OS-1 as the compressed air used to unsettle the cuttings in the cuttings box aerated the mud and introduced foam into the sandtraps and the cuttings box.

140m³ of IdcapD/KCl/Hibtrol mud was weighted up to 1.25 S.G. The well was displaced to this mud in the shoe track, the FIT was performed with an EMW of 1.7sg.

All the active mud was pre-treated with sodium bicarb for cement contamination whilst drilling the casing shoe.

The mud performed well and there were no hole/mud related problems during the initial run to 1825m.

Additional volume was built with a higher KCl concentration (up to 11% calculated) but it was only able to maintain 6% KCl concentration in the active system due to the reactive lithologies. Good inhibition of sticky clays throughout the interval was achieved and no bit balling was experienced.

The addition of DuoTec maintained the rheology and the IdcapD proved to be very effective at encapsulating the cuttings and transporting them off of the screens with little incorporation into mud. Low gravity and drill solids were below 2%. MBT content did rise in the interval section from 12 to 28 kg/m³, and was treated (in conjunction with system weight reduction) by dilution with un-weighted pre-mix.

140m³ un-weighted (1.08 sg) mud was built for volume and mud weight maintenance. Density was kept at 1.25 sg with dilution while drilling through the target formation. The centrifuge was ran to control the build up of drill solids in the mud. Changed screens to 145 mesh x 8 (two shakers) for better solids control in sand section.

Added defoamer/ run degasser for air bubbles in mud.

The final circulation mud was treated prior to POH for pH and bactericide.

DRILLING FLUIDS RECAP FOR APACHE ENERGY LONGTOM 2

Added Duotec to raise rheology, thinned from coal to increase 6-RPM from 5 to 9 (12 YP).

Add defoamer (Dowell D-47) to reduce surface foam.

SOLIDS CONTROL:

Two shakers were dressed with the last of the 105 mesh screens with 10 mesh scalping screens. The other two shakers were dressed with 120 mesh screens and 10 mesh scalper screens. This combination proved to be successful in maintain the desired mud weight. The initial problem was that the cuttings box where the mud was delivered to prior to entering the shale shakers was poorly designed and quickly filled with cuttings. The danger here was that the flow line into the cuttings box would be blocked. One way to deal with the problem would be to dump the entire cuttings box contents on a regular basis and tolerate the mud losses. However initially the problem was tackled by manually shovelling the cuttings into the shakers by two deck crew. Later compressed air was used to stir up the cuttings boxes and the severity of the problem was reduced. Some losses were experienced throughout this section of the hole due to the list of the rig in the rough seas.

Around 2100m, finer screens (145 mesh) replaced the 105s. One 120 mesh screen on shaker 3 was replaced as the cuttings were sliding back down the screen.

A DFE Centrifuge was installed for this section of the hole and was somewhat effective in reducing the mud weight once the fine drill solids started to increase the mud weight to 1.27sg. The cake discharge was 2.34 sg, indicating mainly high gravity solids being discharged.

The de-silter was run for approximately an hour and it was decided not to run it any longer as it caused high losses. Pressure, flow rate and cone replacement, as well as blanks in 5 cones could not adjust the loss rate to an acceptable level. The spray discharge averaged losses of 60-100 bph while in operation, with a solids cut of 1.68 sg.

DRILLING FLUIDS RECAP FOR APACHE ENERGY LONGTOM 2

Interval IV	1690– 2112 m 2112-2148 m	152 mm Section 140mm Core	6" hole 5½" Core
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MUD TYPE : KCl / IDCAP D / HIBTROL

MUD RELATED
HOLE PROBLEMS : None

MUD PROPERTIES :

Mud Weight:	1.23-1.25sg
YP:	18-33
PV	18-21
API FL:	4 – 5.5 cc
KCl:	5.5%-7%
Funnel Vis:	41 – 65sec/qt
6 RPM:	8 - 11
Hardness:	200-1100 mg/l
Drill Solids:	1-1.5%
PH:	8.0 - 10

OPERATIONS:

A Dowell bridging plug was set at 1980m with a cement plug set from 1980-1960m and the Baker whip-stock was then RIH and set at 1960m it was then orientated to the correct position and milling the window began. Returns showed good quantities of metal cuttings and it was decided not use hi-vis sweeps due to good returns of metal.

With the whipstock RIH milling begun with the first milling assembly failing due to junk and becoming stuck this was then POH and a new milling assembly RIH this proved to be successful with a window cut.

There was 6" bit and BHA made up and after RIH, drilling commenced to 2112m, the hole was then circulated clean and POH. The first core assembly was then made up and cored to 2130m, POH the racking arm was disabled and it was another 6hrs before this was fixed and the core laid out on surface.

DRILLING FLUIDS RECAP FOR APACHE ENERGY LONGTOM 2

The second core was then drilled from 2130-2148m this was then POH both cores cut and the well was prepared for P&A setting plugs 2148-2062, 2062-1976, 1976-1890, 907-800, 170-100.

MUD:

As there was considerable volume of 1.8 sg mud on the surface pits 131m³ was used to cut back to the desired coring/drilling mud weight of 1.25 sg with dilution volumes of drill water, with the remaining heavy mud kept in reserve for slugs and increasing mud weight if necessary. Concentration levels of KCL, IdcapD and Hibtrol were then added to give a stable mud, extra Duo-Tec was used to give good carrying capacity during the milling section, this was then carried over to the drilling/coring phase where it was then beneficial in keeping the hole clean.

With all the cement plugs from the previous section the mud was treated with sodium bi-carb and citric acid to lower alkalinity, this then brought back to above neutral acid levels with caustic.

Both coring runs went well with no hole problems, solids equipment consisted of the use of shakers as the centrifuge was broken due to the bowl not been flushed on the previous well.

The mud system was treated with Glute -25 in preparation for the abandonment after sub-surface plug was set the riser was then displaced to seawater and the pits dumped and cleaned in preparation for the rig move.


OBSERVATIONS AND RECOMMENDATIONS:

There seems to be an air injection problem on this rig either through the charge pump or mixing lines, which makes weighing up and mud cut back very difficult. To improve this I would be looking at changing gaskets and valves through out the charge pump mixing line system. With air injection increases the corrosion process also in well control situations and weight up processes it becomes difficult to maintain correct mud weights.

The header box shaker system is a bad design as there isn't enough depth in the delivery box. There is currently a two box system, removing one of those then reducing the flow in depth into the shakers would maybe improve it by 20-30%.

**DRILLING FLUIDS RECAP FOR APACHE ENERGY
LONGTOM 2**

**DAILY DISCUSSION
REPORT**

	Operator : Apache Energy Ltd Well Name : Longtom-2 Contractor : Diamond Offshore	Field/Area : Bass Strait- Victoria Description : Wildcat - Exploration Location : Vic P-54 - Offshore Daily Discussion M-I Well : 16144
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10/11/2004	TD = 111 m	Day 1
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Complete run anchors. After transiton, add drill water to pits and mix PHG. Run in w/ BHA, tag seabed. Spud well at 09:00 hrs. Bed in bit and drill ahead pumping 50- bbls PHG hi vis sweeps each joint, as required. TD at 111m, sweep hole displace to PHG. POH, run in and displace to PHG. POH. Run in with 30" RT and housing. Run conductor. Cement same. WOC. Release RT and POOH.

Build PHG for sweeps and displacement for 914mm hole section. After drilled, continue mixing for next hole, fill pits with PHG. Receive from Far Grip 87 mt bentonite.

Complete anchors run. Run in w/ BHA, tag seabed. Spud well at 09:99 hrs. Drill ahead to 111m. Run conductor, cement same.

11/11/2004	TD = 711 m	Day 2
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Make up 311mm BHA w/ MWD tools and drill string. Drill ahead pumping hi-vis sweeps each 1/2 stand and prior to connection.

Carry over 211 bbls from last system. Continue mixing PGH for sweeps, each 15 m and prior to connections. Displacement after final sweep (150 bbls PGH) to be flocculated with sea water (2:1).

Make up 311mm BHA w/ MWD tools and drill string. Drill ahead pump hi-vis sweeps each 1/2 stand and prior to connection.

12/11/2004	TD = 1009 m	Day 3
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Drill to section TD, 1009m, pumping high vis sweeps at TD. Displace hole to 300 bbl PHG, spot 170 bbls 1.15sg KCl pill on bottom. POH. Rig up and run 9 5/8" casing and land at 995m. Cement same in place.

Flocculate PGH for mid-stand sweep, pump 50bbl unflocculated gel to cover BHA on connections. Mix 150 bbls flocculated gel and sweep hole at TD. Displace hole to 300 bbls PHG followed by 200 bbls viscous 5% KCl pill weighted to 1.15sg. Mix weighted slug (not pumped). Fill casing with remaining PHG when running in. Clean pits for next hole section.

Drill to section TD, 1009m, pumping high vis sweeps at TD. Displace hole to 300 bbl PHG. 1.15sg spot on bottom.

13/11/2004	TD = 1009 m	Day 4
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Completed cementing 9 5/8" casing at 955m. Ran in BOP and Riser, installed DFE Centrifuge, commenced mixing 1100bbls KCl / Idacap D system for 8 1/2" section. Pressure test BOPs.

Cleaned pits for preparation of KCl / Idacap D system. Mixed 1100 bbls 8% KCl / Idacap D system. Weight up to 1.23sg. Received 8 1/2" chemicals from boat.

Completed cementing 9 5/8" casing at 955m. Ran in BOP and Riser, installed DFE Centrifuge, commenced mixing 1100bbls KCl

14/11/2004	TD = 1009 m	Day 5
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P/Up BHA. P/Up 54 stands of DP and stand in the derrick . RIH with BHA including motor and MWD to tag top of cement (964m).

Mix 259 bbls KCL / IdcapD in pit 2. Treat all mud with OS-1. Dress shakers. Weight up 880 bbls to 1.25 S.G.

P/Up BHA and 54 stands of DP. RIH


15/11/2004	TD = 1825 m	Day 6
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Drill cement 1/2 shoe track, displace to Idcap mud system. Drill float, plugs, shoe, rathole plus 3 m to 1012m. Test kill / choke lines and perform FIT to 1.7 sg EMW. Drill 216 mm hole.


Run centrifuge and maintained weight <1.27sg. Ran desilter-high volume loss. Dump sandtraps, add new volume to reduce low gravs.

Displace to Idcap/KCl/Hibtrol mud in shoe track, FIT with 1.25sg for EMW of 1.7sg. Pretreat with sodium bicarb for cement. Treat with additives to achieve programmed specs. Build additional volume w/ higher concentration KCl as depleted from reactive lithologies. Good inhibition of sticky clays, no bit balling experienced in upper hole. Maintain rheology w/ DuoTec, added IdcapD for encapsulation of dispersive clays/marles. Cuttings transported easily off screens, little incorporation into mud.


Drill cement 1/2 shoe track, displace to Idcap mud. Drill to FIT, and new hole.

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16/11/2004	TD = 2312 m	Day 7
<p>Dill into target, control ROP for MWD logging. Use riser boost pump to ensure riser clear of cuttings. Sweep hole w/ hi-vis, ensure remove cuttings in larger hole geometry. High mud losses at shaker from rig listing. Drill to 2312m, circ to POH for bit trip. Pump slug. Wipe hole for MWD logs 2100-2312m. Continue bit trip. Tight hole in top of sand, then work pipe, tight from 1864 m up.</p> <p>Build 1.08 sg mud for volume and mud weight maintenance. Keep density at 1.25 sg with dilution while drilling target formation. Run centrifuge. Change screens to 145 mesh x 8 (two shakers) for better solids control. Build hi-vis sweep to ensure clean hole. Treat high hardness with soda ash, raise pH. Add defoamer/ run degasser for air bubbles in mud. Treat final circulation prior to POH for pH and bactericide. Build slug for trip out.</p> <p>Drill in target formation to 2312m, control drill rate from 2035m for MWD logging.POH-bit trip.Wipe for MWD 2100-2312</p>		
17/11/2004	TD = 2312 m	Day 8
<p>Pull tight to 1700m, RIH to bottom, take 30 bbl gain in pits. Shut in well, use drillers method to circ out gas bubble. Weight up active from 1.26 sg to 1.32 sg. Make 10 stand wiper trip. RIH, circ.</p> <p>Slug pipe, POH.</p> <p>Monitor pits while weigh up from 1.26 sg to 1.32sg. Add Duotec to raise rheology, thinned from coal. Increase 6-RPM from 5 to 9 (12 YP). Add defoamer (Dowell D-47) to reduce surface foam.</p> <p>Recieve form Far Grip 77mt barite.</p> <p>Pull tight to 1700m, RIH to bottom, take 30 bbl gain. Shut in,circ out gas bubble. Weigh up. Wiper trip.</p>		
18/11/2004	TD = 2397 m	Day 9
<p>Completed POOH. Changed bit and R/I back to 2305 m reaming tight spots at 1894, 1941, 1945, 2068, 2078, 2102 m. Observed 6 m fill on bottom.. Drilled to 2341 m. Raised mud weight from 1.34 to 1.41 sgto control gas. Further drilled to 2345 m.</p> <p>Dropped mud weight from 1.36+sg to 1.34 sg after bit trip with premix addition by 2341m. Raised mud weight to 1.41 sg at 2341 m to control gas.</p>		
19/11/2004	TD = 2422 m	Day 10
<p>Change 2 x 145 mesh screens for 2 x 165 mesh shaker screens on shaker 1. Drilled to 2422 m. Conducted wiper trip. Circulated. Pumped out of hole to 1850 m. Further pulling out of hole for logging.</p> <p>Started mixing LCM pill at 2:45pm but had to transfer it to Pit 2 as a slug need to be mixed in the slug pit for the wiper trip at 2422 m. Treated system with Glute & Defoamer. Added KOH for pH.</p> <p>Drilled ahead ROP 8 - 12 m/hr then dropped to 1 - 2 m/hr, at 2422 m pulled 10 stands and made a wiper trip.</p>		
20/11/2004	TD = 2422 m	Day 11
<p>Pumped slug & completed POOH. Rig up Logging tools, got tight at 1854 m, Rig down logging tools. R/I with bit to 1600 m and reaming down to clear tight spots.</p> <p>Treated system with 0.65 ppb IDCAP. Added premix to build volume and barite for mud wt maintenance. Running degasser.</p> <p>Logging the hole, got tight at 1854 m, pulled out and put new bit in the hole to ream it out to 2422m. Added 12 Idcap.</p>		
21/11/2004	TD = 2422 m	Day 12
<p>Reamed down to bottom. Circulated bottoms up. Pumped out to shoe. Pump slug and POOH. Rigged up wire line tools. Unable to go below 1854 m. Rig down tools.</p> <p>Slug made with barite. Observed five cavings and few bigger chunks of coal during reaming.</p>		


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22/11/2004	TD = 2422 m	Day 13
Run logging tools with drill pipe to at 1917 m. P/O wireline tools. R/I with bit to condition hole prior to run liner.		
23/11/2004	TD = 2422 m	Day 14
RIH for wiper trip to 2058 m. Circulated out gas while circulating through choke. Further run to bottom. Circulated and condition hole while working on gas detection equipment. Started trip out. Built reserve volume with available chemicals. Raised mud weight to 1.44 sg. Increased KCl content of system to 7%.		
24/11/2004	TD = 2422 m	Day 15
Fixed Racker arm. Conducted short trip backreaming to 1750 m and circulated bottoms up. Pumped out to 1200 m. Pump slug and POOH. Running 7 inch liner. Added 2 KOH to system for pH. Bled left over slug to Pit 4. Dumped and cleaned Slug, Pit 2 & Pit 1 for cementation. Increased Idcap stock by 6 sacks (overcharged yesterday).		
25/11/2004	TD = 2420 m	Day 16
Run liner to bottom. Circulated. Cemented liner as per program. WOC. P/O drill pipe. Running wireline logs. Observed good returns while cementation. Final Barite stock matched with control.		
26/11/2004	TD = 2420 m	Day 17
Run in 4.5 inch tubing. Could not enter 7 inch liner. P/O tubing.		
27/11/2004	TD = 2420 m	Day 18
Completed scraper run. Circulated. Tested casing. Pumped slug. P/O tubing. Added Caustic to control dropping pH. Slug made with Barite.		
28/11/2004	TD = 2420 m	Day 19
Completed P/O tubing string. Perform dummy run. Tested BOP Stack. Running packer on wireline. Lost 80 bbl mud at the start of circulation at well head inside BOP. Also observed drop density of circulating system at this depth to 1.39 ppg. Weighted this volume to 1.45 ppg with barite. [sea water left in the lines to booster pump run for deluge system gets into mud system]		

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29/11/2004	TD = 2420 m	Day 20
Set packer at 1999.5 m. Running in with DST assembly on 4.5 inch tubing to test well.		
30/11/2004	TD = 2420 m	Day 21
Rigged up surface equipment for DST operations.		
1/12/2004	TD = 2420 m	Day 22
Perforated well and well testing is in progress. Dumped and cleaned header box. Removed shaker screens. Re-usable screens: 5 x 120, 1 x 145, 2 x 165, 6 x 105.		
2/12/2004	TD = 2420 m	Day 23
Completed build up test. Bull Headed formations fluids with mud. Reverse circulated to kill well. Increased mud weight to 1.5 sg to reduce gas levels. Used to defoamer to mitigate areation in mud. Added Duotec to restore sagging low end rheology. Observed severe foaming in mud returns. Raised mud weight to 1.5 sg. Received 77 T Barite from Pacific Wrangler.		
3/12/2004	TD = 2420 m	Day 24
Weigh hole to 1.61sg,flow check well, circulate riser to 1.61sg,flow check,circulate increase gas weigh to 1.69. Weigh mud to 1.61sg-1.69,circulate well. Weigh hole to 1.6sg,flow check well, circulate riser to 1.6sg,flow check,		
4/12/2004	TD = 2420 m	Day 25
Make up 3.5" pipe RIH to retrieve tools,circulate bottoms up increased gas, weigh to 1.8sg, flow check well Raise mud weight to 1.8sg, 33mt Barite used yesterday remainder today's, add extra Duo-tec for suspension properties Raise mud weight to 1.8sg, 33mt Barite used yesterday remainder today's, add extra Duo-tec for suspension properties		
5/12/2004	TD = 2420 m	Day 26
RIH Pull tools,lay out, make up cement stinger run into hole, Make up un-weighted pre-mix to reduce MW. RIH Pull tools,lay out, make up cement stinger run into hole, Make up un-weighted pre-mix to reduce MW.		

		Operator : Apache Energy Ltd Well Name : Longtom-2 Contractor : Diamond Offshore	Field/Area : Bass Strait- Victoria Description : Wildcat - Exploration Location : Vic P-54 - Offshore	Daily Discussion M-I Well : 16144
6/12/2004	TD = 2420 m	Day 27	Pump cement from 2274-2169,pull back to 2169 reverse out cement,dump excess cement, WOC, tag no-go, rig up pump Plug #2, pull back WOC. Build 1.43ppg mud,treat for cement contamination,check from 1.43 mud Pump cement from 2274-2169,pull back to 2169 reverse out cement,dump excess cement,	
7/12/2004	TD = 2420 m	Day 28	Tag cement plug-good, pressure test, displace heavy mud,POOH, lay out tubing pick up test guns RIH Displace to 1.43sg mud Tag cement plug-good, pressure test, displace heavy mud,POOH, lay out tubing pick up test guns RIH	
8/12/2004	TD = 2420 m	Day 29	RIH with test equipment test same,displace production zone to diesel, fire guns, Add Duo-Tec for barite suspension in heavy mud, Duo-Tec added for suspension Add Duo-Tec for barite suspension in heavy mud,RIH with test equipment test same, fire guns flow well	
9/12/2004	TD = 2420 m	Day 30	Circulate through well test equipment, increased gas circulate 1.78sg mud through choke, weigh extra mud up 1.78sg, displace riser to 1.78sg mud,circulate well, even mud weight up, rig down circulating head, RIH, circ bottoms up Separate 1.43 mud,Barite used in weigh up, Circulate through well test equipment, increased gas circulate 1.78sg mud through choke, weigh extra mud up 1.78sg,	
10/12/2004	TD = 2420 m	Day 31	Rig down test equipment, pick up cement stinger RIH set plugs, POOH, lay down tubing, Pre-prepare mud system for 1.3sg side track, barite usage only 49.8mt on report # 30 Rig down test equipment, pick up cement stinger RIH set plugs, POOH, lay down tubing,	
11/12/2004	TD = 2420 m	Day 32	RIH with cement stinger set first plug from 2172-2062, reverse circulate out excess cement, pull back,lay out tubing, Receive Chemicals from Wrangler, make 1.25sg mud RIH with cement stinger set first plug from 2172-2062, reverse circulate out excess cement, pull back,lay out tubing,	
12/12/2004	TD = 1960 m	Day 33	pump cement plug 2062-1986,reverse excess cement out, layout tubing, make up 7" Bridge plug, run in on 3.5",un-sting plug, cement from 1980-1960, Continue to blend mud for 1.25, dump cement contaminated mud, Pump cement plug 2B from 2062-1986, pull back severe u-tubing, reverse cement plug out, Continue to blend mud	

		Operator : Apache Energy Ltd Well Name : Longtom-2 Contractor : Diamond Offshore	Field/Area : Bass Strait- Victoria Description : Wildcat - Exploration Location : Vic P-54 - Offshore	Daily Discussion M-I Well : 16144
13/12/2004	TD = 1960 m	Day 34	Displace cement out of hole,pressure test plug displace hole to 10.5ppg mud pump cement from 2062-1986m, reverse circulate out dump excess,POOH,BOP test Treat cement contaminated mud dump excess cement. Displace cement out of hole,pressure test plug displace hole to 10.5ppg mud pump cement from 2062-1986m,	
14/12/2004	TD = 1960 m	Day 35	RIH with whipstock assembly set, POOH pick up milling package start milling,pipe stuck work pipe,POOH. Add chemicals to active RIH with whipstock assembly set, POOH pick up milling package start milling,pipe stuck work pipe,POOH.	
15/12/2004	TD = 1967 m	Day 36	POOH change out milling assembly, RIH, start milling,mill window,POOH, Treat for cement contamination, add D-tec for high vis sweeps,KCL added yesterday POOH change out milling assembly, RIH, start milling,POOH,	
16/12/2004	TD = 2112 m	Day 37	RIH with drilling assembly, drill ahead to 2112m. circ B/up, POH tight hole, backream, continue to POH Add KCL to maintain KCL%,extra chemicals add to reduce MW RIH with drilling assembly, drill ahead to 2112m. circ B/up, POH tight hole, backream stand, continue to POH	
17/12/2004	TD = 2130 m	Day 38	RIH with coring assembly, core # 1,POOH,stop POOH fix stacking arm, continue to POOH Adjust inventory on DuoTec/KCL,02/12,04/12, due to double entry with chemical staying on boat. Barite adjust according to barge report, treat active with chemicals. Adjust inventory on DuoTec/KCL,02/12,04/12, due to double entry with chemical staying on boat.	
18/12/2004	TD = 2148 m	Day 39	Core#2 to 2148m POH lay down core ,cut,RIH lay out DC, Add bio-cide to Longtom-2 in preparation P&A. Add bio-cide to Longtom-2 in preparation P&A.	
19/12/2004	TD = 2148 m	Day 40	Pick up cemnet stinger RIH set plug 4a from 2148-2062, reverse out, set plug 4b from 2062-1976m, reverse out, set plug 4c from 1976-1890m, reverse out, WOC, pump inhibited mud, set plug 5 from 907-800m. Glute costed on yesterdays report, credit 15 sacks Idcap-D to well, debit 9 sacks Duo-Tec, start dumping mud & cleaning pits. Glute costed on yesterdays report, credit 15 sacks Idcap-D to well, debit 9 sacks Duo-Tec, start dumping mud & cleaning	

	Operator : Apache Energy Ltd Field/Area : Bass Strait- Victoria Well Name : Longtom-2 Description : Wildcat - Exploration Contractor : Diamond Offshore Location : Vic P-54 - Offshore	Daily Discussion M-I Well : 16144
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20/12/2004	TD = 2148 m	Day 41
Set cement plug displace riser to seawater, unlatch BOP pull riser. Dump and clean pits Dump and clean pits		

**DRILLING FLUIDS RECAP FOR APACHE ENERGY
LONGTOM 2**

**COST
BY
INTERVAL**



PRODUCT SUMMARY

Operator : Apache Energy Ltd
Well Name : Longtom-2
Contractor : Diamond Offshore

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54

SUMMARY OF PRODUCT USAGE FOR INTERVAL

10/11/2004 - 10/11/2004, 0 - 111 m

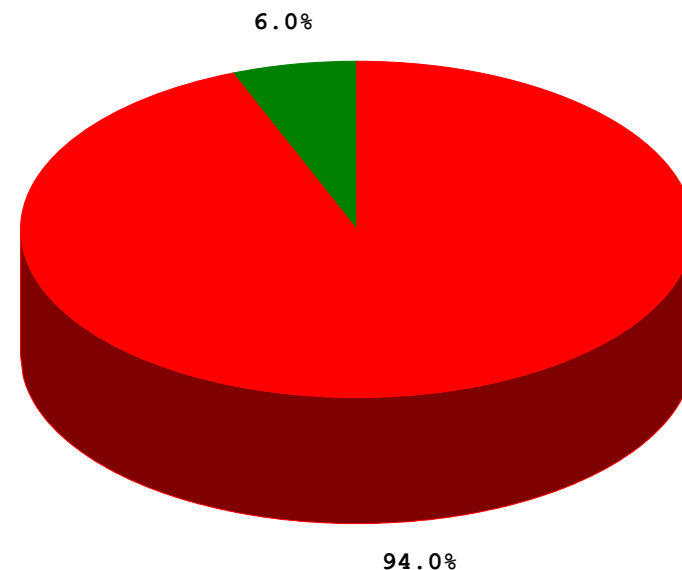
WATER-BASED MUD	SIZE	AMOUNT	UNIT COST	PROD COST
			(\$)	(\$)
1 - CALCIUM CHLORIDE	25 KG BG	38	10.06	382.28
2 - SODA ASH	25 KG BG	6	11.63	69.78
3 - CAUSTIC SODA (DRY)	25 KG DM	6	19.35	116.10
4 - M-I GEL BULK	1 MT BK	36	246.71	8881.56
SUB TOTAL:				9449.72
TAX:				0.00
WATER-BASED MUD TOTAL COST:				9449.72
TOTAL MUD COST FOR INTERVAL:				9449.72

BREAKDOWN OF COST BY PRODUCT GROUP 10/11/2004 - 10/11/2004, 0 - 110 m

Water-Based Mud Products	\$	%
1-Common Chemicals	568.16	6.0
2-Visc/Fluid Loss	8881.56	94.0

Water-Based Mud Total Cost: \$ 9449.72 100.0

Water-Based Mud





PRODUCT SUMMARY

Operator : Apache Energy Ltd
Well Name : Longtom-2
Contractor : Diamond Offshore

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54

SUMMARY OF PRODUCT USAGE FOR INTERVAL

11/11/2004 - 12/11/2004, 110 - 1009 m

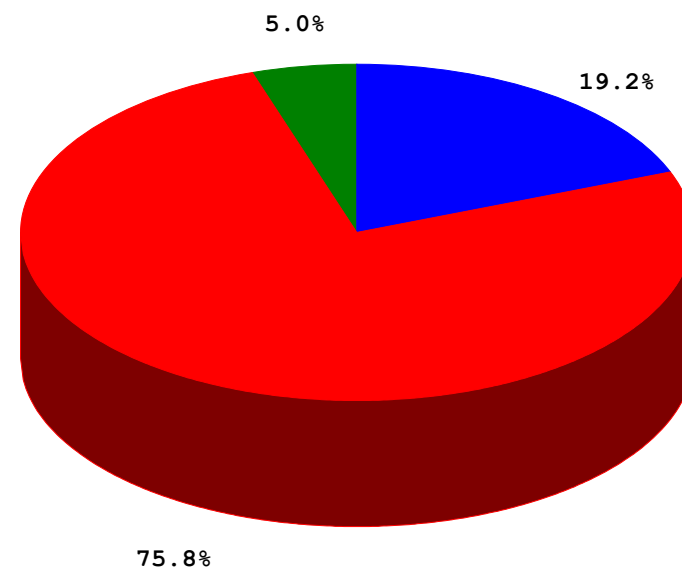
WATER-BASED MUD	SIZE	AMOUNT	UNIT COST	PROD COST
			(\$)	(\$)
1 - SODA ASH	25 KG BG	12	11.63	139.56
2 - CAUSTIC SODA (DRY)	25 KG DM	6	19.35	116.10
3 - M-I BAR BULK	1 MT BK	17	231.16	3929.72
4 - M-I GEL BULK	1 MT BK	63	246.71	15542.73
5 - POTASSIUM CHLORIDE	1 MT BG	2	388.21	776.42
SUB TOTAL:				20504.53
TAX:				0.00
WATER-BASED MUD TOTAL COST:				20504.53
TOTAL MUD COST FOR INTERVAL:				20504.53

BREAKDOWN OF COST BY PRODUCT GROUP 11/11/2004 - 12/11/2004, 110 - 1009 m

Water-Based Mud Products	\$	%
1-Common Chemicals	1032.08	5.0
2-Visc/Fluid Loss	15542.73	75.8
3-Weight Material	3929.72	19.2

Water-Based Mud Total Cost: \$ 20504.53 100.0

Water-Based Mud





PRODUCT SUMMARY

Operator : Apache Energy Ltd
Well Name : Longtom-2
Contractor : Diamond Offshore

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54

SUMMARY OF PRODUCT USAGE FOR INTERVAL 13/11/2004 - 11/12/2004, 1009 - 2422 m

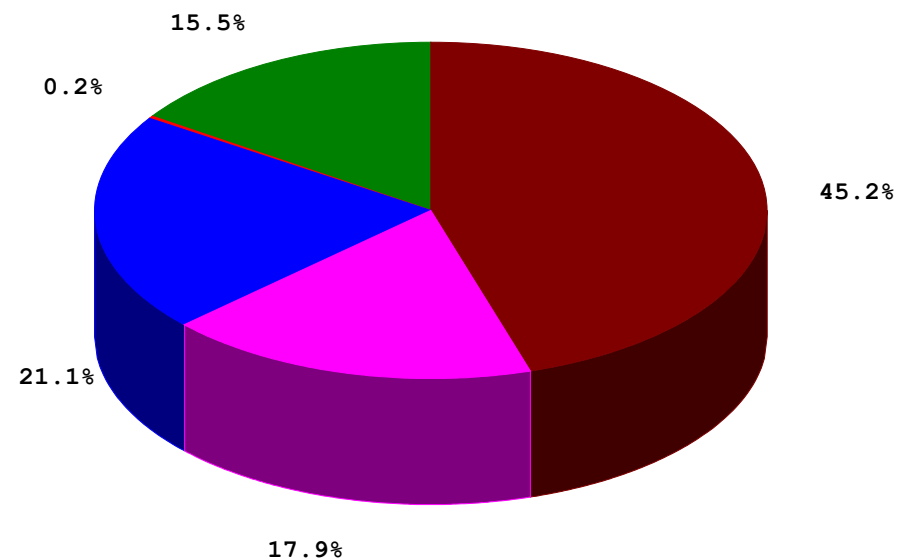
WATER-BASED MUD	SIZE	AMOUNT	UNIT COST	PROD COST
			(\$)	(\$)
1 - CITRIC ACID	25 KG BG	6	35.51	213.06
2 - DUOTEC	25 KG BG	113	194.97	22031.61
3 - OS-1	25 KG BG	26	32.42	842.92
4 - SODA ASH	25 KG BG	23	11.63	267.49
5 - CAUSTIC SODA (DRY)	25 KG DM	4	19.35	77.40
6 - ANTIFOAM A	5 GA CN	1	68.59	68.59
7 - SODIUM BICARBONATE	25 KG BG	17	9.58	162.86
8 - M-I BAR BULK	1 MT BK	338	231.16	78092.78
9 - POTASSIUM CHLORIDE	1 MT BG	55	388.21	21351.55
10 - GLUTE 25	25 LT CN	12	91.89	1102.68
11 - MIX II FINE	25 LB BG	17	25.15	427.55
12 - DEFOAM A	5 GA CN	32	67.67	2165.44
13 - IDCAP D	25 KG BG	185	197.36	36511.60
14 - POTASSIUM HYDROXIDE	25 KG CN	19	30.23	574.37
15 - HIBTROL	25 KG BG	99	88.93	8804.07
SUB TOTAL:				172693.97
TAX:				0.00
WATER-BASED MUD TOTAL COST:				172693.97
TOTAL MUD COST FOR INTERVAL:				172693.97

BREAKDOWN OF COST BY PRODUCT GROUP 13/11/2004 - 11/12/2004, 1009 - 2422 m

Water-Based Mud Products	\$	%
1-Common Chemicals	26826.36	15.5
2-Lost Circ Material	427.55	0.2
3-Lubricant	36511.60	21.1
4-Visc/Fluid Loss	30835.68	17.9
5-Weight Material	78092.78	45.2

Water-Based Mud Total Cost: \$ 172693.97 100.0

Water-Based Mud





PRODUCT SUMMARY

Operator : Apache Energy Ltd
Well Name : Longtom-2
Contractor : Diamond Offshore

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54

SUMMARY OF PRODUCT USAGE FOR INTERVAL

12/12/2004 - 20/12/2004, 1960 - 2148 m

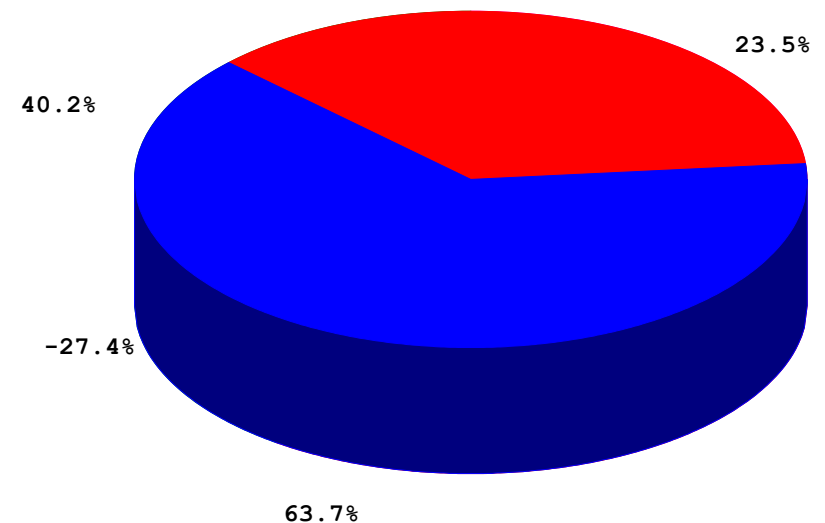
WATER-BASED MUD	SIZE	AMOUNT	UNIT COST	PROD COST
			(\$)	(\$)
1 - CITRIC ACID	25 KG BG	3	35.51	106.53
2 - DUOTEC	25 KG BG	26	194.97	5069.22
3 - SODIUM BICARBONATE	25 KG BG	3	9.58	28.74
4 - M-I BAR BULK	1 MT BK	9	231.16	2034.21
5 - POTASSIUM CHLORIDE	1 MT BG	6	388.21	2329.26
6 - GLUTE 25	25 LT CN	11	91.89	1010.79
7 - IDCAP D	25 KG BG	-12	197.36	-2368.32
8 - HIBTROL	25 KG BG	5	88.93	444.65
SUB TOTAL:				8655.08
TAX:				0.00
WATER-BASED MUD TOTAL COST:				8655.08
TOTAL MUD COST FOR INTERVAL:				8655.08

BREAKDOWN OF COST BY PRODUCT GROUP 12/12/2004 - 20/12/2004, 1960 - 2148 m

Water-Based Mud Products	\$	%
1-Common Chemicals	3475.32	40.2
2-Lubricant	-2368.32	-27.4
3-Visc/Fluid Loss	5513.87	63.7
4-Weight Material	2034.21	23.5

Water-Based Mud Total Cost: \$ 8655.08 100.0

Water-Based Mud



**DRILLING FLUIDS RECAP FOR APACHE ENERGY
LONGTOM 2**

**DAILY VOLUME
SUMMARY SHEET**

36" Top Hole. Pre-Hydrated Gel

Hole volume includes seawater																	
Date 2004	Mud Volume Status m3					Mud Volume Built m3					Mud Volume Lost m3						
	Depth	Hole	Surf Active	Res	Total Vol	Water	Mud Built	Bar Chems	Daily Total	Cum Built	Solids Equip	Surf	Dump	Hole	Sweeps Plugs	Daily Total	Cummul Lost
9-Nov	0				0				0	0						0	0
10-Nov	111			211.7	211.7		324.8		324.8	324.8					113.1	113.1	113.1

12.25" Pre-Hydrated Gel

Hole Volume includes seawater																	
Date 2004	Mud Volume Status m3					Mud Volume Built m3					Mud Volume Lost m3						
	Depth	Hole	Surf Active	Res	Total Vol	Water	Mud Built	Mud Received	Daily Total	Cum Built	Solids Equip	Surf	Dump	Hole	Sweeps Plugs	Daily Total	Cummul Lost
11-Nov	711			139.4	139.4		391.8	211.7	603.5	603.5					464.1	464.1	464.1
12-Nov	1009	125.1	0.1		125.2		232.7		232.7	836.2					246.9	246.9	711

8.5" KCL/Idcap D

	Mud Volume Status m3					Mud Volume Built m3								Mud Volume Lost m3							
Date 2003	Depth	Hole	Surf Active	Res	Total Vol	Water	Mud Received	Casing Cement	Mud Built	Chemical	Bar	Daily Total	Cum Built	Solids Equip	Centrifuge	Dump	Hole	Sweeps Plugs	Other	Daily Total	Cummul Lost
13-Nov	1009			174.8	174.8							0	0							0	0
14-Nov	1009			216	216				41.2			41.2	41.2							0	0
15-Nov	1825	70.3	31	113	214.3				79.1			79.1	120.3	35		23			22.8	80.8	80.8
16-Nov	2312	92	67	121.6	280.6				114.7			114.7	235	33	10.5	4.9				48.4	129.2
17-Nov	2305	94.2	71.9	112	278.1				7	0.1		7.1	242.1			6.2			3.4	9.6	138.8
18-Nov	2345	87.6	75.9	87.5	251				4.3			4.3	246.4	10	1				20.4	31.4	170.2
19-Nov	2422	94.1	71.6	64.7	230.4				0.5			0.5	246.9			19.6	1.5			21.1	191.3
20-Nov	2422	92.1	71.4	55.2	218.7						4.4	4.4	251.3	8		8.1				16.1	207.4
21-Nov	2422	101	67.1	48.1	216.2							0	251.3	2.5						2.5	209.9
22-Nov	2422	93.9	72.3	48.1	214.3							0	251.3						1.9	1.9	211.8
23-Nov	2422	90.7	86.5	62.4	239.6	32				2.8	4.7	39.5	290.8	1.8		12.4				14.2	226
24-Nov	2422	101	71.9	60	232.9							0	290.8			3			3.7	6.7	232.7
25-Nov	2420	74.2	64.9	81.2	220.3							0	290.8				12.6			12.6	245.3
26-Nov	2420	74.2	64.9	81.2	220.3							0	290.8							0	245.3
27-Nov	2420	74.3	62.8	81.2	218.3						0.5	0.5	291.3			2.5				2.5	247.8
28-Nov	2420	74.3	57.4	70.4	202.1						2.2	2.2	293.5	12.6		3.2			2.6	18.4	266.2
29-Nov	2420	74.3	57.4	70.4	202.1							0	293.5							0	266.2
30-Nov	2420	68	63.7	70.4	202.1							0	293.5							0	266.2
1-Dec	2420	68	77.8	70.4	216.2		16.7					16.7	310.2			2.6				2.6	268.8
2-Dec	2420	68.7	62	55.2	185.9							0	310.2			8	18.1		4.2	30.3	299.1
3-Dec	2420	68.7	63.1	55.2	187						1.1	1.1	311.3							0	299.1
4-Dec	2420	68.7	77.7	55.2	201.6						16.1	16.1	327.4						1.5	1.5	300.6
5-Dec	2420	68.7	81.2	70.9	220.8	14				0.3	4.9	19.2	346.6							0	300.6
6-Dec	2420	66.3	59	107.2	232.5	14.6		5.1				19.7	366.3			6			2	8	308.6
7-Dec	2420	66.5	57.3	107.3	231.1							0	366.3						1.4	1.4	310
8-Dec	2420	66.5	57.3	107.3	231.1							0	366.3							0	310
9-Dec	2420	67.4	62.3	109.2	238.9						11.9	11.9	378.2						4.1	4.1	314.1
10-Dec	2420	67.4	62.3	107.5	237.2							0	378.2						1.7	1.7	315.8
11-Dec	2420	67.5	77.9	106.7	252.1	15				2.3		17.3	395.5						2.4	2.4	318.2
12-Dec	1960	58.8	71.8	156.7	287.3	50						50	445.5			6.5		8.3		14.8	333
13-Dec	1960	65	62.1	162	289.1	7.8						7.8	453.3			6				6	339
14-Dec	1960	59	70	162	291	5						5	458.3						3.1	3.1	342.1
15-Dec	1960	58.4	73.4	162	293.8					1	1.8	2.8	461.1							0	342.1
16-Dec	2112	62.6	70.4	162	295	10.1			0.4	0.3		10.8	471.9	3.6		6				9.6	351.7
17-Dec	2130	63.2	70	173	306.2	15				0.2	0.9	16.1	488	2.5					2.4	4.9	356.6
18-Dec	2148	69.1	67.5	166.7	303.3	0.3						0.3	488.3	3.2						3.2	359.8
19-Dec	2148	69.1	65.7	99.9	234.7							0	488.3			68.6				68.6	428.4
20-Dec	2148	0	0	0	0							0	488.3			234.7				234.7	663.1

**DRILLING FLUIDS RECAP FOR APACHE ENERGY
LONGTOM 2**

**TOTAL
MATERIAL
COST**



PRODUCT SUMMARY

Operator : Apache Energy Ltd
Well Name : Longtom-2
Contractor : Diamond Offshore

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore

SUMMARY OF PRODUCT USAGE FOR INTERVAL

10/11/2004 - 20/12/2004, 0 - 2148 m

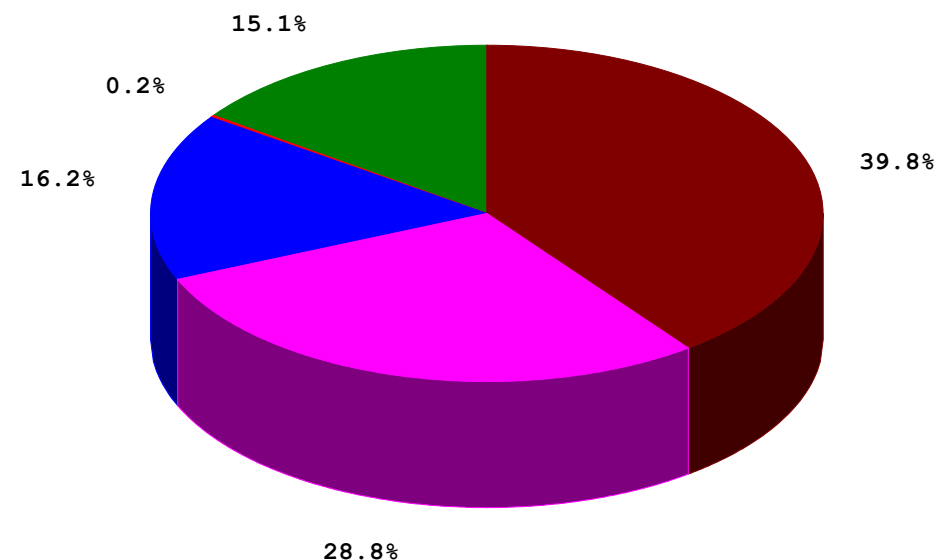
WATER-BASED MUD	SIZE	AMOUNT	UNIT COST	PROD COST
			(\$)	(\$)
1 - CALCIUM CHLORIDE	25 KG BG	38	10.06	382.28
2 - CITRIC ACID	25 KG BG	9	35.51	319.59
3 - DUOTEC	25 KG BG	139	194.97	27100.83
4 - OS-1	25 KG BG	26	32.42	842.92
5 - SODA ASH	25 KG BG	41	11.63	476.83
6 - CAUSTIC SODA (DRY)	25 KG DM	16	19.35	309.60
7 - ANTIFOAM A	5 GA CN	1	68.59	68.59
8 - SODIUM BICARBONATE	25 KG BG	20	9.58	191.60
9 - M-I BAR BULK	1 MT BK	364	231.16	84056.71
10 - M-I GEL BULK	1 MT BK	99	246.71	24424.29
11 - POTASSIUM CHLORIDE	1 MT BG	63	388.21	24457.23
12 - GLUTE 25	25 LT CN	23	91.89	2113.47
13 - MIX II FINE	25 LB BG	17	25.15	427.55
14 - DEFOAM A	5 GA CN	32	67.67	2165.44
15 - IDCAP D	25 KG BG	173	197.36	34143.28
16 - POTASSIUM HYDROXIDE	25 KG CN	19	30.23	574.37
17 - HIBTROL	25 KG BG	104	88.93	9248.72
SUB TOTAL:				211303.30
TAX:				0.00
WATER-BASED MUD TOTAL COST:				211303.3
TOTAL MUD COST FOR INTERVAL:				211303.3

BREAKDOWN OF COST BY PRODUCT GROUP 10/11/2004 - 20/12/2004, 0 - 2148 m

Water-Based Mud Products	\$	%
1-Common Chemicals	31901.92	15.1
2-Lost Circ Material	427.55	0.2
3-Lubricant	34143.28	16.2
4-Visc/Fluid Loss	60773.84	28.8
5-Weight Material	84056.71	39.8

Water-Based Mud Total Cost: \$ 211303.30 100.0

Water-Based Mud



**DRILLING FLUIDS RECAP FOR APACHE ENERGY
LONGTOM 2**

**HYDRAULICS
REPORT**



HYDRAULICS SUMMARY

Operator : Apache Energy Ltd

Field/Area : Bass Strait- Victoria

Well Name : Longtom-2

Description : Wildcat - Exploration

Contractor : Diamond Offshore

Location : Vic P-54 - Offshore

Date		10/11/2004	12/11/2004	13/11/2004	14/11/2004	15/11/2004	16/11/2004	17/11/2004	18/11/2004
Depth	m	111	1009	1009	1009	1680	2311	2305	2336
Days Since Spud		1	3	4	5	6	7	8	9
*RHEOLOGICAL PROPERTIES									
Mud Wt	sp.gr.	1.05	1.05	1.23	1.25	1.27	1.255	1.33	1.34
Plastic Visc	cP		11	20	18	19	20	19	20
Yield Point	Pa		14.	8.5	10.5	10.5	10.5	11.	14.
3-rpm Rdg	Fann deg			5	4	4	5	6	6
np Value		.5208	.3486	.6234	.5475	.5607	.5732	.5493	.5025
Kp Value	Pa·s ⁿ	.9534	4.8815	.8088	1.369	1.2929	1.2261	1.4227	2.2306
na Value		.3573	.3486	.3953	.4444	.4729	.4093	.3705	.4493
Ka Value	Pa·s ⁿ	2.383	4.8815	2.7994	2.0675	1.9734	2.7366	3.498	3.0762
*FLOW DATA									
Flow Rate	L/min	1514	1514	1514	1514	2120	2120	0	2103
Pump Pressure	kPa	4830	4830	4830	4830	20690	20690	0	20685
Pump	kWatt	*	*	*	122	731	731	*	724
*PRESSURE LOSSES									
Drill String	kPa	*	*	*	2331	5722	5802	*	6860
Bit	kPa	*	*	*	3475	6923	6841	*	6318
Annulus	kPa	*	*	*	567	1359	1218	*	2428
Total System	kPa	*	*	*	6374	14004	13861	*	15606
*BIT HYDRAULICS									
Nozzles	1/32"	3x20	3x20	3x20	5x12	5x12	5x12	5x12	3x16
Nozzles	1/32"	26	26	26					
Bit Pressure	%	*	*	*	72	33	33	*	31
Bit	kWatt	*	*	*	88	244	242	*	221
Bit HSI	(index)	*	*	*	2.07	5.78	5.71	*	5.23
Jet Velocity	m/s	*	*	*	71	99	99	*	92
Impact Force	Newton	*	*	*	228	453	448	*	441
*DRILL COLLARS ANNULUS									
Velocity	m/min	*	*	*	91	139	117	*	138
Critical Vel	m/min	*	*	*	106	115	110	*	136
Reynolds Number		*	*	*	1943	3260	2731	*	2506
Crit Re (Lam - Tran)		*	*	*	2720	2702	2685	*	2782
*DRILL PIPE ANNULUS									
Velocity	m/min	*	*	*	9	88	79	*	88
Critical Vel	m/min	*	*	*	62	96	97	*	116
Reynolds Number		*	*	*		2128	1794	*	1597
Crit Re (Lam - Tran)		*	*	*	2720	2702	2685	*	2782
*HOLE CLEANING									
Slip Velocity	m/min	*	*	*	6	6	5	*	4
Rising Velocity	m/min	*	*	*	3	83	74	*	83
Lifting Capacity	%	*	*	*	36	94	93	*	95
Cutting Conc	%	*	*	*	33.36	1.23	1.24	*	0.31
Penetration Rate	m/h	30	30	30	30	40	40	0	10
CASING SHOE PRESSURES									
ECD	sp.gr.	*	*	*	1.3	1.33	1.32	*	1.43
ECD+Cuttings	sp.gr.	*	*	*	1.71	1.35	1.33	*	1.43
TOTAL DEPTH PRESSURES									
ECD	sp.gr.	*	*	*	1.31	1.35	1.32	*	1.45
ECD+Cuttings	sp.gr.	*	*	*	1.72	1.36	1.34	*	1.45

M-I L.L.C.

16144

DRILLING FLUIDS DATA MANAGEMENT SYSTEM



HYDRAULICS SUMMARY

Operator : Apache Energy Ltd

Field/Area : Bass Strait- Victoria

Well Name : Longtom-2

Description : Wildcat - Exploration

Contractor : Diamond Offshore

Location : Vic P-54 - Offshore

Date		19/11/2004	20/11/2004	21/11/2004	22/11/2004	23/11/2004	24/11/2004	25/11/2004	26/11/2004
Depth	m	2422	1854	1769	2422	2422		2420	2420
Days Since Spud		10	11	12	13	14	15	16	17
*RHEOLOGICAL PROPERTIES									
Mud Wt	sp.gr.	1.40	1.4	1.4	1.41	1.44	1.44	1.45	1.45
Plastic Visc	cP	21	25	19	20	20	22	21	21
Yield Point	Pa	16.5	16.5	16.5	13.	17.	16.	15.	14.5
3-rpm Rdg	Fann deg	6	5	4	4	6	5	5	5
np Value		.4739	.5171	.4493	.5208	.4546	.493	.4975	.5059
Kp Value	Pa·s ⁿ	2.9988	2.4614	3.3671	1.9067	3.3838	2.6619	2.4451	2.2749
na Value		.4683	.5382	.593	.5226	.4774	.5294	.511	.511
Ka Value	Pa·s ⁿ	2.9822	2.2177	1.6223	1.8197	2.9385	2.2496	2.3182	2.3182
*FLOW DATA									
Flow Rate	L/min	2103	2103	2103	0	2103	2103	0	0
Pump Pressure	kPa	20685	16550	16550	0	16550	16550	0	0
Pump	kWatt	724	580	*	*	580	*	*	*
*PRESSURE LOSSES									
Drill String	kPa	4798	6468	*	*	6916	*	*	*
Bit	kPa	6600	6600	*	*	6789	*	*	*
Annulus	kPa	1409	2147	*	*	2628	*	*	*
Total System	kPa	12808	15216	*	*	16333	*	*	*
*BIT HYDRAULICS									
Nozzles	1/32"	3x16	3x16	3x16	3x16	3x16	3x16		
Nozzles	1/32"								
Bit Pressure	%	32	40	*	*	41	*	*	*
Bit	kWatt	231	231	*	*	238	*	*	*
Bit HSI	(index)	5.46	5.46	*	*	5.62	*	*	*
Jet Velocity	m/s	92	92	*	*	92	*	*	*
Impact Force	Newton	461	461	*	*	474	*	*	*
DRILL COLLARS ANNULUS									
Velocity	m/min	138	138	*	*	138	*	*	*
Critical Vel	m/min	139	148	*	*	139	*	*	*
Reynolds Number		2413	2155	*	*	2388	*	*	*
Crit Re (Lam - Tran)		2821	2762	*	*	2847	*	*	*
*DRILL PIPE ANNULUS									
Velocity	m/min	88	88	*	*	88	*	*	*
Critical Vel	m/min	117	120	*	*	117	*	*	*
Reynolds Number		1568	1502	*	*	1566	*	*	*
Crit Re (Lam - Tran)		2821	2762	*	*	2847	*	*	*
*HOLE CLEANING									
Slip Velocity	m/min	4	5	*	*	4	*	*	*
Rising Velocity	m/min	84	83	*	*	84	*	*	*
Lifting Capacity	%	95	95	*	*	95	*	*	*
Cutting Conc	%	0.31	0.31	*	*	0.0	*	*	*
Penetration Rate	m/h	10	10	0	0	0	0	0	0
CASING SHOE PRESSURES									
ECD	sp.gr.	1.49	1.49	*	*	1.53	*	*	*
ECD+Cuttings	sp.gr.	1.49	1.5	*	*	1.53	*	*	*
TOTAL DEPTH PRESSURES									
ECD	sp.gr.	1.51	1.52	*	*	1.55	*	*	*
ECD+Cuttings	sp.gr.	1.52	1.52	*	*	1.55	*	*	*

M-I L.L.C.

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DRILLING FLUIDS DATA MANAGEMENT SYSTEM



HYDRAULICS SUMMARY

Operator : Apache Energy Ltd

Field/Area : Bass Strait- Victoria

Well Name : Longtom-2

Description : Wildcat - Exploration

Contractor : Diamond Offshore

Location : Vic P-54 - Offshore

Date		27/11/2004	28/11/2004	29/11/2004	30/11/2004	1/12/2004	2/12/2004	3/12/2004	4/12/2004
Depth	m	2420	2420	2420	2420	2420	2420	2420	2420
Days Since Spud		18	19	20	21	22	23	24	25
*RHEOLOGICAL PROPERTIES									
Mud Wt	sp.gr.	1.45	1.45	1.45	1.44	1.44	1.5	1.6	1.8
Plastic Visc	cP	21	17	17	17	17	21	24	26
Yield Point	Pa	15.	12.5	11.	11.	10.5	17.	17.	19.
3-rpm Rdg	Fann deg	5	3	3	3	3	6	7	6
np Value		.4975	.4903	.522	.522	.5334	.4666	.4996	.4919
Kp Value	Pa·s ⁿ	2.4451	2.1057	1.6053	1.6053	1.4561	3.1979	2.745	3.1783
na Value		.511	.5809	.5682	.5549	.541	.4774	.459	.511
Ka Value	Pa·s ⁿ	2.3182	1.241	1.267	1.2947	1.3244	2.9385	3.5327	2.7818
*FLOW DATA									
Flow Rate	L/min	0	0	0	0	0	0	1294	0
Pump Pressure	kPa	0	0	0	0	0	0	0	0
Pump	kWatt	*	*	*	*	*	*		*
*PRESSURE LOSSES									
Drill String	kPa	*	*	*	*	*	*	3488	*
Bit	kPa	*	*	*	*	*	*		*
Annulus	kPa	*	*	*	*	*	*	5214	*
Total System	kPa	*	*	*	*	*	*	8702	*
*BIT HYDRAULICS									
Nozzles	1/32"								
Nozzles	1/32"								
Bit Pressure	%	*	*	*	*	*	*	*	*
Bit	kWatt	*	*	*	*	*	*		*
Bit HSI	(index)	*	*	*	*	*	*	.	*
Jet Velocity	m/s	*	*	*	*	*	*		*
Impact Force	Newton	*	*	*	*	*	*		*
*DRILL COLLARS ANNULUS									
Velocity	m/min	*	*	*	*	*	*	141	*
Critical Vel	m/min	*	*	*	*	*	*	144	*
Reynolds Number		*	*	*	*	*	*	2367	*
Crit Re (Lam - Tran)		*	*	*	*	*	*	2786	*
*DRILL PIPE ANNULUS									
Velocity	m/min	*	*	*	*	*	*	8	*
Critical Vel	m/min	*	*	*	*	*	*	76	*
Reynolds Number		*	*	*	*	*	*	1566	*
Crit Re (Lam - Tran)		*	*	*	*	*	*	2786	*
*HOLE CLEANING									
Slip Velocity	m/min	*	*	*	*	*	*	3	*
Rising Velocity	m/min	*	*	*	*	*	*	4	*
Lifting Capacity	%	*	*	*	*	*	*	58	*
Cutting Conc	%	*	*	*	*	*	*	0.0	*
Penetration Rate	m/h	0	0	0	0	0	0	0	0
CASING SHOE PRESSURES									
ECD	sp.gr.	*	*	*	*	*	*	1.66	*
ECD+Cuttings	sp.gr.	*	*	*	*	*	*	1.66	*
TOTAL DEPTH PRESSURES									
ECD	sp.gr.	*	*	*	*	*	*	1.87	*
ECD+Cuttings	sp.gr.	*	*	*	*	*	*	1.87	*

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DRILLING FLUIDS DATA MANAGEMENT SYSTEM



HYDRAULICS SUMMARY

Operator : Apache Energy Ltd

Field/Area : Bass Strait- Victoria

Well Name : Longtom-2

Description : Wildcat - Exploration

Contractor : Diamond Offshore

Location : Vic P-54 - Offshore

Date		5/12/2004	6/12/2004	7/12/2004	8/12/2004	9/12/2004	10/12/2004	11/12/2004	12/12/2004
Depth	m	2420	2420	2420	2420	2420	2420	2420	1960
Days Since Spud		26	27	28	29	30	31	32	33
*RHEOLOGICAL PROPERTIES									
Mud Wt	sp.gr.	1.8	1.43	1.43	1.43	1.78	1.8	1.8	1.25
Plastic Visc	cP	29	23	18	26	21	18	18	17
Yield Point	Pa	15.	15.	15.5	11.5	15.	16.	15.5	9.5
3-rpm Rdg	Fann deg	8	6	6	6	8	8.5	8	7
np Value		.5768	.52	.4514	.6141	.4975	.4436	.4514	.558
Kp Value	Pa·s ⁿ	1.7252	2.2082	3.1321	1.1353	2.4451	3.3548	3.1321	1.1835
na Value		.3863	.4683	.4493	.4493	.3573	.369	.3863	.3133
Ka Value	Pa·s ⁿ	4.5457	2.9822	3.0762	3.0762	4.7661	4.9679	4.5457	4.4804
*FLOW DATA									
Flow Rate	L/min	0	0	0	0	1375	0	0	0
Pump Pressure	kPa	0	0	0	0	0	0	0	0
Pump	kWatt	*	*	*	*		*	*	*
*PRESSURE LOSSES									
Drill String	kPa	*	*	*	*	36536	*	*	*
Bit	kPa	*	*	*	*		*	*	*
Annulus	kPa	*	*	*	*	1815	*	*	*
Total System	kPa	*	*	*	*	38351	*	*	*
*BIT HYDRAULICS									
Nozzles	1/32"								
Nozzles	1/32"								
Bit Pressure	%	*	*	*	*	*	*	*	*
Bit	kWatt	*	*	*	*		*	*	*
Bit HSI	(index)	*	*	*	*	.	*	*	*
Jet Velocity	m/s	*	*	*	*		*	*	*
Impact Force	Newton	*	*	*	*		*	*	*
DRILL COLLARS ANNULUS									
Velocity	m/min	*	*	*	*	105	*	*	*
Critical Vel	m/min	*	*	*	*	102	*	*	*
Reynolds Number		*	*	*	*	2629	*	*	*
Crit Re (Lam - Tran)		*	*	*	*	2788	*	*	*
*DRILL PIPE ANNULUS									
Velocity	m/min	*	*	*	*	8	*	*	*
Critical Vel	m/min	*	*	*	*	70	*	*	*
Reynolds Number		*	*	*	*	1566	*	*	*
Crit Re (Lam - Tran)		*	*	*	*	2788	*	*	*
*HOLE CLEANING									
Slip Velocity	m/min	*	*	*	*	3	*	*	*
Rising Velocity	m/min	*	*	*	*	5	*	*	*
Lifting Capacity	%	*	*	*	*	68	*	*	*
Cutting Conc	%	*	*	*	*	0.0	*	*	*
Penetration Rate	m/h	0	0	0	0	0	0	0	0
CASING SHOE PRESSURES									
ECD	sp.gr.	*	*	*	*	1.82	*	*	*
ECD+Cuttings	sp.gr.	*	*	*	*	1.82	*	*	*
TOTAL DEPTH PRESSURES									
ECD	sp.gr.	*	*	*	*	1.88	*	*	*
ECD+Cuttings	sp.gr.	*	*	*	*	1.88	*	*	*

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DRILLING FLUIDS DATA MANAGEMENT SYSTEM



HYDRAULICS SUMMARY

Operator : Apache Energy Ltd

Field/Area : Bass Strait- Victoria

Well Name : Longtom-2

Description : Wildcat - Exploration

Contractor : Diamond Offshore

Location : Vic P-54 - Offshore

Date		13/12/2004	14/12/2004	15/12/2004	16/12/2004	17/12/2004	18/12/2004	19/12/2004	
Depth	m	1960	1600	1967	2112	2130	2148	907	
Days Since Spud		34	35	36	37	38	39	40	
*RHEOLOGICAL PROPERTIES									
Mud Wt	sp.gr.	1.26	1.25	1.25	1.28	1.27	1.25	1.25	
Plastic Visc	cP	17	15	15	14	14	14	14	
Yield Point	Pa	9.	13.	13.5	14.5	14.	13.5	13.	
3-rpm Rdg	Fann deg	7	8	9	8	7	7	6.5	
np Value		.5712	.4498	.4406	.4066	.415	.4238	.433	
Kp Value	Pa·s ⁿ	1.06	2.6466	2.8718	3.6335	3.3676	3.1124	2.8681	
na Value		.3133	.3361	.3133	.3133	.3392	.3514	.3725	
Ka Value	Pa·s ⁿ	4.4804	4.9333	5.7605	5.1204	4.2947	4.2105	3.7773	
*FLOW DATA									
Flow Rate	L/min	0	0	0	0	0	0	0	
Pump Pressure	kPa	0	0	0	0	0	0	0	
Pump	kWatt	*	*	*	*	*	*	*	
*PRESSURE LOSSES									
Drill String	kPa	*	*	*	*	*	*	*	
Bit	kPa	*	*	*	*	*	*	*	
Annulus	kPa	*	*	*	*	*	*	*	
Total System	kPa	*	*	*	*	*	*	*	
*BIT HYDRAULICS									
Nozzles	1/32"								
Nozzles	1/32"								
Bit Pressure	%	*	*	*	*	*	*	*	
Bit	kWatt	*	*	*	*	*	*	*	
Bit HSI	(index)	*	*	*	*	*	*	*	
Jet Velocity	m/s	*	*	*	*	*	*	*	
Impact Force	Newton	*	*	*	*	*	*	*	
*DRILL COLLARS ANNULUS									
Velocity	m/min	*	*	*	*	*	*	*	
Critical Vel	m/min	*	*	*	*	*	*	*	
Reynolds Number		*	*	*	*	*	*	*	
Crit Re (Lam - Tran)		*	*	*	*	*	*	*	
*DRILL PIPE ANNULUS									
Velocity	m/min	*	*	*	*	*	*	*	
Critical Vel	m/min	*	*	*	*	*	*	*	
Reynolds Number		*	*	*	*	*	*	*	
Crit Re (Lam - Tran)		*	*	*	*	*	*	*	
*HOLE CLEANING									
Slip Velocity	m/min	*	*	*	*	*	*	*	
Rising Velocity	m/min	*	*	*	*	*	*	*	
Lifting Capacity	%	*	*	*	*	*	*	*	
Cutting Conc	%	*	*	*	*	*	*	*	
Penetration Rate	m/h	0	0	0	0	0	0	0	
CASING SHOE PRESSURES									
ECD	sp.gr.	*	*	*	*	*	*	*	
ECD+Cuttings	sp.gr.	*	*	*	*	*	*	*	
TOTAL DEPTH PRESSURES									
ECD	sp.gr.	*	*	*	*	*	*	*	
ECD+Cuttings	sp.gr.	*	*	*	*	*	*	*	

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DRILLING FLUIDS DATA MANAGEMENT SYSTEM

**DRILLING FLUIDS RECAP FOR APACHE ENERGY
LONGTOM 2**

**DRILLING
FLUIDS
SUMMARY**



Field/Area : Bass Strait- Victoria

Description : Wildcat - Exploration

Location : Vic P-54 - Offshore

[illegible]

10/11/2004: Complete anchors run. Run in w/ BHA, tag seabed. Spud well at 09:99 hrs. Drill ahead to 111m. Run conductor, cement same.

11/11/2004: Make up 311mm BHA w/ MWD tools and drill string. Drill ahead pump hi-vis sweeps each 1/2 stand and prior to connection.

12/11/2004: Drill to section TD, 1009m, pumping high vis sweeps at TD. Displace hole to 300 bbl PHG. 1.15sg spot on bottom.

13/11/2004: Completed cementing 9 5/8" casing at 955m. Ran in BOP and Riser, installed DFE Centrifuge, commenced mixing 1100bbls KCl



DRILLING FLUIDS SUMMARY

Operator : Apache Energy Ltd

Field/Area : Bass Strait- Victoria

Well Name : Longtom-2

Description : Wildcat - Exploration

Contractor : Diamond Offshore

Location : Vic P-54 - Offshore

[illegible]

REMARKS

14/11/2004: P/Up BHA and 54 stands of DP. RIH

15/11/2004: Drill cement 1/2 shoe track, displace to Idcap mud. Drill to FIT, and new hole.

16/11/2004: Drill in target formation to 2312m, control drill rate from 2035m for MWD logging. POH-bit trip. Wipe for MWD 2100-2312

17/11/2004: Pull tight to 1700m, RIH to bottom, take 30 bbl gain. Shut in, circ out gas bubble. Weigh up. Wiper trip.



Field/Area : Bass Strait- Victoria

Description : Wildcat - Exploration

Location : Vic P-54 - Offshore

Date		17/11/2004	18/11/2004	18/11/2004	19/11/2004	19/11/2004	20/11/2004
Depth/TVD	m	2305/2300	2336/2321	2305/2300	2422/2422	2387/2387	1854/
Activity		Bit Trip	Drilling	Drilling	P/O for Log	P/O for Log	Reaming
Mud Type		KCl / Idcap	KCl / Idcap	KCl / Idcap	KCl / Idcap	KCl / Idcap	KCl / Idcap
Hole Size	mm	216	216	216	216	216	216
Circ Volume	m³	166	163.5	163.5	165.7	165.7	163.5
Flow Rate	L/min	0	2103	2103	2103	2103	2103
Circ Pressure	kPa	0	20685	20685	20685	20685	16550
Avg ROP	m/hr	0	10	10	10	10	10
Sample From		Fl	Pit 3	Pit#3	Pit 3	Pit 3	Pit 3
Flow Line Temp	°C	49	53	49	52	49	45
Mud Weight	sp.gr.	1.25@42 °C	1.34@ 28 °C	1.35@ 27 °C	1.40@49 °C	1.41@49 °C	1.4@ 45 °C
Funnel Viscosity	s/L	41	45	45	45	45	51
PV	cP	17	20	19	21	22	25
YP	Pa	9	14	13	16.5	17	16.5
R600/R300/R200		52/35/25	68/48/40	64/45/35	75/54/44	78/56/49	83/58/47
R100/R6/R3		18/5/3	29/8/6	26/8/6	31/8/6	37/9/6	33/7/5
10s/10m/30m Gel	Pa	2.5/3.5/4.5	5/12/17	6/9/14	6/12/16	6/12/16	6/13/17
API Fluid Loss	cc/30 min	5.2	5.2	5.1	4.8	4.9	4
HTHP Fluid Loss	cc/30 min		-	-	-	-	-
Cake API/HT	mm	4/	3/-	3/-	1/-	1/-	2/-
Solids	%Vol	11	14	14	16	16	15.7
Oil/Water	%Vol	/89	/86	/86	/84	/84	/84.3
Sand	%Vol	.5	0.75	0.75	0.65	0.8	0.65
MBT	kg/m³	22	31.4	28.5	34	35.5	35
pH		9.2	9	10	9	9.5	9.5
Alkal Mud (Pm)			0.05	0.25	0.1	0.25	0.1
Pf/Mf		0.34/2.1	0.25/3.2	0.65/2.8	0.12/3	0.15/1.75	0.2/2.8
Chlorides	mg/l	53000	54000	54000	54000	54000	54000
Hardness Ca		200	240	200	400	360	280
KCl	% (wt)	6.5	6	6	6	6	5.5

Daily Mud Cost	\$	4322.98		2284.88		6370.13
Cuml Mud Cost	\$	125221.86		127506.74		133876.87
Sales Engineer	G. Schw/G. Shar	Glenn S/Jasdeep	Glenn S/Jasdeep	Glenn S/Jasdeep	Glenn S/Jasdeep	Glenn S/Jasdeep
Products Used		OS-1 / 5		Duotec / 5		Soda / 1
		BARITE / 18		Glut / 6		ARITE / 17.000
				MixII-F / 17		IDCAP / 12
				DefoamA / 4		KOH / 2
				KOH / 2		

REMARKS

18/11/2004:

19/11/2004: Drilled ahead ROP 8 - 12 m/hr then dropped to 1 - 2 m/hr, at 2422 m pulled 10 stands and made a wiper trip.

20/11/2004: Logging the hole, got tight at 1854 m, pulled out and put new bit in the hole to ream it out to 2422m. Added 12 Idcap.



Field/Area : Bass Strait- Victoria

Description : Wildcat - Exploration

Location : Vic P-54 - Offshore

Date		20/11/2004	21/11/2004	21/11/2004	22/11/2004	23/11/2004	23/11/2004
Depth/TVD	m	2422/2422	1769/	2284/	2422/	2422/ 2407	2410/ 2395
Activity		Reaming	Logging	Logging	Tripping	Tripping	Tripping
Mud Type		KCl / Idcap	KCl / Idcap	KCl / Idcap	KCl / Idcap	KCl / Idcap	KCl / Idcap
Hole Size	mm	216	216	216	216	216	216
Circ Volume	m³	163.5	168.1	168.1	166.2	177.2	177.2
Flow Rate	L/min	2103	2103	2103	0	2103	2103
Circ Pressure	kPa	16550	16550	16550	0	16550	16550
Avg ROP	m/hr	10	0	0	0	0	0
Sample From		Pit 3	Pit 3	Pit 3	Pit 3	Pit	Pit 3
Flow Line Temp	°C		40	43		43	26.5
Mud Weight	sp.gr.	1.41@40 °C	1.4 @35 °C	1.4@38 °C	1.41@ 21 °C	1.44@43 °C	1.4@26.5 °C
Funnel Viscosity	s/L	50	48	47	56	45	49
PV	cP	16	19	23	20	20	21
YP	Pa	12.5	16.5	16.5	13	17	15
R600/R300/R200		57/41/32	71/52/48	79/56/45	66/46/36	74/54/44	72/51/42
R100/R6/R3		22/7/4	32/7/4	32/7/5	25/6/4	32/8/6	30/7/4
10s/10m/30m Gel	Pa	3/9/12	4/9/12	5/11/13	4/11/12	6/12/13	4/9/12
API Fluid Loss	cc/30 min	4.3	4.0	4.4	4.1	4	4.2
HTHP Fluid Loss	cc/30 min	-	-	-	-		
Cake API/HT	mm	2/-	1/-	1/-	1/-	1/	1/
Solids	%Vol	16	15.7	15.7	16	17	16
Oil/Water	%Vol	/84	/84.3	/84.3	/84	/83	/84
Sand	%Vol	0.6	0.5	0.5	0.5	0.5	.5
MBT	kg/m³	35.6	35	35	35	28.5	35.6
pH		9.1	9	9	9	9	9.5
Alkal Mud (Pm)		0.25	0.15	0.1	0.1	0.2	0.2
Pf/Mf		0.3/2.7	0.25/3.4	0.15/3.2	0.15/3	0.1/3.2	0.15/3
Chlorides	mg/l	54000	54000	52500	52500	61100	52000
Hardness Ca		300	320	280	320	280	360
KCl	% (wt)	5.5	5.5	5.5	5.5	7	5.5

Daily Mud Cost	\$	0.00	0.00	11163.58	
Cuml Mud Cost	\$	133876.87	133876.87	145040.45	
Sales Engineer	Glenn S/Jasdeep	Glen Sh/Jasdeep	Glen Sh/Jasdeep	Glen Sh/Jasdeep	Glen Sh/Jasdeep
Products Used				Duotec / 6	
				BARITE / 14	
				KCl / 7	
				IDCAP / 14	
				KOH / 4	
				Hibtrol / 13	

REMARKS

21/11/2004:

22/11/2004:

23/11/2004:



Field/Area : Bass Strait- Victoria

Description : Wildcat - Exploration

Location : Vic P-54 - Offshore

[illegible]

24/11/2004:
25/11/2004:
26/11/2004:
27/11/2004:
28/11/2004:



Field/Area : Bass Strait- Victoria

Description : Wildcat - Exploration

Location : Vic P-54 - Offshore

[illegible]

29/11/2004:
30/11/2004:
1/12/2004:
2/12/2004:

3/12/2004: Weigh hole to 1.6sg, flow check well, circulate riser to 1.6sg, flow check.



Field/Area : Bass Strait- Victoria

Description : Wildcat - Exploration

Location : Vic P-54 - Offshore

Date		4/12/2004	5/12/2004	6/12/2004	7/12/2004	8/12/2004	9/12/2004
Depth/TVD	m	2420/ 2420	2420/2420	2420/2420	2420/2420	2420/2420	2420/2420
Activity		Flow check	RIH	WOC	RIH	Testing	Circulating
Mud Type		KCl / Idcap	KCl / Idcap	KCl / Idcap	KCl / Idcap	KCl / Idcap	KCl / Idcap
Hole Size	mm	149	149	149	149	149	149
Circ Volume	m³	146.4	149.9	120.4	118.9	118.9	124.8
Flow Rate	L/min	0	0	0	0	0	1375
Circ Pressure	kPa	0	0	0	0	0	0
Avg ROP	m/hr	0	0	0	0	0	0
Sample From		Pit	Pit	Pit	Pit	Pit	Pit
Flow Line Temp	°C		-	-	-	-	
Mud Weight	sp.gr.	1.8@23 °C	1.8@21 °C	1.43@ 23 °C	1.43@27 °C	1.43@23 °C	1.78@24 °C
Funnel Viscosity	s/L	58	61	63	55	64	54
PV	cP	26	29	23	18	26	21
YP	Pa	19	15	15	15.5	11.5	15
R600/R300/R200		90/64/53	88/59/46	76/53/41	67/49/39	75/49/40	72/51/38
R100/R6/R3		36/12/6	31/11/8	31/10/6	29/9/6	29/10/6	28/10/8
10s/10m/30m Gel	Pa	8/10.5/12	6/10/13	6/8/9.5	6/8.5/10	6/7.5/10	6/9/10
API Fluid Loss	cc/30 min	4	3	3.5	3	3	3
HTHP Fluid Loss	cc/30 min						
Cake API/HT	mm	1/	1/	1/	1/	1/	1/
Solids	%Vol	27	27	16	16	16	27
Oil/Water	%Vol	/73	/73	/84	/84	/84	/73
Sand	%Vol	tr		-	tr	tr	-
MBT	kg/m³	23	18	15	16	14	17
pH		9.5	9	9	9.5	9	9.5
Alkal Mud (Pm)		1	1	.7	.8	.7	1.2
Pf/Mf		0.15/2.7	/	0.15/1.8	0.17/1.5	0.15/1.8	0.17/1.3
Chlorides	mg/l	54500	53000	55000	54000	54000	54000
Hardness Ca		560	560	610	620	520	560
KCl	% (wt)	6.1	6	6.2	6.1	6	6

[illegible]

REMARKS

4/12/2004: Raise mud weight to 1.8sg, 33mt Barite used yesterday remainder today, add extra Duo-tec for suspension properties
5/12/2004: RIH Pull tools, lay out, make up cement stinger run into hole, Make up un-weighted pre-mix to reduce MW.
6/12/2004: Pump cement from 2274-2169, pull back to 2169 reverse out cement, dump excess cement,
7/12/2004: Tag cement plug-good, pressure test, displace heavy mud, POOH, lay out tubing pick up test guns RIH
8/12/2004: Add Duo-Tec for barite suspension in heavy mud, RIH with test equipment test same, fire guns flow well
9/12/2004: Circulate through well test equipment, increased gas circulate 1.78sg mud through choke, weigh extra mud up 1.78sg.



DRILLING FLUIDS SUMMARY

Operator : Apache Energy Ltd

Field/Area : Bass Strait- Victoria

Well Name : Longtom-2

Description : Wildcat - Exploration

Contractor : Diamond Offshore

Location : Vic P-54 - Offshore

[illegible]

REMARKS

10/12/2004: Rig down test equipment, pick up cement stinger RIH set plugs, POOH, lay down tubing,
11/12/2004: RIH with cement stinger set first plug from 2172-2062, reverse circulate out excess cement, pull back, lay out tubing,
12/12/2004: Pump cement plug 2B from 2062-1986, pull back severe u-tubing, reverse cement plug out, Continue to blend mud
13/12/2004: Displace cement out of hole, pressure test plug displace hole to 10.5ppg mud pump cement from 2062-1986m,
14/12/2004: RIH with whipstock assembly set, POOH pick up milling package start milling, pipe stuck work pipe, POOH.
15/12/2004: POOH change out milling assembly, RIH, start milling, POOH,



Field/Area : Bass Strait- Victoria

Description : Wildcat - Exploration

Location : Vic P-54 - Offshore

[illegible]

16/12/2004: RIH with drilling assembly, drill ahead to 2112m. circ B/up, POH tight hole, backream stand, continue to POH
17/12/2004: Adjust inventory on DuoTec/KCL,02/12,04/12, due to double entry with chemical staying on boat.
18/12/2004: Add bio-cide to Longtom-2 in preparation P&A.
19/12/2004: Glute costed on yesterdays report, credit 15 sacks Idcap-D to well, debit 9 sacks Duo-Tec, start dumping mud & cleaning
20/12/2004: Dump and clean pits

**DRILLING FLUIDS RECAP FOR APACHE ENERGY
LONGTOM 2**

**PRODUCT
CONSUMPTION**

Product Consumption

Operator : Apache Energy Ltd
Well Name : Longtom-2
Location : Vic P-54 - Offshore
Field/Area: Bass Strait- Victoria

Contractor: Diamond Offshore
M-I Engineer: Jasdeep Singh
Rig Name: Ocean Patriot
Stock Point: Melbourne

	DATES											
Product Name	Product Price	Nov 10, 2004 Qty	Nov 10, 2004 Cost	Nov 11, 2004 Qty	Nov 11, 2004 Cost	Nov 12, 2004 Qty	Nov 12, 2004 Cost	Nov 13, 2004 Qty	Nov 13, 2004 Cost	Nov 14, 2004 Qty	Nov 14, 2004 Cost	Page Totals
CALCIUM CHLORIDE	10.06	38	382.28		0.00		0.00		0.00		0.00	382.28
CITRIC ACID	35.51		0.00		0.00		0.00		0.00		0.00	0.00
DUOTEC	194.97		0.00		0.00		0.00	28	5459.16	7	1364.79	6823.95
LIME	8.95		0.00		0.00		0.00		0.00		0.00	0.00
OS-1	32.42		0.00		0.00		0.00		0.00	3	97.26	97.26
SODA ASH	11.63	6	69.78	3	34.89	9	104.67		0.00		0.00	209.34
MIX II MEDIUM	26.19		0.00		0.00		0.00		0.00		0.00	0.00
CAUSTIC SODA (DRY)	19.35	6	116.10	3	58.05	3	58.05		0.00		0.00	232.20
KWIK SEAL FINE	27.08		0.00		0.00		0.00		0.00		0.00	0.00
ANTIFOAM A	68.59		0.00		0.00		0.00		0.00		0.00	0.00
SODIUM BICARBONATE	9.58		0.00		0.00		0.00	5	47.90	5	47.90	95.80
M-I BAR BULK	231.16		0.00		0.00	17	3929.72	19	4276.46	15	3398.05	11604.23
M-I GEL BULK	246.71	36	8881.56	23	5674.33	40	9868.40		0.00		0.00	24424.29
CONQOR 404	1023.81		0.00		0.00		0.00		0.00		0.00	0.00
POTASSIUM CHLORIDE	388.21		0.00		0.00	2	776.42	15	5823.15	5	1941.05	8540.62
GUAR GUM	60.00		0.00		0.00		0.00		0.00		0.00	0.00
NUT PLUG MEDIUM	13.53		0.00		0.00		0.00		0.00		0.00	0.00
M-I BAR	4.51		0.00		0.00		0.00		0.00		0.00	0.00
DUO-VIS	225.72		0.00		0.00		0.00		0.00		0.00	0.00
M-I GEL NT	9.18		0.00		0.00		0.00		0.00		0.00	0.00
PIPE-LAX W	342.92		0.00		0.00		0.00		0.00		0.00	0.00
GLUTE 25	91.89		0.00		0.00		0.00		0.00		0.00	0.00
KWIK SEAL MEDIUM	27.08		0.00		0.00		0.00		0.00		0.00	0.00
MIX II FINE	25.15		0.00		0.00		0.00		0.00		0.00	0.00
POLY PLUS DRY	75.81		0.00		0.00		0.00		0.00		0.00	0.00
M-I GEL	4.82		0.00		0.00		0.00		0.00		0.00	0.00
CONQOR 303A	362.54		0.00		0.00		0.00		0.00		0.00	0.00
DEFOAM A	67.67		0.00		0.00		0.00	1	67.67		0.00	67.67
GLYDRIL LC	563.96		0.00		0.00		0.00		0.00		0.00	0.00
GLYDRIL MC	359.64		0.00		0.00		0.00		0.00		0.00	0.00
KWIK SEAL COARSE	27.08		0.00		0.00		0.00		0.00		0.00	0.00
IDCAP D	197.36		0.00		0.00		0.00	49	9670.64	20	3947.20	13617.84
MIX II COARSE	25.61		0.00		0.00		0.00		0.00		0.00	0.00
POTASSIUM HYDROXIDE	30.23		0.00		0.00		0.00	2	60.46	1	30.23	90.69
HIBTROL	88.93		0.00		0.00		0.00	30	2667.90	9	800.37	3468.27
OMY A CARB 40	20.08		0.00		0.00		0.00		0.00		0.00	0.00
POLYPAC UL	88.72											0.00

Product Consumption

Operator : Apache Energy Ltd
Well Name : Longtom-2
Location : Vic P-54 - Offshore
Field/Area: Bass Strait- Victoria

Contractor: Diamond Offshore
M-I Engineer: Jasdeep Singh
Rig Name: Ocean Patriot
Stock Point: Melbourne

[illegible]

Product Consumption

Operator : Apache Energy Ltd
Well Name : Longtom-2
Location : Vic P-54 - Offshore
Field/Area: Bass Strait- Victoria

Contractor: Diamond Offshore
M-I Engineer: Jasdeep Singh
Rig Name: Ocean Patriot
Stock Point: Melbourne

[illegible]

Product Consumption

Operator : Apache Energy Ltd
Well Name : Longtom-2
Location : Vic P-54 - Offshore
Field/Area: Bass Strait- Victoria

Contractor: Diamond Offshore
M-I Engineer: Jasdeep Singh
Rig Name: Ocean Patriot
Stock Point: Melbourne

[illegible]

Product Consumption

Operator : Apache Energy Ltd
Well Name : Longtom-2
Location : Vic P-54 - Offshore
Field/Area: Bass Strait- Victoria

Contractor: Diamond Offshore
M-I Engineer: Jasdeep Singh
Rig Name: Ocean Patriot
Stock Point: Melbourne

[illegible]

Product Consumption

Operator : Apache Energy Ltd
Well Name : Longtom-2
Location : Vic P-54 - Offshore
Field/Area: Bass Strait- Victoria

Contractor: Diamond Offshore
M-I Engineer: Jasdeep Singh
Rig Name: Ocean Patriot
Stock Point: Melbourne

[illegible]

Product Consumption

Operator : Apache Energy Ltd
Well Name : Longtom-2
Location : Vic P-54 - Offshore
Field/Area: Bass Strait- Victoria

Contractor: Diamond Offshore
M-I Engineer: Jasdeep Singh
Rig Name: Ocean Patriot
Stock Point: Melbourne

[illegible]



Contractor: Diamond Offshore
M-I Engineer: Jasdeep Singh
Rig Name: Ocean Patriot
Stock Point: Melbourne

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Contractor: Diamond Offshore
M-I Engineer: Jasdeep Singh
Rig Name: Ocean Patriot
Stock Point: Melbourne

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**DRILLING FLUIDS RECAP FOR APACHE ENERGY
LONGTOM 2**

**DAILY
MUD
REPORTS**

WATER-BASED MUD REPORT No. 1

Date	10/11/2004	Depth/TVD	111 m / 111 m
Spud Date	10/11/2004	Mud Type	Spud- SW/ PHG sweeps
Water Depth	57	Activity	Pick up BHA

Operator : Apache Energy Ltd
Report For : H. Everhart / C. Wilson
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : R. Beaurd / T. Williams

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA	
Bit Size 914 mm 914mm	How/26"bit	Surface 762mm @110m (110TVD)	Hole 13.3	Pump Make	OILWELL 1700PT NATIONAL 12P-160
Nozzles 3x20 /26 / 1/32"				Pump Size	6 X 12.mm 6 X 12.mm
Drill Pipe Size 127 mm	Length m	Intermediate	Active Pits -13.3	Pump Cap .001 L/stk	.001 L/stk
				Pump stk/min	105@97% 105@97%
Drill Pipe Size 203 mm	Length 20 m	Intermediate	Total Circulating Vol -13.3	Flow Rate	1514 L/min
				Bottoms Up	min 0 stk
Drill Collar Size 241 mm	Length 40 m	Production or Liner	In Storage 211.6	Total Circ Time	-8.8 min -1840 stk
				Circulating Pressure	4830 kPa

[illegible]

PRODUCTS USED LAST 24 HRS		
Products	Size	Amt
CALCIUM CHLORIDE	25 KG BG	38
SODA ASH	25 KG BG	6
CAUSTIC SODA (DRY)	25 KG DM	6
M-I GEL BULK	1 MT BK	36

SOLIDS EQUIP	Size	Hr
VSM Thule Shake		0
VSM Thule Shake		0
VSM Thule Shake		0
VSM Thule Shake		0
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.05
Viscosity	> 100FV
Filtrate	n/c

REMARKS AND TREATMENT

Build PHG for sweeps and displacement for 914mm hole section. After drilled, continue mixing for next hole, fill pits with PHG. Receive from Far Grip 87 mt bentonite.

REMARKS

Complete run aqnchors. After transiton, add drill water to pits and mix PHG. Run in w/ BHA, tag seabed. Spud well at 09:00 hrs. Bed in bit and drill ahead pumping 50-bbbls PHG hi vis sweeps each joint, as required. TD at 111m, sweep hole displace to PHG. POH, run in and displace to PHG. POH. Run in with 30" RT and housing. Run conductor. Cement same. WOC. Release RT and POOH.

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service	7	Oil Added	0	NaCl	13/	np/na	Values
Drilling	3	Water Added	307.4	KCl	/	kp/ka	(Pa·s·n)
Tripping	5	Mud Received	0	Low Gravity	/	Bit Loss	(kPa / %)
Non-Productive Tim		Dumped	0	Bentonite	/	Bit HHP	(kWatt / HSI)
Cementing	2	Shakers	0	Drill Solids	/	Bit Jet Vel	(m/s)
Running Casing	5	Sweeps	113.1	Weight Material	NA/ NA	Ann. Vel DP	(m/min)
Wait on Cement	2	Centrifuge	0	Chemical Conc	- /	Ann. Vel DC	(m/min)
		Formation	0	Inert/React		Crit Vel DP	(m/min)
		Left in Hole	0	Average SG		Crit Vel DC	(m/min)
		Other	0	Carb/BiCarb (m mole/L)	/		

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
G. Schwab	089-325-4822	089-422-7540	0409 885 771	\$ 9 449 72	\$ 9 449 72

WATER-BASED MUD REPORT No. 2

Date	11/11/2004	Depth/TVD	711 m / 711 m
Spud Date	10/11/2004	Mud Type	Spud- SW/ PHG sweeps
Water Depth	57	Activity	Drill 12.25"

Operator : Apache Energy Ltd
Report For : H. Everhart / C. Wilson
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : R. Beaurd / T. Williams

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

[illegible]

WATER-BASED MUD REPORT No. 3

Date	12/11/2004	Depth/TVD	1009 m / 1009 m
Spud Date	10/11/2004	Mud Type	Spud- SW/ PHG sweeps
Water Depth	57	Activity	Run 9 5/8" casing

Operator : Apache Energy Ltd
Report For : H. Everhart / C. Wilson
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : R. Beaurd / T. Williams

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA		
Bit Size	311 mm Hycalog PDC	Surface 762mm @110m (110TVD)	Hole	Pump Make	OILWELL 1700PT	NATIONAL 12P-160
Nozzles	3x20 /26 / 1/32"		35.9	Pump Size	6 X 12 mm	6 X 12 mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	.001 L/stk	.001 L/stk
127 mm	m		-35.9	Pump stk/min	105@97%	105@97%
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	1514 L/min	
203 mm	m			-35.9	Bottoms Up	min 0 stk
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time	-23.7 min -4980 stk	
241 mm	m			.1	Circulating Pressure	4830 kPa

[illegible]

PRODUCTS USED LAST 24 HRS		
Products	Size	Amt
SODA ASH	25 KG BG	9
CAUSTIC SODA (DRY)	25 KG DM	3
M-I BAR BULK	1 MT BK	17
M-I GEL BULK	1 MT BK	40
POTASSIUM CHLORIDE	1 MT BG	2

SOLIDS EQUIP	Size	Hr
VSM Thule Shake		0
VSM Thule Shake		0
VSM Thule Shake		0
VSM Thule Shake		0
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.05
Viscosity	> 100FV
Filtrate	n/c

REMARKS AND TREATMENT	REMARKS
Flocculate PGH for mid-stand sweep, pump 50bbl unflocculated gel to cover BHA on connections. Mix 150 bbls flocculated gel and sweep hole at TD. Displace hole to 300 bbls PHG followed by 200 bbls viscous 5% KCl pill weighted to 1.15sg. Mix weighted slug (not pumped). Fill casing with remaining PHG when running in. Clean pits for next hole section.	Drill to section TD, 1009m, pumping high vis sweeps at TD. Displace hole to 300 bbl PHG, spot 170 bbls 1.15sg KCl pill on bottom. POH. Rig up and run 9 5/8" casing and land at 995m. Cement same in place.

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service		Oil Added	0	NaCl	1.3/	np/na	Values
Drilling	5	Water Added	208.5	KCl	/	kp/ka	(Pa·s·n)
Tripping	3	Mud Received	0	Low Gravity	/	Bit Loss	(kPa / %)
Non-Productive Tim		Dumped	0	Bentonite	/	Bit HHP	(kWatt / HSI)
Condition Hole	2	Shakers	0	Drill Solids	/	Bit Jet Vel	(m/s)
Running Casing	10	Sweeps	246.9	Weight Material	NA/ NA	Ann. Vel DP	(m/min)
Wait on Cement	2	Centrifuge	0	Chemical Conc	- /	Ann. Vel DC	(m/min)
Cementing	2	Formation	0	Inert/React		Crit Vel DP	(m/min)
		Left in Hole	125.1	Average SG		Crit Vel DC	(m/min)
		Other	0	Carb/BiCarb (m mole/L)	/		

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
G. Sharpe					
G. Schwab	089-325-4822	089-422-7540	0409 885 771	\$ 14,737.26	\$ 29,954.25

WATER-BASED MUD REPORT No. 4

Date	13/11/2004	Depth/TVD	1009 m / 1009 m
Spud Date	10/11/2004	Mud Type	KCl / Idacap D
Water Depth	57	Activity	Run and test BOPs

Operator : Apache Energy Ltd
Report For : H. Everhart / C. Wilson
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : P.Baker / T. Williams

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA	
Bit Size	311 mm Hycalog PDC	Surface 762mm @110m (110TVD)	Hole	Pump Make	OILWELL 1700PT
Nozzles	3x20 /26 / 1/32"		49.8	Pump Size	6 X 12 mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	.001 L/stk
127 mm	m			Pump stk/min	.001 L/stk
203 mm	m	Intermediate	Total Circulating Vol	Flow Rate	1514 L/min
241 mm	m	Production or Liner	In Storage	Bottoms Up	min 0 stk
			174.8	Total Circ Time	min -1 stk
				Circulating Pressure	4830 kPa

[illegible][illegible]

SOLIDS EQUIP	Size	Hr
VSM Thule Shake		0
VSM Thule Shake		0
VSM Thule Shake		0
VSM Thule Shake		0
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.05
Viscosity	> 100FV
Filtrate	n/c

REMARKS AND TREATMENT		REMARKS	
Cleaned pits for preparation of KCl / Idacap D system. Mixed 1100 bbls 8% KCl / Idacap D system. Weight up to 1.23sg. Received 8 1/2" chemicals from boat.		Completed cementing 9 5/8" casing at 955m. Ran in BOP and Riser, installed DFE Centrifuge, commenced mixing 1100bbls KCl / Idacap D system for 8 1/2" section. Pressure test BOPs.	

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)	MUD RHEOLOGY & HYDRAULICS		
Rig Up/Service	4	Oil Added	0	NaCl	.1/ 2.9	np/na Values	
Drilling		Water Added	160.8	KCl	2.8/ 73.5	kp/ka (Pa·s^n)	
Tripping		Mud Received	0	Low Gravity	12.2/ 316.2	Bit Loss (kPa / %)	
Non-Productive Tim		Dumped	0	Bentonite	./.	Bit HHP (kWatt / HSI)	
BOP NU	16	Shakers	0	Drill Solids	12.7/ 316.2	Bit Jet Vel (m/s)	
BOP Testing	4	Sweeps	0	Weight Material	NA/ NA	Ann. Vel DP (m/min)	
Wait on Cement		Centrifuge	0	Chemical Conc	- / .	Ann. Vel DC (m/min)	
		Formation	0	Inert/React	-	Crit Vel DP (m/min)	
		Left in Hole	0	Average SG	2.5	Crit Vel DC (m/min)	
		Other	0	Carb/BiCarb (m mole/L)	./-.1		

M-I ENGR / PHONE	RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
G. Schwab 089-325-4822	089-422-7540	0409 885 771	\$ 28,073.34	\$ 58,027.59

WATER-BASED MUD REPORT No. 5

Date	14/11/2004	Depth/TVD	1009 m / 1009 m
Spud Date	10/11/2004	Mud Type	KCl / Idacap D
Water Depth	57	Activity	Drilling cement

Operator : Apache Energy Ltd
Report For : H. Everhart / C. Wilson
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : P. Baker / T. Williams

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA	
Bit Size 216 mm Reed DSX 104 HG		Surface	Hole	Pump Make	OILWELL 1700PT NATIONAL 12P-16C
Nozzles 5x12 / 1/32"		762mm @110m (110TVD)	43.3(Tot)/41.6(Bit)	Pump Size	6 X 12.mm 6 X 12.mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	.001 L/stk .001 L/stk
127 mm	673 m	244mm @995m (995TVD)		Pump stk/min	105@97% 105@97%
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	1514 L/min
127 mm	139 m		41.6	Bottoms Up	22.5 min 4719 stk
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time	27.5 min 5770 stk
165 mm	152 m		216	Circulating Pressure	4830 kPa

[illegible][illegible]

SOLIDS EQUIP	Size	Hr
VSM Thule Shake	4 x 105	0
VSM Thule Shake	4 x 105	0
VSM Thule Shake	4 x 120	0
VSM Thule Shake	4 x 120	0
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25
Viscosity	> 100FV
Filtrate	< 5

REMARKS AND TREATMENT

Mix 259 bbls KCL / IdcapD in pit 2. Treat all mud with OS-1. Dress shakers.
Weight up 880 bbls to 1.25 S.G.

REMARKS

P/Up BHA. P/Up 54 stands of DP and stand in the derrick . RIH with BHA including motor and MWD to tag top of cement (964m).

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service	24	Oil Added	0	NaCl	.5/ 16.7	np/na Values	0.547/0.444
Drilling		Water Added	34.4	KCl	3./ 78.8	kp/ka (Pa·s^n)	0.655/0.990
Tripping		Mud Received	0	Low Gravity	.3/ 7.5	Bit Loss (kPa / %)	3475 / 72
Non-Productive Tim		Shakers	0	Bentonite	.	Bit HHP (kWatt / HSI)	88 / 2.1
Cementing		Sweeps	0	Drill Solids	-.3/ -7.3	Bit Jet Vel (m/s)	71
Running Casing		Centrifuge	0	Weight Material	5.2/ 216.8	Ann. Vel DP (m/min)	59.74
Wait on Cement		Formation	0	Chemical Conc	- / 14.	Ann. Vel DC (m/min)	91.04
		Left in Hole	0	Inert/React	-	Crit Vel DP (m/min)	91
		Other	0	Average SG	4.11	Crit Vel DC (m/min)	106
		Dumped	0	Carb/BiCarb (m mole/L)	./ -1	ECD @ 964 (sp.gr.)	1.31

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
G. Schwab	089-325-4822	089-422-7540	0409 885 771	\$ 11,626.85	\$ 69,654.44



WATER-BASED MUD REPORT No. 6

Date	15/11/2004	Depth/TVD	1825 m / 1823 m
Spud Date	10/11/2004	Mud Type	KCl / Idacap D
Water Depth	57	Activity	Drilling ahead

Operator : Apache Energy Ltd
Report For : H. Everhart / C. Wilson
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : P. Baker / T. Williams

Field/Area : Bass Strait- Victoria
Description : Wilcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA	
Bit Size	216 mm Reed DSX 104 HG	Surface	Hole	Pump Make	OILWELL 1700PT NATIONAL 12P-16C
Nozzles	5x12 / 1/32"	762mm @110m (110TVD)	70.3	Pump Size	6 X 12.mm 6 X 12.mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	.001 L/stk .001 L/stk
127 mm	1534 m	244mm @995m (995TVD)	31	Pump stk/min	65@97% 65@97%
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	2120 L/min
127 mm	139 m		101.3	Bottoms Up	25.8 min 3355 stk
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time	47.8 min 6211 stk
165 mm	152 m		113	Circulating Pressure	20690 kPa

MUD PROPERTIES

Sample From	Fl@20:00	Pit3@07:30
Flow Line Temp	°C	32
Depth/TVD	m	1680/1680
Mud Weight	sp.gr.	1.27@28°C
Funnel Viscosity	s/L	47
Rheology Temp	°C	32
R600/R300		59/40
R200/R100		28/21
R6/R3		7/4
PV	cP	19
YP	Pa	10.5
10s/10m/30m Gel	Pa	3/4/5.5
API Fluid Loss	cc/30 min	4.2
HTHP FL Temp	cc/30 min	
Cake API/HTHP	mm	3/
Solids	%Vol	11
Oil/Water	%Vol	/89
Sand	%Vol	.4
MBT	kg/m³	11.4
pH		8.7
Alkal Mud (Pm)		
Pf/Mf		0.05/1.24
Chlorides	mg/l	48000
Hardness Ca	mg/l	1000
KCl	% (wt)	6

PRODUCTS USED LAST 24 HRS

Products	Size	Amt
DUOTEC	25 KG BG	15
OS-1	25 KG BG	6
SODA ASH	25 KG BG	4
ANTIFOAM A	5 GA CN	1
M-I BAR BULK	1 MT BK	35
POTASSIUM CHLORIDE	1 MT BG	9
DEFOAM A	5 GA CN	3
IDCAP D	25 KG BG	30
POTASSIUM HYDROXIDE	25 KG CN	2
HIBTROL	25 KG BG	19

SOLIDS EQUIP	Size	Hr
VSM Thule Shake	4 x 105	24
VSM Thule Shake	4 x 105	24
VSM Thule Shake	4 x 120	24
VSM Thule Shake	4 x 120	24
D-Sander		0
D-Silter		0.5

MUD PROPERTY SPECIFICATIONS

Weight	1.25
Viscosity	6rpm>7
Filtrate	<6

REMARKS AND TREATMENT

Displace to Idcap/KCl/Hibtrol mud in shoe track, FIT with 1.25sg for EMW of 1.7sg. Pretreat with sodium bicarb for cement. Treat with additives to achieve programmed specs. Build additional volume w/ higher concentration KCl as depleted from reactive lithologies. Good inhibition of sticky clays, no bit balling experienced in upper hole. Maintain rheology w/ DuoTec, added IdcapD for encapsulation of dispersive clays/marles. Cuttings transported easily off screens, little incorporation into mud.

REMARKS

Drill cement 1/2 shoe track, displace to Idcap mud system. Drill float, plugs, shoe, rathole plus 3 m to 1012m. Test kill / choke lines and perform FIT to 1.7 sg EMW. Drill 216 mm hole. Run centrifuge and maintained weight <1.27sg. Ran desilter-high volume loss. Dump sandtraps, add new volume to reduce low gravs.

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)	MUD RHEOLOGY & HYDRAULICS
Rig Up/Service		Oil Added	0	NaCl	np/na Values
Drilling	22	Water Added	65	KCl	kp/ka (Pa·s^n)
Tripping		Mud Received	0	Low Gravity	Bit Loss (kPa / %)
Non-Productive Tim		Dumped	23	Bentonite	Bit HHP (kWatt / HSI)
Testing	1	Shakers	35	Drill Solids	Bit Jet Vel (m/s)
Condition Mud	1	Sweeps	10.8	Weight Material	Ann. Vel DP (m/min)
Wait on Cement		Centrifuge	0	Chemical Conc	Ann. Vel DC (m/min)
		Formation	0	Inert/React	Crit Vel DP (m/min)
		Left in Hole	0	Average SG	Crit Vel DC (m/min)
		Other	12	Carb/BiCarb (m mole/L)	ECD @ 1825 (sp.gr.)

M-I ENGR / PHONE	RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
G. Sharpe G. Schwab	089-325-4822	089-422-7540	\$ 22,609.39	\$ 92,263.83



WATER-BASED MUD REPORT No. 7

Date	16/11/2004	Depth/TVD	2312 m / 2307 m
Spud Date	10/11/2004	Mud Type	KCl / Idacap D
Water Depth	57	Activity	Bit trip

Operator : Apache Energy Ltd
Report For : H. Everhart / C. Wilson
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : P. Baker / T. Williams

Field/Area : Bass Strait- Victoria
Description : Wilcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA	
Bit Size	216 mm Reed DSX 104 HG	Surface	Hole	Pump Make	OILWELL 1700PT NATIONAL 12P-16C
Nozzles	5x12 / 1/32"	762mm @110m (110TVD)	92(Tot)/72.9(Bit)	Pump Size	6 X 12.mm 6 X 12.mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	.001 L/stk .001 L/stk
127 mm	1538 m	244mm @995m (995TVD)	67	Pump stk/min	65@97% 65@97%
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	2120 L/min
127 mm	139 m		139.9	Bottoms Up	27 min 3510 stk
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time	66 min 8579 stk
165 mm	152 m		121.6	Circulating Pressure	20690 kPa

MUD PROPERTIES

Sample From	Fl@17:30	Pit@10:30
Flow Line Temp	°C	49
Depth/TVD	m	2311/2306
Mud Weight	sp.gr.	1.255@45°C
Funnel Viscosity	s/L	45
Rheology Temp	°C	49
R600/R300		61/41
R200/R100		28/21
R6/R3		8/5
PV	cP	20
YP	Pa	10.5
10s/10m/30m Gel	Pa	2.5/3.5/4.5
API Fluid Loss	cc/30 min	5.5
HTHP FL Temp	cc/30 min	
Cake API/HTHP	mm	4/
Solids	%Vol	10
Oil/Water	%Vol	/90
Sand	%Vol	.6
MBT	kg/m³	26
pH		9.3
Alkal Mud (Pm)		20
Pf/Mf		.4/2.6
Chlorides	mg/l	54000
Hardness Ca	mg/l	360
KCl	% (wt)	6.5

PRODUCTS USED LAST 24 HRS

Products	Size	Amt
DUOTEC	25 KG BG	14
OS-1	25 KG BG	12
SODA ASH	25 KG BG	16
CAUSTIC SODA (DRY)	25 KG DM	2
SODIUM BICARBONATE	25 KG BG	2
M-I BAR BULK	1 MT BK	8
POTASSIUM CHLORIDE	1 MT BG	13
GLUTE 25	25 LT CN	4
DEFOAM A	5 GA CN	6
IDCAP D	25 KG BG	39
POTASSIUM HYDROXIDE	25 KG CN	3
HIBTROL	25 KG BG	19

SOLIDS EQUIP	Size	Hr
VSM Thule Shake	4 x 145	18
VSM Thule Shake	4 x 145	18
VSM Thule Shake	4 x 120	18
VSM Thule Shake	4 x 120	18
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS

Weight	1.25-1.3
Viscosity	6rpm>7
Filtrate	<6

REMARKS AND TREATMENT

Build 1.08 sg mud for volume and mud weight maintenance. Keep density at 1.25 sg with dilution while drilling target formation. Run centrifuge. Change screens to 145 mesh x 8 (two shakers) for better solids control. Build hi-vis sweep to ensure clean hole. Treat high hardness with soda ash, raise pH. Add defoamer/ run degasser for air bubbles in mud. Treat final circulation prior to POH for pH and bactericide. Build slug for trip out.

REMARKS

Dill into target, control ROP for MWD logging. Use riser boost pump to ensure riser clear of cuttings. Sweep hole w/ hi-vis, ensure remove cuttings in larger hole geometry. High mud losses at shaker from rig listing. Drill to 2312m, circ to POH for bit trip. Pump slug. Wipe hole for MWD logs 2100-2312m. Continue bit trip. Tight hole in top of sand, then work pipe, tight from 1864 m up.

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)	MUD RHEOLOGY & HYDRAULICS
Rig Up/Service		Oil Added	0	NaCl	np/na Values
Drilling	15.5	Water Added	104.2	KCl	kp/ka (Pa·s^n)
Tripping	6.5	Mud Received	0	Low Gravity	Bit Loss (kPa / %)
Non-Productive Tim		Dumped	4.9	Bentonite	Bit HHP (kWatt / HSI)
Condition Hole	1	Shakers	33	Drill Solids	Bit Jet Vel (m/s)
		Sweeps	0	Weight Material	Ann. Vel DP (m/min)
Wait on Cement		Centrifuge	10.5	Chemical Conc	Ann. Vel DC (m/min)
		Formation	0	Inert/React	Crit Vel DP (m/min)
		Left in Hole	0	Average SG	Crit Vel DC (m/min)
		Other	0	Carb/BiCarb (m mole/L)	ECD @ 1829 (sp.gr.)

M-I ENGR / PHONE	RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
G. Sharpe G. Schwab	089-325-4822	089-422-7540	\$ 20,615.88	\$ 112,879.71

WATER-BASED MUD REPORT No. 8

Date	17/11/2004	Depth/TVD	2312 m / 2307 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	Bit Trip

Operator : Apache Energy Ltd
Report For : H. Everhart / C. Wilson
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : P. Baker / T. Williams

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA	
Bit Size 216 mm Reed DSX 104 HG		Surface	Hole	Pump Make	OILWELL 1700PT NATIONAL 12P-16C
Nozzles 5x12 / 1/32"		762mm @110m (110TVD)	94.1(Tot)/49.5(Bit)	Pump Size	6 X 12.mm 6 X 12.mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	L/stk L/stk
127 mm	892 m	244mm @995m (995TVD)	71.9	Pump stk/min	
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	L/min
127 mm	139 m		121.4	Bottoms Up	
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time	
165 mm	152 m		112	Circulating Pressure	

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PRODUCTS USED LAST 24 HRS		
Products	Size	Amt
DUOTEC	25 KG BG	9
M-I BAR BULK	1 MT BK	27

SOLIDS EQUIP	Size	Hr
VSM Thule Shake	4 x 145	3
VSM Thule Shake	4 x 145	3
VSM Thule Shake	4 x 120	3
VSM Thule Shake	4 x 120	3
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.3
Viscosity	6rpm>7
Filtrate	<6

REMARKS AND TREATMENT

Monitor pits while weigh up from 1.26 sg to 1.32sg. Add Duotec to raise rheology, thinned from coal. Increase 6-RPM from 5 to 9 (12 YP). Add defoamer (Dowell D-47) to reduce surface foam. Recieve form Far Grip 77mt barite.

REMARKS

Pull tight to 1700m, RIH to bottom, take 30 bbl gain in pits. Shut in well, use drillers method to circ out gas bubble. Weight up active from 1.26 sg to 1.32 sg. Make 10 stand wiper trip. RIH, circ.
Slug pipe, POH.

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service		Oil Added	0	NaCl	1.1/ 35.2	np/na Values	0.549/0.371
Drilling		Water Added	0.4	KCl	2.3/ 59.5	kp/ka (Pa·s^n)	0.681/1.675
Tripping	17	Mud Received	0	Low Gravity	2.4/ 61.2	Bit Loss (kPa / %)	/ 1
Non-Productive Tim		Dumped	6.2	Bentonite	.8/ 21.2	Bit HHP (kWatt / HSI)	/ 1
Condition Hole	7	Shakers	0	Drill Solids	1.4/ 34.	Bit Jet Vel (m/s)	
		Sweeps	0	Weight Material	7.3/ 305.8	Ann. Vel DP (m/min)	
Wait on Cement		Centrifuge	0	Chemical Conc	- / 6.	Ann. Vel DC (m/min)	
		Formation	0	Inert/React	1.2089	Crit Vel DP (m/min)	98
		Left in Hole	0	Average SG	3.78	Crit Vel DC (m/min)	108
		Other	3.4	Carb/BiCarb (m mole/L)	11.9/ 6.	ECD @ 1183 (sp.gr.)	1.33

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
G. Sharpe	089-325-4822	089-422-7540	0409 885 771	\$ 8,019.17	\$ 120,898.88

WATER-BASED MUD REPORT No. 9

Date	18/11/2004	Depth/TVD	2397 m / 2331 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	Drilling

Operator :	Apache Energy Ltd
Report For :	Harry Everhart / Chris Wilson
Well Name :	Longtom-2
Contractor :	Diamond Offshore
Report For :	Paul Baker / Troy Williams

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA		
Bit Size	216 mm Insert Bit	Surface	Hole	Pump Make	OILWELL 1700PT	NATIONAL 12P-16C
Nozzles	3x16 / 1/32"			Pump Size	152.4 X 304.8mm	152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	16.176 L/stk	16.176 L/stk
127 mm	2106 m	244mm @995m (995TVD)	74.1	Pump stk/min	65@97%	65@97%
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	2103 L/min	
127 mm	139 m			Bottoms Up	32.5 min	4230 stk
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time	77.7 min	10105 stk
165 mm	152 m			Circulating Pressure	20685 kPa	

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SOLIDS EQUIP	Size	Hr
VSM Thule Shake	4 x 145	12
VSM Thule Shake	4 x 145	12
VSM Thule Shake	4 x 120	12
VSM Thule Shake	4 x 120	12
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.3
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT

Dropped mud weight from 1.36+sg to 1.34 sg after bit trip with premix addition by 2341m. Raised mud weight to 1.41 sg at 2341 m to control gas.

REMARKS

Completed POOH. Changed bit and R/L back to 2305 m reaming tight spots at 1894, 1941, 1945, 2068, 2078, 2102 m. Observed 6 m fill on bottom.. Drilled to 2341 m. Raised mud weight from 1.34 to 1.41 sg to control gas. Further drilled to 2345 m.

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service		Oil Added	0	NaCl	1.1/ 35.	np/na Values	0.503/0.449
Drilling	4	Water Added	0	KCl	2.1/ 54.7	kp/ka (Pa·s^n)	1.068/1.473
Tripping	18	Mud Received	0	Low Gravity	4.1/ 105.9	Bit Loss (kPa / %)	6318 / 1
Non-Productive Tim		Dumped	0	Bentonite	.9/ 22.1	Bit HHP (kWatt / HSI)	221 / 1
Condition Mud	2	Shakers	10	Drill Solids	3.2/ 83.8	Bit Jet Vel (m/s)	92
		Sweeps	0	Weight Material	6.8/ 283.7	Ann. Vel DP (m/min)	87.72
		Centrifuge	1	Chemical Conc	- / -	Ann. Vel DC (m/min)	137.81
		Formation	0	Inert/React	2.3713	Crit Vel DP (m/min)	116
		Left in Hole	0	Average SG	3.6	Crit Vel DC (m/min)	136
		Other	20.3	Carb/BiCarb (m mole/L)	5/ 25.	ECD @ 2397 (sp.gr.)	1.45

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325 4822				
Glenn Sharpe		08 9422-7540	0409 885 771	\$ 4,322.98	\$ 125,221.86

WATER-BASED MUD REPORT No. 10

Date	19/11/2004	Depth/TVD	2422 m / 2422 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	P/O for Log

Operator : Apache Energy Ltd
Report For : Harry Everhart / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Troy Williams

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA	
Bit Size 216 mm Insert Bit		Surface	Hole	Pump Make	OILWELL 1700PT NATIONAL 12P-16C
Nozzles 3x16 / 1/32"		762mm @110m (110TVD)	94.1(Tot)/51.2(Bit)	Pump Size	152.4 X 304.8mm 152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	16.176 L/stk 16.176 L/stk
127 mm	959 m	244mm @995m (995TVD)	71.6	Pump stk/min	65@97% 65@97%
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	2103 L/min
127 mm	139 m		122.7	Bottoms Up	19.5 min 2530 stk
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time	58.4 min 7587 stk
165 mm	152 m		64.7	Circulating Pressure	20685 kPa

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SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x145, 2x165	22
VSM Thule Shake	4 x 145	22
VSM Thule Shake	4 x 120	22
VSM Thule Shake	4 x 120	22
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.3
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT

Started mixing LCM pill at 2:45pm but had to transfer it to Pit 2 as a slug need to be mixed in the slug pit for the wiper trip at 2422 m. Treated system with Glute & Defoamer. Added KOH for pH.

REMARKS

Change 2 x 145 mesh screens for 2 x 165 mesh shaker screens on shaker 1. Drilled to 2422 m. Conducted wiper trip. Circulated. Pumped out of hole to 1850 m. Further pulling out of hole for logging.

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service		Oil Added	0	NaCl	1./ 34.2	np/na Values	0.474/0.468
Drilling	15	Water Added	0	KCl	2./ 53.4	kp/ka (Pa.s^n)	1.436/1.428
Tripping	9	Mud Received	0	Low Gravity	4.4/ 114.	Bit Loss (kPa / %)	6600 / 1
Non-Productive Tim		Dumped	19.6	Bentonite	.9/ 24.	Bit HHP (kWatt / HSI)	231 / 1
		Shakers	0	Drill Solids	3.5/ 90.	Bit Jet Vel (m/s)	92
		Sweeps	0	Weight Material	8.5/ 357.6	Ann. Vel DP (m/min)	82.98
		Centrifuge	0	Chemical Conc	- / .	Ann. Vel DC (m/min)	137.81
		Formation	1.5	Inert/React	2.3519	Crit Vel DP (m/min)	115
		Left in Hole	0	Average SG	3.66	Crit Vel DC (m/min)	139
		Other	0	Carb/BiCarb (m mole/L)	2.4/ 12.	ECD @ 1250 (sp.gr.)	1.51

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325 4822	08 9422-7540	0409 885 771	\$ 2 284 88	\$ 127 506 74
Glenn Sharpe					

WATER-BASED MUD REPORT No. 11

Date	20/11/2004	Depth/TVD	2422 m / 2422 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	Reaming

Operator : Apache Energy Ltd
Report For : Harry Everhart / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Troy Williams

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA	
Bit Size 216 mm Insert Bit		Surface	Hole	Pump Make	OILWELL 1700PT NATIONAL 12P-16C
Nozzles 3x16 / 1/32"		762mm @110m (110TVD)	92.1(Tot)/71.3(Bit)	Pump Size	152.4 X 304.8mm 152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	16.176 L/stk 16.176 L/stk
127 mm	1563 m	244mm @995m (995TVD)	71.4	Pump stk/min	65@97% 65@97%
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	2103 L/min
127 mm	139 m		142.7	Bottoms Up	26.3 min 3425 stk
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time	67.8 min 8819 stk
165 mm	152 m		55.2	Circulating Pressure	16550 kPa

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SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x145, 2x165	9
VSM Thule Shake	4 x 145	9
VSM Thule Shake	4 x 120	9
VSM Thule Shake	4 x 120	9
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.3
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT

Treated system with 0.65 ppb IDCAP. Added premix to build volume and barite for mud wt maintenance. Running degasser.

REMARKS

Pumped slug & completed POOH. Rig up Logging tools, got tight at 1854 m, Rig down logging tools. R/I with bit to 1600 m and reaming down to clear tight spots.

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service		Oil Added	0	NaCl	1.2/ 37.9	np/na Values	0.517/0.538
Drilling		Water Added	0	KCl	1.9/ 48.9	kp/ka (Pa·s·n)	1.179/1.062
Tripping	11	Mud Received	0	Low Gravity	3.9/ 101.2	Bit Loss (kPa / %)	6600 / 1
Non-Productive Tim		Dumped	8.1	Bentonite	1./ 26.7	Bit HHP (kWatt / HSI)	231 / 1
Wireline Logs	10	Shakers	8	Drill Solids	2.9/ 74.5	Bit Jet Vel (m/s)	92
Reaming	3	Sweeps	0	Weight Material	8.8/ 368.2	Ann. Vel DP (m/min)	87.72
		Centrifuge	0	Chemical Conc	- / .	Ann. Vel DC (m/min)	137.81
		Formation	0	Inert/React	1.8912	Crit Vel DP (m/min)	120
		Left in Hole	0	Average SG	3.71	Crit Vel DC (m/min)	148
		Other	0	Carb/BiCarb (m mole/L)	4./ 6.3	ECD @ 1854 (sp.gr.)	1.52

M-I ENGR / PHONE	RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh 08-9325 4822				
Glenn Sharpe	08 9422-7540	0409 885 771	\$ 6,370.13	\$ 133,876.87

WATER-BASED MUD REPORT No. 12

Date	21/11/2004	Depth/TVD	2422 m / 2422 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	Logging

Operator : Apache Energy Ltd
Report For : Harry Everhart / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Troy Williams

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA	
Bit Size 216 mm Insert Bit		Surface	Hole	Pump Make	OILWELL 1700PT NATIONAL 12P-16C
Nozzles 3x16 / 1/32"		762mm @110m (110TVD)	101	Pump Size	152.4 X 304.8mm 152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	16.176 L/stk 16.176 L/stk
127 mm	m	244mm @995m (995TVD)	67.1	Pump stk/min	65@97% 65@97%
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	2103 L/min
127 mm	m		67.1	Bottoms Up	min 0 stk
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time	31.9 min 4145 stk
165 mm	m		48.1	Circulating Pressure	16550 kPa

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SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x145, 2x165	15
VSM Thule Shake	4 x 145	15
VSM Thule Shake	4 x 120	15
VSM Thule Shake	4 x 120	15
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT		REMARKS	
<p>Slug made with barite. Observed five cavings and few bigger chunks of coal during reaming.</p>		<p>Reamed down to bottom. Circulated bottoms up. Pumped out to shoe. Pump slug and POOH. Rigged up wire line tools. Unable to go below 1854 m. Rig down tools.</p>	

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service		Oil Added	0	NaCl	1.2/ 37.9	np/na	Values
Drilling		Water Added	0	KCl	1.9/ 48.9	kp/ka	(Pa·s ⁿ)
Tripping	9	Mud Received	0	Low Gravity	3.9/ 101.2	Bit Loss	(kPa / %)
Non-Productive Tim		Dumped	0	Bentonite	1./ 26.7	Bit HHP	(kWatt / HSI)
Wireline Logs	9	Shakers	2.5	Drill Solids	2.9/ 74.5	Bit Jet Vel	(m/s)
Reaming	5	Sweeps	0	Weight Material	8.8/ 368.2	Ann. Vel DP	(m/min)
Condition Hole	1	Centrifuge	0	Chemical Conc	- / -	Ann. Vel DC	(m/min)
		Formation	0	Inert/React	1.8912	Crit Vel DP	(m/min)
		Left in Hole	0	Average SG	3.71	Crit Vel DC	(m/min)
		Other	0	Carb/BiCarb (m mole/L)	5./ 25.		

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325 4822				
Glen Sharpe		08 9422-7540	0409 885 771	\$ 0.00	\$ 133,876.87

WATER-BASED MUD REPORT No. 13

Date	22/11/2004	Depth/TVD	2422 m / 2422 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	Tripping

Operator : Apache Energy Ltd
Report For : Harry Everhart / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Troy Williams

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA	
Bit Size 216 mm		Surface	Hole	Pump Make	OILWELL 1700PT NATIONAL 12P-16C
Nozzles 3x16 / 1/32"		762mm @110m (110TVD)	93.9(Tot)/58.6(Bit)	Pump Size	152.4 X 304.8mm 152.4 X 304.8mm
Drill Pipe Size 127 mm	Length 1205 m	Intermediate	Active Pits 72.3	Pump Cap	L/stk L/stk
Drill Pipe Size 127 mm	Length 139 m	Intermediate	Total Circulating Vol 130.9	Pump stk/min	
Drill Collar Size 165 mm	Length 116 m	Production or Liner	In Storage 48.1	Flow Rate	L/min
				Bottoms Up	
				Total Circ Time	
				Circulating Pressure	

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REMARKS AND TREATMENT				REMARKS			
				Run logging tools with drill pipe to at 1917 m. P/O wireline tools. R/I with bit to condition hole prior to run liner.			
TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service		Oil Added	0	NaCl	1.1/ 35.7	np/na Values	0.521/0.523
Drilling		Water Added	0	KCl	1.9/ 48.7	kp/ka (Pa.s^n)	0.913/0.871
Tripping	6	Mud Received	0	Low Gravity	3.9/ 101.9	Bit Loss (kPa / %)	/ 1
Non-Productive Tim		Dumped	0	Bentonite	1/ 26.6	Bit HHP (kWatt / HSI)	/ 1
Wireline Logs	18	Shakers	0	Drill Solids	2.9/ 75.3	Bit Jet Vel (m/s)	
		Sweeps	0	Weight Material	9.1/ 382.8	Ann. Vel DP (m/min)	
		Centrifuge	0	Chemical Conc	- / -	Ann. Vel DC (m/min)	
		Formation	0	Inert/React	1.9123	Crit Vel DP (m/min)	100
		Left in Hole	0	Average SG	3.72	Crit Vel DC (m/min)	121
		Other	1.9	Carb/BiCarb (m mole/L)	3./ 15.	ECD @ 1460 (sp.gr.)	1.41
M-I ENGR / PHONE			RIG PHONE	WAREHOUSE PHONE		DAILY COST	CUMULATIVE COST
Jasdeep Singh Glen Sharpe 08-9325 4822			08 9422-7540	0409 885 771		\$ 0.00	\$ 133,876.87

WATER-BASED MUD REPORT No. 14

Date	23/11/2004	Depth/TVD	2422 m / 2422 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	Tripping

Operator : Apache Energy Ltd
Report For : Harry Everhart / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Troy Williams

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA		
Bit Size 216 mm		Surface 762mm @110m (110TVD)	Hole 90.7	Pump Make	OILWELL 1700PT	NATIONAL 12P-16C
Nozzles 3x16 / 1/32"				Pump Size	152.4 X 304.8mm	152.4 X 304.8mm
Drill Pipe Size 127 mm	Length 2167 m	Intermediate 244mm @995m (995TVD)	Active Pits 86.5	Pump Cap	16.176 L/stk	16.176 L/stk
				Pump stk/min	65@97%	65@97%
Drill Pipe Size 127 mm	Length 139 m	Intermediate	Total Circulating Vol 177.2	Flow Rate	2103 L/min	
				Bottoms Up	33 min	4286 stk
Drill Collar Size 165 mm	Length 116 m	Production or Liner	In Storage 62.4	Total Circ Time	84.2 min	10952 stk
				Circulating Pressure	16550 kPa	

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PRODUCTS USED LAST 24 HRS		
Products	Size	Amt
DUOTEC	25 KG BG	6
M-I BAR BULK	1 MT BK	14
POTASSIUM CHLORIDE	1 MT BG	7
IDCAP D	25 KG BG	14
POTASSIUM HYDROXIDE	25 KG CN	4
HIBTROL	25 KG BG	13

SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x145, 2x165	24
VSM Thule Shake	4 x 145	24
VSM Thule Shake	4 x 120	24
VSM Thule Shake	4 x 120	24
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT

Built reserve volume with available chemicals. Raised mud weight to 1.44 sg.
Increased KCl content of system to 7%.

REMARKS

RIH for wiper trip to 2058 m. Circulated out gas while circulating through choke. Further run to bottom. Circulated and condition hole while working on gas detection equipment. Started trip out.

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service		Oil Added	0	NaCl	1.1/ 36.5	np/na Values	0.455/0.477
Drilling		Water Added	32	KCl	2.4/ 62.2	kp/ka (Pa·s^n)	1.620/1.407
Tripping	12	Mud Received	0	Low Gravity	3.5/ 90.2	Bit Loss (kPa / %)	6789 / 1
Non-Productive Tim		Dumped	12.4	Bentonite	.8/ 20.8	Bit HHP (kWatt / HSI)	238 / 1
Condition Hole	12	Shakers	1.8	Drill Solids	2.7/ 69.4	Bit Jet Vel (m/s)	92
		Sweeps	0	Weight Material	10./ 420.2	Ann. Vel DP (m/min)	87.72
		Centrifuge	0	Chemical Conc	- / -	Ann. Vel DC (m/min)	137.81
		Formation	0	Inert/React	2.1641	Crit Vel DP (m/min)	117
		Left in Hole	0	Average SG	3.79	Crit Vel DC (m/min)	139
		Other	0	Carb/BiCarb (m mole/L)	2./ 10.	ECD @ 2422 (sp.gr.)	1.55

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325 4822	08 9422-7540	0409 885 771	\$ 11,163.58	\$ 145,040.45
Glen Sharma					

WATER-BASED MUD REPORT No. 15

Date	24/11/2004	Depth/TVD	2422 m / 2422 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	Run Liner

Operator : Apache Energy Ltd
Report For : Harry Everhart / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Troy Williams

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA		
Bit Size 216 mm		Surface	Hole	Pump Make	OILWELL 1700PT	NATIONAL 12P-16C
Nozzles 3x16 / 1/32"		762mm @110m (110TVD)	101	Pump Size	152.4 X 304.8mm	152.4 X 304.8mm
Drill Pipe Size 127 mm	Length m	Intermediate	Active Pits	Pump Cap	16.176 L/stk	16.176 L/stk
		244mm @995m (995TVD)	71.9	Pump stk/min	65@97%	65@97%
Drill Pipe Size 178 mm	Length m	Intermediate	Total Circulating Vol	Flow Rate	2103 L/min	
			71.9	Bottoms Up	min 0 stk	
Drill Collar Size mm	Length m	Production or Liner	In Storage	Total Circ Time	34.2 min 4441 stk	
			60	Circulating Pressure	16550 kPa	

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SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x145, 2x165	14
VSM Thule Shake	4 x 145	14
VSM Thule Shake	4 x 120	14
VSM Thule Shake	4 x 120	14
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT

Added 2 KOH to system for pH. Bled left over slug to Pit 4. Dumped and cleaned Slug, Pit 2 & Pit 1 for cementation. Increased Idcap stock by 6 sacks (overcharged yesterday).

REMARKS

Fixed Racker arm. Conducted short trip backreaming to 1750 m and circulated bottoms up. Pumped out to 1200 m. Pump slug and POOH. Running 7 inch liner.

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service		Oil Added	0	NaCl	1.1/ 37.6	np/na	Values
Drilling		Water Added	0	KCl	2.4/ 61.9	kp/ka	(Pa·s ⁿ)
Tripping	11	Mud Received	0	Low Gravity	3.8/ 99.7	Bit Loss	(kPa / %)
Non-Productive Tim		Dumped	3	Bentonite	.9/ 22.1	Bit HHP	(kWatt / HSI)
Condition Hole	5	Shakers	0	Drill Solids	2.2/ 57.6	Bit Jet Vel	(m/s)
Running Casing	8	Sweeps	0	Weight Material	10.1/ 425.	Ann. Vel DP	(m/min)
		Centrifuge	0	Chemical Conc	- / 20.	Ann. Vel DC	(m/min)
		Formation	0	Inert/React	1.7965	Crit Vel DP	(m/min)
		Left in Hole	0	Average SG	3.76	Crit Vel DC	(m/min)
		Other	3.7	Carb/BiCarb (m mole/L)	2/ 6.3		

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325 4822	08 9422-7540	0409 885 771	\$ 60.46	\$ 145,100.91

WATER-BASED MUD REPORT No. 16

Date	25/11/2004	Depth/TVD	2420 m / 2420 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	Logging

Operator : Apache Energy Ltd
Report For : Harry Everhart / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Troy Williams

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA	
Bit Size 149 mm		Surface	Hole	Pump Make	OILWELL 1700PT NATIONAL 12P-16C
Nozzles 1/32"			74.2	Pump Size	152.4 X 304.8mm 152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	L/stk L/stk
mm	m		64.9	Pump stk/min	65@97% 65@97%
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	L/min
mm	m		64.9	Bottoms Up	
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time	
mm	m		81.2	Circulating Pressure	

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SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x145, 2x165	18
VSM Thule Shake	4 x 145	18
VSM Thule Shake	4 x 120	18
VSM Thule Shake	4 x 120	18
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT	REMARKS
Observed good returns while cementation. Final Barite stock matched with control.	Run liner to bottom. Circulated. Cemented liner as per program. WOC. P/O drill pipe. Running wireline logs.

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service		Oil Added	0	NaCl	1./ 34.3	np/na	Values
Drilling		Water Added	0	KCl	2.2/ 57.4	kp/ka	(Pa·sⁿ)
Tripping	3.5	Mud Received	0	Low Gravity	3.5/ 90.8	Bit Loss	(kPa / %)
Non-Productive Tim		Dumped	0	Bentonite	.9/ 22.7	Bit HHP	(kWatt / HSI)
Running Casing	9	Shakers	0	Drill Solids	1.9/ 48.1	Bit Jet Vel	(m/s)
Condition Hole	2	Sweeps	0	Weight Material	10.5/ 438.7	Ann. Vel DP	(m/min)
Cementing	3.5	Centrifuge	0	Chemical Conc	- / 20.	Ann. Vel DC	(m/min)
Wireline Logs	6	Formation	0	Inert/React	1.5274	Crit Vel DP	(m/min)
		Left in Hole	12.6	Average SG	3.8	Crit Vel DC	(m/min)
		Other	0	Carb/BiCarb (m mole/L)	1./ 15.8		

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325 4822	08 9422-7540	0409 885 771	\$ 4 854 36	\$ 149 955 27

WATER-BASED MUD REPORT No. 17

Date	26/11/2004	Depth/TVD	2420 m / 2420 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	P/O tubing

Operator : Apache Energy Ltd
Report For : Harry Everhart / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Mike Praznik

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA		
Bit Size	149 mm	Surface	Hole 74.2	Pump Make	OILWELL 1700PT	NATIONAL 12P-16C
Nozzles	1/32"			Pump Size	152.4 X 304.8mm	152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate	Active Pits 64.9	Pump Cap	L/stk	L/stk
114 mm	m			Pump stk/min	65@97%	65@97%
Drill Pipe Size	Length	Intermediate	Total Circulating Vol 64.9	Flow Rate	L/min	
mm	m			Bottoms Up		
Drill Collar Size	Length	Production or Liner	In Storage 81.2	Total Circ Time		
mm	m			Circulating Pressure		

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SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x145, 2x165	0
VSM Thule Shake	4 x 145	0
VSM Thule Shake	4 x 120	0
VSM Thule Shake	4 x 120	0
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT	REMARKS
	Run in 4.5 inch tubing. Could not enter 7 inch liner. P/O tubing.

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service		Oil Added	0	NaCl	1./ 34.3	np/na	Values
Drilling		Water Added	0	KCl	2.2/ 57.4	kp/ka	(Pa·sⁿ)
Tripping	24	Mud Received	0	Low Gravity	3.5/ 90.8	Bit Loss	(kPa / %)
Non-Productive Tim		Dumped	0	Bentonite	.9/ 23.8	Bit HHP	(kWatt / HSI)
		Shakers	0	Drill Solids	1.8/ 47.	Bit Jet Vel	(m/s)
		Sweeps	0	Weight Material	10.5/ 438.7	Ann. Vel DP	(m/min)
		Centrifuge	0	Chemical Conc	- / 20.	Ann. Vel DC	(m/min)
		Formation	0	Inert/React	1.4402	Crit Vel DP	(m/min)
		Left in Hole	0	Average SG	3.8	Crit Vel DC	(m/min)
		Other	0	Carb/BiCarb (m mole/L)	.8/ 12.6		

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325-4822	08 9422-7540	0409 885 771	\$ 0.00	\$ 149,955.27

WATER-BASED MUD REPORT No. 18

Date	27/11/2004	Depth/TVD	2420 m / 2420 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	P/O Tubing

Operator : Apache Energy Ltd
Report For : Harry Everhart / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Mike Praznik

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA	
Bit Size	149 mm	Surface 762mm @110m (110TVD)	Hole 74.3	Pump Make	OILWELL 1700PT NATIONAL 12P-16C
Nozzles	1/32"			Pump Size	152.4 X 304.8mm	152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	L/stk
114 mm	m	244mm @995m (995TVD)	62.8	Pump stk/min	65@97% 65@97%
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	L/min
mm	m	178mm @2420m (2407TVD)	62.8	Bottoms Up	
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time	
mm	m		81.2	Circulating Pressure	

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PRODUCTS USED LAST 24 HRS		
Products	Size	Amt
CAUSTIC SODA (DRY)	25 KG DM	2
M-I BAR BULK	1 MT BK	2

SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x145, 2x165	12
VSM Thule Shake	4 x 145	12
VSM Thule Shake	4 x 120	12
VSM Thule Shake	4 x 120	12
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

<p>REMARKS AND TREATMENT</p> <p>Added Caustic to control dropping pH. Slug made with Barite.</p>	<p>REMARKS</p> <p>Completed scraper run. Circulated. Tested casing. Pumped slug. P/O tubing.</p>
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TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service		Oil Added	0	NaCl	1./ 34.3	np/na	Values
Drilling		Water Added	0	KCl	2.2/ 57.4	kp/ka	(Pa·sⁿ)
Tripping		Mud Received	0	Low Gravity	3.5/ 90.8	Bit Loss	(kPa / %)
Non-Productive Tim		Formation	0	Bentonite	.9/ 23.8	Bit HHP	(kWatt / HSI)
Test Well	24	Left in Hole	0	Drill Solids	1.8/ 47.	Bit Jet Vel	(m/s)
		Other	0	Weight Material	10.5/ 438.7	Ann. Vel DP	(m/min)
		Dumped	2.5	Chemical Conc	- / 20.	Ann. Vel DC	(m/min)
		Shakers	0	Inert/React	1.4402	Crit Vel DP	(m/min)
		Sweeps	0	Average SG	3.8	Crit Vel DC	(m/min)
		Centrifuge	0	Carb/BiCarb (m mole/L)	3./ 9.4		

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325-4822	08 9422-7540	0409 885 771	\$ 501.02	\$ 150,456.29

WATER-BASED MUD REPORT No. 19

Date	28/11/2004	Depth/TVD	2420 m / 2420 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	R/I packer

Operator : Apache Energy Ltd
Report For : Harry Everhart / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Mike Praznik

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA	
Bit Size	149 mm	Surface 762mm @110m (110TVD)	Hole 74.3	Pump Make	OILWELL 1700PT NATIONAL 12P-16C
Nozzles	1/32"			Pump Size	152.4 X 304.8mm	152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	L/stk
114 mm	m	244mm @995m (995TVD)	57.4	Pump stk/min	65@97% 65@97%
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	L/min
mm	m	178mm @2420m (2407TVD)	57.4	Bottoms Up	
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time	
mm	m		70.4	Circulating Pressure	

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SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x145, 2x165	0
VSM Thule Shake	4 x 145	0
VSM Thule Shake	4 x 120	0
VSM Thule Shake	4 x 120	0
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT

Lost 80 bbl mud at the start of circulation at well head inside BOP. Also observed drop density of circulating system at this depth to 1.39 ppg. Weighted this volume to 1.45 ppg with barite. [sea water left in the lines to booster pump run for deluge system gets into mud system]

REMARKS

Completed P/O tubing string. Perform dummy run. Tested BOP Stack. Running packer on wireline.

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service		Oil Added	0	NaCl	.9/ 30.9	np/na	Values
Drilling		Water Added	0	KCl	2.2/ 57.5	kp/ka	(Pa·s^n)
Tripping		Mud Received	0	Low Gravity	3.2/ 82.	Bit Loss	(kPa / %)
Non-Productive Tim		Formation	0	Bentonite	.9/ 22.6	Bit HHP	(kWatt / HSI)
Test Well	24	Left in Hole	0	Drill Solids	1.5/ 39.4	Bit Jet Vel	(m/s)
		Other	2.6	Weight Material	10.7/ 448.7	Ann. Vel DP	(m/min)
		Dumped	3.2	Chemical Conc	- / 20.	Ann. Vel DC	(m/min)
		Shakers	12.6	Inert/React	1.298	Crit Vel DP	(m/min)
		Sweeps	0	Average SG	3.84	Crit Vel DC	(m/min)
		Centrifuge	0	Carb/BiCarb (m mole/L)	4./ 6.3		

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325-4822	08 9422-7540	0409 885 771	\$ 2 283.45	\$ 152 739.74

WATER-BASED MUD REPORT No. 20

Date	29/11/2004	Depth/TVD	2420 m / 2420 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	RIH DST string

Operator : Apache Energy Ltd
Report For : Harry Everhart / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Mike Praznik

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA	
Bit Size	149 mm	Surface 762mm @110m (110TVD)	Hole 74.3	Pump Make	OILWELL 1700PT NATIONAL 12P-16C
Nozzles	1/32"			Pump Size	152.4 X 304.8mm	152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	L/stk
114 mm	m	244mm @995m (995TVD)	57.4	Pump stk/min	65@97% 65@97%
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	L/min
mm	m	178mm @2420m (2407TVD)	57.4	Bottoms Up	
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time	
mm	m		70.4	Circulating Pressure	

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SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x145, 2x165	0
VSM Thule Shake	4 x 145	0
VSM Thule Shake	4 x 120	0
VSM Thule Shake	4 x 120	0
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT	REMARKS
	Set packer at 1999.5 m. Running in with DST assembly on 4.5 inch tubing to test well.

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service		Oil Added	0	NaCl	.9/ 30.4	np/na	Values
Drilling		Water Added	0	KCl	2.2/ 57.9	kp/ka	(Pa·s/n)
Tripping		Mud Received	0	Low Gravity	2.5/ 64.1	Bit Loss	(kPa / %)
Non-Productive Tim		Formation	0	Bentonite	1./ 26.	Bit HHP	(kWatt / HSI)
Test Well	24	Left in Hole	0	Drill Solids	.7/ 18.2	Bit Jet Vel	(m/s)
		Other	0	Weight Material	10.9/ 456.7	Ann. Vel DP	(m/min)
		Dumped	0	Chemical Conc	- / 20.	Ann. Vel DC	(m/min)
		Shakers	0	Inert/React	.5763	Crit Vel DP	(m/min)
		Sweeps	0	Average SG	3.9	Crit Vel DC	(m/min)
		Centrifuge	0	Carb/BiCarb (m mole/L)	3.6/ 5.7		

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325-4822	08 9422-7540	0409 885 771	\$ 0.00	\$ 152 739.74

WATER-BASED MUD REPORT No. 21

Date	30/11/2004	Depth/TVD	2420 m / 2420 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	R/U test equip

Operator : Apache Energy Ltd
Report For : Robert Stone / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Mike Praznik

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA	
Bit Size 149 mm		Surface	Hole	Pump Make	OILWELL 1700PT NATIONAL 12P-16C
Nozzles 1/32"		762mm @110m (110TVD)	68(Tot)/64.7(Bit)	Pump Size	152.4 X 304.8mm 152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	L/stk L/stk
114 mm	2250 m	244mm @995m (995TVD)	63.7	Pump stk/min	65@97% 65@97%
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	L/min
mm	m	178mm @2420m (2407TVD)	128.4	Bottoms Up	
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time	
mm	m		70.4	Circulating Pressure	

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SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x145, 2x165	0
VSM Thule Shake	4 x 145	0
VSM Thule Shake	4 x 120	0
VSM Thule Shake	4 x 120	0
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT		REMARKS	
		Rigged up surface equipment for DST operations.	

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service		Oil Added	0	NaCl	.9/ 28.9	np/na Values	0.522/0.555
Drilling		Water Added	0	KCl	2.2/ 57.7	kp/ka (Pa-s'n)	0.769/0.620
Tripping		Mud Received	0	Low Gravity	3.2/ 83.5	Bit Loss (kPa / %)	/ 1
Non-Productive Tim		Formation	0	Bentonite	.9/ 22.4	Bit HHP (kWatt / HSI)	/ 1
Test Well	24	Left in Hole	0	Drill Solids	1.6/ 41.1	Bit Jet Vel (m/s)	
		Other	0	Weight Material	10.4/ 436.	Ann. Vel DP (m/min)	
		Dumped	0	Chemical Conc	- / 20.	Ann. Vel DC (m/min)	
		Shakers	0	Inert/React	1.3526	Crit Vel DP (m/min)	50
		Centrifuge	0	Average SG	3.82	Crit Vel DC (m/min)	114
				Carb/BiCarb (m mole/L)	3 / 4.7	ECD @ 2250 (sp. gr.)	1.44

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325-4822	08 9422-7540	0409 885 771	\$ 0.00	\$ 152,739.74

WATER-BASED MUD REPORT No. 22

Date	1/12/2004	Depth/TVD	2420 m / 2420 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	Well Testing

Operator : Apache Energy Ltd
Report For : Robert Stone / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Mike Praznik

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA	
Bit Size	149 mm	Surface 762mm @110m (110TVD)	Hole 68(Tot)/64.7(Bit)	Pump Make	OILWELL 1700PT NATIONAL 12P-16C
Nozzles	1/32"			Pump Size	152.4 X 304.8mm 152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	L/stk L/stk
114 mm	2250 m	244mm @995m (995TVD)	77.8	Pump stk/min	65@97% 65@97%
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	L/min
mm	m	178mm @2420m (2407TVD)	142.5	Bottoms Up	
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time	
mm	m		70.4	Circulating Pressure	

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SOLIDS EQUIP	Size	Hr
VSM Thule Shake		0
VSM Thule Shake		0
VSM Thule Shake		0
VSM Thule Shake		0
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT

Dumped and cleaned header box. Removed shaker screens. Re-usable screens: 5 x 120, 1 x 145, 2 x 165, 6 x 105.

REMARKS

Perforated well and well testing is in progress.

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service		Oil Added	0	NaCl	1./ 32.5	np/na Values	0.533/0.541
Drilling		Water Added	0	KCl	2./ 53.	kp/ka (Pa·s^n)	0.697/0.634
Tripping		Mud Received	0	Low Gravity	3.3/ 86.7	Bit Loss (kPa / %)	/ 1
Non-Productive Tim		Formation	0	Bentonite	.8/ 22.	Bit HHP (kWatt / HSI)	/ 1
Test Well		Left in Hole	0	Drill Solids	1.7/ 44.7	Bit Jet Vel (m/s)	
		Other	0	Weight Material	10.3/ 433.9	Ann. Vel DP (m/min)	
		Dumped	2.6	Chemical Conc	- / 20.	Ann. Vel DC (m/min)	
		Shakers	0	Inert/React	1.4708	Crit Vel DP (m/min)	50
		Centrifuge	0	Average SG	3.81	Crit Vel DC (m/min)	110
				Carb/BiCarb (m mole/L)	3./ 4.7	ECD @ 2250 (sp.gr.)	1.44

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325-4822	08 9422-7540	0409 885 771	\$ 0.00	\$ 152 739.74

WATER-BASED MUD REPORT No. 23

Date	2/12/2004	Depth/TVD	2420 m / 2420 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	Circulation

Operator : Apache Energy Ltd
Report For : Robert Stone / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Mike Praznik

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA	
Bit Size	149 mm	Surface	Hole	Pump Make	OILWELL 1700PT NATIONAL 12P-16C
Nozzles	1/32"	762mm @110m (110TVD)	68.7(Tot)/60.6(Bit)	Pump Size	152.4 X 304.8mm 152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	L/stk L/stk
114 mm	2000 m	244mm @995m (995TVD)	62	Pump stk/min	65@97% 65@97%
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	L/min
mm	m	178mm @2420m (2407TVD)	122.6	Bottoms Up	
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time	
mm	m		55.2	Circulating Pressure	

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PRODUCTS USED LAST 24 HRS		
Products	Size	Amt
DUOTEC	25 KG BG	5
M-I BAR BULK	1 MT BK	18
DEFOAM A	5 GA CN	7

SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x165,2x145	17
VSM Thule Shake	4x120	17
VSM Thule Shake	4x105	17
VSM Thule Shake		0
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT

Used to defoamer to mitigate areation in mud. Added Duotec to restore sagging low end rheology. Observed severe foaming in mud returns. Raised mud weight to 1.5 sg. Received 77 T Barite from Pacific Wrangler.

REMARKS

Completed build up test. Bull Headed formations fluids with mud. Reverse circulated to kill well. Increased mud weight to 1.5 sg to reduce gas levels.

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service		Oil Added	0	NaCl	1./ 33.4	np/na Values	0.467/0.477
Drilling		Water Added	0	KCl	2./ 52.2	kp/ka (Pa·s·n)	1.531/1.407
Tripping		Mud Received	0	Low Gravity	2.2/ 57.2	Bit Loss (kPa / %)	/ 1
Non-Productive Tim		Formation	18.1	Bentonite	.8/ 21.2	Bit HHP (kWatt / HSI)	/ 1
Test Well	7	Left in Hole	0	Drill Solids	.6/ 15.9	Bit Jet Vel (m/s)	
Condition Mud	17	Other	0	Weight Material	12.8/ 536.3	Ann. Vel DP (m/min)	
		Dumped	0	Chemical Conc	- / 20.	Ann. Vel DC (m/min)	
		Shakers	0	Inert/React	.6158	Crit Vel DP (m/min)	73
		Centrifuge	0	Average SG	3.96	Crit Vel DC (m/min)	143
				Carb/BiCarb (m mole/L)	3./ 4.7	ECD @ 2000 (sp.gr.)	1.5

M-I ENGR / PHONE	RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh 08-9325-4822	08 9422-7540	0409 885 771	\$ 5,609.42	\$ 158,349.16

WATER-BASED MUD REPORT No. 24

Date	3/12/2004	Depth/TVD	2420 m / 2420 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	Testing

Operator : Apache Energy Ltd
Report For : Robert Stone / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Mike Praznik

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA	
Bit Size	149 mm	Surface 762mm @110m (110TVD)	Hole 68.7(Tot)/60.6(Bit)	Pump Make	OILWELL 1700PT NATIONAL 12P-16C
Nozzles	1/32"			Pump Size	152.4 X 304.8mm	152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	16.176 L/stk
114 mm	2000 m	244mm @995m (995TVD)	63.1	Pump stk/min	80@97%
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	1294 L/min
mm	m	178mm @2420m (2407TVD)	123.7	Bottoms Up	35.4 min 2829 stk
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time	95.6 min 7644 stk
mm	m		55.2	Circulating Pressure	kPa

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PRODUCTS USED LAST 24 HRS		
Products	Size	Amt
M-I BAR BULK	1 MT BK	4
DEFOAM A	5 GA CN	7

SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x165,2x145	12
VSM Thule Shake	4x120	12
VSM Thule Shake	4x105	12
VSM Thule Shake		0
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT		REMARKS	
Weigh mud to 1.61sg-1.69,circulate well.		Weigh hole to 1.61sg,flow check well, circulate riser to 1.61sg,flow check,circulate increase gas weigh to 1.69.	

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service	5.5	Oil Added	0	NaCl	1./ 32.2	np/na Values	0.500/0.459
Drilling		Water Added	0	KCl	1.9/ 50.3	kp/ka (Pa·s^n)	1.314/1.691
Tripping		Mud Received	0	Low Gravity	2.7/ 69.3	Bit Loss (kPa / %)	/ 1
Non-Productive Tim		Formation	0	Bentonite	.7/ 17.5	Bit HHP (kWatt / HSI)	/ 1
Test Well	15	Left in Hole	0	Drill Solids	1.2/ 31.9	Bit Jet Vel (m/s)	
Condition Hole	3.5	Other	0	Weight Material	15.4/ 647.1	Ann. Vel DP (m/min)	7.71
		Dumped	0	Chemical Conc	- / 20.	Ann. Vel DC (m/min)	141.4
		Shakers	0	Inert/React	1.3485	Crit Vel DP (m/min)	76
		Centrifuge	0	Average SG	3.96	Crit Vel DC (m/min)	144
				Carb/BiCarb (m mole/L)	3./ 4.7	ECD @ 2000 (sp.gr.)	1.87

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325-4822				
Craig Fisher		08 9422-7540	0409 885 771	\$ 1,398.33	\$ 159,747.49

WATER-BASED MUD REPORT No. 25

Date	4/12/2004	Depth/TVD	2420 m / 2420 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	Flow check

Operator : Apache Energy Ltd
Report For : Robert Stone / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Mike Praznik

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA		
Bit Size	149 mm	Surface 762mm @110m (110TVD)	Hole 68.7(Tot)/60.6(Bit)	Pump Make	OILWELL 1700PT	NATIONAL 12P-16C
Nozzles	1/32"			Pump Size	152.4 X 304.8mm	152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	L/stk	L/stk
114 mm	2000 m	244mm @995m (995TVD)	77.7	Pump stk/min		
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	L/min	
mm	m	178mm @2420m (2407TVD)	138.3	Bottoms Up		
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time		
mm	m		55.2	Circulating Pressure		

[illegible]

PRODUCTS USED LAST 24 HRS		
Products	Size	Amt
DUOTEC	25 KG BG	3
M-I BAR BULK	1 MT BK	67

SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x165,2x145	6
VSM Thule Shake	4x120	6
VSM Thule Shake	4x105	6
VSM Thule Shake		0
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT	REMARKS
Raise mud weight to 1.8sg, 33mt Barite used yesterday remainder today's, add extra Duo-tec for suspension properties	Make up 3.5" pipe RIH to retrieve tools, circulate bottoms up increased gas, weigh to 1.8sg, flow check well

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service	4	Oil Added	0	NaCl	.9/ 30.3	np/na Values	0.492/0.511
Drilling		Water Added	0	KCl	1.8/ 46.4	kp/ka (Pa·s^n)	1.522/1.332
Tripping	16.5	Mud Received	0	Low Gravity	1.7/ 44.6	Bit Loss (kPa / %)	/ 1
Non-Productive Tim		Formation	0	Bentonite	.9/ 22.8	Bit HHP (kWatt / HSI)	/ 1
Condition Hole	3.5	Left in Hole	0	Drill Solids	.1/ 1.8	Bit Jet Vel (m/s)	
Condition Hole		Other	1.5	Weight Material	22.6/ 947.1	Ann. Vel DP (m/min)	
		Dumped	0	Chemical Conc	- / 20.	Ann. Vel DC (m/min)	
		Shakers	0	Inert/React	.0706	Crit Vel DP (m/min)	67
		Centrifuge	0	Average SG	4.09	Crit Vel DC (m/min)	139
				Carb/BiCarb (m mole/L)	3./ 4.7	ECD @ 2000 (sp.gr.)	1.8

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325-4822				
Craig Fisher		08 9422-7540	0409 885 771	\$ 16,072.63	\$ 175,820.12

WATER-BASED MUD REPORT No. 26

Date	5/12/2004	Depth/TVD	2420 m / 2420 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	RIH

Operator : Apache Energy Ltd
Report For : Robert Stone / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Mike Praznik

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA		
Bit Size	149 mm	Surface 762mm @110m (110TVD)	Hole 68.7(Tot)/60.6(Bit)	Pump Make	OILWELL 1700PT	NATIONAL 12P-16C
Nozzles	1/32"			Pump Size	152.4 X 304.8mm	152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	L/stk	L/stk
114 mm	2000 m	244mm @995m (995TVD)	81.2	Pump stk/min		
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	L/min	
mm	m	178mm @2420m (2407TVD)	141.8	Bottoms Up		
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time		
mm	m		70.9	Circulating Pressure		

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SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x165,2x145	0
VSM Thule Shake	4x120	0
VSM Thule Shake	4x105	0
VSM Thule Shake		0
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT		REMARKS	
Make up un-weighted pre-mix to reduce MW.		RIH Pull tools,lay out, make up cement stinger run into hole,	

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service	12	Oil Added	0	NaCl	.9/ 28.5	np/na Values	0.577/0.386
Drilling		Water Added	14	KCl	1.8/ 46.4	kp/ka (Pa·s^n)	0.826/2.176
Tripping	12	Mud Received	0	Low Gravity	2.4/ 61.8	Bit Loss (kPa / %)	/ 1
Non-Productive Tim		Shakers	0	Bentonite	.6/ 15.	Bit HHP (kWatt / HSI)	/ 1
Condition Hole		Centrifuge	0	Drill Solids	1./ 26.8	Bit Jet Vel (m/s)	
Condition Hole		Formation	0	Weight Material	22./ 921.7	Ann. Vel DP (m/min)	
		Left in Hole	0	Chemical Conc	- / 20.	Ann. Vel DC (m/min)	
		Other	0	Inert/React	1.3238	Crit Vel DP (m/min)	72
		Dumped	0	Average SG	4.04	Crit Vel DC (m/min)	120
				Carb/BiCarb (m mole/L)	. / -.1	ECD @ 2000 (sp.gr.)	1.8

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325-4822				
Craig Fisher		08 9422-7540	0409 885 771	\$ 5,923.36	\$ 181,743.48

WATER-BASED MUD REPORT No. 27

Date	6/12/2004	Depth/TVD	2420 m / 2420 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	WOC

Operator : Apache Energy Ltd
Report For : Robert Stone / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Mike Praznik

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA	
Bit Size 149 mm		Surface	Hole	Pump Make	OILWELL 1700PT NATIONAL 12P-16C
Nozzles 1/32"		762mm @110m (110TVD)	66.3(Tot)/61.5(Bit)	Pump Size	152.4 X 304.8mm 152.4 X 304.8mm
Drill Pipe Size 127 mm	Length 731 m	Intermediate	Active Pits	Pump Cap	L/stk L/stk
		244mm @995m (995TVD)	59	Pump stk/min	
Drill Pipe Size 89 mm	Length 1145 m	Intermediate	Total Circulating Vol 120.4	Flow Rate	L/min
		178mm @2420m (2407TVD)		Bottoms Up	
Drill Collar Size mm	Length m	Production or Liner	In Storage 107.2	Total Circ Time	
				Circulating Pressure	

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PRODUCTS USED LAST 24 HRS		
Products	Size	Amt
CITRIC ACID	25 KG BG	2
DUOTEC	25 KG BG	3
SODIUM BICARBONATE	25 KG BG	3

SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x165,2x145	4
VSM Thule Shake	4x120	4
VSM Thule Shake	4x105	4
VSM Thule Shake		0
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT	REMARKS
Build 1.43ppg mud,treat for cement contamination,check from 1.43 mud	Pump cement from 2274-2169,pull back to 2169 reverse out cement,dump excess cement, WOC, tag no-go, rig up pump Plug #2, pull back WOC.

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service	12	Oil Added	0	NaCl	1.1/ 35.6	np/na Values	0.520/0.468
Drilling		Water Added	14.6	KCl	2./ 53.4	kp/ka (Pa·s/n)	1.057/1.428
Tripping	8.5	Mud Received	0	Low Gravity	2.5/ 64.5	Bit Loss (kPa / %)	/ 1
Non-Productive Tim		Shakers	0	Bentonite	.4/ 11.3	Bit HHP (kWatt / HSI)	/ 1
Condition Hole		Centrifuge	0	Drill Solids	1.3/ 33.2	Bit Jet Vel (m/s)	
Cementing	3.5	Formation	0	Weight Material	10.4/ 435.6	Ann. Vel DP (m/min)	
		Left in Hole	0	Chemical Conc	- / 20.	Ann. Vel DC (m/min)	
		Other	2	Inert/React	1.9685	Crit Vel DP (m/min)	125
		Dumped	6	Average SG	3.89	Crit Vel DC (m/min)	117
				Carb/BiCarb (m mole/L)	3./ 15.	ECD @ 2169 (sp.gr.)	1.43

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325-4822				
Craig Fisher		08 9422-7540	0409 885 771	\$ 684.67	\$ 182,428.15

WATER-BASED MUD REPORT No. 28

Date	7/12/2004	Depth/TVD	2420 m / 2420 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	RIH

Operator : Apache Energy Ltd
Report For : Robert Stone / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Mike Praznik

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA		
Bit Size	149 mm	Surface 762mm @110m (110TVD)	Hole 66.5(Tot)/61(Bit)	Pump Make	OILWELL 1700PT	NATIONAL 12P-16C
Nozzles	1/32"			Pump Size	152.4 X 304.8mm	152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	L/stk	L/stk
89 mm	2140 m	244mm @995m (995TVD)	57.3	Pump stk/min		
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	L/min	
mm	m	178mm @2420m (2407TVD)	118.4	Bottoms Up		
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time		
mm	m		107.2	Circulating Pressure		

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SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x165,2x145	0
VSM Thule Shake	4x120	0
VSM Thule Shake	4x105	0
VSM Thule Shake		0
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT		REMARKS	
Displace to 1.43sg mud		Tag cement plug-good, pressure test, displace heavy mud,POOH, lay out tubing pick up test guns RIH	

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service		Oil Added	0	NaCl	1./ 34.2	np/na Values	0.451/0.449
Drilling		Water Added	0	KCl	2./ 53.4	kp/ka (Pa·sⁿ)	1.500/1.473
Tripping		Mud Received	0	Low Gravity	1.9/ 49.1	Bit Loss (kPa / %)	/ 1
Non-Productive Tim		Shakers	0	Bentonite	.6/ 14.4	Bit HHP (kWatt / HSI)	/ 1
Condition Hole		Centrifuge	0	Drill Solids	.6/ 14.7	Bit Jet Vel (m/s)	
Cementing		Formation	0	Weight Material	11./ 462.4	Ann. Vel DP (m/min)	
		Left in Hole	0	Chemical Conc	- / 20.	Ann. Vel DC (m/min)	
		Other	1.5	Inert/React	.8162	Crit Vel DP (m/min)	99
		Dumped	0	Average SG	3.97	Crit Vel DC (m/min)	120
				Carb/BiCarb (m mole/L)	3.4/ 5.3	ECD @ 2140 (sp.gr.)	1.43

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325-4822	08 9422-7540	0409 885 771	\$ 0.00	\$ 182,428.15
Craig Fisher					

WATER-BASED MUD REPORT No. 29

Date	8/12/2004	Depth/TVD	2420 m / 2420 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	Testing

Operator : Apache Energy Ltd
Report For : Robert Stone / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Mike Praznik

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA		
Bit Size 149 mm		Surface	Hole	Pump Make	OILWELL 1700PT	NATIONAL 12P-16C
Nozzles 1/32"		762mm @110m (110TVD)	66.5(Tot)/61(Bit)	Pump Size	152.4 X 304.8mm	152.4 X 304.8mm
Drill Pipe Size 89 mm	Length 2140 m	Intermediate 244mm @995m (995TVD)	Active Pits 57.3	Pump Cap	L/stk	L/stk
				Pump stk/min		
Drill Pipe Size mm	Length m	Intermediate 178mm @2420m (2407TVD)	Total Circulating Vol 118.4	Flow Rate	L/min	
				Bottoms Up		
Drill Collar Size mm	Length m	Production or Liner	In Storage 107.3	Total Circ Time		
				Circulating Pressure		

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SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x165, 2x145	0
VSM Thule Shake	4x120	0
VSM Thule Shake	4x105	0
VSM Thule Shake		0
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT		REMARKS	
Add Duo-Tec for barite suspension in heavy mud, Duo-Tec added for suspension		RIH with test equipment test same,displace production zone to diesel, fire guns,	

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service		Oil Added	0	NaCl	1./ 34.2	np/na Values	0.614/0.449
Drilling		Water Added	0	KCl	2./ 53.4	kp/ka (Pa·sⁿ)	0.544/1.473
Tripping		Mud Received	0	Low Gravity	2.5/ 65.3	Bit Loss (kPa / %)	/ 1
Non-Productive Tim		Shakers	0	Bentonite	.4/ 10.1	Bit HHP (kWatt / HSI)	/ 1
Testing	24	Centrifuge	0	Drill Solids	1.4/ 35.2	Bit Jet Vel (m/s)	
Cementing		Formation	0	Weight Material	10.4/ 436.2	Ann. Vel DP (m/min)	
		Left in Hole	0	Chemical Conc	- / 20.	Ann. Vel DC (m/min)	
		Other	0	Inert/React	2.2346	Crit Vel DP (m/min)	99
		Dumped	0	Average SG	3.89	Crit Vel DC (m/min)	120
				Carb/BiCarb (m mole/L)	3./ 15.	ECD @ 2140 (sp.gr.)	1.43

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325-4822				
Craig Fisher		08 9422-7540	0409 885 771	\$ 779.88	\$ 183,208.03

WATER-BASED MUD REPORT No. 30

Date	9/12/2004	Depth/TVD	2420 m / 2420 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	Circulating

Operator : Apache Energy Ltd
Report For : Chris Wilson / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Mike Praznik

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA		
Bit Size	149 mm	Surface 762mm @110m (110TVD)	Hole 67.4(Tot)/57.1(Bit)	Pump Make	OILWELL 1700PT	NATIONAL 12P-16C
Nozzles	1/32"			Pump Size	152.4 X 304.8mm	152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	16.176 L/stk	16.176 L/stk
89 mm	1890 m	244mm @995m (995TVD)	62.3	Pump stk/min		85@97%
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	1375 L/min	
mm	m	178mm @2420m (2407TVD)	119.4	Bottoms Up	38 min	3232 stk
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time	86.8 min	7382 stk
mm	m		109.2	Circulating Pressure	kPa	

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SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x165,2x145	0
VSM Thule Shake	4x120	0
VSM Thule Shake	4x105	0
VSM Thule Shake		0
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT

Separate 1.43 mud, Barite used in weigh up,

REMARKS

Circulate through well test equipment, increased gas circulate 1.78sg mud through choke, weigh extra mud up 1.78sg, displace riser to 1.78sg mud, circulate well, even mud weight up, rig down circulating head. RIH, circ bottoms up

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service	3	Oil Added	0	NaCl	.9/ 29.7	np/na Values	0.497/0.357
Drilling		Water Added	0	KCl	1.8/ 46.4	kp/ka (Pa·s^n)	1.171/2.282
Tripping	5	Mud Received	0	Low Gravity	3./ 77.4	Bit Loss (kPa / %)	/ 1
Non-Productive Tim		Shakers	0	Bentonite	.5/ 11.9	Bit HHP (kWatt / HSI)	/ 1
Condition Hole	16	Centrifuge	0	Drill Solids	1.8/ 45.5	Bit Jet Vel (m/s)	
Cementing		Formation	0	Weight Material	21.3/ 894.9	Ann. Vel DP (m/min)	43.25
		Left in Hole	0	Chemical Conc	- / 20.	Ann. Vel DC (m/min)	104.67
		Other	4.1	Inert/React	2.3768	Crit Vel DP (m/min)	88
		Dumped	0	Average SG	4.	Crit Vel DC (m/min)	102
				Carb/BiCarb (m mole/L)	3.4/ 5.3	ECD @ 1890 (sp.gr.)	1.88

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325-4822				
Craig Fisher		08 9422-7540	0409 885 771	\$ 11,511.77	\$ 194,719.80

WATER-BASED MUD REPORT No. 31

Date	10/12/2004	Depth/TVD	2420 m / 2420 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	RIH

Operator : Apache Energy Ltd
Report For : Chris Wilson / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Mike Praznik

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA	
Bit Size 149 mm		Surface	Hole	Pump Make	OILWELL 1700PT NATIONAL 12P-16C
Nozzles 1/32"		762mm @110m (110TVD)	67.4(Tot)/57.1(Bit)	Pump Size	152.4 X 304.8mm 152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	L/stk L/stk
89 mm	1890 m	244mm @995m (995TVD)	62.3	Pump stk/min	
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	L/min
mm	m	178mm @2420m (2407TVD)	119.4	Bottoms Up	
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time	
mm	m		107.5	Circulating Pressure	

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SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x165,2x145	0
VSM Thule Shake	4x120	0
VSM Thule Shake	4x105	0
VSM Thule Shake		0
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT		REMARKS	
Pre-prepare mud system for 1.3sg side track, barite usage only 49.8mt on report # 30		Rig down test equipment, pick up cement stinger RIH set plugs, POOH, lay down tubing.	

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service	15	Oil Added	0	NaCl	.9/ 28.5	np/na Values	0.444/0.369
Drilling		Water Added	0	KCl	1.8/ 46.4	kp/ka (Pa·s^n)	1.606/2.379
Tripping	9	Mud Received	0	Low Gravity	1.8/ 45.6	Bit Loss (kPa / %)	/ 1
Non-Productive Tim		Shakers	0	Bentonite	.6/ 15.9	Bit HHP (kWatt / HSI)	/ 1
Condition Hole		Centrifuge	0	Drill Solids	.4/ 9.7	Bit Jet Vel (m/s)	
Cementing		Formation	0	Weight Material	22.6/ 947.9	Ann. Vel DP (m/min)	
		Left in Hole	0	Chemical Conc	- / 20.	Ann. Vel DC (m/min)	
		Other	1.7	Inert/React	.506	Crit Vel DP (m/min)	93
		Dumped	0	Average SG	4.08	Crit Vel DC (m/min)	108
				Carb/BiCarb (m mole/L)	3.4/ 5.3	ECD @ 1890 (sp.gr.)	1.8

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325-4822	08 9422-7540	0409 885 771	\$ 0.00	\$ 194,719.80
Craig Fisher					

WATER-BASED MUD REPORT No. 32

Date	11/12/2004	Depth/TVD	2420 m / 2420 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	POOH

Operator : Apache Energy Ltd
Report For : Chris Wilson / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Mike Praznik

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA		
Bit Size	149 mm	Surface 762mm @110m (110TVD)	Hole 67.5(Tot)/56.5(Bit)	Pump Make	OILWELL 1700PT	NATIONAL 12P-16C
Nozzles	1/32"			Pump Size	152.4 X 304.8mm	152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	L/stk	L/stk
89 mm	1850 m	244mm @995m (995TVD)	77.9	Pump stk/min		
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	L/min	
mm	m	178mm @2420m (2407TVD)	134.4	Bottoms Up		
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time		
mm	m		106.7	Circulating Pressure		

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SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x165,2x145	0
VSM Thule Shake	4x120	0
VSM Thule Shake	4x105	0
VSM Thule Shake		0
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT	REMARKS
Receive Chemicals from Wrangler, make 1.25sg mud	RIH with cement stinger set first plug from 2172-2062, reverse circulate out excess cement, pull back, lay out tubing,

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service		Oil Added	0	NaCl	.9/ 29.7	np/na Values	0.451/0.386
Drilling		Water Added	15	KCl	1.8/ 46.4	kp/ka (Pa·s^n)	1.500/2.176
Tripping	19	Mud Received	0	Low Gravity	1.7/ 45.	Bit Loss (kPa / %)	/ 1
Non-Productive Tim		Shakers	0	Bentonite	.6/ 14.9	Bit HHP (kWatt / HSI)	/ 1
		Centrifuge	0	Drill Solids	.4/ 10.1	Bit Jet Vel (m/s)	
Cementing	5	Formation	0	Weight Material	22.6/ 947.3	Ann. Vel DP (m/min)	
		Left in Hole	0	Chemical Conc	- / 20.	Ann. Vel DC (m/min)	
		Other	2.4	Inert/React	.5595	Crit Vel DP (m/min)	92
		Dumped	0	Average SG	4.09	Crit Vel DC (m/min)	108
				Carb/BiCarb (m mole/L)	3.4/ 5.3	ECD @ 1850 (sp.gr.)	1.8

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325-4822	08 9422-7540	0409 885 771	\$ 7,928.42	\$ 202,648.22
Craig Fisher					

WATER-BASED MUD REPORT No. 33

Date	12/12/2004	Depth/TVD	1960 m / 1960 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	Cementing

Operator : Apache Energy Ltd
Report For : Chris Wilson / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Mike Praznik

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA		
Bit Size	152 mm	Surface 762mm @110m (110TVD)	Hole 58.8(Tot)/55.7(Bit)	Pump Make	OILWELL 1700PT	NATIONAL 12P-16C
Nozzles	1/32"			Pump Size	152.4 X 304.8mm	152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	L/stk	L/stk
89 mm	1800 m	244mm @995m (995TVD)	71.8	Pump stk/min		
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	L/min	
mm	m	178mm @2420m (2407TVD)	127.5	Bottoms Up		
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time		
mm	m	mm @/m (TVD)	156.7	Circulating Pressure		

[illegible]

PRODUCTS USED LAST 24 HRS		
Products	Size	Amt
DUOTEC	25 KG BG	5
POTASSIUM CHLORIDE	1 MT BG	1

SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x165,2x145	6
VSM Thule Shake	4x120	6
VSM Thule Shake	4x105	6
VSM Thule Shake	4x120	6
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT	REMARKS
Continue to blend mud for 1.25, dump cement contaminated mud,	pump cement plug 2062-1986,reverse excess cement out, layout tubing, make up 7" Bridge plug, run in on 3.5",un-sting plug, cement from 1980-1960,

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service	2	Oil Added	0	NaCl	.7/ 24.5	np/na Values	0.558/0.313
Drilling		Water Added	50	KCl	2.2/ 57.3	kp/ka (Pa·s^n)	0.567/2.145
Tripping	14	Mud Received	0	Low Gravity	1.8/ 47.1	Bit Loss (kPa / %)	/ 1
Non-Productive Tim		Shakers	0	Bentonite	.5/ 12.4	Bit HHP (kWatt / HSI)	/ 1
		Centrifuge	0	Drill Solids	.6/ 14.7	Bit Jet Vel (m/s)	
Cementing	8	Formation	4	Weight Material	5.3/ 220.6	Ann. Vel DP (m/min)	
		Left in Hole	0	Chemical Conc	- / 20.	Ann. Vel DC (m/min)	
		Other	0	Inert/React	.9357	Crit Vel DP (m/min)	94
		Dumped	6.5	Average SG	3.79	Crit Vel DC (m/min)	106
				Carb/BiCarb (m mole/L)	1.8/ 9.	ECD @ 1800 (sp.gr.)	1.25

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325-4822				
Craig Fisher		08 9422-7540	0409 885 771	\$ 1,363.06	\$ 204,011.28

WATER-BASED MUD REPORT No. 34

Date	13/12/2004	Depth/TVD	1960 m / 1960 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	Testing

Operator : Apache Energy Ltd
Report For : Chris Wilson / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Mike Praznik

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA		
Bit Size	152 mm	Surface 762mm @110m (110TVD)	Hole 65(Tot)/14.7(Bit)	Pump Make	OILWELL 1700PT	NATIONAL 12P-16C
Nozzles	1/32"			Pump Size	152.4 X 304.8mm	152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	L/stk	L/stk
127 mm	110 m	244mm @995m (995TVD)	62.1	Pump stk/min		
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	L/min	
mm	m	178mm @2420m (2407TVD)	76.8	Bottoms Up		
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time		
mm	m	mm @/m (TVD)	162	Circulating Pressure		

[illegible]

PRODUCTS USED LAST 24 HRS		
Products	Size	Amt
CITRIC ACID	25 KG BG	2
SODIUM BICARBONATE	25 KG BG	2

SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x165,2x145	4
VSM Thule Shake	4x120	4
VSM Thule Shake	4x105	4
VSM Thule Shake	4x120	4
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT	REMARKS
Treat cement contaminated mud dump excess cement.	Displace cement out of hole,pressure test plug displace hole to 10.5ppg mud pump cement from 2062-1986m, reverse circulate out dump excess,POOH,BOP test

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service		Oil Added	0	NaCl	.7/ 23.	np/na Values	0.571/0.313
Drilling		Water Added	7.8	KCl	2.2/ 57.3	kp/ka (Pa·s/n)	0.508/2.145
Tripping	9	Mud Received	0	Low Gravity	1.8/ 47.8	Bit Loss (kPa / %)	/ 1
Non-Productive Tim		Shakers	0	Bentonite	.5/ 12.3	Bit HHP (kWatt / HSI)	/ 1
Testing	10	Centrifuge	0	Drill Solids	.6/ 15.5	Bit Jet Vel (m/s)	
Cementing	5	Formation	0	Weight Material	5.3/ 221.4	Ann. Vel DP (m/min)	
		Left in Hole	0	Chemical Conc	- / 20.	Ann. Vel DC (m/min)	
		Other	0	Inert/React	.9871	Crit Vel DP (m/min)	78
		Dumped	6	Average SG	3.79	Crit Vel DC (m/min)	100
				Carb/BiCarb (m mole/L)	1.8/ 2.8	ECD @ 110 (sp.gr.)	1.26

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325-4822	08 9422-7540	0409 885 771	\$ 90.18	\$ 204,101.46
Craig Fisher					

WATER-BASED MUD REPORT No. 35

Date	14/12/2004	Depth/TVD	1960 m / 1960 m
Spud Date	10/11/2004	Mud Type	KCI / Idcap D
Water Depth	57	Activity	POOH

Operator : Apache Energy Ltd
Report For : Chris Wilson / John Wrenn
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Paul Baker / Mike Praznik

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA	
Bit Size	152 mm	Surface 762mm @110m (110TVD)	Hole 59(Tot)/55(Bit)	Pump Make	OILWELL 1700PT NATIONAL 12P-16C
Nozzles	1/32"			Pump Size	152.4 X 304.8mm	152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	L/stk L/stk
127 mm	1755 m	244mm @995m (995TVD)	70	Pump stk/min	
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	L/min
mm	m	178mm @2420m (2407TVD)	125	Bottoms Up	
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time	
mm	m	mm @m (TVD)	162	Circulating Pressure	

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PRODUCTS USED LAST 24 HRS		
Products	Size	Amt
DUOTEC	25 KG BG	3
GLUTE 25	25 LT CN	1

SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x165,2x145	0
VSM Thule Shake	4x120	0
VSM Thule Shake	4x105	0
VSM Thule Shake	4x120	0
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT		REMARKS	
Add chemicals to active		RIH with whipstock assembly set, POOH pick up milling package start milling, pipe stuck work pipe, POOH.	

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service	6	Oil Added	0	NaCl	.8/ 27.5	np/na Values	0.450/0.336
Drilling	5	Water Added	5	KCl	2.2/ 57.3	kp/ka (Pa·s^n)	1.267/2.362
Tripping	13	Mud Received	0	Low Gravity	1.8/ 45.6	Bit Loss (kPa / %)	/ 1
Non-Productive Tim		Shakers	0	Bentonite	.4/ 11.4	Bit HHP (kWatt / HSI)	/ 1
Testing		Centrifuge	0	Drill Solids	.5/ 14.2	Bit Jet Vel (m/s)	
Cementing		Formation	0	Weight Material	5.2/ 219.1	Ann. Vel DP (m/min)	
		Left in Hole	0	Chemical Conc	- / 20.	Ann. Vel DC (m/min)	
		Other	3.2	Inert/React	.9715	Crit Vel DP (m/min)	113
		Dumped	0	Average SG	3.8	Crit Vel DC (m/min)	142
				Carb/BiCarb (m mole/L)	1.6/ 25.3	ECD @ 1755 (sp.gr.)	1.25

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325-4822				
Craig Fisher		08 9422-7540	0409 885 771	\$ 676.80	\$ 204,778.26

WATER-BASED MUD REPORT No. 36

Date	15/12/2004	Depth/TVD	1967 m / 1967 m
Spud Date	10/11/2004	Mud Type	KCL / Idcap D
Water Depth	57	Activity	POOH

Operator : Apache Energy Ltd
Report For : Chris Wilson / Kristian Corps
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Ray Bearud / Mike Praznik

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA	
Bit Size	152 mm	Surface 762mm @110m (110TVD)	Hole 58.4(Tot)/58(Bit)	Pump Make	OILWELL 1700PT NATIONAL 12P-16C
Nozzles	1/32"			Pump Size	152.4 X 304.8mm	152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	L/stk L/stk
127 mm	1945 m	244mm @995m (995TVD)	73.4	Pump stk/min	
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	L/min
mm	m	178mm @2420m (2407TVD)	131.4	Bottoms Up	
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time	
mm	m	mm @m (TVD)	162	Circulating Pressure	

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SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x165,2x145	14
VSM Thule Shake	4x120	14
VSM Thule Shake	4x105	14
VSM Thule Shake	4x120	14
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT	REMARKS
Treat for cement contamination, add D-tec for high vis sweeps,KCL added yesterday	POOH change out milling assembly, RIH, start milling,mill window,POOH,

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service		Oil Added	0	NaCl	.8/ 27.5	np/na Values	0.441/0.313
Drilling		Water Added	0	KCl	2.2/ 57.3	kp/ka (Pa·s^n)	1.375/2.758
Tripping		Mud Received	0	Low Gravity	1.8/ 45.6	Bit Loss (kPa / %)	/ 1
Non-Productive Tim		Formation	0	Bentonite	.5/ 13.7	Bit HHP (kWatt / HSI)	/ 1
Testing		Left in Hole	0	Drill Solids	.5/ 12.	Bit Jet Vel (m/s)	
Cementing		Other	0	Weight Material	5.2/ 219.1	Ann. Vel DP (m/min)	
		Dumped	0	Chemical Conc	- / 20.	Ann. Vel DC (m/min)	
		Shakers	0	Inert/React	.7086	Crit Vel DP (m/min)	116
		Centrifuge	0	Average SG	3.8	Crit Vel DC (m/min)	143
				Carb/BiCarb (m mole/L)	1 / 5.	ECD @ 1945 (sp.gr.)	1.25

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325-4822				
Craig Fisher		08 9422-7540	0409 885 771	\$ 2,738.62	\$ 207,516.88

WATER-BASED MUD REPORT No. 37

Date	16/12/2004	Depth/TVD	2112 m / 2112 m
Spud Date	10/11/2004	Mud Type	KCL / Idcap D
Water Depth	57	Activity	POH

Operator : Apache Energy Ltd
Report For : Chris Wilson / Kristian Corps
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Ray Bearud / Mike Praznik

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA	
Bit Size	152 mm	Surface 762mm @110m (110TVD)	Hole 62.6(Tot)/52.1(Bit)	Pump Make	OILWELL 1700PT NATIONAL 12P-16C
Nozzles	1/32"			Pump Size	152.4 X 304.8mm	152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate	Active Pits	Pump Cap	L/stk L/stk
127 mm	1569 m	244mm @995m (995TVD)	70.4	Pump stk/min	
Drill Pipe Size	Length	Intermediate	Total Circulating Vol	Flow Rate	L/min
mm	m	178mm @2420m (2407TVD)	122.5	Bottoms Up	
Drill Collar Size	Length	Production or Liner	In Storage	Total Circ Time	
mm	m	mm @m (TVD)	162	Circulating Pressure	

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SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x165,2x145	10
VSM Thule Shake	4x120	10
VSM Thule Shake	4x105	10
VSM Thule Shake	4x120	10
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT

Add KCL to maintain KCL%,extra chemicals add to reduce MW

REMARKS

RIH with drilling assembly, drill ahead to 2112m.
circ B/up, POH tight hole, backream, continue to POH

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service	2	Oil Added	0	NaCl	.8/ 25.7	np/na Values	0.407/0.313
Drilling	8	Water Added	10.1	KCl	2.2/ 56.6	kp/ka (Pa·s^n)	1.740/2.452
Tripping	14	Mud Received	0	Low Gravity	2.9/ 74.7	Bit Loss (kPa / %)	/1
Non-Productive Tim		Formation	0	Bentonite	.6/ 14.5	Bit HHP (kWatt / HSI)	/1
Testing		Left in Hole	0	Drill Solids	1.5/ 40.2	Bit Jet Vel (m/s)	
Cementing		Other	0	Weight Material	5.2/ 217.4	Ann. Vel DP (m/min)	
		Dumped	6	Chemical Conc	- / 20.	Ann. Vel DC (m/min)	
		Shakers	3.6	Inert/React	1.879	Crit Vel DP (m/min)	107
		Centrifuge	0	Average SG	3.63	Crit Vel DC (m/min)	132
				Carb/BiCarb (m mole/L)	/ 902137020:	ECD @ 1569 (sp.gr.)	1.28

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325-4822				
Craig Fisher		08 9422-7540	0409 885 771	\$ 2,009.85	\$ 209,526.73

WATER-BASED MUD REPORT No. 38

Date	17/12/2004	Depth/TVD	2130 m / 2130 m
Spud Date	10/11/2004	Mud Type	KCL / Idcap D
Water Depth	57	Activity	POH

Operator : Apache Energy Ltd
Report For : Chris Wilson / Kristian Corps
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Ray Bearud / Mike Praznik

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA		
Bit Size	152 mm	Surface 178mm @2420m (2407TVD)	Hole 63.2(Tot)/51(Bit)	Pump Make	OILWELL 1700PT	NATIONAL 12P-16C
Nozzles	1/32"			Pump Size	152.4 X 304.8mm	152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate mm @m (TVD)	Active Pits 70	Pump Cap	L/stk	L/stk
127 mm	1500 m			Pump stk/min		
Drill Pipe Size	Length	Intermediate	Total Circulating Vol 121	Flow Rate		L/min
mm	m			Bottoms Up		
Drill Collar Size	Length	Production or Liner	In Storage 173	Total Circ Time		
mm	m			Circulating Pressure		

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SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x165,2x145	12
VSM Thule Shake	4x120	12
VSM Thule Shake	4x105	12
VSM Thule Shake	4x120	12
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT

Adjust inventory on DuoTec/KCL,02/12,04/12, due to double entry with chemical staying on boat.
Barite adjust according to barge report, treat active with chemicals.

REMARKS

REMARKS
RIH with coring assembly, core # 1, POOH, stop POOH fix stacking arm, continue to POOH

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service	3	Oil Added	0	NaCl	.7/ 22.	np/na Values	0.415/0.339
Drilling	10	Water Added	15	KCl	2.2/ 56.6	kp/ka (Pa·s^n)	1.612/2.056
Tripping	11	Mud Received	0	Low Gravity	2.6/ 68.4	Bit Loss (kPa / %)	/1
Non-Productive Tim		Formation	0	Bentonite	.5/ 14.2	Bit HHP (kWatt / HSI)	/1
Testing		Left in Hole	0	Drill Solids	1.3/ 34.2	Bit Jet Vel (m/s)	
Cementing		Other	2.5	Weight Material	5.5/ 232.4	Ann. Vel DP (m/min)	
		Dumped	0	Chemical Conc	- / 20.	Ann. Vel DC (m/min)	
		Shakers	2.4	Inert/React	1.6875	Crit Vel DP (m/min)	104
		Centrifuge	0	Average SG	3.68	Crit Vel DC (m/min)	131
				Carb/BiCarb (m mole/L)	18.6/ 93.2	ECD @ 1500 (sp.gr.)	1.27

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325-4822	08 9422-7540	0409 885 771	\$ 2,063.34	\$ 211,590.07
Craig Fisher					

WATER-BASED MUD REPORT No. 39

Date	18/12/2004	Depth/TVD	2148 m / 2148 m
Spud Date	10/11/2004	Mud Type	KCL / Idcap D
Water Depth	57	Activity	POH

Operator : Apache Energy Ltd
Report For : Chris Wilson / Kristian Corps
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Ray Bearud / Mike Praznik

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA		
Bit Size	152 mm	Surface 178mm @2420m (2407TVD)	Hole 69.1	Pump Make	OILWELL 1700PT	NATIONAL 12P-16C
Nozzles	1/32"			Pump Size	152.4 X 304.8mm	152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate mm @m (TVD)	Active Pits 67.5	Pump Cap	L/stk	L/stk
127 mm	m			Pump stk/min		
Drill Pipe Size	Length	Intermediate	Total Circulating Vol 67.5	Flow Rate		L/min
mm	m			Bottoms Up		
Drill Collar Size	Length	Production or Liner	In Storage 166.7	Total Circ Time		
mm	m			Circulating Pressure		

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SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x165,2x145	12
VSM Thule Shake	4x120	12
VSM Thule Shake	4x105	12
VSM Thule Shake	4x120	12
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT		REMARKS	
Add bio-cide to Longtom-2 in preparation P&A.		Core#2 to 2148m POH lay down core ,cut,RIH lay out DC,	

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service	5	Oil Added	0	NaCl	.7/ 22.3	np/na	Values
Drilling	9	Water Added	0	KCl	2.2/ 57.3	kp/ka	(Pa·s/n)
Tripping	10	Mud Received	0	Low Gravity	1.9/ 48.2	Bit Loss	(kPa / %)
Non-Productive Tim		Formation	0	Bentonite	.6/ 15.6	Bit HHP	(kWatt / HSI)
Testing		Left in Hole	0	Drill Solids	.5/ 12.6	Bit Jet Vel	(m/s)
Cementing		Other	0	Weight Material	5.3/ 221.8	Ann. Vel DP	(m/min)
		Dumped	0	Chemical Conc	- / 20.	Ann. Vel DC	(m/min)
		Shakers	3.2	Inert/React	.6574	Crit Vel DP	(m/min)
		Centrifuge	0	Average SG	3.78	Crit Vel DC	(m/min)
				Carb/BiCarb (m mole/L)	18.8/ 94.2		

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325-4822				
Craig Fisher		08 9422-7540	0409 885 771	\$ 918.90	\$ 212,508.97

WATER-BASED MUD REPORT No. 40

Date	19/12/2004	Depth/TVD	2148 m / 2148 m
Spud Date	10/11/2004	Mud Type	KCL / Idcap D
Water Depth	57	Activity	Cementing

Operator : Apache Energy Ltd
Report For : Chris Wilson / Kristian Corps
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Ray Bearud / Mike Praznik

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA		
Bit Size	152 mm	Surface 178mm @2420m (2407TVD)	Hole 65.7(Tot)/41.7(Bit)	Pump Make	OILWELL 1700PT	NATIONAL 12P-16C
Nozzles	1/32"			Pump Size	152.4 X 304.8mm	152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate mm @m (TVD)	Active Pits 67.5	Pump Cap	L/stk	L/stk
127 mm	907 m			Pump stk/min		
Drill Pipe Size	Length	Intermediate	Total Circulating Vol 109.2	Flow Rate		L/min
mm	m			Bottoms Up		
Drill Collar Size	Length	Production or Liner	In Storage 101.7	Total Circ Time		
mm	m			Circulating Pressure		

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SOLIDS EQUIP	Size	Hr
VSM Thule Shake	2x165,2x145	10
VSM Thule Shake	4x120	10
VSM Thule Shake	4x105	10
VSM Thule Shake	4x120	10
D-Sander		0
D-Silter		0

MUD PROPERTY SPECIFICATIONS	
Weight	1.25-1.30
Viscosity	45
Filtrate	6

REMARKS AND TREATMENT

Glute costed on yesterdays report, credit 15 sacks Idcap-D to well, debit 9 sacks Duo-Tec, start dumping mud & cleaning pits.

REMARKS

Pick up cement stinger RIH set plug 4a from 2148-2062, reverse out, set plug 4b from 2062-1976m, reverse out, set plug 4c from 1976-1890m, reverse out, WOC, pump inhibited mud, set plug 5 from 907-800m.

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service	3	Oil Added	0	NaCl	.4/ 13.3	np/na Values	0.433/0.373
Drilling		Water Added	0	KCl	2.2/ 57.3	kp/ka (Pa·s^n)	1.373/1.809
Tripping	5	Mud Received	0	Low Gravity	2./ 52.2	Bit Loss (kPa / %)	/ 1
Non-Productive Tim		Formation	0	Bentonite	.6/ 16.2	Bit HHP (kWatt / HSI)	/ 1
Testing		Left in Hole	0	Drill Solids	.6/ 16.	Bit Jet Vel (m/s)	
Cementing	16	Other	0	Weight Material	5.4/ 226.7	Ann. Vel DP (m/min)	
		Dumped	68.6	Chemical Conc	- / 20.	Ann. Vel DC (m/min)	
		Shakers	0	Inert/React	.7914	Crit Vel DP (m/min)	107
		Centrifuge	0	Average SG	3.77	Crit Vel DC (m/min)	139
				Carb/BiCarb (m mole/L)	14.9/ 7.5	ECD @ 907 (sp.gr.)	1.25

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325-4822				
Craig Fisher		08 9422-7540	0409 885 771	\$ -1,205.67	\$ 211,303.30

WATER-BASED MUD REPORT No. 41

Date	20/12/2004	Depth/TVD	2148 m / 2148 m
Spud Date	10/11/2004	Mud Type	
Water Depth	57	Activity	Pull Riser

Operator : Apache Energy Ltd
Report For : Chris Wilson / Kristian Corps
Well Name : Longtom-2
Contractor : Diamond Offshore
Report For : Ray Bearud / Mike Praznik

Field/Area : Bass Strait- Victoria
Description : Wildcat - Exploration
Location : Vic P-54 - Offshore
M-I Well No. : 16144

DRILLING ASSEMBLY		CASING	MUD VOLUME (m³)	CIRCULATION DATA		
Bit Size	152 mm	Surface 178mm @2420m (2407TVD)	Hole	Pump Make	OILWELL 1700PT	NATIONAL 12P-16C
Nozzles	1/32"		69.1	Pump Size	152.4 X 304.8mm	152.4 X 304.8mm
Drill Pipe Size	Length	Intermediate mm @m (TVD)	Active Pits -72.5	Pump Cap	L/stk	L/stk
mm	m			Pump stk/min		
Drill Pipe Size	Length	Intermediate	Total Circulating Vol -72.5	Flow Rate		L/min
mm	m			Bottoms Up		
Drill Collar Size	Length	Production or Liner	In Storage .3	Total Circ Time		
mm	m			Circulating Pressure		

[illegible]

REMARKS AND TREATMENT		REMARKS	
Dump and clean pits		Set cement plug displace riser to seawater, unlatch BOP pull riser.	

TIME DISTR	Last 24 Hrs	MUD VOL ACCTG	(m³)	SOLIDS ANALYSIS (%/kg/m³)		MUD RHEOLOGY & HYDRAULICS	
Rig Up/Service		Oil Added	0	NaCl	.4/	np/na	Values
Drilling		Water Added	0	KCl	/	kp/ka	(Pa·s ⁿ)
Tripping	20.5	Mud Received	0	Low Gravity	/	Bit Loss	(kPa / %)
Non-Productive Tim		Formation	0	Bentonite	/	Bit HHP	(kWatt / HSI)
Testing		Left in Hole	0	Drill Solids	/	Bit Jet Vel	(m/s)
Cementing	3.5	Other	0	Weight Material	/	Ann. Vel DP	(m/min)
		Dumped	238	Chemical Conc	- /	Ann. Vel DC	(m/min)
		Shakers	0	Inert/React		Crit Vel DP	(m/min)
		Centrifuge	0	Average SG		Crit Vel DC	(m/min)
				Carb/BiCarb (m mole/L)	/		

M-I ENGR / PHONE		RIG PHONE	WAREHOUSE PHONE	DAILY COST	CUMULATIVE COST
Jasdeep Singh	08-9325-4822				
Craig Fisher		08 9422-7540	0409 885 771	\$ 0.00	\$ 211,303.30

APACHE ENERGY LIMITED

CASING RECORD

Well Name:	Longtom-2	PERMIT:	VIC/P 54	DATE:	
CASING:	762	RIG:	Ocean Patriot	RKB-s'bed (m):	78.32
HOLE SIZE:	914mm	TD (m):	113.6	RKB-MLS(m):	75.32
SHOE DEPTH (m):	110.015	TVD (m):	113.6	RKB-WellHead	78.00

JTS	SIZE	WEIGHT (lb/ft)	GRADE	CONN./RANGE	Burst (psi)	Collapse (psi)	Tension (tonnes)
3	762	310	X52	Lynx	0	0	

MILL CERTIFICATE Nos./PO's

DESCRIPTION	LENGTH (m)	BOTTOM (mRKB)	TOP (mRKB)
Shoe Jt	11.43	110.02	98.59
Intermediate Joint	11.50	98.59	87.09
Wellhead Housing	11.77	87.09	75.32
RKB to Top of wellhead	75.32	75.32	0.00
total length	110.02		
Casing run time (hrs):	2.5	Average running speed /joint (min):	50

CENTRALISER DETAILS:	Bow	Semi rigid	Rigid	Turbolisers	Other
Number installed:	-	-	-	-	-
Interval (m):					

PIP TAG DEPTH (mRKB):	MLS Depth:	75.32	MLS length (m):	0
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Total Casing on Board:	6	Casing Damage Details:	None
Total Casing Run in Hole:	3		
Total Casing Leftover:	3		

Pup Joints on Board:	0	Number Run:	0	No. returned:	0
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Equipment used:	2 x 762mm elevators
Service Company:	No. of Personnel:

Comments
Casing was run and landed in the PGB prior to drilling the 914mm hole and racked back in the moonpool

Supervisors:	H. Everhart and C. Wilson
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APACHE ENERGY LIMITED

CASING RECORD

Well Name: **Longtom-2** PERMIT: **VIC/P 54** DATE: **12-Nov-04**
 CASING: **9 5/8** RIG: **Ocean Patriot** RKB-s'bed (m): **78.32**
 HOLE SIZE: **12.25** TD (m): **1009** RKB-MLS(m): **75.32**
 SHOE DEPTH (m): **995.244** TVD (m) **995.24** RKB-WellHead **75.32**

JTS	SIZE	WEIGHT (lb/ft)	GRADE	CONN./RANGE	Burst (psi)	Collapse (psi)	Tension (tonnes)
100	244mm	47	L-80	New Vam	8150	5080	645

MILL CERTIFICATE Nos./PO's

DESCRIPTION	LENGTH (m)	BOTTOM (mRKB)	TOP (mRKB)
Shoe Joint	12.59	995.24	982.65
Intermediate Joint	11.90	982.65	970.75
Float Collar Joint (X/O BTC to New Vam)	13.80	970.75	956.95
69 Joints of Intermediate casing	858.31	956.95	98.64
No Cross Coupling Joint	12.65	98.64	85.99
Wellhead Joint	10.30	85.99	75.69
Hang-off Point	0.00	75.69	75.69
Wellhead above Hang-off point	1.04	75.69	74.65
Running Tool	0.37	74.65	74.28
Landing String	74.28	74.28	0.00
		0.00	
total length	995.24		
Casing run time (hrs): 7.5	Average running speed /joint (min):		7

CENTRALISER DETAILS:	Bow	Semi rigid	Rigid	Turbolisers	Double Bow
Number installed:					14
Interval (m):					995.25 - 855.75

PIP TAG DEPTH (mRKB):	MLS Depth: 75.32	MLS length (m):	0
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Total Casing on Board: 100	Casing Damage Details: 9 joints were not able to be rabbited
Total Casing Run in Hole: 69	
Total Casing Leftover: 31	

Pup Joints on Board: 7	Number Run: 0	No. returned: 7
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Equipment used: single jt elevator, 150 ton side door elevator, safety clamp, 16 K casing tong, 6 cylinder power unit, .
Service Company: Weatherford No. of Personnel: 3

Comments
Casing running went well. May have saved time to have the cementing stinger made-up to the running tool and racked back.

Supervisors: H.Everhart / C. Wilson
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APACHE ENERGY LIMITED

CASING RECORD

Well Name: **Longtom-2** PERMIT: **VIC/P 54** DATE: **25-Nov-04**
 CASING: **7** RIG: **Ocean Patriot** RKB-s'bed (m): **78.32**
 HOLE SIZE: **8.5** TD (m): **2422** RKB-MLS(m): **75.32**
 SHOE DEPTH (m): **2420** TVD (m): **2406.6** RKB-WellHead: **75.32**

JTS	SIZE	WEIGHT (lb/ft)	GRADE	CONN./RANGE	Burst (psi)	Collapse (psi)	Tension (tonnes)
165	178mm	29	L-80	New Vam	4902	7078	306

MILL CERTIFICATE Nos./PO's

DESCRIPTION	LENGTH (m)	BOTTOM (mRKB)	TOP (mRKB)
Shoe Joint with internal float	13.72	2420.00	2406.28
Intermediate Joint	12.60	2406.28	2393.68
Intermediate Joint with internal float	12.60	2393.68	2381.08
Ball catcher joint	12.64	2381.08	2368.44
33 joints of Liner	415.40	2368.44	1953.04
2 pup joints	8.08	1953.04	1944.96
84 joints liner	1055.87	1944.96	889.09
Liner hanger below Packer	5.25	889.09	883.84
Liner Hanger above Packer	6.01	883.84	877.83
5" Lift nipple with junk cover	1.51	877.83	876.32
15 joints 5" HWDP	139.07	876.32	737.25
25 stds + dble of 5" DP	736.45	737.25	0.80
Cement Stand	0.80	0.80	0.00
		0.00	
total length	2420.00		
Casing run time (hrs): 7.5	Average running speed /joint (min):		4

CENTRALISER DETAILS:	Bow	Semi rigid	Rigid	Turbolisers	Double Bow
Number installed:		25			
Interval (m):		2420 - 1870			

PIP TAG DEPTH (mRKB):	MLS Depth:	75.32	MLS length (m):	0
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Total Casing on Board:	165	Casing Damage Details:	
Total Casing Run in Hole:	117		
Total Casing Leftover:	48		

Pup Joints on Board:	2	Number Run:	2	No. returned:	0
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Equipment used:	Single jt elevator, 150 ton side door elevator, safety clamp, 16 K casing tong, 6 cylinder power unit, JAM Unit				
Service Company:	Weatherford	No. of Personnel:	3		

Comments	
	Liner hanger took 1.5 hrs to install and service.
	Problems with casing board camera caused 0.5 hrs downtime. Generally, liner running went well
	Reamer shoe run - didn't need to ream, only wash

Supervisors:	H.Everhart / J. Wrenn
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APACHE ENERGY LIMITED

WELL CEMENTING REPORT

WELL #	Longtom-2	PERMIT #	VicP54	Rig Name:	Ocean Patri	Date:	10-Nov-04
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Last Csg (mm):	0	Set at (m):	0.00	Wt (kg/m):	0	Grade:	0
This Csg (mm):	762	Set at (m):	110.00	Wt (kg/m):	546	Grade:	X52
Hole size (mm):	919	Depth (m):	111.00				
Cement Co:	Dowell	Cementer:	D. Greene	Co Reps:	H. Everhart/C. Wilson		

Mud type:	SW	Density (sg):	1.02	Visc(secs):		Yield Pt:	
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Cement Data

Source Details:							
Lead from (m):	N/A	Lead to (m):	N/A	Excess		Cement type:	
Density (sg):		Yield Ratio		Sacks No:		Slurry m ³ :	
Additives:							
Tail from (m):	111	Tail to (m):	78.32	Excess	300	Cement type:	Class G
Density (sg):	1.90	Yield Ratio	1.17	Sacks No:	1089	Slurry m ³ :	32.2
Additives: 1.5% CaCl ₂							
Pre-flush type:	SW	Density(sg):	1.02	Vol (m ³)	3.17		
Cement Volume:							
Caliper (mm):				Total Cement Volume (m ³):		32.2	

Mix water data

Lead Type:		Density(sg):	1.00	Lt/sx:		Vol m ³ :	
Base chlorides:		Additives:					
Tail Type:	SW	Density(sg):	1.00	Lt/sx:		Vol m ³ :	19.08
Base chlorides:		Additives:	1.5%CaCl				

Displacement Details

Job Time Details

Displacement Volume			Lab. Test "t" time		
	Behind (m³)	Displ (m³)	Lab. Test "t" time Exposure Time	lead	tail
Cement Pump		4.45			1.56
Rig Pump					
Rate (bpm)		4 bpm			
Theoretical Volume (m³)	4.45		Actual VolumePumped (m³)	4.45	

Job Summary:

Operation	time (hr)	Rate (m ³ /m)	kPa
Pump .467M3 Salt Water	5:02 PM	0.63	965
Test line	5:07 PM		17,380
Pump 3.17M3 Spacer with Dye	5:17 PM	0.63	965
Mix and Pump Cement	5:45 PM	0.63	965
Displace with Cement Unit	6:34 PM	0.63	159
CIP	6:34 PM		

Comments:

Cement delivery good from #2 silo, 4 BPM

APACHE ENERGY LIMITED

WELL CEMENTING REPORT

WELL #	Longtom-2	PERMIT #	VIC/P 54	Rig Name:	Ocean Patri	Date:	12-Nov-04
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Last Csg (mm):	508	Set at (m):	110.00	Wt (kg/m):	301	Grade:	N80
This Csg (mm):	244	Set at (m):	995.24	Wt (kg/m):	70	Grade:	L80
Hole size (mm):	313	Depth (m):	1009.00				
Cement Co:	Dowell	Cementer:	D. Green / P. K	Co Reps:	H. Everhart / C. Wilson		

Mud type:	Seawater & PH	Density (sg):	1.05	Visc(secs):	138	Yield Pt:	14
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Cement Data

Source Details:							
Lead from (m):	895.5	Lead to (m):	395.5	Excess	10	Cement type:	Class G
Density (sg):	1.5	Yield Ratio	2.15	Sacks No:	253	Slurry m ³ :	16.0
Additives:	DO47 Antifoam - 0.01gal/sk, DO75 Extender - 0.42gal/sk						
Tail from (m):	995.25	Tail to (m):	895.5	Excess	30	Cement type:	Class G
Density (sg):	1.90	Yield Ratio	1.16	Sacks No:	144	Slurry m ³ :	5.0
Additives:	DO47 Antifoam - 0.03gal/sk, D193 Fluid Loss - 0.25gal/sk, D145A Dispersant - 0.05gal/sk						
Pre-flush type:	Seawater	Density(sg):	1.05	Vol (m ³)	3.17		
Cement Volume:							
Caliper (mm):	8.757				Total Cement Volume (m ³):	21.0	

Mix water data

Lead Type:	SW	Density(sg):	1.00	Lt/sx:	50.00	Vol m ³ :	12.60
Base chlorides:	30000	Additives:					
Tail Type:	DW	Density(sg):	1.00	Lt/sx:	19.55	Vol m ³ :	2.81
Base chlorides:	500	Additives:					

Displacement Details

Job Time Details

	Behind (m ³)	Displ (m ³)		lead	tail
Cement Pump	1.59		Lab. Test "t" time	5:40	3:30
Rig Pump		32.50	Exposure Time		
Rate (bpm)		10			
Theoretical Volume (m ³)	34.10	Actual VolumePumped (m ³)	34.57		

Job Summary:

Operation	time (hr)	Rate (m ³ /m)	kPa
Pumped 1.59m3 of seawater	9:57 PM	0.76	2,359
Pressure tested lines to 34500kpa	9:59 PM		34,500
Pumped 1.59m3 of seawater	10:11 PM	0.76	2,359
Dropped bottom dart	10:20 PM		
Investigate problem with primary cement pump	10:25 PM		
Mixed & pumped lead slurry	10:45 PM	0.57	648
Mixed & pumped tail	11:22 PM	0.57	869
Dropped top dart	11:36 PM		20,700
Displaced 1.59m3 of seawater with the cement unit	11:40 PM	0.57	648
Displaced with rig pumps	11:42 PM	1.59	4,209
Cement in place	12:10 AM		

Comments:

Coupling on the primary cement pump dragged in 3 air lines (gear selection lines) that limited pumping to one pump. Job went well on one pump. No problems with cement delivery. Plugs did not bump

APACHE ENERGY LIMITED

WELL CEMENTING REPORT

WELL #	Longtom-2	PERMIT #	VIC/P 54	Rig Name:	Ocean Pacific	Date:	25-Nov-04
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Last Csg (mm):	244	Set at (m):	995.00	Wt (kg/m):	70	Grade:	N80
This Csg (mm):	178	Set at (m):	2420.00	Wt (kg/m):	43	Grade:	L80
Hole size (mm):	217	Depth (m):	2422.00				
Cement Co:	Dowell	Cementer:	D. Green / P. Kc	Co Reps:	H. Everhart / C. Wrenn		

Mud type:	KCI IDCap D	Density (sg):	1.43	Visc(secs):	49	Yield Pt:	16
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Cement Data

Source Details:							
Lead from (m):		Lead to (m):		Excess		Cement type:	
Density (sg):		Yield Ratio		Sacks No:		Slurry m ³ :	
Additives:							
Tail from (m):	2420	Tail to (m):	1670	Excess	10	Cement type:	Class G
Density (sg):	1.90	Yield Ratio	1.17	Sacks No:	317	Slurry m ³ :	66.1
Additives:	D175 Antifoam - 0.05gal/sk, D080 Dispersant - 0.09gal/sk, D600G Latex - 1.9gal/sk						
Pre-flush type:	Mudpush	Density(sg):	1.43	Vol (m ³)	5.59		
Cement Volume:							
Caliper (mm):					Total Cement Volume (m ³):	66.1	

Mix water data

Lead Type:		Density(sg):		Lt/sx:		Vol m ³ :	
Base chlorides:		Additives:					
Tail Type:	IDCAPD	Density(sg):	1.00	Lt/sx:	19.73	Vol m ³ :	6.25
Base chlorides:	7% KCL	Additives:					

Displacement Details

Job Time Details

	Behind (m ³)	Displ (m ³)		lead	tail
Cement Pump		36.38	Lab. Test "t" time Exposure Time		3:17
Rig Pump					
Rate (bpm)		6			
Theoretical Volume (m ³)	35.78	Actual Volume Pumped (m ³)		36.38	

Job Summary:

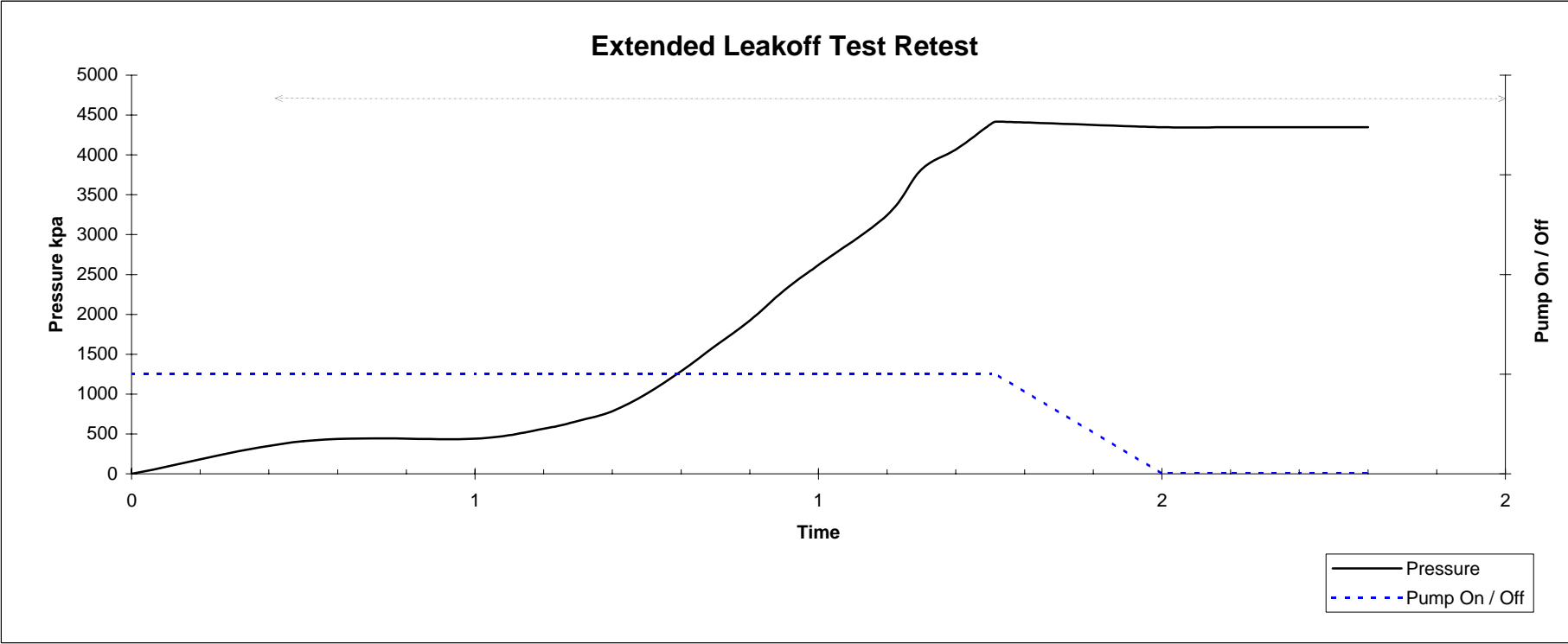
Operation	time (hr)	Rate (m ³ /m)	kPa
Pumped 2.38m ³ of Mudpush spacer	10:25AM	0.82	4,134
Pressure tested lines to 34500kpa	10:38AM		34,500
Pumped 3.18m ³ of Mudpush spacer	10:47AM	0.82	4,480
Mixed & pumped tail	10:59 AM	0.57	1,450
Dropped top dart	11:24AM		20,700
Displaced 1.59m ³ of seawater with the cement unit	11:29 AM	0.57	648
Displaced with Cement pumps	11:42 AM	1.59	4,209
Cement in place	12:23PM		

Comments:

Cement delivery good, Monitoring system on Dowell unit again not reliable, needs to be replaced with Semcad system. Bumped plugs and held same for 15 mins. Slowed displacement to 2 bbl/min for the last 60 bbls of the job.

APACHE ENERGY LIMITED

Well	Longtom-2	Casing Size	244 mm	Leak Off Pressure from graph	4422 kpa
Permit	VIC/P 54	Shoe TVD	995 meters	Equivalent Mud Weight	1.71 SG
Rig	Ocean Patriot	Test Fluid	IdcapD		
		Density	1.25 SG		



APACHE ENERGY LIMITED

ABANDONMENT PLUG CEMENTING REPORT

WELL # **Longtom-2** PERMIT # **VIC/P 54**
 Rig Name: **Ocean Patriot** Date: **6-Dec-04**
 Csg OD (mm): **178** Set at (m): **2420.00** Wt (kg/m): **43.17** Grade: **N80**
 Hole size (mm): **216** Depth (m): **2422.00**
 Cement Co: **Dowell** Cementer: **Ed/Anja** Co Reps: **R. Stone/ J.Wrenn/ C. Wilson/ K.Corps**

Plug # 1JW				Operations	Time
From (m)	2274	Ahead (m3)	1.589	Pumped water ahead and tested lines	3:20
To (m)	2169	Behind (m3)	0.318	Mixed and pumped slurry	3:35
Excess %	56 %	Density SG	1.02	Pumped seawater behind	3:44
Density SG	1.90	Lit / sx		Displaced 11.45m3 mud with cmt unit	3:45
Volume m ³	3.18	Mix Water	SW	CIP	4:00
Sacks	105	Base Cl ₂			
Yield	1.18	Tag Depth(m)	2230		
Mix Water additives :		0.01 gps D047, 0.09 gps D145A, 0.03 gps D110, 0.30 gps D193			
Comment : Cement job went well. Surface samples did not go hard during WOC time Found top of cement plug 61 m lower than placed after WOC for 11 hrs					

Plug # 1RS				Operations	Time
From (m)	2230	Ahead (m3)	3.200	Pumped water ahead	16:42
To (m)	2172	Behind (m3)	0.640	Mixed & pumped slurry	17:10
Excess %	140 %	Density SG	1.02	Pumped water behind	17:20
Density SG	1.90	Lit / sx		Displaced 12.2m3 mud with cmt pump	17:21
Volume m ³	2.92	Mix Water	DW	CIP	17:35
Sacks	97	Base Cl ₂			
Yield	1.18	Tag Depth(m)	2172		
Mix Water additives :		0.02gps D110, 0.05gps D145			
Comment : Cement job went well.					
Plug tagged 6 hrs 30 mins after CIP					

Plug # 2a				Operations	Time
From (m)	2172	Ahead (m3)	1.590	Pumped 0.8m3 water ahead	3:00
To (m)	2062	Behind (m3)	0.316	Pressure tested lines to 27,600 kPa	3:03
Excess %	20 %	Density SG	1.02	Pumped 0.8m3 water ahead	3:09
Density SG	1.90	Lit / sx	19.26	Mix & pumped 2.62m3 1.9S slurry	3:12
Volume m ³	2.56	Mix Water	DW	Pumped 0.47m3 water behind	3:24
Sacks	78	Base Cl ₂		Displaced with 11.92m3 of 1.79sg mud.	3:26
Yield	1.16	Tag Depth(m)		CIP @	3:40
Mix Water additives :		0.08gps D145A, 0.3gps D193, 0.02gps D110, 0.01gps D047			
Comment : Good job - No problems					

Plug # 2b				Operations	Time
From (m)	2062	Ahead (m3)	1.590	Pumped 0.8m3 water ahead	8:49
To (m)	1986	Behind (m3)	0.316	Pressure tested lines to 27,600 kPa	8:53
Excess %	20 %	Density SG	1.02	Pumped 0.8m3 water ahead	8:55
Density SG	1.90	Lit / sx	19.26	Mix & pumped 1.83m3 1.9S slurry	9:00
Volume m ³	1.77	Mix Water	SW	Pumped 0.32m3 water behind	9:08
Sacks	54	Base Cl ₂		Displaced with 11.13m3 of 1.79sg mud.	9:10
Yield	1.16	Tag Depth(m)		CIP @	9:25
Mix Water additives :		#REF!			
Comment : Good job - No problems					

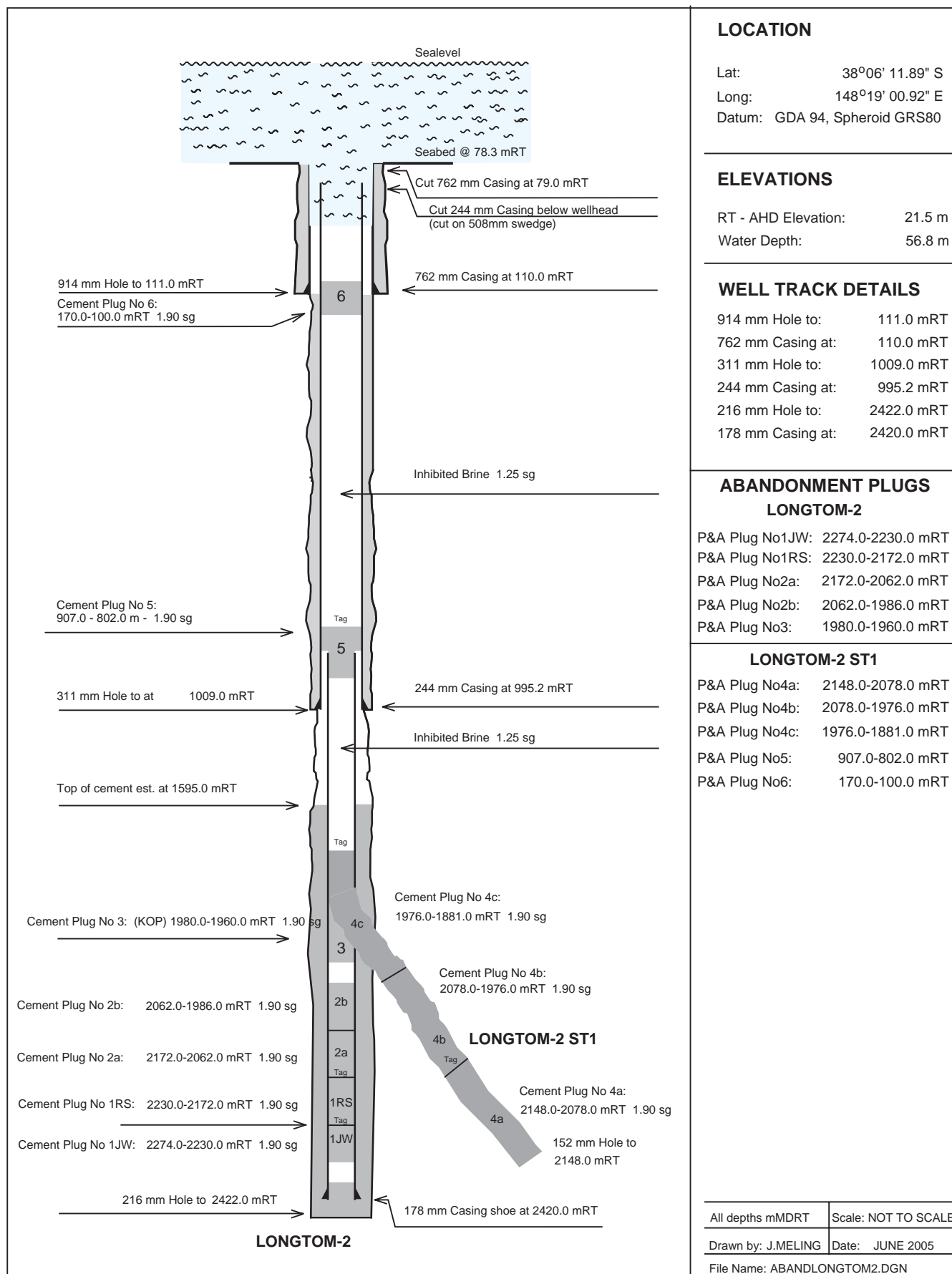
Plug # 3				Operations	Time
From (m)	1980	Ahead (m3)	10.000	Pumped 0.8m3 water ahead	7:20
To (m)	1960	Behind (m3)	2.939	Pressure tested lines to 27,600 kPa	7:24
Excess %	2000 %	Density SG	1.90	Pumped 0.8m3 water ahead	7:27
Density SG	1.90	Lit / Sx	19.26	Mix & pumped 1.2m3 1.9S slurry	7:30
Volume m ³	0.47	Mix Water	SW	Pumped 0.4m3 water behind	7:42
Sacks	14	Base Cl ₂		Displaced with 11.45m3 of 1.79sg mud.	7:43
Yield	1.16	Tag Depth(m)	2459	CIP @	7:55
Mix Water additives :		#REF!			
Comment : Good Job - No problems					
Longtom-2 ST1					
Plug # 4a				Operations	Time
From (m)	2148	Ahead (m3)	1.600	Pumped water ahead	
To (m)	2062	Behind (m3)	14.10	Mixed & pumped slurry	
Excess %	0 %	Density SG	1.02	Pumped water behind	
Density SG	1.90	Lit / Sx		Pumped 2.4m3 mud	
Volume m ³	1.67	Mix Water	SW	CIP	
Sacks	51	Base Cl ₂			
Yield	1.16	Tag Depth(m)	2078		
Mix Water additives :					
Comment :					
Plug # 4b				Operations	Time
From (m)	2078	Ahead (m3)	3.200	Pumped water ahead	
To (m)	1976	Behind (m3)	0.800	Mixed & pumped slurry	
Excess %	0 %	Density SG	1.02	Pumped water behind	
Density SG	1.90	Lit / Sx		CIP	
Volume m ³	1.92	Mix Water	SW		
Sacks	58	Base Cl ₂			
Yield	1.18	Tag Depth(m)			
Mix Water additives :					
Comment :					
Plug # 4c				Operations	Time
From (m)	1976	Ahead (m3)	3.200	Pumped water ahead	
To (m)	1890	Behind (m3)	9.54	Mixed & pumped slurry	
Excess %	100 %	Density SG	1.02	Pumped water behind	
Density SG	1.90	Lit / Sx		CIP	
Volume m ³	6.40	Mix Water	SW		
Sacks	214	Base Cl ₂			
Yield	1.16	Tag Depth(m)	1881		
Mix Water additives :					
Comment :					
Plug # 5				Operations	Time
From (m)	907	Ahead (m3)	3.200	Pumped water ahead	
To (m)	800	Behind (m3)		Mixed & pumped slurry	
Excess %	0 %	Density SG	1.02	Pumped water behind	
Density SG	1.90	Lit / Sx		CIP	
Volume m ³	6.40	Mix Water	SW		
Sacks	30	Base Cl ₂			
Yield	1.16	Tag Depth(m)	802		
Mix Water additives :					
Comment :					
Plug # 6				Operations	Time
From (m)	170	Ahead (m3)	3.200	Pumped water ahead	
To (m)	100	Behind (m3)		Mixed & pumped slurry	
Excess %	0 %	Density SG	1.02	Pumped water behind	
Density SG	1.90	Lit / Sx		CIP	
Volume m ³	2.70	Mix Water	SW		
Sacks		Base Cl ₂			
Yield	1.16	Tag Depth(m)			
Mix Water additives :					



Vic / P-54

LONGTOM-2

ABANDONMENT SCHEMATIC





REPORT FOR THE OCEAN PATRIOT RIG MOVE TO THE LONGTOM-2 LOCATION

FUGRO SURVEY JOB NO. - P0164

Client : Apache Energy Limited
Level 3
256 St George's Terrace
Perth, 6000
Western Australia

Date of Survey : 3 – 11 November 2004

0	Final			19 November 2004
Rev	Description	Checked	Approved	Date

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APPENDIX C : GEODESY, DGPS AND GYRO CHECKS
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ABSTRACT

Between 3 and 11 November 2004, Fugro Survey Pty Ltd (Fugro) provided equipment and personnel for the semi-submersible Mobile Offshore Drilling Unit (MODU), Ocean Patriot, rig move to Longtom-2 location in Permit Vic/P-54 in Bass Strait, offshore Victoria, Australia.

Surface positioning was achieved utilising Fugro's Starfix Differential GPS and Starfix.Seis Navigation Software.

The final position for the drill stem derived from DGPS observations at the Longtom-2 location is:

Location Name:	Longtom-2
Easting:	615462.43m
Northing:	5781904.33m
Latitude:	38° 06' 11.89" S
Longitude:	148° 19' 00.92" E
Rig Heading:	45.48° (True)

This position is 4.2m on a bearing of 151.0° (Grid) from the proposed Longtom-2 location.

All coordinates in this report are quoted in GDA94 datum and MGA, Zone 55 (CM 147° E) projection, unless otherwise stated.

1.0 INTRODUCTION

Fugro Survey Pty Ltd (Fugro) was contracted by Apache Energy Limited (Apache) to provide navigation and positioning survey services on board the semi-submersible Mobile Offshore Drilling Unit (MODU) *Ocean Patriot*, during the rig move to Longtom-2 location in Permit Vic/P-54 in Bass Strait, Australia.

The rig was moved from Martha-1 to Longtom-2, in the Bass Strait. A general location diagram is shown as Figure 1-1.

This report details the equipment used, survey parameters adopted, procedures employed and the results achieved. A section on safety is included in Section 3.0 of this report.

1.1 Scope of Work

Personnel and equipment were provided on a 24 hour per day basis for:

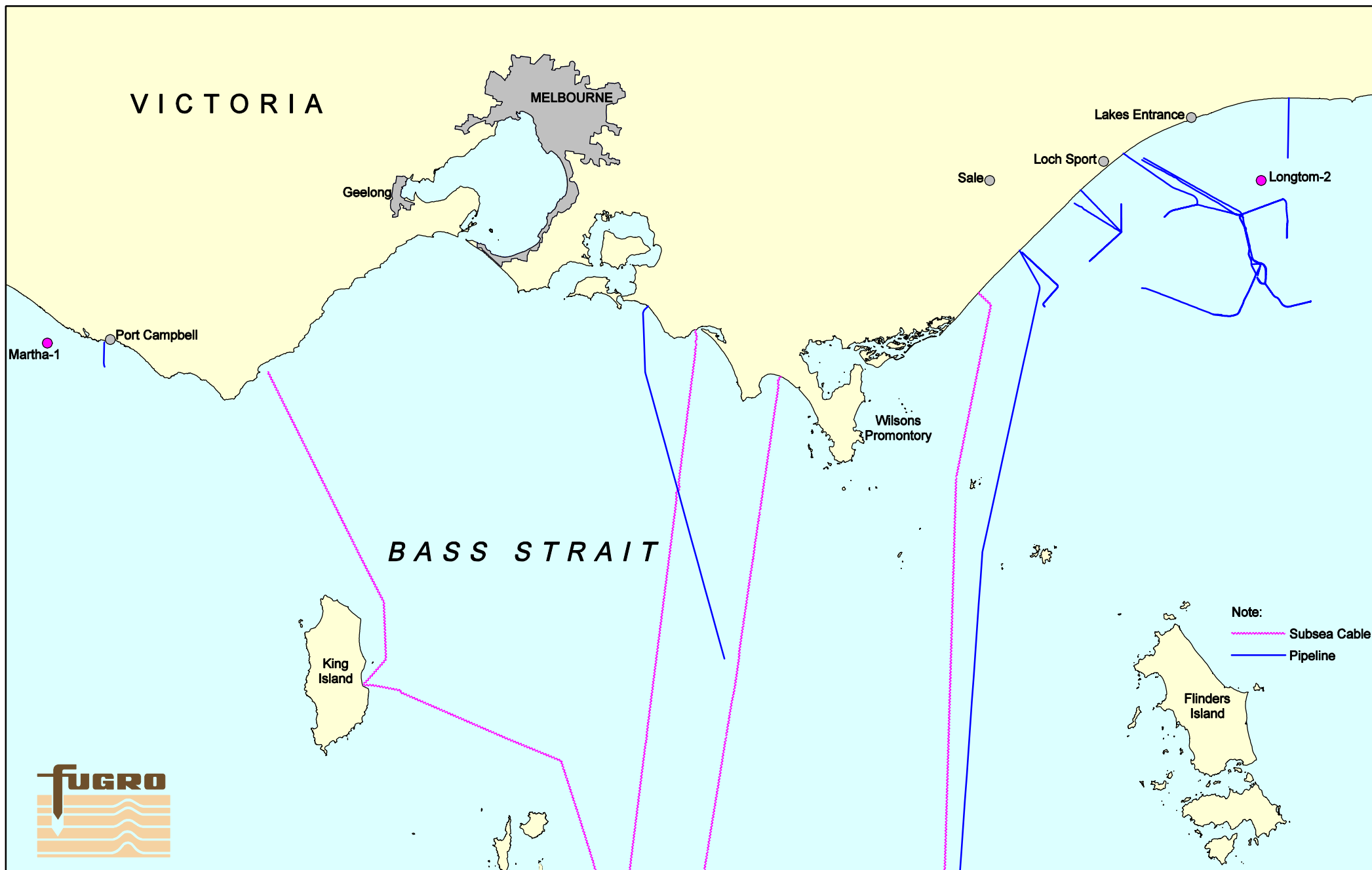
- Calibration and function testing of the survey equipment on board the rig and the two Anchor Handling Vessels (AHVs).
- Surface navigation for the *Ocean Patriot*, using Fugro's Starfix Spot Differential Global Positioning System (DGPS).
- Surface navigation for AHVs during anchoring operations, using Starfix Spot DGPS.
- Final rig surface positioning for the Longtom-2 location using DGPS observations.
- Final reporting of the positioning results.

1.2 Sequence of Events

On 3 November 2004, J. Cohen and J. Richards travelled from Perth to Melbourne. Fugro personnel joined the *Ocean Patriot* on 4 November 2004, at the Martha-1 location whilst the rig was contracted to Santos Limited (Santos). Equipment checks were carried out and anchors recovered prior to the start of the tow to Longtom-2 on 5 November 2004.

On 10 November 2004, the rig was positioned on location at Longtom-2. Fugro personnel departed the rig and returned to Perth on 11 November 2004.

Further details of Fugro's involvement in the rig move are presented in the Daily Operations Reports included in Appendix A.



GENERAL LOCATION DIAGRAM

FIGURE 1-1

2.0 RESULTS

2.1 Final Position

The final position of the *Ocean Patriot* drill stem was established by calculating the mean position from 60 minutes of DGPS data between 13:03 and 14:03 on 10 November 2004. During this period, calculated drill stem coordinates from the primary (and secondary) positioning systems were logged at five-second intervals in Starfix.Seis. Data from the primary positioning system was used for the final position calculation.

Differential corrections for the GPS were derived using a multi-reference solution with base station data from Melbourne, Bathurst and Cobar.

GDA94 geographical positions for the Longtom-2 location are shown in Table 2-1.

GDA94			
Position	Method	Latitude	Longitude
Drill Stem at Surface	DGPS	38° 06' 11.89" S	148° 19' 00.92" E
Proposed Location	-	38° 06' 11.77" S	148° 19' 00.84" E

TABLE 2-1 : GEOGRAPHICAL POSITIONS FOR LONGTOM-2

GDA94 grid coordinates (CM 147° E) for Longtom-2 location are shown in Table 2-2.

GDA94, MGA, CM 147°E			
Position	Method	Easting (m)	Northing (m)
Drill Stem at Surface	DGPS	615462.43	5781904.33
Proposed Location	-	615460.40	5781908.00

TABLE 2-2 : GRID COORDINATES FOR LONGTOM-2

This position is 4.2m at a bearing of 151.0° (Grid) from the design location.

A copy of the original rig position field report is contained in Appendix B.

2.2 Rig Heading

The heading of the *Ocean Patriot* was established by calculating the average heading during 60 minutes of corrected gyro compass readings logged between 13:03 and 14:03 on 10 November 2004. During this period gyro readings were logged at five second intervals in Starfix.Seis.

The *Ocean Patriot's* heading is shown in Table 2-3.

Description	Method	True	Grid
Rig Heading	Gyro	45.48°	46.30°
Proposed Heading	-	45.00°	46.81°

TABLE 2-3 : RIG HEADING

2.3 Anchor Positions

The approximate locations of the *Ocean Patriot's* anchors are shown in Table 2-4.

GDA94, MGA, CM 147°E				
Anchor	Easting (m)	Northing (m)	Azimuth	Deployed By
1	616316	5782119	74.5°	<i>Pacific Wrangler</i>
2	616474	5781628	105.4°	<i>Pacific Wrangler</i>
3	615620	5780897	170.3°	<i>Pacific Wrangler</i>
4	615083	5780742	198.1°	<i>Pacific Wrangler</i>
5	614252	5781630	255.7°	<i>Pacific Wrangler</i>
6	614443	5782213	286.3°	<i>Far Grip</i>
7	615248	5782848	345.4°	<i>Far Grip</i>
8	615704	5782804	14.7°	<i>Pacific Wrangler</i>

TABLE 2-4 : ANCHOR POSITIONS

The approximate seabed positions of the *Ocean Patriot's* anchors were calculated from the position of the AHV stern at the time of deployment, together with the bearing to the anchor and distance calculations obtained from chain paid out from the rig's chain counters and corrected for catenary.

3.0 SAFETY

All work undertaken by Fugro personnel during the project was performed within the guidelines of Fugro's Safety Policy, as defined in Fugro's Safety Manual (SMS-P01) and Offshore Survey Safety Practices (SMS-SP26).

Fugro personnel worked within all project safety guidelines and plans adopted by Apache and Diamond Offshore.

No safety incidents involving Fugro personnel were reported during the project.

Fugro personnel attended a vessel induction/pre-rig move meeting/muster drill whilst on board.

A Project Specific Safety Plan was developed for positioning services on board the *Ocean Patriot* for the Longtom-2 rig move.

4.0 SURVEY PROCEDURES

4.1 Mobilisation

Mobilisation commenced with departure of the survey team from Perth on 3 November 2004. On 4 November 2004, Fugro personnel then transferred to the *Ocean Patriot*, which was anchored at Martha-1 location. Following a rig induction, the survey equipment on board was powered up and systems and function tests completed.

4.2 General Survey Procedures

The tow was conducted with the *Far Grip* connected to the tow bridle. The *Pacific Wrangler* was connected to Anchor #5 approximately two nautical miles from the Longtom-2 location.

The *Far Grip* manoeuvred the rig onto the Longtom-2 location using an approach 'run-in' line of two nautical miles extended from Anchor #5 drop point through to the proposed well location. After Anchor #5 had been deployed by the *Pacific Wrangler*, the *Far Grip* continued towing and positioned the rig over the proposed Longtom-2 location.

After establishing that Anchor #5 was holding and the rig was maintaining its position over the Longtom-2 location, the *Pacific Wrangler* then ran Anchors #1, #4 and #8.

Once the four primary anchors were laid and the *Ocean Patriot* had applied tension to the laid anchor chains to a pre-determined tension of 100 tons as specified in the Rig Move Procedures, the *Far Grip* was disconnected from the tow bridle. The *Far Grip* was then released from towing duty and assisted the *Pacific Wrangler* in deploying the remaining anchors.

Once all anchors were laid and the *Ocean Patriot* had applied tension to the anchor chains, it was found that Anchors #2 and #7 were not holding the seabed. Anchors #2 and #7 were subsequently recovered and re-laid by the *Pacific Wrangler* and *Far Grip* respectively.

For the deployment of each anchor, the AHVs were provided with a waypoint and the corresponding runline via the Wombat telemetry system. The AHVs would then run out the anchor chain along this line to the desired drop point. The anchor chain was then stretched out and the anchor lowered to the seabed while the vessel stripped the chain chaser back to the rig.

The *Ocean Patriot* was positioned over the Longtom-2 location with all anchoring and pre-tensioning completed at 00:55 on 10 November 2004. Final position data was logged between 13:03 and 14:03 on 10 November 2004. A rig positioning field report was issued to the Apache Drilling Supervisor (refer Appendix B).

4.3 Demobilisation

All navigation systems on board the *Ocean Patriot* and AHVs were switched off during demobilisation and left on board the vessels for the anchor recovery at Longtom-2.

Fugro personnel departed the rig and returned to Perth on 11 November 2004.

5.0 EQUIPMENT CALIBRATIONS

5.1 DGPS Navigation Integrity Check

In order to check the correct operation of the navigation systems installed on board the *Ocean Patriot*, DGPS data was logged for 10 minutes on 4 November 2004, while the rig was located at Martha-1.

A comparison of the primary and secondary DGPS was also conducted. The results from both of these tests are provided in Table 5-1.

GDA94, MGA, CM 147°E		
	Easting (m)	Northing (m)
Established Well Coordinates	648109.28	5723638.23
Observed Coordinates	648107.57	5723637.20
Differences	1.71	1.03
Primary Navigation	648107.57	5723637.20
Secondary Navigation	648108.19	5723637.90
Differences	-0.62	-0.71

TABLE 5-1 : DGPS NAVIGATION INTEGRITY CHECK

The DGPS check described above demonstrated that the navigation systems on board the *Ocean Patriot* were set up and working correctly. Details of the DGPS check are provided in Appendix C.

A positioning checklist was completed for the Longtom-2 location to confirm the proposed rig position and to ensure that the correct geodetic datum, transformation and projection parameters were being used. Geodetic calculations were performed using both Starfix.Seis and the off-line geodetic calculation package Geodetic. This checklist (FSHY48-1) is shown in Appendix C.

5.2 Gyro Compass Calibration

The calibration of the survey gyro compass was carried out on 9 November 2004, whilst the rig was running anchors at Longtom-2 location.

A series of observations were made to the nearby rig, *Ocean Bounty*, the position of which was known from a previous rig move, from which the rig heading was calculated. The calculated values were then compared to the observed gyro compass values logged in Starfix.Seis and a mean C-O value of +0.26° was determined. This correction was applied in the navigation suite.

Details of the observations and gyro calibration reduction results are enclosed in Appendix C.

6.0 SURVEY PARAMETERS

6.1 Geodetic Parameters

Well coordinates are referenced to the Geocentric Datum of Australia 1994 (GDA94). The Global Positioning System (GPS) operates on the World Geodetic System 1984 (WGS84) datum. Fugro's Differential GPS Reference Stations are currently defined in the International Terrestrial Reference Frame 2000 (ITRF2000 Epoch 2004.75). Due to the continual refinement of the WGS84 Reference Frame, the WGS84 and ITRF2000 Reference Frames are essentially identical.

Datum	World Geodetic System 1984 (WGS84)
Reference Spheroid	World Geodetic System 1984
Semi-Major Axis	6378137.000m
Inverse flattening	298.257223563

Datum	Geocentric Datum of Australia 1994 (GDA94)
Reference Spheroid	Geodetic Reference System 1980 (GRS80)
Semi-Major Axis	6378137.000m
Inverse flattening	298.257222101

The following seven parameter datum transformation (Table 6-1) has been used in Fugro's software, to transform WGS84 (ITRF2000 Epoch 2004.50) coordinates to GDA94 coordinates. These parameters are calculated from the 14 parameter transformation defined by Geoscience Australia. Fugro follows the Coordinate Frame Rotation convention (as defined by UKOOA) for datum transformations.

Transformation Parameters from WGS84 (ITRF2000 Epoch 2004.50) to GDA94			
dX	-0.0266m	rX	+0.0134"
dY	-0.0303m	rY	+0.0124"
dZ	-0.0339m	rZ	+0.0140"
		dS	+0.0055ppm

TABLE 6-1 : TRANSFORMATION PARAMETERS

All grid coordinates are referenced to the Map Grid of Australia.

Grid	Map Grid of Australia (MGA)
Projection Type	Universal Transverse Mercator (UTM)
Latitude of Origin	0° North
Central Meridian	147° East (Zone 55)
Central Scale Factor	0.9996
False Easting	500000.000m
False Northing	10000000.000m
Units	Metres

6.2 Differential GPS Reference Stations

Fugro's Differential GPS Reference Stations are currently defined in the ITRF2000 (Epoch 2004.75) datum and are shown in Table 6-2.

ITRF2000 (EPOCH 2004.75)				
Description	Site ID	Latitude	Longitude	Height (m)
Melbourne	385	37° 48' 29.0098" S	144° 57' 48.0278" E	82.061
Bathurst	336	33° 25' 46.8838" S	149° 34' 01.9676" E	756.657
Cobar	316	31° 29' 57.4360" S	145° 50' 20.3430" E	270.161

TABLE 6-2 : MRDGPS REFERENCE STATIONS

6.3 Project Coordinates and Tolerances

Project target coordinates and surface tolerance for Longtom-2 location was supplied by Apache and are shown in Table 6-3 and provided in Appendix D.

GDA94, MGA, CM 147°E			
Location	Easting (m)	Northing (m)	Tolerance
Longtom-2	615460.40	5781908.00	5m radius

TABLE 6-3 : PROJECT DESIGN COORDINATES

7.0 EQUIPMENT AND PERSONNEL

7.1 Equipment Listing

Survey equipment used for the positioning of the *Ocean Patriot* was as follows:

Ocean Patriot

- 2 x Starfix Demodulators (1 Optus link, 1 APSat link)
- 2 x Trimble 4000 series GPS receivers
- 2 x Pentium IV computers, running Fugro's Starfix.Seis navigation software suite (1 spare)
- 4 x 15" monitors (2 Seis, 1 Helm, 1 spare)
- 1 x SG Brown gyro compass
- 1 x Tokimex gyro compass (spare)
- 2 x Uninterruptible power supply units (UPS)
- 2 x Teledesign radio modem (1 spare)
- 1 x Theodolite, tripod and dark glass
- 1 x Printer

AHVs (complete system per vessel, plus one complete set of spares)

- 1 x Pentium III computers, running Starfix.Seis (Remote)
- 1 x Monitor
- 1 x Starfix Spot DGPS receiver
- 1 x Fluxgate compass
- 1 x Teledesign radio modem
- 1 x Uninterruptible power supply unit (UPS)

All systems were provided complete with all necessary cabling, connectors, power supplies, antennae, accessories, manuals and consumables.

Refer to Figure 7-1 for an equipment flow diagram for the *Ocean Patriot* and Figure 7-2 for the equipment flow diagram for the AHVs.

7.2 Vessels

The vessels used for anchor handling and towing the *Ocean Patriot* were the *Pacific Wrangler* and the *Far Grip*. Refer to Figure 7-3, Figure 7-4 and Figure 7-5 for the vessel offset diagrams.

7.3 Personnel

Fugro personnel involved in the rig move and positioning operations were as follows:

J. Cohen	Party Chief / Surveyor	3 – 11 November 2004
J. Richards	Engineer	3 – 11 November 2004

Apache was represented during the rig move by:

H. Everheart	Apache Company Man	3 – 11 November 2004
--------------	--------------------	----------------------

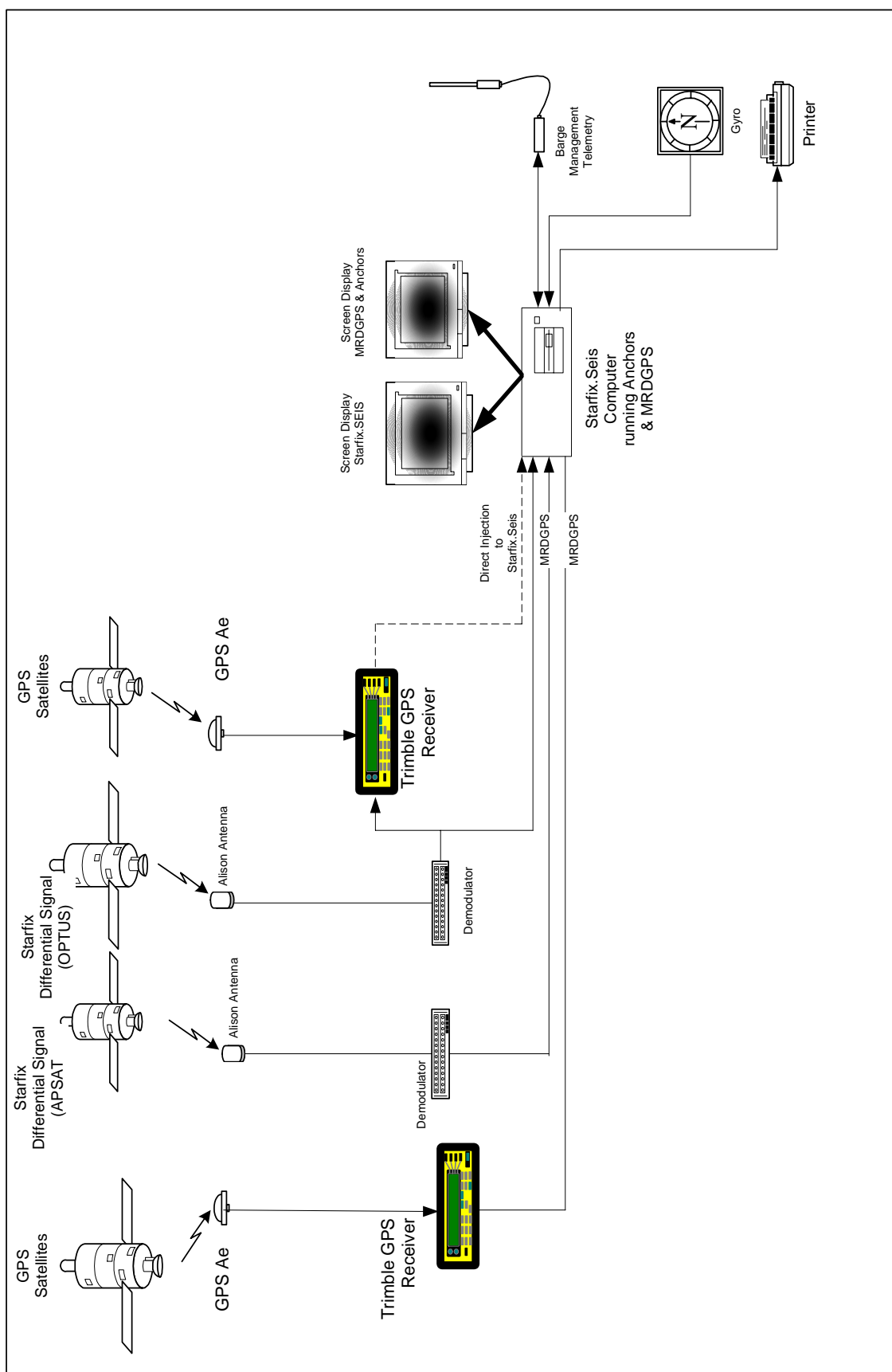


FIGURE 7-1 : EQUIPMENT FLOW DIAGRAM – MODU *OCEAN PATRIOT*

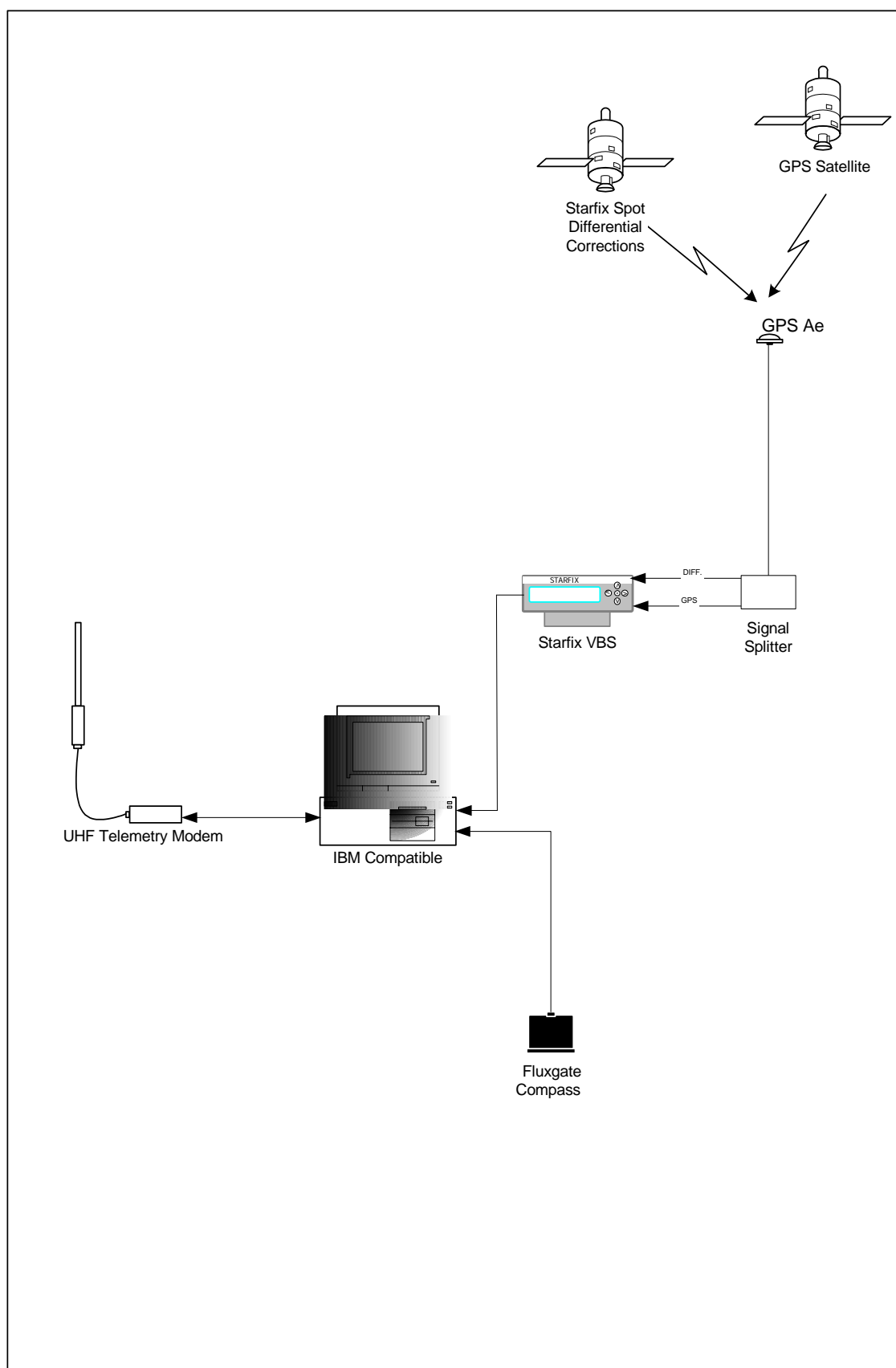
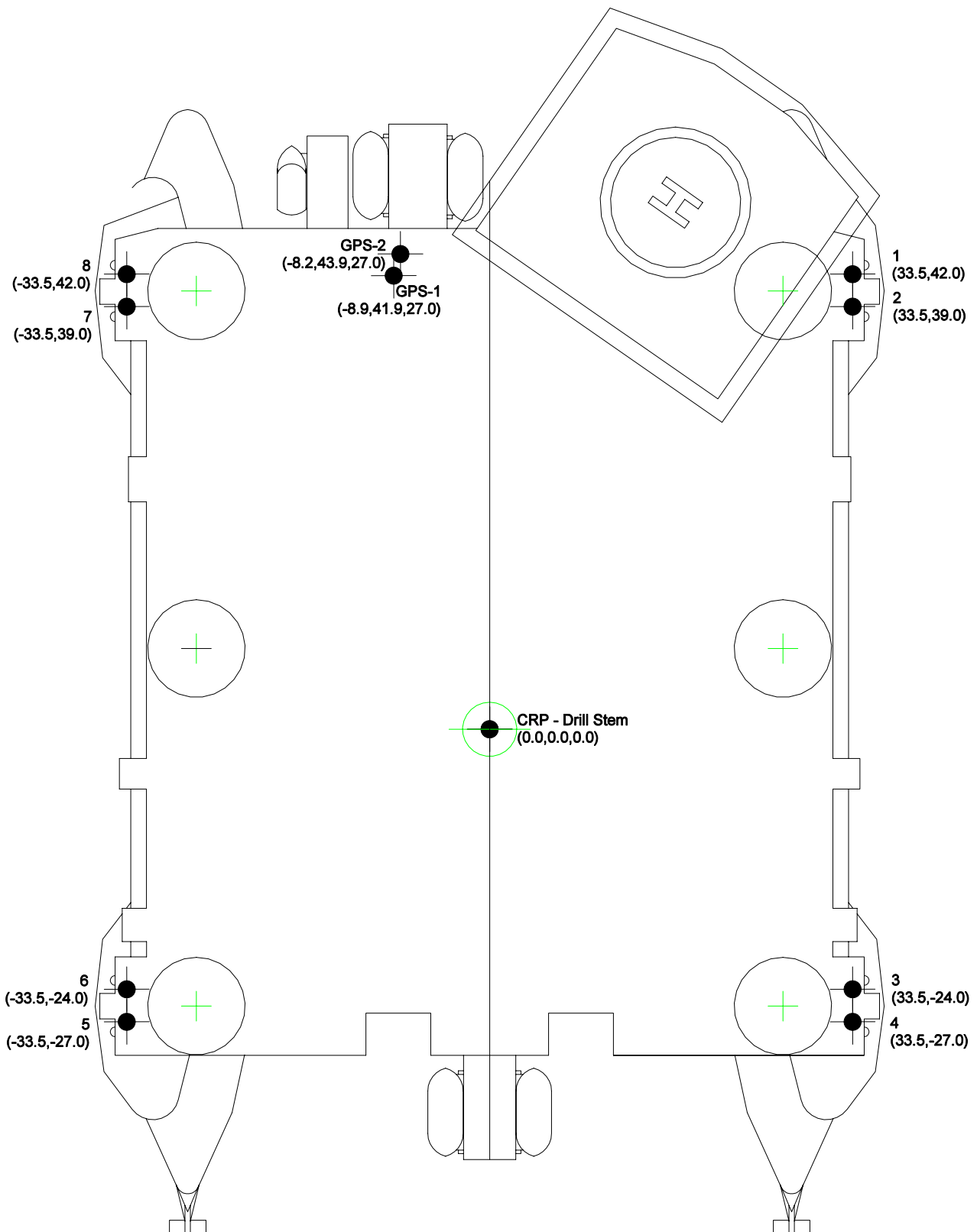


FIGURE 7-2 : EQUIPMENT FLOW DIAGRAM – AHVS



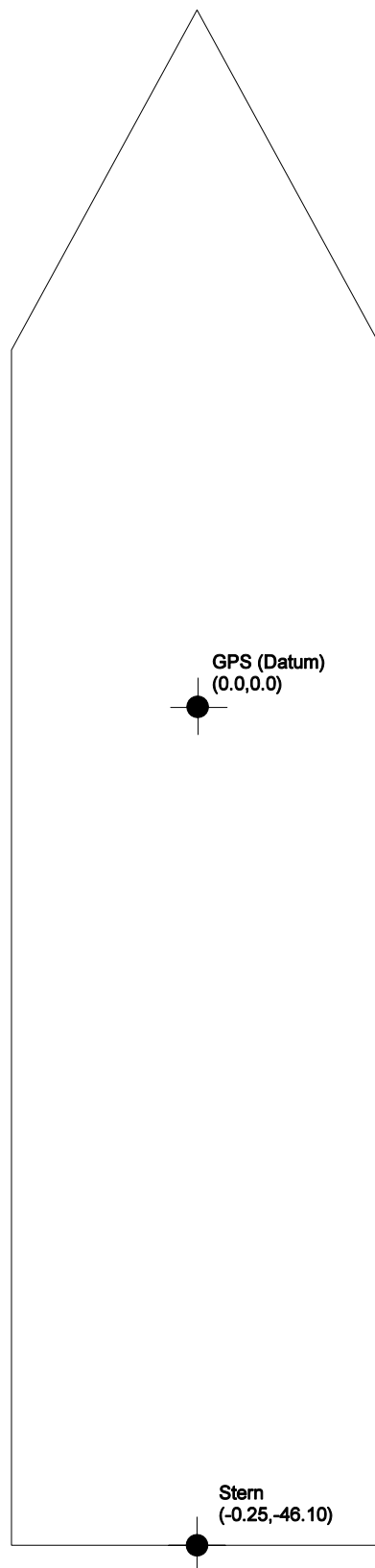
VESSEL OFFSET DIAGRAM – OCEAN PATRIOT

FIGURE 7-3



VESSEL OFFSET DIAGRAM – PACIFIC WRANGLER

FIGURE 7-4



VESSEL OFFSET DIAGRAM – FAR GRIP

FIGURE 7-5

8.0 CONCLUSIONS

On reviewing the rig move and positioning operations undertaken by Fugro the *Ocean Patriot* was successfully positioned at the Longtom-2 location.

9.0 DISTRIBUTION

Copies of this report have been distributed as follows:

Apache Energy Limited	: 1 paper copy
Attn: Mr Jo Meling	: 1 electronic copy

Fugro Survey Pty Ltd	: 1 paper copy
	: 1 electronic copy

APPENDIX A
DAILY OPERATIONS REPORTS

Approved by Dave Scott, Operations Manager – 08/05/01
Note – To ensure that this is the latest version check the Electronic Master File

dhrc

Approved by Dave Scott, Operations Manager – 08/05/01
Note – To ensure that this is the latest version check the Electronic Master File

Approved by Dave Scott, Operations Manager – 08/05/01
Note – To ensure that this is the latest version check the Electronic Master File

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Approved by Dave Scott, Operations Manager – 08/05/01
Note – To ensure that this is the latest version check the Electronic Master File

Fugro Marine Division
FSHY01-1
DAILY OPERATIONS REPORT



CLIENT: APACHE ENERGY LTD		LOCATION: BASS STRAIT		DATE: 09-NOV-2004	
PROJECT: RIG MOVE TO LONGTOM-2		VESSEL: OCEAN PATRIOT		JOB NO: P0164	
FROM	TO	SUMMARY OF OPERATIONS			
0515		Send Far Grip 2NM run-in line to Anchor 5			
0630		Commence run-in to location			
0648		#5 PCC passed to Wrangler			
0906		#5 on bottom (614230, 5781625)			
1019		#4 PCC passed to Wrangler			
1135		#4 on bottom (615065, 5780697)			
1225		#8 PCC passed to Wrangler			
1247		#8 on bottom (615715, 5782850)			
1524		#1 PCC passed to Wrangler			
1601		#1 on bottom (616364, 5782132)			
1635		Far Grip disconnected from Tow Bridle			
1646		#3 PCC passed to Wrangler			
1702		#7 PCC to Far Grip			
1732		#3 on bottom (615622, 5780868)			
1803		#7 on bottom (615163, 5782842)			
1857		#6 PCC passed to Far Grip			
RIG EQUIPMENT		NO.	AHT EQUIPMENT	NO.	PERSONNEL
Starfix.Seis		1	Starfix.Seis (remote)	2	J.Cohen
Starfix.Spot DGPS		2	Fluxgate compass	2	J.Richards
Gyro Compass		1	Radio Modem	2	
Radio Modem		1	UPS	2	
UPS		1			
Theodolite		1			
Printer		1			
VEHICLES:					
CONSUMABLES:					
ACCOMMODATION:					
AUTHORISED CONTRACT CHANGES / COMMENTS:					
Party Chief Signature:			Client Representative Signature:		D O R Number
J. Cohen			[Signature]		P0164-07

Representative

Approved by Dave Scott, Operations Manager – 08/05/01
Note – To ensure that this is the latest version check the Electronic Master File

[illegible]

APPENDIX B
FINAL POSITIONING DATA

RIG POSITION FIELD REPORT

Longtom-2



Client : Apache Energy Ltd.

Job Number : P0164

Rig : MODU Ocean Patriot

Date: 10-Nov-04

Project : Rig move to Longtom-2 location, Permit Vic/P-54, Victoria

Attention : H.Everheart Apache Drilling Supervisor

The surface location of the drill stem on the Ocean Patriot was derived from 60 minutes of observations of the Primary Differential GPS data, between 1303 hrs and 1403 hrs on completion of all anchor pre-tensioning and ballasting down operations. The results of the observations are as follows:

Geographical Coordinates			Grid Coordinates	
Latitude	38 ° 06 ' 11.89 " South		Easting	615462.43
Longitude	148 ° 19 ' 00.92 " East		Northing	5781904.33

The drill stem position is 4.2 m at a bearing of 151.0 ° Grid from the design location.

The Client supplied design location for Longtom-2

Geographical Coordinates			Grid Coordinates	
Latitude	38 ° 6 ' 11.77 " South		Easting	615460.40
Longitude	148 ° 19 ' 00.84 " East		Northing	5781908.00

The Ocean Patriot's rig heading, derived from the mean of 60 minutes observation of the gyro heading is:

45.48 ° True 46.30 ° Grid

All coordinates in this field report are quoted in the following coordinate system:

Datum : GDA94 (ITRF2000) Projection : MGA
Spheroid : GRS80 Zone (Central Meridian) 55 147 ° East

The approximate positions of the rig anchors corrected for catenary are as follows:

Anchor	Easting	Northing	Azimuth(°)
1	616316	5782119	74.5 °
2	616474	5781628	105.4 °
3	615620	5780897	170.3 °
4	615083	5780742	198.1 °
5	614252	5781630	255.7 °
6	614443	5782213	286.3 °
7	615248	5782848	345.4 °
8	615704	5782804	14.7 °

Party Chief/Surveyor:

J. Cohen
J.Cohen

Client Representative:

[Signature]

APPENDIX C
GEODESY, DGPS AND GYRO CHECKS

RIG POSITIONING

GEODESY AND COORDINATE CHECK LIST



Client : Apache Energy Ltd. Job Number : P0164
Rig : MODU Ocean Patriot Date: 10/November/2004
Project : Rig move to Longtom-2 location, Permit Vic/P-54, Victoria

1. CONFIRMATION OF PROPOSED RIG COORDINATES and HEADING.

Well Name Longtom-2 Ensure agreement with Client onsite prior to any positioning
Well Location – Latitude 38 6 11.77 S Operations. OK (?) ☒ N.
Well Location – Longitude 148 19 0.84 E
Rig Heading (True) 45 ° T

2. GEODETIC PARAMETERS (WGS84 to LOCAL DATUM)

DATUM: Dx -0.0266 Ensure agreement with Client onsite prior to positioning Operations.
(WGS84 to Dy -0.0303 OK (?) ☒ N.
Local Datum) Dz -0.0339
Rx 0.013416
Projection: Ry 0.012379
Rz 0.013999
Ds 0.00552 ppm
UTM Zone 55
Central Meridian 147 ° East

3. CHECK TRANSFORMATION OF SITE COORDINATES.

Well Location – Easting 615460.4 Ensure agreement with PCNav / Starfix.Seis. OK (?) ☒ N
Well Location – Northing 5781908.0 If not, CHECK and RECALC.
Convergence at Location 0.81
Rig Heading (° Grid) 45.81

4. MEAS. ANT. OFFSETS from ANT. TO D/STEM (Rel. to Datum) NAV #1 SYSTEM NAV #2 SYSTEM

(Measure two (2) separate directions, verifying closure.)

	NAV #1 SYSTEM	NAV #2 SYSTEM
Delta X(m)	-8.9	-8.2
Delta Y(m)	41.9	43.9
Angle between Rig Centreline and Antenna(s) (Grid)	348.008	349.4
Distance between Drill Stem and Antenna(s)	42.83	44.66

5. MANUAL COORDINATE VERIFICATION FOR ANTENNAS NAV #1 SYSTEM NAV #2 SYSTEM

	NAV #1 SYSTEM	NAV #2 SYSTEM
Proposed Drill Stem Position		
Easting	615460.4	615460.4
Northing	5781908.0	5781908.0
Drill Stem to Antenna		
Proposed Hdg (G)	45.81	45.81
Brg (G) = Prop. Hdg. + Angle btwn centreline and antenna	33.82	35.23
Distance (m)	42.83	44.66
Calculated Antenna		
Coordinates (Local)		
Easting	615484.24	615486.16
Northing	5781943.59	5781944.48
Latitude	38 6 10.6061 S	38 6 10.5763 S
Longitude	148 19 1.7969 E	148 19 1.8753 E

	NAV #1 SYSTEM	NAV #2 SYSTEM
Calculated Proposed Antenna Coords (WGS 84)		
Latitude	38 6 10.5878 S	38 6 10.5580 S
Longitude	148 19 1.8055 E	148 19 1.8838 E

Surveyor : J. Cohen Client Rep: _____ Date: 4/11/04
J. Cohen

6. POST RIG MOVE – OBSERVED ANTENNA COORD

	NAV.SYS #1	NAV.SYS #2
Observed WGS84 Antenna Positions		
Latitude	38° 06' 10.65 "S	38° 06' 10.68 "S
Longitude	148° 19' 01.90 "E	148° 19' 01.99 "E

Ensure agreement between calculated and observed coordinates. If NO, check calcs., antenna offsets. OK (?) ☒ N

Surveyor : J. Cohen Client Rep: _____ Date: 10/11/04
J. Cohen

RIG POSITIONING

DGPS CHECK LIST (PRE RIG MOVE)



Client : Apache Energy Ltd.

Job Number : P0164

Rig : MODU Ocean Patriot

Date: 04-Nov-04

Project : Rig move to Longtom-2 location, Permit Vic/P-54, Victoria

1) ESTABLISHED WELL COORDINATES

The surface location of the drill stem on the Ocean Patriot was observed for 10 minutes between 19:20 hrs and 19:30 hours on 4 November 2004 to verify the accuracy of the DGPS system against the established well coordinates.

	Easting	Northing
Established Well Coordinates	648109.28	5723638.23
Observed Coordinates	648107.57	5723637.20
Differences	1.7	1.0

Ensure agreement OK(?) ☒ Y ☐ N

If No, Check and ensure that rig has not moved off location.

2) PRIMARY/SECONDARY NAV SYSTEMS

From the data logged above, compare the observed coordinates for both Primary and Secondary navigation systems.

	Easting	Northing
Primary Navigation	648107.57	5723637.20
Secondary Navigation	648108.19	5723637.90
Differences	-0.62	-0.71

Ensure agreement OK(?) ☒ Y ☐ N

If No, Check antenna offsets and gyro calibration.

Party Chief/Surveyor:

J. Cohen
J. Cohen

Client Representative :

GYRO COMPASS CALIBRATION - CALCULATION SUMMARY



Client : Apache Energy Ltd.

Job Number :

P0164

Rig : MODU Ocean Patriot

Date:

9-Nov-04

Project : Rig move to Longtom-2 location, Permit Vic/P-54, Victoria

Station Details GDA 94, MGA Zone 55 (CM 147)

Instrument Station: Ocean Patriot Helideck

Easting (m): 615462

Northing (m): 5781904

Backsight Station: Ocean Bounty Drillstem

Easting (m): 626788

Northing (m): 5792724

Calculated Grid Bearing to RO (Dec. Deg) : 225.5039

Obs. No.	Date	UTC	Ocean Patriot to Ocean Bounty Bearing	Observed Direction to Ocean Bounty				Calc'd Vessel Hdg	Obs'd Vessel Hdg	(C-O) Degrees
			Dec. Deg	Deg	Min	Sec	Dec. Deg			
1	9-Nov-04	13:31:30	225.5039	173	36	2	173.601	51.90	51.50	0.40
2	9-Nov-04	13:33:28	225.5039	171	58	12	171.970	53.53	53.50	0.03
3	9-Nov-04	13:34:11	225.5039	171	48	57	171.816	53.69	53.50	0.19
4	9-Nov-04	13:35:02	225.5039	171	23	11	171.386	54.12	53.83	0.29
5	9-Nov-04	13:36:32	225.5039	171	11	35	171.193	54.31	54.00	0.31
6	9-Nov-04	13:37:23	225.5039	171	16	20	171.272	54.23	53.83	0.40
7	9-Nov-04	13:38:12	225.5039	171	30	6	171.502	54.00	53.67	0.33
8	9-Nov-04	12:39:10	225.5039	171	10	0	171.167	54.34	54.17	0.17
9	9-Nov-04	13:41:13	225.5039	172	12	0	172.200	53.30	53.00	0.30
10	9-Nov-04	13:41:46	225.5039	172	19	56	172.332	53.17	53.00	0.17

Required Starfix.Seis Gyro Correction =		Mean	0.26
		Std. Deviation	0.12
		Maximum	0.40
		Minimum	0.03
		Range	0.37
NOTE: Gyro correction of +0.00° Entered During calibration			
Hence new correction		0.26	

Surveyor : J. Cohen
J. Cohen

Client Rep : _____

APPENDIX D
PROJECT COORDINATE LISTING

APACHE ENERGY LTD	VIC/P54 : Longtom-2	
TARGET INFORMATION		



WELL LOCATION FORM

The original of this form must be signed and dated by the appropriate staff and accompanied by a copy of the location plot.

WARNING: By signing this form you are indicating that you have read and agree with the information that it contains. If there is any doubt please consult relevant personnel, before you sign off.

Well Name: LONGTOM-2
 Permit : VIC/P-54
 Seismic Survey: Northern Fields 3D
 Line No. (Or Inline): 3711 S.P. (or Crossline): 8925
 Location approved (at primary objective)
 Project Geologist: *[Signature]*
 Project Geophysicist: *[Signature]*
 Exploration Manager: *[Signature]*

Reference To:
 Spheroid: GRS80 Projection: MGA Zone 55 Datum: GDA94
Co-ordinates:
 Surface Location:
 Lats: 38 06 11.77 S Longs: 148 19 00.84 E
 UTM: 5781908.0 mN UTM: 615460.4 mE
 MGA Projection: Zone 55S, CM - 147 E
 Primary Objective Intersection
 Lats: 38 06 11.77 S Inline: 3711 Xline: 8925
 UTM: 5781908.0 mN Longs: 148 19 00.84 E
 UTM: 615460.4 mE
 MGA Projection: Zone 55S, CM - 147 E
 Total Depth (TD): 2525 mMDRT 2500 mTVDAHD
 Lats: 38 06 11.77 S Longs: 148 19 00.84 E
 UTM: 5781908.0 mN UTM: 615460.4 mE

Co-ordinates originated by:
 UKOOA co-ordinates referenced to (CDP? Source? Antenna? Bin Centre?):
 Petrosys co-ordinates consistent with UKOOA? (Y/N):
 Landmark co-ordinates consistent with UKOOA? (Y/N):
 Shot to trace relationship consistent with UKOOA? [N/A for 3D] (Y/N):
 Conversion flip-flop checked by:
 Co-ordinates plotted Lats & Longs: (UTM):
 Plot checked by draftsman:
 Plot checked by Project Geologist: *[Signature]*
 Plot checked by Project Geophysicist: *[Signature]*

AP to D co-ordinates checked by -
 Project Geologist:
 Exploration Manager:



Apache Northwest Ltd
Cuttings Descriptions Report

Well Name : Longtom-2			Print Date 23/11/2004	
Wellsite Geologist(s) : C Menhennitt J Sonego				
Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
Main				
1010.0 - 1020.0	80.0	CEMENT:	97	2
	20.0	CALCISILTITE: medium grey to dark greenish grey, light grey in part, trace to 5% silt, minor to common calcite cement, grades in part to silty marl, trace to 5% micropyr ite , trace to 5% moderate green glauconite glauconite, trace fossil fragments, soft to firm, amorphous to locally sub blocky.		
1020.0 - 1030.0	50.0	CALCISILTITE: as above.		
	50.0	CEMENT:		
1030.0 - 1040.0	70.0	CALCISILTITE: medium grey to light greenish grey, light grey in part, 10 to 15% silt, minor to common calcite cement, grades in part to silty marl, 5 to 10% micropyr ite , rare nodular pyrite, trace to 5% moderate green glauconite glauconite, trace fossil fragments, soft to firm, amorphous to sub blocky.		
	20.0	CEMENT:		
	10.0	SILTY MARL: very light grey to light grey, common silt, rare very fine quartz grains, common calcite cement, trace micropyr ite , soft to firm, amorphous to sub blocky.		
1040.0 - 1050.0	70.0	CALCISILTITE: as above		
	20.0	SILTY MARL: as above.		
	10.0	CEMENT:		
1050.0 - 1060.0	60.0	CALCISILTITE: as above	95	4
	35.0	SILTY MARL: as above		
	5.0	CEMENT:		
1060.0 - 1070.0	52.0	CALCISILTITE: as above	96	4
	33.0	CALCARENITE: very light grey, 5 to 10% very fine to fine grained quartz, trace very fine greenish grey glauconite, trace micropyr ite , rare fossil fragments (forams), 10 to 20% argillaceous, sub rounded, soft to moderately firm, sub blocky.		
	15.0	SILTY MARL: as above		
1070.0 - 1080.0	55.0	CALCISILTITE: as above		
	30.0	CALCARENITE: as above		
	15.0	SILTY MARL: as above		
1080.0 - 1090.0	55.0	CALCISILTITE: as above, common very fine to fine quartz.	95	6
	30.0	CALCARENITE: as above		
	15.0	SILTY MARL: as above		
1090.0 - 1100.0	65.0	CALCISILTITE: as above, trace pyritised fossil fragments.		
	30.0	CALCARENITE: light grey to light olive grey, common silt, rare very fine quartz grains, common calcite cement, trace micropyr ite , soft to firm, amorphous to sub blocky.		
	5.0	SILTY MARL: as above		
1100.0 - 1110.0	60.0	CALCISILTITE: medium grey to light greenish grey, light grey in part, 10 to 15% silt, minor to common calcite cement, grades in part to silty marl, 5 to 10% micropyr ite , rare nodular pyrite, trace to 5% moderate green glauconite, minor		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
1110.0 - 1120.0		fossils and fossil fragments, minor argillaceous matix, trace crystalline calcite, soft to firm, amorphous to sub blocky.	96	3
	30.0	CALCARENITE: white very light grey, trace very fine to fine grained quartz, trace very fine greenish grey glauconite, trace micropyrte, rare fossil fragments (forams), 10 to 20% argillaceous, sub rounded, soft to moderately firm, sub blocky.		
	10.0	SILTY MARL: very light grey to light grey, common silt, rare very fine quartz grains, common calcite cement, trace micropyrte, soft to firm, amorphous to sub blocky.		
	65.0	CALCISILTITE: as above		
	30.0	CALCARENITE: as above		
1120.0 - 1130.0	5.0	SILTY MARL: as above	94	2
	65.0	CALCISILTITE:		
	30.0	CALCARENITE:		
1130.0 - 1140.0	5.0	SILTY MARL:		
	70.0	CALCISILTITE: Generally as above, becoming increasingly argillaceous.		
	20.0	CALCARENITE: as above		
1140.0 - 1150.0	10.0	SILTY MARL: as above	91	4
	70.0	CALCISILTITE: as above		
	20.0	CALCARENITE: as above		
1150.0 - 1160.0	10.0	SILTY MARL: as above		
	70.0	ARGILLACEOUS CALCISILTITE: medium grey to light greenish grey, light grey in part, 10 to 15% silt, minor to common calcite cement, grades in part to silty marl, minor to common micropyrte, trace nodular pyrite, trace moderate green glauconite, minor fossils and fossil fragments, abundant argillaceous matix, trace crystalline calcite, soft to firm, amorphous to sub blocky.		
	20.0	CALCARENITE: white very light grey, trace very fine to fine grained quartz, trace very fine greenish grey glauconite, trace micropyrte, rare fossil fragments (forams), 10% argillaceous matrix, sub rounded, soft to moderately firm, sub blocky.	98	7
1160.0 - 1170.0	10.0	SILTY MARL: very light grey to light grey, common silt, rare very fine quartz grains, common calcite cement, trace micropyrte, soft to firm, amorphous to sub blocky.		
	70.0	ARGILLACEOUS CALCISILTITE: as above		
	25.0	CALCARENITE: as above		
1170.0 - 1180.0	5.0	SILTY MARL: as above		
	75.0	ARGILLACEOUS CALCISILTITE: as above	94	3
	20.0	CALCARENITE: as above		
1180.0 - 1190.0	5.0	SILTY MARL: as above		
	80.0	ARGILLACEOUS CALCISILTITE: as above		
	15.0	CALCARENITE: as above		
1190.0 - 1200.0	5.0	SILTY MARL: as above		
	90.0	ARGILLACEOUS CALCISILTITE: medium grey to light greenish grey, light grey in part, up to 10% silt, minor to common calcite cement, grades in part to silty marl, minor micropyrte, nil to trace trace nodular pyrite, trace moderate blue green glauconite, trace fossils and fossil fragments, abundant argillaceous matix, trace crystalline calcite, soft to firm, amorphous to sub blocky.	94	3
	9.0	CALCARENITE: generally as above, white very light grey, trace very fine to fine grained quartz, trace very fine greenish grey glauconite, trace micropyrte, rare fossil fragments (forams), 5-10% argillaceous matrix, sub rounded, soft to		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
1200.0 - 1210.0	1.0	moderately firm, amorphous to sub blocky. SILTY MARL: as above	92	3
	85.0	ARGILLACEOUS CALCISILTITE: as above		
	15.0	CALCARENITE: as above		
1210.0 - 1220.0	80.0	ARGILLACEOUS CALCISILTITE: as above	92	3
	20.0	CALCARENITE: as above		
1220.0 - 1230.0	70.0	ARGILLACEOUS CALCISILTITE: generally as above; medium grey to light greenish grey, light grey in part, up to 10% silt, minor to common calcite cement, grades in part to silty marl, minor micropyrilite, nil to trace trace nodular pyrite, trace moderate blue green glauconite, trace fossils and fossil fragments, abundant argillaceous matix, trace crystalline calcite, soft to firm, amorphous to sub blocky.	96	6
	30.0	CALCARENITE: white very light grey, very fine to medium grained, trace very fine to fine grained quartz, nil to trace trace very fine greenish grey glauconite, trace micropyrilite, rare fossil fragments (forams), up to 10% argillaceous matrix, sub rounded, soft to moderately firm, sub blocky.		
1230.0 - 1240.0	70.0	ARGILLACEOUS CALCISILTITE: as above	96	6
	30.0	CALCARENITE: as above		
1240.0 - 1250.0	70.0	ARGILLACEOUS CALCISILTITE: generally as above, trace fine to medium grained quartz grains.	84	2
	30.0	CALCARENITE: as above		
1250.0 - 1260.0	70.0	ARGILLACEOUS CALCISILTITE: as above	84	2
	30.0	CALCARENITE: as above		
1260.0 - 1270.0	60.0	ARGILLACEOUS CALCISILTITE: as above	60	3
	40.0	CALCARENITE: as above		
1270.0 - 1280.0	70.0	ARGILLACEOUS CALCISILTITE: as above	60	3
	30.0	CALCARENITE: white very light grey, very fine to medium grained, trace very fine to fine grained quartz, nil to trace trace very fine greenish grey glauconite, common micropyrilite and nodular pyrite, rare fossil fragments (forams), up to 10% argillaceous matrix in part, sub rounded, soft to moderately firm, sub blocky.		
1280.0 - 1290.0	60.0	ARGILLACEOUS CALCISILTITE: as above	23	1
	40.0	CALCARENITE: generally as above, decreasing pyrite.		
1290.0 - 1300.0	60.0	SANDSTONE: Quartzose, predominantly white to light grey, light brownish grey in part, dominantly returned loose with minor hard cemented aggregates, very fine to very coarse grained, predominantly fine to medium, angular to sub rounded, occasionally well rounded, minor bit fractured grains, poorly sorted, minor strong silica cement, trace pyrite cement, trace light brownish grey argillaceous matrix, trace moderate blue green glauconite, nil to trace nodular pyrite, poor visual porosity in aggregates. No shows.	23	1
	30.0	ARGILLACEOUS CALCISILTITE: as above.		
	10.0	CALCARENITE: as above.		
1300.0 - 1310.0	70.0	SANDSTONE: generally as above, becoming dominantly fine to medium grained, returned loose.	19	1
	30.0	COAL: dusky brown to brownish black, minor moderate brown, earthy to subvitreous lustre, blocky to sub conchoidal fracture, slightly argillaceous in part, lignitic.		
1310.0 - 1320.0	100.0	SANDSTONE: Quartzose, predominantly white to light grey, light brownish grey in part, dominantly returned loose with trace hard cemented aggregates, very fine to very coarse grained, predominantly fine to medium, trace coarse and very coarse, angular to sub rounded, minor well rounded, trace bit fractured grains, moderately	19	1

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
1320.0 - 1330.0	90.0	well sorted, minor strong silica cement, trace light brownish grey argillaceous matrix, poor to fair inferred porosity. No shows.		
	10.0	SANDSTONE: Quartzose, predominantly white to light grey, light brownish grey in part, dominantly returned loose with nil to trace hard cemented aggregates, very fine to very coarse grained, predominantly coarse to very coarse, angular to sub rounded, commonly rounded to well rounded in coarser grains, minor bit fractured grains, poorly sorted, bimodal, trace silica cement, trace pyrite cemented aggregates, trace light brownish grey argillaceous matrix, fair inferred porosity. No shows.		
1330.0 - 1340.0	60.0	SILTSTONE: greyish brown to dusky brown, moderately firm, sub blocky, carbonaceous, abundant argillaceous matrix, weakly calcareous.	18	3
	30.0	SANDSTONE: as above		
	10.0	COAL: generally as above; dusky brown to brownish black, minor moderate brown, earthy to subvitreous lustre, blocky to sub conchoidal fracture, slightly argillaceous in part, lignitic.		
1340.0 - 1350.0	10.0	SILTSTONE: as above		
	90.0	SANDSTONE: as above		
	5.0	COAL: as above		
1350.0 - 1360.0	5.0	SILTSTONE: as above		
		Very poor quality sample		
	80.0	SANDSTONE: as above		
1360.0 - 1370.0	15.0	COAL:	14	2
	5.0	SILTSTONE: as above.		
		Very poor quality sample.		
1370.0 - 1380.0	60.0	SANDSTONE: generally as above, trace nodular pyrite.		
	30.0	COAL: as above.		
	10.0	SILTY CLAYSTONE: brownish grey, soft to moderately firm, sub blocky, commonly carbonaceous, abundant silty matrix, trace micropyrte, trace micromica, weakly calcareous.		
1380.0 - 1390.0	90.0	SANDSTONE: Quartzose, predominantly white to light grey, light brownish grey in part, dominantly returned loose with trace hard cemented aggregates, very fine to very coarse grained, predominantly fine to medium, trace coarse and very coarse, angular to sub rounded, minor well rounded, trace bit fractured grains, moderately well sorted, minor strong silica cement, trace light brownish grey argillaceous matrix, poor to fair inferred porosity. No shows.	10	1
	10.0	SILTSTONE: medium grey to brownish grey, soft to moderately firm, sub blocky, commonly carbonaceous, abundant silty matrix, trace micropyrte, trace micromica, weakly calcareous.		
	50.0	SANDSTONE: Quartzose, predominantly white to light grey, light brownish grey in part, dominantly returned loose with nil trace hard cemented finer grained aggregates, very fine to very coarse grained, predominantly fine to medium, trace coarse and very coarse, angular to sub rounded, minor well rounded, trace bit fractured grains, moderately well sorted, minor strong silica cement, trace intergranular pyrite cement, trace light brownish grey argillaceous matrix, poor to fair inferred porosity. No shows.		
	45.0	SILTY CLAYSTONE: medium grey to brownish grey, soft to moderately firm, sub blocky, common carbonaceous specks and fragments, abundant silty matrix, trace micropyrte, trace micromica, weakly calcareous.		
	5.0	COAL: dusky brown to brownish black, minor moderate brown, earthy to subvitreous lustre, blocky to sub conchoidal fracture, slightly argillaceous in part, lignitic.		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
1390.0 - 1400.0	50.0	SANDSTONE: Quartzose, predominantly white to light grey, light brownish grey in part, dominantly returned loose with nil trace hard cemented finer grained aggregates, very fine to very coarse grained, predominantly medium to coarse, minor very coarse and fine, angular to sub rounded, minor well rounded, trace bit fractured grains, moderately sorted, trace strong silica cement, trace intergranular pyrite cement, trace light brownish grey argillaceous matrix, trace nodular pyrite, poor to fair inferred porosity. No shows.	12	4
	50.0	SILTY CLAYSTONE: as above.		
1400.0 - 1410.0	50.0	SANDSTONE: as above		
	40.0	SILTY CLAYSTONE: as above		
	10.0	COAL: as above.		
1410.0 - 1420.0	60.0	SANDSTONE: as above	9	3
	35.0	SILTY CLAYSTONE: as above		
	5.0	COAL: as above		
1420.0 - 1430.0	80.0	SANDSTONE: as above		
	15.0	SILTY CLAYSTONE: as above		
	5.0	COAL: as above		
1430.0 - 1440.0	60.0	SANDSTONE: Quartzose, predominantly white to light grey, light brownish grey in part, dominantly returned loose with nil trace hard cemented finer grained aggregates, very fine to very coarse grained, predominantly medium, minor very coarse and fine, angular to sub rounded, minor well rounded, trace bit fractured grains, moderately well sorted, trace strong silica cement, trace intergranular pyrite cement, trace light brownish grey argillaceous matrix, trace nodular pyrite, poor to fair inferred porosity. No shows.	6	2
	38.0	SILTY CLAYSTONE: as above		
	2.0	COAL: as above		
1440.0 - 1450.0	60.0	SANDSTONE: generally as above, minor nodular pyrite.		
	38.0	SILTY CLAYSTONE: as above.		
	2.0	COAL: as above		
1450.0 - 1460.0	60.0	SANDSTONE: Quartzose, predominantly white to light grey, light brownish grey in part, dominantly returned loose with nil trace hard cemented finer grained aggregates, very fine to very coarse grained, predominantly medium to coarse, minor very coarse and fine, angular to sub rounded, minor well rounded, trace bit fractured grains, moderately well sorted, trace strong silica cement, trace intergranular pyrite cement, trace light brownish grey argillaceous matrix, trace nodular pyrite, fair to good inferred porosity. No shows.	7	0
	40.0	SILTY CLAYSTONE: generally as above; medium grey to brownish grey, soft to moderately firm, sub blocky, common carbonaceous specks and fragments, abundant silty matrix, trace micropyrte, trace micromica, weakly calcareous.		
1460.0 - 1470.0	60.0	SANDSTONE: as above		
	30.0	COAL: commonly dusky brown to brownish black, minor moderate brown, earthy to subvitreous lustre, blocky to sub conchoidal fracture, commonly argillaceous, lignitic.		
	10.0	SILTY CLAYSTONE: as above		
1470.0 - 1480.0	50.0	SANDSTONE: as above	6	0
	40.0	COAL: commonly dusky brown to brownish black, minor moderate brown, earthy to subvitreous lustre, blocky to sub fissile, minor sub conchoidal fracture, commonly argillaceous, lignitic.		
	10.0	SILTY CLAYSTONE: as above		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
1480.0 - 1490.0	70.0	SANDSTONE: as above		
	20.0	SILTY CLAYSTONE: generally as above; medium grey to brownish grey, soft to moderately firm, sub blocky, common carbonaceous specks and fragments, trace coaly laminae, abundant silty matrix, trace micropyrilite, trace micromica, weakly calcareous.		
	10.0	COAL: as above		
1490.0 - 1500.0	80.0	SANDSTONE: Quartzose, predominantly white to light grey, light brownish grey in part, returned loose, very fine to granule grained, predominantly coarse to very coarse, minor medium and fine, angular to sub rounded, minor well rounded, trace bit fractured grains, moderately well sorted, trace silica cement, trace light brownish grey argillaceous matrix, trace nodular pyrite, fair to good inferred porosity. No shows.	5	1
	19.0	SILTY CLAYSTONE: as above		
	1.0	COAL: as above		
1500.0 - 1510.0	90.0	SANDSTONE: as above		
	10.0	SILTY CLAYSTONE: as above		
1510.0 - 1520.0	50.0	SANDSTONE: as above	2	0
	40.0	COAL: dusky brown to brownish black, minor moderate brown, earthy to subvitreous lustre, blocky to sub conchoidal fracture, slightly argillaceous in part, lignitic.		
	10.0	SILTY CLAYSTONE: as above		
1520.0 - 1530.0	60.0	SANDSTONE: Quartzose, predominantly white to light grey, light brownish grey in part, returned loose, very fine to granule grained, predominantly medium to very coarse, minor medium and fine, angular to sub rounded, minor well rounded, trace bit fractured grains, moderately well sorted, trace silica cement, trace light brownish grey argillaceous matrix, trace nodular pyrite, fair to good inferred porosity. No shows.		
	30.0	SILTY CLAYSTONE: as above		
	10.0	COAL: as above		
1530.0 - 1540.0	80.0	COAL: generally as above; dusky brown to brownish black, minor moderate brown, earthy to subvitreous lustre, blocky to sub conchoidal fracture, sub fissile in part, slightly argillaceous in part, lignitic.	2	1
	10.0	SANDSTONE: as above		
	10.0	SILTY CLAYSTONE: as above		
1540.0 - 1550.0	65.0	COAL: as above		
	25.0	SILTY CLAYSTONE: medium grey to brownish grey, soft to moderately firm, sub blocky, common carbonaceous specks and fragments, abundant silty matrix, trace micropyrilite, trace micromica, trace coaly fragments, weakly calcareous.		
	10.0	SANDSTONE: as above		
1550.0 - 1560.0	55.0	SILTY CLAYSTONE: as above	4	0
	30.0	SANDSTONE: Quartzose, predominantly white to light grey, medium to coarse, dominantly medium, sub rounded to rounded, rare sub angular, moderately well sorted, trace bit fractured grains, trace to 5% silica cement, trace light brownish grey argillaceous matrix, silty in part, trace nodular pyrite, trace micropyrilite, fair to good inferred porosity. No shows.		
	15.0	COAL: as above		
1560.0 - 1570.0	45.0	SANDSTONE: as above		
	45.0	SILTY CLAYSTONE: as above		
	10.0	COAL: as above		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
1570.0 - 1580.0	60.0	SANDSTONE: as above	1	0
	30.0	SILTY CLAYSTONE: as above		
	10.0	COAL: as above		
1580.0 - 1590.0	50.0	SILTY CLAYSTONE: light brown to pale yellowish brown, 10 to 20% silt, rare very fine quartz, trace carbonaceous flecks, trace micromicaceous, trace micropyrilite, rare nodular pyrite, soft, dispersive in part.		
	25.0	SANDSTONE: white to light grey, fine to medium, dominantly medium, sub angular to sub rounded, moderately sorted, trace silica cement, common white to light brownish grey argillaceous matrix, silty in part, trace nodular pyrite, trace micopyrite, poor inferred porosity, no shows.		
	15.0	VOLCANIC: white, greenish grey, bit crushed, soft to firm, aggregated in part, 10 to 20% silt, minor feldspar laths in aggregates, trace altered yellowish grey feldspar, trace micaceous, minor chlorite, trace micropyrilite, localised nodular pyrite, minor, pale blue green and light grey microcrystalline angular aggregates, hard.		
	10.0	COAL: as above		
1590.0 - 1600.0	50.0	SILTY CLAYSTONE: as above	2	0
	25.0	SANDSTONE: as above		
	15.0	VOLCANIC: as above		
	10.0	COAL: as above		
1600.0 - 1610.0	57.0	SILTY CLAYSTONE: as above		
	20.0	SANDSTONE: as above		
	20.0	VOLCANIC: as above, minor nodular pyrite.		
	3.0	COAL: as above		
1610.0 - 1620.0	40.0	SILTY CLAYSTONE: as above	1	0
	32.0	VOLCANIC: as above		
	25.0	SANDSTONE: possible quartz vein, clear to translucent, medium to very coarse, dominantly very coarse, sub angular, rare angular, poorly sorted, trace to 5% silicesous cement, trace micropyrilite, loose, poor inferred porosity, no shows.		
	3.0	COAL: as above		
1620.0 - 1630.0	40.0	SILTY CLAYSTONE: as above		
	32.0	SANDSTONE: as above		
	25.0	VOLCANIC: as above		
	3.0	COAL: as above		
1630.0 - 1640.0	80.0	SILTY CLAYSTONE: light brownish grey to light olive grey, soft, amorphous, sub blocky in part, abundant silt, rare very fine sand, trace carbonaceous flecks, trace micromicaceous, trace to 2% micropyrilite, trace nodular pyrite, grading in part to claystone.	2	1
	14.0	SANDSTONE: white to light grey, fine to medium, dominantly fine, sub angular to sub rounded, moderately sorted, trace to 5% silica cement, common white argillaceous matrix, silty in part, trace calcite cement, trace nodular pyrite, trace micopyrite, local aggregates, good inferred porosity, no shows.		
	5.0	VOLCANIC: as above		
	1.0	COAL: brownish black, minor moderate brown, subvitreous lustre, blocky to sub conchoidal fracture, slightly argillaceous in part, lignitic.		
1640.0 - 1650.0	79.0	SILTY CLAYSTONE: as above		
	20.0	SANDSTONE: as above		
	1.0	COAL: as above		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
1650.0 - 1660.0	84.0	SILTY CLAYSTONE: as above, trace to 5% carbonaceous material grading in part to claystone.	0	2
	15.0	SANDSTONE: as above		
	1.0	COAL: as above		
1660.0 - 1670.0	79.0	SILTY CLAYSTONE: as above		
	10.0	SANDSTONE: as above		
	1.0	COAL: as above		
1670.0 - 1680.0	80.0	CLAYSTONE: light brownish grey to light olive grey, soft to firm, sub blocky to amorphous, trace to 5% silt, trace micropyrrite, trace micromicaceous.	1	8
	14.0	SILTY CLAYSTONE: as above		
	5.0	SANDSTONE: as above		
	1.0	COAL: as above		
1680.0 - 1690.0	71.0	CLAYSTONE: as above		
	18.0	SILTY CLAYSTONE: as above		
	10.0	SANDSTONE: as above		
	1.0	COAL: as above		
1690.0 - 1700.0	44.0	CLAYSTONE: as above	0	6
	40.0	SILTY CLAYSTONE: as above		
	15.0	SANDSTONE: as above		
	1.0	COAL: as above		
1700.0 - 1710.0	52.0	CLAYSTONE: as above		
	30.0	SILTY CLAYSTONE: as above		
	18.0	SANDSTONE: as above, aggregated in part, no shows.		
1710.0 - 1720.0	60.0	CLAYSTONE: as above	2	2
	30.0	SILTY CLAYSTONE: light grey to light olive grey, soft, amorphous, sub blocky in part, abundant silt, rare very fine sand, trace carbonaceous flecks, trace micromicaceous, trace to 2% micropyrrite, trace nodular pyrite, grading in part to Claystone.		
	10.0	SANDSTONE: as above, no shows.		
1720.0 - 1730.0	45.0	SILTY CLAYSTONE: as above		
	45.0	CLAYSTONE: as above		
	10.0	SANDSTONE: white to light grey, fine to medium, dominantly fine, sub angular to sub rounded, moderately sorted, trace to 5% silica cement, trace feldspar, trace mica, common white argillaceous matrix, silty in part, trace calcite cement, minor siliceous cement, trace nodular pyrite, trace micopyrite, common aggregates, poor inferred porosity, no shows.		
1730.0 - 1740.0	50.0	SILTY CLAYSTONE: as above	1	2
	35.0	CLAYSTONE: light bluish grey to light olive grey, soft to firm, sub blocky to amorphous, trace to 5% silt, trace micropyrrite, trace micromicaceous.		
	15.0	SANDSTONE: as above		
1740.0 - 1750.0	45.0	SILTY CLAYSTONE: as above		
	40.0	CLAYSTONE: as above		
	15.0	SANDSTONE: as above		
1750.0 - 1760.0	80.0	CLAYSTONE: light bluish grey to greenish grey, firm, sub blocky, trace to 5% silt,	1	3

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
1760.0 - 1770.0		trace micropyrrite, trace micromicaceous.	0	3
	19.0	SILTY CLAYSTONE: as above		
	1.0	SANDSTONE: as above		
	89.0	CLAYSTONE: as above		
	10.0	SILTY CLAYSTONE: as above		
1770.0 - 1780.0	1.0	SANDSTONE: as above	0	3
	82.0	CLAYSTONE: as above		
	10.0	SILTY CLAYSTONE: as above		
1780.0 - 1790.0	8.0	SANDSTONE: white to light grey, silt to very fine, dominantly very fine, sub rounded, poorly sorted, trace to 5% silica cement, trace mica, common white argillaceous matrix, silty in part, minor calcite cement, trace weak siliceous cement, trace micropyrrite, commonly aggregated, poor inferred porosity, no shows.	1	3
	40.0	SILTY CLAYSTONE: as above		
	35.0	CLAYSTONE: as above		
	25.0	SANDSTONE: as above		
1790.0 - 1800.0	45.0	SILTY CLAYSTONE: (1) white to pale brown, firm, sub blocky, abundant silt, minor very fine sand, 5 to 10% carbonaceous flecks, trace micromicaceous, trace micromicaceous, local trace pyrite nodules.	1	3
	25.0	SANDSTONE: as above, no shows.		
	20.0	SILTY CLAYSTONE: light grey to light olive grey, soft, amorphous, sub blocky in part, abundant silt, grades in part to Siltstone, rare very fine sand, trace carbonaceous flecks, trace micromicaceous, trace to 2% micropyrrite, trace nodular pyrite.		
	10.0	CLAYSTONE: as above		
	60.0	SILTY CLAYSTONE: as above (1)		
1800.0 - 1805.0	20.0	SILTY CLAYSTONE: as above	1	3
	10.0	CLAYSTONE: as above		
	10.0	SANDSTONE: as above, no shows.		
		Clays washed out in sample.		
	80.0	SILTY CLAYSTONE: as above (1)		
1805.0 - 1810.0	10.0	SILTY CLAYSTONE: as above, no shows.	2	1
	5.0	CLAYSTONE: as above		
	5.0	SANDSTONE: as above		
		Clays washed out in sample.		
1810.0 - 1815.0	80.0	SILTY CLAYSTONE: as above (1)	2	1
	10.0	SILTY CLAYSTONE: as above		
	5.0	CLAYSTONE: as above		
	5.0	SANDSTONE: as above, no shows.		
1815.0 - 1820.0	70.0	SILTY CLAYSTONE: as above (1)	2	1
	15.0	CLAYSTONE: light grey to medium light grey, light bluish grey in part, firm, sub blocky, trace silt, rare very fine quartz grains, trace micropyrrite, local trace pyrite nodules, trace carbonaceous specks, trace micromicaceous.		
	10.0	SILTY CLAYSTONE: as above		
	5.0	SANDSTONE: as above, no shows.		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
1820.0 - 1825.0	35.0	CLAYSTONE: as above		
	30.0	SILTY CLAYSTONE: as above (1)		
	20.0	SILTY CLAYSTONE: as above		
	15.0	SANDSTONE: white to light grey, fine to medium, loose, dominantly fine, sub angular to sub rounded, poorly sorted, trace to 5% silica cement, trace mica, common white argillaceous matrix, minor calcite cement, trace micropyrte, moderate inferred porosity, no shows.		
1825.0 - 1830.0	79.0	CLAYSTONE: as above.		
	10.0	SILTY CLAYSTONE: as above (1)		
	10.0	SANDSTONE: as above		
	1.0	SILTY CLAYSTONE: as above		
1830.0 - 1835.0	79.0	CLAYSTONE: as above (1)		
	10.0	SILTY CLAYSTONE: as above (1)		
	10.0	SANDSTONE: as above		
	1.0	SILTY CLAYSTONE: as above		
1835.0 - 1840.0	65.0	CLAYSTONE: as above (1)	2	2
	15.0	SILTY CLAYSTONE: as above		
	10.0	SILTY CLAYSTONE: (1) white to yellowish grey, soft, dispersive, rarely sub blocky, adundant silt, 5 to 10% carbonaceous flecks, trace micromicaceous, trace micropyrte, local trace pyrite nodules.		
	10.0	SANDSTONE: as above		
1840.0 - 1845.0	69.0	CLAYSTONE: as above (1)		
	15.0	SILTY CLAYSTONE: as above (1)		
	15.0	SILTY CLAYSTONE: as above		
	1.0	SANDSTONE: as above		
1845.0 - 1850.0	50.0	CLAYSTONE: as above		
	44.0	SILTY CLAYSTONE: as above		
	5.0	SILTY CLAYSTONE: as above (1)		
	1.0	SANDSTONE: as above		
1850.0 - 1855.0	62.0	CLAYSTONE: as above (1)		
	30.0	SILTY CLAYSTONE: as above		
	5.0	SILTY CLAYSTONE: as above (1)		
	3.0	SANDSTONE: as above		
1855.0 - 1860.0	47.0	CLAYSTONE: as above, pale brown in part (1)	1	1
	45.0	SILTY CLAYSTONE: white to yellowish grey, soft, dispersive, rarely sub blocky, adundant silt, 5 to 10% carbonaceous flecks, trace micromicaceous, trace micropyrte, local trace pyrite nodules.		
	5.0	SILTY CLAYSTONE: as above (1)		
	3.0	SANDSTONE: as above		
1860.0 - 1865.0	88.0	CLAYSTONE: pale brown to light brownish grey, soft, dispersive, rarely sub blocky, minor silt, rare very fine quartz, trace carbonaceous flecks, trace micromicaceous, trace micropyrte, local trace nodular pyrite.		
	10.0	SILTY CLAYSTONE: light brownish grey to light brown, soft, dispersive, rarely sub blocky, adundant silt, 5 to 10% carbonaceous flecks, trace micromicaceous, trace micropyrte, local trace pyrite nodules.		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
1860.0 - 1865.0	2.0	SANDSTONE: as above Clays washed out in sample.	1	4
1865.0 - 1870.0	88.0	CLAYSTONE: as above		
	10.0	SILTY CLAYSTONE: as above		
	2.0	SANDSTONE: as above		
1870.0 - 1875.0	63.0	CLAYSTONE: as above		
	35.0	SILTY CLAYSTONE: as above, minor very fine sand in part.		
	2.0	SANDSTONE: as above		
1875.0 - 1880.0	70.0	CLAYSTONE: pale brown to light brownish grey, soft, dispersive, rarely sub blocky, minor silt, rare very fine quartz, trace carbonaceous flecks, trace micromicaceous, trace micropyrilite, local trace nodular pyrite, rare trace brownish black, coal fragments, subvitreous lustre, blocky to sub conchoidal fracture, lignitic.		
	28.0	SILTY CLAYSTONE: as above		
	2.0	SANDSTONE: as above, aggregates in part.		
1880.0 - 1885.0	80.0	CLAYSTONE: as above	2	3
	18.0	SILTY CLAYSTONE: as above		
	2.0	SANDSTONE: as above		
1885.0 - 1890.0	73.0	CLAYSTONE: as above		
	25.0	SILTY CLAYSTONE: as above		
	2.0	SANDSTONE: as above		
1890.0 - 1895.0	55.0	SILTY CLAYSTONE: as above, grading in part to claystone.		
	43.0	CLAYSTONE: as above		
	2.0	SANDSTONE: as above		
1895.0 - 1900.0	70.0	SILTY CLAYSTONE: as above		
	28.0	CLAYSTONE: as above	1	4
	2.0	SANDSTONE: white, aggregates, soft to firm, fine to medium grained, sub angular to sub rounded, dominantly sub rounded, poorly sorted, abundant white clay matrix, local trace chloritic clay, trace mica, rare micropyrilite, poor inferred porosity, no shows.		
1900.0 - 1905.0	75.0	SILTY CLAYSTONE: as above		
	23.0	CLAYSTONE: as above		
	2.0	SANDSTONE: as above, no shows.		
		Clays washed out.		
1905.0 - 1910.0	80.0	SILTY CLAYSTONE: as above		
	19.0	CLAYSTONE: as above		
	1.0	SANDSTONE: as above		
1910.0 - 1915.0	64.0	SILTY CLAYSTONE: as above		
	35.0	CLAYSTONE: as above		
	1.0	SANDSTONE: as above		
1915.0 - 1920.0	50.0	SILTY CLAYSTONE: as above		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
1915.0 - 1920.0	49.0	CLAYSTONE: as above	1	4
	1.0	SANDSTONE: as above, no shows.		
1920.0 - 1925.0	70.0	CLAYSTONE: medium light grey to light olive grey, firm to hard, sub blocky to blocky, trace to 5% silt, rare very fine quartz, trace micropyrrite, local trace nodules, trace micromicaceous, rare carbonaceous flecks.		
	28.0	SILTY CLAYSTONE: as above		
	2.0	SANDSTONE: as above		
1925.0 - 1930.0	75.0	CLAYSTONE: as above		
	23.0	SILTY CLAYSTONE: as above		
	2.0	SANDSTONE: as above		
1930.0 - 1935.0	60.0	CLAYSTONE: as above		
	28.0	SILTY CLAYSTONE: light grey to light olive grey, firm to hard, sub blocky, abundant silt to very fine quartz, grades in part to Siltstone, 5 to 10% carbonaceous flecks and microlaminae, trace micromicaceous, trace micropyrrite, local trace pyrite nodules.		
	10.0	SILTY CLAYSTONE: (1) white to yellowish grey, soft to firm, amorphous, sub blocky in part, minor silt, rare very fine quartz, trace mica, trace carbonaceous flecks and microlaminae, trace micropyrrite.		
	2.0	SANDSTONE: as above		
1935.0 - 1940.0	40.0	CLAYSTONE: as above	4	2
	35.0	SILTY CLAYSTONE: as above		
	15.0	SANDSTONE: as above, no shows.		
	10.0	SILTY CLAYSTONE: as above (1)		
1940.0 - 1945.0	45.0	CLAYSTONE: as above		
	25.0	SILTY CLAYSTONE: as above		
	20.0	SANDSTONE: as above, no shows.		
	10.0	SILTY CLAYSTONE: as above (1)		
1945.0 - 1950.0	50.0	CLAYSTONE: as above		
	25.0	SILTY CLAYSTONE: as above		
	20.0	SANDSTONE: as above, no shows.		
	5.0	SILTY CLAYSTONE: as above (1)		
1950.0 - 1955.0	50.0	CLAYSTONE: as above		
	25.0	SILTY CLAYSTONE: as above		
	25.0	SANDSTONE: white, aggregates, firm to hard, friable in part, fine to medium grained, sub angular to sub rounded, dominantly sub rounded, poorly sorted, abundant white clay matrix, local trace chloritic clay, minor siliceous cement, trace to 5% carbonaceous flecks, rare carbonaceous laminae, trace mica, rare micropyrrite, poor inferred porosity, no shows.		
	10.0	SILTY CLAYSTONE: as above (1)		
1955.0 - 1960.0	35.0	CLAYSTONE: as above	4	6
	25.0	SILTY CLAYSTONE: as above		
	25.0	SANDSTONE: as above		
	15.0	SILTY CLAYSTONE: as above (1)		
1960.0 - 1965.0	35.0	CLAYSTONE: as above		
	25.0	SILTY CLAYSTONE: as above		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
1960.0 - 1965.0	25.0	SANDSTONE: as above		
	15.0	SILTY CLAYSTONE: as above (1)		
1965.0 - 1970.0	45.0	CLAYSTONE: as above		
	30.0	SANDSTONE: as above		
	20.0	SILTY CLAYSTONE: as above, grading to Siltstone		
	5.0	SILTY CLAYSTONE: as above (1)		
1970.0 - 1975.0	45.0	CLAYSTONE: as above		
	30.0	SANDSTONE: white, aggregated to loose, firm to hard, friable in part, fine to medium grained, dominantly fine, sub angular to sub rounded, dominantly sub rounded, poorly sorted, abundant white clay matrix, minor siliceous cement, trace to 5% carbonaceous flecks, trace mica, rare micropyrte, poor inferred porosity, no shows.		
	25.0	SILTSTONE: very light grey to light bluish grey, firm to hard, blocky, abundant silt, rare very fine quartz, 5 to 10% carbonaceous flecks and microlaminae, trace micromicaceous, trace micropyrte, local trace nodular pyrite, grading in part to Silty Claystone.		
1975.0 - 1980.0	70.0	SANDSTONE: as above.	5	4
	20.0	SILTSTONE: as above, grading to Sandy Siltstone.		
	10.0	CLAYSTONE: as above		
1980.0 - 1985.0	70.0	SANDSTONE: as above		
	20.0	SANDY SILTSTONE: very light grey to light bluish grey, firm to hard, blocky, abundant silt, 5 to 10% very fine to fine sand, 5 to 10% carbonaceous flecks and microlaminae, trace micromicaceous, trace micropyrte, local trace nodular pyrite, grading in part to Siltstone.		
	10.0	CLAYSTONE: as above		
1985.0 - 1990.0	50.0	SANDSTONE: as above		
	40.0	SANDY SILTSTONE: as above, grading to Silty Claystone.		
	10.0	CLAYSTONE: as above		
1990.0 - 1995.0	50.0	SANDSTONE: as above		
	40.0	SANDY SILTSTONE: as above		
	10.0	CLAYSTONE: as above		
1995.0 - 2000.0	40.0	SANDY SILTSTONE: as above	4	3
	40.0	SANDSTONE: as above		
	20.0	CLAYSTONE: medium grey to medium light grey, light olive grey to olive grey, firm to hard, blocky, trace silt, trace micromicaceous, trace carbonaceous flecks, non calcareous.		
2000.0 - 2005.0	60.0	CLAYSTONE: as above		
	20.0	SANDY SILTSTONE: as above		
	20.0	SANDSTONE: as above		
2005.0 - 2010.0	50.0	CLAYSTONE: as above		
	30.0	SANDSTONE: as above		
	20.0	SANDY SILTSTONE: as above		
2010.0 - 2015.0	80.0	CLAYSTONE: light bluish grey to light olive grey, firm to hard, blocky, trace silt, trace micromicaceous, trace carbonaceous flecks, non calcareous.		
	10.0	SANDY SILTSTONE: very light grey to light bluish grey, firm to hard, blocky, abundant silt, 5 to 10% very fine to fine sand, 5 to 10% carbonaceous flecks and		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
2015.0 - 2020.0		microlaminae, trace micromicaceous, trace micropyrite, lgrading in part to Siltstone.	2	0
	10.0	SANDSTONE: Quartzose, white to very light grey, returned loose, trace friable aggregates, very fine to fine grained, trace medium, angular to sub angular, well sorted, minor argillaceous matrix, trace lithic grains, poor inferred porosity. No shows.		
	80.0	CLAYSTONE: as above		
	15.0	SANDSTONE: as above		
	5.0	SANDY SILTSTONE: as above		
2020.0 - 2025.0	80.0	CLAYSTONE: as above	2	1
	15.0	SANDSTONE: as above		
	5.0	SANDY SILTSTONE: as above		
2025.0 - 2030.0	90.0	CLAYSTONE: as above		
	5.0	SANDY SILTSTONE: as above		
	5.0	SANDSTONE: as above		
2030.0 - 2035.0	50.0	CLAYSTONE: as above		
	30.0	SANDY SILTSTONE: as above		
	20.0	SANDSTONE: as above		
2035.0 - 2040.0	50.0	CLAYSTONE: as above		
	30.0	SANDY SILTSTONE: as above		
	20.0	SANDSTONE: as above		
2040.0 - 2045.0	40.0	SANDY SILTSTONE: as above		
	30.0	SANDSTONE: as above		
	30.0	CLAYSTONE: as above		
2045.0 - 2050.0	60.0	CLAYSTONE: as above		
	20.0	SANDY SILTSTONE: as above		
	20.0	SANDSTONE: Quartzose, white to very light grey, returned loose, trace friable aggregates, very fine to fine grained, minor medium, angular to sub angular, well sorted, minor argillaceous matrix, trace moderate red and black lithic grains, poor inferred porosity. No shows.		
2050.0 - 2055.0	70.0	CLAYSTONE: as above		
	20.0	SANDY SILTSTONE: as above		
	10.0	SANDSTONE: as above		
2055.0 - 2060.0	70.0	CLAYSTONE: as above	1	1
	20.0	SANDY SILTSTONE: as above		
	10.0	SANDSTONE: as above		
2060.0 - 2065.0	80.0	CLAYSTONE: as above		
	15.0	SANDY SILTSTONE: as above		
	5.0	SANDSTONE: as above		
2065.0 - 2070.0	70.0	CLAYSTONE: as above		
	20.0	SANDY SILTSTONE: as above		
	10.0	SANDSTONE: as above		
2070.0 - 2075.0	80.0	CLAYSTONE: as above		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
2070.0 - 2075.0	10.0	SANDY SILTSTONE: as above	1	2
	10.0	SANDSTONE: as above		
2075.0 - 2080.0	80.0	CLAYSTONE: as above		
	10.0	SANDSTONE: as above		
	8.0	SANDY SILTSTONE: as above		
	2.0	FERRUGINOUS CLAYSTONE: moderate reddish brown, mottled moderate brown in part, soft, amorphous to occasionally sub blocky, trace silt and very fine quartz grains in part, non calcareous.		
2080.0 - 2085.0	80.0	CLAYSTONE: as above		
	10.0	SANDSTONE: as above		
	8.0	SANDY SILTSTONE: as above		
	2.0	FERRUGINOUS CLAYSTONE: as above		
2085.0 - 2090.0	60.0	CLAYSTONE: as above		
	20.0	SANDY SILTSTONE: as above		
	10.0	SANDSTONE: as above		
	10.0	FERRUGINOUS CLAYSTONE: as above		
2090.0 - 2095.0	60.0	CLAYSTONE: as above		
	20.0	SANDY SILTSTONE: as above		
	15.0	SANDSTONE: as above		
	5.0	FERRUGINOUS CLAYSTONE: as above		
2095.0 - 2100.0	80.0	CLAYSTONE: as above	2	0
	13.0	SANDY SILTSTONE: as above		
	5.0	SANDSTONE: as above		
	2.0	FERRUGINOUS CLAYSTONE: as above		
2100.0 - 2105.0	90.0	CLAYSTONE: as above		
	5.0	SANDSTONE: as above		
	3.0	SANDY SILTSTONE: as above		
	2.0	FERRUGINOUS CLAYSTONE: as above		
2105.0 - 2110.0	90.0	CLAYSTONE: as above		
	5.0	SANDSTONE: as above		
	3.0	SANDY SILTSTONE: as above		
	2.0	FERRUGINOUS CLAYSTONE: as above		
2110.0 - 2115.0	90.0	CLAYSTONE: as above		
	5.0	SANDSTONE: as above		
	4.0	SANDY SILTSTONE: as above		
	1.0	FERRUGINOUS CLAYSTONE: as above		
2115.0 - 2120.0	65.0	CLAYSTONE: medium grey to medium light grey, olive grey to brownish grey, firm to hard, blocky, trace silt, trace micromicaceous, trace carbonaceous flecks, non calcareous.	1	1
	30.0	SANDSTONE: white to very light grey, light greenish grey, light brownish grey, firm to friable aggregates, predominantly returned loose, very fine to predominantly fine grained, angular to sub rounded, moderately sorted, abundant argillaceous matrix, common feldspathic and black lithic grains, trace weathered feldspars, poor visual		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
2120.0 - 2125.0		porosity. No shows.		
	5.0	SANDY SILTSTONE: light grey to light bluish grey, firm to hard, blocky, abundant silt, 5 to 10% very fine to fine sand, 5 to 10% carbonaceous flecks and microlaminae, trace micromicaceous, trace micropyrite, local trace nodular pyrite, grading in part to Siltstone. (Common bitumenous generated texture)		
	55.0	CLAYSTONE: as above		
2125.0 - 2130.0	40.0	SANDSTONE: as above		
	5.0	SANDY SILTSTONE: as above		
	70.0	CLAYSTONE: as above		
2130.0 - 2135.0	25.0	SANDSTONE: as above		
	5.0	SANDY SILTSTONE: as above		
	70.0	CLAYSTONE: as above		
2135.0 - 2140.0	25.0	SANDSTONE: as above	2	0
	5.0	SANDY SILTSTONE: as above		
	55.0	CLAYSTONE: as above		
2140.0 - 2145.0	40.0	SANDSTONE: generally as above, minor carbonaceous material.		
	5.0	SANDY SILTSTONE: as above		
	60.0	SANDSTONE: as above		
2145.0 - 2150.0	35.0	CLAYSTONE: as above		
	5.0	SANDY SILTSTONE: as above		
	70.0	CLAYSTONE: as above		
2150.0 - 2155.0	25.0	SANDSTONE: as above		
	5.0	SANDY SILTSTONE: as above		
	60.0	CLAYSTONE: as above		
2155.0 - 2160.0	35.0	SANDSTONE: as above	1	1
	5.0	SANDY SILTSTONE: as above		
	60.0	SANDSTONE: as above		
2160.0 - 2165.0	30.0	CLAYSTONE: as above		
	10.0	SANDY SILTSTONE: as above		
	60.0	SANDSTONE: as above		
2165.0 - 2170.0	30.0	CLAYSTONE: as above		
	10.0	SANDY SILTSTONE: as above		
	70.0	CLAYSTONE: as above		
2170.0 - 2175.0	20.0	SANDY SILTSTONE: as above		
	10.0	SANDSTONE: as above		
	70.0	CLAYSTONE: as above		
2175.0 - 2180.0	20.0	SANDY SILTSTONE: as above	1	2
	10.0	SANDSTONE: as above		
	60.0	CLAYSTONE: as above		
	20.0	SANDY SILTSTONE: as above		
	20.0	SANDSTONE: as above		
	20.0	SANDSTONE: as above		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
2180.0 - 2185.0	50.0	CLAYSTONE: as above		
	30.0	SANDSTONE: as above		
	20.0	SANDY SILTSTONE: as above		
2185.0 - 2190.0	60.0	SANDSTONE: white to very light grey, light greenish grey, light brownish grey, firm to friable aggregates, predominantly returned loose, very fine to predominantly fine grained, minor medium grains, angular to sub rounded, poorly to moderately sorted, common to abundant argillaceous matrix, common feldspathic and black lithic grains, trace weathered feldspars, poor visual porosity. No shows.		
	30.0	CLAYSTONE: medium grey to medium dark grey, minor olive grey to brownish grey, firm to hard, blocky, trace silt, trace micromicaceous, nil to trace carbonaceous flecks, non calcareous.		
	10.0	SANDY SILTSTONE: medium light grey to light bluish grey, firm to hard, blocky, abundant silt, 5 to 10% very fine to fine sand, 10-15% carbonaceous flecks and microlaminae, trace micromicaceous, trace micropyrilite, grading in part to Argillaceous Siltstone. (Common bituminous generated texture)		
2190.0 - 2195.0	70.0	SANDSTONE: as above		
	20.0	CLAYSTONE: as above		
	10.0	SANDY SILTSTONE: as above		
2195.0 - 2200.0	70.0	CLAYSTONE: as above	4	1
	20.0	SANDSTONE: as above		
	10.0	SANDY SILTSTONE: as above		
2200.0 - 2205.0	80.0	CLAYSTONE: as above		
	10.0	SANDY SILTSTONE: as above		
	10.0	SANDSTONE: as above		
2205.0 - 2210.0	80.0	CLAYSTONE: as above		
	15.0	SANDY SILTSTONE: as above		
	5.0	SANDSTONE: as above		
2210.0 - 2215.0	80.0	CLAYSTONE: as above		
	15.0	SANDY SILTSTONE: as above		
	5.0	SANDSTONE: as above		
2215.0 - 2220.0	80.0	CLAYSTONE: generally as above, trace granule sized coal fragments.	3	1
	10.0	SANDY SILTSTONE: as above		
	10.0	SANDSTONE: as above		
2220.0 - 2225.0	70.0	SANDSTONE: as above		
	20.0	CLAYSTONE: generally as above, trace nodular pyrite.		
	10.0	SANDY SILTSTONE: as above		
2225.0 - 2230.0	60.0	SANDSTONE: as above		
	30.0	CLAYSTONE: as above		
	10.0	SANDY SILTSTONE: as above		
2230.0 - 2235.0	50.0	SANDSTONE: generally as above, becoming fine to medium grained, trace nodular pyrite.		
	40.0	CLAYSTONE: as above		
	10.0	SANDY SILTSTONE: as above		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
2235.0 - 2240.0	80.0	SANDSTONE: white to very light grey, light greenish grey, light brownish grey, firm to friable aggregates, predominantly returned loose, common friable aggregates, very fine to predominantly fine grained, minor to common medium grains, angular to sub rounded, poorly to moderately sorted, common to abundant argillaceous matrix, trace nodular pyrite, common feldspathic and black lithic grains, trace moderate green lithics, trace weathered feldspars, poor visual porosity. No shows.	4	2
	10.0	CLAYSTONE: as above		
	10.0	SANDY SILTSTONE: as above		
2240.0 - 2245.0	80.0	SANDSTONE: as above		
	15.0	SANDY SILTSTONE: as above		
	5.0	CLAYSTONE: as above		
2245.0 - 2250.0	50.0	CLAYSTONE: as above		
	40.0	SANDSTONE: as above		
	10.0	SANDY SILTSTONE: as above		
2250.0 - 2255.0	40.0	SANDSTONE: as above		
	30.0	CLAYSTONE: as above		
	30.0	SANDY SILTSTONE: as above		
2255.0 - 2260.0	40.0	CLAYSTONE: as above	4	0
	30.0	SANDY SILTSTONE: as above		
	30.0	SANDSTONE: as above		
2260.0 - 2265.0	50.0	CLAYSTONE: as above		
	30.0	SANDSTONE: as above		
	20.0	SANDY SILTSTONE: as above		
2265.0 - 2270.0	70.0	SANDSTONE: as above		
	20.0	SANDY SILTSTONE: as above		
	10.0	CLAYSTONE: as above		
2270.0 - 2275.0	75.0	SANDSTONE: as above		
	15.0	SANDY SILTSTONE: as above		
	10.0	CLAYSTONE: as above		
2275.0 - 2280.0	80.0	SANDSTONE: as above	2	1
	10.0	CLAYSTONE: as above		
	10.0	SANDY SILTSTONE: as above		
2280.0 - 2285.0	80.0	SANDSTONE: as above		
	10.0	CLAYSTONE: generally as above, trace moderate red soft claystone.		
	10.0	SANDY SILTSTONE: as above		
2285.0 - 2290.0	70.0	SANDSTONE: as above		
	10.0	CLAYSTONE: as above		
	10.0	SANDY SILTSTONE: as above		
	10.0	FERRUGINOUS CLAYSTONE: pale reddish brown to predominantly moderate reddish brown, generally very soft to soft, occasionally moderately firm, amorphous, trace sub blocky, trace very fine grained quartz, trace silt, non calcareous.		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
2290.0 - 2295.0	40.0	SANDY SILTSTONE: as above		
	30.0	SANDSTONE: as above		
	20.0	CLAYSTONE: as above		
	10.0	VOLCANIC: ?? pale reddish brown to moderate reddish brown, light green to greyish green, minor greenish grey, commonly moderately firm, amorphous when soft, sub blocky to blocky in firmer fraction, trace very fine grained quartz, trace silt, trace very hard blade shaped light green siliceous grains, trace black lithic grains, non calcareous.		
2295.0 - 2300.0	50.0	VOLCANIC: generally as above, predominantly light green, trace coarse quartz float.	3	3
	30.0	SANDSTONE: as above		
	10.0	CLAYSTONE: as above		
	10.0	SANDY SILTSTONE: as above		
2300.0 - 2305.0	50.0	VOLCANIC: light grey to light greenish grey (5G 8/1), rare very light grey, moderately firm to hard, amorphous to sub blocky in firmer fraction, 5 to 10% silt, trace very fine sand, possibly sand fraction being washed out in cuttings, rare coarse sand, pitted, sub angular, weak trace feldspar laths, trace mica, abundant altered chlorite-rich clay matrix, trace very coarse grained siliceous agglomerates, trace micromicaceous, trace micropyrritic, trace black lithics, very hard; rare greyish blue green siliceous grains, cryptocrystalline, bladed, very weak trace pyritic micro-veining, very hard; 5 to 10% moderate brown to light brown lithics with trace altered plagioclase and trace black lithics, trace mica, silicified and hard in part, bit crushed and firm in part.		
	30.0	SANDSTONE: as above		
	10.0	CLAYSTONE: as above		
	10.0	SANDY SILTSTONE: as above		
2305.0 - 2310.0	40.0	VOLCANIC: as above		
	25.0	SANDY SILTSTONE: as above		
	25.0	SANDSTONE: as above		
	10.0	CLAYSTONE: as above		
2310.0 - 2315.0	75.0	VOLCANIC: as above, trace translucent to light red quartz, angular		
	10.0	SANDSTONE: as above		
	10.0	CLAYSTONE: as above.		
	5.0	SANDY SILTSTONE: white to yellowish grey, firm to hard, commonly aggregated, 10 to 15% silt, trace very fine quartz, trace white calcareous clay matrix, trace siderite, trace mica, trace micropyrrite,		
2315.0 - 2320.0	1.0	COAL: brownish black, subvitreous lustre, blocky to sub conchoidal fracture, lignitic, trace micropyrrite.	4	2
	73.0	VOLCANIC: light grey to light greenish grey (5G 8/1), rare very light grey, porphyritic?, hard to extremely hard, 5 to 10% silt, 10 to 20% medium to coarse quartz, rare very coarse, angular to sub angular, pitted, trace alkaline feldspar, trace mica, abundant altered chlorite-rich clay matrix, weak trace calcitic in part, granular in part, rare calcite veining, trace pyrite nodules, trace siderite, trace very coarse grained siliceous aggregates, trace micromicaceous, trace micropyrritic, trace black lithics, very hard; rare greyish blue green siliceous grains, cryptocrystalline, commonly bladed, very hard; 5 to 10% moderate brown to moderate reddish brown lithics with trace fine to medium angular quartz, trace black lithics, trace mica, silicified and hard in part, bit crushed and firm in part.		
	15.0	CALCAREOUS CLAYSTONE: medium bluish grey to medium grey, firm to very hard, sub blocky to blocky, trace dolomitic in part, trace silt, cryptocrystalline.		
	10.0	SANDY SILTSTONE: as above		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
2315.0 - 2320.0	2.0	COAL: brownish black, greyish black, dull lustre, rare sub vitreous lustre, commonly uneven fracture, sub blocky in part, slightly argillaceous in part, grades in part to carbonaceous claystone, trace micropyrrite	4	2
2320.0 - 2325.0	72.0	VOLCANIC: as above		
	15.0	CALCAREOUS CLAYSTONE: as above		
	10.0	SANDY SILTSTONE: as above		
	2.0	COAL: as above		
	1.0	CLAYSTONE: yellowish grey to light olive grey, soft, rarely firm, 5 to 10% coaly fragments, brownish black, subvitreous lustre, blocky to sub conchoidal fracture, lignitic, trace micropyrrite.		
2325.0 - 2327.5	67.0	VOLCANIC: as above		
	15.0	CALCAREOUS CLAYSTONE: as above		
	10.0	COAL: brownish black, dusky yellowish brown, subvitreous lustre, blocky to sub conchoidal fracture, slightly argillaceous in part, lignitic, grades in part to carbonaceous claystone.		
	8.0	SANDY SILTSTONE: as above		
	1.0	CLAYSTONE: as above.		
		Slow ROPs of 8-10 m/hr take 2.5 m spots		
2327.5 - 2330.0	74.0	VOLCANIC: light grey to light greenish grey (5G 8/1), rare very light grey, hard to extremely hard, abundant siliceous cement, minor calcareous cement, 20 to 30% fine to medium quartz, rare coarse, angular to sub angular, trace feldspar, trace altered chlorite-rich clay matrix, matrix possibly washed out of sample, trace to 5% micropyrrite, trace siderite, 5 to 10% moderate brown to moderate reddish brown lithics with trace fine to medium angular quartz, trace black lithics, trace mica, abundant siliceous cement, hard, fragmented in part.		
	15.0	CALCAREOUS CLAYSTONE: as above		
	8.0	SANDY SILTSTONE: as above		
	2.0	COAL: as above		
	1.0	CLAYSTONE: as above		
		Generally finer grain size in sample tray.		
2330.0 - 2332.5	54.0	SANDY SILTSTONE: white to yellowish grey, light brown in part, firm to hard, commonly aggregated, 20 to 30% silt, trace very fine quartz, trace white argillaceous matrix, 5 to 10% calcareous, trace mica, trace micropyrrite, no shows.		
	30.0	VOLCANIC: as above.		
	10.0	CALCAREOUS CLAYSTONE: as above		
	6.0	COAL: as above,		
		Sandier. Spot sample, bagged sample not collected		
2332.5 - 2335.0	68.0	VOLCANIC: as above		
	20.0	SANDY SILTSTONE: as above, no shows.		
	10.0	CALCAREOUS CLAYSTONE: as above		
	2.0	COAL: as above		
2335.0 - 2337.5	68.0	VOLCANIC: as above		
	20.0	SANDY SILTSTONE: as above grading to Sandstone in part , no shows.		
	10.0	CALCAREOUS CLAYSTONE: as above		
	2.0	COAL: as above		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
2337.5 - 2340.0	70.0	Spot sample, bagged sample not collected	2	1
	15.0	SANDY SILTSTONE: as above, soft, dispersive, no shows.		
	13.0	CALCAREOUS CLAYSTONE: as above		
	2.0	VOLCANIC: as above		
2340.0 - 2342.5	40.0	COAL: as above		
		Bottoms up sample at 2340.0 mMDRT washed out.		
	40.0	SANDY SILTSTONE: as above, rare calcareous concretions, very coarse sand sized, grains composed of silt to very fine grained quartz, abundant calcite cement, common micropyrrite, thin calcareous coating.		
	40.0	CALCAREOUS CLAYSTONE: light grey to medium bluish grey, rare medium grey, firm to very hard, sub blocky to blocky, trace dolomitic in part, trace silt, cryptocrystalline.		
2342.5 - 2345.0	13.0	VOLCANIC: as above, fine to medium grained quartz, dominantly fine.		
	5.0	CLAYSTONE: yellowish grey to light olive grey, soft, rarely firm, trace coaly fragments, brownish black, subvitreous lustre, blocky to sub conchoidal fracture, lignitic, trace micropyrrite.		
	2.0	COAL: as above		
		Spot sample, bagged sample not collected		
2345.0 - 2347.5	77.0	VOLCANIC SANDSTONE: moderate yellowish green, white in part, loose, poor to moderately sorted, very hard individual grains, medium to coarse quartz, dominantly medium, angular to sub angular, pitted, 5 to 10% feldspar, commonly altered, trace mica, abundant pale green silicified grains, cryptocrystalline, trace olivine, very hard; trace black grains, hard, granular in part (pyroxene? based on cleavage), trace moderate orange pink (10R 7/4) grains, trace siderite, trace black lithics, trace siliceous cement, trace micropyrrite, weak trace nodular pyrite, no shows.		
	10.0	CALCAREOUS CLAYSTONE: as above		
	10.0	SANDY SILTSTONE: as above		
	5.0	CLAYSTONE: as above		
2347.5 - 2350.0		Fine to medium grained in sample tray.		
	92.0	VOLCANIC SANDSTONE: as above		
	4.0	SANDY SILTSTONE: as above		
	2.0	CALCAREOUS CLAYSTONE: as above		
2350.0 - 2352.5	2.0	CLAYSTONE: as above		
		Spot sample, bagged sample not collected		
	92.0	VOLCANIC SANDSTONE: as above		
	4.0	SANDY SILTSTONE: as above		
	2.0	CALCAREOUS CLAYSTONE: as above.		
	2.0	CLAYSTONE: as above		
	89.0	VOLCANIC SANDSTONE: as above		
	5.0	CALCAREOUS CLAYSTONE: as above		
	4.0	SANDY SILTSTONE: as above		
	2.0	CLAYSTONE: as above, white in part		
		Spot sample, bagged sample not collected		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
2352.5 - 2355.0	94.0	VOLCANIC SANDSTONE: as above	1	1
	3.0	CALCAREOUS CLAYSTONE: as above		
	2.0	SANDY SILTSTONE: as above		
	1.0	CLAYSTONE: as above		
2355.0 - 2357.5	93.0	VOLCANIC SANDSTONE: as above		
	3.0	CALCAREOUS CLAYSTONE: as above		
	2.0	SANDY SILTSTONE: as above		
	1.0	CLAYSTONE: as above		
	1.0	CARBONACEOUS CLAYSTONE: brownish black, greyish black, dull lustre, uneven fracture, sub blocky, slightly argillaceous in part, grades in part to carbonaceous claystone, trace micropyrrite		
		Spot sample, bagged sample not collected		
2357.5 - 2360.0	96.0	VOLCANIC SANDSTONE: as above		
	1.0	CALCAREOUS CLAYSTONE: as above		
	1.0	CLAYSTONE: as above		
	1.0	CARBONACEOUS CLAYSTONE: as above		
	1.0	SANDY SILTSTONE: as above		
2360.0 - 2362.5	96.0	VOLCANIC SANDSTONE: as above		
	1.0	CALCAREOUS CLAYSTONE: as above		
	1.0	CLAYSTONE: as above		
	1.0	CARBONACEOUS CLAYSTONE: as above		
	1.0	SANDY SILTSTONE: as above		
		Spot sample, bagged sample not collected		
2362.5 - 2365.0	90.0	VOLCANIC SANDSTONE: as above		
	4.0	CLAYSTONE: as above		
	3.0	CALCAREOUS CLAYSTONE: as above		
	2.0	SANDY SILTSTONE: as above		
	1.0	CARBONACEOUS CLAYSTONE: as above		
2365.0 - 2367.5	92.0	VOLCANIC SANDSTONE: as above, trace micropyrrite cement, trace banded siliceous grains, trace nodular pyrite, no shows.		
	3.0	CALCAREOUS CLAYSTONE: as above		
	2.0	CLAYSTONE: as above		
	2.0	SANDY SILTSTONE: as above		
	1.0	CARBONACEOUS CLAYSTONE: as above		
		Spot sample, bagged sample not collected		
2367.5 - 2370.0	90.0	VOLCANIC SANDSTONE: as above		
	4.0	CLAYSTONE: as above		
	3.0	CALCAREOUS CLAYSTONE: as above		
	2.0	SANDY SILTSTONE: as above		
	1.0	CARBONACEOUS CLAYSTONE: as above		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
2370.0 - 2372.5	90.0	VOLCANIC SANDSTONE: as above		
	4.0	SANDY SILTSTONE: as above		
	3.0	CALCAREOUS CLAYSTONE: as above		
	2.0	CLAYSTONE: as above		
	1.0	CARBONACEOUS CLAYSTONE: as above		
		Spot sample, bagged sample not collected		
2372.5 - 2375.0	95.0	VOLCANIC SANDSTONE: moderate yellowish green, white in part, returned loose, poor to moderately sorted, very hard individual grains, medium to coarse quartz, dominantly medium, trace very coarse, angular to sub angular, pitted, 5 to 10% feldspar, commonly altered, trace mica, abundant pale green silicified grains, cryptocrystalline, trace olivine, very hard; trace black grains, hard, granular in part (pyroxene? based on cleavage), trace moderate orange pink (10R 7/4) grains, trace siderite, trace black lithics, trace siliceous cement, trace micropyrte, weak trace nodular pyrite, no shows.		
	2.0	SANDY SILTSTONE: as above		
	2.0	CLAYSTONE: as above		
	1.0	CARBONACEOUS CLAYSTONE: as above		
2375.0 - 2377.5	95.0	VOLCANIC SANDSTONE: as above		
	2.0	SANDY SILTSTONE: as above		
	2.0	CLAYSTONE: as above		
	1.0	CARBONACEOUS CLAYSTONE: as above		
		Spot sample, bagged sample not collected		
2377.5 - 2380.0	95.0	VOLCANIC SANDSTONE: as above	2	1
	2.0	CLAYSTONE: as above		
	2.0	SANDY SILTSTONE: as above		
	1.0	CARBONACEOUS CLAYSTONE: as above		
2380.0 - 2382.5	92.0	VOLCANIC SANDSTONE: as above		
	5.0	CLAYSTONE: as above, cavings.		
	2.0	SANDY SILTSTONE: as above		
	1.0	CARBONACEOUS CLAYSTONE: as above		
		Spot sample, bagged sample not collected		
2382.5 - 2385.0	95.0	VOLCANIC SANDSTONE: as above		
	2.0	CLAYSTONE: as above		
	2.0	SANDY SILTSTONE: as above		
	1.0	CARBONACEOUS CLAYSTONE: as above		
2385.0 - 2387.5	97.0	VOLCANIC SANDSTONE: as above, minor bit-generated rock flour.		
	2.0	CLAYSTONE: as above		
	1.0	CARBONACEOUS CLAYSTONE: brownish black, greyish black, dull lustre, uneven fracture, sub blocky, slightly argillaceous in part, grades in part to carbonaceous claystone, trace micropyrte		
		Spot sample, bagged sample not collected		
2387.5 - 2390.0	97.0	VOLCANIC SANDSTONE: as above		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
2387.5 - 2390.0	2.0	CLAYSTONE: as above	2	0
	1.0	CARBONACEOUS CLAYSTONE: as above		
2390.0 - 2392.5	97.0	VOLCANIC SANDSTONE: generally as above, minor bit-generated rock flour.		
	2.0	CLAYSTONE: as above		
	1.0	CARBONACEOUS CLAYSTONE: as above		
		Spot sample, bagged sample not collected		
2392.5 - 2395.0	97.0	VOLCANIC SANDSTONE: as above		
	2.0	CLAYSTONE: as above		
	1.0	CARBONACEOUS CLAYSTONE: as above		
2395.0 - 2397.5	97.0	VOLCANIC SANDSTONE: moderate yellowish green, white in part, returned loose, poor to moderately sorted, very hard individual grains, medium to coarse quartz, dominantly medium, trace very coarse, angular to sub angular, pitted, 5 to 10% feldspar, commonly altered, trace mica, abundant pale green silicified grains, cryptocrystalline, trace olivine, very hard; trace black grains, hard, granular in part (pyroxene? based on cleavage), trace moderate orange pink (10R 7/4) grains, trace siderite, trace black lithics, trace siliceous cement, trace micropyrrite, weak trace nodular pyrite, no shows.		
	2.0	CLAYSTONE: light grey to medium bluish grey, rare medium grey, firm to very hard, sub blocky to blocky, trace dolomitic in part, trace silt, cryptocrystalline.		
	1.0	CARBONACEOUS CLAYSTONE: as above		
		Spot sample, bagged sample not collected		
2397.5 - 2400.0	97.0	VOLCANIC SANDSTONE: as above		
	2.0	CLAYSTONE: as above		
	1.0	CARBONACEOUS CLAYSTONE: as above		
2400.0 - 2405.0	97.0	VOLCANIC SANDSTONE: as above		
	2.0	CLAYSTONE: as above		
	1.0	CARBONACEOUS CLAYSTONE: as above		
2405.0 - 2407.5	87.0	VOLCANIC SANDSTONE: as above		
	10.0	SILICIFIED CLAYSTONE: medium grey, light brownish grey, light olive grey, hard to very hard, blocky, amorphous, highly silicified.		
	2.0	CLAYSTONE: as above		
	1.0	CARBONACEOUS CLAYSTONE: as above		
		Spot sample, bagged sample not collected		
2407.5 - 2410.0	87.0	VOLCANIC SANDSTONE: as above		
	10.0	SILICIFIED CLAYSTONE: as above		
	2.0	CLAYSTONE: as above		
	1.0	CARBONACEOUS CLAYSTONE: as above		
2410.0 - 2412.5	87.0	VOLCANIC SANDSTONE: as above		
	10.0	SILICIFIED CLAYSTONE: as above		
	2.0	CLAYSTONE: as above		
	1.0	CARBONACEOUS CLAYSTONE: as above		
		Spot sample, bagged sample not collected		

Interval (m)	%	Lithology / Show Descriptions	Ca (%)	Mg (%)
2412.5 - 2415.0	82.0	VOLCANIC SANDSTONE: as above		
	15.0	SILICIFIED CLAYSTONE: as above		
	2.0	CLAYSTONE: as above		
	1.0	CARBONACEOUS CLAYSTONE: as above		
2415.0 - 2417.5	82.0	VOLCANIC SANDSTONE: as above		
	15.0	SILICIFIED CLAYSTONE: as above		
	2.0	CLAYSTONE: as above		
	1.0	CARBONACEOUS CLAYSTONE: as above		
2417.5 - 2420.0		Spot sample, bagged sample not collected	2	1
	82.0	VOLCANIC SANDSTONE: as above		
	15.0	SILICIFIED CLAYSTONE: as above		
	2.0	CLAYSTONE: as above		
	1.0	CARBONACEOUS CLAYSTONE: as above		



Apache Northwest Ltd

CORE DESCRIPTION REPORT

Well Name :	Longtom-2 ST1	Date :	17/12/2004
Core Number :	1	Service Company :	Core Pro
Hole Size :	6.000 (in)	Core Diameter :	66.70 (mm)
Barrel Length:	18.00 (m)	Bit Type :	Security PDC
Barrel Type :	Fibreglass	Start Depth :	2,112.00 (m)
Mud Type :	KCL/Idcap D	End Depth :	2,130.00 (m)
Mud Weight :	10.60 (ppg)	Meters / Feet Cut :	18.00 (m)
ROP Min :	1.90 (m/h)	Recovery Length :	17.61 (m) (97.83%)
ROP Max :	27.10 (m/h)	Formation :	Admiral Formation Sandstone
ROP Avg :	11.50 (m/h)		
Geologists :	C Menhennit C Menhennitt J Sonogo R Stear		
Comments :	Core cut into approximately 3 metre lengths for shipping.		

Core Chip #	Chip Depth (m)	Lithology / Shows
1	2112.4	COALY SILTSTONE: 100% medium dark grey to dark grey, greyish black in part, moderately hard to hard, fissile with sub millimetre scale laminations, abundant coalified wood fragments, common very fine to fine quartz, lithic/feldspathic grains and weathered feldspar grains, grading to arenaceous siltstone, trace mica, weakly calcareous.
2	2115.0	LITHIC SANDSTONE: 100% very light grey to light greenish grey, clear to translucent quartz grains with vari coloured lithic grains, friable, sub blocky fracture, predominantly fine grained, trace fine to medium grains, sub angular to sub rounded, black lithic grains tending to be angular, well sorted, minor siliceous cement, common to abundant argillaceous matrix, common feldspar and weathered feldspar grains, trace chloritised grains, minor to common black lithic grains, trace moderate red lithic grains, trace mica, very poor visual porosity. No shows.
3	2117.6	LITHIC SANDSTONE: 100% very light grey to light greenish grey, clear to translucent quartz grains with vari coloured lithic grains, friable, sub blocky fracture, predominantly fine grained, trace fine to medium grains, sub angular to sub rounded, black lithic grains tending to be angular, well sorted, minor siliceous cement, common to abundant argillaceous matrix, common feldspar and weathered feldspar grains, trace chloritised grains, minor to common black lithic grains, trace moderate red lithic grains, trace mica, very poor visual porosity. No shows.
4	2120.4	LITHIC SANDSTONE: 100% generally as previous, very light grey to light greenish grey, clear to translucent quartz grains with vari coloured lithic grains, friable, sub blocky fracture, predominantly fine grained, trace fine to medium grains, sub angular to sub rounded, black lithic grains tending to be angular, well sorted, minor siliceous cement, common argillaceous matrix, common feldspar and weathered feldspar grains, trace chloritised grains, minor to common black lithic grains, trace moderate red lithic grains, trace mica, very poor visual porosity. No shows.
5	2121.6	LITHIC SANDSTONE: 100% very light grey to light greenish grey, clear to translucent quartz grains with vari coloured lithic grains, friable, sub blocky fracture, predominantly fine grained, trace fine to medium grains, sub angular to sub rounded, black lithic grains tending to be angular, well sorted, minor siliceous cement, minor to common argillaceous matrix, common feldspar and weathered feldspar grains, trace chloritised grains, minor to common black lithic grains, trace moderate red lithic grains, trace mica, poor to very poor visual porosity. No shows.
6	2124.4	CLAYSTONE: 100% medium grey to medium dark grey, moderately hard to hard, blocky to sub fissile, trace to rare quartz silt, trace coalified wood fragments, trace

Core Chip #	Chip Depth (m)	Lithology / Shows
7	2127.2	<p>mica, trace fine to medium quartz grains, trace weathered feldspar grains and black lithics, non calcareous.</p> <p>LITHIC SANDSTONE: 100% very light grey to light greenish grey, clear to translucent quartz grains with vari coloured lithic grains, friable, sub blocky fracture, predominantly fine grained, trace fine to medium grains, sub angular to sub rounded, black lithic grains tending to be angular, well sorted, minor siliceous cement, common argillaceous matrix, common feldspar and weathered feldspar grains, trace chloritised grains, minor to common black lithic grains, trace moderate red lithic grains, trace mica, very poor visual porosity. No shows.</p>
8	2130.0	<p>LITHIC SANDSTONE: 100% very light grey to light greenish grey, clear to translucent quartz grains with vari coloured lithic grains, friable, sub blocky fracture, predominantly fine grained, trace medium grains, sub angular to sub rounded, black lithic grains tending to be angular, well sorted, minor siliceous cement, common argillaceous matrix, common feldspar and weathered feldspar grains, trace chloritised grains, minor to common black lithic grains, trace moderate red lithic grains, trace mica, very poor visual porosity. No shows.</p>



Apache Northwest Ltd

CORE DESCRIPTION REPORT

Well Name :	Longtom-2 ST1	Date :	18/12/2004
Core Number :	2	Service Company :	Core Pro
Hole Size :	6.000 (in)	Core Diameter :	66.70 (mm)
Barrel Length:	0.00 (m)	Bit Type :	Security FCL642
Barrel Type :	Aluminium	Start Depth :	2,130.00 (m)
Mud Type :	KCL/Idcap D	End Depth :	2,148.00 (m)
Mud Weight :	10.60 (ppg)	Meters / Feet Cut :	18.00 (m)
ROP Min :	1.00 (m/h)	Recovery Length :	18.00 (m) (100.00%)
ROP Max :	31.00 (m/h)	Formation :	Admiral Formation Sandstone
ROP Avg :	4.20 (m/h)		
Geologists : C Menhennitt J Sonogo R Stear			
Comments : Core cut into approximately 3 metre lengths for shipping.			
Shipping Inventory			
2130.00 - 2132.80 m			
2132.80 - 2135.60 m			
2135.60 - 2138.45 m			
2138.45 - 2139.60 m			
2139.60 - 2142.40 m			
2142.40 - 2145.20 m			
2145.20 - 2148.00 m			

Core Chip #	Chip Depth (m)	Lithology / Shows
9	2130.0	LITHIC SANDSTONE: 100% very light grey to light greenish grey, clear to translucent quartz grains with vari coloured lithic grains, friable, sub blocky fracture, predominantly fine grained, trace medium grains, sub angular to sub rounded, black lithic grains tending to be angular, well sorted, minor siliceous cement, common argillaceous matrix, common feldspar and weathered feldspar grains, trace chloritised grains, minor to common black lithic grains, trace moderate red lithic grains, trace mica, very poor visual porosity. No shows.
10	2132.8	LITHIC SANDSTONE: 100% very light grey to light greenish grey, clear to translucent quartz grains with vari coloured lithic grains, friable, sub blocky fracture, fine to medium grained, sub angular to sub rounded, black lithic grains tending to be angular, well sorted, minor siliceous cement, common argillaceous matrix, common feldspar and weathered feldspar grains, trace chloritised grains, minor to common black lithic grains, trace moderate red lithic grains, trace mica, very poor visual porosity. No shows.
11	2135.6	LITHIC SANDSTONE: 100% generally as above, very light grey to light greenish grey, clear to translucent quartz grains with vari coloured lithic grains, friable, sub blocky fracture, fine to medium grained, sub angular to sub rounded, black lithic grains tending to be angular, well sorted, minor siliceous cement, common argillaceous matrix, common feldspar and weathered feldspar grains, trace chloritised grains, minor to common black lithic grains, trace moderate red lithic grains, trace mica, very poor visual porosity. No shows.
12	2138.5	LITHIC SANDSTONE: 100% generally as above, very light grey to light greenish grey, clear to translucent quartz grains with vari coloured lithic grains, friable, sub blocky fracture, fine to predominantly medium grained, sub angular to sub rounded, black lithic grains tending to be angular, well sorted, minor siliceous cement, common

Core Chip #	Chip Depth (m)	Lithology / Shows
13	2139.6	argillaceous matrix, common feldspar and weathered feldspar grains, trace chloritised grains, minor to common black lithic grains, trace moderate red lithic grains, trace mica, very poor visual porosity. No shows. LITHIC SANDSTONE: 100% generally as above, very light grey to light greenish grey, clear to translucent quartz grains with vari coloured lithic grains, friable, sub blocky fracture, fine to medium grained, sub angular to sub rounded, black lithic grains tending to be angular, well sorted, minor siliceous cement, common argillaceous matrix, common feldspar and weathered feldspar grains, trace chloritised grains, minor to common black lithic grains, trace moderate red lithic grains, trace mica, trace coaly laminae, very poor visual porosity. No shows.
14	2142.4	LITHIC SANDSTONE: 100% generally as above, very light grey to light greenish grey, clear to translucent quartz grains with vari coloured lithic grains, friable, sub blocky fracture, fine to medium grained, sub angular to sub rounded, black lithic grains tending to be angular, well sorted, minor siliceous cement, common argillaceous matrix, common feldspar and weathered feldspar grains, trace chloritised grains, minor to common black lithic grains, trace moderate red lithic grains, trace mica, trace very coarse to granule sized claystone clasts, poor visual porosity. No shows.
15	2145.2	ARGILLACEOUS SILTSTONE: 50% medium dark grey to dark grey, moderately hard to hard, blocky to sub fissile, finely laminated, common coaly fragments, minor very fine to fine grained quartz and lithics, grading to silty sandstone, common argillaceous matrix, no visual porosity, no shows.
	2145.2	LITHIC SANDSTONE: 50% very light grey to light greenish grey, clear to translucent quartz grains with vari coloured lithic grains, friable, sub blocky fracture, very fine to fine grained, sub angular to sub rounded, black lithic grains tending to be angular, well sorted, minor siliceous cement, common argillaceous matrix, common feldspar and weathered feldspar grains, trace chloritised grains, minor to common black lithic grains, trace moderate red lithic grains, trace mica, trace fine coaly fragments and laminations, very poor visual porosity. No shows.
16	2148.0	ARGILLACEOUS SILTSTONE: 100% medium dark grey to dark grey, moderately hard to hard, blocky to sub fissile, finely laminated, minor coaly fragments, minor very fine to fine grained quartz and lithics, grading to silty sandstone with trace very fine grained sandstone interlamination, common argillaceous matrix, no visual porosity, no shows.



**End of Well Report
for
Apache Energy Ltd**

Rig: Ocean Patriot
Well: Longtom-2
Field: Exploration
Country: Australia
Job No: AU-FE-0003298447
Date: 09-Nov-04
API No:



Table of Contents

1. General Information
2. Operational Overview
3. Summary of MWD Runs
4. Bitrun Summary
5. Directional Survey Data
6. Service Interrupt Report

General Information

Company:	Apache Energy Ltd	
Rig:	Ocean Patriot	
Well:	Longtom-2	
Field:	Exploration	
Country:	Australia	
API Number:		
Sperry-Sun Job Number:	AU-FE-0003298447	
Job start date:	09-Nov-04	
Job end date:	09-Nov-04	
North reference:	Grid	
Declination:	13.154	deg
Dip angle:	-68.616	deg
Total magnetic field:	59899.109	nT
Date of magnetic data:	09-Nov-04	
Wellhead coordinates N:	38 deg. 6 min 11.890 sec South	
Wellhead coordinates E:	148 deg. 19 min 0.920 sec East	
Vertical section direction:	Closure	deg
MWD Engineers:	T.Oborne	T.Sadler

Company Representatives: H.Everhart

Company Geologist:	J.Sonego	C.Mehnennitt
Lease Name:	VIC/P-54	
Unit Number:	174	
State:	Victoria	
County:		

Operational Overview

Sperry-Sun Drilling Services were contracted by Apache Energy Ltd to provide Logging While Drilling (LWD) services for the drilling of exploration well Longtom-2 from the Ocean Patriot.

311mm Hole Section:

This hole section was drilled to 1009.0 mMDRT in one bit run using Sperry-Sun's Formation Evaluation tool suite (FEWD) comprising Dual Gamma Ray (DGR), Electromagnetic Wave Resistivity (EWR-P4), Acoustic Caliper (ACAL) and Bi-Modal Acoustic Sonic (BAT) for logging purposes and a Position Monitor (PM) for directional control.

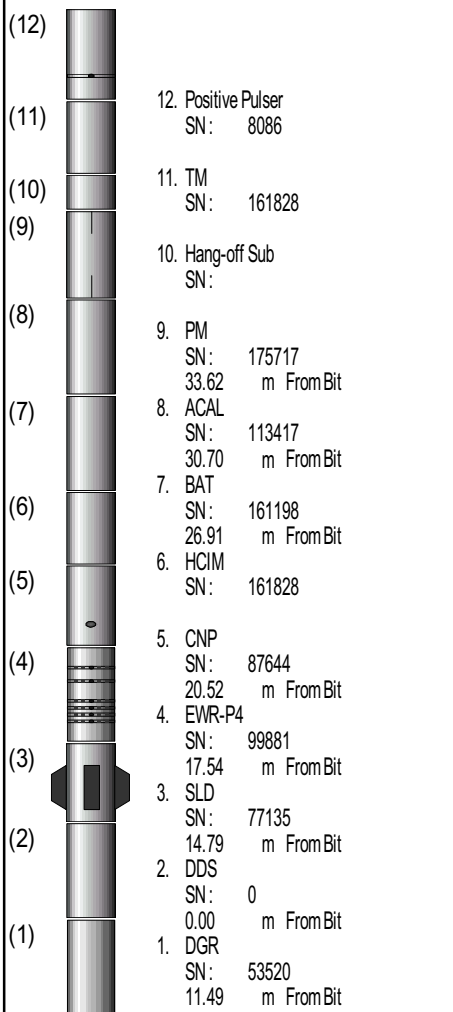
216mm Hole Section:

This hole section drilled to well TD at 2422.0 mMDRT in two bit runs using Sperry-Sun's Quad Combo tool suite, comprising of DGR, EWR-P4, Stabilised Litho Density (SLD), Compensated Neutron Porosity (CNP), ACAL and BAT for logging purposes and a PM for directional control.

Bitrun Summary

Run Time Data		Drilling Data		Mud Data				
MWD Run :	0100	Start Depth :	111.00 m	Mud Type :	Sea Water			
Rig Bit No:	2	End Depth :	1009.00 m	Weight / Visc :	1.04 sg / 1.06 spl			
Hole Size :	311.00 mm	Footage :	898.00 m	Chlorides :	42000 ppm			
Run Start :	11-Nov-04 09:40	Avg. Flow Rate :	910.00 gpm	PV / YP :	20.00 cp / 0.48 pa			
Run End :	12-Nov-04 09:57	Avg. RPM :	108.00 rpm	Solids/Sand :	9 % / N/A %			
BRT Hrs :	24.30	Avg. WOB :	15.00 klb	%Oil / O:W:	N/A % / N/A:91			
Circ. Hrs :	13.80	Avg. ROP :	85.30 m/hr	pH/Fluid Loss:	8.00 pH / 2.00 cptm			
Oper. Hrs :	24.30	Avg. SPP :	2280.00 psig	Max. Temp. :	26.00 degC			
MWD Schematics		BHA Schematics						
<div><div><div>(7)</div><div>(6)</div><div>(5)</div><div>(4)</div><div>(3)</div><div>(2)</div><div>(1)</div></div><div><div>7. 8 DGWD 650 System SN : 0.00 m From Bit</div><div>6. PM SN : 134019 30.19 m From Bit</div><div>5. ACAL SN : 141729 30.70 m From Bit</div><div>4. BAT SN : 136555 26.91 m From Bit</div><div>3. HCIM SN : 132884</div><div>2. DGR SN : 172498 17.71 m From Bit</div><div>1. EWR-P4 SN : 123481 14.68 m From Bit</div></div></div>		<div><div><div>(11)</div><div>(10)</div><div>(9)</div><div>(8)</div><div>(7)</div><div>(6)</div><div>(5)</div><div>(4)</div><div>(3)</div><div>(2)</div><div>(1)</div></div><div><div>Component</div><div>Length</div><div>O.D.</div><div>I.D.</div><div>(m)</div><div>(mm)</div><div>(mm)</div></div><div><div>11. HWDP139.07127.00076.200</div><div>10. Cross Over Sub1.13215.90073.025</div><div>09. Drill Collar27.05203.20073.025</div><div>08. Drilling Jars9.86209.55076.200</div><div>07. Drill collar45.82203.20071.438</div><div>06. MWD21.78203.20048.768</div><div>05. Float Sub0.78203.20076.200</div><div>04. Integral Blade Stabilizer2.31203.20076.200</div><div>03. Cross Over Sub0.87236.52576.200</div><div>02. 9-5/8" SperryDrill8.58244.60249.022</div><div>01. Hycalog PDC0.29311.15048.768</div></div></div>						
Comments				MWD Performance				
Drill 311mm hole section from 113.7 m MDRT to section TD @ 1009.0 mMDRT. All recorded data was recovered at surface.				Tool OD / Type : 203.00 mm / MPT				
				MWD Real-time%: 88.33 %				
				MWD Recorded%: 100.00 %				
				Min. Inc. : 0.25 deg / 795.70 m				
				Max. Inc. : 1.07 deg / 968.35 m				
				Final Az. : 52.66 deg				
				Max Op. Press. : 1450 psig				

Bitrun Summary

Run Time Data		Drilling Data		Mud Data																																																																																																				
MWD Run :	0200	Start Depth :	1009.00 m	Mud Type :	KCl/Idecap																																																																																																			
Rig Bit No:	3	End Depth :	2312.00 m	Weight / Visc :	1.27 sg /	47.00 spl																																																																																																		
Hole Size :	216.00 mm	Footage :	1303.00 m	Chlorides :	48000 ppm																																																																																																			
Run Start :	14-Nov-04 08:42	Avg. Flow Rate :	550.00 gpm	PV / YP :	19.00 cp /	10.50 pa																																																																																																		
Run End :	18-Nov-04 04:40	Avg. RPM :	80.00 rpm	Solids/Sand :	11 % /	0.4 %																																																																																																		
BRT Hrs :	91.97	Avg. WOB :	10.00 klb	%Oil / O:W:	N/A % /	N/A:89																																																																																																		
Circ. Hrs :	36.60	Avg. ROP :	51.75 m/hr	pH/Fluid Loss:	8.70 pH /	4.20 cptm																																																																																																		
Oper. Hrs :	91.97	Avg. SPP :	3000.00 psig	Max. Temp. :	99.00 degC																																																																																																			
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06. Integral Blade Stabilizer	1.63	171.450	69.850																																																																																																					
05. MWD	27.60	171.450	69.850																																																																																																					
04. Float Sub	0.50	171.450	69.850																																																																																																					
03. Integral Blade Stabilizer	2.02	165.100	69.850																																																																																																					
02. 6-3/4" SperryDrill	7.68	171.450	76.200																																																																																																					
01. Reed PDC	0.23	215.900	76.200																																																																																																					
Comments				MWD Performance																																																																																																				
Drilled 216mm hole section from 1009.0 mMDRT to 2312.00 mMDRT. All recorded data was recovered at surface.				Tool OD / Type :	171.00 mm /	MPT																																																																																																		
				MWD Real-time%:	81.00 %																																																																																																			
				MWD Recorded%:	100.00 %																																																																																																			
				Min. Inc. :	1.38 deg /	1025.79 m																																																																																																		
				Max. Inc. :	13.75 deg /	2232.27 m																																																																																																		
				Final Az. :	40.70 deg																																																																																																			
				Max Op. Press. :	4240 psig																																																																																																			

Bitrun Summary

Run Time Data		Drilling Data		Mud Data				
MWD Run :	0300	Start Depth :	2312.00 m	Mud Type :	KCl/Idecap			
Rig Bit No:	4	End Depth :	2422.00 m	Weight / Visc :	1.40 sg / 45.00 spl			
Hole Size :	216.00 mm	Footage :	110.00 m	Chlorides :	54000 ppm			
Run Start :	18-Nov-04 06:54	Avg. Flow Rate :	550.00 gpm	PV / YP :	21.00 cp / 16.50 pa			
Run End :	20-Nov-04 03:45	Avg. RPM :	120.00 rpm	Solids/Sand :	16 % / 0.65 %			
BRT Hrs :	44.86	Avg. WOB :	20.00 klb	%Oil / O:W:	N/A % / N/A:84			
Circ. Hrs :	27.25	Avg. ROP :	0.00 m/hr	pH/Fluid Loss:	9.00 pH / 4.80 cptm			
Oper. Hrs :	44.86	Avg. SPP :	3000.00 psig	Max. Temp. :	90.00 degC			
MWD Schematics		BHA Schematics						
<div><div><div>(12)</div><div>(11)</div><div>(10)</div><div>(9)</div><div>(8)</div><div>(7)</div><div>(6)</div><div>(5)</div><div>(4)</div><div>(3)</div><div>(2)</div><div>(1)</div></div><div><div>12. Positive Pulser SN: 8086</div><div>11. TM SN: 161828</div><div>10. Hang-off Sub SN:</div><div>9. PM SN: 175717 25.28 m From Bit</div><div>8. ACAL SN: 113417 22.36 m From Bit</div><div>7. BAT SN: 161198 18.57 m From Bit</div><div>6. HCIM SN: 161828</div><div>5. CNP SN: 87644 12.18 m From Bit</div><div>4. EWR-P4 SN: 99881 9.20 m From Bit</div><div>3. SLD SN: 77135 6.45 m From Bit</div><div>2. DDS SN: 0 0.00 m From Bit</div><div>1. DGR SN: 53520 3.15 m From Bit</div></div></div>		<div><div><div>(10)</div><div>(9)</div><div>(8)</div><div>(7)</div><div>(6)</div><div>(5)</div><div>(4)</div><div>(3)</div><div>(2)</div><div>(1)</div></div><div><div>Component</div><div>Length</div><div>O.D.</div><div>I.D.</div><div>(m)</div><div>(mm)</div><div>(mm)</div></div><div><div>10. Drill Pipe (E)</div><div>09. HWDP</div><div>08. Drill Collar</div><div>07. Drilling Jars</div><div>06. Drill Collar</div><div>05. Integral Blade Stabilizer</div><div>04. MWD</div><div>03. Float Sub</div><div>02. Integral Blade Stabilizer</div><div>01. Security MR6520</div></div><div><div>100.00</div><div>139.01</div><div>18.79</div><div>9.51</div><div>83.47</div><div>1.63</div><div>27.60</div><div>0.50</div><div>1.34</div><div>0.25</div></div><div><div>127.000</div><div>165.100</div><div>165.100</div><div>171.450</div><div>165.100</div><div>171.450</div><div>171.450</div><div>171.450</div><div>6.500</div><div>8.500</div></div><div><div>108.610</div><div>76.200</div><div>73.025</div><div>76.200</div><div>73.025</div><div>69.850</div><div>69.850</div><div>69.850</div><div>3.000</div><div>3.000</div></div></div>						
Comments				MWD Performance				
Drilled from 2312.0 mMDRT to 2422.0 mMDRT, POOH to run wireline logs. SLD tool failed prior to running in hole for run 300 (See Failure Report 1).				Tool OD / Type :				171.00 mm / MPT
				MWD Real-time%:				96.25 %
				MWD Recorded%:				100.00 %
				Min. Inc. :				11.96 deg / 2376.11 m
				Max. Inc. :				13.36 deg / 2292.01 m
				Final Az. :				45.76 deg
				Max Op. Press. :				4700 psig

Directional Survey Data

Measured Depth (metres)	Inclination (degrees)	Direction (degrees)	Vertical Depth (metres)	Latitude (metres)	Departure (metres)	Vertical Section (metres)	Dogleg (deg/30m)
78.30	0.00	0.00	78.30	0.00 N	0.00 E	0.00	TIE-IN
82.55	0.97	258.66	82.55	0.01 S	0.04 W	-0.03	6.83
112.76	0.85	147.07	112.76	0.24 S	0.16 W	-0.29	1.49
141.18	0.89	146.91	141.17	0.61 S	0.07 E	-0.36	0.05
167.69	1.01	154.86	167.68	0.99 S	0.28 E	-0.47	0.21
195.24	1.07	154.25	195.23	1.44 S	0.50 E	-0.62	0.06
280.64	0.94	157.28	280.61	2.80 S	1.11 E	-1.10	0.05
309.21	0.77	146.69	309.18	3.18 S	1.31 E	-1.21	0.24
337.70	0.79	157.77	337.67	3.53 S	1.49 E	-1.31	0.16
366.42	0.60	172.17	366.39	3.86 S	1.59 E	-1.47	0.27
424.64	0.46	168.46	424.60	4.39 S	1.67 E	-1.77	0.07
481.27	0.60	185.70	481.23	4.91 S	1.69 E	-2.11	0.11
566.25	0.73	188.21	566.20	5.88 S	1.57 E	-2.86	0.05
594.89	0.71	181.73	594.84	6.24 S	1.54 E	-3.13	0.09
623.80	0.70	174.98	623.75	6.60 S	1.55 E	-3.37	0.09
651.93	0.71	178.96	651.88	6.94 S	1.57 E	-3.59	0.05
680.50	0.56	173.05	680.45	7.26 S	1.59 E	-3.79	0.17
709.36	0.46	168.63	709.31	7.52 S	1.63 E	-3.94	0.12
738.17	0.32	152.68	738.11	7.70 S	1.69 E	-4.02	0.18
767.01	0.31	146.16	766.95	7.84 S	1.77 E	-4.05	0.04
795.70	0.25	96.83	795.64	7.91 S	1.87 E	-4.02	0.25
824.74	0.30	87.28	824.68	7.91 S	2.01 E	-3.93	0.07
853.15	0.47	59.73	853.09	7.85 S	2.18 E	-3.76	0.26
881.85	0.65	65.06	881.79	7.72 S	2.43 E	-3.49	0.20
910.57	0.94	47.41	910.51	7.49 S	2.76 E	-3.10	0.40
968.35	1.07	52.66	968.28	6.84 S	3.54 E	-2.08	0.08
1025.79	1.38	33.86	1025.71	5.94 S	4.35 E	-0.87	0.26
1055.31	1.47	38.91	1055.22	5.35 S	4.78 E	-0.15	0.16
1084.15	1.45	38.45	1084.05	4.78 S	5.24 E	0.58	0.02
1110.42	1.50	43.02	1110.31	4.27 S	5.69 E	1.25	0.14
1140.98	1.63	41.28	1140.86	3.65 S	6.25 E	2.08	0.14
1169.60	1.90	39.20	1169.46	2.98 S	6.81 E	2.95	0.29
1198.15	2.05	43.59	1198.00	2.24 S	7.46 E	3.93	0.22
1227.48	1.96	42.91	1227.31	1.49 S	8.17 E	4.96	0.10
1285.12	2.78	45.34	1284.90	0.21 N	9.83 E	7.34	0.43
1342.67	2.75	51.91	1342.38	2.04 N	11.91 E	10.11	0.17
1428.08	3.43	52.87	1427.67	4.85 N	15.56 E	14.69	0.24
1457.25	3.55	48.99	1456.78	5.97 N	16.94 E	16.46	0.27
1515.81	3.87	57.08	1515.22	8.24 N	19.97 E	20.22	0.31
1601.75	4.29	57.36	1600.94	11.54 N	25.11 E	26.23	0.15

Directional Survey Data

Measured Depth (metres)	Inclination (degrees)	Direction (degrees)	Vertical Depth (metres)	Latitude (metres)	Departure (metres)	Vertical Section (metres)	Dogleg (deg/30m)
1630.37	4.38	57.32	1629.48	12.71 N	26.93 E	28.36	0.10
1659.04	5.12	55.38	1658.05	14.03 N	28.90 E	30.70	0.79
1687.66	5.81	50.90	1686.54	15.67 N	31.07 E	33.41	0.85
1716.34	5.98	52.62	1715.07	17.49 N	33.39 E	36.34	0.26
1773.64	6.99	49.61	1772.01	21.56 N	38.41 E	42.80	0.56
1802.39	7.25	48.26	1800.53	23.90 N	41.10 E	46.36	0.32
1831.13	8.02	46.49	1829.02	26.49 N	43.90 E	50.17	0.84
1888.71	9.67	44.64	1885.91	32.69 N	50.22 E	59.02	0.87
1917.47	10.45	43.25	1914.23	36.31 N	53.70 E	64.04	0.85
1946.13	11.23	41.77	1942.38	40.29 N	57.34 E	69.41	0.86
1974.87	11.30	41.50	1970.56	44.48 N	61.07 E	75.00	0.10
2001.48	11.64	41.34	1996.64	48.45 N	64.57 E	80.27	0.38
2031.15	12.13	40.39	2025.68	53.07 N	68.57 E	86.34	0.54
2088.39	12.90	39.67	2081.56	62.57 N	76.54 E	98.65	0.41
2174.27	13.47	40.33	2165.17	77.57 N	89.14 E	118.10	0.21
2203.50	13.66	40.55	2193.59	82.79 N	93.58 E	124.91	0.20
2232.27	13.75	40.70	2221.54	87.97 N	98.02 E	131.68	0.09
2292.01	13.36	41.52	2279.61	98.52 N	107.23 E	145.61	0.22
2319.46	12.54	43.59	2306.37	103.05 N	111.38 E	151.74	1.03
2348.12	12.18	45.64	2334.36	107.42 N	115.69 E	157.87	0.59
2376.11	11.96	45.76	2361.73	111.51 N	119.88 E	163.72	0.24
2422.00	11.96	45.76	2406.63	118.14 N	126.70 E	173.23	0.00

Directional Survey Data

CALCULATION BASED ON Minimum Curvature METHOD

SURVEY COORDINATES RELATIVE TO WELL SYSTEM REFERENCE POINT

TVD VALUES GIVEN RELATIVE TO DRILLING MEASUREMENT POINT

VERTICAL SECTION RELATIVE TO WELL HEAD

VERTICAL SECTION IS COMPUTED ALONG CLOSURE OF 47.00 DEGREES (GRID)

A TOTAL CORRECTION OF 13.97 DEG FROM MAGNETIC NORTH TO GRID NORTH HAS BEEN APPLIED

HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD.

HORIZONTAL DISPLACEMENT(CLOSURE) AT 2422.00 METRES

IS 173.23 METRES ALONG 47.00 DEGREES (GRID)

Final survey is projected to TD.

RT-AHD=21.5m

Service Interrupt Report

MWD run number :	0300	Time/Date of Failure :	18-Nov-04 23:56
Rig Bit Number :	4	Depth at time of Failure :	0.00 (metres)
MWD Run start time/date :	18-Nov-04 06:54	Lost Rig Hours :	0.00
MWD Run end time/date :	20-Nov-04 03:45		

Rig Activity

Tripping in hole - ream tight spot.

Description of Failure

SLD sensor started sending NO RESP.

Action Taken

None

Operation Impact

No density data for run 300.

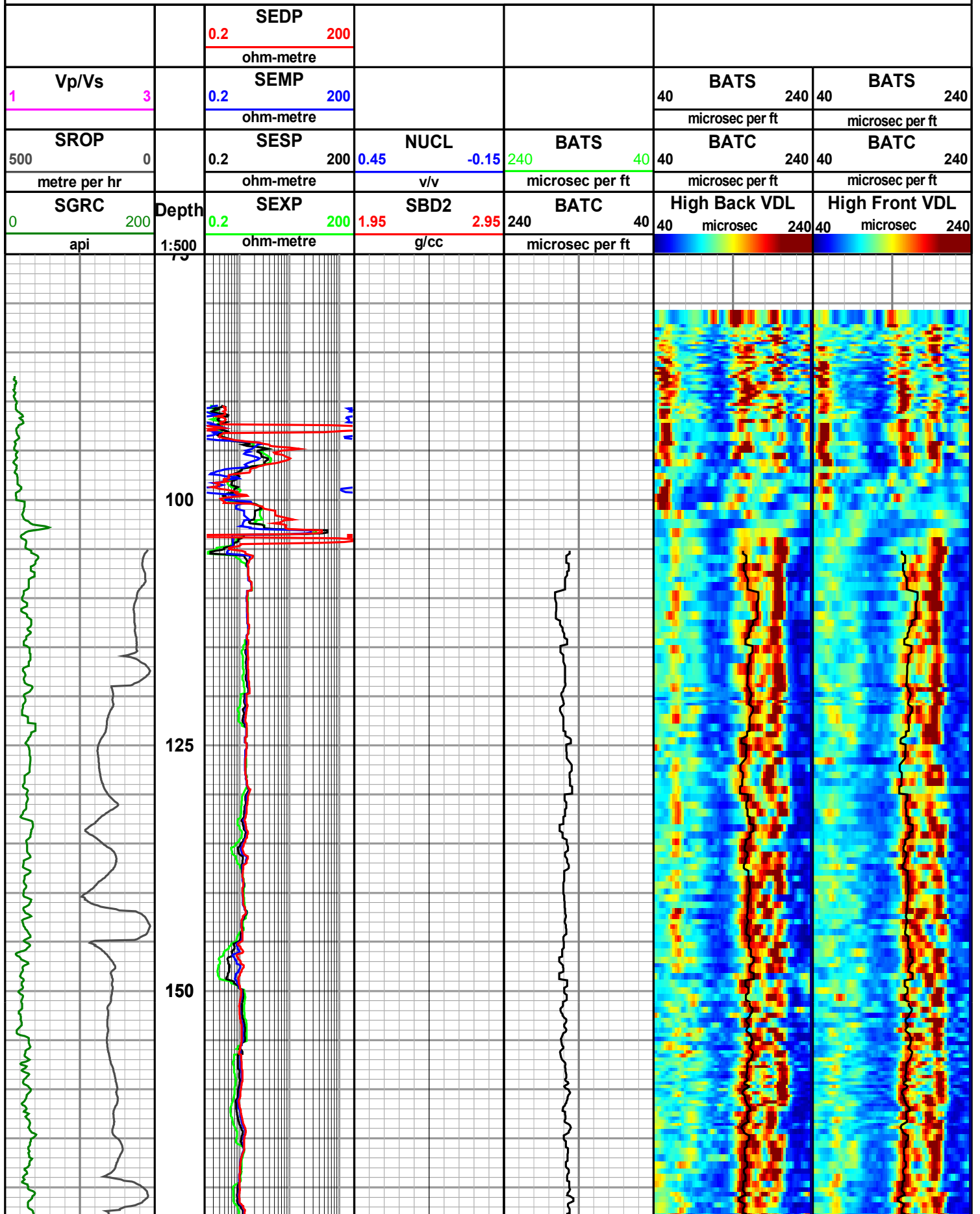
Reason for Failure

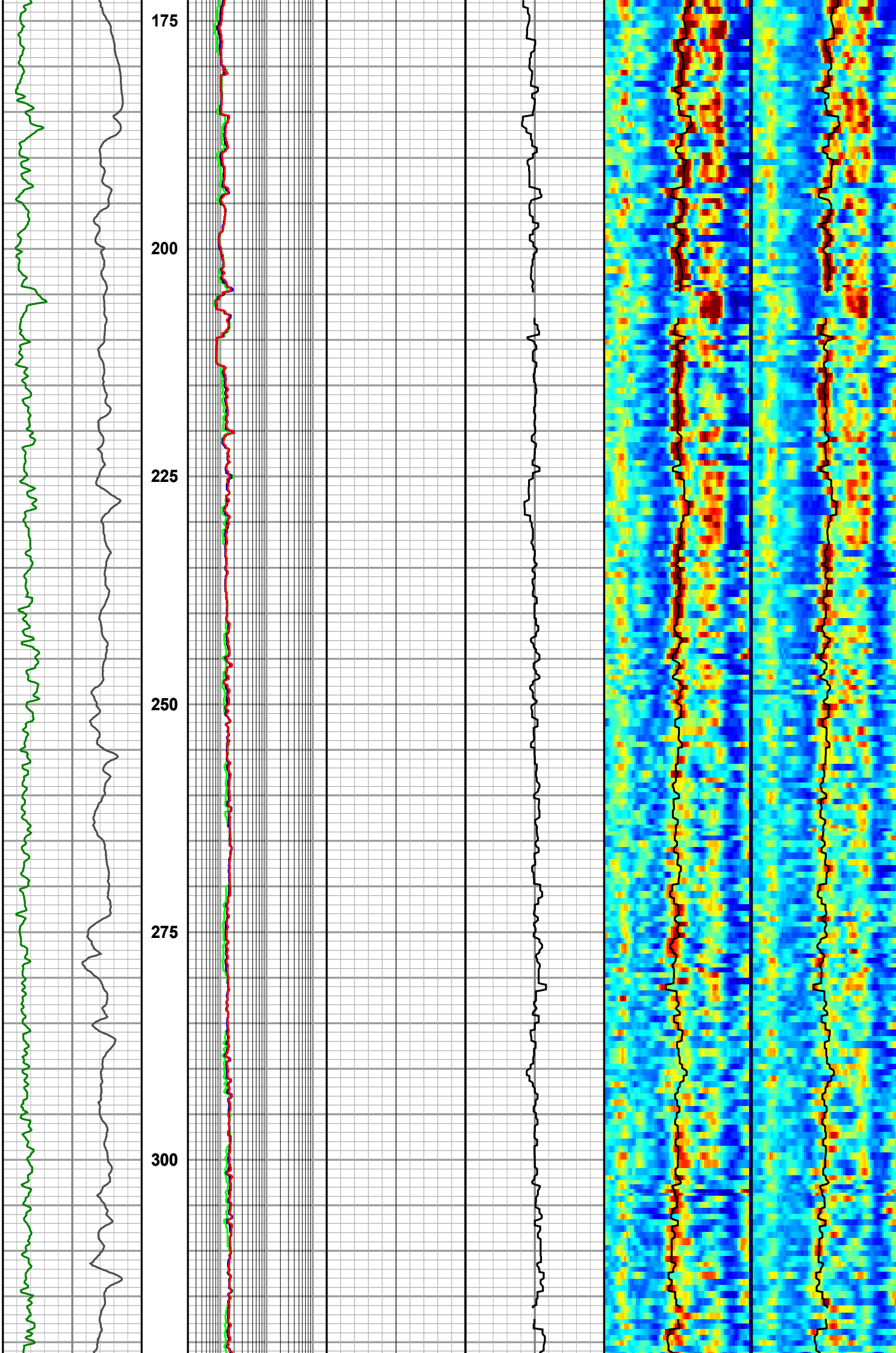
Unknown at rig site. SLD tool sent to Dampier R&M facility for further investigation.

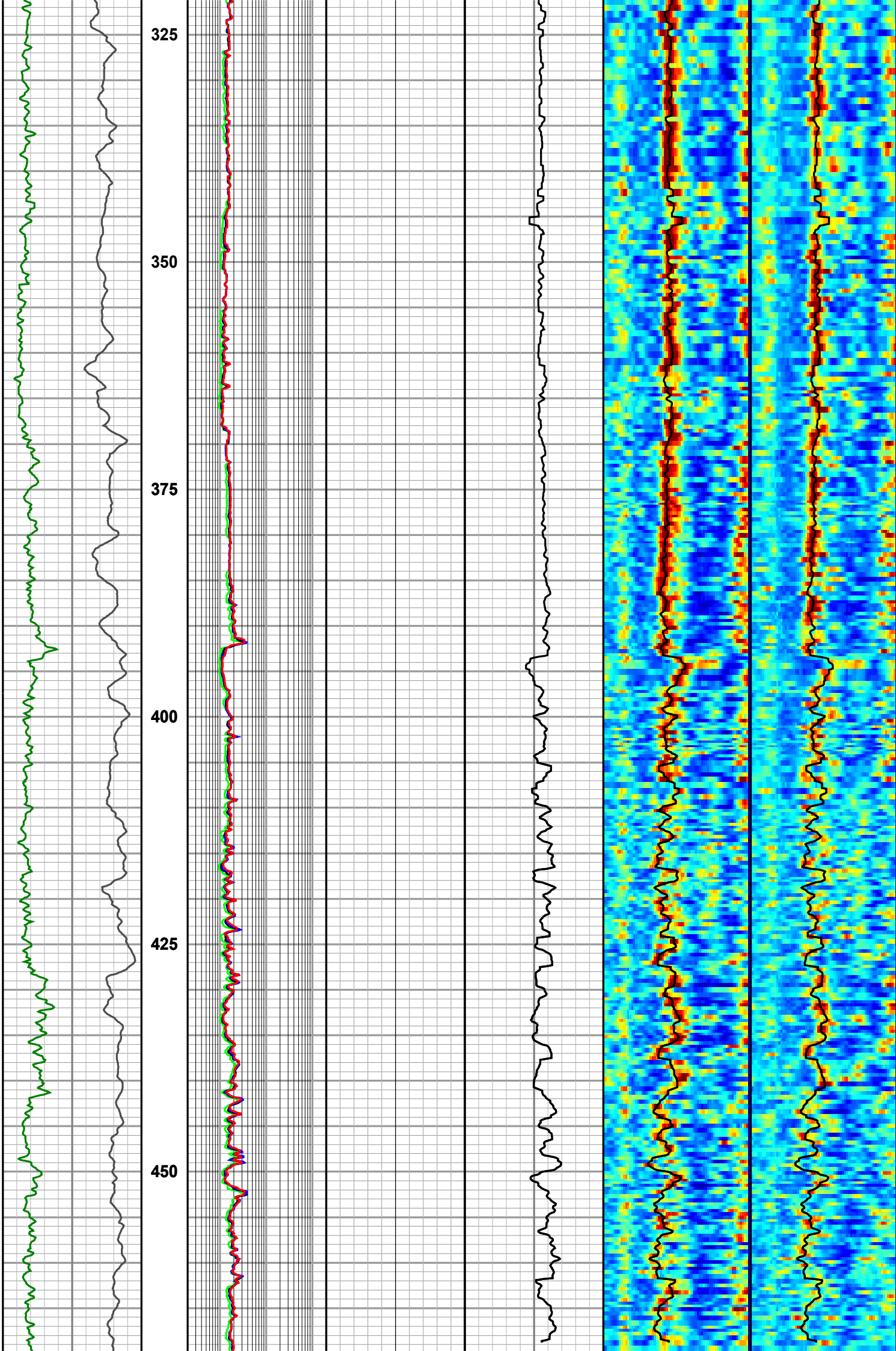
Longtom-2 BAT QC

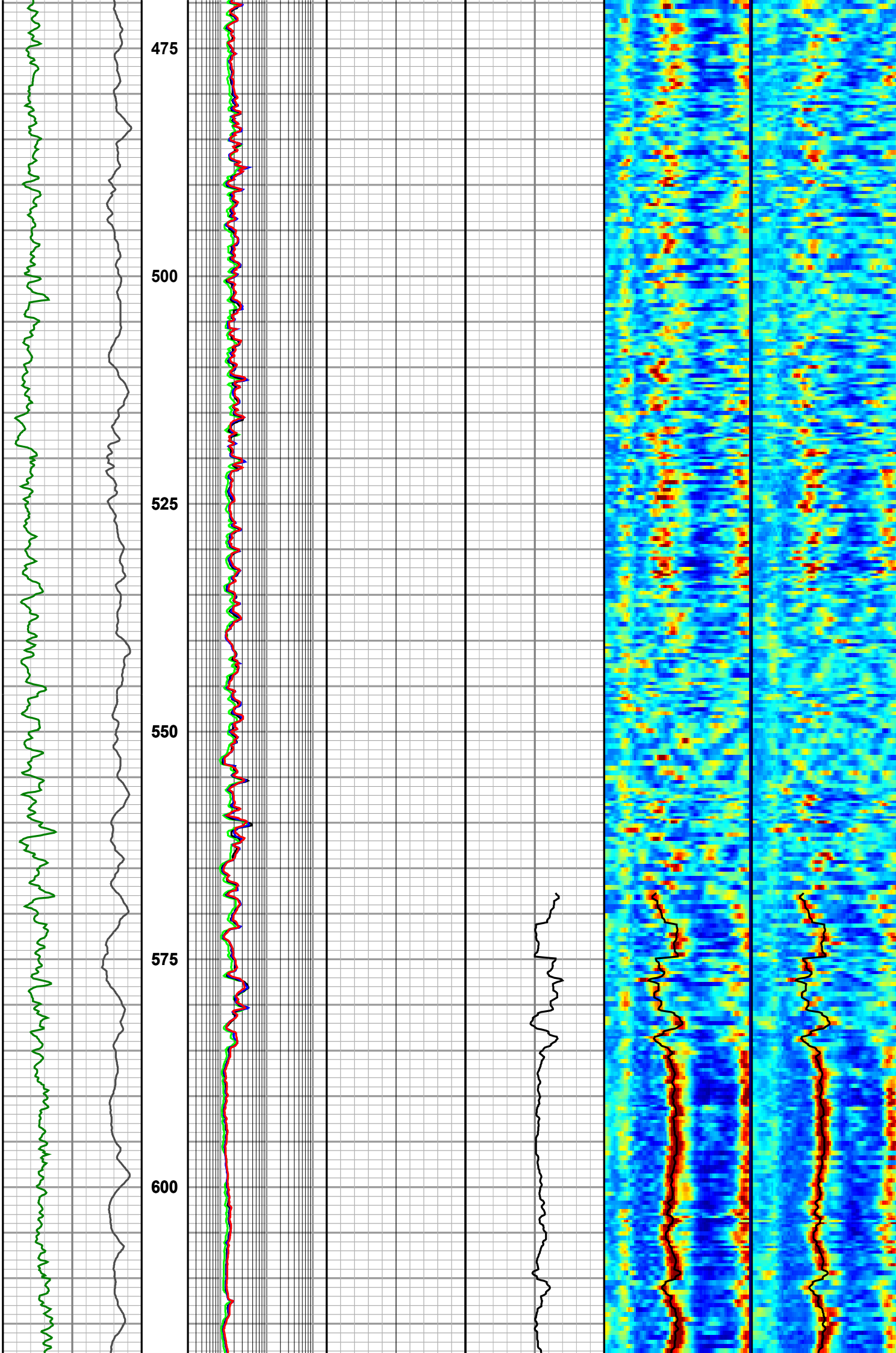
Density (SLD) tool failed while running in hole prior to run 300.

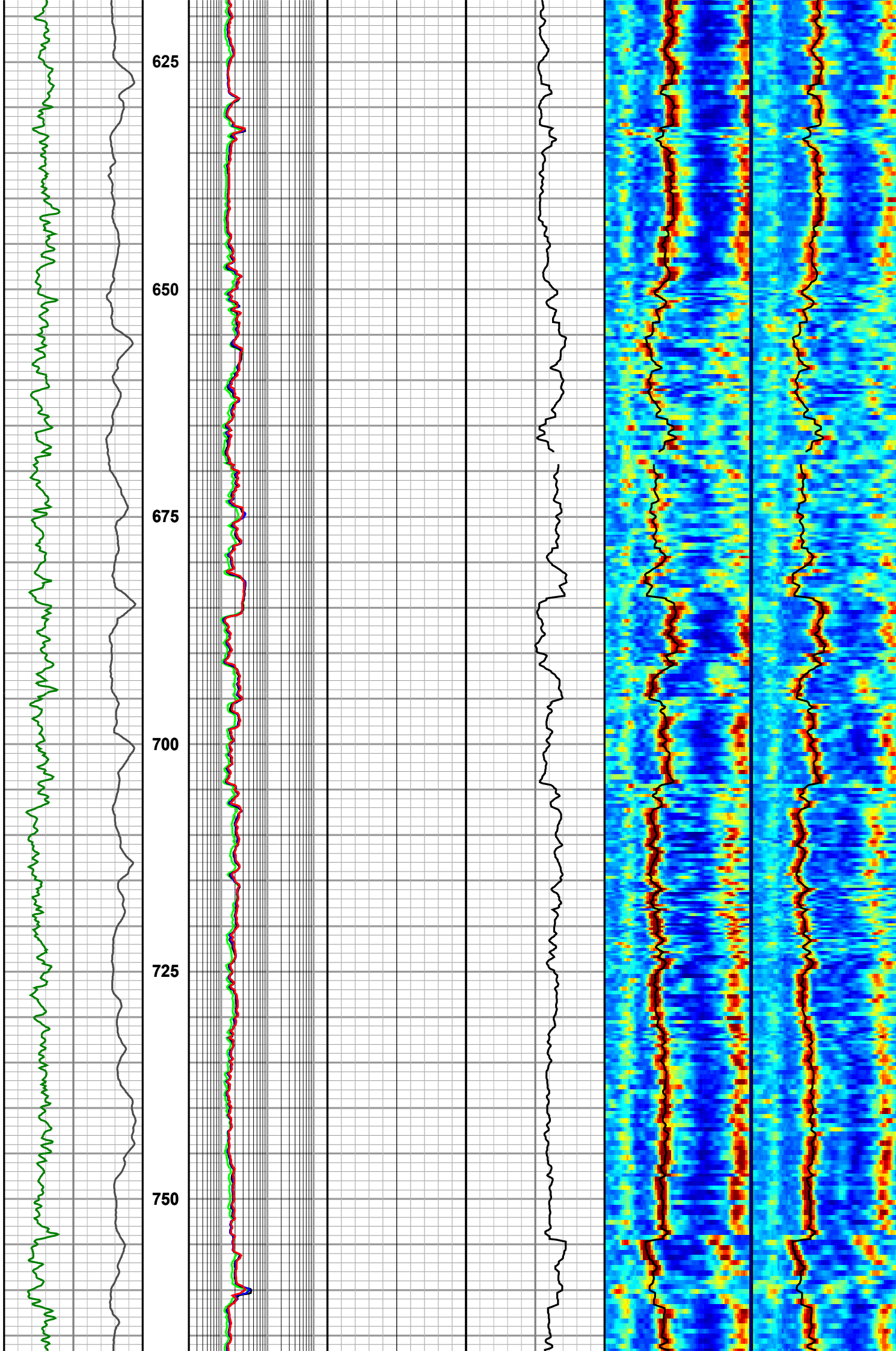
Gaps in Compressional Slowness (BATC) and Shear Slowness (BATS) are due to weak signal.

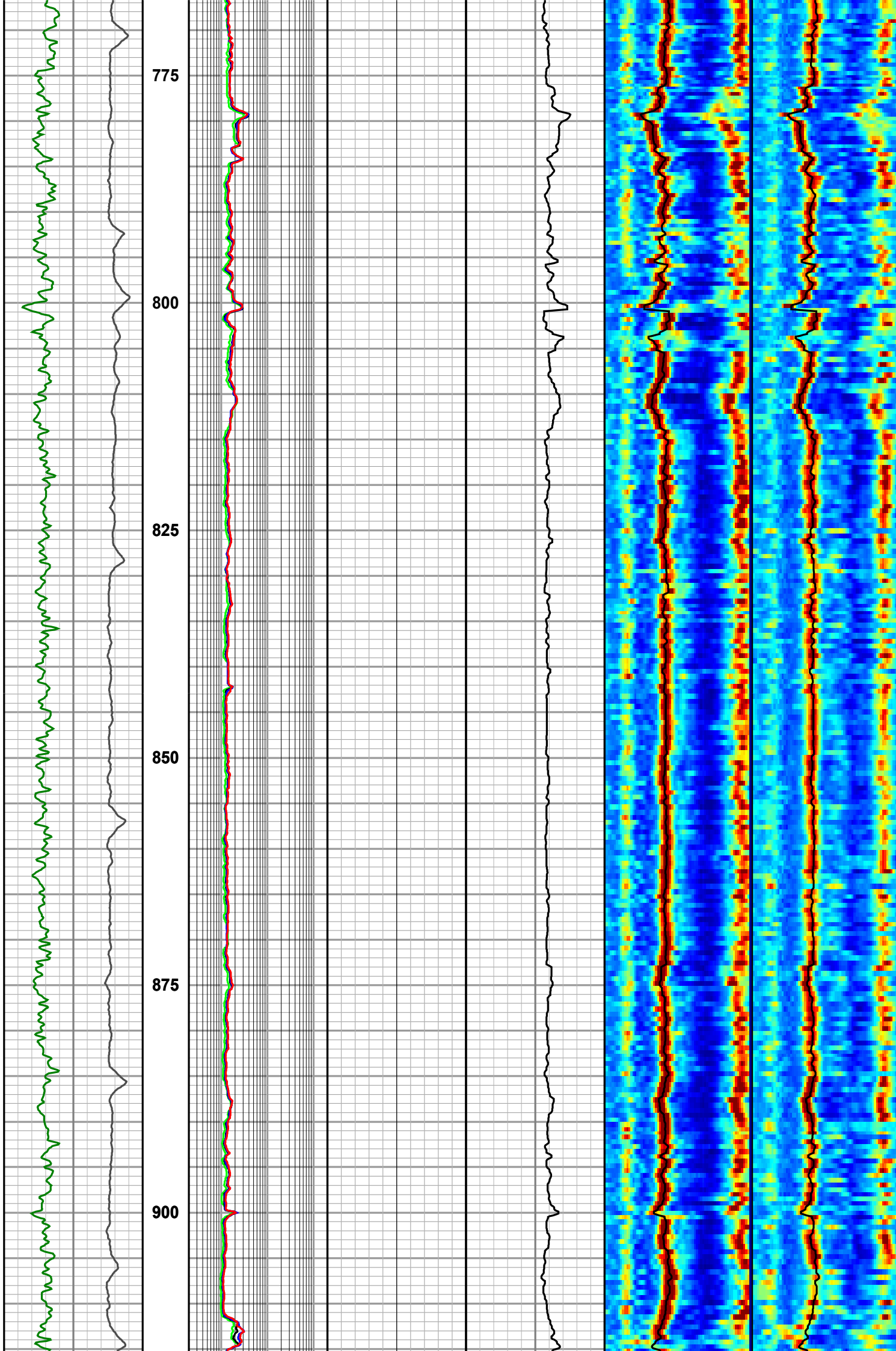


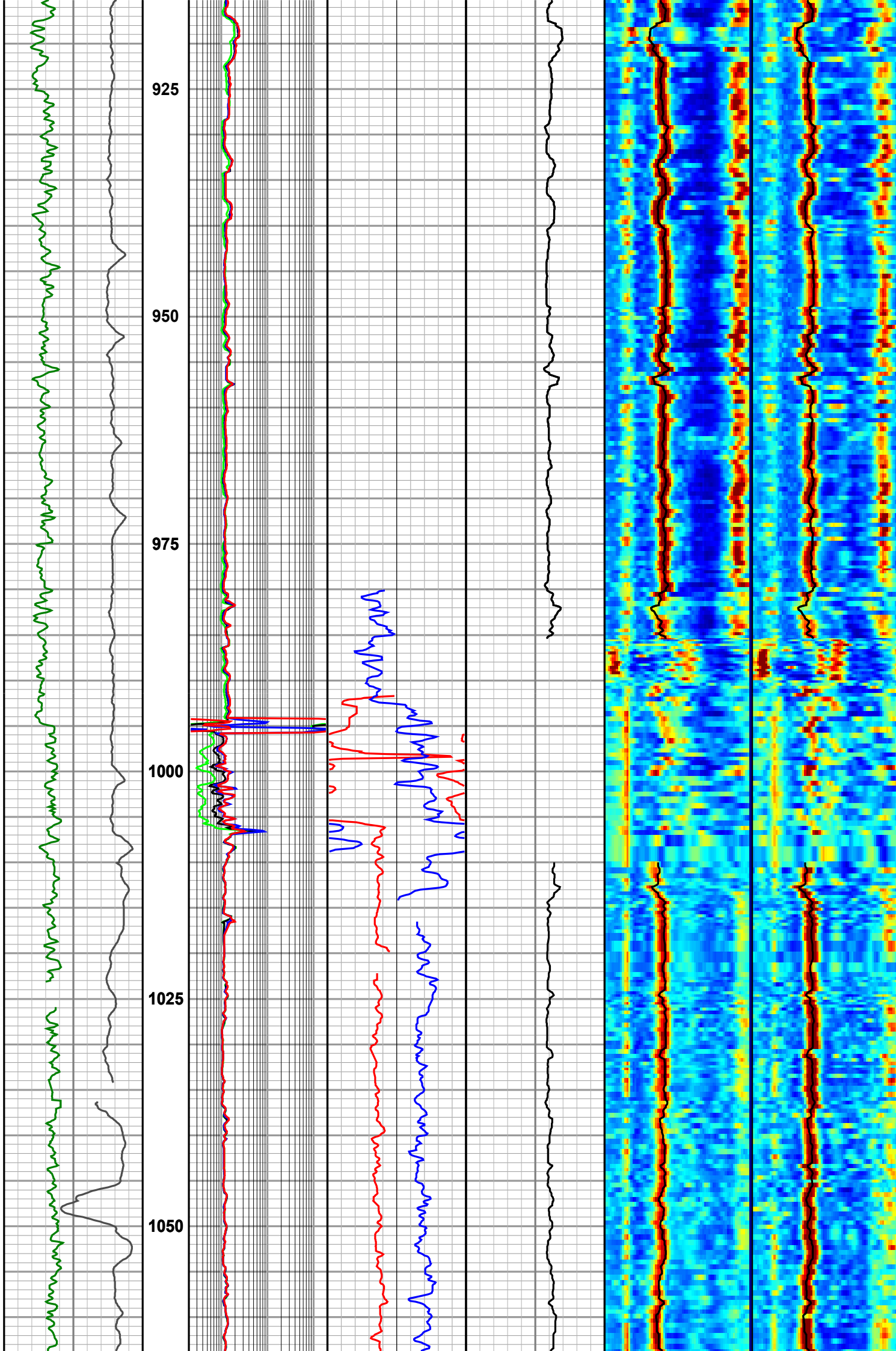


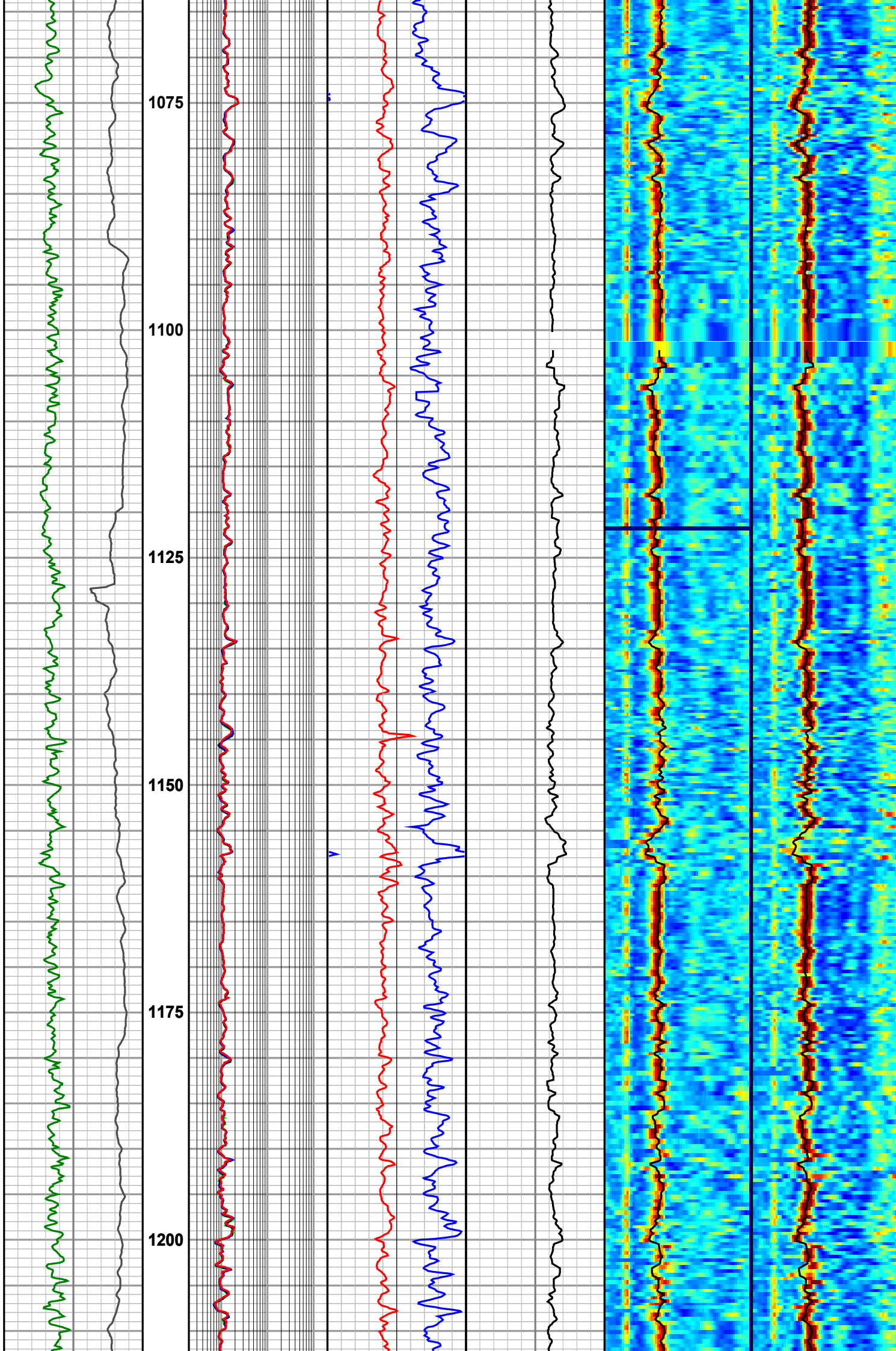


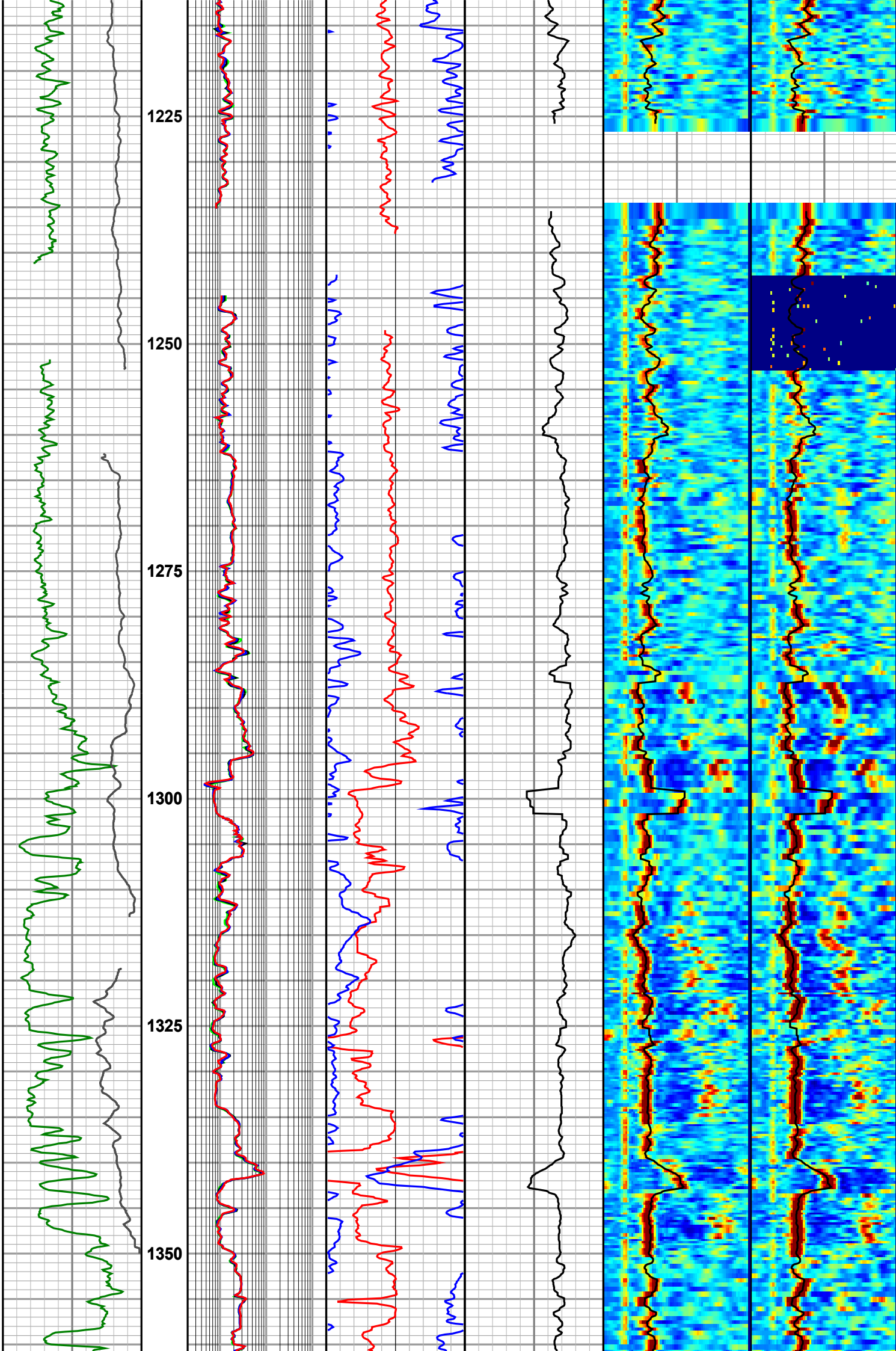


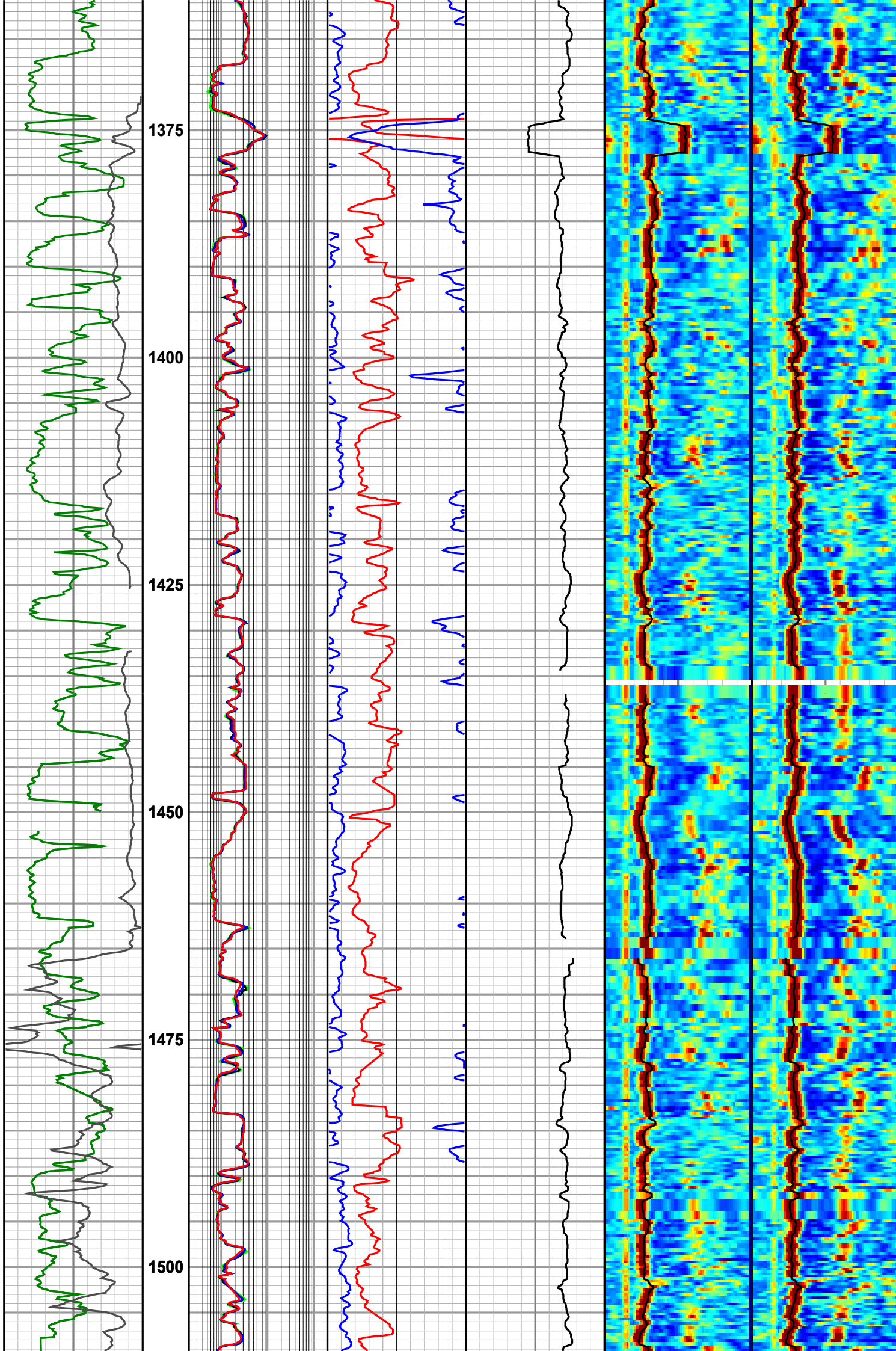


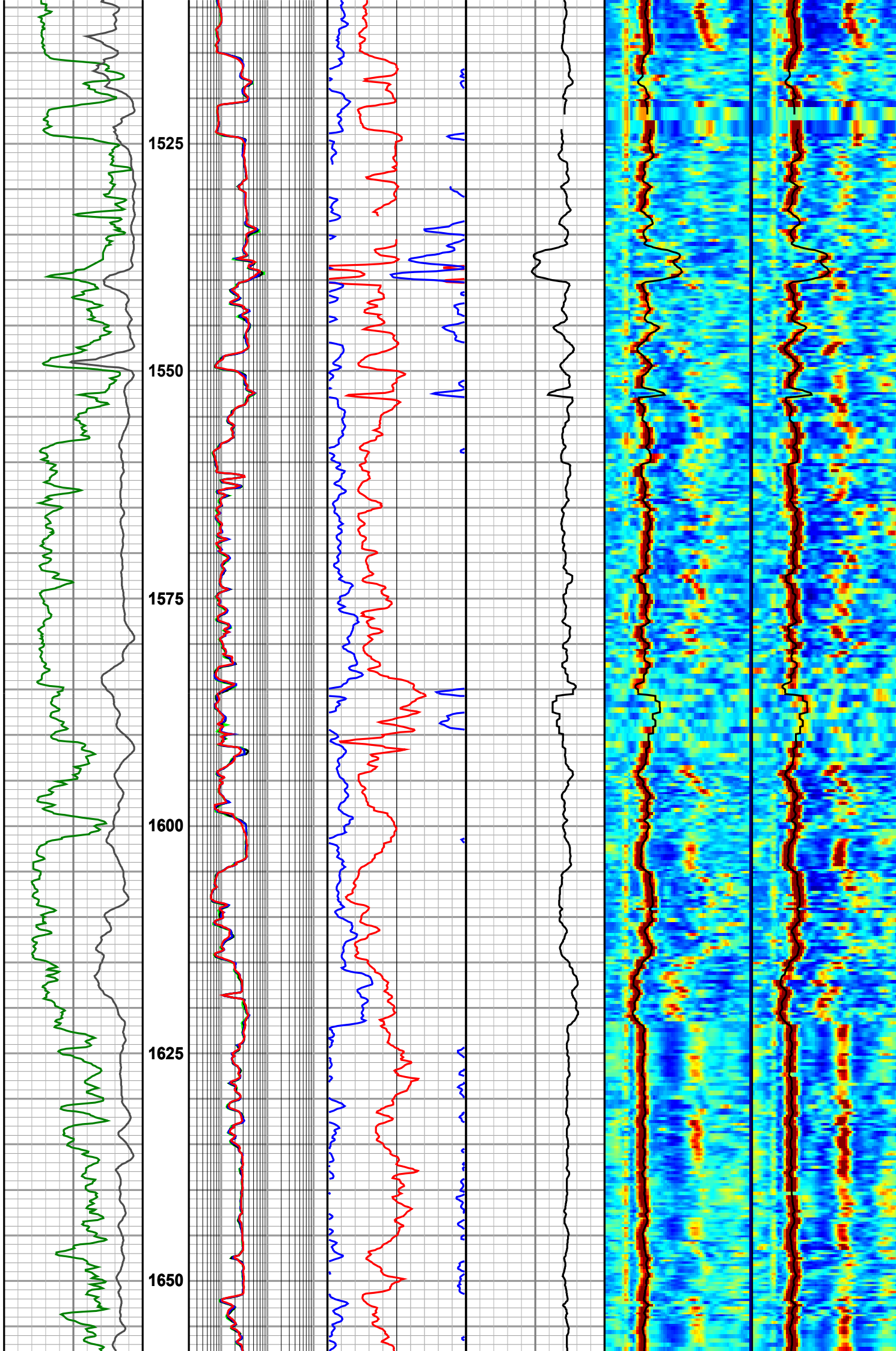


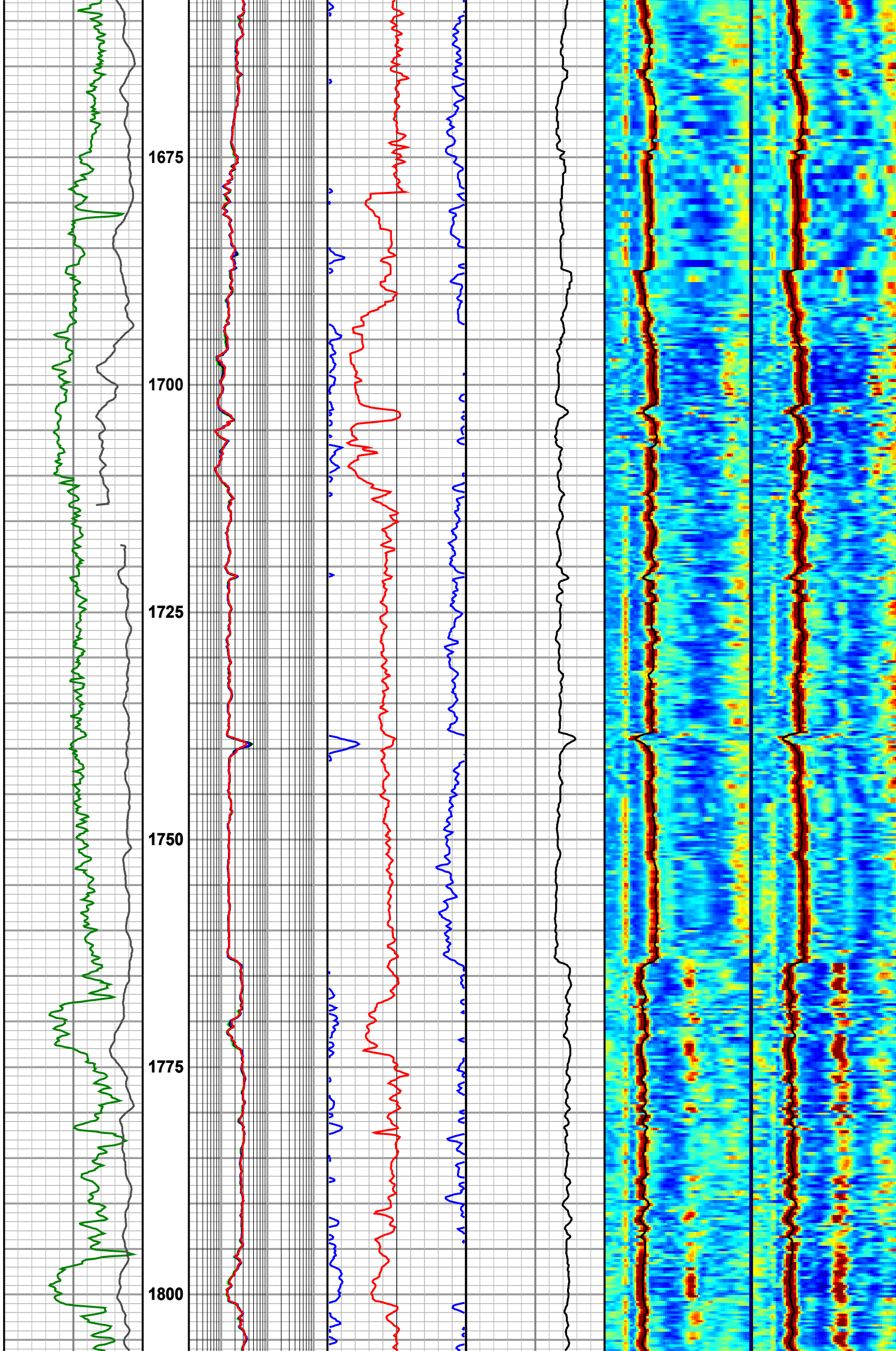


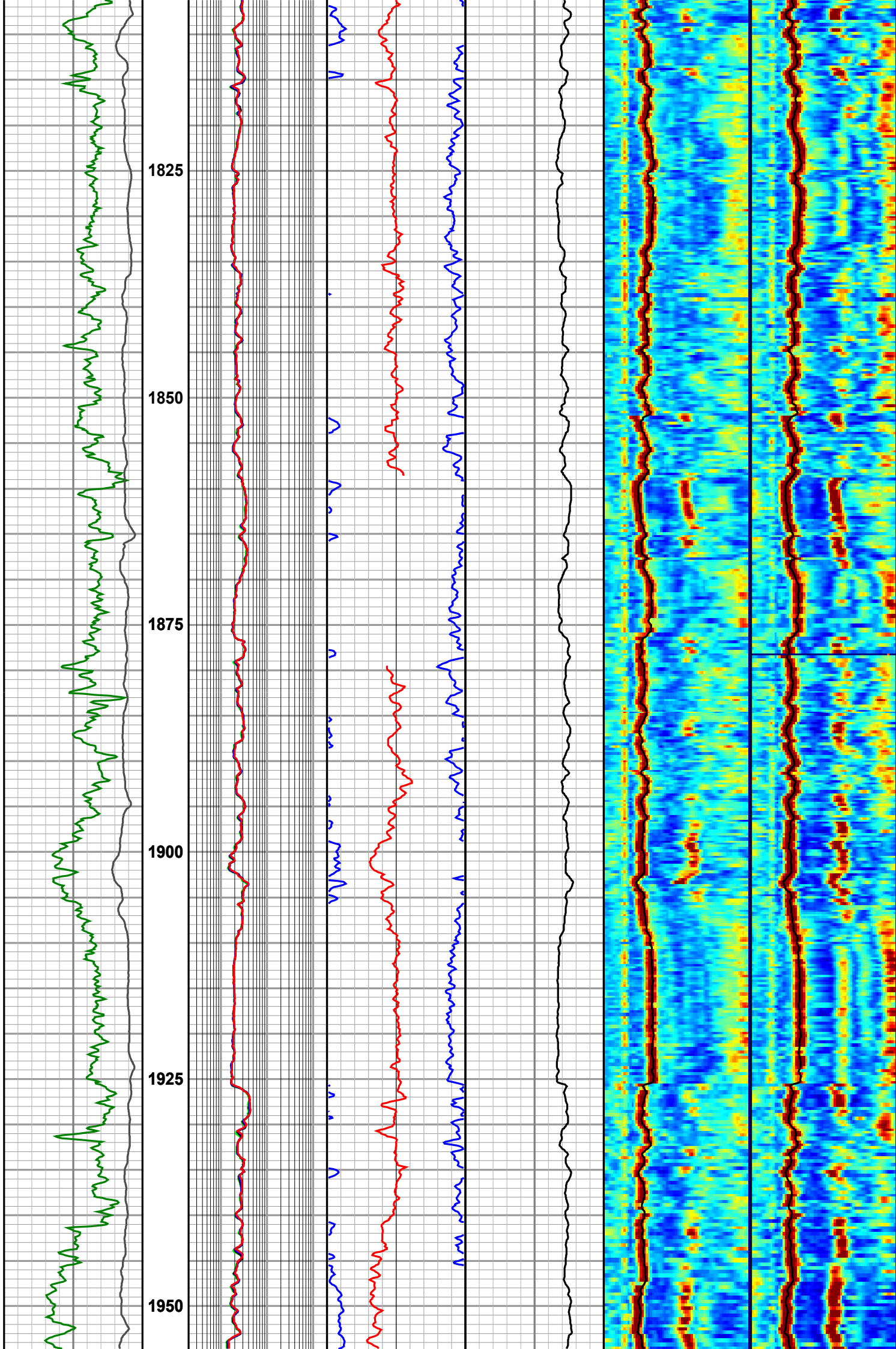


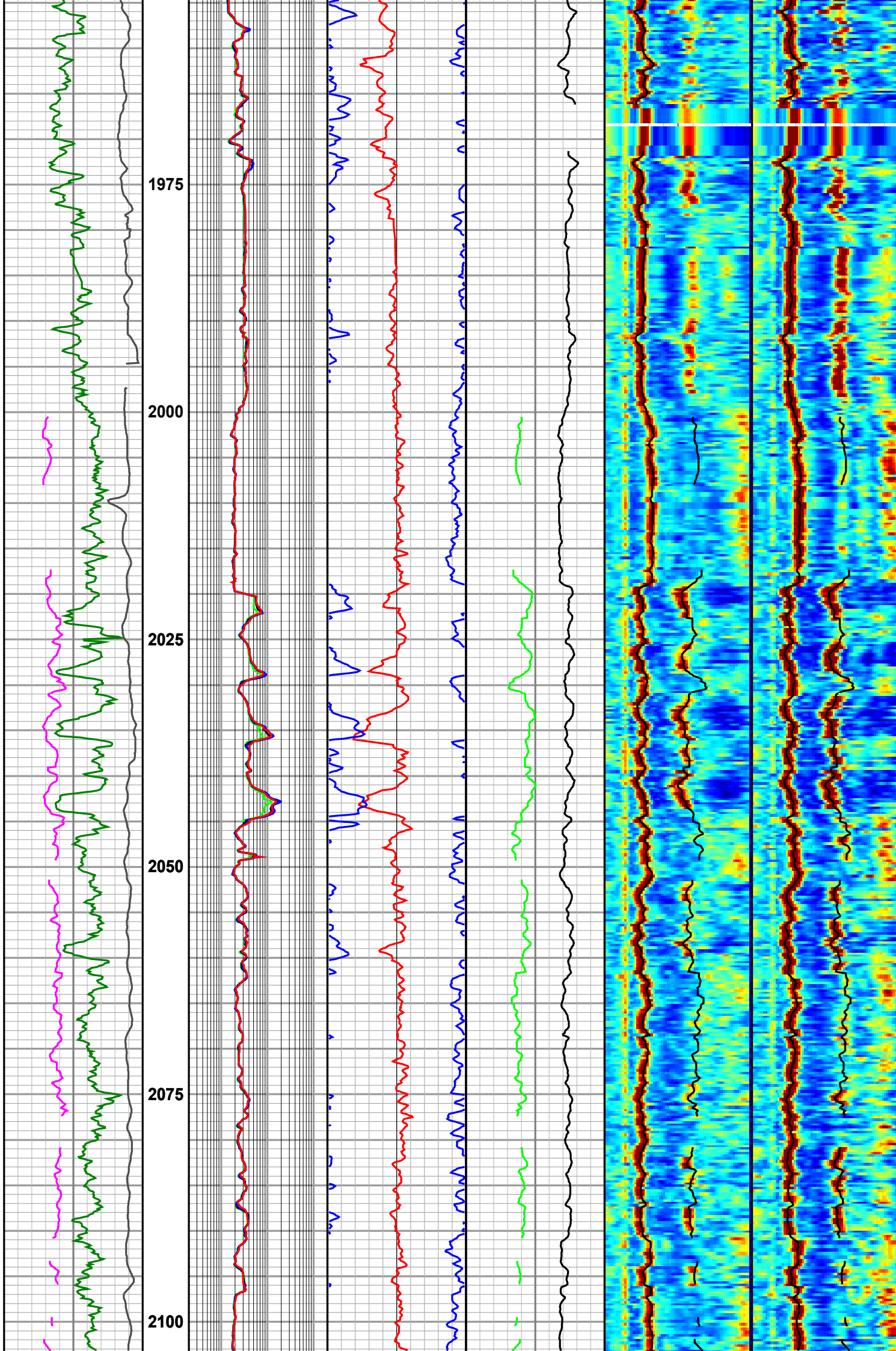


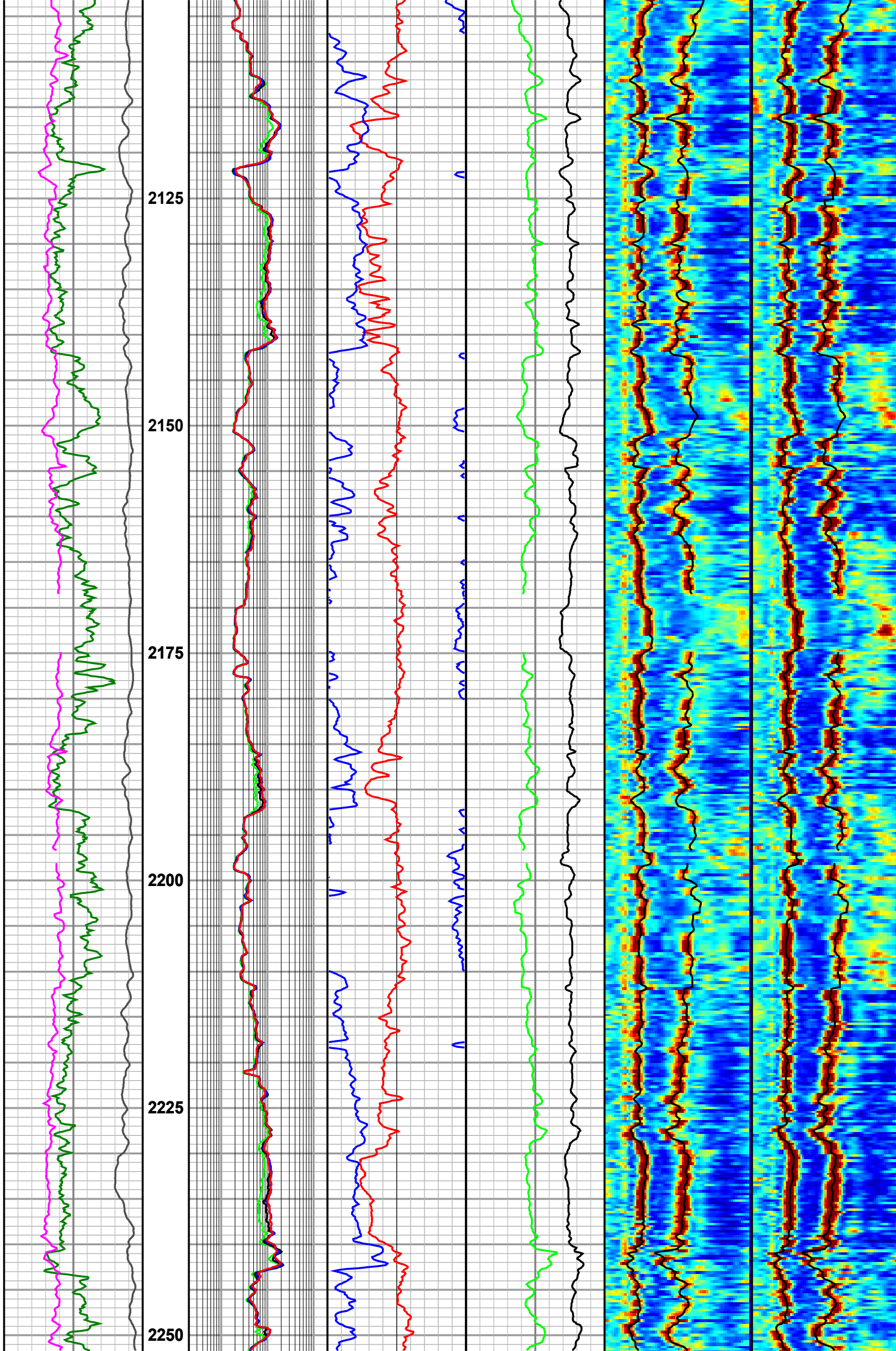


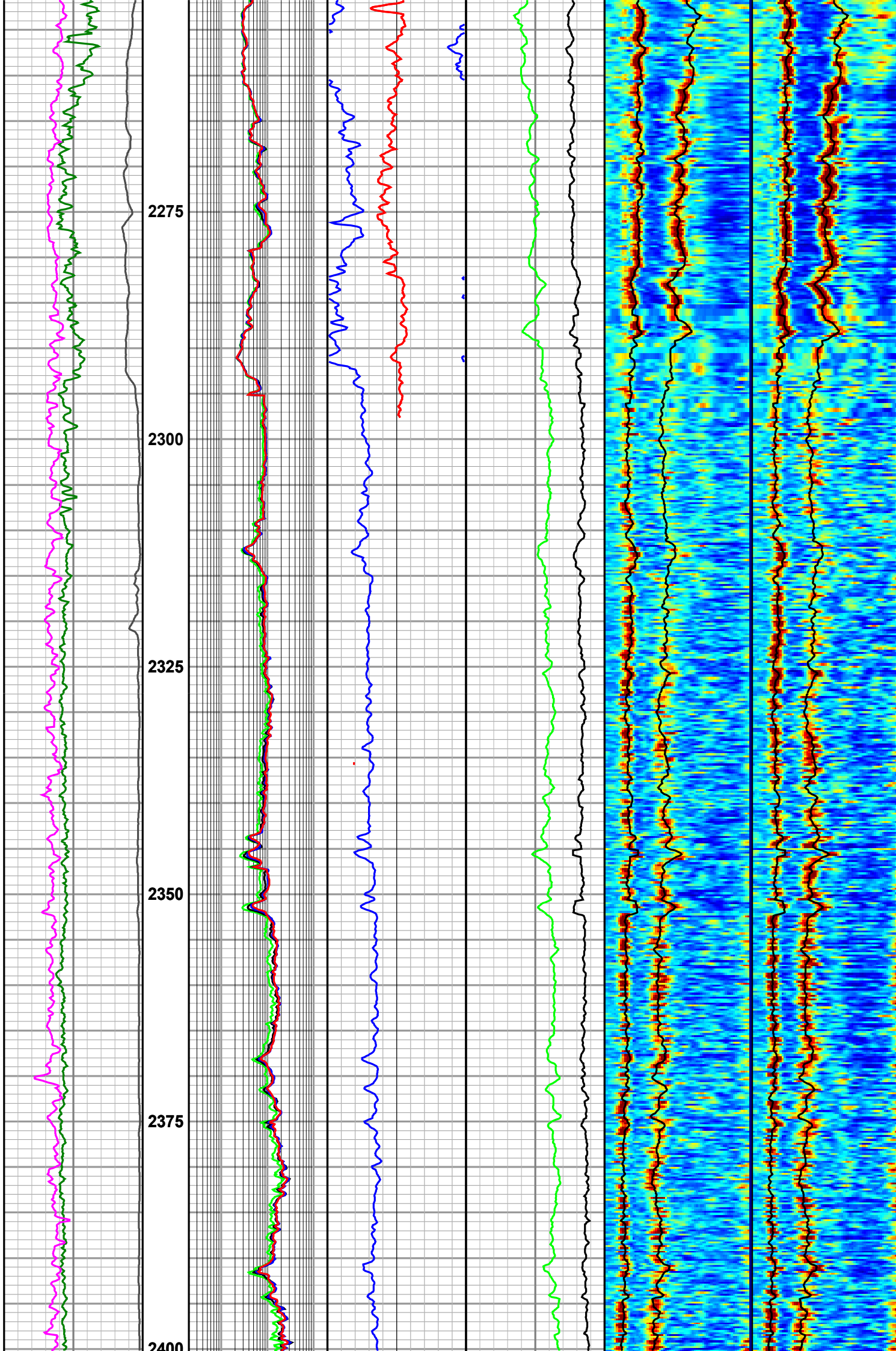


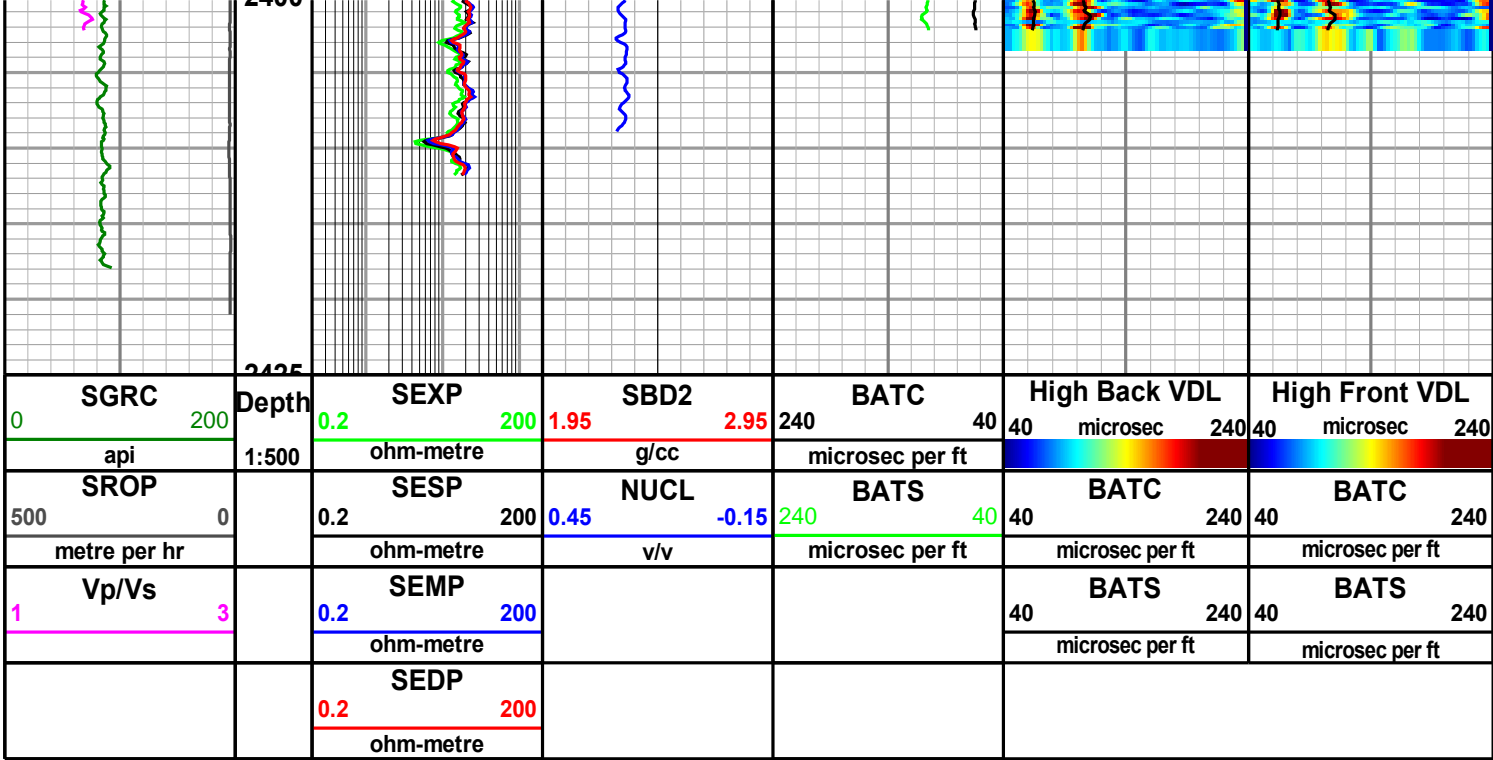














MWD

**EWR Electromagnetic Wave Resistivity
DGR Dual Gamma Ray
SLD Stabilized Litho-Density
CNP Compensated Neutron Porosity
ACAL Acoustic Caliper
BAT Bi-Modal Acoustic Tool**

Country		: Australia	
Field		: Exploration	
Location		: Lat: 38° 6' 11.89" South Long: 148° 19' 0.92" East	
Well		: Longtom-2	
Company		: Apache Energy Ltd	
Rig		: Ocean Patriot	
LOCATION		Company : Apache Energy Ltd Rig : Ocean Patriot Well : Longtom-2 Field : Exploration Country : Australia DOE Number :	
Latitude : 38° 6' 11.89" South Longitude : 148° 19' 0.92" East UTM Easting = 615,462.43 m UTM Northing = 5,781,904.33 m		Other Services Surface Data Logging	
Permanent Datum : AHD	Elevation : 0.00 m	Elev.	KB DF 21.50 m GL WD 56.80 m
Log Measured From : Drill Floor	21.50 m Above Permanent Datum		
Drilling Measured From : Drill Floor	MD LOG		
Depth Logged : 111.00 m To 2,422.00 m	Unit No. : 174	Job No. : AU-FE-000329847	
Date Logged : 12-Nov-04 To 20-Nov-04	Plot Type : Final		
Total Depth MD : 2,422.00 m TVD: 2,406.63 m	Plot Date : 22-Mar-05		
Spud Date : 09-Nov-04			
Run No.	Borehole Record (MD)		Run No.
Size	From	To	Size
2	311.000 mm	111.00 m	1,009.00 m
3	216.000 mm	1,009.00 m	2,312.00 m
4	216.000 mm	2,312.00 m	2,422.00 m
	</		

WELL INFORMATION

MWD Run Number	100	200	300		
Date run completed	12-Nov-04	18-Nov-04	20-Nov-04		
Rig Bit Number	2	3	4		
Bit Size (mm)	311	216	216		
Tool Nominal OD (mm)	203	171	171		
Log Start Depth (MD, m)	111.00	1,009.00	2,312.00		
Log End Depth (MD, m)	1,009.00	2,312.00	2,422.00		
Drill or Wipe	Drilling	Drilling	Drilling		
Drill/Wipe Start Date and Time	11-Nov-04 12:45	14-Nov-04 23:23	18-Nov-04 17:05		
Drill/Wipe End Date and Time	12-Nov-04 04:45	16-Nov-04 17:00	19-Nov-04 15:00		
Min Inc (deg) @ Depth (MD, m)	0.25 @ 795.70	1.38 @ 1,025.79	11.96 @ 2,376.11		
Max Inc (deg) @ Depth (MD, m)	1.0700 @ 968.35	13.75 @ 2,232.27	13.36 @ 2,292.01		
Bit TFA(in2) / Bit Type	0.79 / Hycalog PDC	0.57 / REED PDC	0.59 / Security MR6520		
Flow Rate (gpm)	910	550	550		
Max AV (mpm) / CV (mpm) @ MWD	73.8 / 13.2	168.0 / 129.0	154.3 / 117.6		
Fluid Type	Sea Water	KCl/Idecap	KCl/Idecap		
Density (sg) / Viscosity (spl)	1.04 / 1.06	1.3 / 47.00	1.4 / 45.00		
Filtrate CL (ppm)	42,000	48,000	54,000		
pH / Fluid Loss (cptm)	8.00 / 2.0	8.70 / 4.2	9.00 / 4.8		
PV (cp) / YP (pa)	20 / 0.5	19 / 10.50	21 / 16.50		
% Solids / % Sand	9 / N/A	11 / 0.4	16 / 0.65		
% Oil / Oil:Water Ratio	N/A / N/A:91	N/A / N/A:89	N/A / N/A:84		
Rm @ Measured Temp (degC)	N/A @ N/A	0.10 @ 28.00	0.11 @ 23.30		
Rmf @ Measured Temp (degC)	N/A @ N/A	0.08 @ 28.00	0.10 @ 20.00		
Rmc @ Measured Temp (degC)	N/A @ N/A	0.15 @ 28.00	0.40 @ 24.50		
Max Tool Temp (degC) / Source	26.00 / EWR-P4	99.00 / EWR-P4	90.00 / EWR-P4		
Rm @ Max Tool Temp (degC)	N/A @ 26.00	0.04 @ 99.00	0.04 @ 90.00		
Lead MWD Engineer	T.Oborne	T.Oborne	T.Oborne		
Customer Representative	H.Everhart	H.Everhart	H.Everhart		

SENSOR INFORMATION

Downhole Processor Information					
Tool Type	HCIM	HCIM	HCIM		
Software Version	67.88	67.88	67.88		
Sub Serial Number	198840	197929	197929		
Insert Serial Number	132884	161828	161828		
Logging String Serial Number	62057XHGV8	62270XH1NRGV6	62270XH1NRGV6		
Date and Time Initialized	11-Nov-04 09:40	14-Nov-04 08:42	18-Nov-04 06:54		
Date and Time Read	12-Nov-04 09:57:27	18-Nov-04 04:38:00	20-Nov-04 03:45:19		

Directional Sensor Information					
Tool Type	PM	PM	PM		
Distance From Bit (m)	30.19	33.62	25.28		
Software Version	1.08	1.08	1.08		
Sub Serial Number	111363	194447	194447		
Sonde Serial Number	134019	175717	175717		
Sensor ID Number	182591	149865	44645		
Survey String Serial Number	DM90061055M8	DM90062415M6	DM90062415M6		
Toolface Offset (deg)	N/A	N/A	N/A		

Gamma Ray Sensor Information					
Tool Type	DGR	DGR	DGR		
Distance From Bit (m)	17.71	11.49	3.15		
Recorded Sample Period (sec)	12	12	12		
Software Version	N/A	N/A	N/A		
Sub Serial Number	10505993	1	1		
Insert/Sonde Serial Number	172498	53520	53520		

Resistivity Sensor Information					
Tool Type	EWR-P4	EWR-P4	EWR-P4		
Distance From Bit (m)	14.68	17.54	9.20		
Recorded Sample Period (sec)	12	12	12		
Software Version	1.38	1.38	1.38		
Sub Serial Number	174309	60579	60579		
Receiver Insert Serial Number	123481	99881	99881		
Transmitter Insert Serial Number	159149	144695	144695		
Receiver Orientation	Down	Down	Down		

Neutron Sensor Information					
Tool Type		CNP	CNP		
Distance From Bit (m)		20.52	12.18		
Recorded Sample Period (sec)		12	12		
Sub Serial Number		177933	177933		
Insert Serial Number		87644	87644		
Source Serial Number		4070NK	4070NK		
Source Factor		1.1400	1.1400		
Pin Orientation		Down	Down		

Density Sensor Information					
Tool Type		SLD	SLD		
Distance From Bit (m)		14.79	6.45		
Recorded Sample Period (sec)		14	14		
Software Version		11.00	11.00		
Sub Serial Number		121000	121000		
Insert Serial Number		77135	77135		
Sensor ID Number		324	324		
Source Serial Number		3085GW	3085GW		
Pin Orientation		Up	Up		
Stabilizer Blade O.D. (mm)		209.550	209.550		
DPA Offset		N/A	N/A		

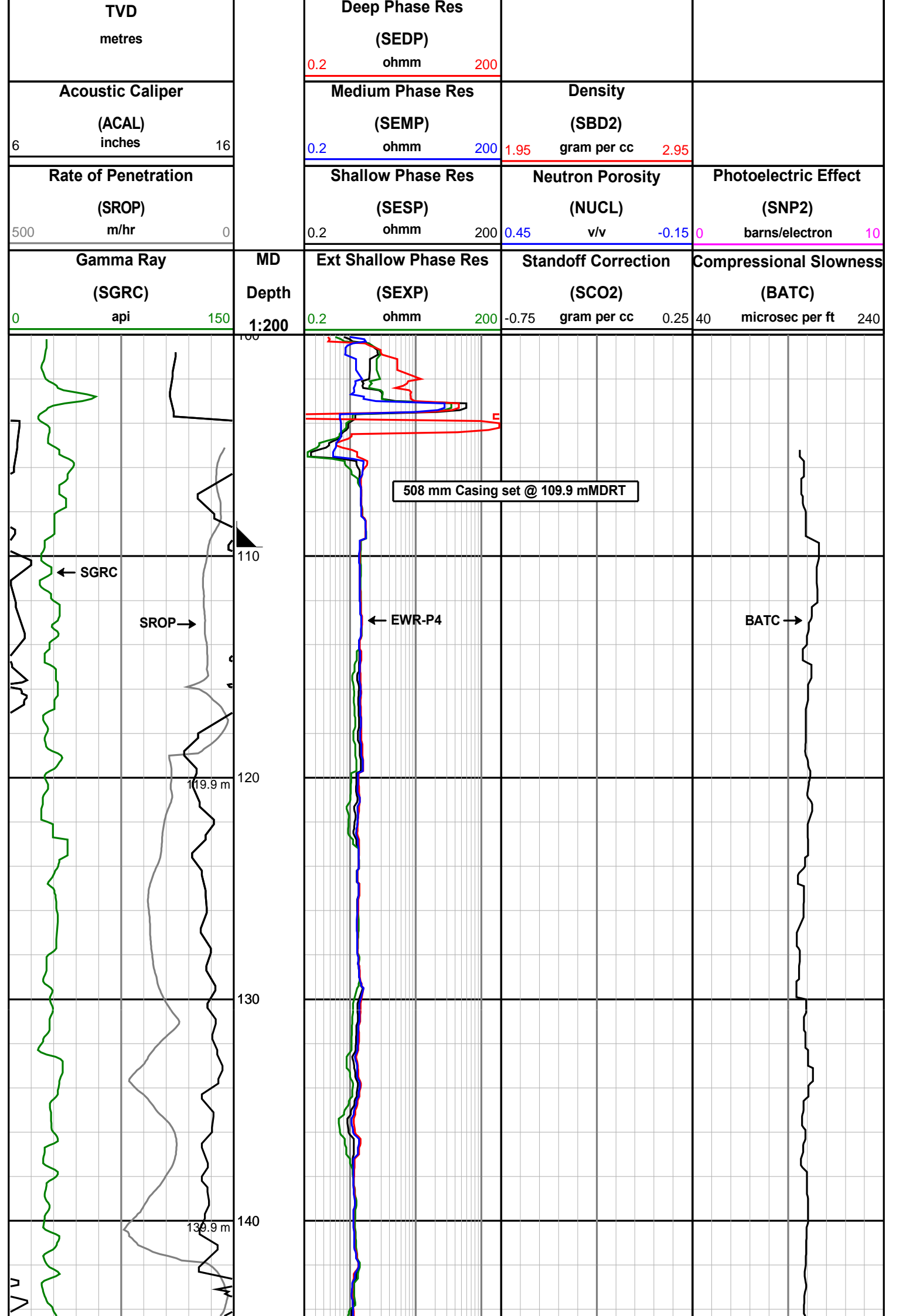
Caliper Sensor Information					
Tool Type	ACAL	ACAL	ACAL		

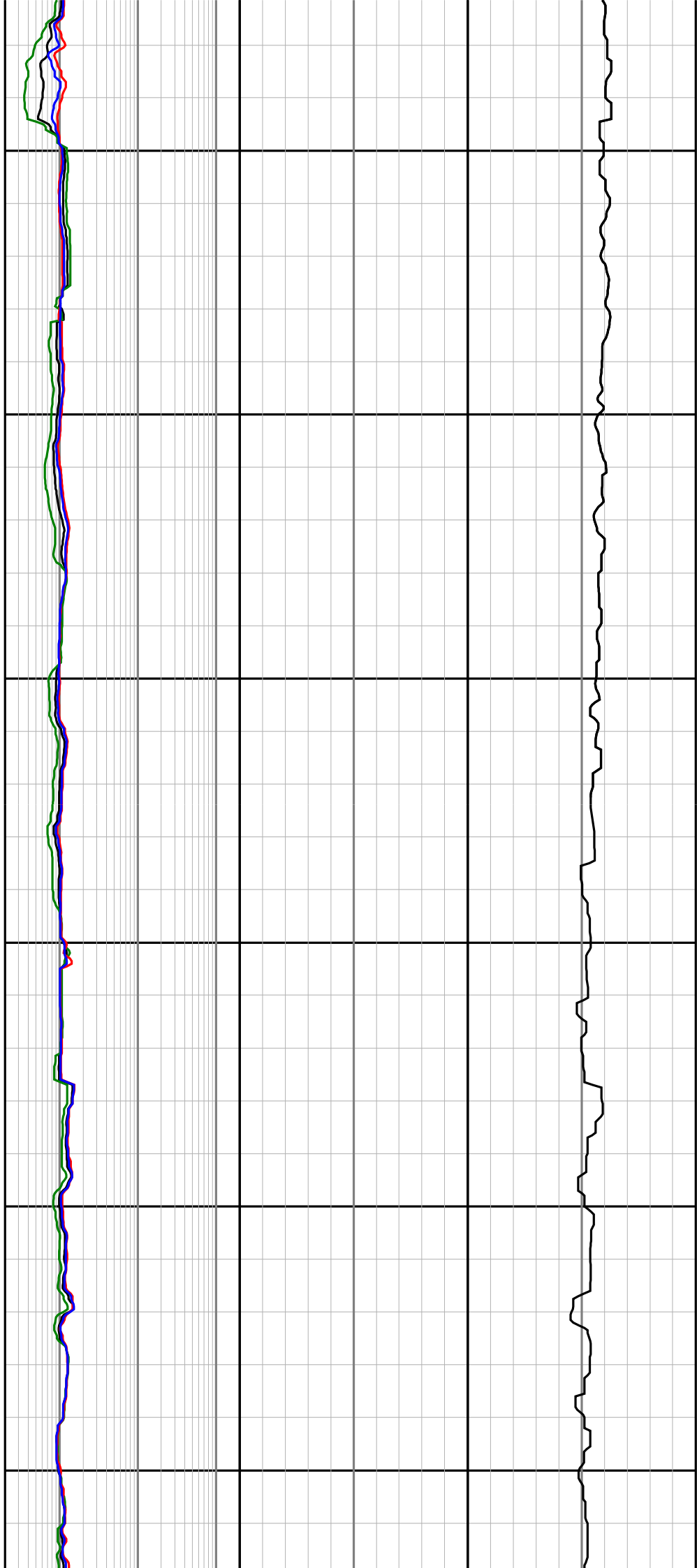
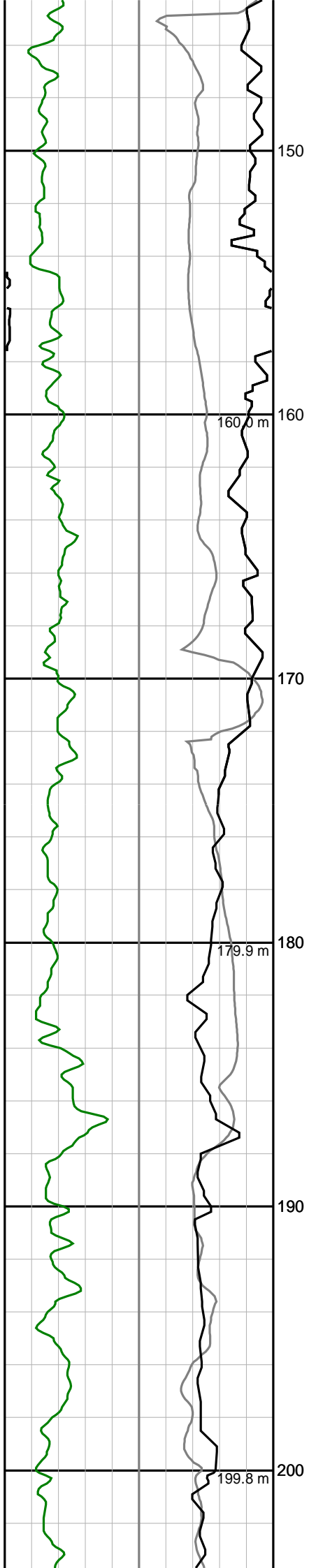
Distance From Bit (m)	27.26	30.70	22.36		
Software Version	2.05	2.05	2.05		
Sub Serial Number	165483	138157	138157		
Insert Serial Number	141729	113417	113417		

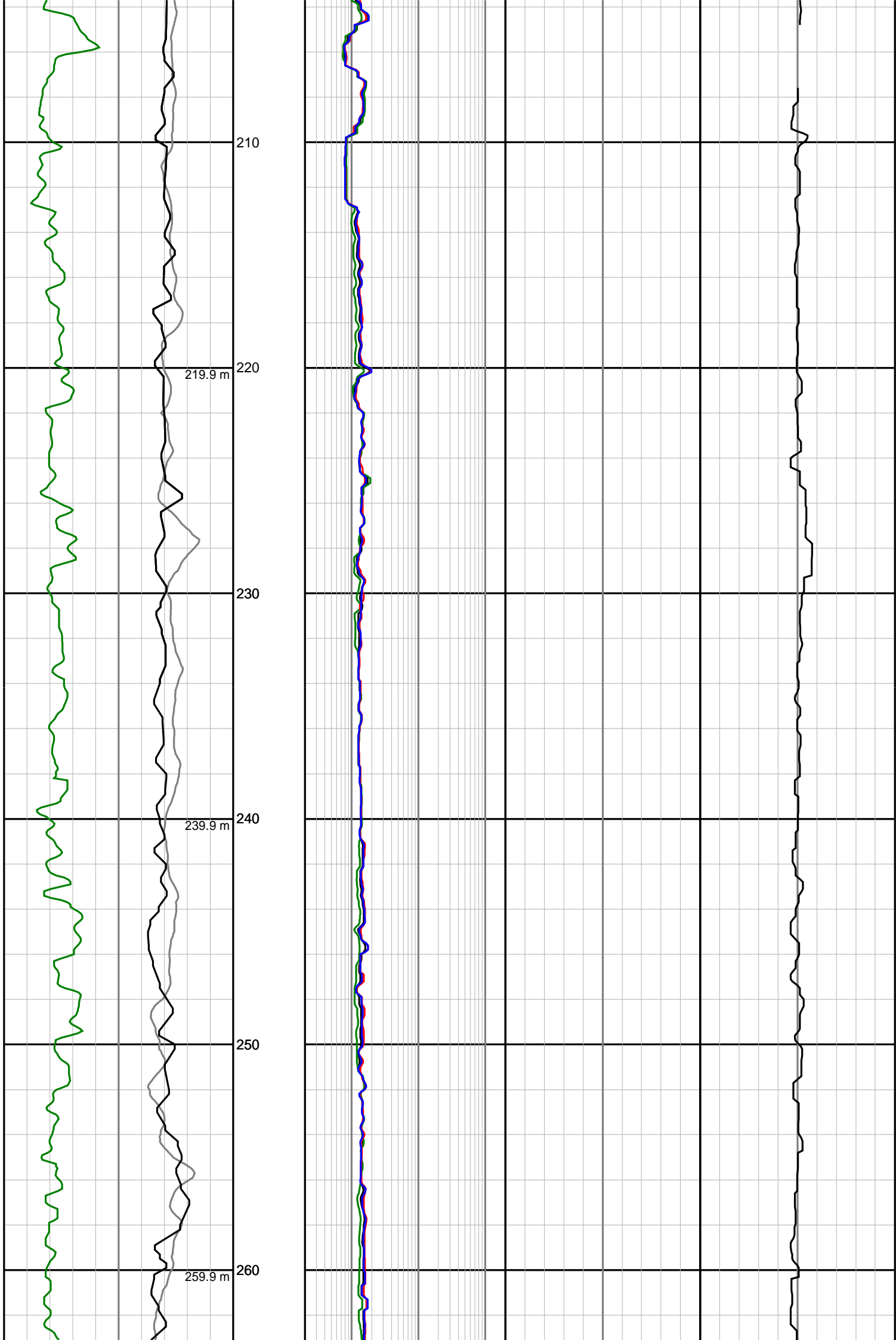
Sonic Sensor Information					
Tool Type	BAT	BAT	BAT		
Distance From Bit (m)	23.06	26.91	18.57		
Recorded Sample Period (sec)	18	18	18		
Software Version	4.00	4.00	4.00		
Sub Serial Number	144401	132327	132327		
Receiver Insert Serial Number	136555	161198	161198		
Transmitter Insert Serial Number	143996	116793	116793		

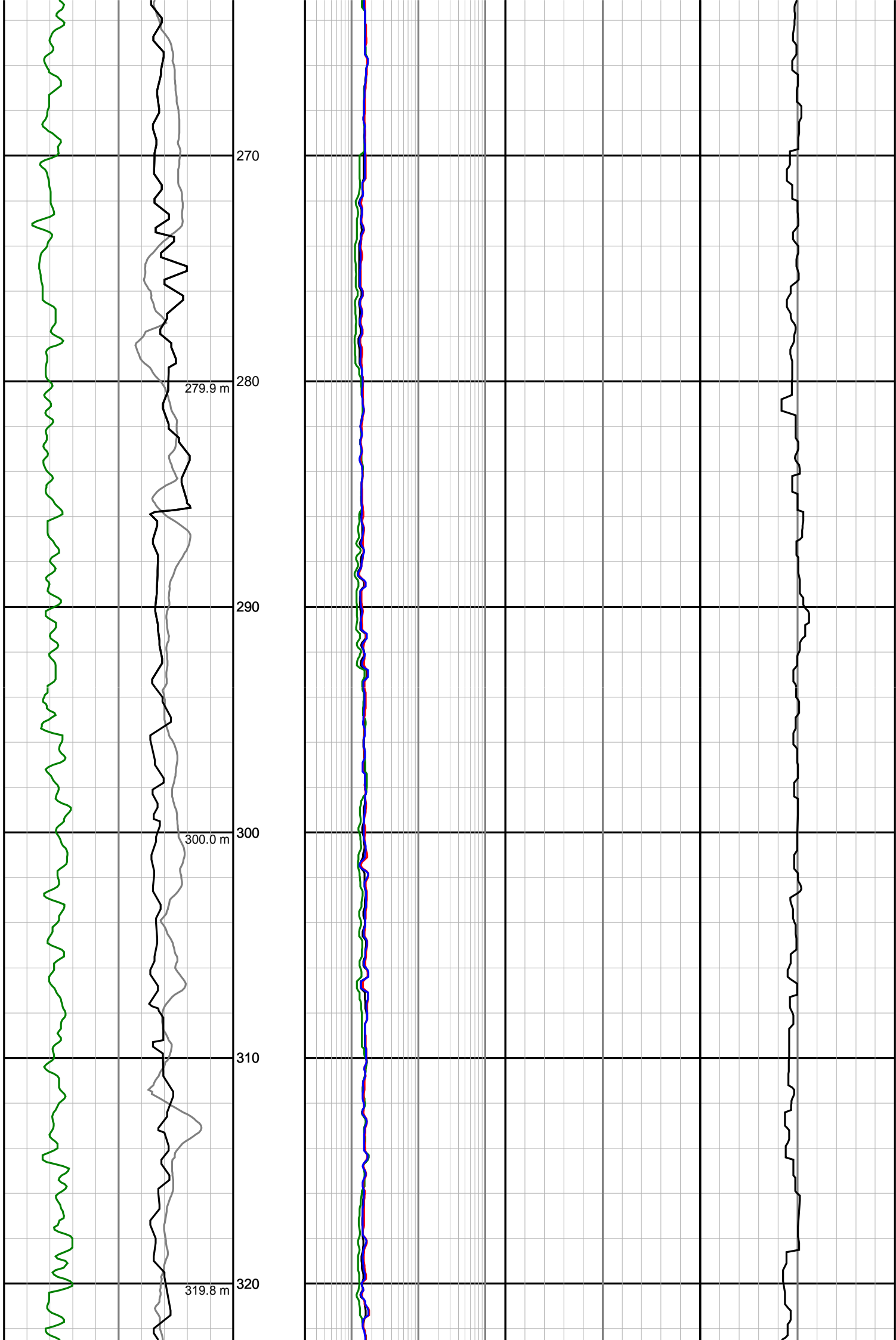
REMARKS
<p>1. All depths are bit depths and referenced to the drillers pipe tally.</p> <p>2. AV/CV is calculated at the MWD collar using the Powers Law for water based muds and the Bingham's Plastic Law for oil based muds.</p> <p>3. Curve mnemonics are: SGRC - Smoothed Gamma Ray Combined, api SEXP - Smoothed Extra Shallow Phase Resistivity, ohm-m SESP - Smoothed Shallow Phase Resistivity, ohm-m SEMP - Smoothed Medium Phase Resistivity, ohm-m SEDP - Smoothed Deep Phase Resistivity, ohm-m SROP - Smoothed Rate of Penetration, m/hr ACAL - Acoustic Caliper, inches BATC - Bi-Modal Acoustic Compressional Slowness, usec/ft SBD2 - Smoothed Best Bin Bulk Density Compensated, g/cc SCO2 - Smoothed Best Bin Stand-off Correction, g/cc SNP2 - Smoothed Best Bin Near Photoelectric Effect, b/e NUCL - Smoothed Porosity (Limestone Matrix) corrected for Salinity, Temperature and Pressure, v/v STEM - Smoothed Medium Phase Resistivity Temperature, degC</p> <p>4. CNP data processed using the CNP-E algorithm using the following parameters and is based on a Limestone Matrix: MW = 1.25 - 1.40 sg Formation Salinity = 25000 ppm, Cl Mud Salinity = 43000 - 54000 ppm, Cl Matrix Density = 2.71 g/cc Fluid Density = 1.00 g/cc</p> <p>5. CNP data has been reprocessed using data from the Caliper (ACAL) tool for borehole diameter.</p> <p>6. Surface depth tracking system damaged.</p> <p>7. Gap in density data due to intermittent problems with density (SLD) tool.</p> <p>8. Density (SLD) tool failed while running in hole prior to Run 300.</p> <p>9. Gaps in compressional slowness (BATC) data due to weak signal.</p> <p>10. Repeat sections from 2100.0 to 2160.0 and 2210 to 2300 mMDRT @ 18:20 to 21:38 16-Nov-04 was wiped while pulling out of hole with no rotary and no pumps after LWD Run 200.</p>

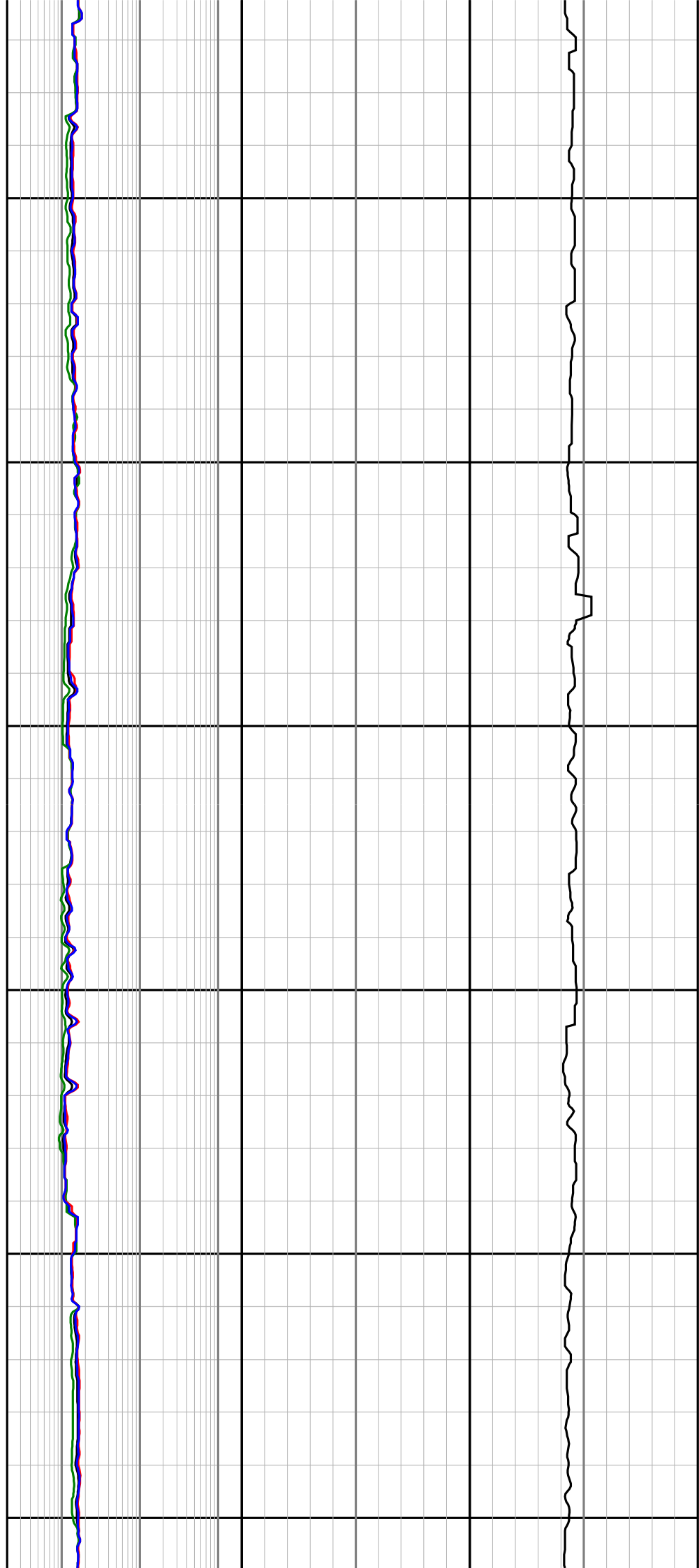
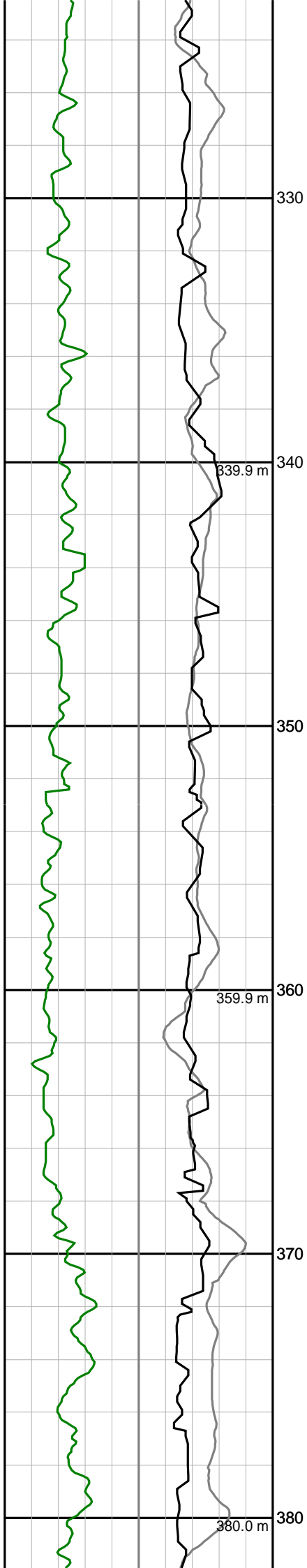
WARRANTY
<p>HALLIBURTON ENERGY SERVICES (HES) WILL USE ITS BEST EFFORTS TO FURNISH CUSTOMERS WITH ACCURATE INFORMATION AND INTERPRETATIONS THAT ARE PART OF, AND INCIDENT TO, THE SERVICES PROVIDED. HOWEVER, HES CANNOT AND DOES NOT WARRANT THE ACCURACY OR CORRECTNESS OF SUCH INFORMATION AND INTERPRETATIONS. UNDER NO CIRCUMSTANCES SHOULD ANY SUCH INFORMATION OR INTERPRETATION BE RELIED UPON AS THE SOLE BASIS FOR ANY DRILLING, COMPLETION, PRODUCTION, OR FINANCIAL DECISION OR ANY PROCEDURE INVOLVING ANY RISK TO THE SAFETY OF ANY DRILLING VENTURE, DRILLING RIG OR ITS CREW OR ANY OTHER THIRD PARTY. THE CUSTOMER HAS FULL RESPONSIBILITY FOR ALL DRILLING, COMPLETION AND PRODUCTION OPERATION. HES MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE SERVICES RENDERED. IN NO EVENT WILL HES BE LIABLE FOR FAILURE TO OBTAIN ANY PARTICULAR RESULTS OR FOR ANY DAMAGES, INCLUDING, BUT NOT LIMITED TO, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES, RESULTING FROM THE USE OF ANY INFORMATION OR INTERPRETATION PROVIDED BY HES.</p>

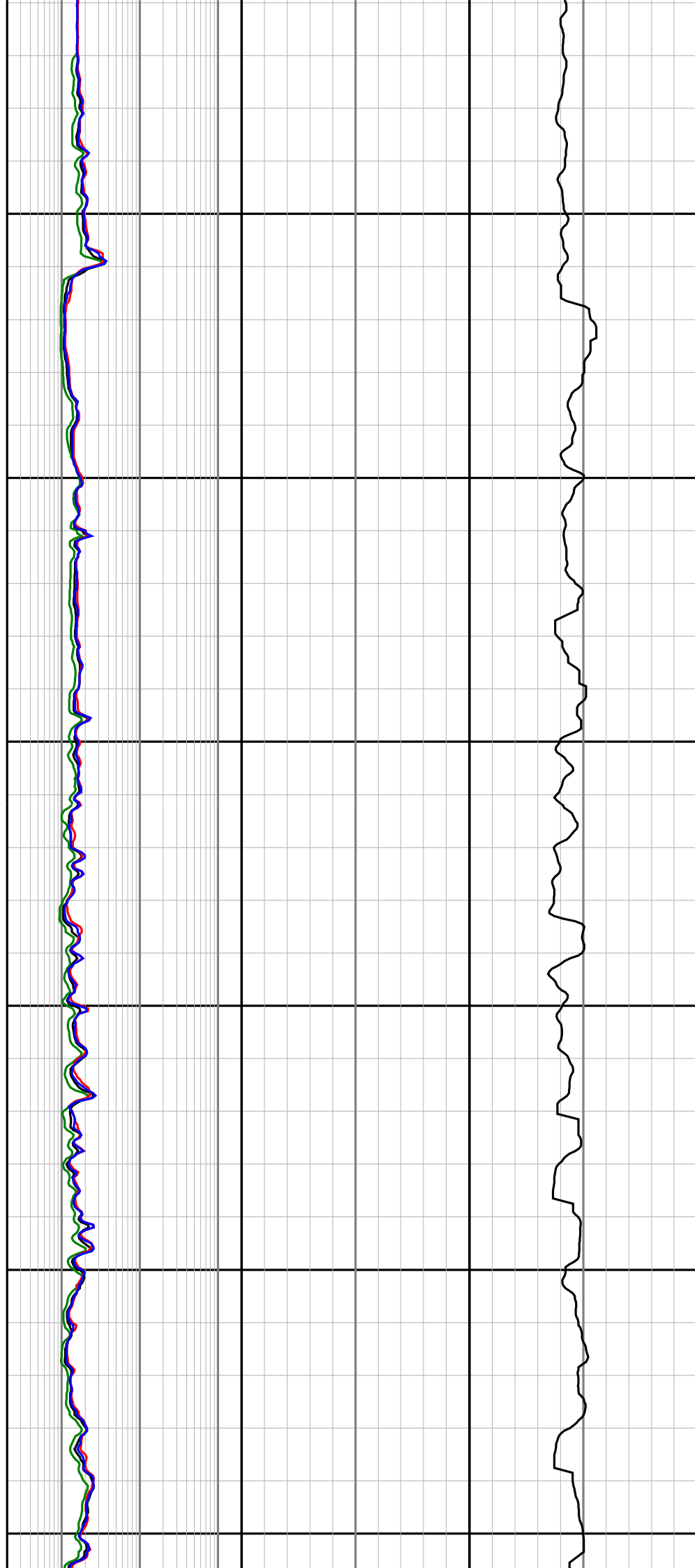
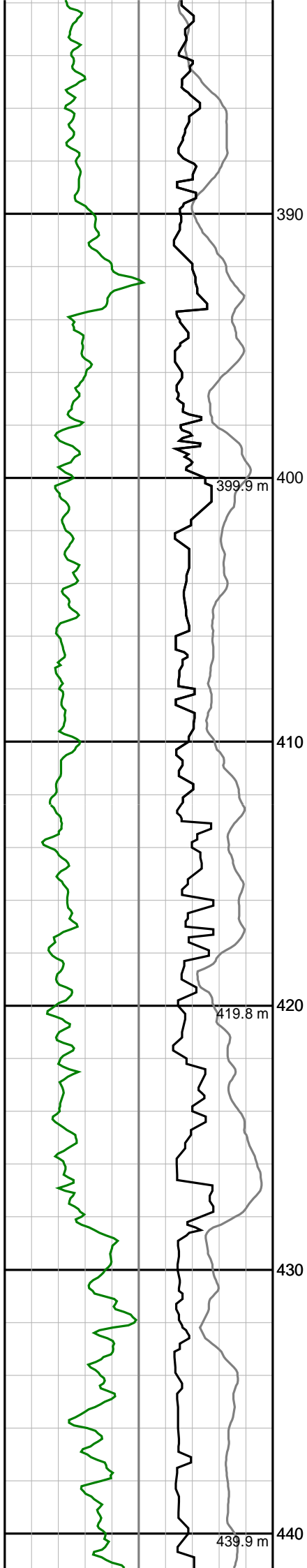


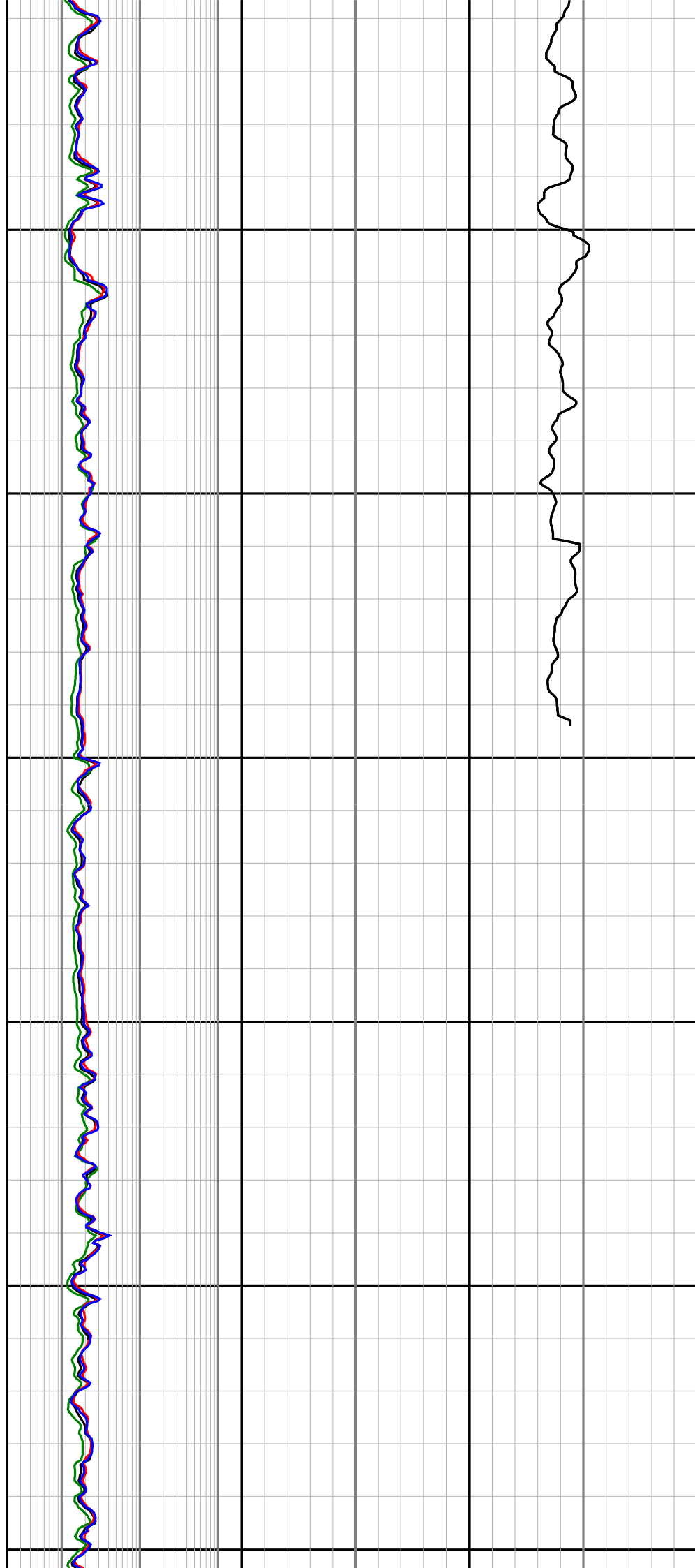
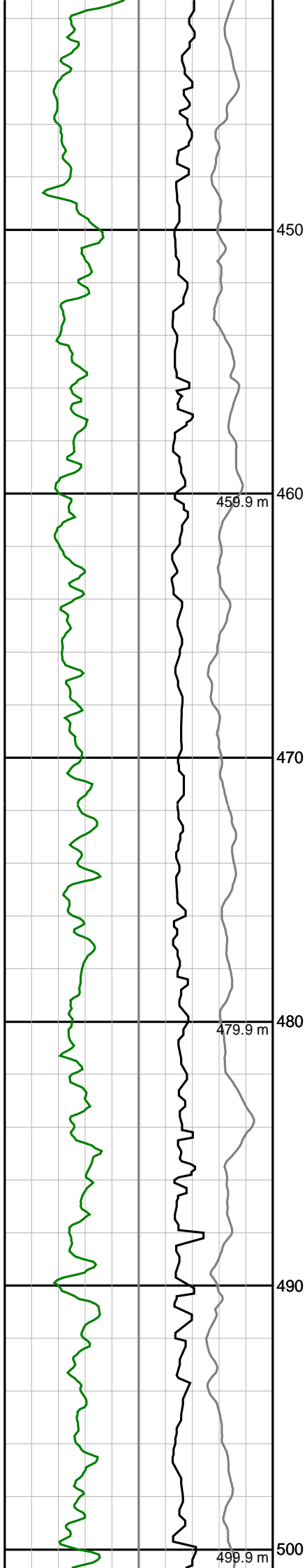


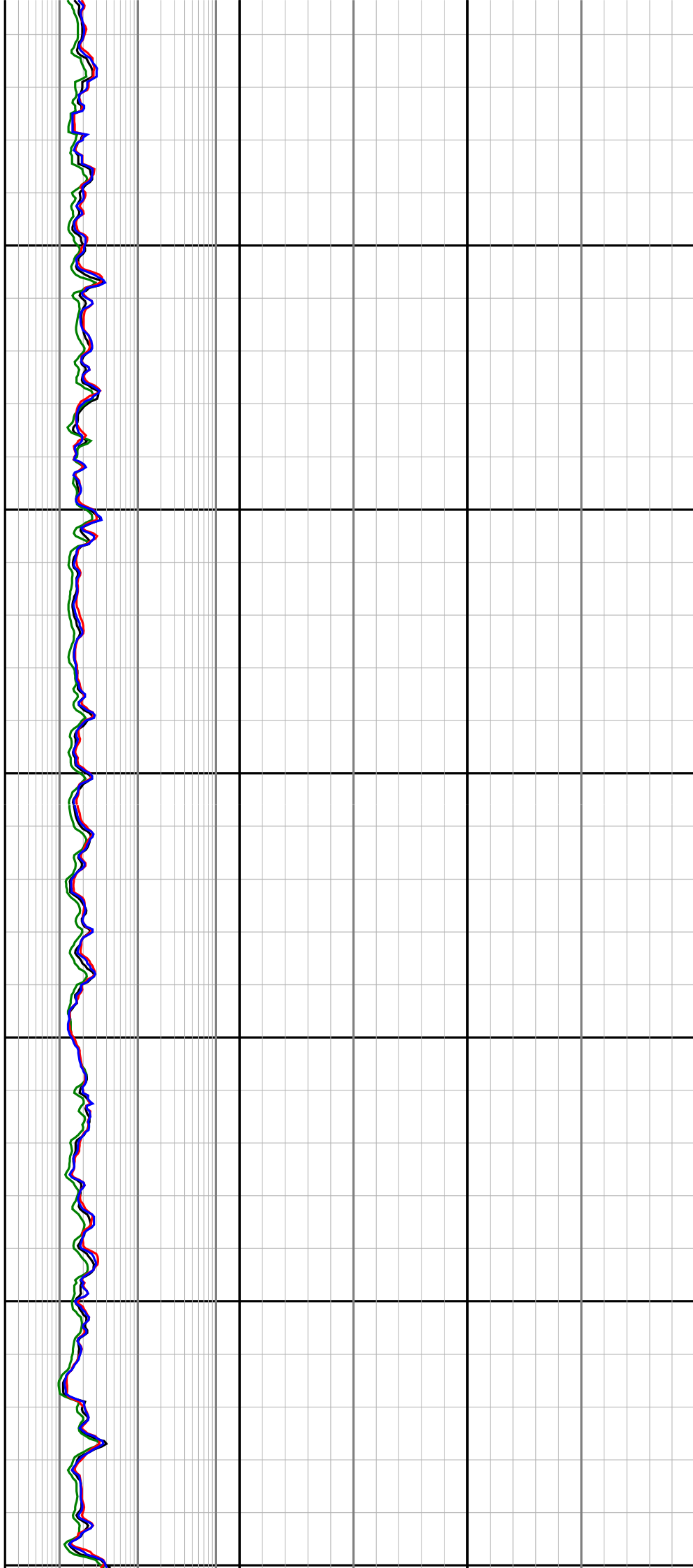
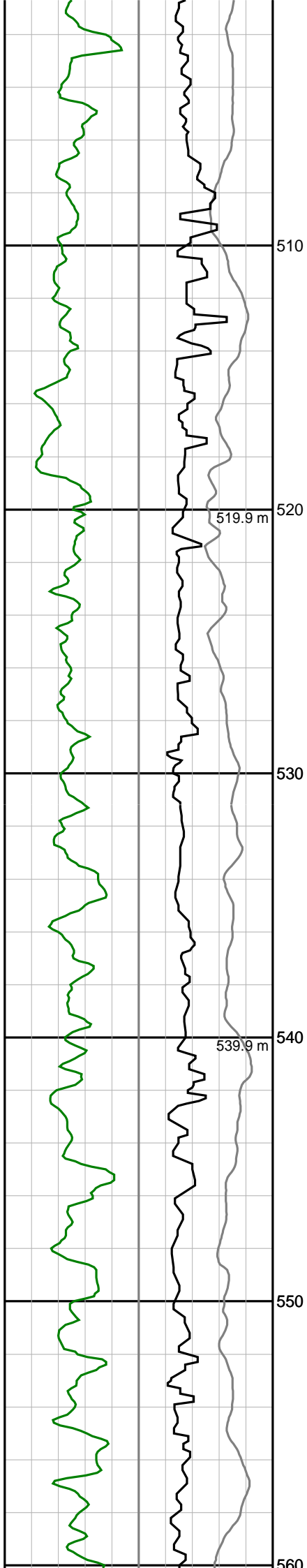


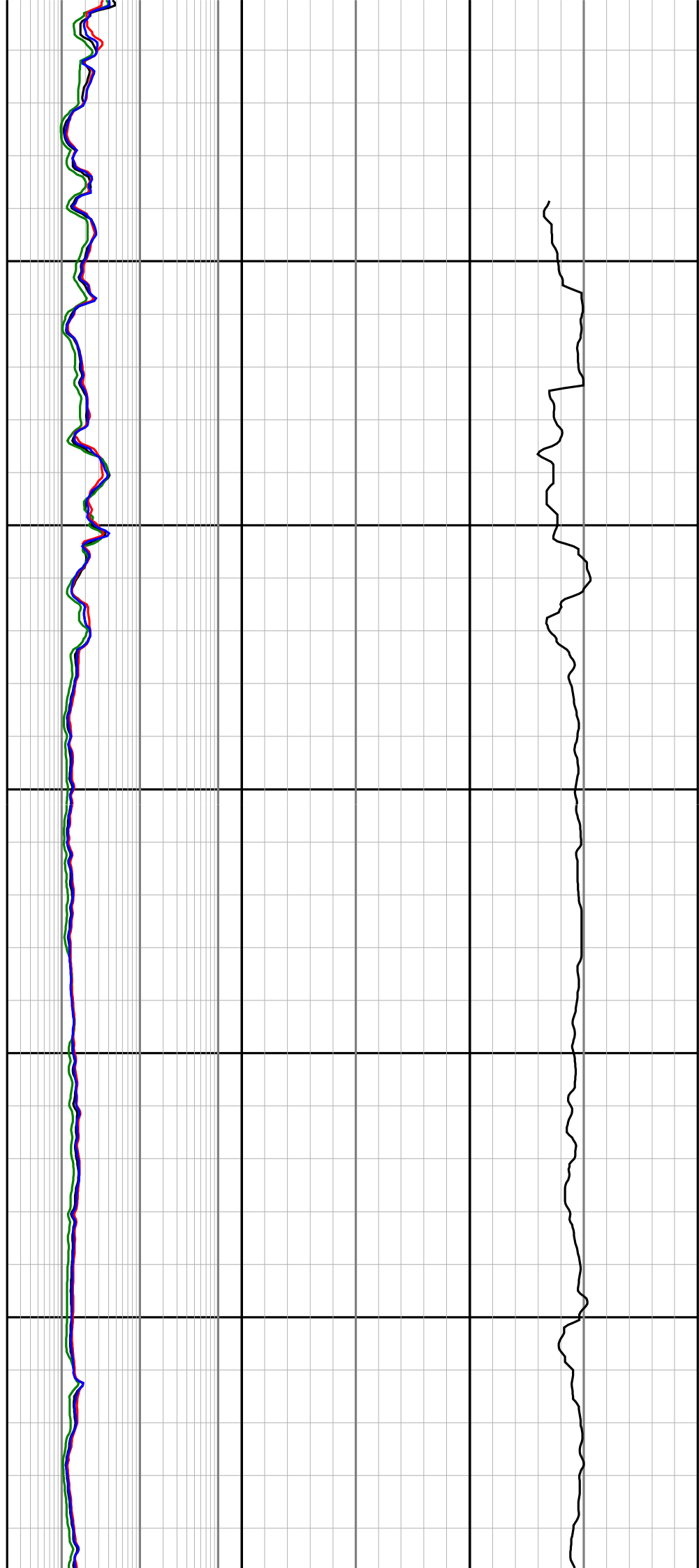
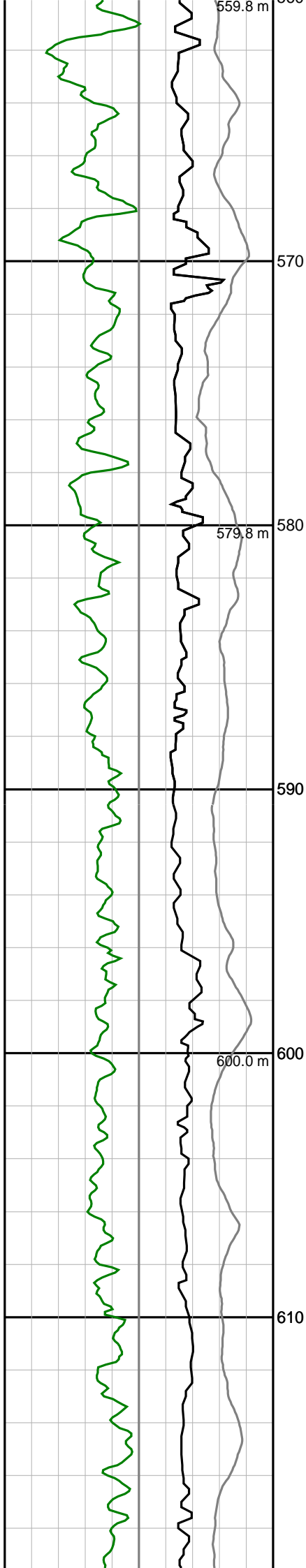


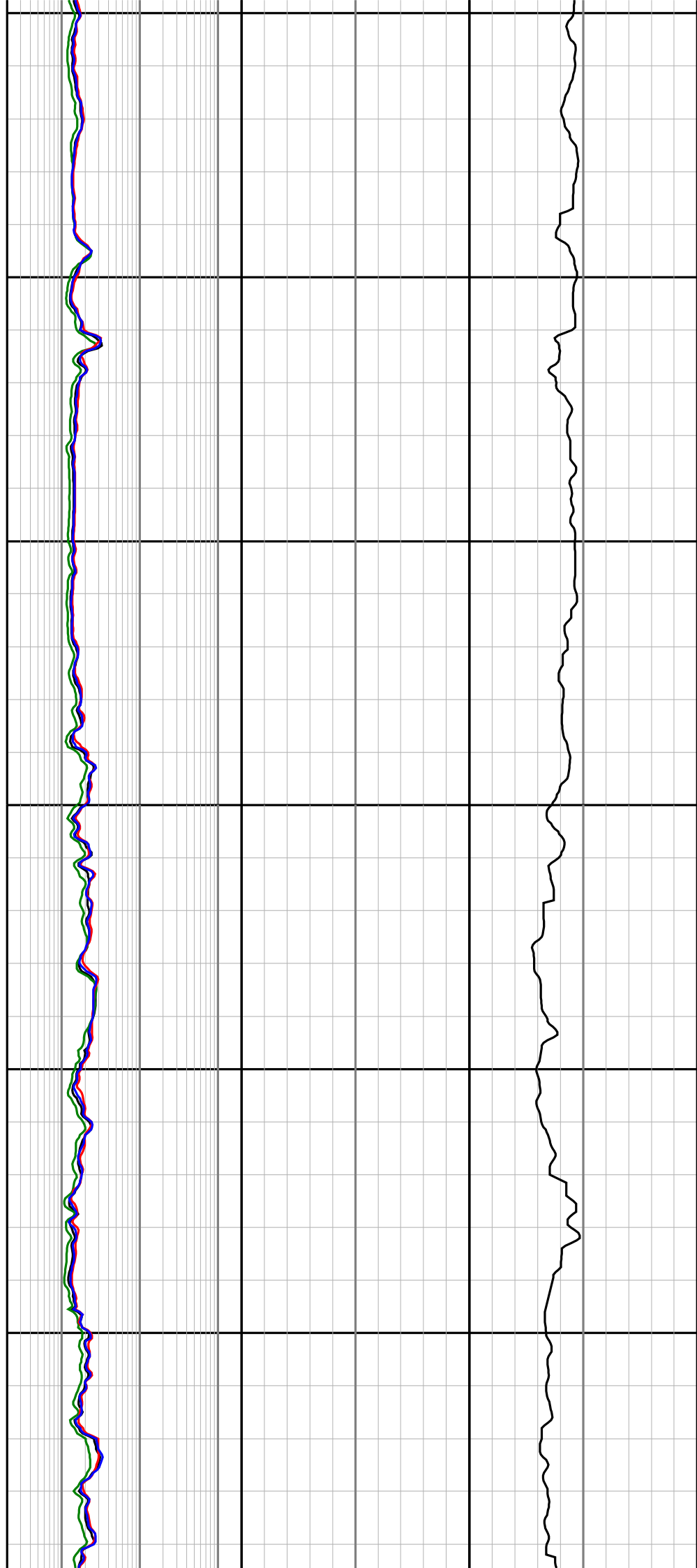
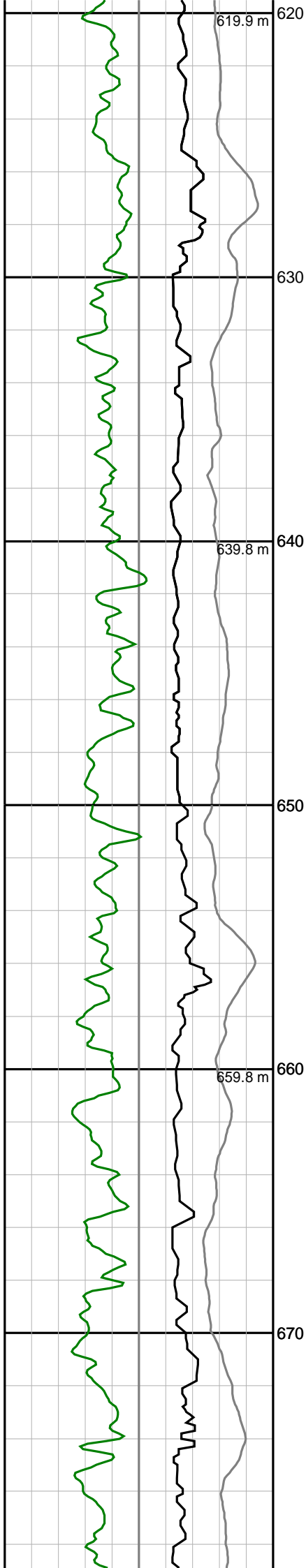


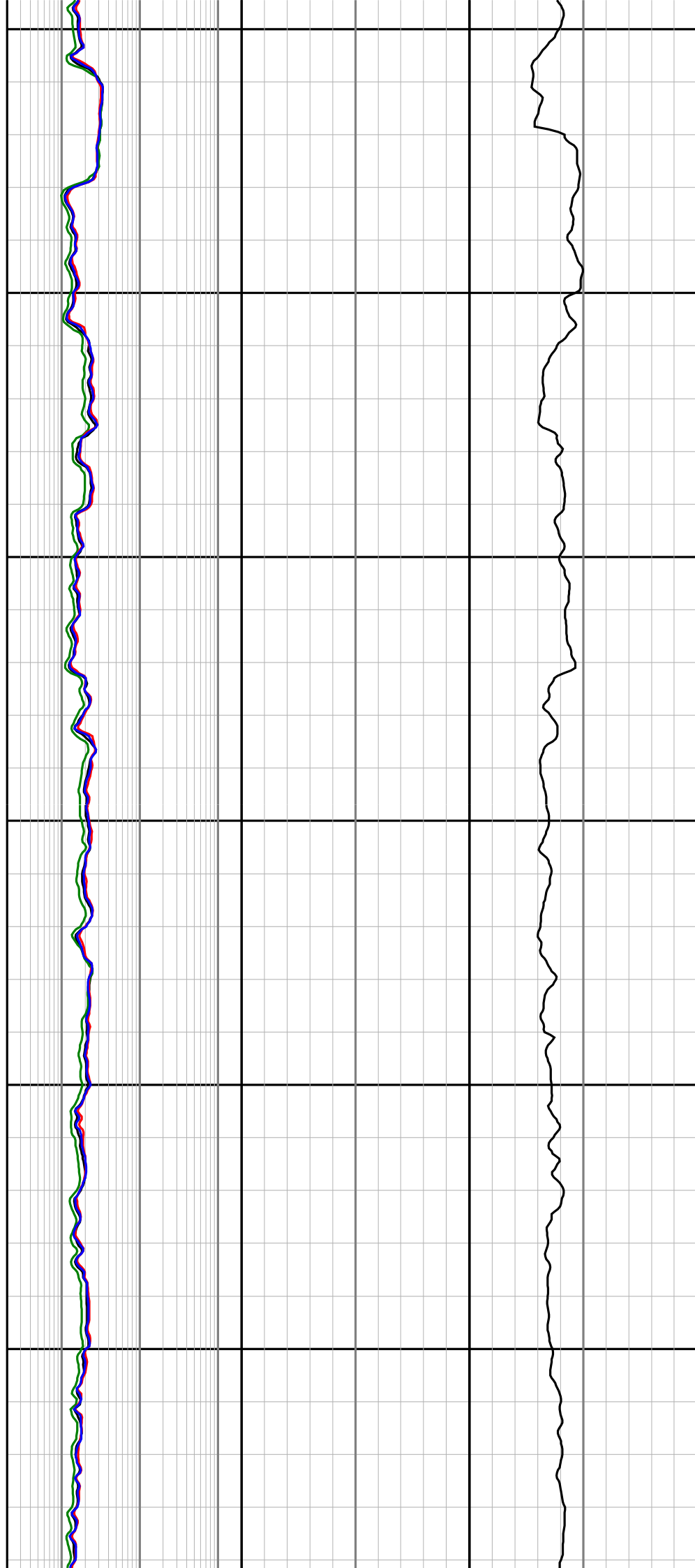
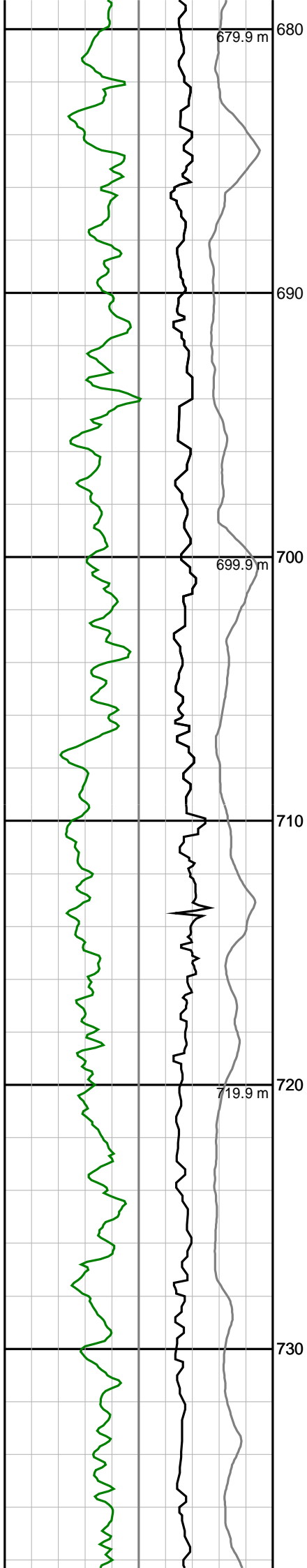


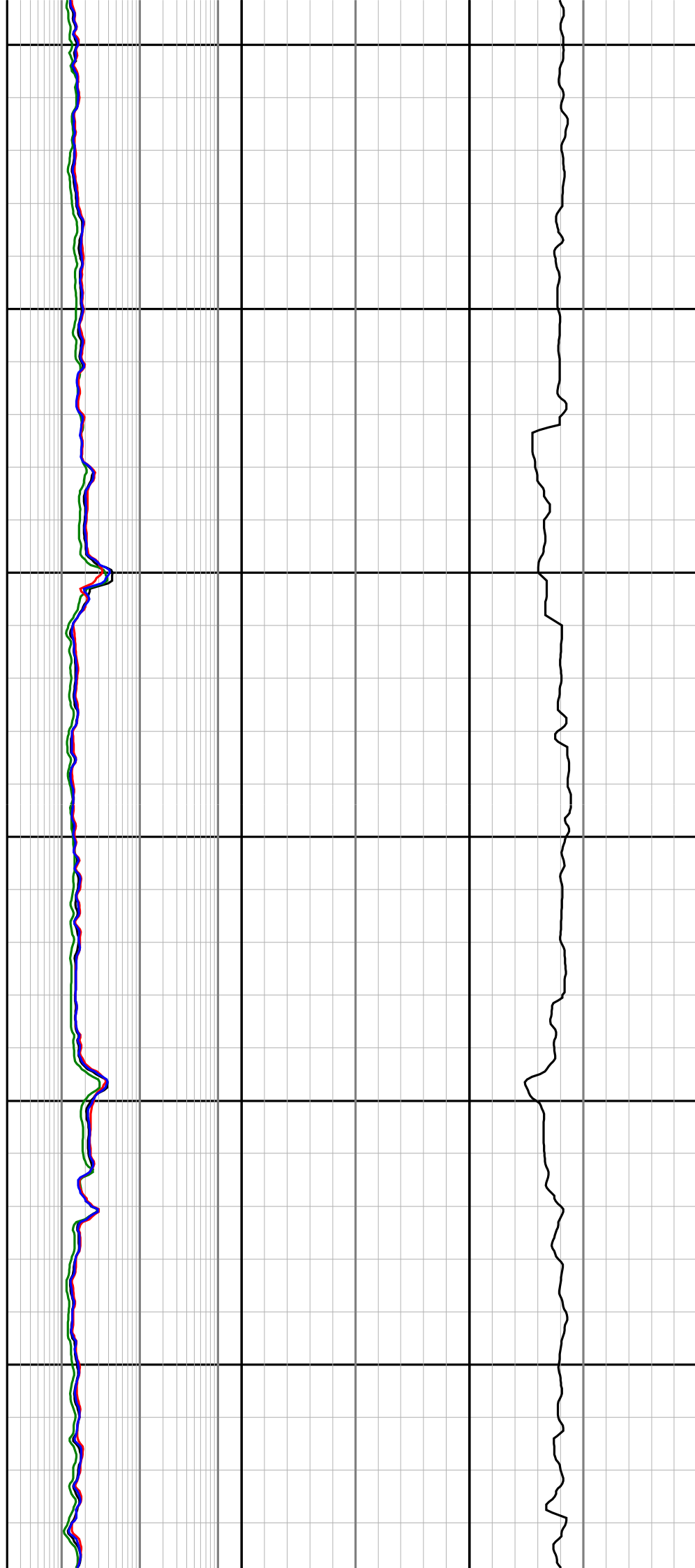
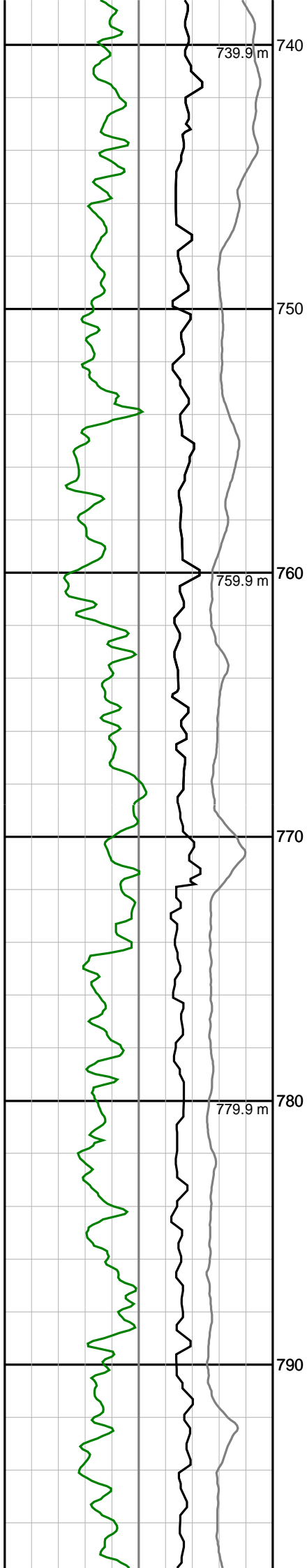


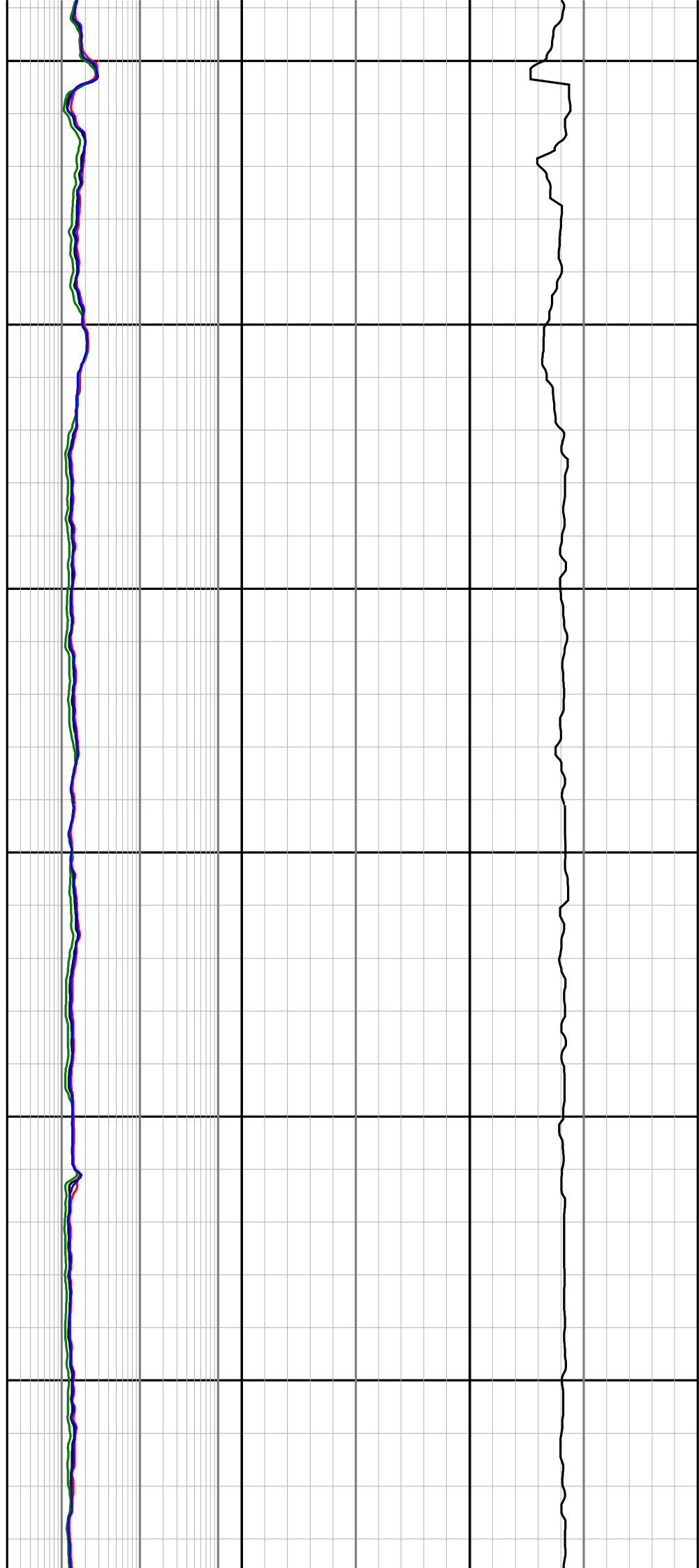
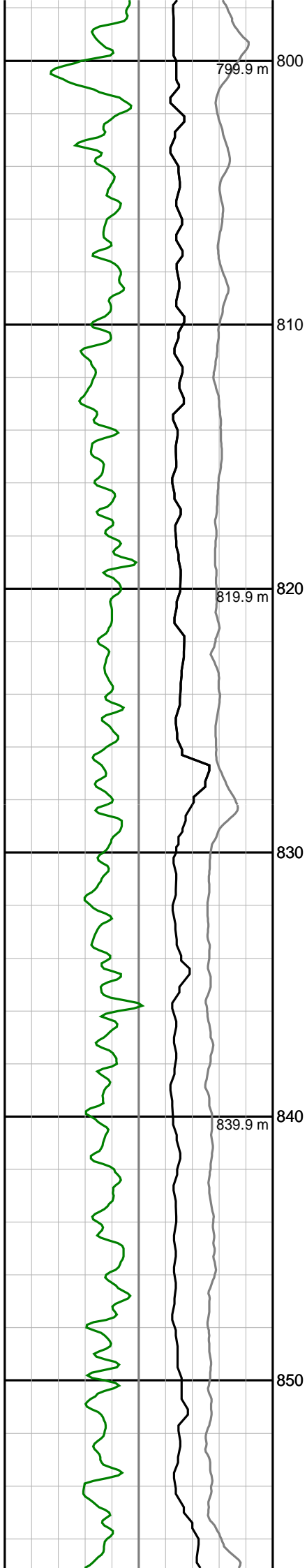


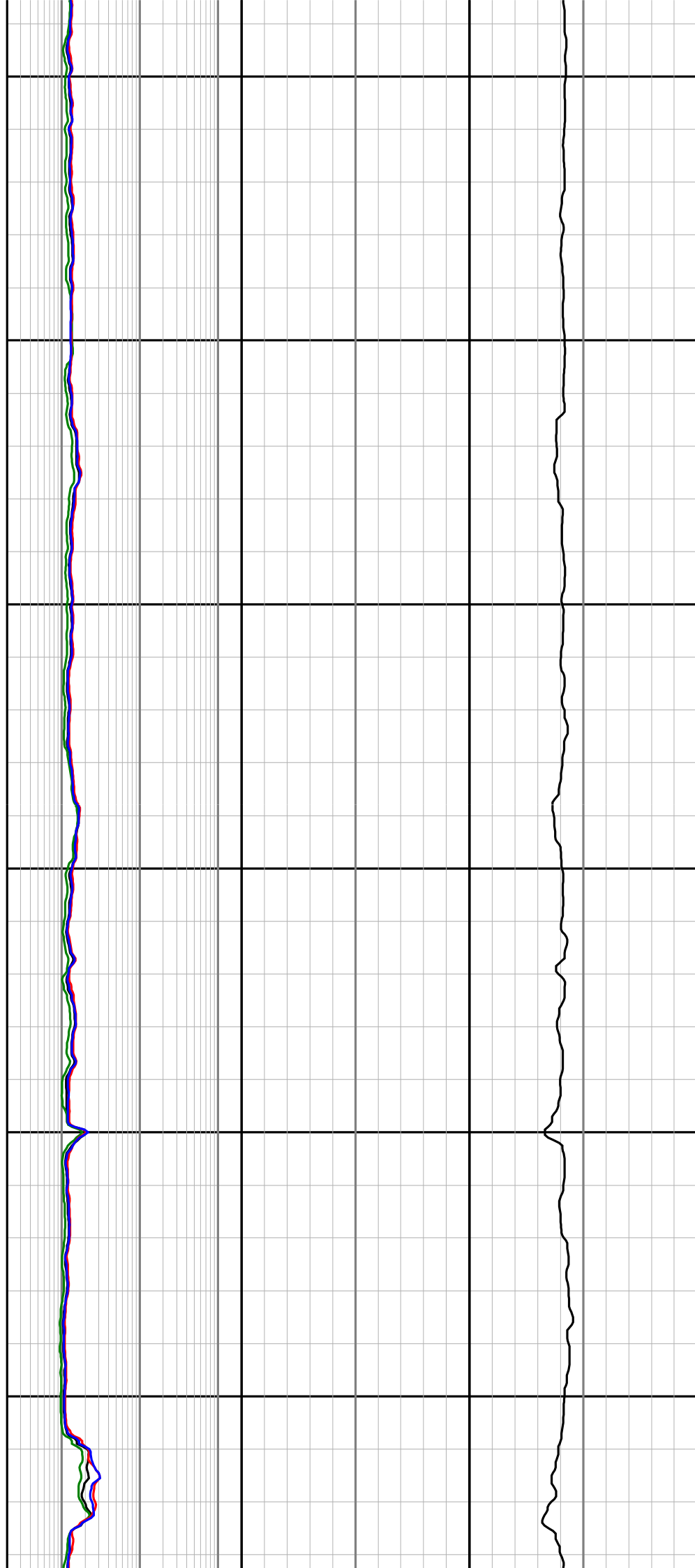
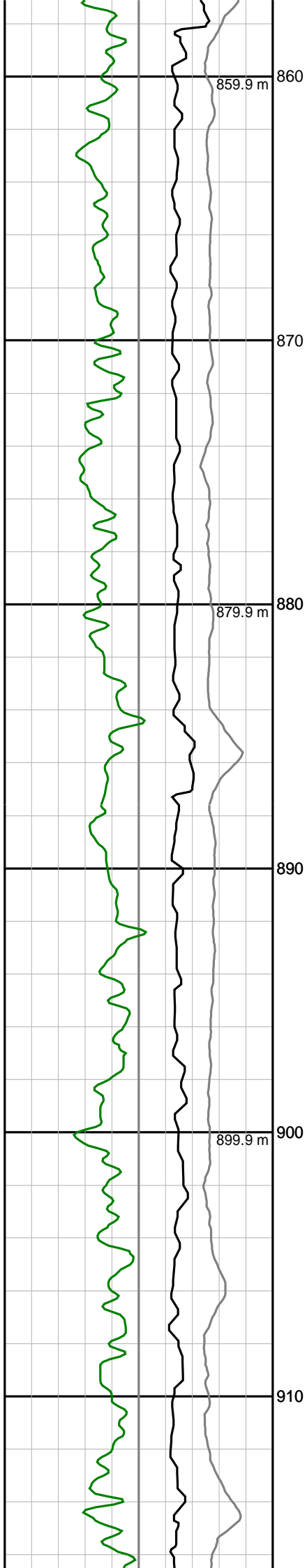


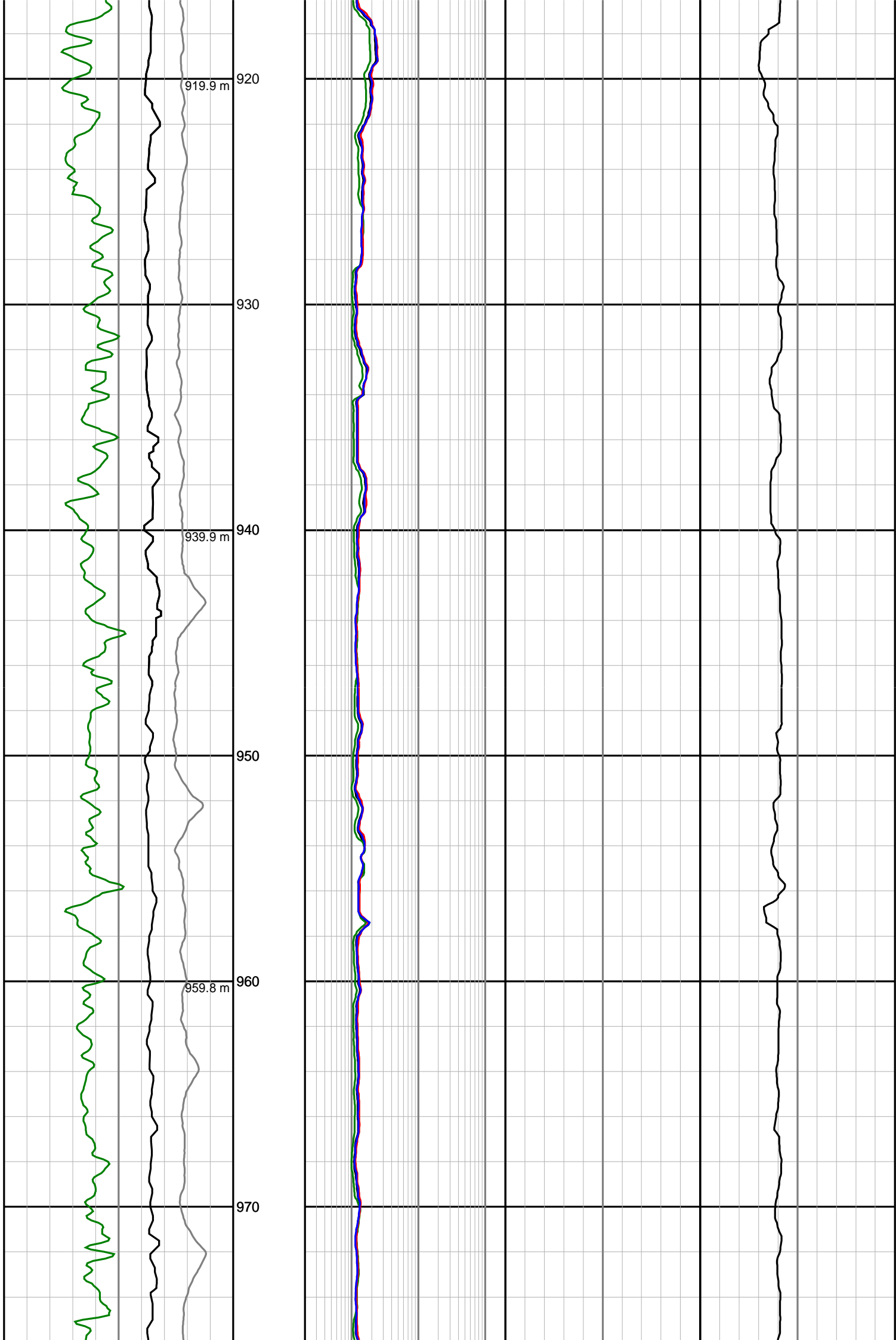


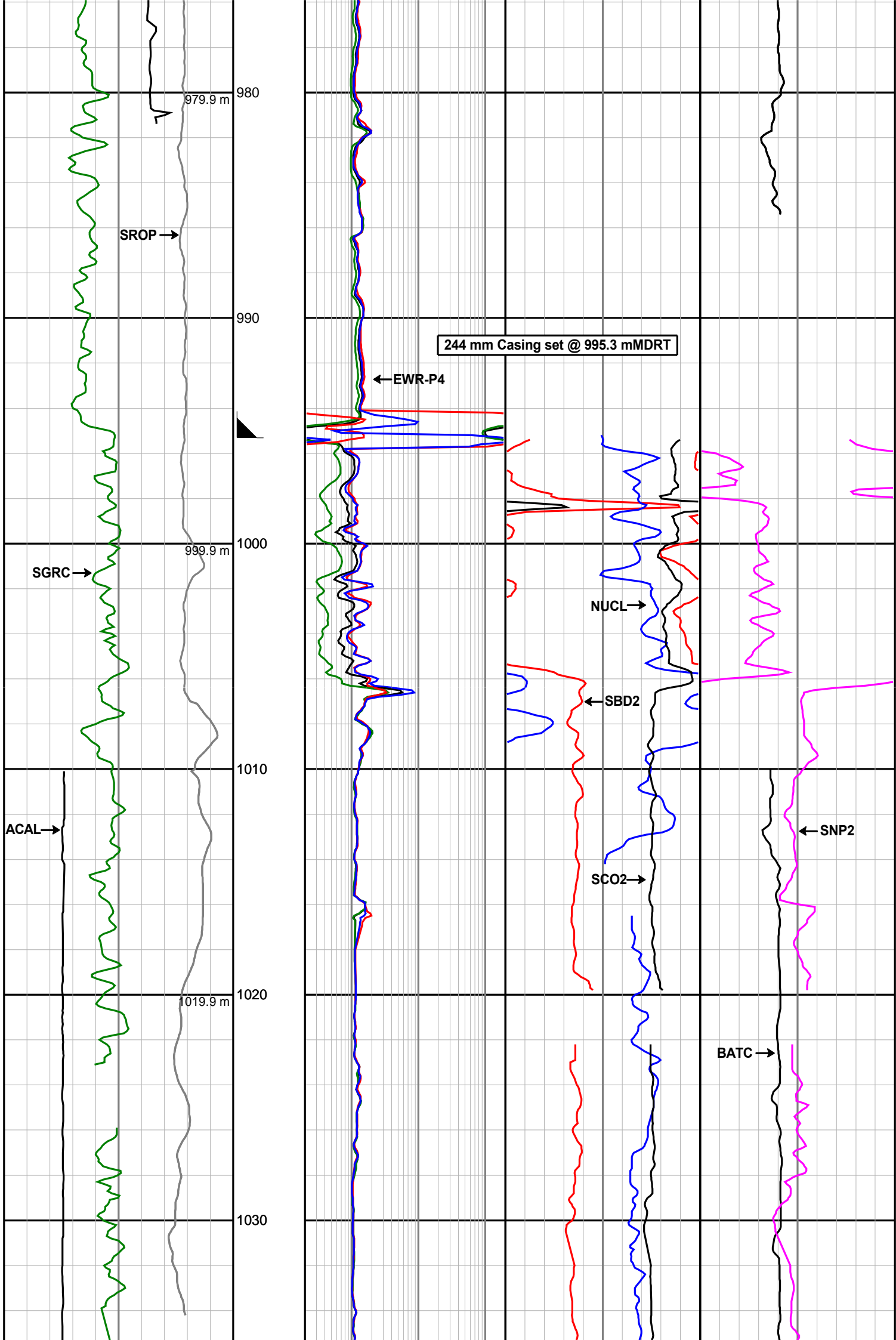


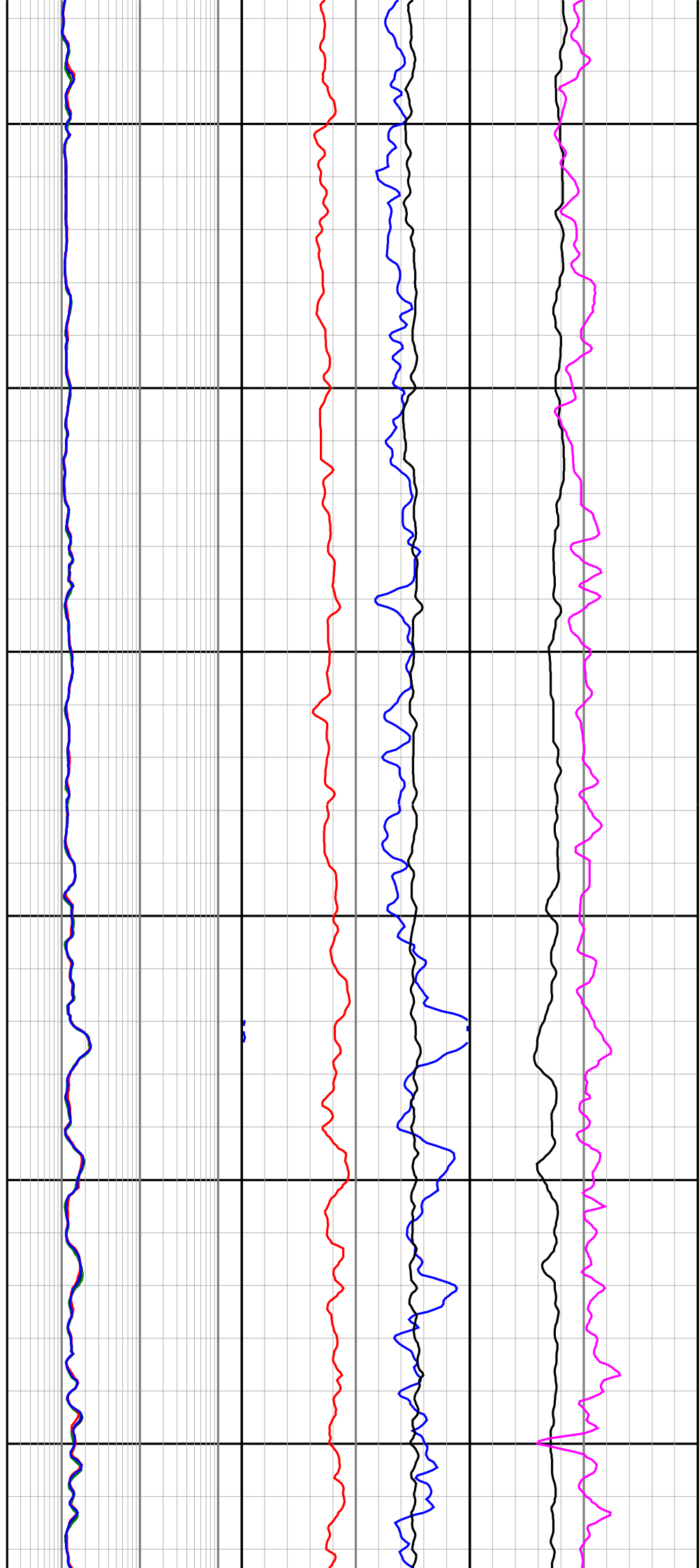
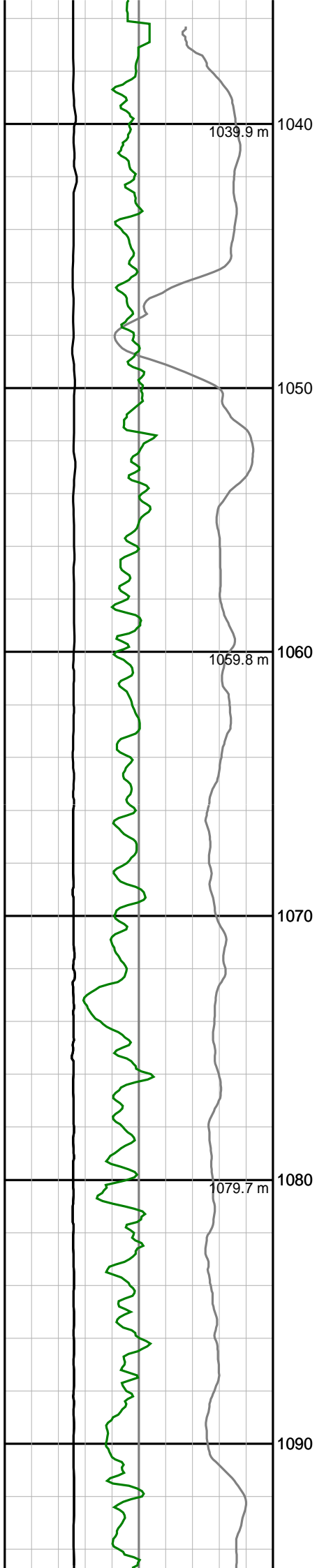


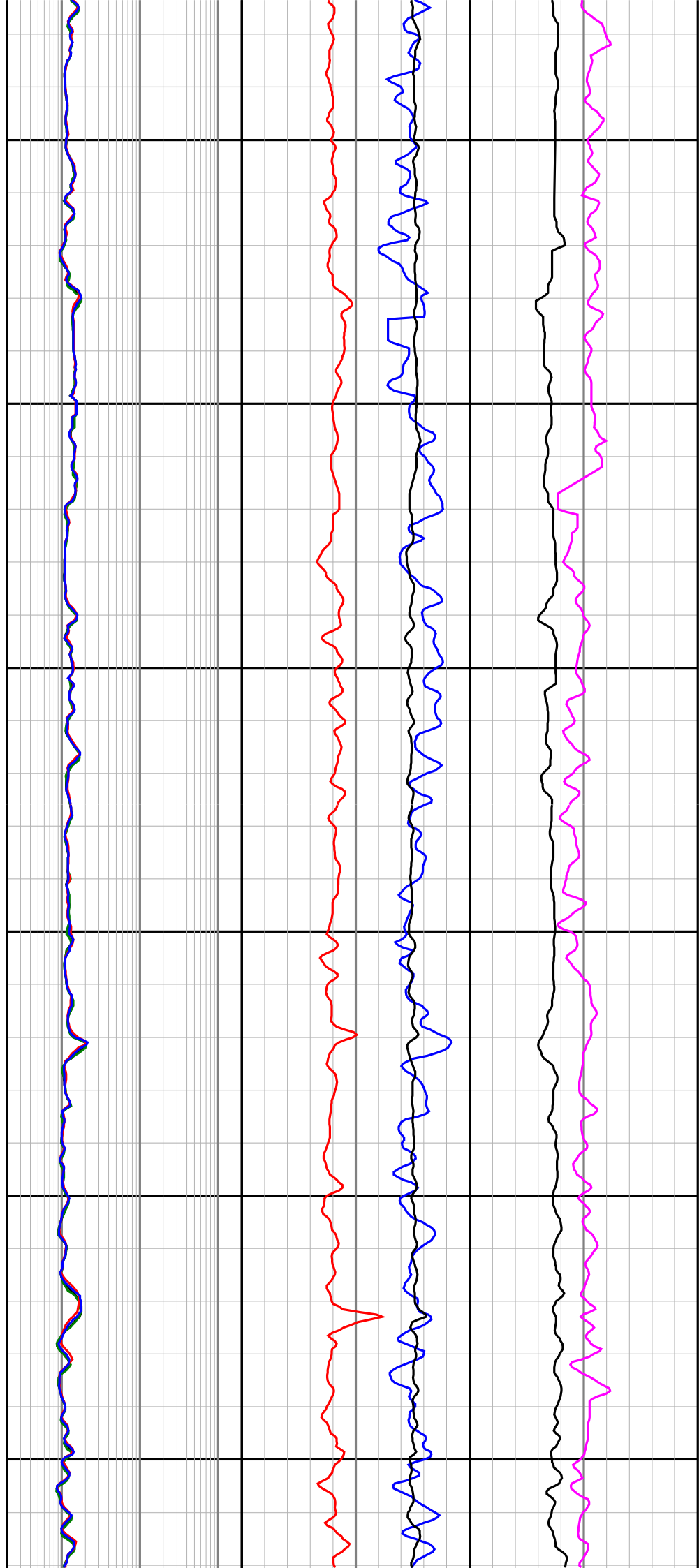
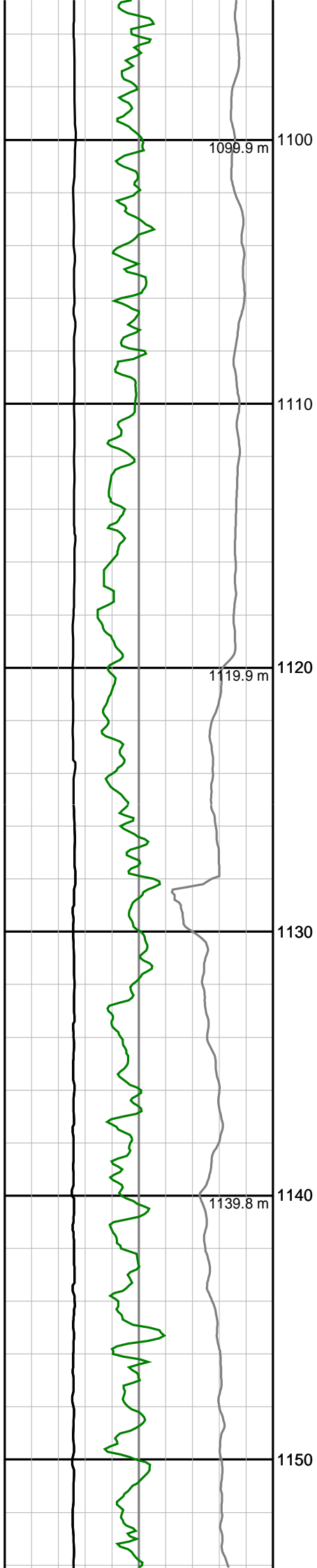


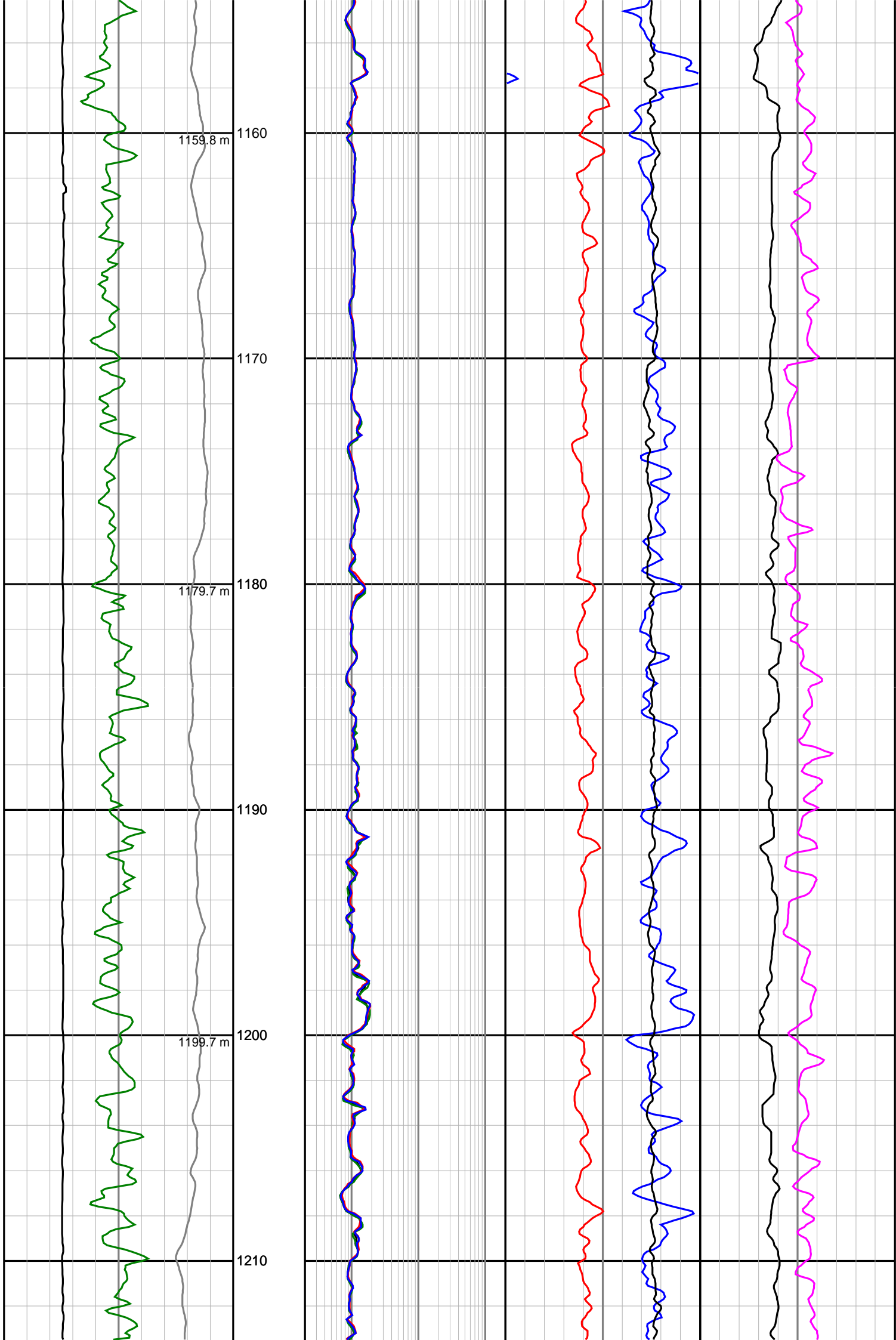


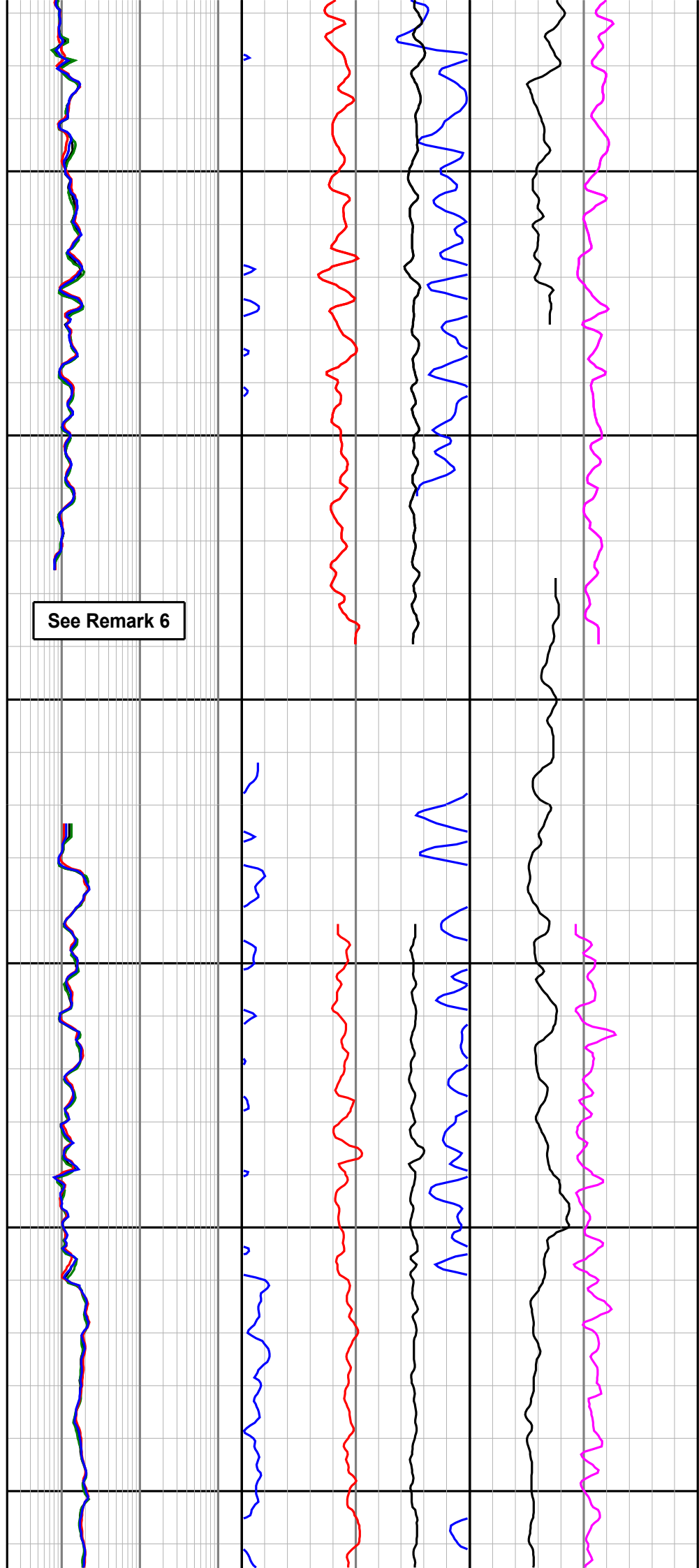
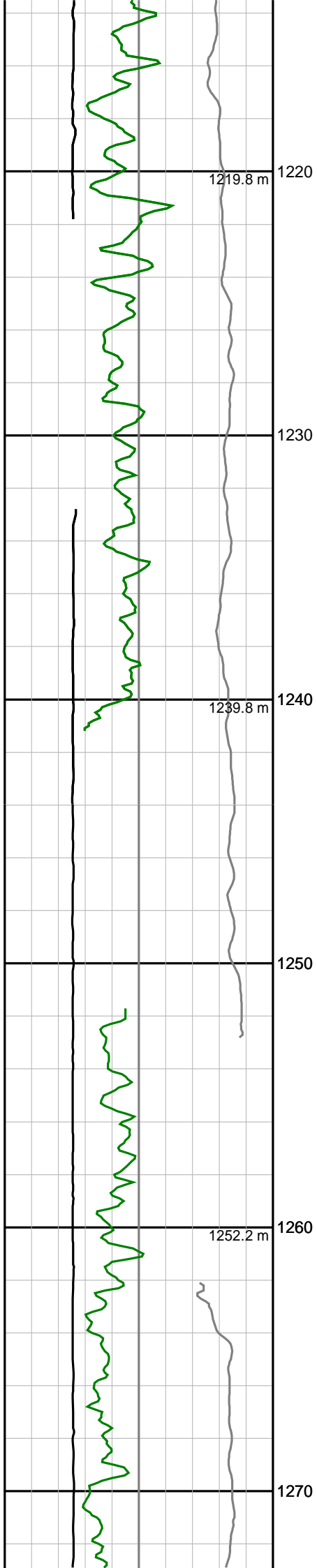


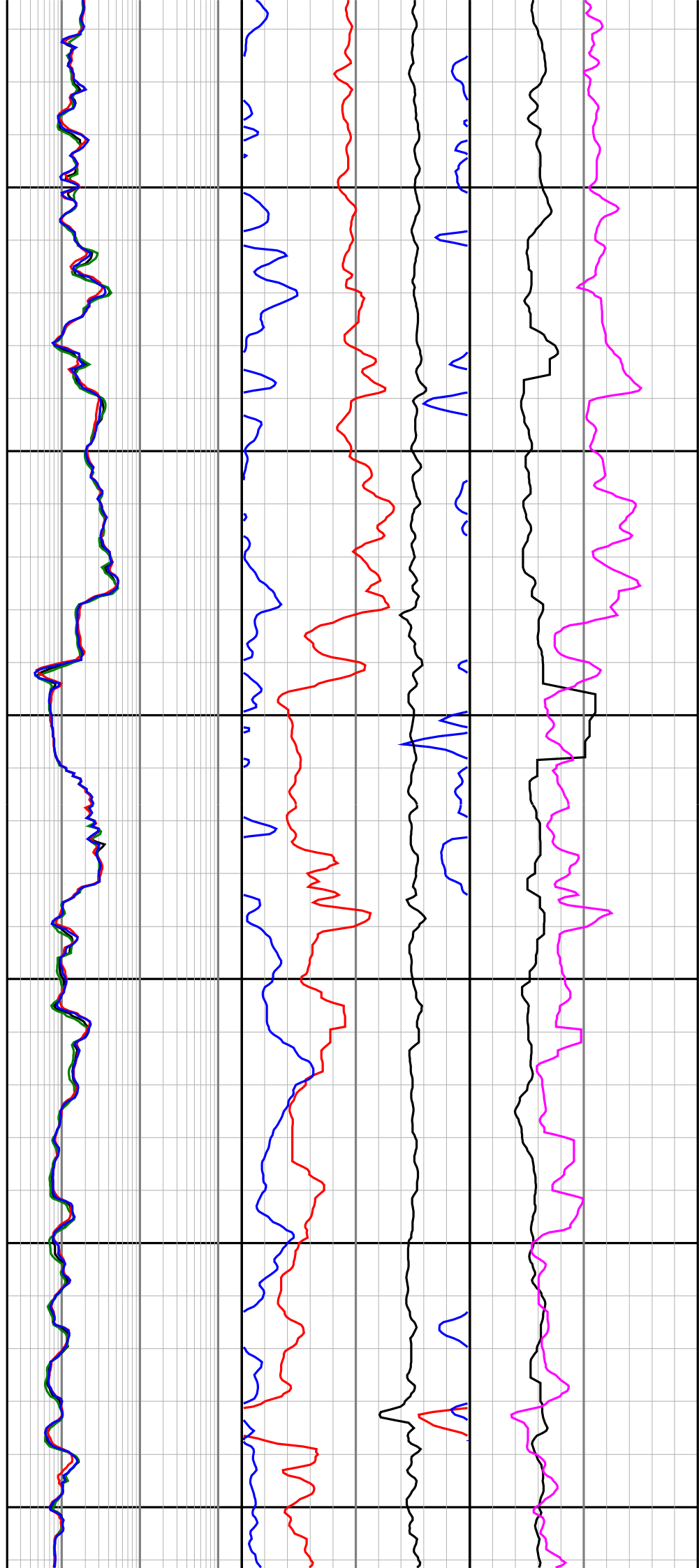
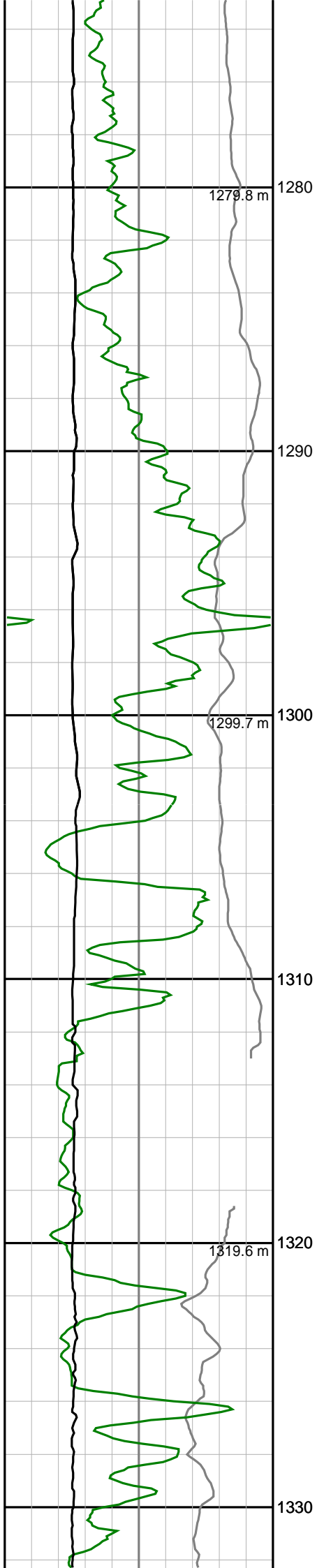


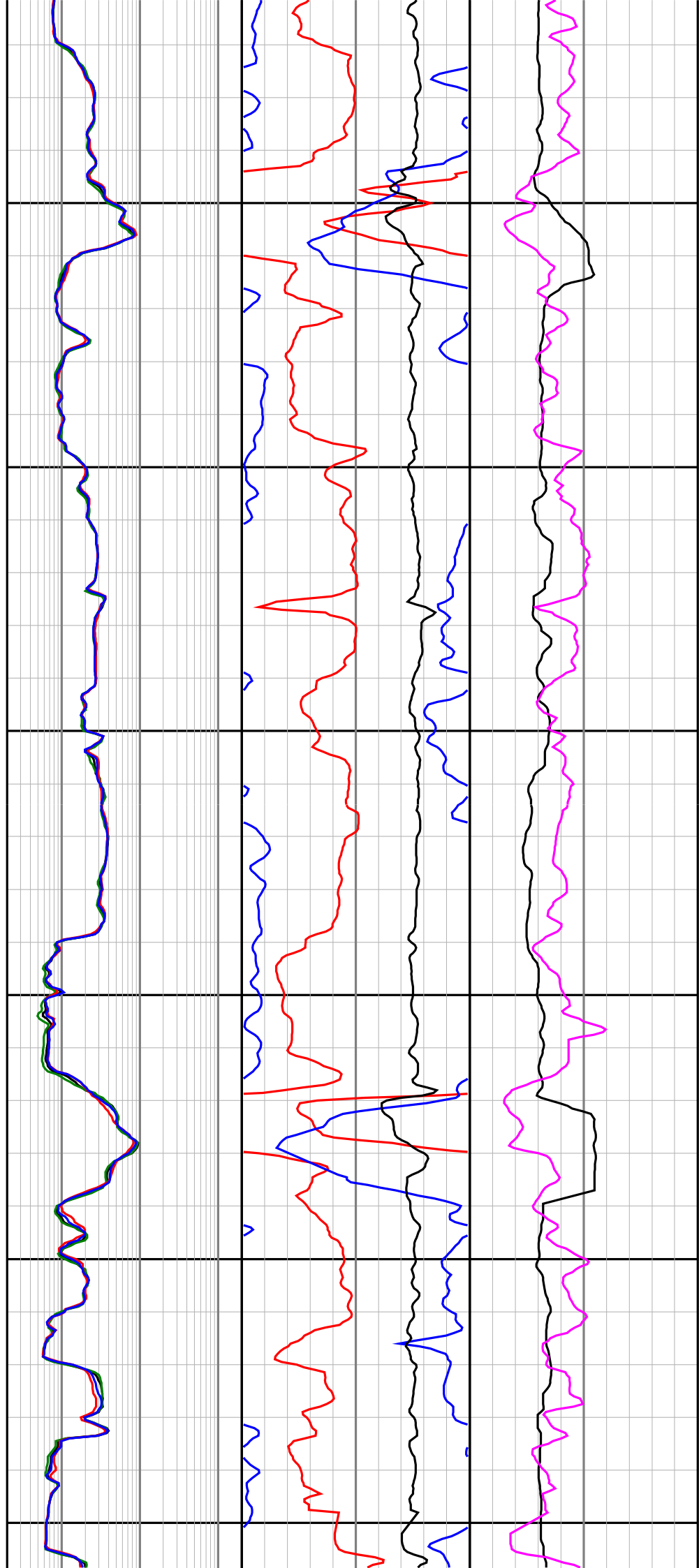
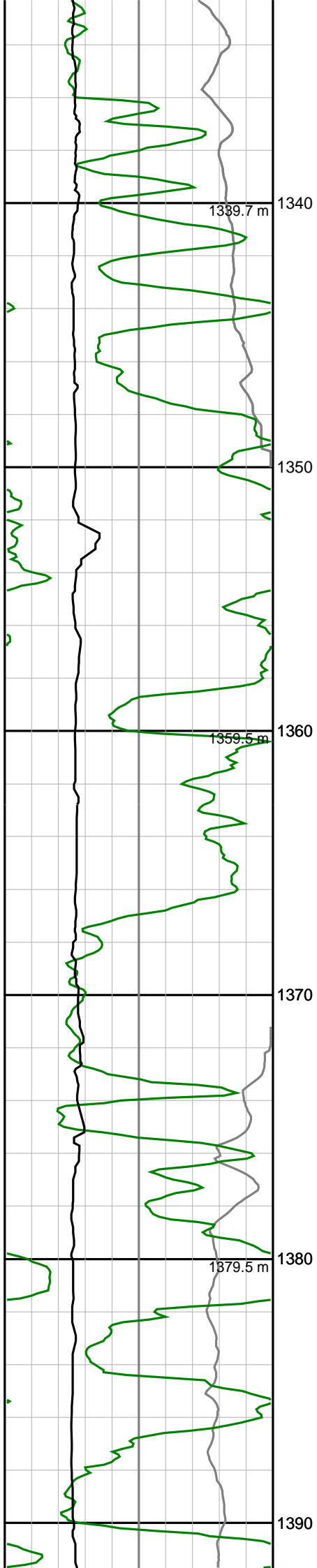


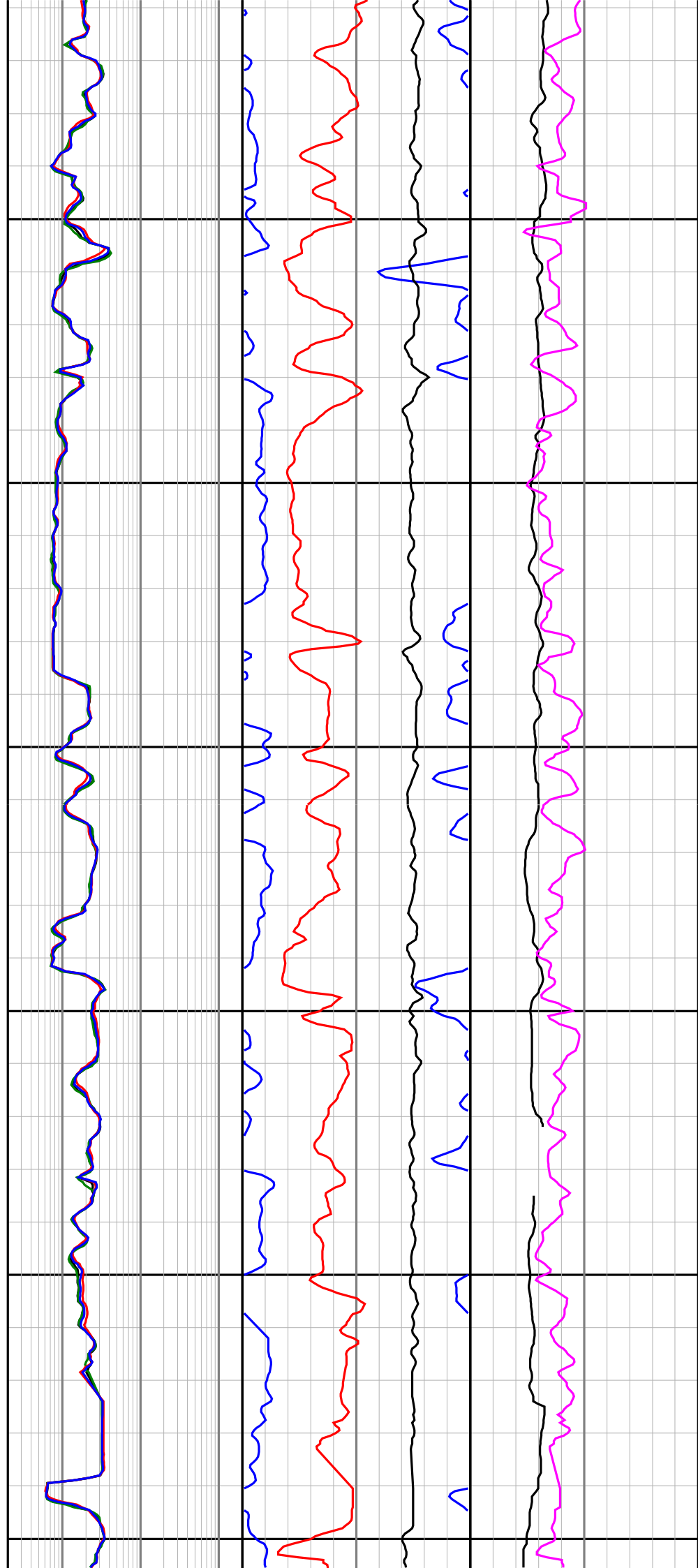
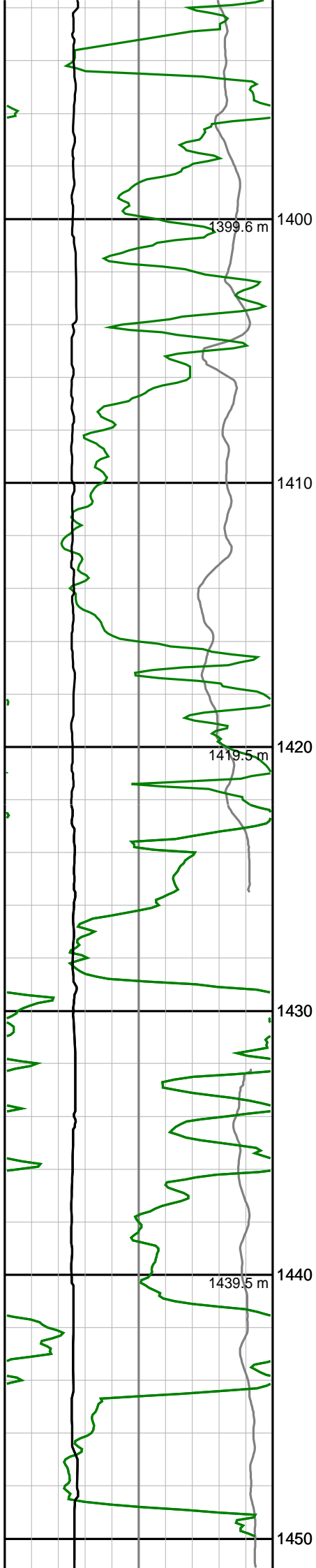


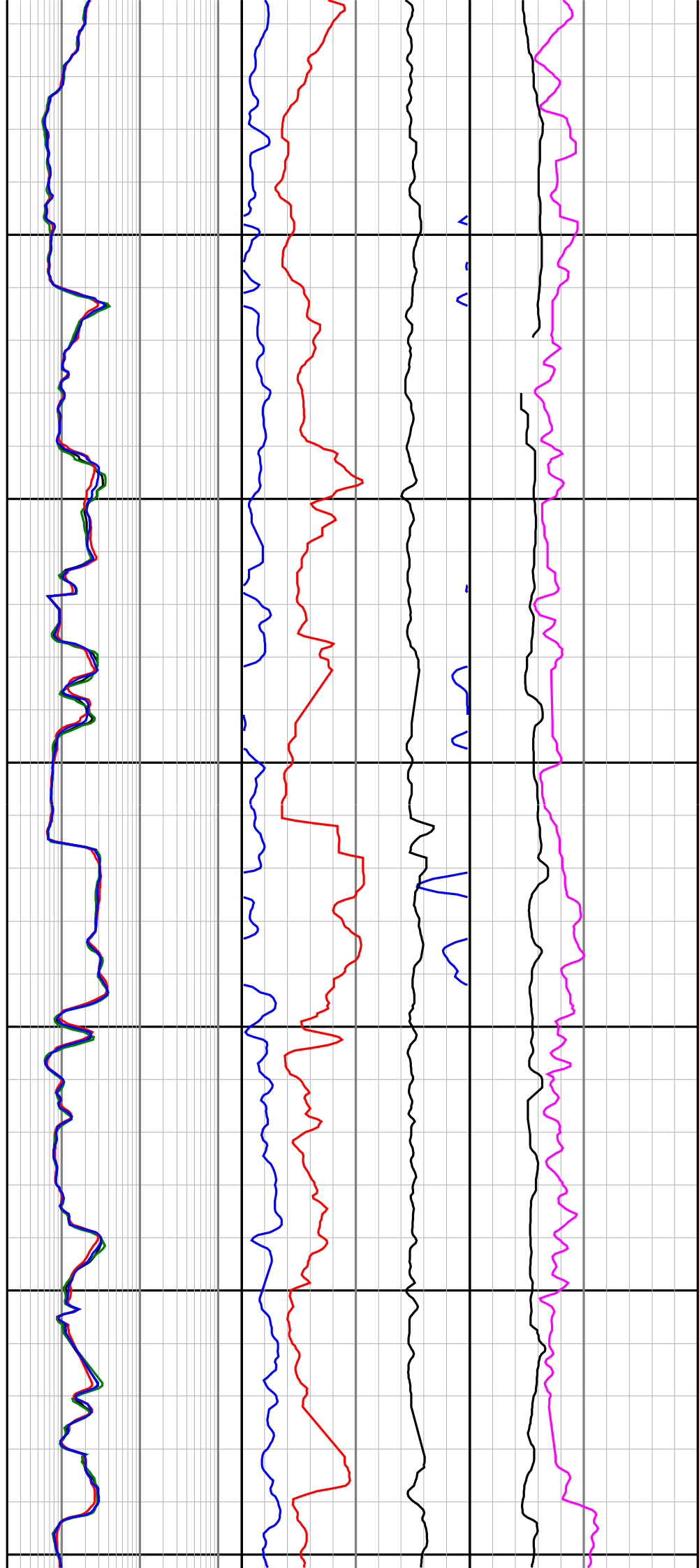
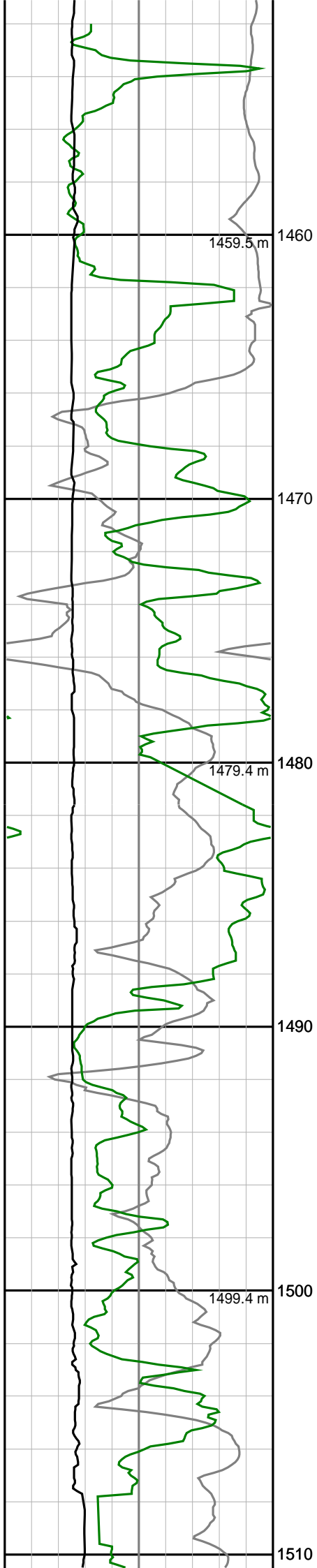


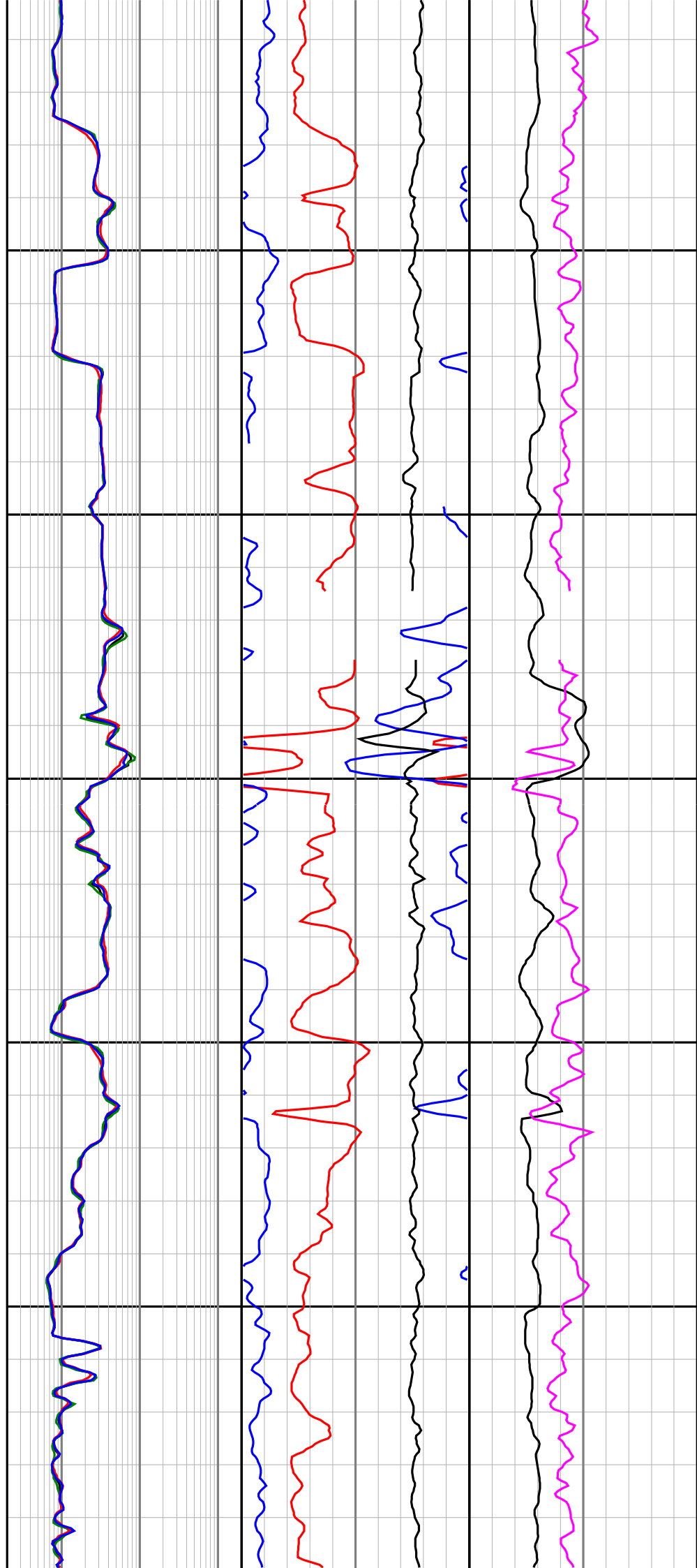
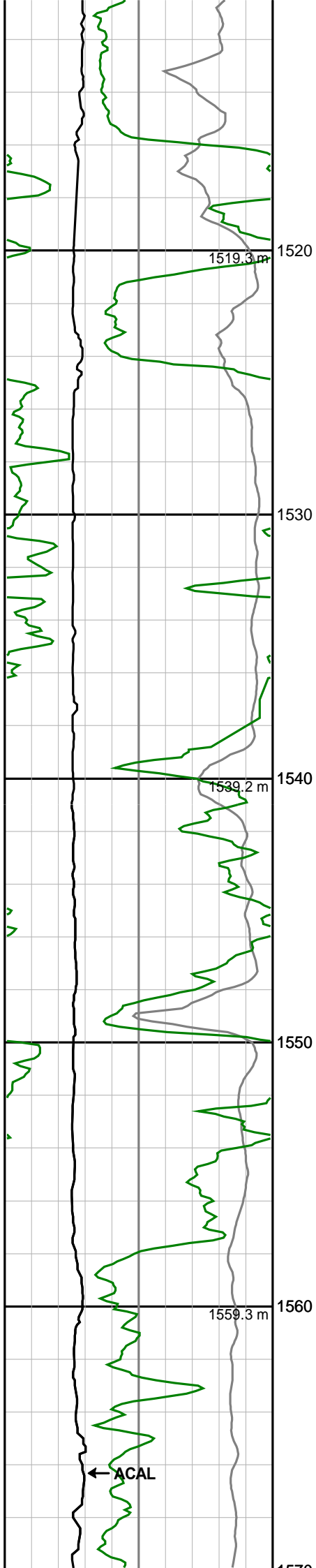


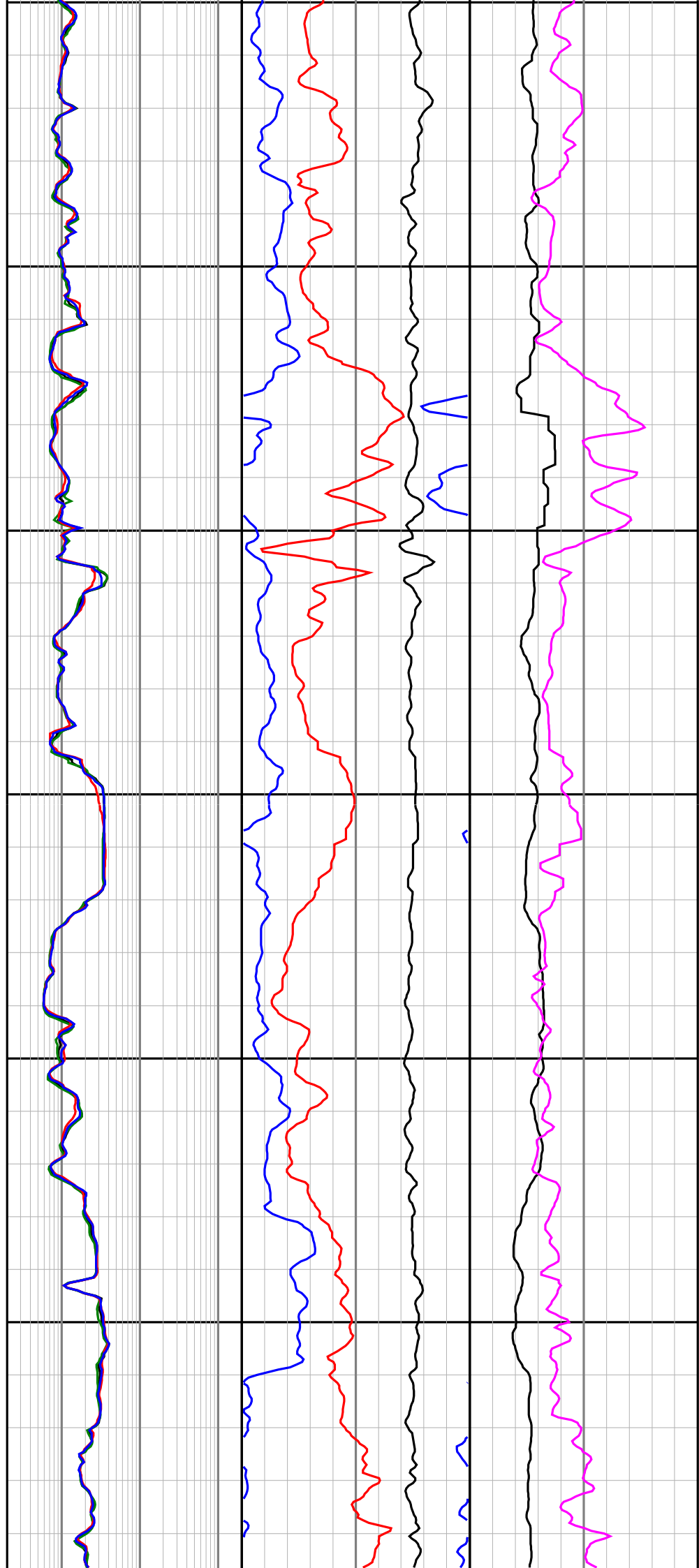
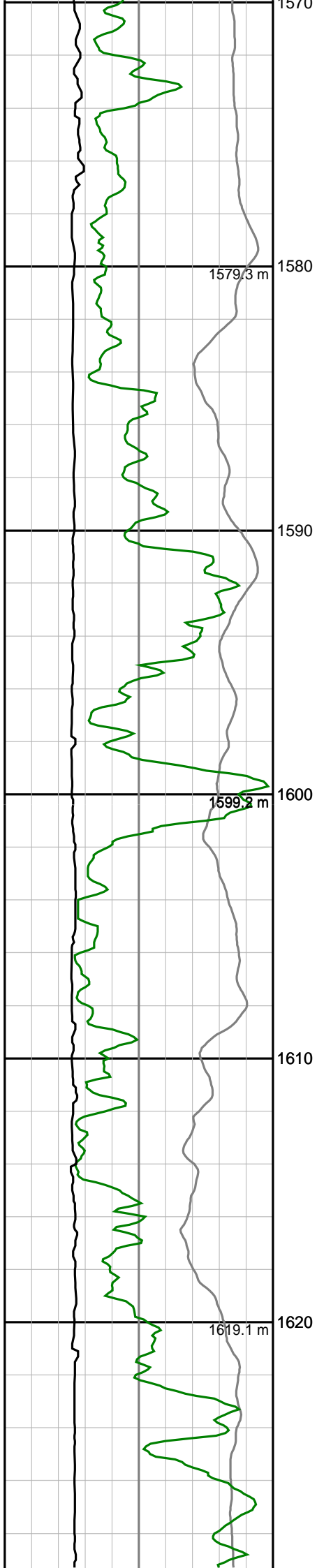


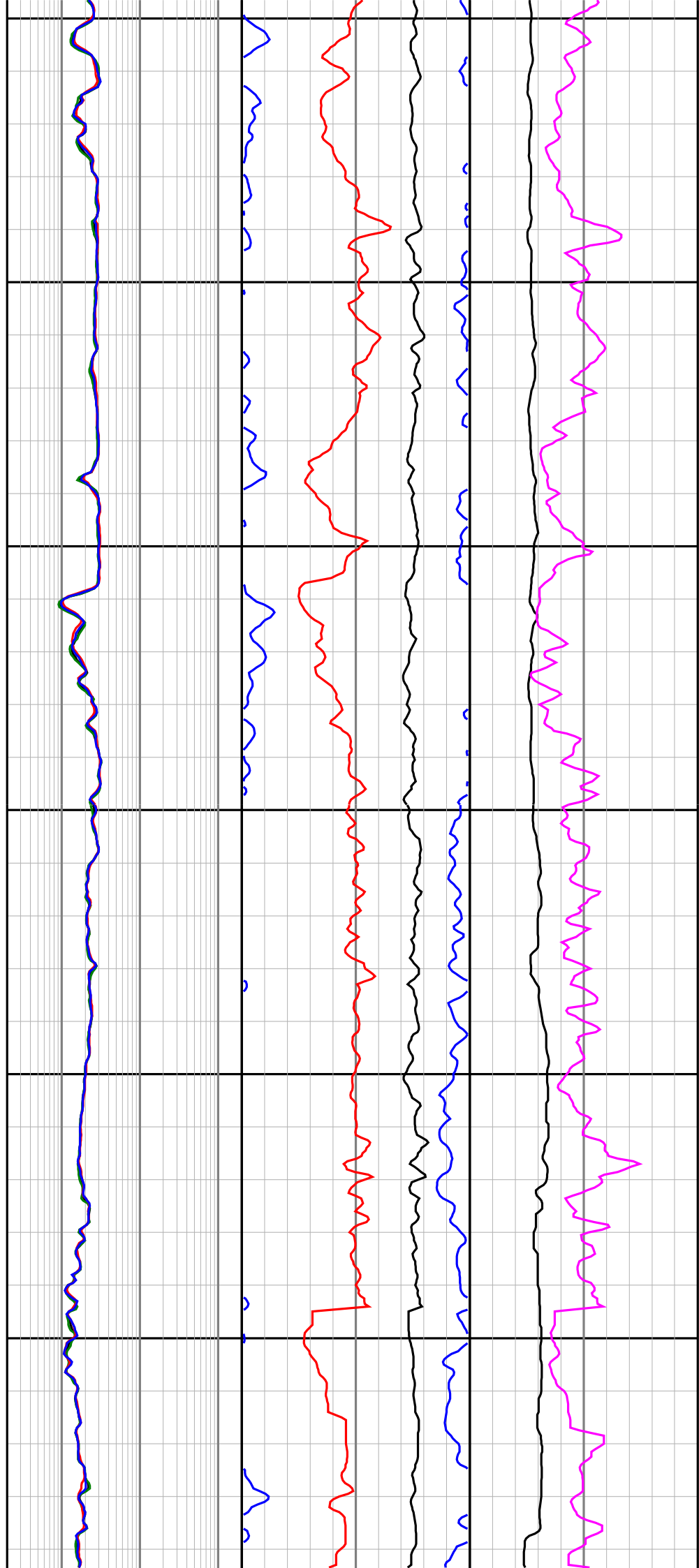
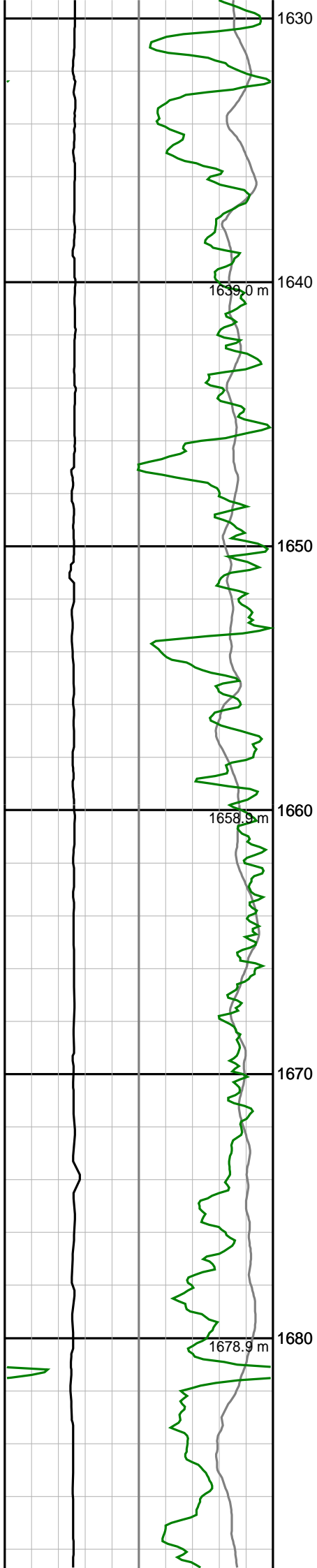


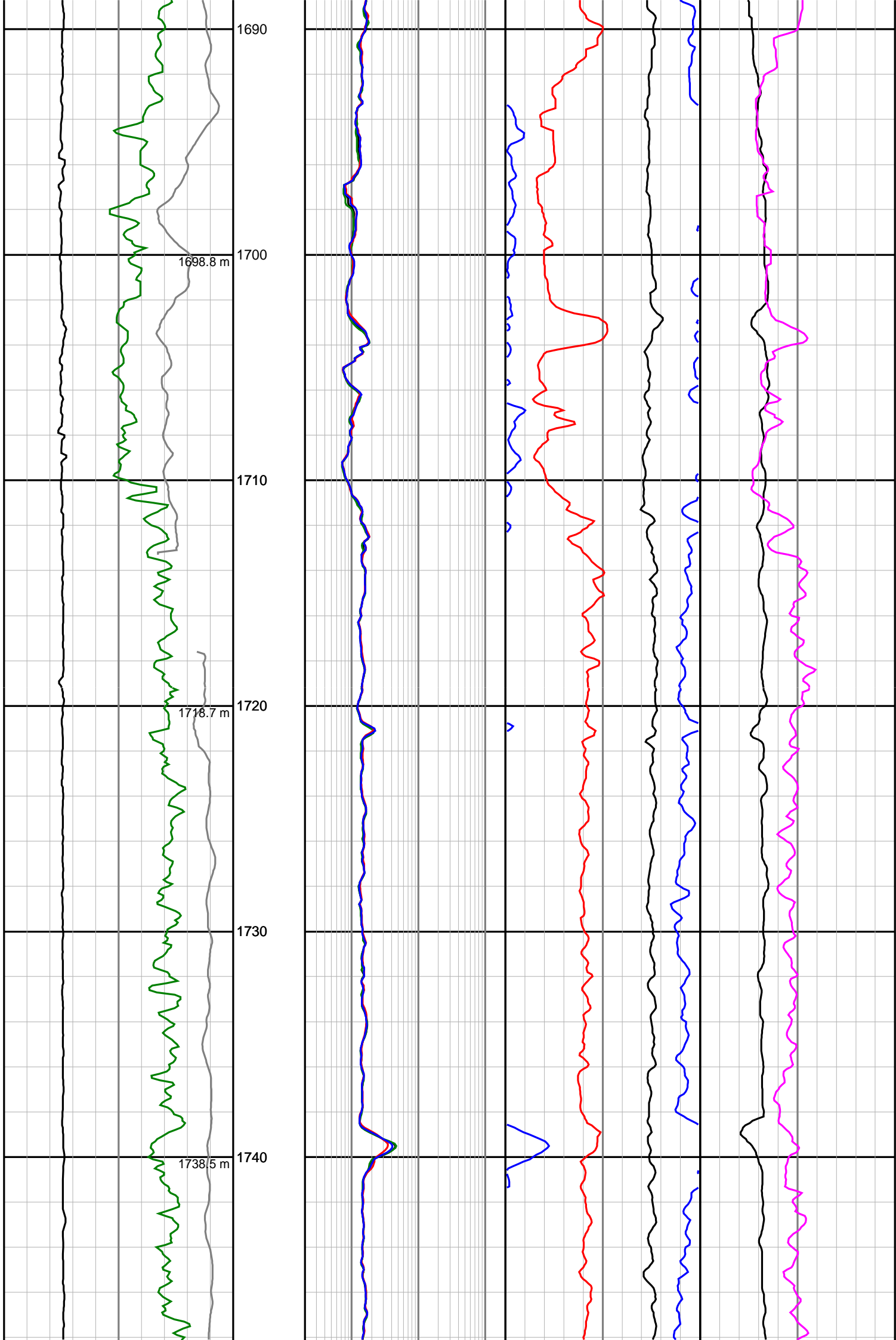


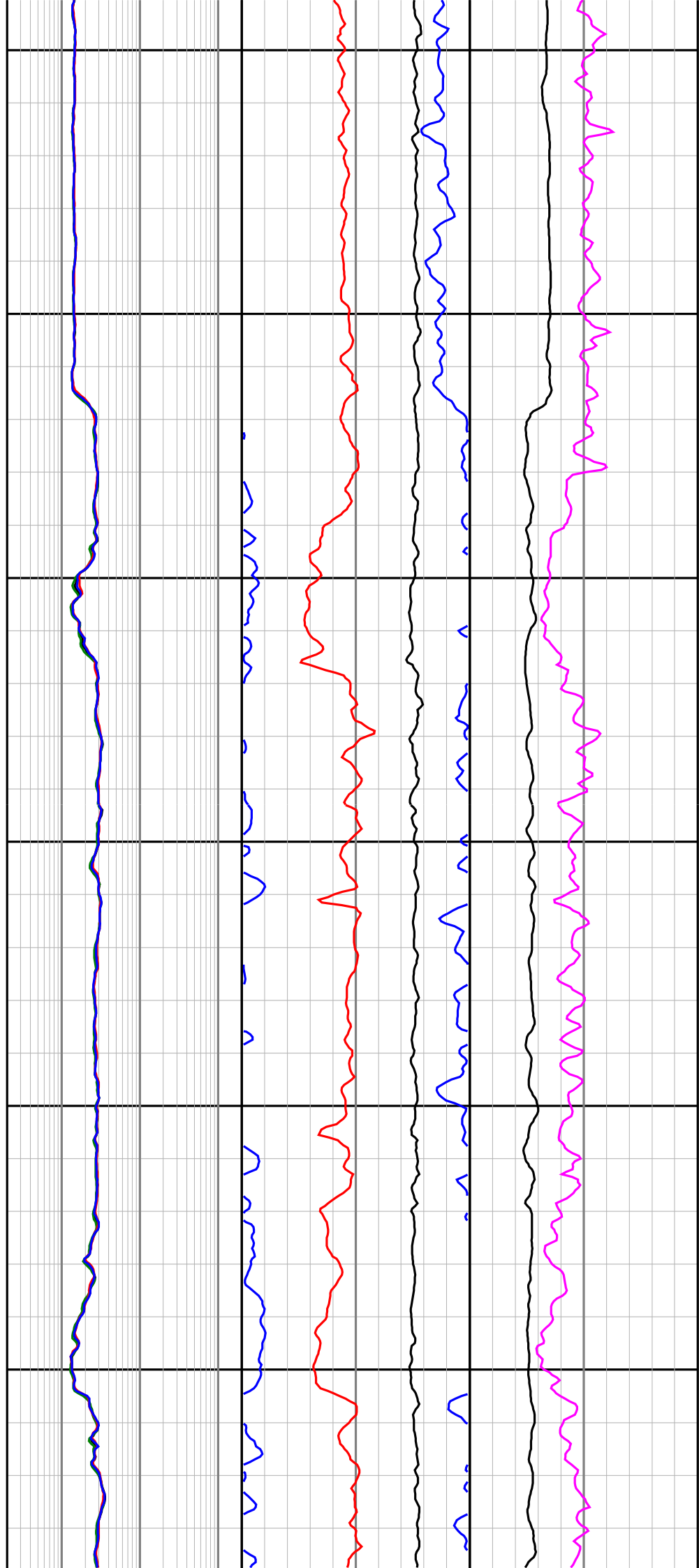
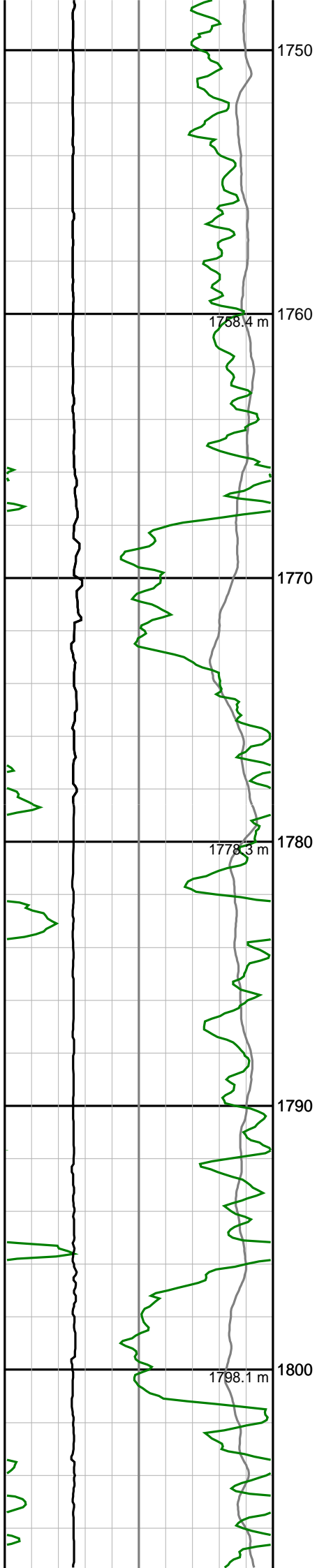


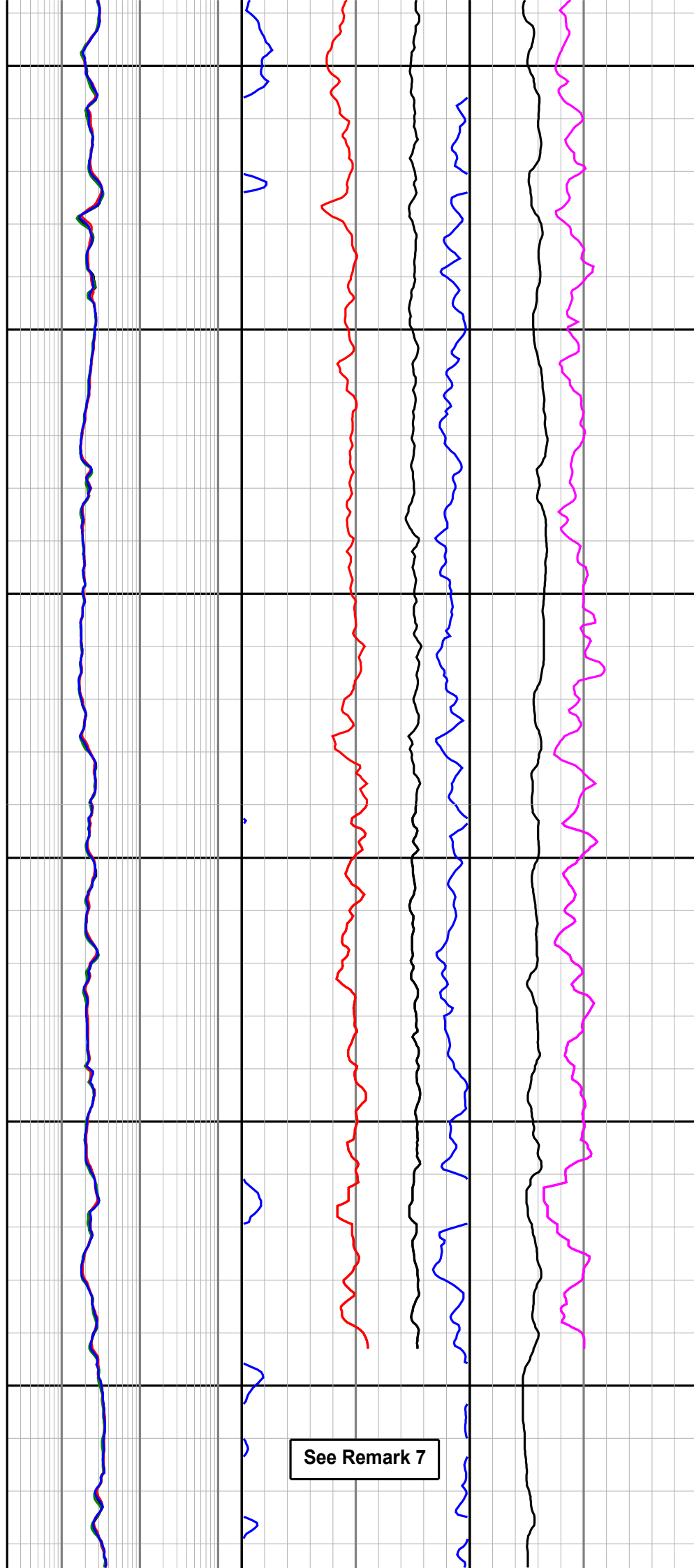
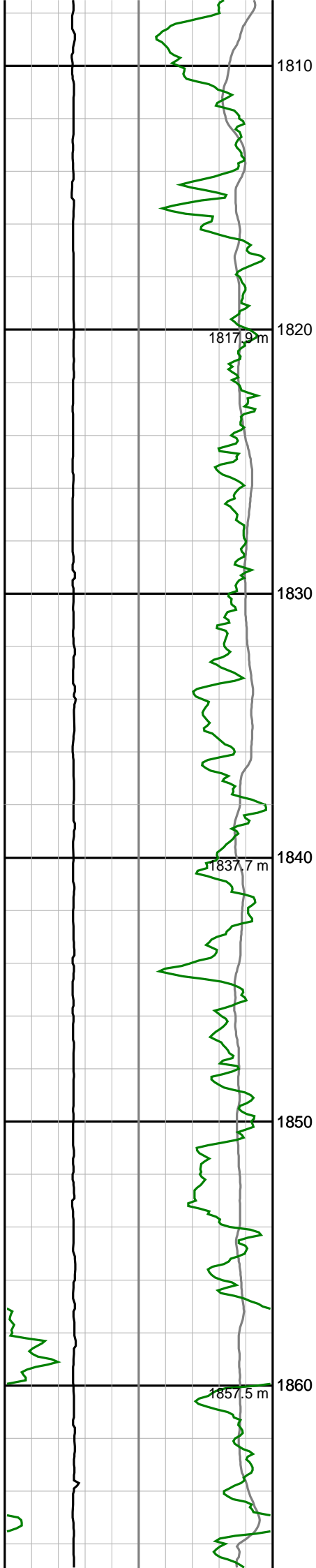


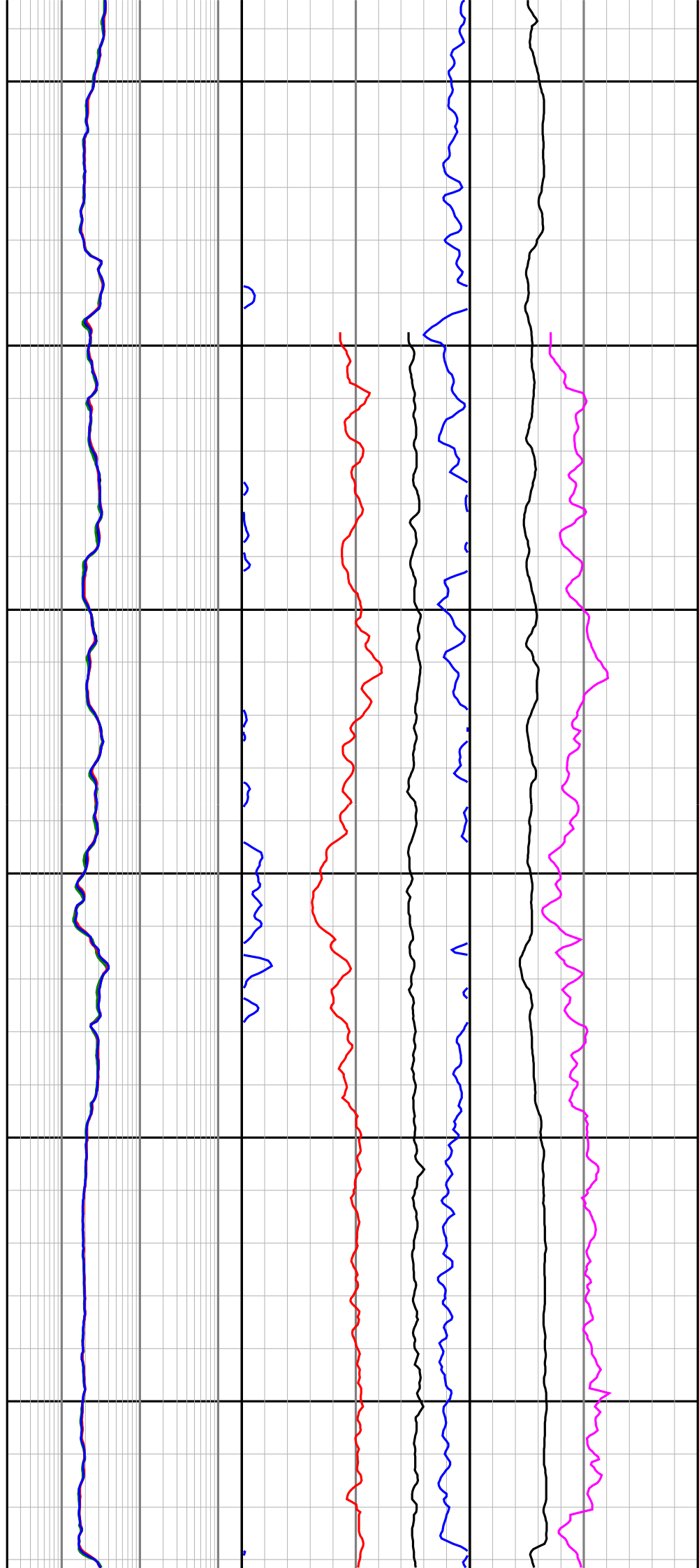
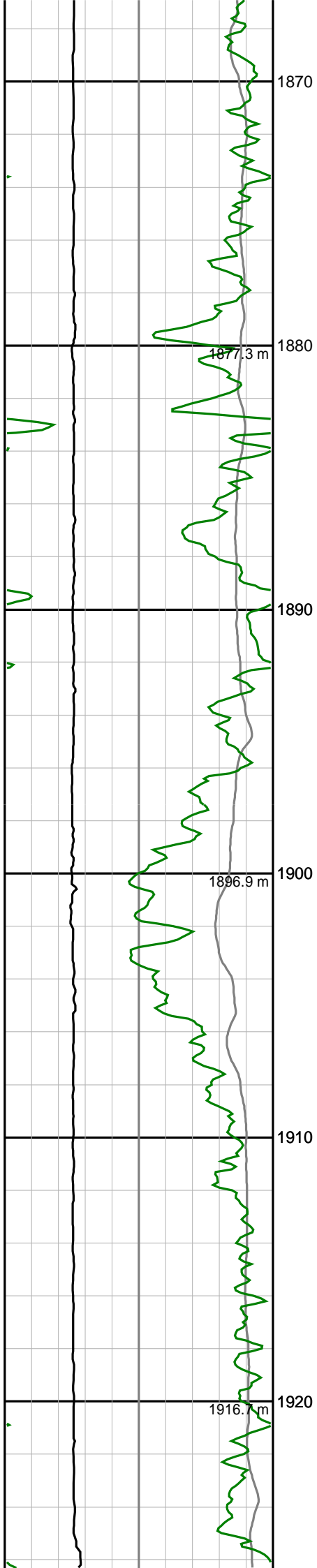


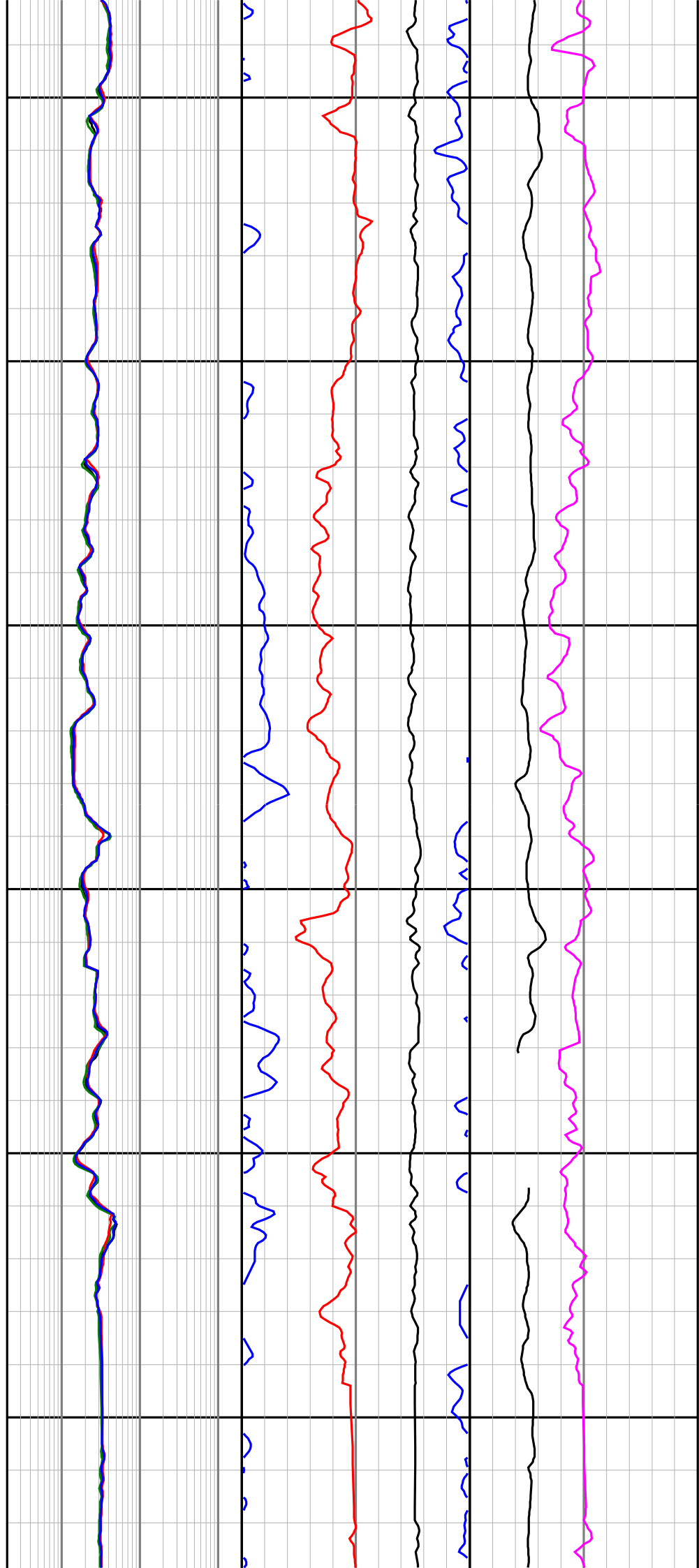
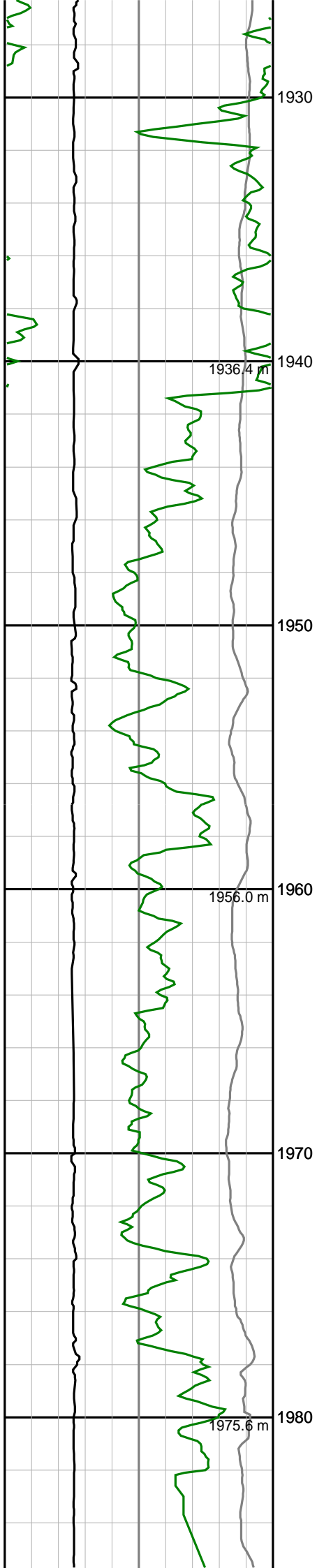


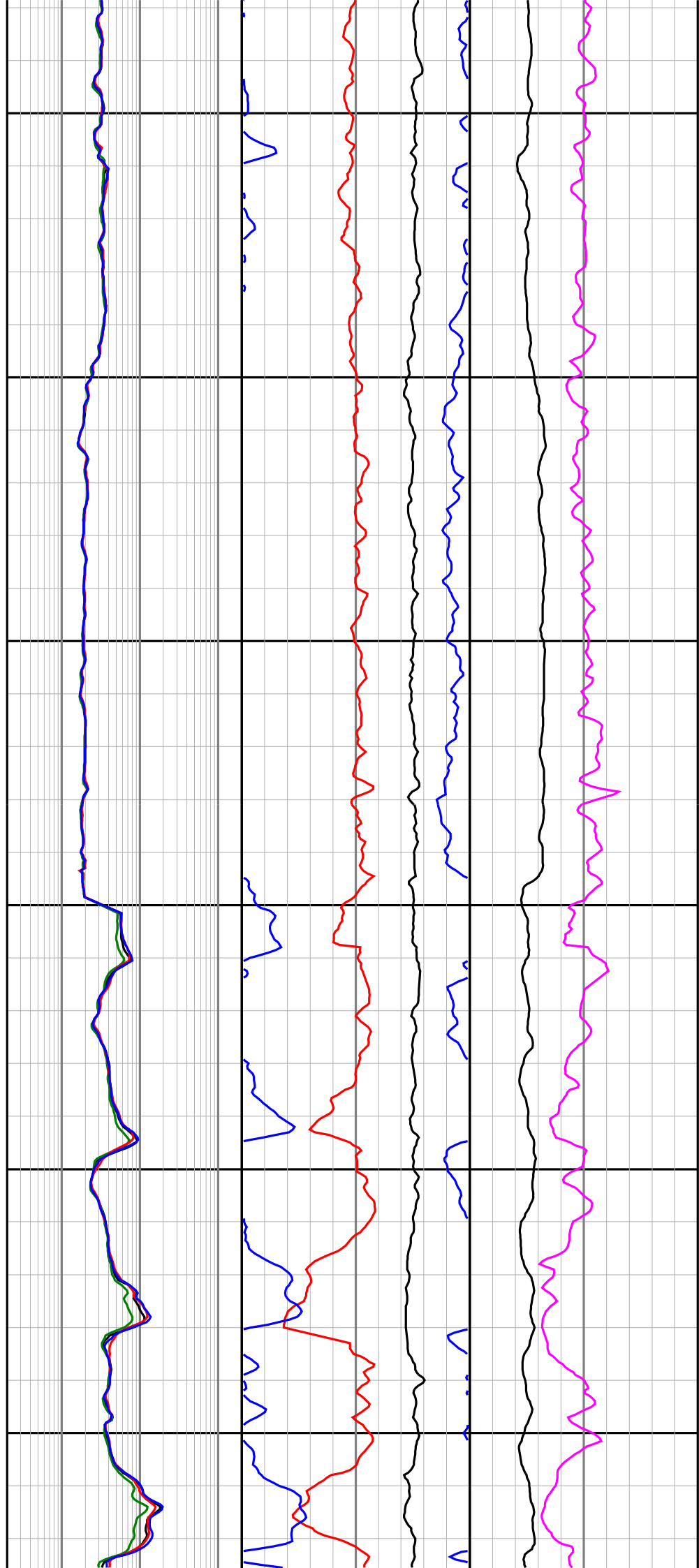
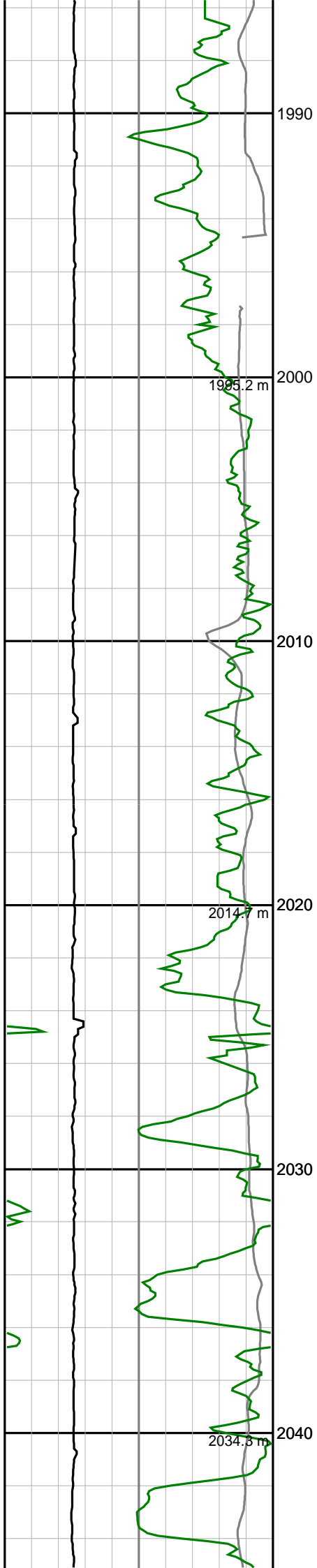


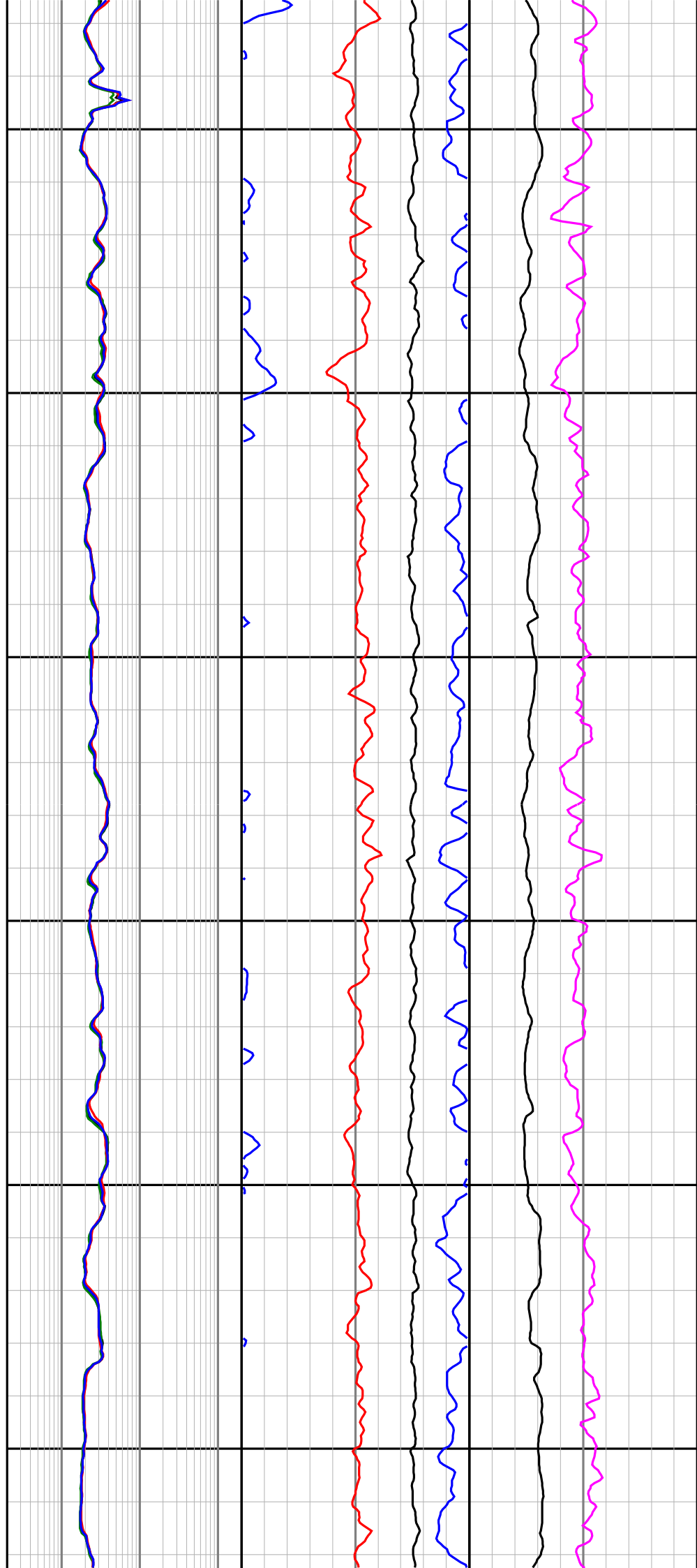
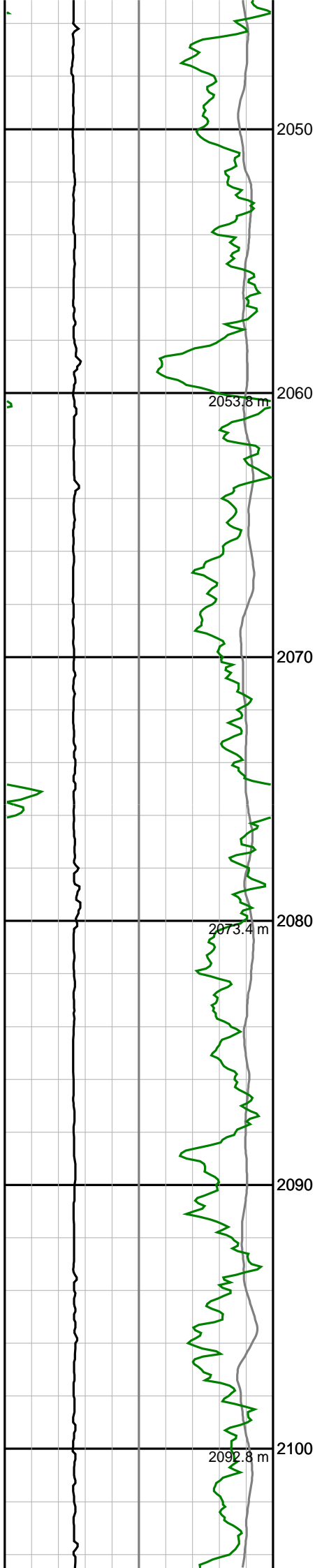


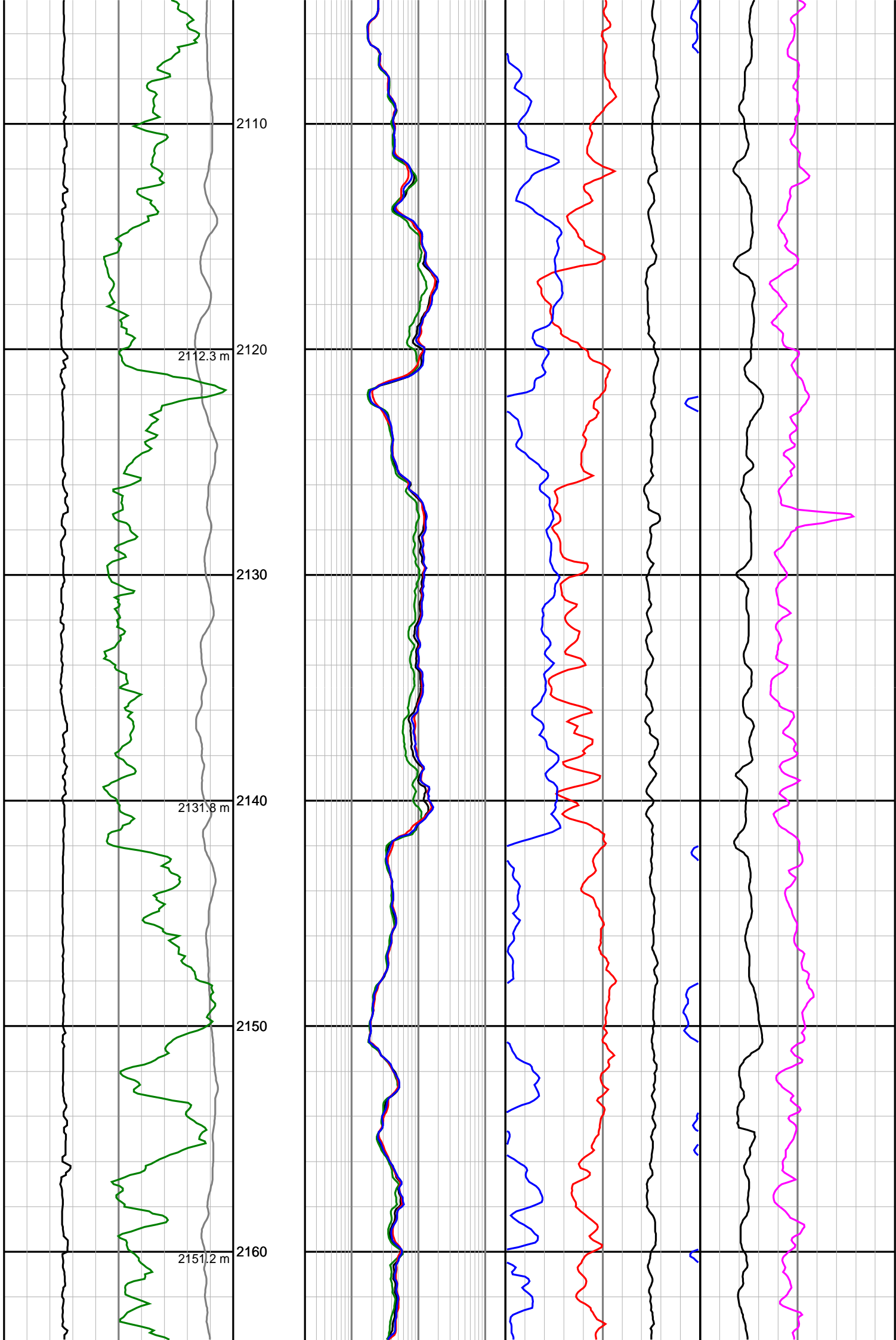


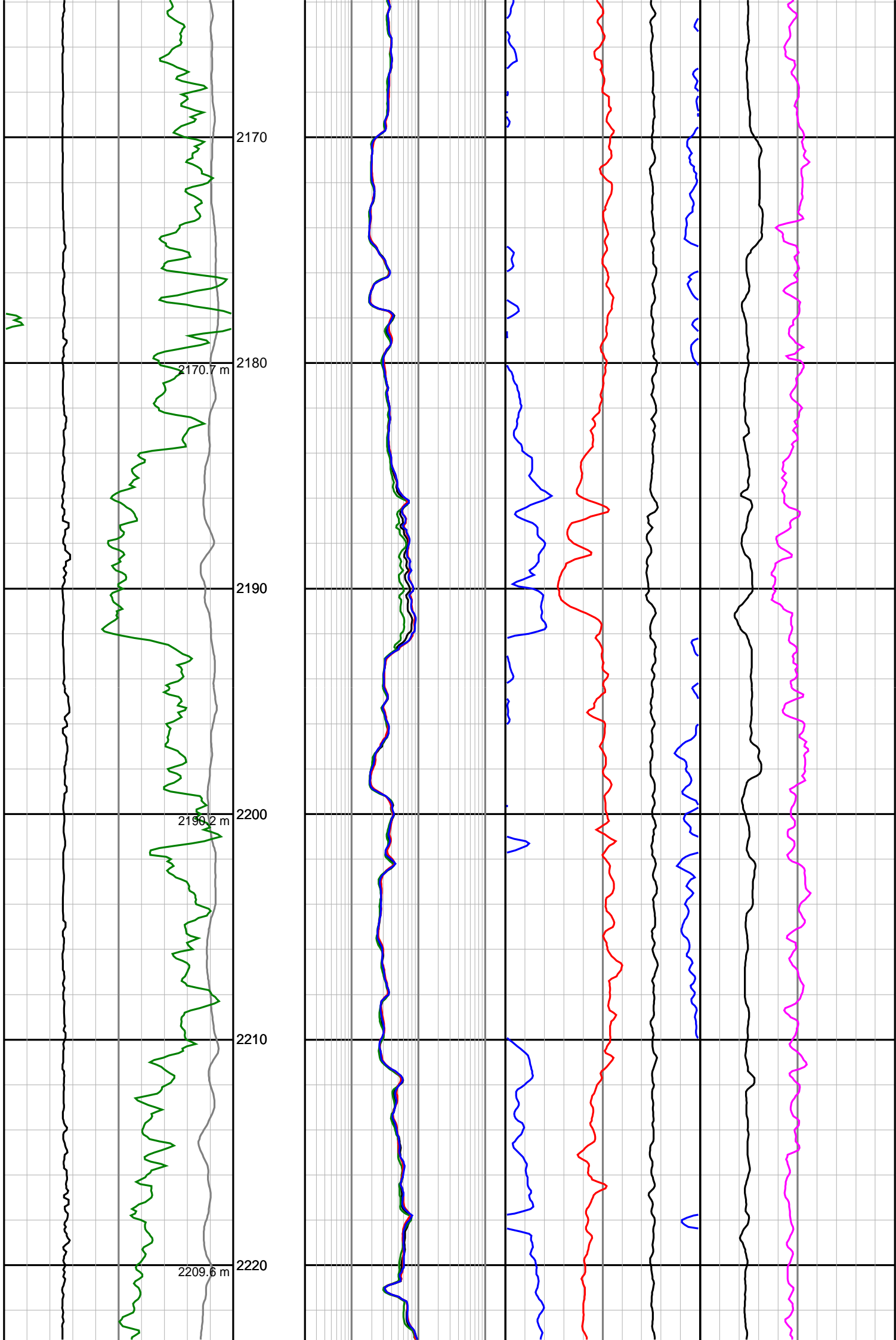


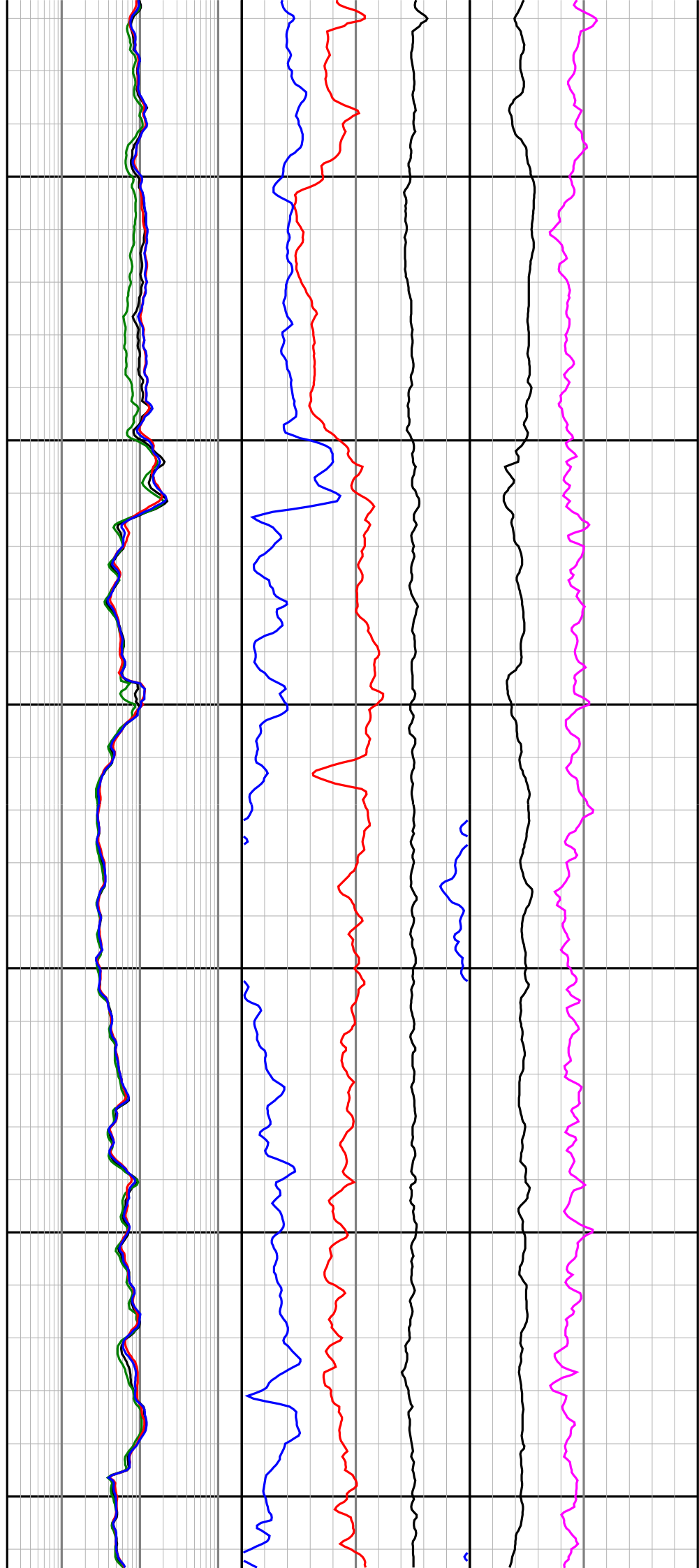
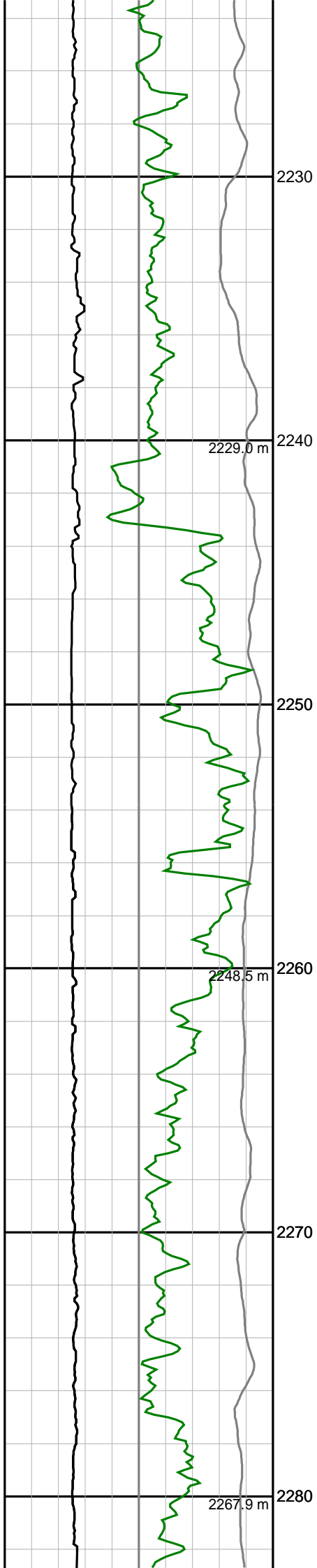


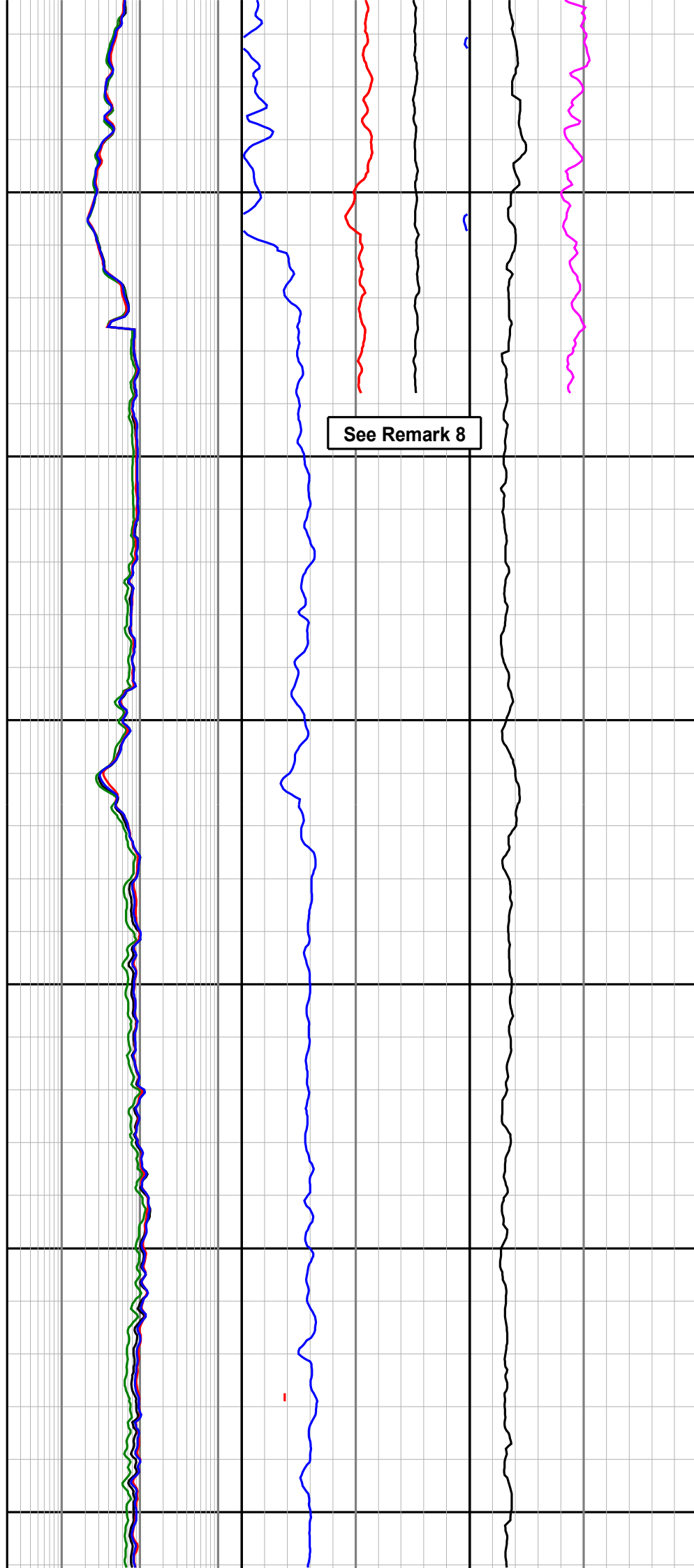
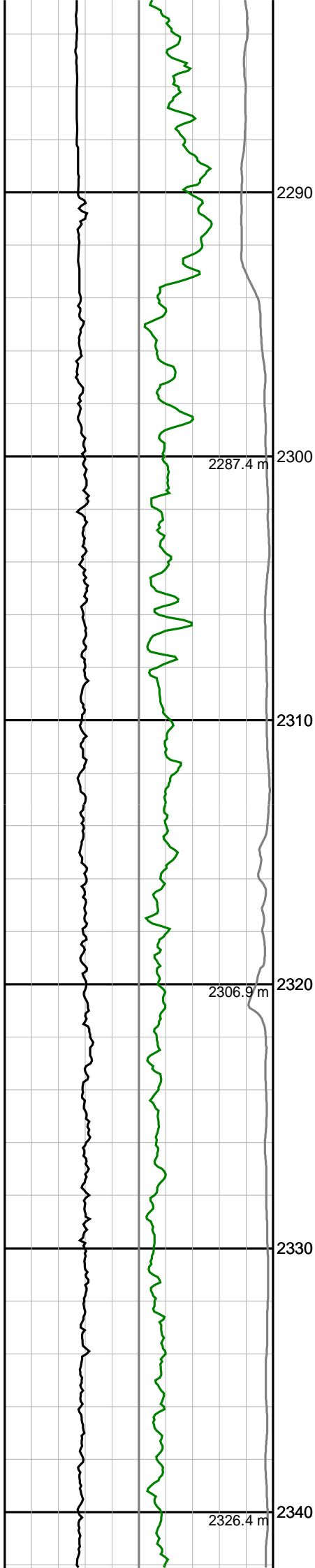


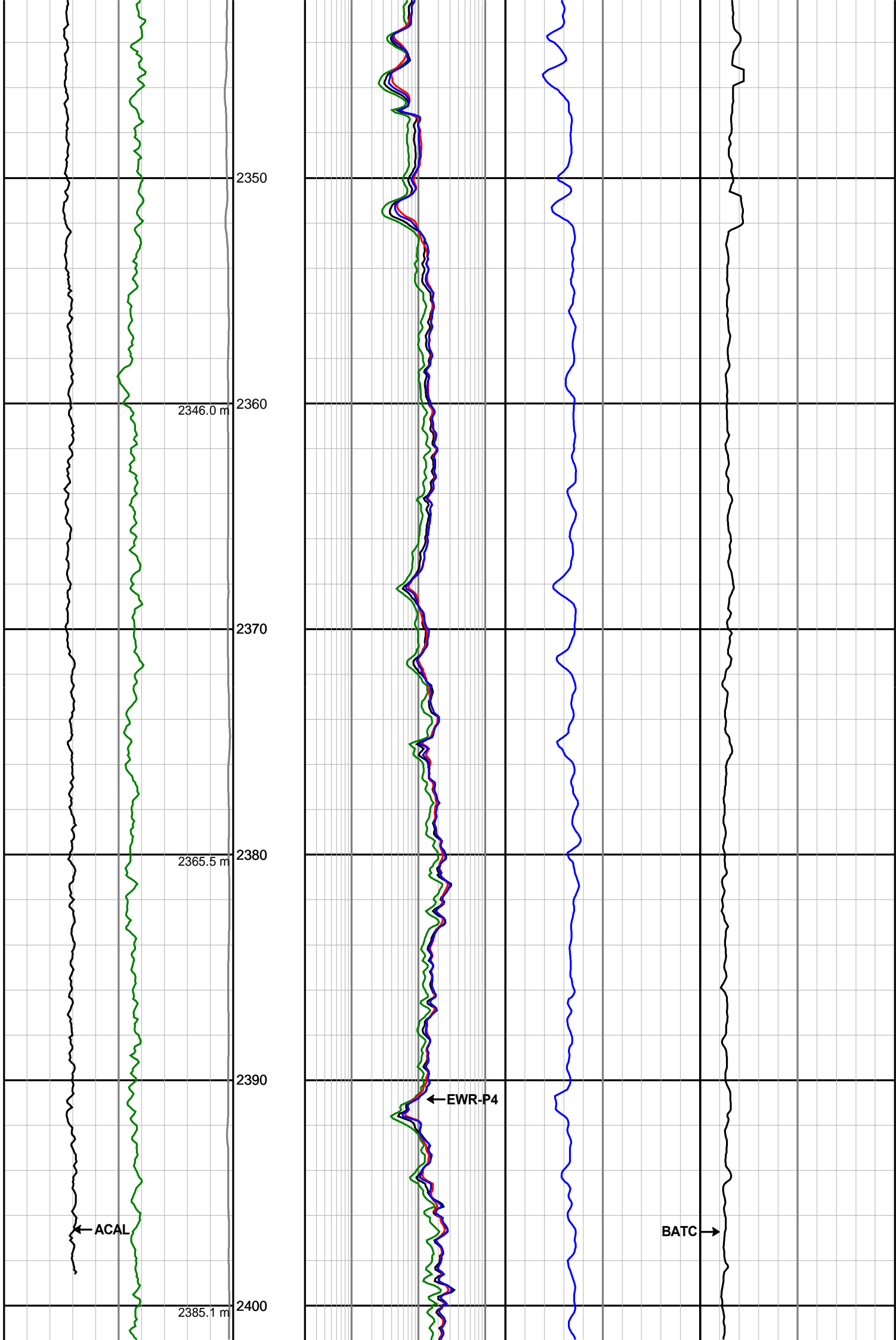


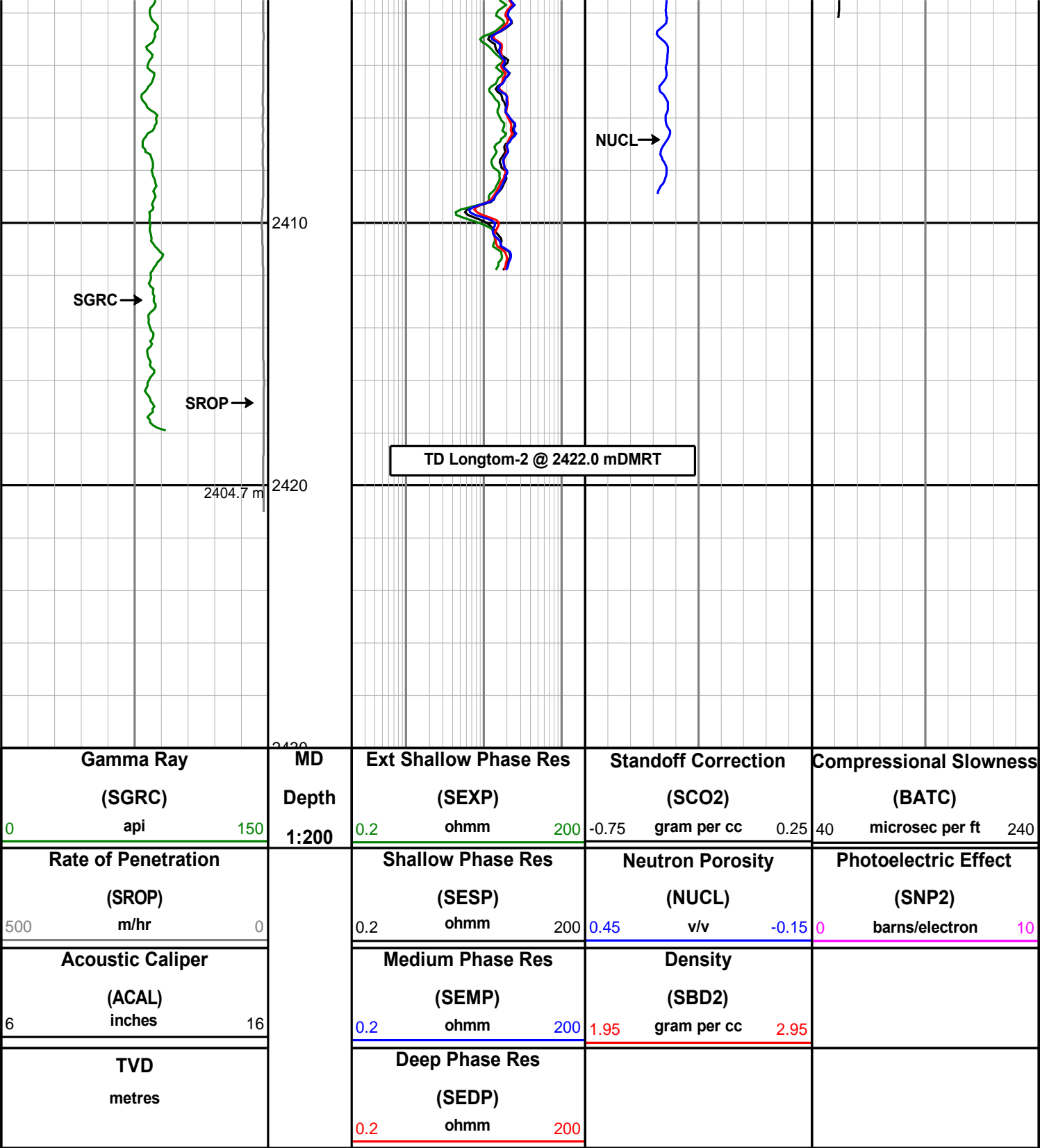










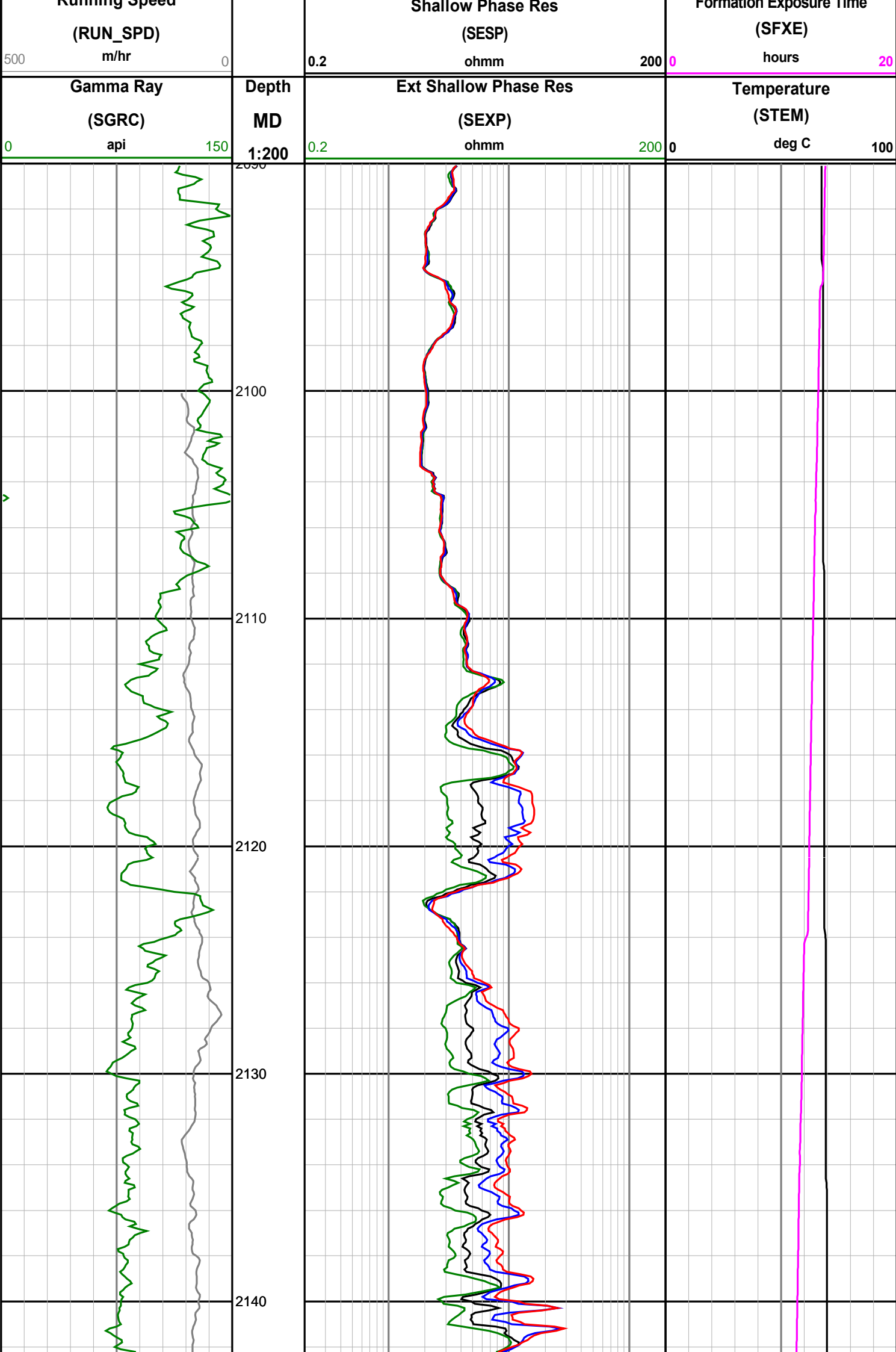


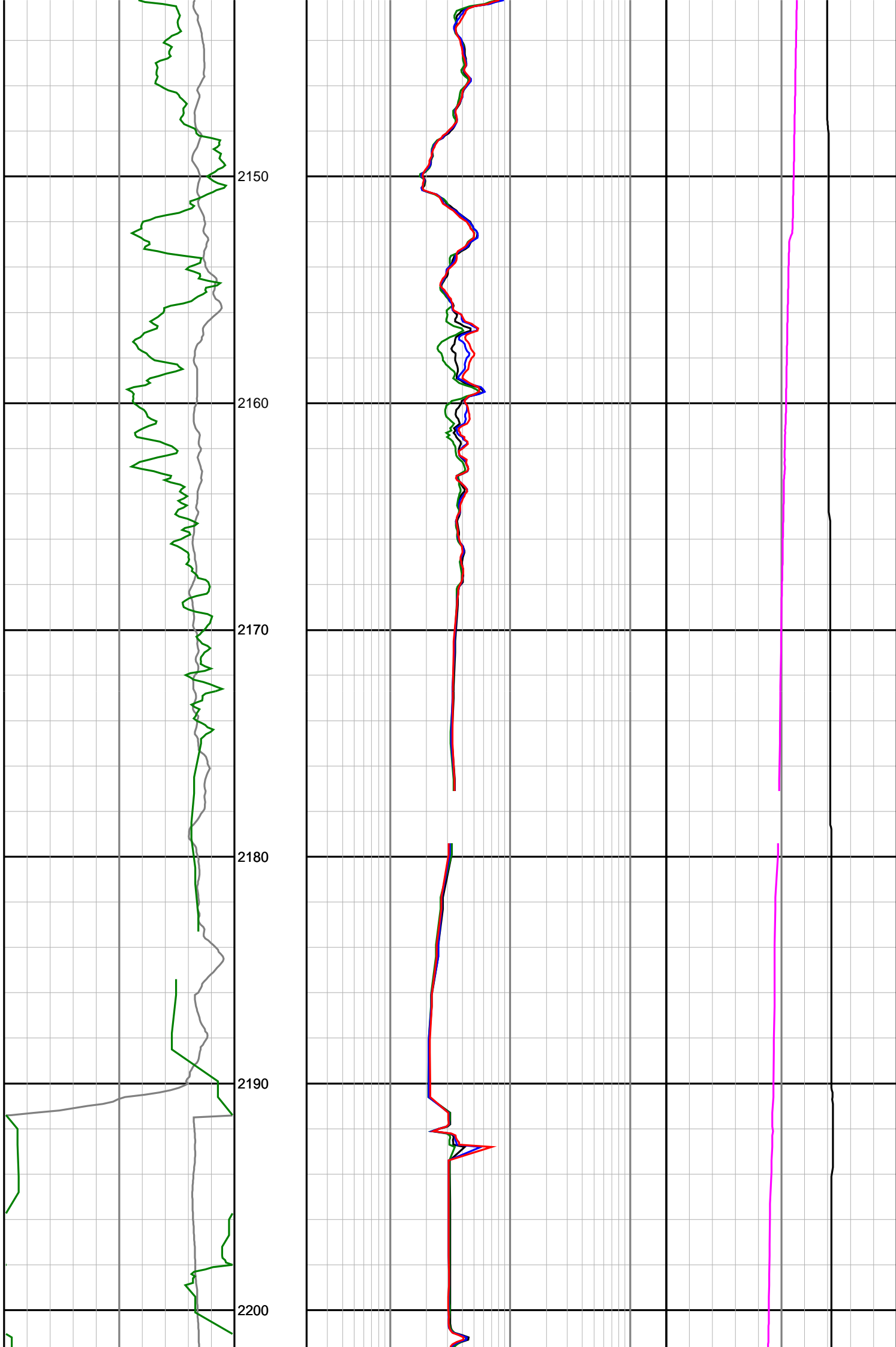
Apache Energy Ltd Longtom-2

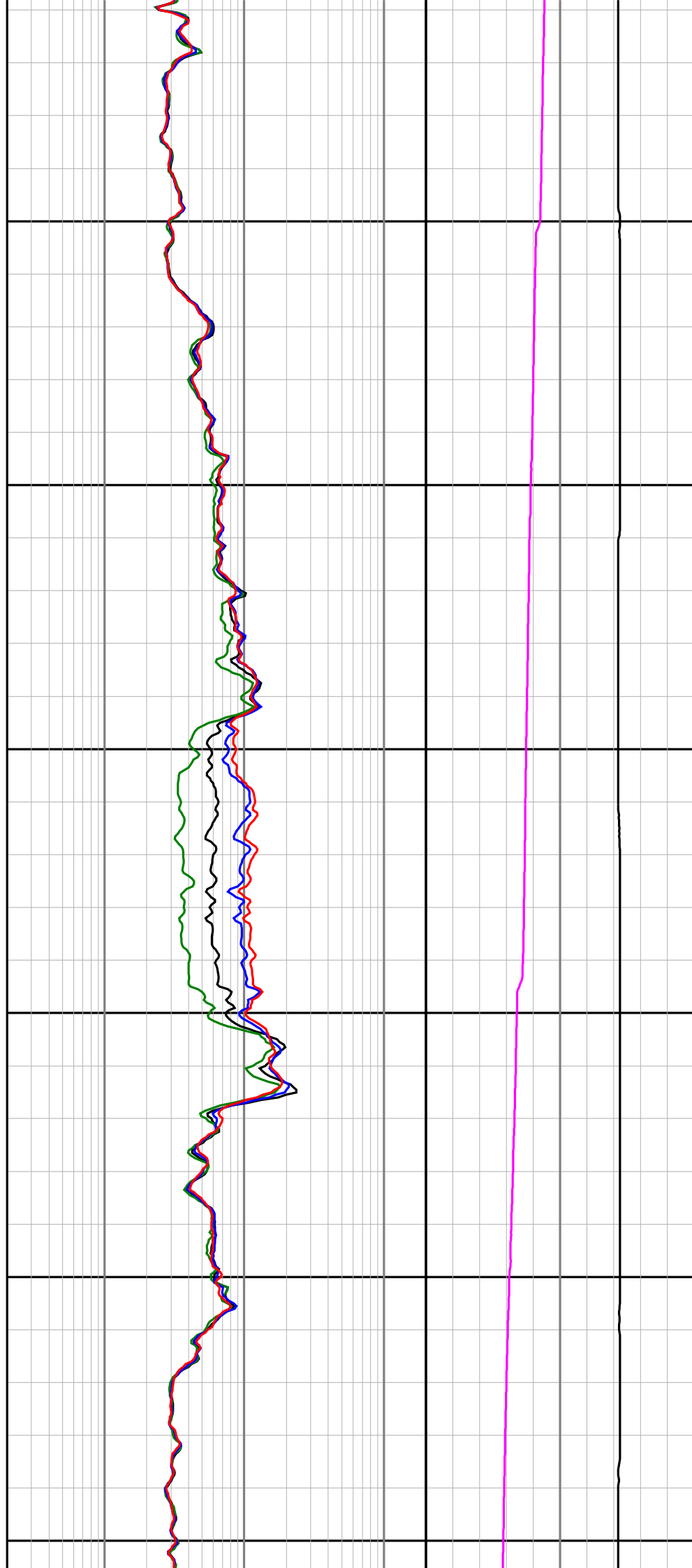
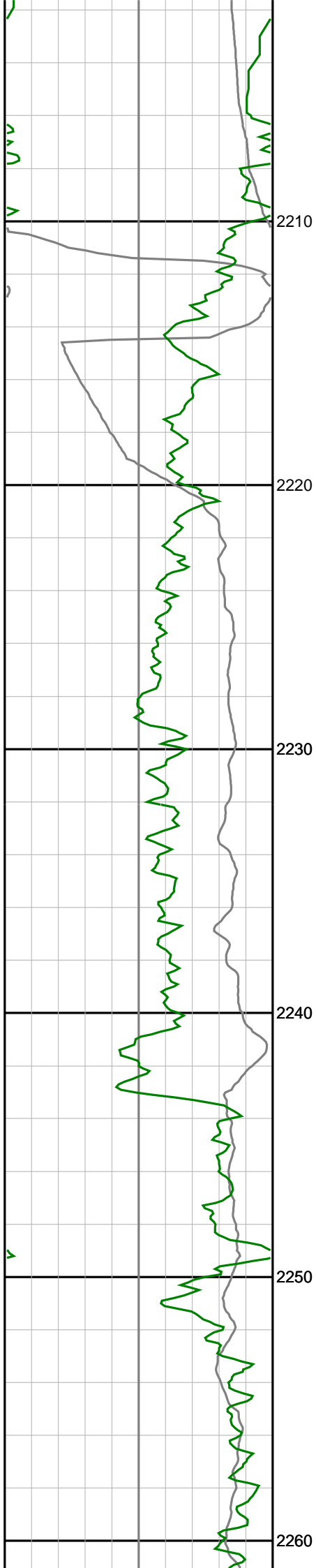
Repeat Section - 1, 2210.0 to 2300.0 mMDRT
Repeat Section - 2, 2100.0 to 2160.0 mMDRT

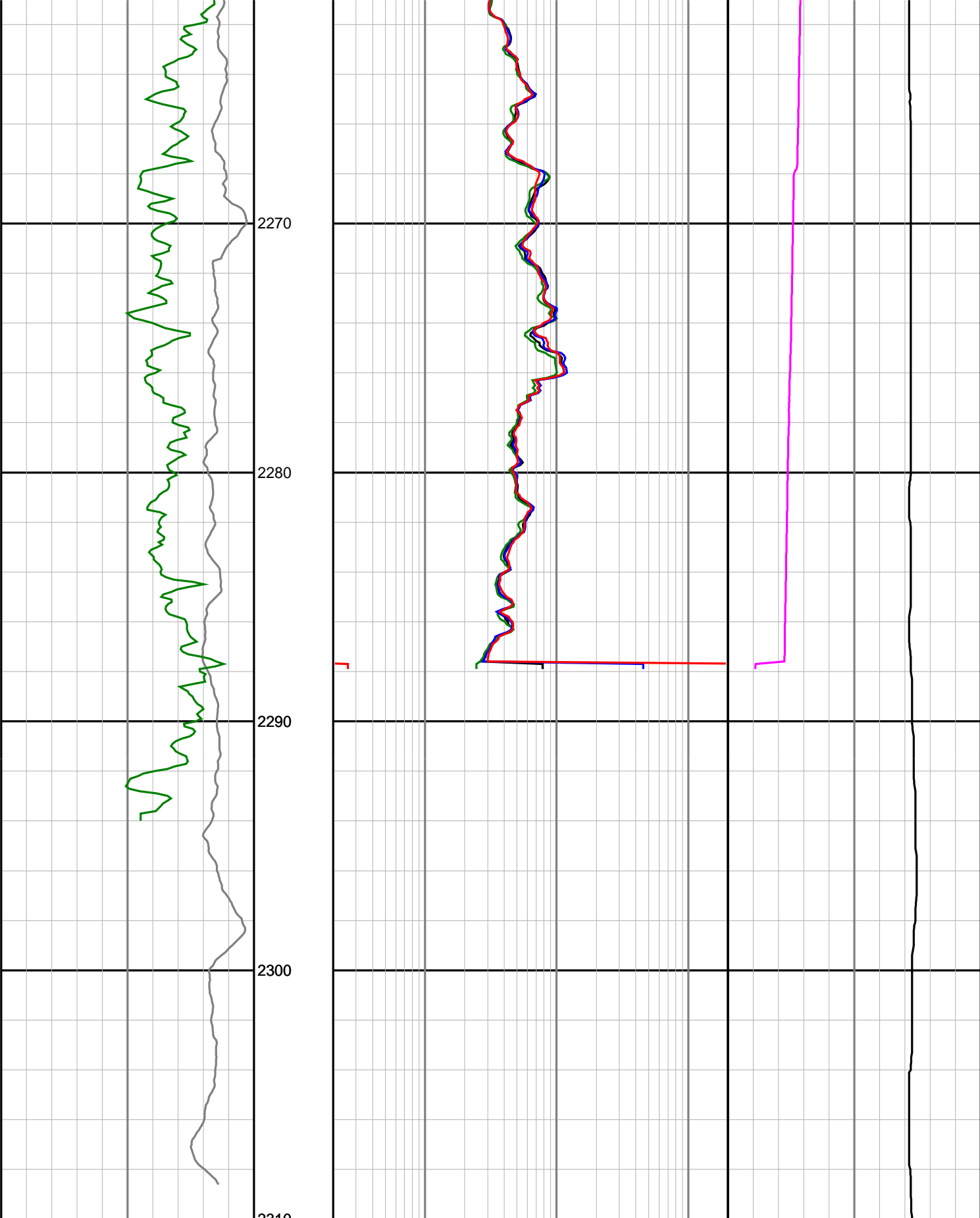
Wiped at 18:20 to 21:38 while pulling out of the whole with no rotary and no pumps after LWD Run 200

	Deep Phase Res		
	(SEDP)	ohmm	
	0.2	200	
	Medium Phase Res		
	(SEMP)	ohmm	
	0.2	200	
Running Speed			Formation Exposure Time









<div>Gamma Ray</div> <div>(SGRC)</div> <div>api</div> <div>0150</div>	<div>Depth</div> <div>MD</div> <div>1:200</div>	<div>Ext Shallow Phase Res</div> <div>(SEXP)</div> <div>ohmm</div> <div>0.2200</div>	<div>Temperature</div> <div>(STEM)</div> <div>deg C</div> <div>0100</div>
<div>Running Speed</div> <div>(RUN_SPD)</div> <div>m/hr</div> <div>5000</div>		<div>Shallow Phase Res</div> <div>(SESP)</div> <div>ohmm</div> <div>0.2200</div>	<div>Formation Exposure Time</div> <div>(SFXE)</div> <div>hours</div> <div>020</div>
		<div>Medium Phase Res</div> <div>(SEMP)</div> <div>ohmm</div> <div>0.2200</div>	



DIRECTIONAL SURVEY REPORT

Apache Energy Ltd
Longtom-2
Exploration
Victoria
Australia
AU-FE-0003298447
Final survey is projected to TD.

Measured Depth (metres)	Inclination (degrees)	Direction (degrees)	Vertical Depth (metres)	Latitude (metres)	Departure (metres)	Vertical Section (metres)	Dogleg (deg/30m)
78.300	0.00	0.00	78.300	0.000 N	0.000 E	0.000	TIE-IN
82.553	0.97	258.66	82.553	0.007 S	0.035 W	-0.031	6.83
112.760	0.85	147.07	112.758	0.244 S	0.164 W	-0.287	1.49
141.180	0.89	146.91	141.174	0.605 S	0.070 E	-0.362	0.05
167.690	1.01	154.86	167.681	0.990 S	0.282 E	-0.469	0.21
195.240	1.07	154.25	195.226	1.442 S	0.497 E	-0.620	0.06
280.640	0.94	157.28	280.613	2.804 S	1.113 E	-1.098	0.05
309.214	0.77	146.69	309.184	3.183 S	1.310 E	-1.212	0.24
337.704	0.79	157.77	337.671	3.526 S	1.490 E	-1.315	0.16
366.421	0.60	172.17	366.386	3.859 S	1.586 E	-1.472	0.27
424.641	0.46	168.46	424.604	4.391 S	1.674 E	-1.770	0.07
481.270	0.60	185.70	481.230	4.907 S	1.691 E	-2.110	0.11
566.250	0.73	188.21	566.205	5.883 S	1.569 E	-2.864	0.05
594.890	0.71	181.73	594.842	6.241 S	1.538 E	-3.131	0.09
623.800	0.70	174.98	623.750	6.597 S	1.548 E	-3.367	0.09
651.930	0.71	178.96	651.878	6.944 S	1.566 E	-3.590	0.05
680.500	0.56	173.05	680.446	7.261 S	1.587 E	-3.791	0.17
709.360	0.46	168.63	709.305	7.515 S	1.627 E	-3.936	0.12
738.170	0.32	152.68	738.114	7.700 S	1.686 E	-4.018	0.18
767.010	0.31	146.16	766.954	7.837 S	1.767 E	-4.052	0.04
795.700	0.25	96.83	795.644	7.909 S	1.873 E	-4.024	0.25
824.740	0.30	87.28	824.683	7.913 S	2.011 E	-3.926	0.07
853.150	0.47	59.73	853.093	7.851 S	2.185 E	-3.756	0.26
881.850	0.65	65.06	881.791	7.723 S	2.434 E	-3.487	0.20
910.570	0.94	47.41	910.509	7.494 S	2.756 E	-3.095	0.40
968.350	1.07	52.66	968.280	6.844 S	3.536 E	-2.081	0.08
1025.790	1.38	33.86	1025.707	5.944 S	4.349 E	-0.873	0.26
1055.310	1.47	38.91	1055.218	5.354 S	4.785 E	-0.152	0.16
1084.150	1.45	38.45	1084.048	4.779 S	5.245 E	0.577	0.02
1110.420	1.50	43.02	1110.309	4.267 S	5.686 E	1.249	0.14
1140.980	1.63	41.28	1140.858	3.649 S	6.245 E	2.079	0.14
1169.600	1.90	39.20	1169.464	2.976 S	6.813 E	2.954	0.29
1198.150	2.05	43.59	1197.997	2.239 S	7.465 E	3.932	0.22
1227.480	1.96	42.91	1227.309	1.492 S	8.168 E	4.956	0.10
1285.120	2.78	45.34	1284.900	0.212 N	9.833 E	7.336	0.43
1342.670	2.75	51.91	1342.383	2.044 N	11.911 E	10.106	0.17
1428.080	3.43	52.87	1427.668	4.852 N	15.563 E	14.691	0.24
1457.250	3.55	48.99	1456.784	5.972 N	16.941 E	16.463	0.27
1515.810	3.87	57.08	1515.222	8.236 N	19.967 E	20.220	0.31
1601.750	4.29	57.36	1600.944	11.544 N	25.106 E	26.235	0.15
1630.370	4.38	57.32	1629.482	12.711 N	26.927 E	28.362	0.10
1659.040	5.12	55.38	1658.054	14.028 N	28.900 E	30.703	0.79
1687.660	5.81	50.90	1686.544	15.666 N	31.074 E	33.410	0.85
1716.340	5.98	52.62	1715.072	17.488 N	33.387 E	36.344	0.26
1773.640	6.99	49.61	1772.005	21.558 N	38.413 E	42.796	0.56

Measured Depth (metres)	Inclination (degrees)	Direction (degrees)	Vertical Depth (metres)	Latitude (metres)	Departure (metres)	Vertical Section (metres)	Dogleg (deg/30m)
1802.390	7.25	48.26	1800.534	23.899 N	41.098 E	46.356	0.32
1831.130	8.02	46.49	1829.019	26.486 N	43.904 E	50.173	0.84
1888.710	9.67	44.64	1885.912	32.695 N	50.218 E	59.025	0.87
1917.470	10.45	43.25	1914.229	36.314 N	53.704 E	64.042	0.85
1946.130	11.23	41.77	1942.377	40.288 N	57.343 E	69.415	0.86
1974.870	11.30	41.50	1970.564	44.484 N	61.073 E	75.004	0.10
2001.480	11.64	41.34	1996.642	48.452 N	64.573 E	80.270	0.38
2031.150	12.13	40.39	2025.676	53.073 N	68.570 E	86.345	0.54
2088.390	12.90	39.67	2081.556	62.571 N	76.545 E	98.655	0.41
2174.270	13.47	40.33	2165.172	77.574 N	89.136 E	118.096	0.21
2203.500	13.66	40.55	2193.587	82.794 N	93.584 E	124.908	0.20
2232.270	13.75	40.70	2221.538	87.967 N	98.022 E	131.682	0.09
2292.010	13.36	41.52	2279.614	98.516 N	107.226 E	145.608	0.22
2319.460	12.54	43.59	2306.365	103.050 N	111.383 E	151.740	1.03
2348.120	12.18	45.64	2334.361	107.418 N	115.692 E	157.870	0.59
2376.110	11.96	45.76	2361.732	111.507 N	119.881 E	163.723	0.24
2422.000	11.96	45.76	2406.625	118.142 N	126.695 E	173.232	0.00













CALCULATION BASED ON MINIMUM CURVATURE METHOD

SURVEY COORDINATES RELATIVE TO WELL SYSTEM REFERENCE POINT
TVD VALUES GIVEN RELATIVE TO DRILLING MEASUREMENT POINT

VERTICAL SECTION RELATIVE TO WELL HEAD
VERTICAL SECTION IS COMPUTED ALONG A CLOSURE OF 47.00 DEGREES (GRID)
A TOTAL CORRECTION OF 13.97 DEG FROM MAGNETIC NORTH TO GRID NORTH HAS BEEN APPLIED







HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD.
HORIZONTAL DISPLACEMENT(CLOSURE) AT 2422.000 METRES
IS 173.232 METRES ALONG 47.00 DEGREES (GRID)














MWD RUN 100 - BHA			MWD RUN 100 - MWD		
	Cumulative Length (m)			Sensor Measure Point Distance To Bit (m)	
HWDP	257.54		8 DGWD 650 System		
Cross Over Sub	118.47				
	117.34				
Drill Collar			PM	30.190	
	90.29				
Drilling Jars			ACAL	27.260	

Drill collar		80.43	BAT		
MWD		34.61	HCIM		
Float Sub		12.83			
Integral Blade Stabilizer		12.05	DGR		17.710
Cross Over Sub		9.74			
		8.87			
9-5/8" SperryDrill Lobe 3/4 - 4M			EWR-P4		14.680
PDC		0.29			










MWD RUN 200 - BHA


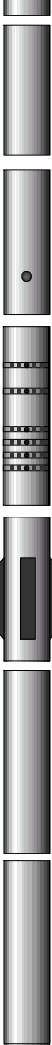
MWD RUN 200 - MWD

	Cumulative Length (m)		Sensor Measure Point Distance To Bit (m)
Drill Pipe (E)	390.90	Positive Pulser	
		TM	
HWDP	290.90	Hang-off Sub	
		PM	
Drill Collar	151.53		
		ACAL	
Drilling Jars	132.74	BAT	

		123.23			
Drill Collar					
		39.66			20.520
Integral Blade Stabilizer					
		38.03			17.540
MWD					
		10.43			14.790
Float Sub					
		9.93			
Integral Blade Stabilizer					
		7.91			0
6-3/4" SperryDrill Lobe 1/2 - 3M					
		0.23			11.490
PDC					

MWD RUN 300 - BHA	MWD RUN 300 - MWD
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		Cumulative Length (m) 382.10			Sensor Measure Point Distance To Bit (m)
Drill Pipe (E)					
		282.10			
HWDP					
		143.09			25.280
Drill Collar					
		124.30			22.360
Drilling Jars					
					

 <p>Drill Collar</p> <p>Integral Blade Stabilizer</p> <p>MWD</p> <p>Float Sub</p> <p>Integral Blade Stabilizer</p> <p>Tricone</p>	114.79	HCIM	 <p>12.180</p> <p>9.200</p> <p>6.450</p> <p>0</p> <p>3.150</p>
		CNP	
	31.32	EWR-P4	
	29.69	SLD	
		DDS	
	1.59	DGR	
	0.25		



MWD

**EWR Electromagnetic Wave Resistivity
DGR Dual Gamma Ray
SLD Stabilized Litho-Density
CNP Compensated Neutron Porosity
ACAL Acoustic Caliper
BAT Bi-Modal Acoustic Tool**

Country		: Australia	
Field		: Exploration	
Location		: Lat: 38° 6' 11.89" South Long: 148° 19' 0.92" East	
Well		: Longtom-2	
Company		: Apache Energy Ltd	
Rig		: Ocean Patriot	
LOCATION		Company : Apache Energy Ltd Rig : Ocean Patriot Well : Longtom-2 Field : Exploration Country : Australia DOE Number :	
Latitude : 38° 6' 11.89" South Longitude : 148° 19' 0.92" East UTM Easting = 615,462.43 m UTM Northing = 5,781,904.33 m		Other Services Surface Data Logging	
Permanent Datum : AHD		Elev. KB DF 21.50 m GL WVD 56.80 m	
Log Measured From : Drill Floor		21.50 m Above Permanent Datum	
Drilling Measured From : Drill Floor		MD LOG	
Depth Logged : 111.00 m To 2,422.00 m		Unit No. : 174	
Date Logged : 12-Nov-04 To 20-Nov-04		Job No. : AU-FE-000329847	
Total Depth MD : 2,422.00 m TVD: 2,406.63 m		Plot Type : Final	
Spud Date : 09-Nov-04		Plot Date : 22-Mar-05	
Run No.	Borehole Record (MD)		Run No.
	Size	From To	
2	311,000 mm	111.00 m	1,009.00 m
3	216,000 mm	1,009.00 m	2,312.00 m
4	216,000 mm	2,312.00 m	2,422.00 m
	</		

WELL INFORMATION

MWD Run Number	100	200	300		
Date run completed	12-Nov-04	18-Nov-04	20-Nov-04		
Rig Bit Number	2	3	4		
Bit Size (mm)	311	216	216		
Tool Nominal OD (mm)	203	171	171		
Log Start Depth (MD, m)	111.00	1,009.00	2,312.00		
Log End Depth (MD, m)	1,009.00	2,312.00	2,422.00		
Drill or Wipe	Drilling	Drilling	Drilling		
Drill/Wipe Start Date and Time	11-Nov-04 12:45	14-Nov-04 23:23	18-Nov-04 17:05		
Drill/Wipe End Date and Time	12-Nov-04 04:45	16-Nov-04 17:00	19-Nov-04 15:00		
Min Inc (deg) @ Depth (MD, m)	0.25 @ 795.70	1.38 @ 1,025.79	11.96 @ 2,376.11		
Max Inc (deg) @ Depth (MD, m)	1.07 @ 968.35	13.75 @ 2,232.27	13.36 @ 2,292.01		
Bit TFA(in2) / Bit Type	0.79 / Hycalog PDC	0.57 / REED PDC	0.59 / Security MR6520		
Flow Rate (gpm)	910	550	550		
Max AV (mpm) / CV (mpm) @ MWD	73.8 / 13.2	168.0 / 129.0	154.3 / 117.6		
Fluid Type	Sea Water	KCl/Idecap	KCl/Idecap		
Density (sg) / Viscosity (spl)	1.0 / 1.06	1.3 / 47.00	1.4 / 45.00		
Filtrate CL (ppm)	42,000	48,000	54,000		
pH / Fluid Loss (cptm)	8.00 / 2.0	8.70 / 4.2	9.00 / 4.8		
PV (cp) / YP (pa)	20 / 0.5	19 / 10.50	21 / 16.50		
% Solids / % Sand	9 / N/A	11 / 0.4	16 / 0.65		
% Oil / Oil:Water Ratio	N/A / N/A:91	N/A / N/A:89	N/A / N/A:84		
Rm @ Measured Temp (degC)	N/A @ N/A	0.10 @ 28.00	0.11 @ 23.30		
Rmf @ Measured Temp (degC)	N/A @ N/A	0.08 @ 28.00	0.10 @ 20.00		
Rmc @ Measured Temp (degC)	N/A @ N/A	0.15 @ 28.00	0.40 @ 24.50		
Max Tool Temp (degC) / Source	26.00 / EWR-P4	99.00 / EWR-P4	90.00 / EWR-P4		
Rm @ Max Tool Temp (degC)	N/A @ 26.00	0.04 @ 99.00	0.04 @ 90.00		
Lead MWD Engineer	T.Oborne	T.Oborne	T.Oborne		
Customer Representative	H.Everhart	H.Everhart	H.Everhart		

SENSOR INFORMATION

Downhole Processor Information					
Tool Type	HCIM	HCIM	HCIM		
Software Version	67.88	67.88	67.88		
Sub Serial Number	198840	197929	197929		
Insert Serial Number	132884	161828	161828		
Logging String Serial Number	62057XHGV8	62270XH1NRGV6	62270XH1NRGV6		
Date and Time Initialized	11-Nov-04 09:40	14-Nov-04 08:42	18-Nov-04 06:54		
Date and Time Read	12-Nov-04 09:57:27	18-Nov-04 04:38:00	20-Nov-04 03:45:19		

Directional Sensor Information					
Tool Type	PM	PM	PM		
Distance From Bit (m)	30.19	33.62	25.28		
Software Version	1.08	1.08	1.08		
Sub Serial Number	111363	194447	194447		
Sonde Serial Number	134019	175717	175717		
Sensor ID Number	182591	149865	44645		
Survey String Serial Number	DM90061055M8	DM90062415M6	DM90062415M6		
Toolface Offset (deg)	N/A	N/A	N/A		

Gamma Ray Sensor Information					
Tool Type	DGR	DGR	DGR		
Distance From Bit (m)	17.71	11.49	3.15		
Recorded Sample Period (sec)	12	12	12		
Software Version	N/A	N/A	N/A		
Sub Serial Number	10505993	1	1		
Insert/Sonde Serial Number	172498	53520	53520		

Resistivity Sensor Information					
Tool Type	EWR-P4	EWR-P4	EWR-P4		
Distance From Bit (m)	14.68	17.54	9.20		
Recorded Sample Period (sec)	12	12	12		
Software Version	1.38	1.38	1.38		
Sub Serial Number	174309	60579	60579		
Receiver Insert Serial Number	123481	99881	99881		
Transmitter Insert Serial Number	159149	144695	144695		
Receiver Orientation	Down	Down	Down		

Neutron Sensor Information					
Tool Type		CNP	CNP		
Distance From Bit (m)		20.52	12.18		
Recorded Sample Period (sec)		12	12		
Sub Serial Number		177933	177933		
Insert Serial Number		87644	87644		
Source Serial Number		4070NK	4070NK		
Source Factor		1.1400	1.1400		
Pin Orientation		Down	Down		

Density Sensor Information					
Tool Type		SLD	SLD		
Distance From Bit (m)		14.79	6.45		
Recorded Sample Period (sec)		14	14		
Software Version		11.00	11.00		
Sub Serial Number		121000	121000		
Insert Serial Number		77135	77135		
Sensor ID Number		324	324		
Source Serial Number		3085GW	3085GW		
Pin Orientation		Up	Up		
Stabilizer Blade O.D. (mm)		209.550	209.550		
DPA Offset		N/A	N/A		

Caliper Sensor Information					
Tool Type	ACAL	ACAL	ACAL		

Distance From Bit (m)	27.26	30.70	22.36		
Software Version	2.05	2.05	2.05		
Sub Serial Number	165483	138157	138157		
Insert Serial Number	141729	113417	113417		

Sonic Sensor Information

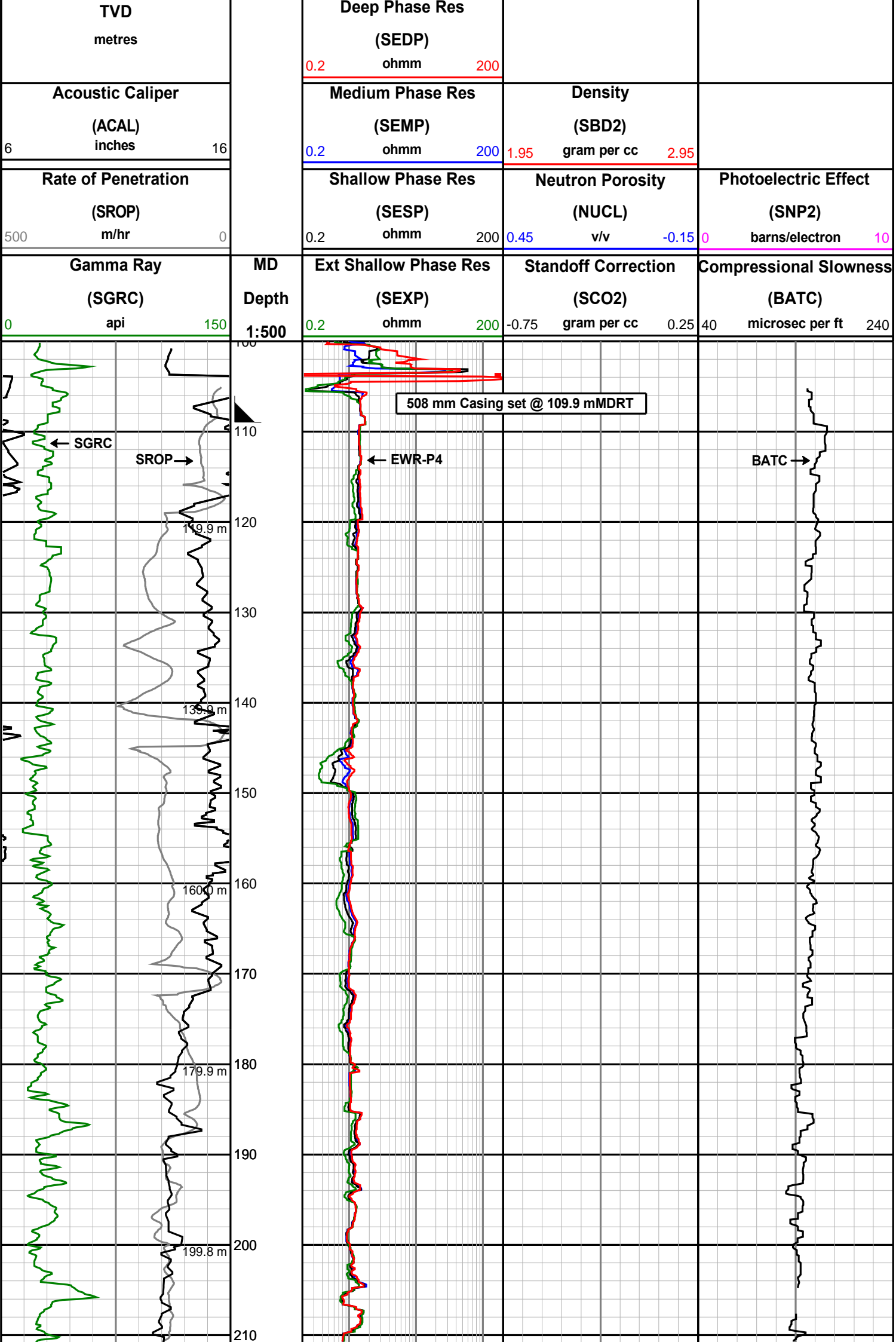
Tool Type	BAT	BAT	BAT		
Distance From Bit (m)	23.06	26.91	18.57		
Recorded Sample Period (sec)	18	18	18		
Software Version	4.00	4.00	4.00		
Sub Serial Number	144401	132327	132327		
Receiver Insert Serial Number	136555	161198	161198		
Transmitter Insert Serial Number	143996	116793	116793		

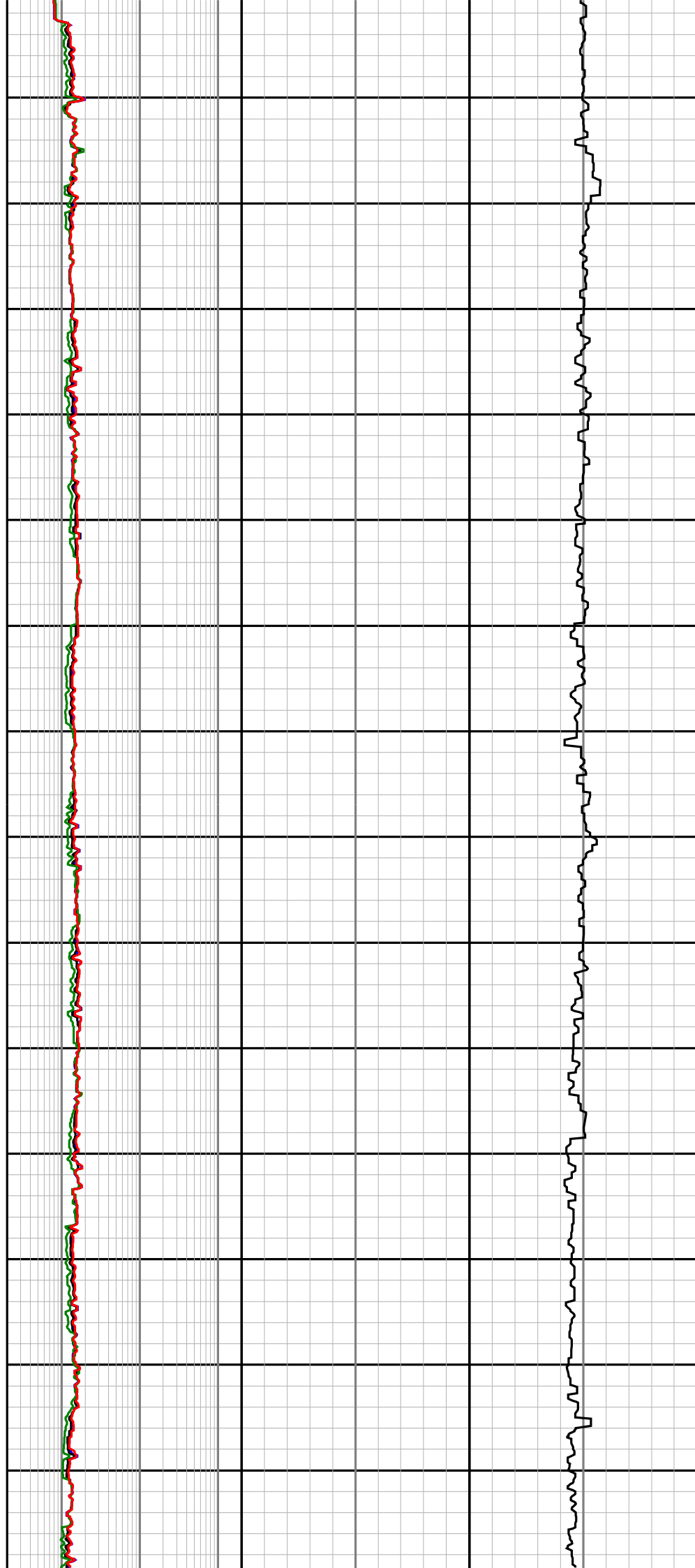
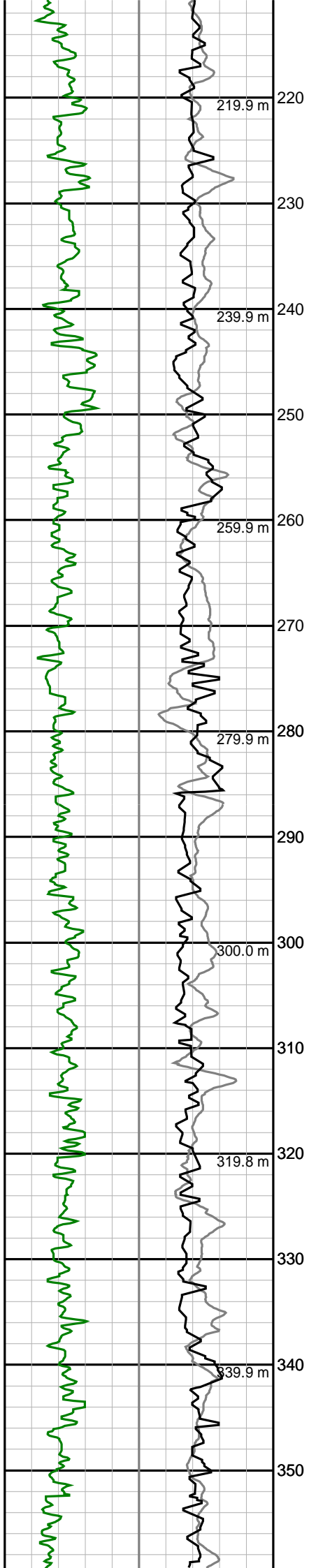
REMARKS

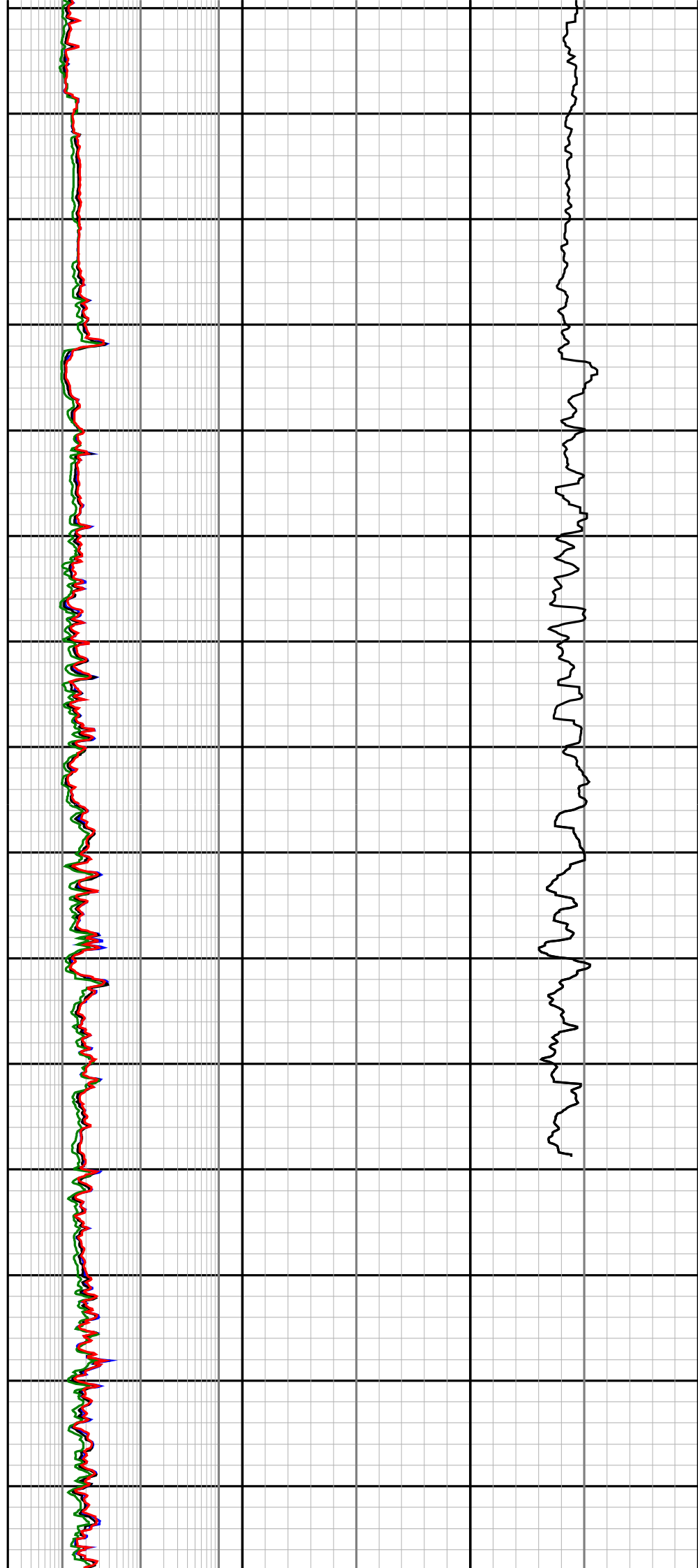
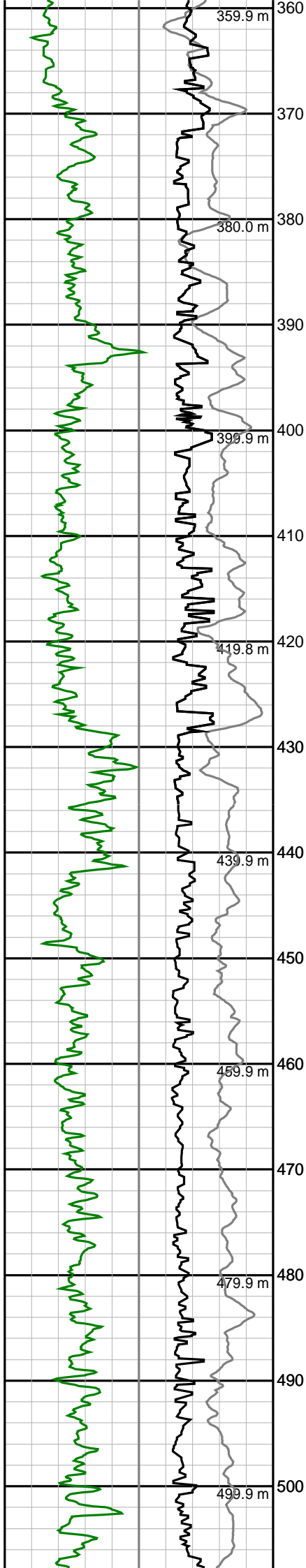
1. All depths are bit depths and referenced to the drillers pipe tally.
2. AV/CV is calculated at the MWD collar using the Powers Law for water based muds and the Bingham's Plastic Law for oil based muds.
3. Curve mnemonics are:
 SGRC - Smoothed Gamma Ray Combined, api
 SEXP - Smoothed Extra Shallow Phase Resistivity, ohm-m
 SESP - Smoothed Shallow Phase Resistivity, ohm-m
 SEMP - Smoothed Medium Phase Resistivity, ohm-m
 SEDP - Smoothed Deep Phase Resistivity, ohm-m
 SROP - Smoothed Rate of Penetration, m/hr
 ACAL - Acoustic Caliper, inches
 BATC - Bi-Modal Acoustic Compressional Slowness, usec/ft
 SBD2 - Smoothed Best Bin Bulk Density Compensated, g/cc
 SCO2 - Smoothed Best Bin Stand-off Correction, g/cc
 SNP2 - Smoothed Best Bin Near Photoelectric Effect, b/e
 NUCL - Smoothed Porosity (Limestone Matrix) corrected for Salinity, Temperature and Pressure, v/v
 STEM - Smoothed Medium Phase Resistivity Temperature, degC
4. CNP data processed using the CNP-E algorithm using the following parameters and is based on a Limestone Matrix:
 MW = 1.25 - 1.40 sg
 Formation Salinity = 25000 ppm, Cl
 Mud Salinity = 43000 - 54000 ppm, Cl
 Matrix Density = 2.71 g/cc
 Fluid Density = 1.00 g/cc
5. CNP data has been reprocessed using data from the Caliper (ACAL) tool for borehole diameter.
6. Surface depth tracking system damaged.
7. Gap in density data due to intermittent problems with density (SLD) tool.
8. Density (SLD) tool failed while running in hole prior to Run 300.
9. Gaps in compressional slowness (BATC) data due to weak signal.
10. Repeat sections from 2100.0 to 2160.0 and 2210 to 2300 mMDRT @ 18:20 to 21:38 16-Nov-04 was wiped while pulling out of hole with no rotary and no pumps after LWD Run 200.

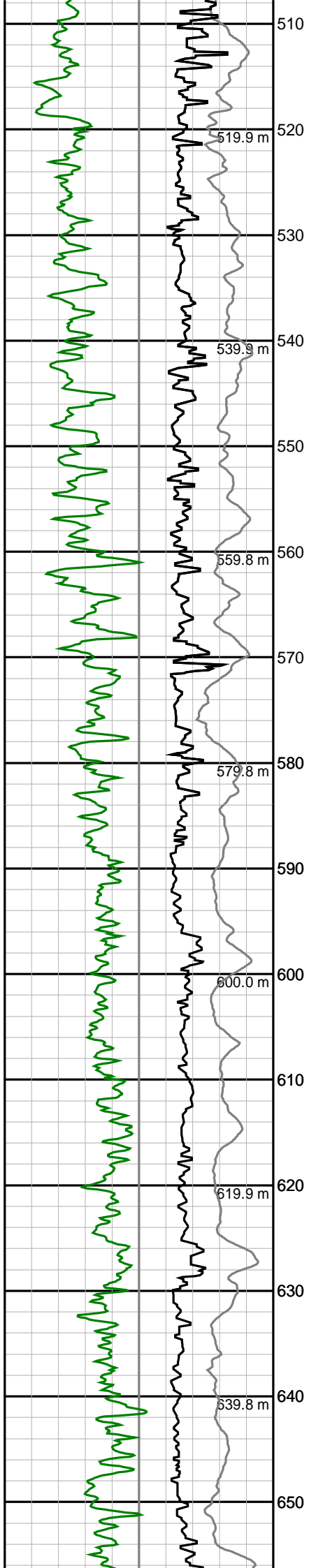
WARRANTY

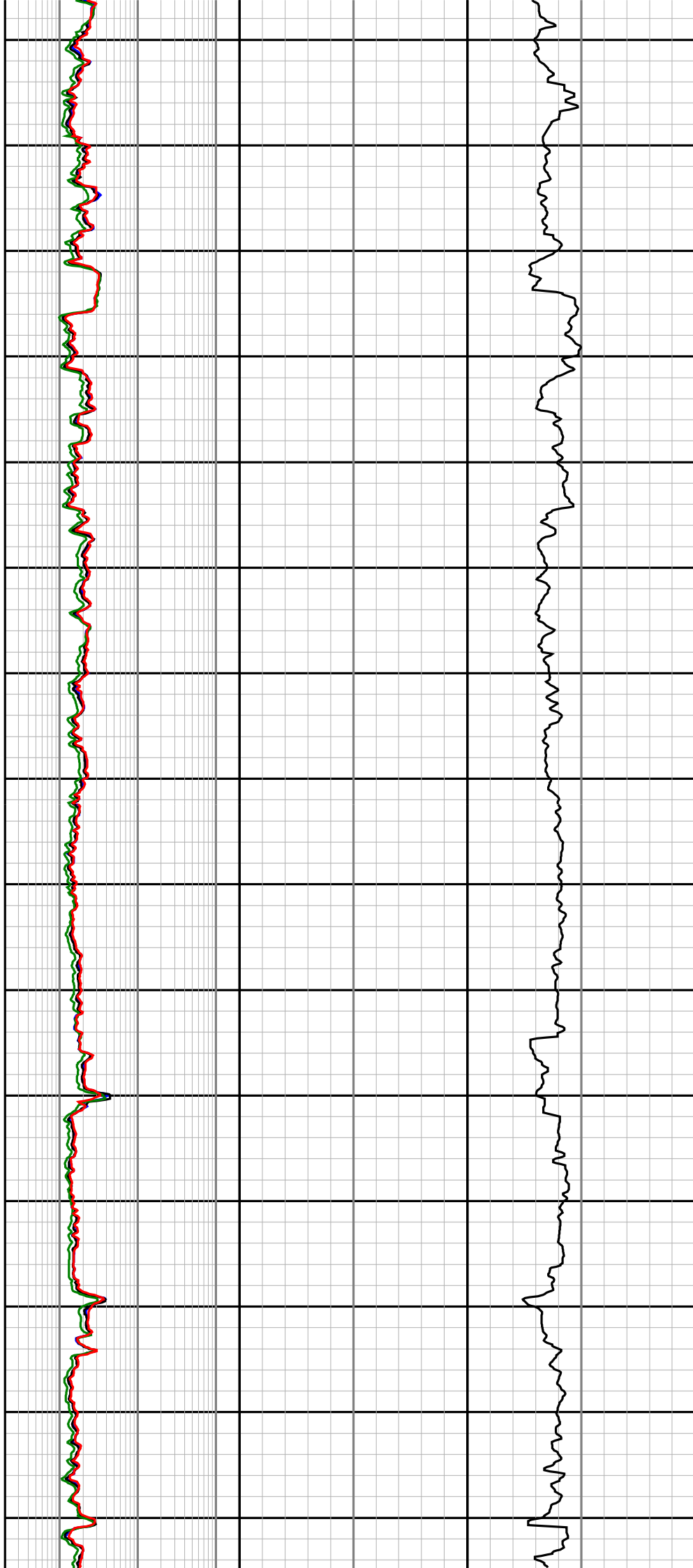
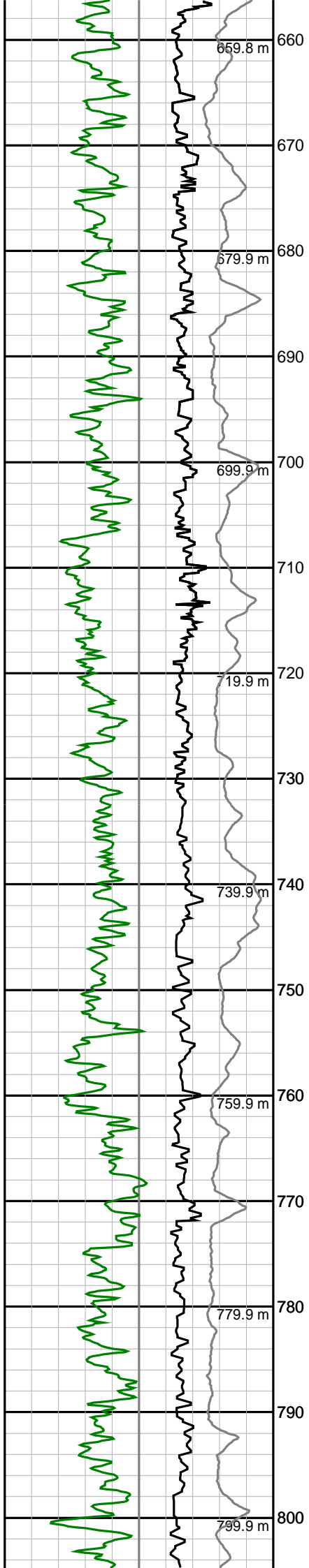
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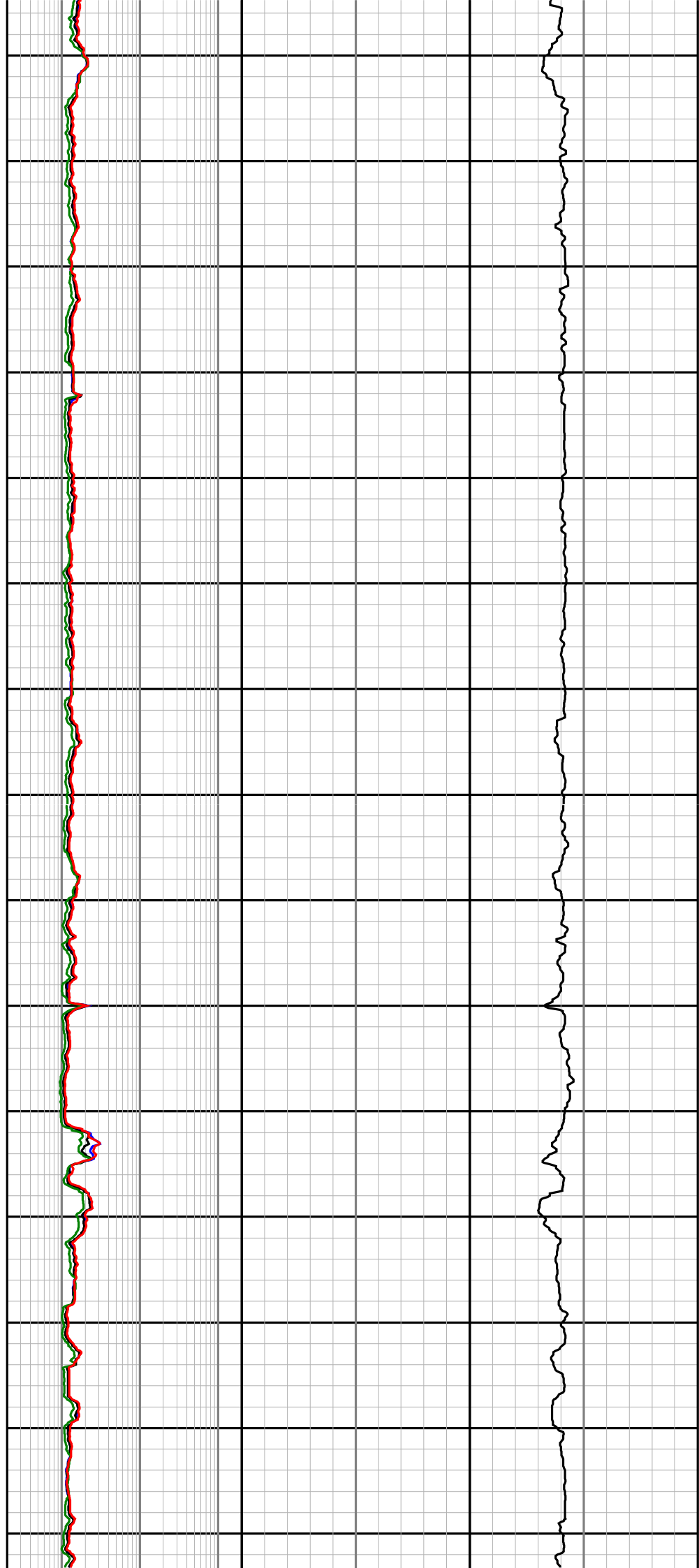
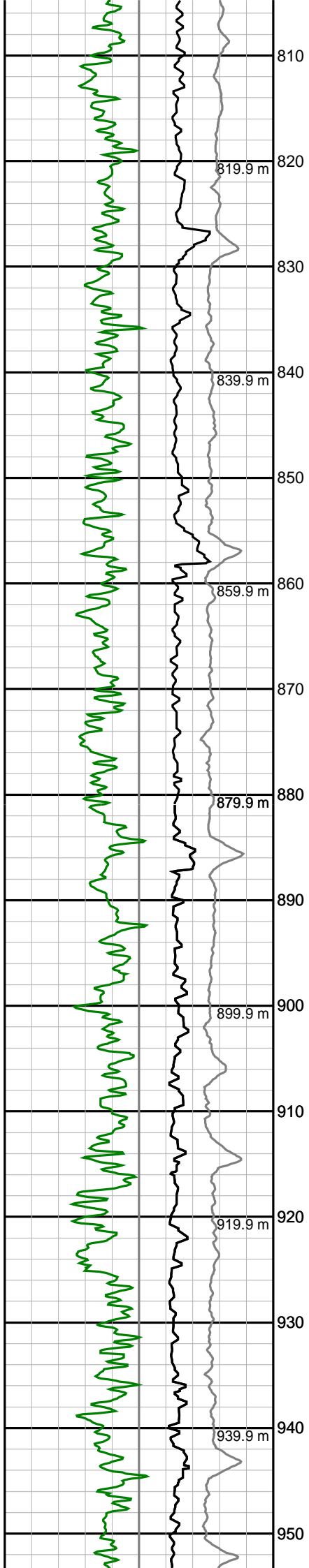


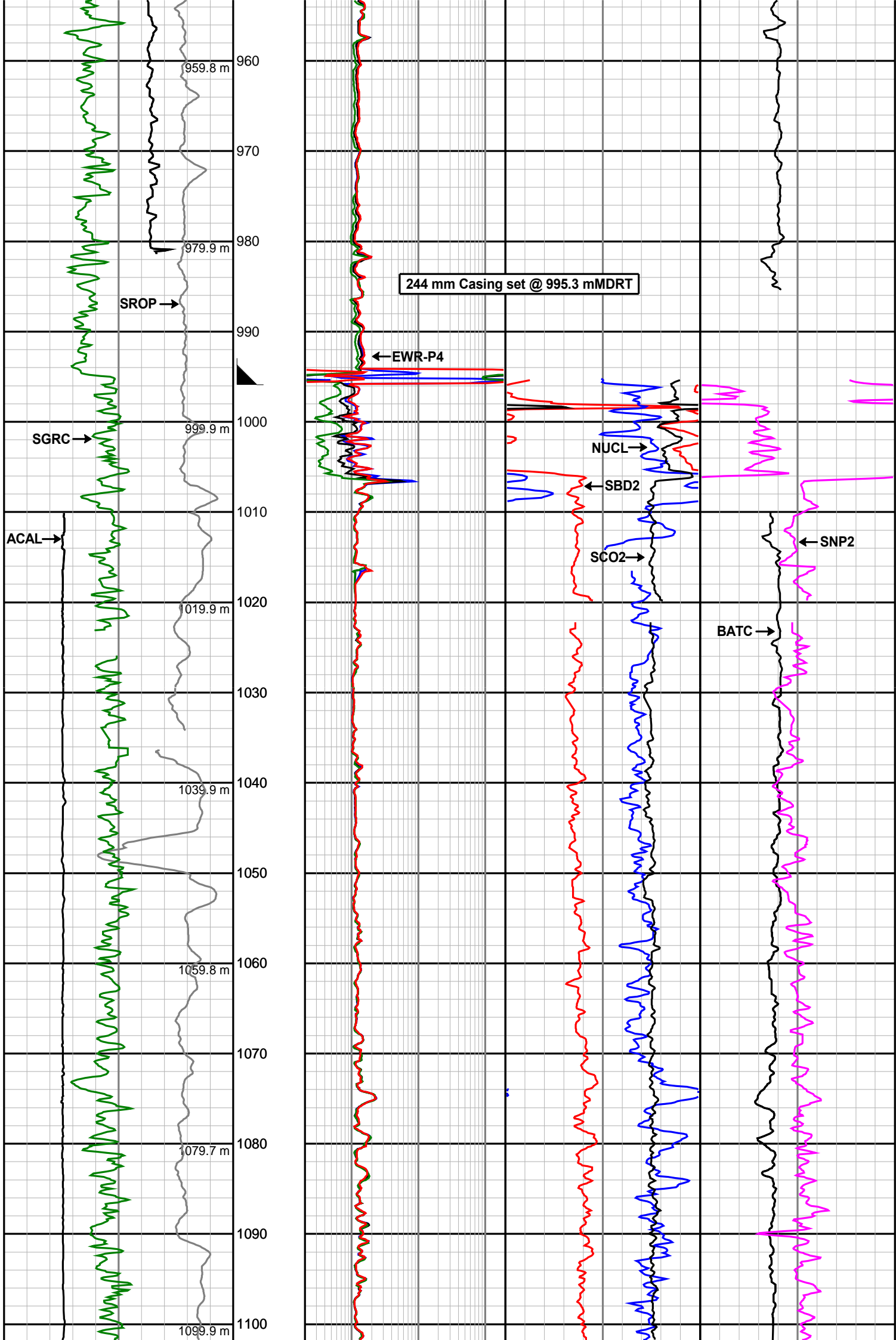


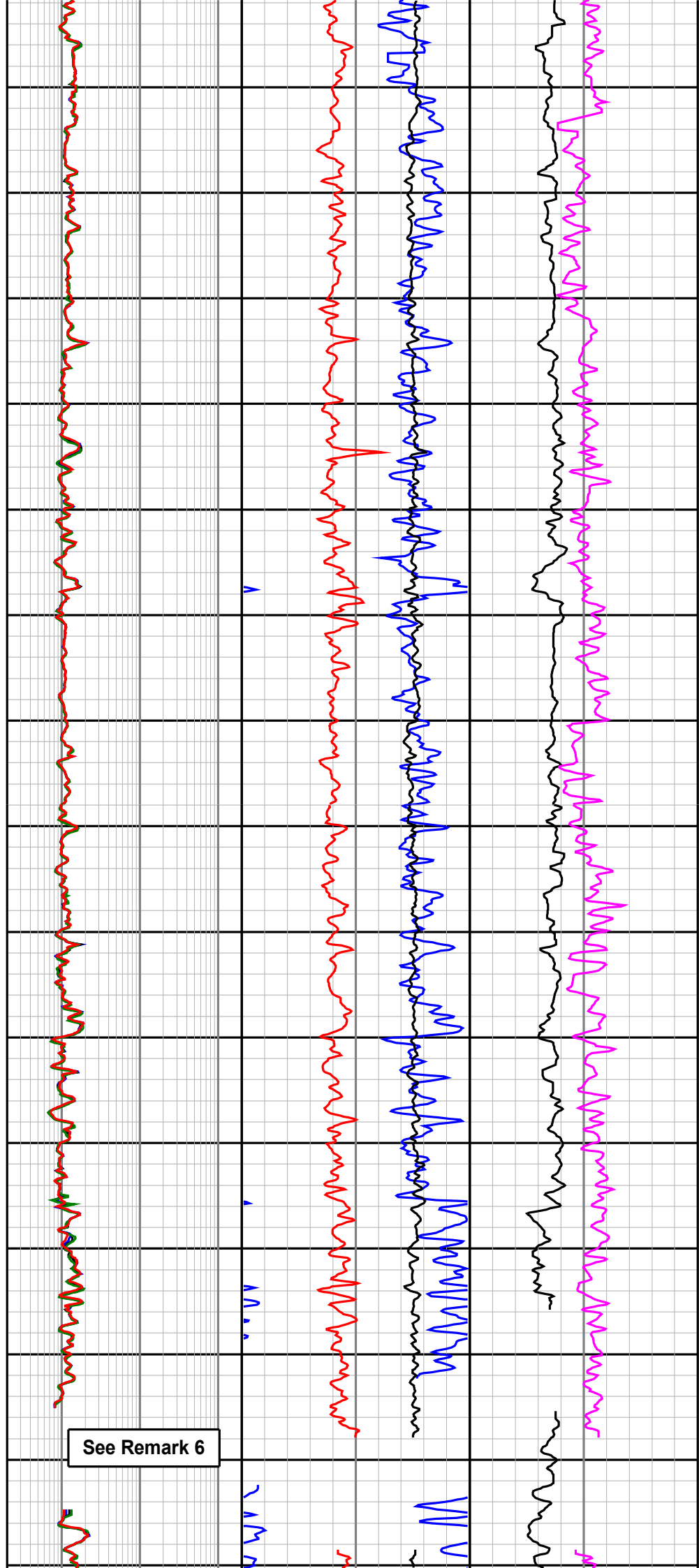
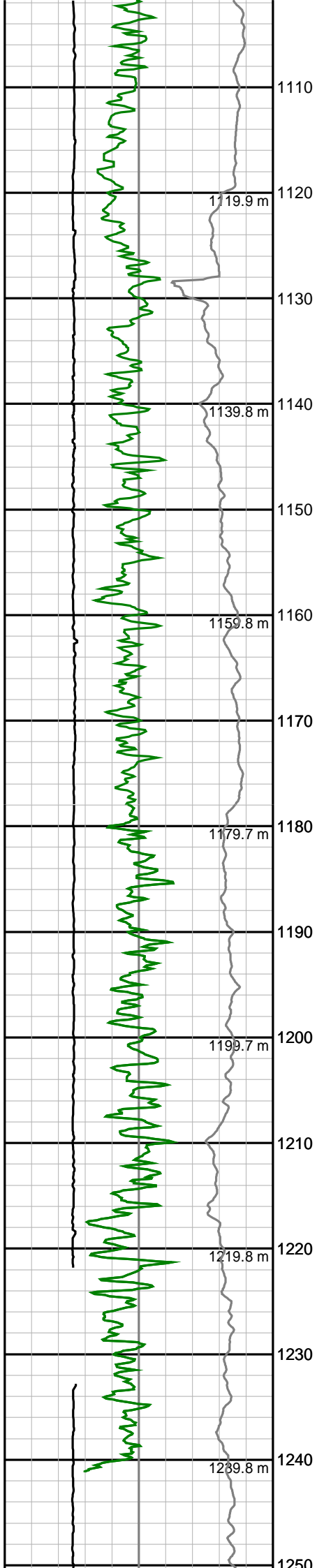


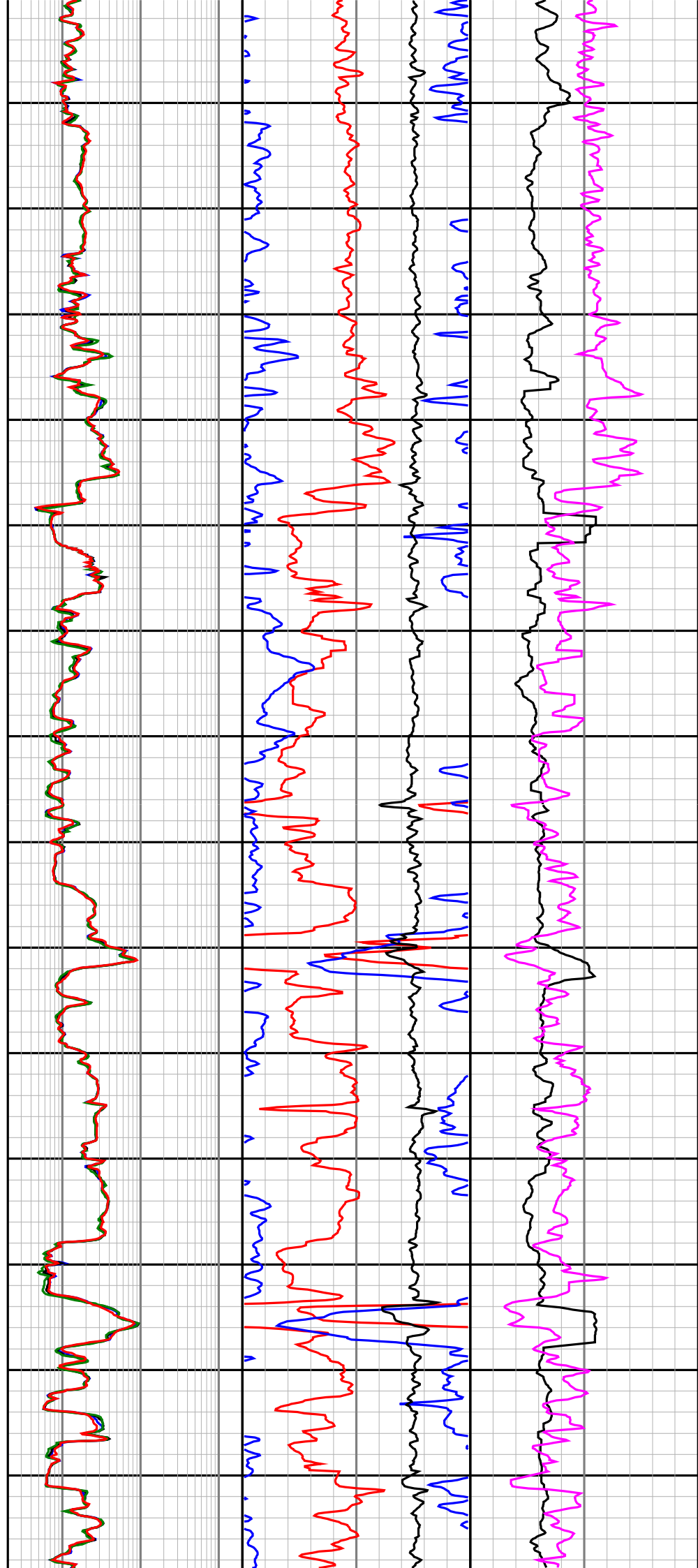
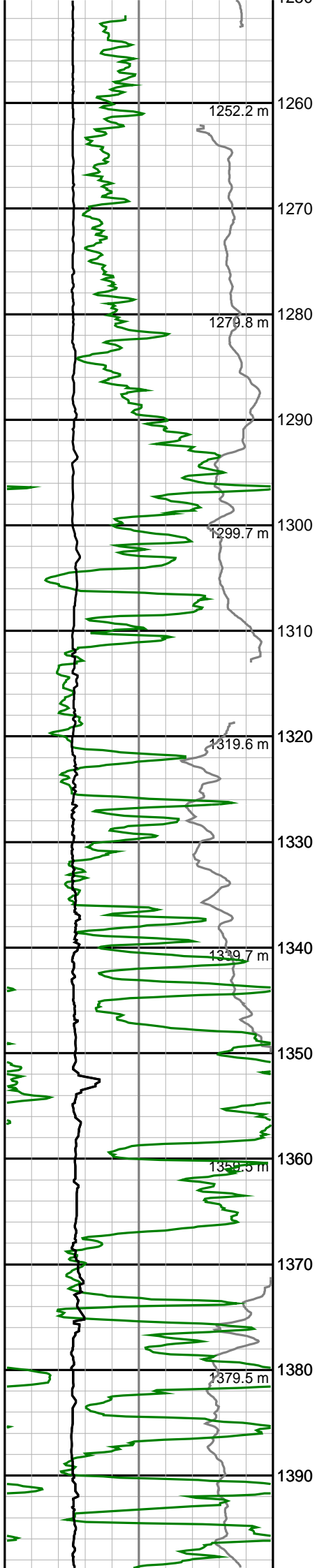


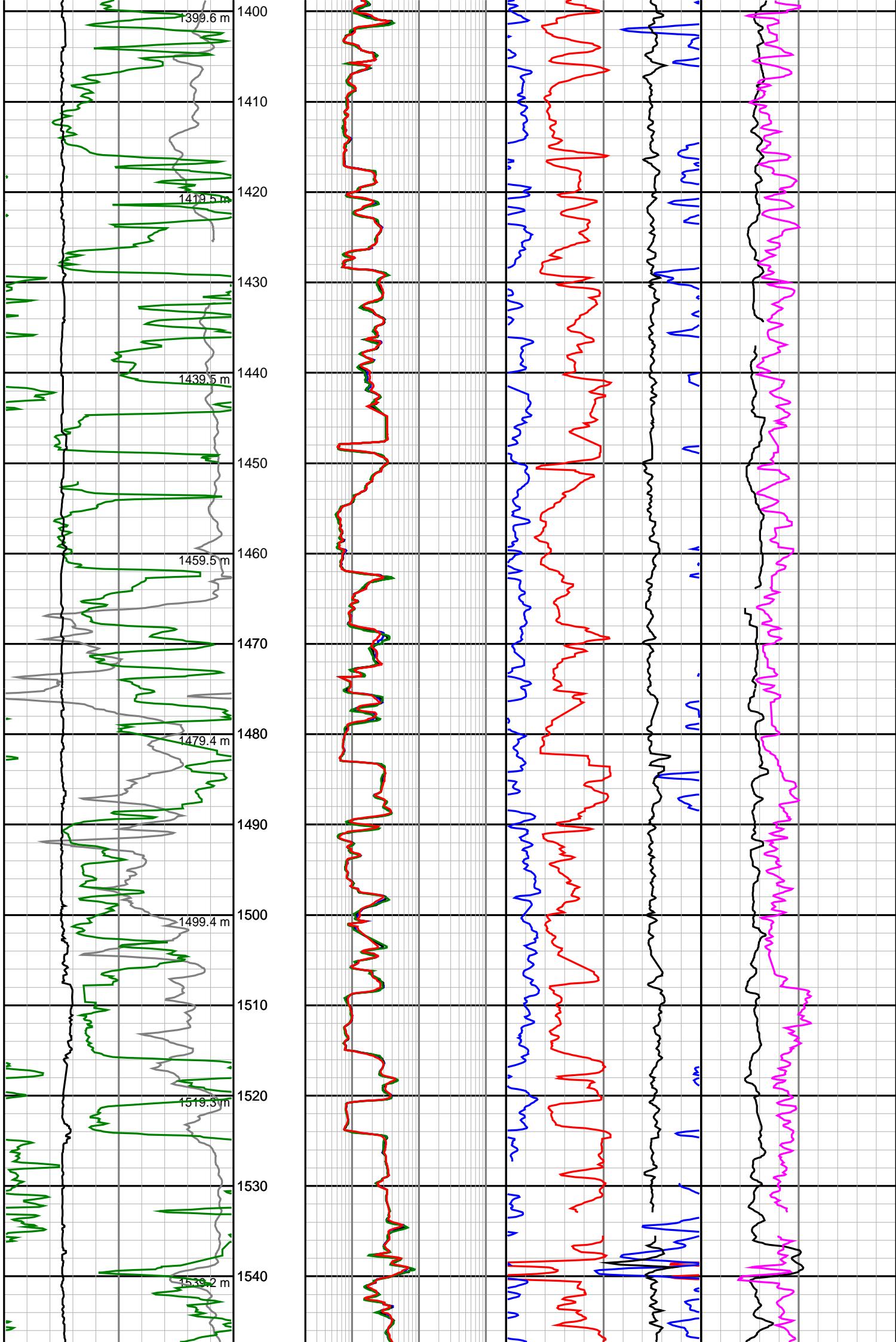


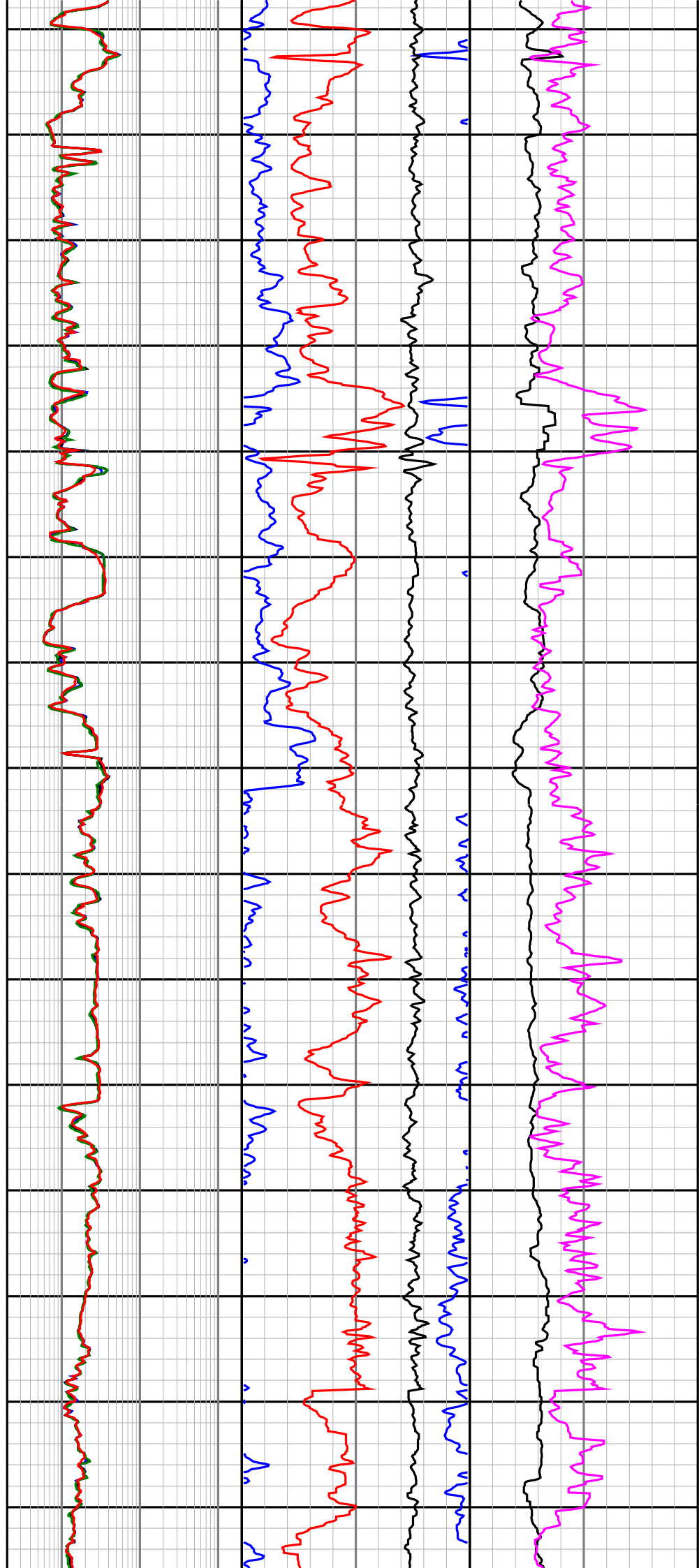
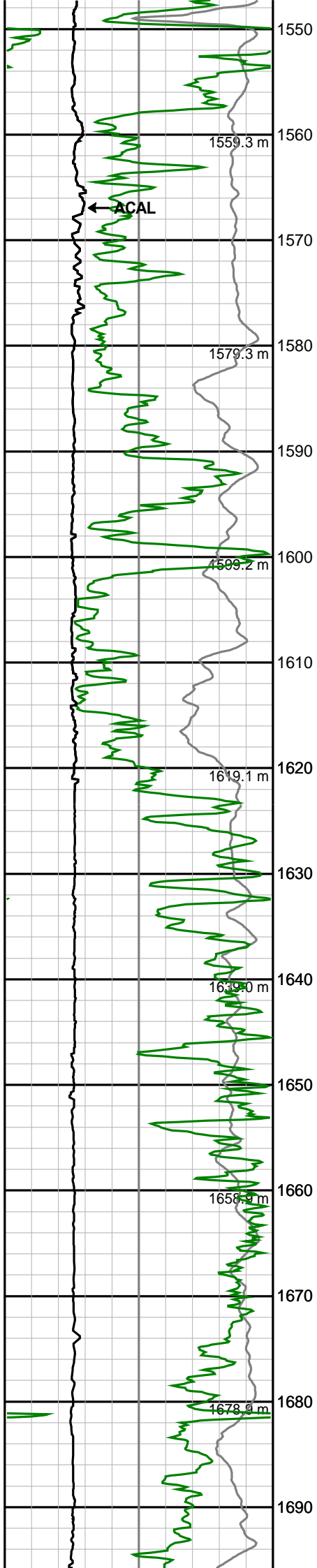


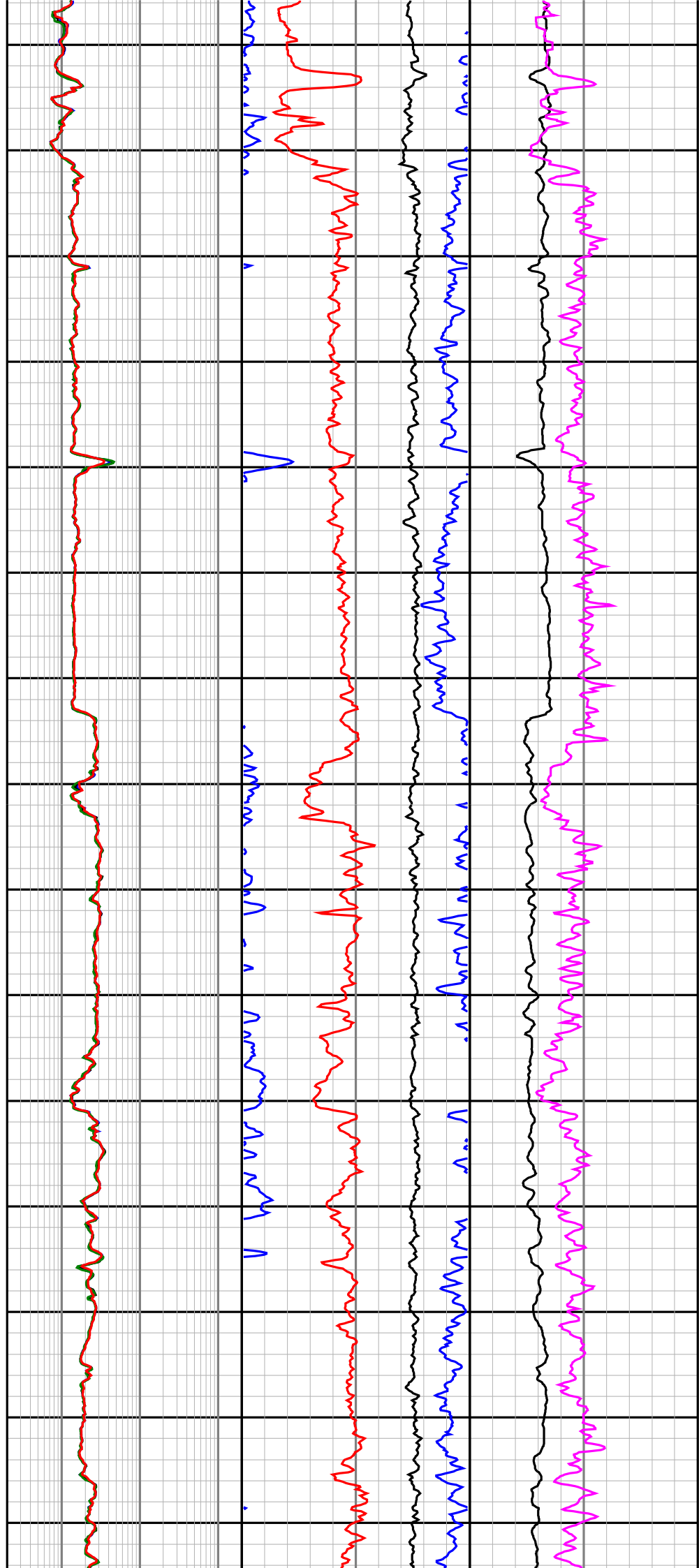
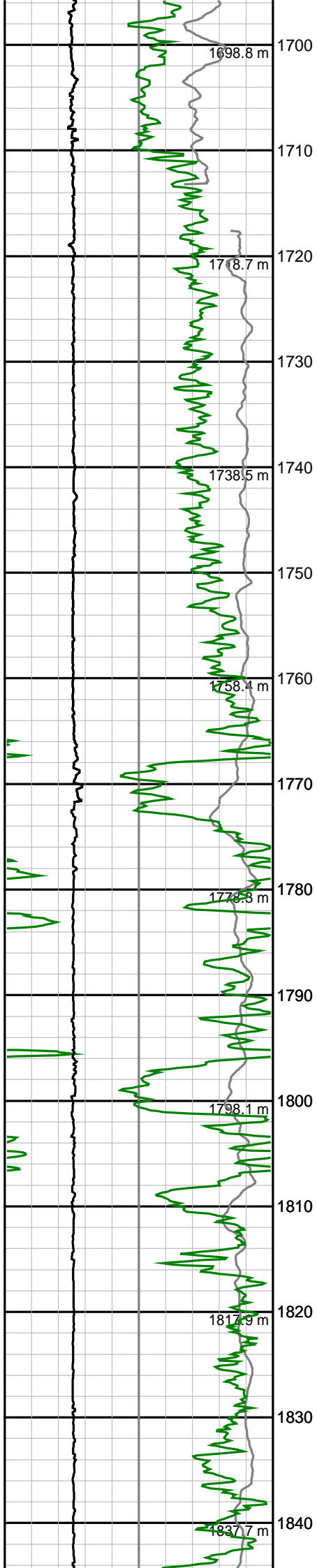


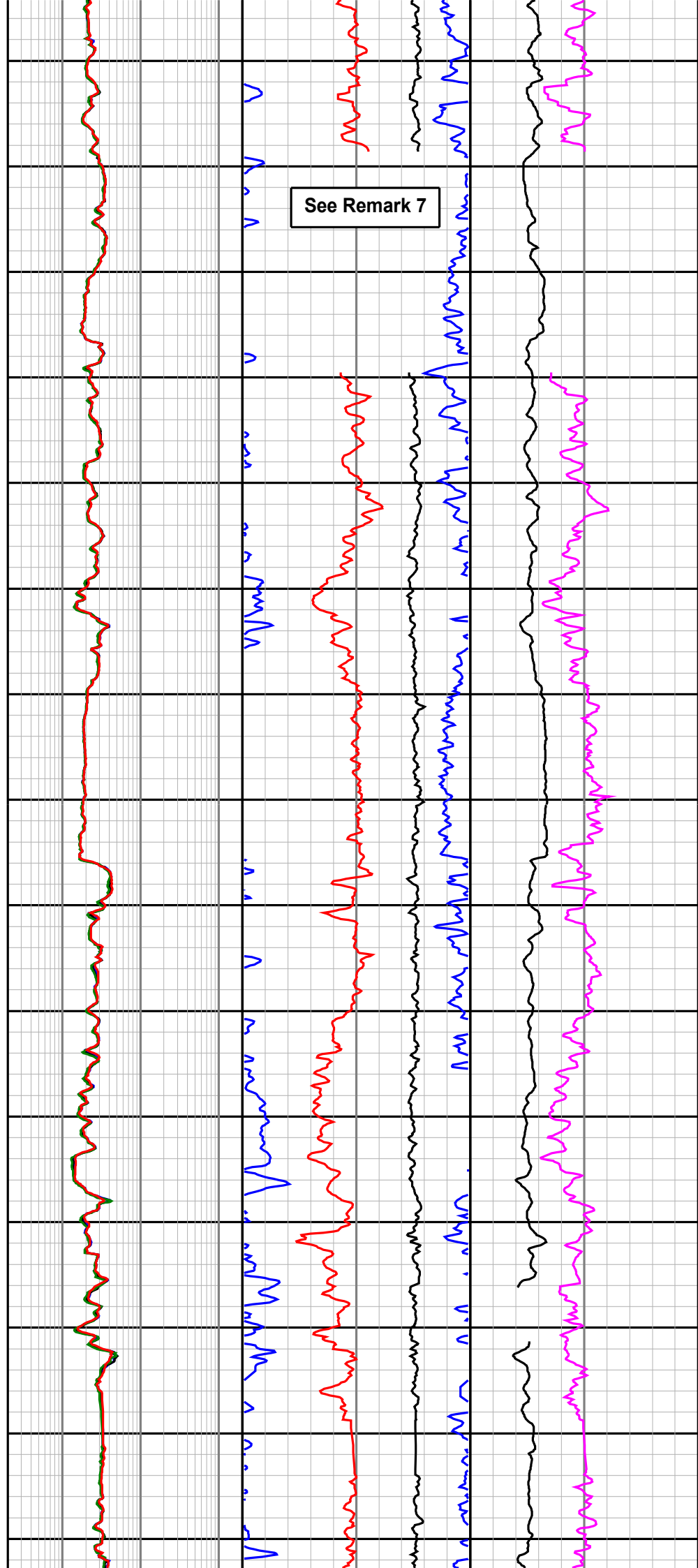
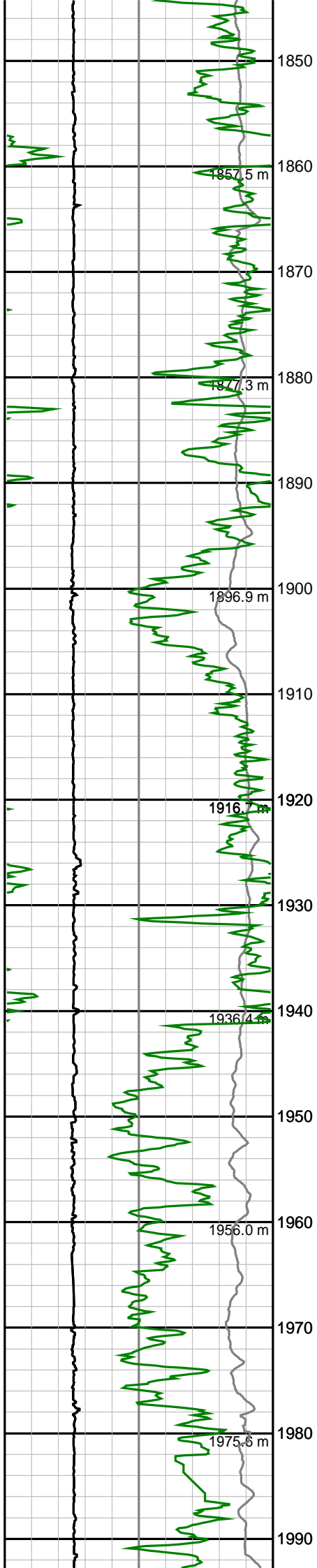


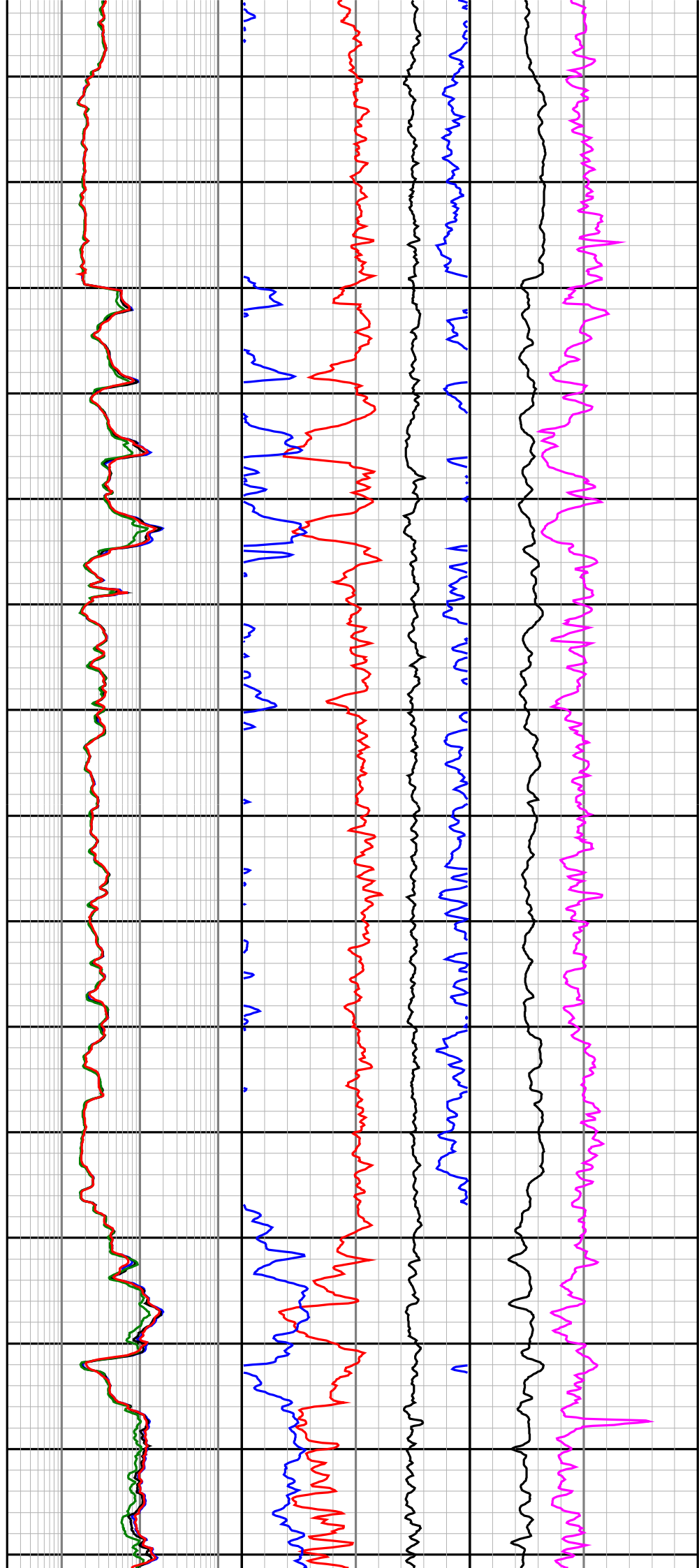
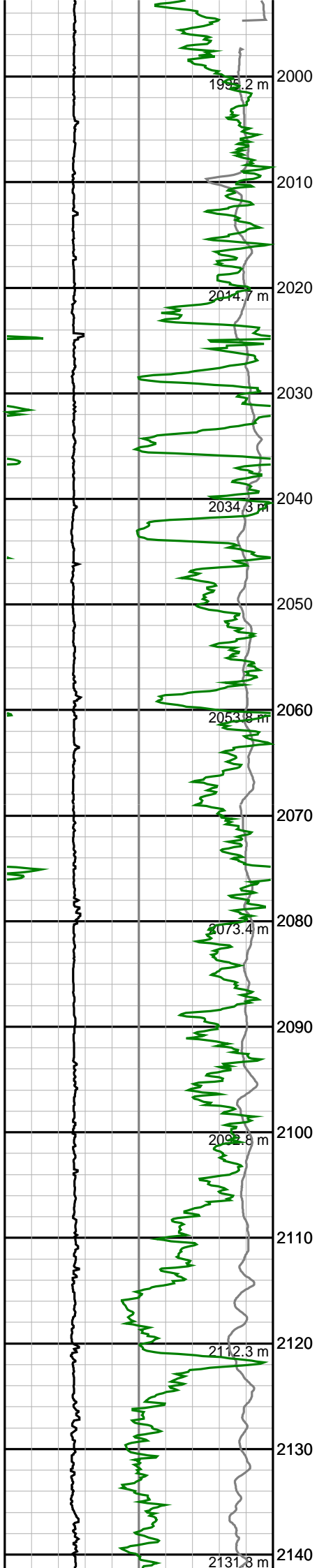


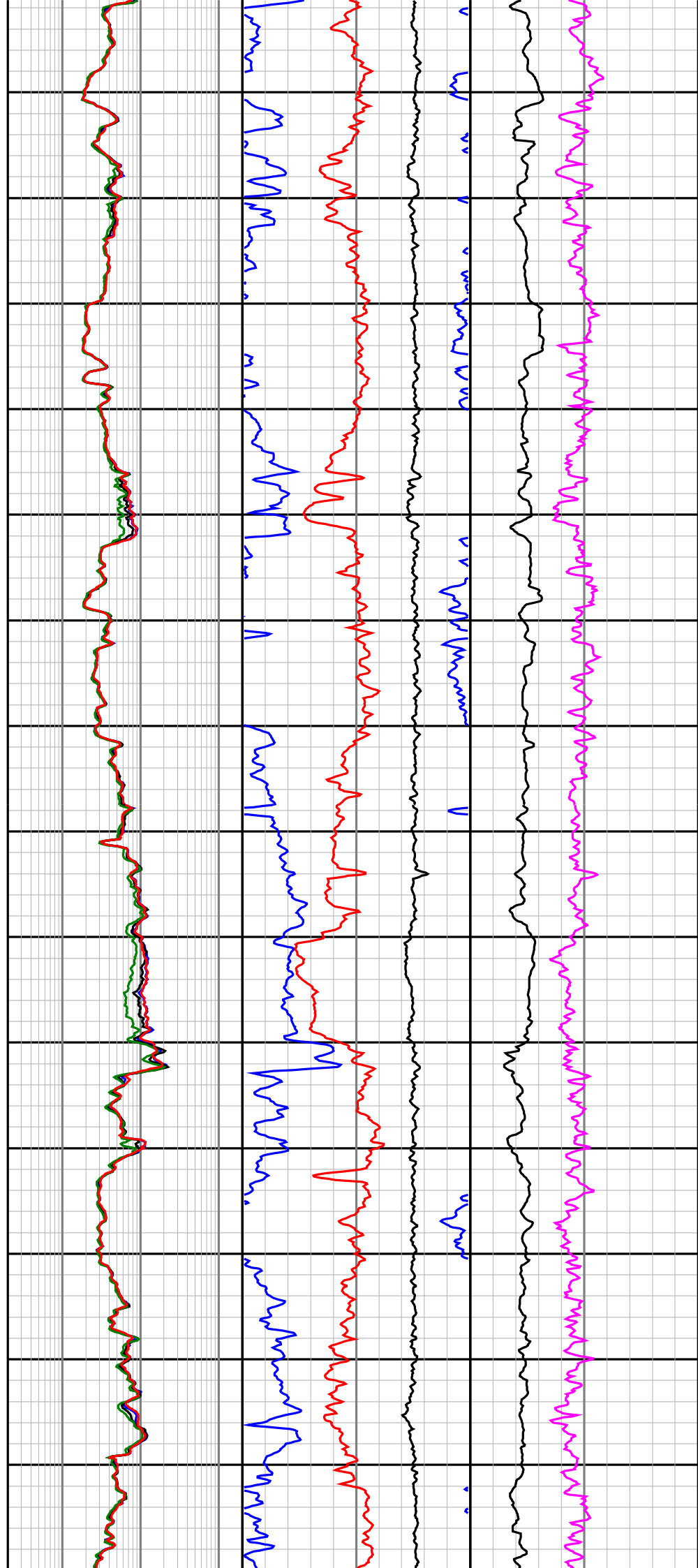
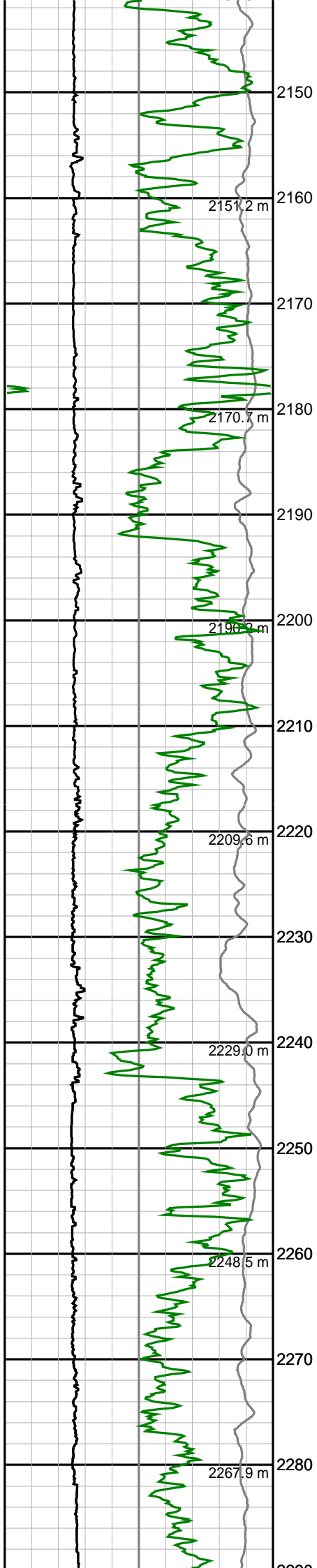


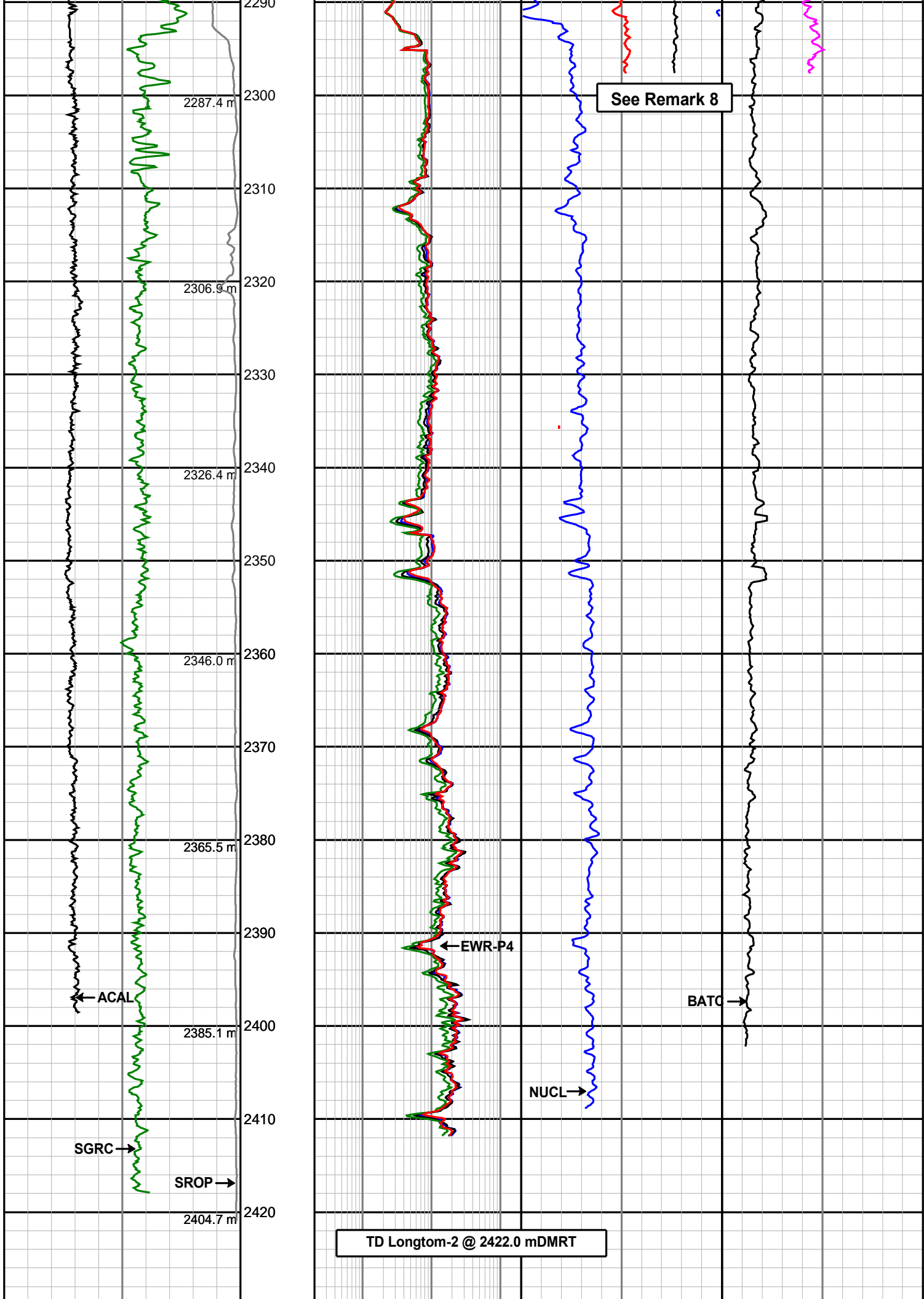












Gamma Ray (SGRC)	MD Depth	Ext Shallow Phase Res (SEXP)	Standoff Correction (SCO2)	Compressional Slowness (BATC)
0 api	150	0.2 ohmm	200 -0.75 gram per cc	0.25 40 microsec per ft

<div>Rate of Penetration</div> <div>(SROP)</div> <div>m/hr</div> <div>5000</div>	<div>Shallow Phase Res</div> <div>(SESP)</div> <div>ohmm</div> <div>0.2200</div>	<div>Neutron Porosity</div> <div>(NUCL)</div> <div>v/v</div> <div>0.45-0.15</div>	<div>Photoelectric Effect</div> <div>(SNP2)</div> <div>barns/electron</div> <div>010</div>
<div>Acoustic Caliper</div> <div>(ACAL)</div> <div>inches</div> <div>616</div>	<div>Medium Phase Res</div> <div>(SEMP)</div> <div>ohmm</div> <div>0.2200</div>	<div>Density</div> <div>(SBD2)</div> <div>gram per cc</div> <div>1.952.95</div>	
<div>TVD</div> <div>metres</div>	<div>Deep Phase Res</div> <div>(SEDP)</div> <div>ohmm</div> <div>0.2200</div>		

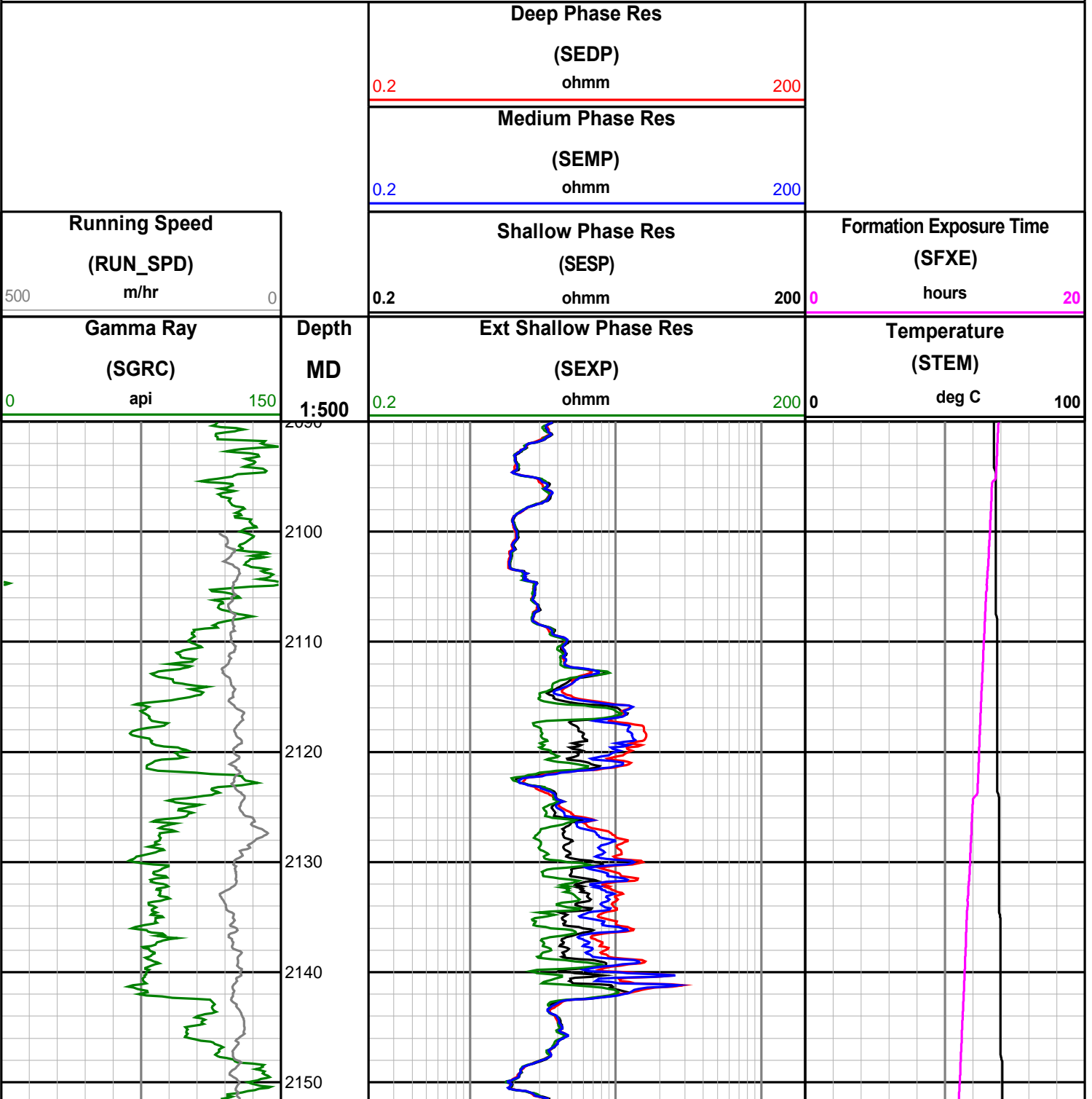
Apache Energy Ltd

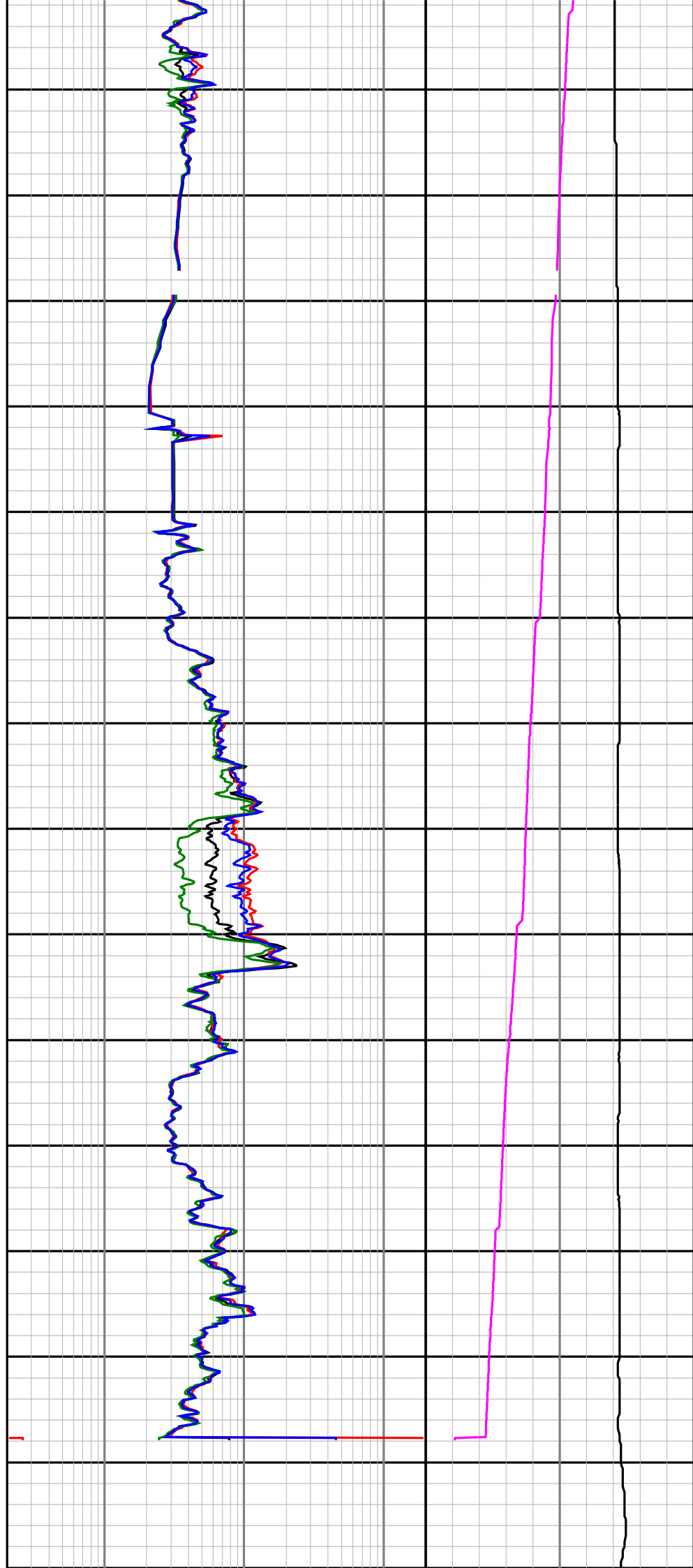
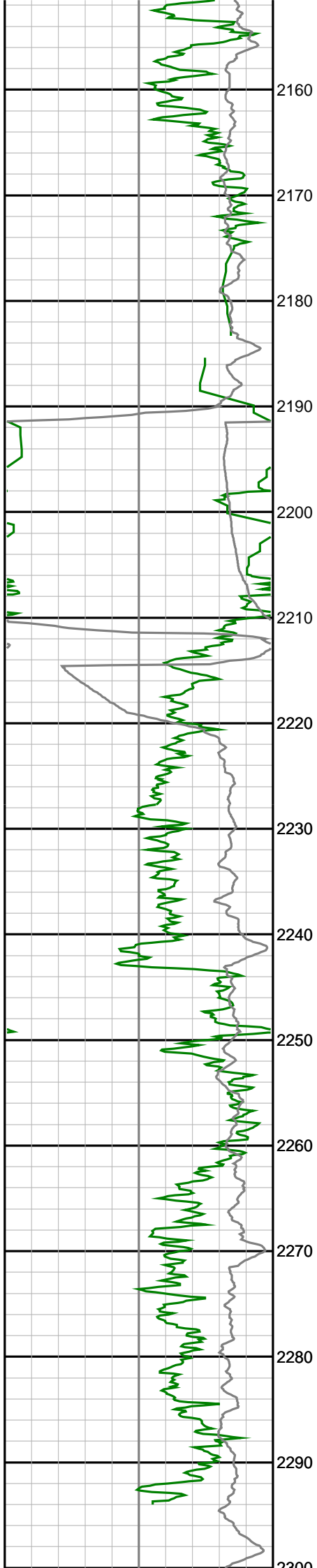
Longtom-2

Repeat Section - 1, 2210.0 to 2300.0 mMDRT

Repeat Section - 2, 2100.0 to 2160.0 mMDRT

Wiped at 18:20 to 21:38 while pulling out of the whole with no rotary and no pumps after LWD Run 200





Gamma Ray (SGRC) api	Depth MD 1:500	Ext Shallow Phase Res (SEXP) ohmm	Temperature (STEM) deg C
0 150		0.2 200	0 100
Running Speed (RUN_SPD) m/hr		Shallow Phase Res (SESP) ohmm	Formation Exposure Time (SFXE) hours
500 0		0.2 200	0 20
		Medium Phase Res (SEMP) ohmm	
		0.2 200	
		Deep Phase Res (SEDP) ohmm	
		0.2 200	



DIRECTIONAL SURVEY REPORT

Apache Energy Ltd
Longtom-2
Exploration
Victoria
Australia
AU-FE-0003298447
Final survey is projected to TD.

Measured Depth (metres)	Inclination (degrees)	Direction (degrees)	Vertical Depth (metres)	Latitude (metres)	Departure (metres)	Vertical Section (metres)	Dogleg (deg/30m)
78.300	0.00	0.00	78.300	0.000 N	0.000 E	0.000	TIE-IN
82.553	0.97	258.66	82.553	0.007 S	0.035 W	-0.031	6.83
112.760	0.85	147.07	112.758	0.244 S	0.164 W	-0.287	1.49
141.180	0.89	146.91	141.174	0.605 S	0.070 E	-0.362	0.05
167.690	1.01	154.86	167.681	0.990 S	0.282 E	-0.469	0.21
195.240	1.07	154.25	195.226	1.442 S	0.497 E	-0.620	0.06
280.640	0.94	157.28	280.613	2.804 S	1.113 E	-1.098	0.05
309.214	0.77	146.69	309.184	3.183 S	1.310 E	-1.212	0.24
337.704	0.79	157.77	337.671	3.526 S	1.490 E	-1.315	0.16
366.421	0.60	172.17	366.386	3.859 S	1.586 E	-1.472	0.27
424.641	0.46	168.46	424.604	4.391 S	1.674 E	-1.770	0.07
481.270	0.60	185.70	481.230	4.907 S	1.691 E	-2.110	0.11
566.250	0.73	188.21	566.205	5.883 S	1.569 E	-2.864	0.05
594.890	0.71	181.73	594.842	6.241 S	1.538 E	-3.131	0.09
623.800	0.70	174.98	623.750	6.597 S	1.548 E	-3.367	0.09
651.930	0.71	178.96	651.878	6.944 S	1.566 E	-3.590	0.05
680.500	0.56	173.05	680.446	7.261 S	1.587 E	-3.791	0.17
709.360	0.46	168.63	709.305	7.515 S	1.627 E	-3.936	0.12
738.170	0.32	152.68	738.114	7.700 S	1.686 E	-4.018	0.18
767.010	0.31	146.16	766.954	7.837 S	1.767 E	-4.052	0.04
795.700	0.25	96.83	795.644	7.909 S	1.873 E	-4.024	0.25
824.740	0.30	87.28	824.683	7.913 S	2.011 E	-3.926	0.07
853.150	0.47	59.73	853.093	7.851 S	2.185 E	-3.756	0.26
881.850	0.65	65.06	881.791	7.723 S	2.434 E	-3.487	0.20
910.570	0.94	47.41	910.509	7.494 S	2.756 E	-3.095	0.40
968.350	1.07	52.66	968.280	6.844 S	3.536 E	-2.081	0.08
1025.790	1.38	33.86	1025.707	5.944 S	4.349 E	-0.873	0.26
1055.310	1.47	38.91	1055.218	5.354 S	4.785 E	-0.152	0.16
1084.150	1.45	38.45	1084.048	4.779 S	5.245 E	0.577	0.02
1110.420	1.50	43.02	1110.309	4.267 S	5.686 E	1.249	0.14

Measured Depth (metres)	Inclination (degrees)	Direction (degrees)	Vertical Depth (metres)	Latitude (metres)	Departure (metres)	Vertical Section (metres)	Dogleg (deg/30m)
1140.980	1.63	41.28	1140.858	3.649 S	6.245 E	2.079	0.14
1169.600	1.90	39.20	1169.464	2.976 S	6.813 E	2.954	0.29
1198.150	2.05	43.59	1197.997	2.239 S	7.465 E	3.932	0.22
1227.480	1.96	42.91	1227.309	1.492 S	8.168 E	4.956	0.10
1285.120	2.78	45.34	1284.900	0.212 N	9.833 E	7.336	0.43
1342.670	2.75	51.91	1342.383	2.044 N	11.911 E	10.106	0.17
1428.080	3.43	52.87	1427.668	4.852 N	15.563 E	14.691	0.24
1457.250	3.55	48.99	1456.784	5.972 N	16.941 E	16.463	0.27
1515.810	3.87	57.08	1515.222	8.236 N	19.967 E	20.220	0.31
1601.750	4.29	57.36	1600.944	11.544 N	25.106 E	26.235	0.15
1630.370	4.38	57.32	1629.482	12.711 N	26.927 E	28.362	0.10
1659.040	5.12	55.38	1658.054	14.028 N	28.900 E	30.703	0.79
1687.660	5.81	50.90	1686.544	15.666 N	31.074 E	33.410	0.85
1716.340	5.98	52.62	1715.072	17.488 N	33.387 E	36.344	0.26
1773.640	6.99	49.61	1772.005	21.558 N	38.413 E	42.796	0.56
1802.390	7.25	48.26	1800.534	23.899 N	41.098 E	46.356	0.32
1831.130	8.02	46.49	1829.019	26.486 N	43.904 E	50.173	0.84
1888.710	9.67	44.64	1885.912	32.695 N	50.218 E	59.025	0.87
1917.470	10.45	43.25	1914.229	36.314 N	53.704 E	64.042	0.85
1946.130	11.23	41.77	1942.377	40.288 N	57.343 E	69.415	0.86
1974.870	11.30	41.50	1970.564	44.484 N	61.073 E	75.004	0.10
2001.480	11.64	41.34	1996.642	48.452 N	64.573 E	80.270	0.38
2031.150	12.13	40.39	2025.676	53.073 N	68.570 E	86.345	0.54
2088.390	12.90	39.67	2081.556	62.571 N	76.545 E	98.655	0.41
2174.270	13.47	40.33	2165.172	77.574 N	89.136 E	118.096	0.21
2203.500	13.66	40.55	2193.587	82.794 N	93.584 E	124.908	0.20
2232.270	13.75	40.70	2221.538	87.967 N	98.022 E	131.682	0.09
2292.010	13.36	41.52	2279.614	98.516 N	107.226 E	145.608	0.22
2319.460	12.54	43.59	2306.365	103.050 N	111.383 E	151.740	1.03
2348.120	12.18	45.64	2334.361	107.418 N	115.692 E	157.870	0.59
2376.110	11.96	45.76	2361.732	111.507 N	119.881 E	163.723	0.24
2422.000	11.96	45.76	2406.625	118.142 N	126.695 E	173.232	0.00

CALCULATION BASED ON MINIMUM CURVATURE METHOD

SURVEY COORDINATES RELATIVE TO WELL SYSTEM REFERENCE POINT
TVD VALUES GIVEN RELATIVE TO DRILLING MEASUREMENT POINT












VERTICAL SECTION RELATIVE TO WELL HEAD
VERTICAL SECTION IS COMPUTED ALONG A CLOSURE OF 47.00 DEGREES (GRID)
A TOTAL CORRECTION OF 13.97 DEG FROM MAGNETIC NORTH TO GRID NORTH HAS BEEN APPLIED

HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD.
HORIZONTAL DISPLACEMENT(CLOSURE) AT 2422.000 METRES
IS 173.232 METRES ALONG 47.00 DEGREES (GRID)







MWD RUN 100 - BHA

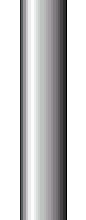





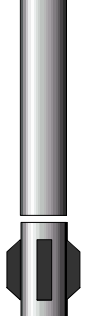




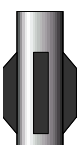



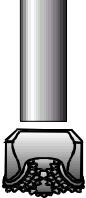

MWD RUN 100 - MWD

	Cumulative Length (m)	Sensor Measure Point Distance To Bit (m)
HWDP	257.54	
Cross Over Sub	118.47	
	117.34	
8 DGWD 650 System		
PM		







Drill Collar					30.190
		90.29			
Drilling Jars			ACAL		27.260
		80.43			
Drill collar			BAT		
		34.61			
MWD			HCIM		
		12.83			
Float Sub					
Integral Blade Stabilizer		12.05	DGR		17.710
		9.74			
Cross Over Sub					
		8.87			
9-5/8" SperryDrill Lobe 3/4 - 4M			EWR-P4		14.680
PDC		0.29			

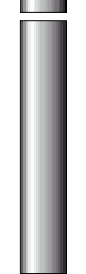





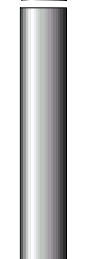


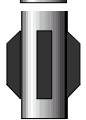





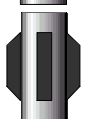

MWD RUN 200 - BHA	MWD RUN 200 - MWD
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		Cumulative Length (m)			Sensor Measure Point Distance To Bit (m)
Drill Pipe (E)		390.90		Positive Pulser	
		290.90		TM	
HWDP				Hang-off Sub	
		151.50		PM	

		151.53			33.620
Drill Collar					
		132.74			30.700
Drilling Jars					
		123.23			
Drill Collar					
		39.66			20.520
Integral Blade Stabilizer					
		38.03			17.540
MWD					
		10.43			14.790
Float Sub					
		9.93			
Integral Blade Stabilizer					
		7.91			0
6-3/4" SperryDrill Lobe 1/2 - 3M					
		0.23			11.490
PDC					

MWD RUN 300 - BHA	MWD RUN 300 - MWD
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		Cumulative Length (m) 382.10			Sensor Measure Point Distance To Bit (m)
Drill Pipe (E)					
		282.10			
HWDP					
					
					25.280

		143.09			
Drill Collar			ACAL		22.360
		124.30	BAT		
Drilling Jars					
			HCIM		
		114.79	CNP		12.180
Drill Collar					
		31.32	EWR-P4		9.200
Integral Blade Stabilizer					
		29.69	SLD		6.450
MWD					
		2.09	DDS		0
Float Sub					
		1.59	DGR		3.150
Integral Blade Stabilizer					
		0.25			
Tricone					



MWD

**EWR Electromagnetic Wave Resistivity
DGR Dual Gamma Ray
SLD Stabilized Litho-Density
CNP Compensated Neutron Porosity
ACAL Acoustic Caliper
BAT Bi-Modal Acoustic Tool**

Country : Australia		Company : Apache Energy Ltd	
Field : Exploration		Rig : Ocean Patriot	
Location : Lat: 38° 6' 11.89" South Long: 148° 19' 0.92" East		Well : Longtom-2	
Well : Longtom-2		Country : Australia	
Company : Apache Energy Ltd		Field : Exploration	
Rig : Ocean Patriot		DOE Number :	
LOCATION		Other Services	
Latitude : 38° 6' 11.89" South Longitude : 148° 19' 0.92" East		Surface Data Logging	
UTM Easting = 615,462.43 m UTM Northing = 5,781,904.33 m			
Permanent Datum : AHD		Elev. KB	
Log Measured From : Drill Floor		DF 21.50 m	
Drilling Measured From : Drill Floor		GL WD 56.80 m	
Depth Logged : 111.00 m To 2,406.63 m		Unit No. : 174	
Date Logged : 12-Nov-04 To 20-Nov-04		Job No. : AU-FE-000329847	
Total Depth MD : 2,422.00 m TVD: 2,406.63 m		Plot Type : Final	
Spud Date : 09-Nov-04		Plot Date : 22-Mar-05	
Run No.		Run No.	
Size From To		Size From To	
2 311,000 mm 111.00 m 1,008.92 m			
3 216,000 mm 1,008.92 m 2,299.09 m			
4 216,000 mm 2,299.09 m 2,406.63 m			
		Casing Record (TVD)	
		Size Weight From To	
		508,000 mm 198.00 kgpm SURFACE 109.90 m	
		340,000 mm 101.00 kgpm SURFACE 995.22 m	
		178,000 mm 43.00 kgpm 876.94 m 2,404.67 m	

WELL INFORMATION

MWD Run Number	100	200	300		
Date run completed	12-Nov-04	18-Nov-04	20-Nov-04		
Rig Bit Number	2	3	4		
Bit Size (mm)	311	216	216		
Tool Nominal OD (mm)	203	171	171		
Log Start Depth (TVD, m)	113	1008.92	2299.09		
Log End Depth (TVD, m)	1008.92	2299.09	2406.63		
Drill or Wipe	Drilling	Drilling	Drilling		
Drill/Wipe Start Date and Time	11-Nov-04 12:45	14-Nov-04 23:23	18-Nov-04 17:05		
Drill/Wipe End Date and Time	12-Nov-04 04:45	16-Nov-04 17:00	19-Nov-04 15:00		
Min Inc (deg) @ Depth (TVD, m)	0.25 @ 795.64	1.38 @ 1025.70	11.96 @ 2361.73		
Max Inc (deg) @ Depth (TVD, m)	1.07 @ 968.28	13.75 @ 2221.54	13.36 @ 2279.61		
Bit TFA(in2) / Bit Type	0.97 / Hycalog PDC	0.57 / REED PDC	0.59 / Security MR6520		
Flow Rate (gpm)	910	550	550		
Max AV (mpm) / CV (mpm) @ MWD	73.8 / 13.2	168.0 / 129.0	154.3 / 117.6		
Fluid Type	Sea Water	KCl/Idecap	KCl/Idecap		
Density (sg) / Viscosity (spl)	1.0 / 1.06	1.3 / 47.00	1.4 / 45.00		
Filtrate CL (ppm)	42,000	48,000	54,000		
pH / Fluid Loss (cptm)	8.00 / 2.0	8.70 / 4.2	9.00 / 4.8		
PV (cp) / YP (pa)	20 / 0.5	19 / 10.50	21 / 16.50		
% Solids / % Sand	9 / N/A	11 / 0.4	16 / 0.65		
% Oil / Oil:Water Ratio	N/A / N/A:91	N/A / N/A:89	N/A / N/A:84		
Rm @ Measured Temp (degC)	N/A @ N/A	0.10 @ 28.00	0.11 @ 23.30		
Rmf @ Measured Temp (degC)	N/A @ N/A	0.08 @ 28.00	0.10 @ 20.00		
Rmc @ Measured Temp (degC)	N/A @ N/A	0.15 @ 28.00	0.40 @ 24.50		
Max Tool Temp (degC) / Source	26.00 / EWR-P4	99.00 / EWR-P4	90.00 / EWR-P4		
Rm @ Max Tool Temp (degC)	N/A @ 26.00	0.04 @ 99.00	0.04 @ 90.00		
Lead MWD Engineer	T.Oborne	T.Oborne	T.Oborne		
Customer Representative	H.Everhart	H.Everhart	H.Everhart		

SENSOR INFORMATION

Downhole Processor Information					
Tool Type	HCIM	HCIM	HCIM		
Software Version	67.88	67.88	67.88		
Sub Serial Number	198840	197929	197929		
Insert Serial Number	132884	161828	161828		
Logging String Serial Number	62057XHGV8	62270XH1NRGV6	62270XH1NRGV6		
Date and Time Initialized	11-Nov-04 09:40	14-Nov-04 08:42	18-Nov-04 06:54		
Date and Time Read	12-Nov-04 09:57:27	18-Nov-04 04:38:00	20-Nov-04 03:45:19		

Directional Sensor Information					
Tool Type	PM	PM	PM		
Distance From Bit (m)	30.19	33.62	25.28		
Software Version	1.08	1.08	1.08		
Sub Serial Number	111363	194447	194447		
Sonde Serial Number	134019	175717	175717		
Sensor ID Number	2947	44645	44645		
Survey String Serial Number	DM90061055M8	DM90062415M6	DM90062415M6		
Toolface Offset (deg)	N/A	N/A	N/A		

Gamma Ray Sensor Information					
Tool Type	DGR	DGR	DGR		
Distance From Bit (m)	17.71	11.49	3.15		
Recorded Sample Period (sec)	12	12	12		
Software Version	N/A	N/A	N/A		
Sub Serial Number	10505993	1	1		
Insert/Sonde Serial Number	172498	53520	53520		

Resistivity Sensor Information					
Tool Type	EWR-P4	EWR-P4	EWR-P4		
Distance From Bit (m)	14.68	17.54	9.20		
Recorded Sample Period (sec)	12	12	12		
Software Version	1.38	1.38	1.38		
Sub Serial Number	174309	60579	60579		
Receiver Insert Serial Number	123481	99881	99881		
Transmitter Insert Serial Number	159149	144695	144695		
Receiver Orientation	Down	Down	Down		

Neutron Sensor Information					
Tool Type		CNP	CNP		
Distance From Bit (m)		20.52	12.18		
Recorded Sample Period (sec)		12	12		
Sub Serial Number		177933	177933		
Insert Serial Number		87644	87644		
Source Serial Number		4070NK	4070NK		
Source Factor		1.1400	1.1400		
Pin Orientation		Down	Down		

Density Sensor Information					
Tool Type		SLD	SLD		
Distance From Bit (m)		14.79	6.45		
Recorded Sample Period (sec)		14	14		
Software Version		11.00	11.00		
Sub Serial Number		121000	121000		
Insert Serial Number		77135	77135		
Sensor ID Number		324	324		
Source Serial Number		3085GW	3085GW		
Pin Orientation		Up	Up		
Stabilizer Blade O.D. (mm)		209.550	209.550		
DPA Offset		N/A	N/A		

Caliper Sensor Information					
Tool Type	ACAL	ACAL	ACAL		

Distance From Bit (m)	27.26	30.70	22.36		
Software Version	2.05	2.05	2.05		
Sub Serial Number	165483	138157	138157		
Insert Serial Number	141729	113417	113417		

Sonic Sensor Information

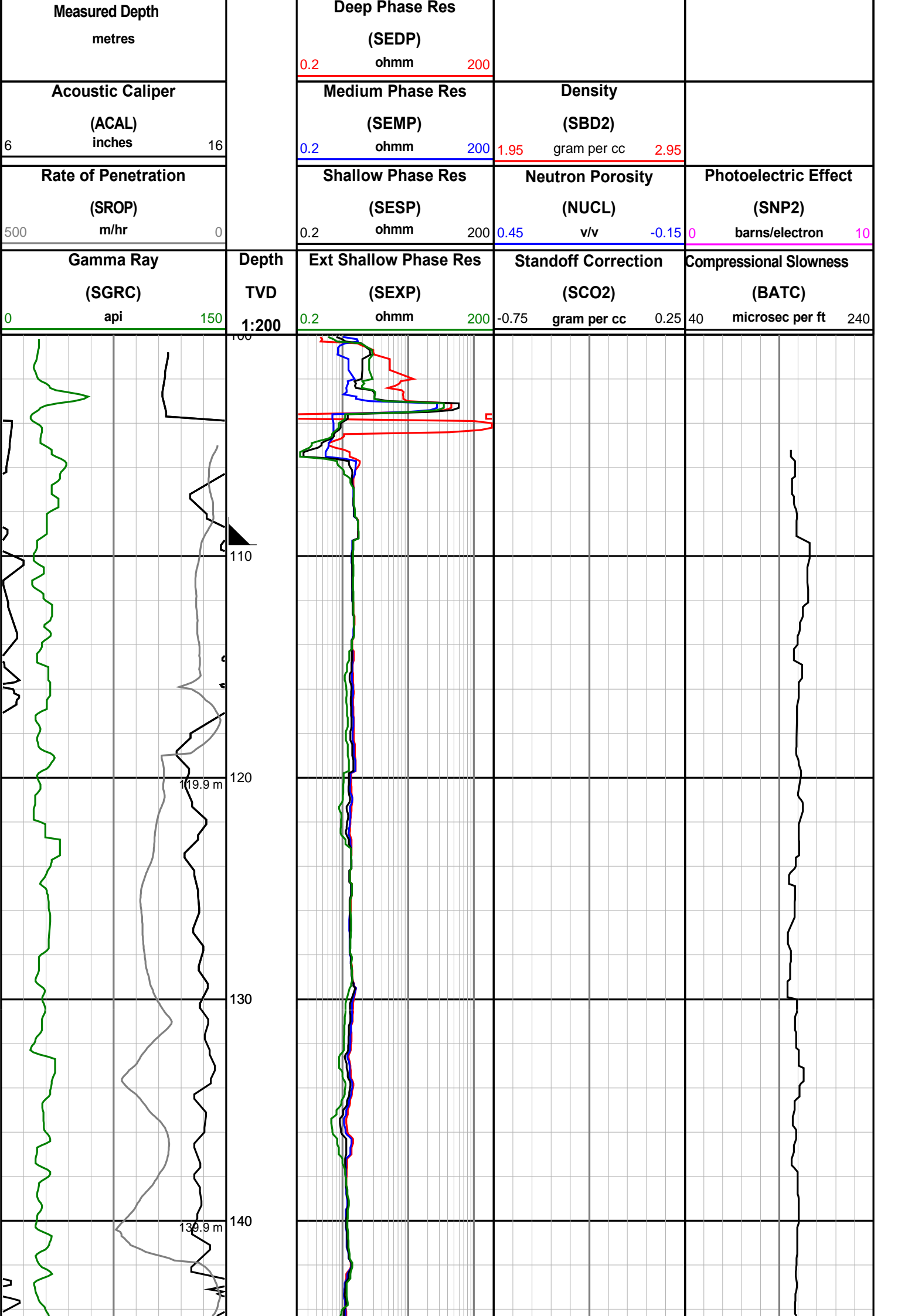
Tool Type	BAT	BAT	BAT		
Distance From Bit (m)	23.06	26.91	18.57		
Recorded Sample Period (sec)	18	18	18		
Software Version	4.00	4.00	4.00		
Sub Serial Number	144401	132327	132327		
Receiver Insert Serial Number	136555	161198	161198		
Transmitter Insert Serial Number	143996	116793	116793		

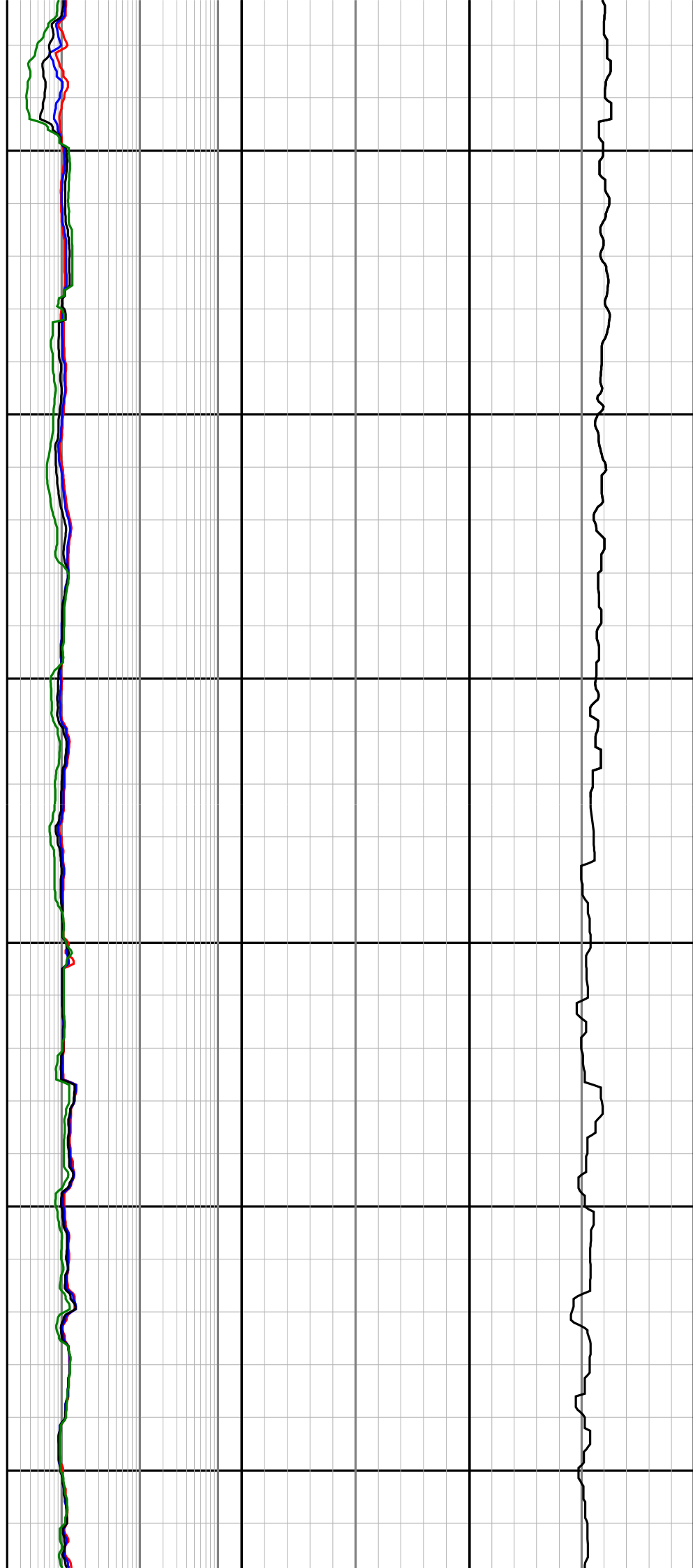
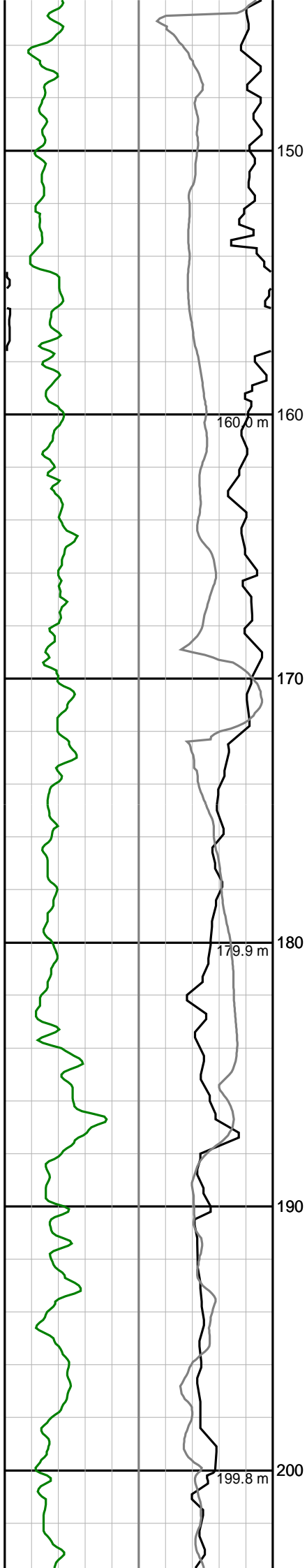
REMARKS

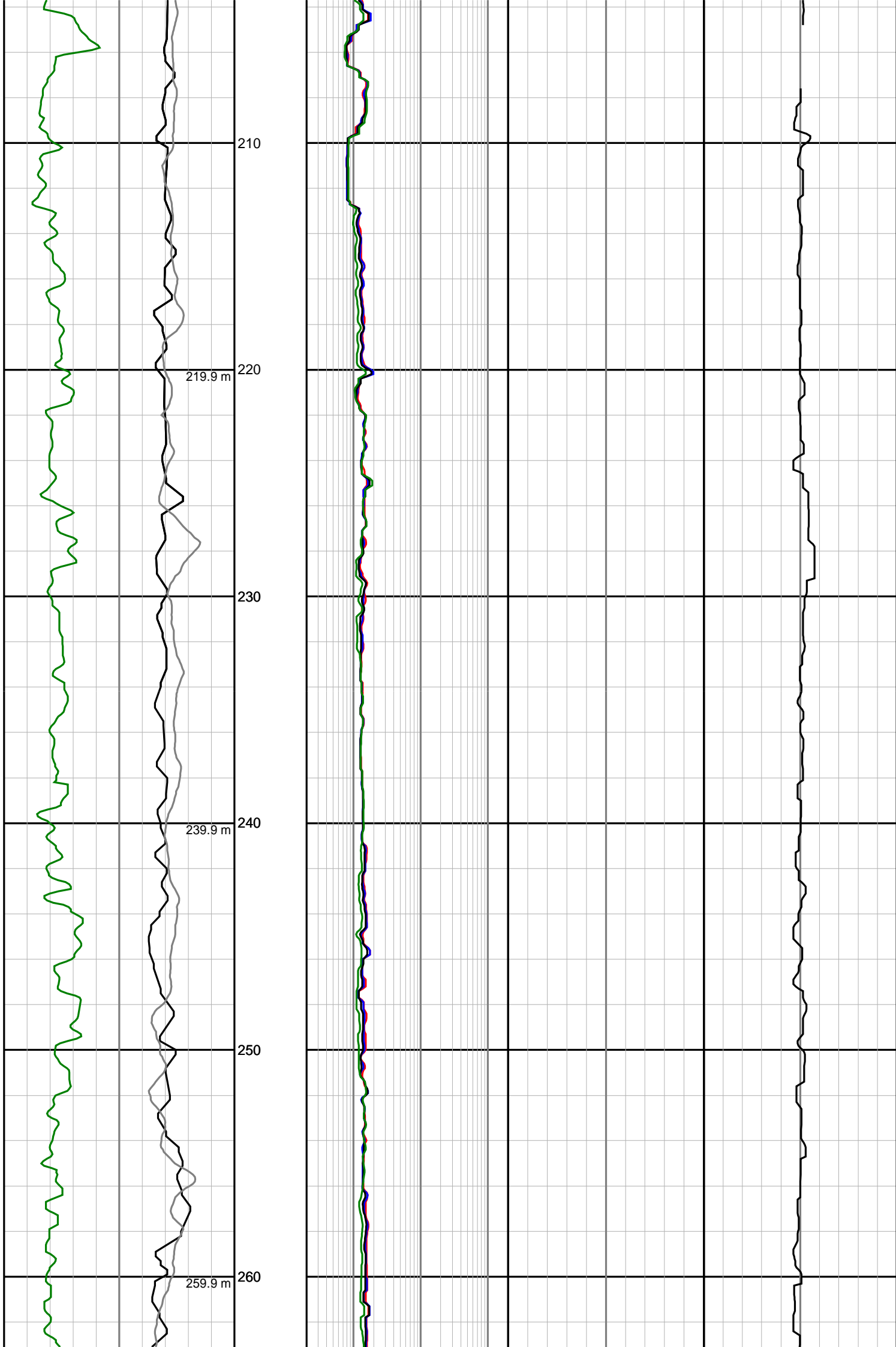
1. All depths are bit depths and referenced to the drillers pipe tally.
2. AV/CV is calculated at the MWD collar using the Powers Law for water based muds and the Bingham's Plastic Law for oil based muds.
3. Curve mnemonics are:
 SGRC - Smoothed Gamma Ray Combined, api
 SEXP - Smoothed Extra Shallow Phase Resistivity, ohm-m
 SESP - Smoothed Shallow Phase Resistivity, ohm-m
 SEMP - Smoothed Medium Phase Resistivity, ohm-m
 SEDP - Smoothed Deep Phase Resistivity, ohm-m
 SROP - Smoothed Rate of Penetration, m/hr
 ACAL - Acoustic Caliper, inches
 BATC - Bi-Modal Acoustic Compressional Slowness, usec/ft
 SBD2 - Smoothed Best Bin Bulk Density Compensated, g/cc
 SCO2 - Smoothed Best Bin Stand-off Correction, g/cc
 SNP2 - Smoothed Best Bin Near Photoelectric Effect, b/e
 NUCL - Smoothed Porosity (Limestone Matrix) corrected for Salinity, Temperature and Pressure, v/v
 STEM - Smoothed Medium Phase Resistivity Temperature, degC
4. CNP data processed using the CNP-E algorithm using the following parameters and is based on a Limestone Matrix:
 MW = 1.25 - 1.40 sg
 Formation Salinity = 25000 ppm, Cl
 Mud Salinity = 43000 - 54000 ppm, Cl
 Matrix Density = 2.71 g/cc
 Fluid Density = 1.00 g/cc
5. CNP data has been reprocessed using data from the Caliper (ACAL) tool for borehole diameter.
6. Surface depth tracking system damaged.
7. Gap in density data due to intermittent problems with density (SLD) tool.
8. Density (SLD) tool failed while running in hole prior to Run 300.
9. Gaps in compressional slowness (BATC) data due to weak signal.
10. Repeat sections from 2092.9 to 2151.3 and 2199.9 to 2287.4 mMDRT @ 18:20 to 21:38 16-Nov-04 was wiped while pulling out of hole with no rotary and no pumps after LWD Run 200

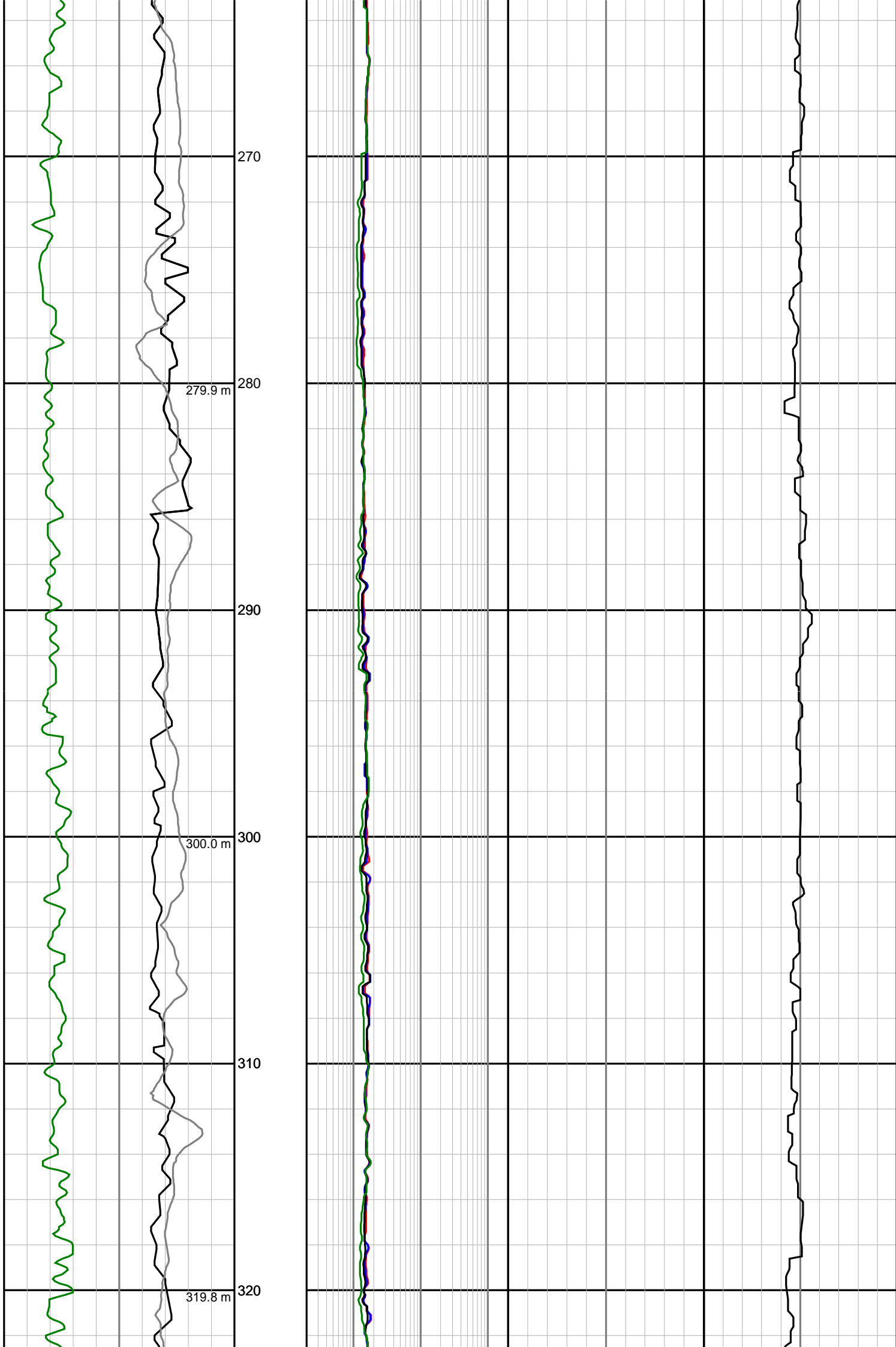
WARRANTY

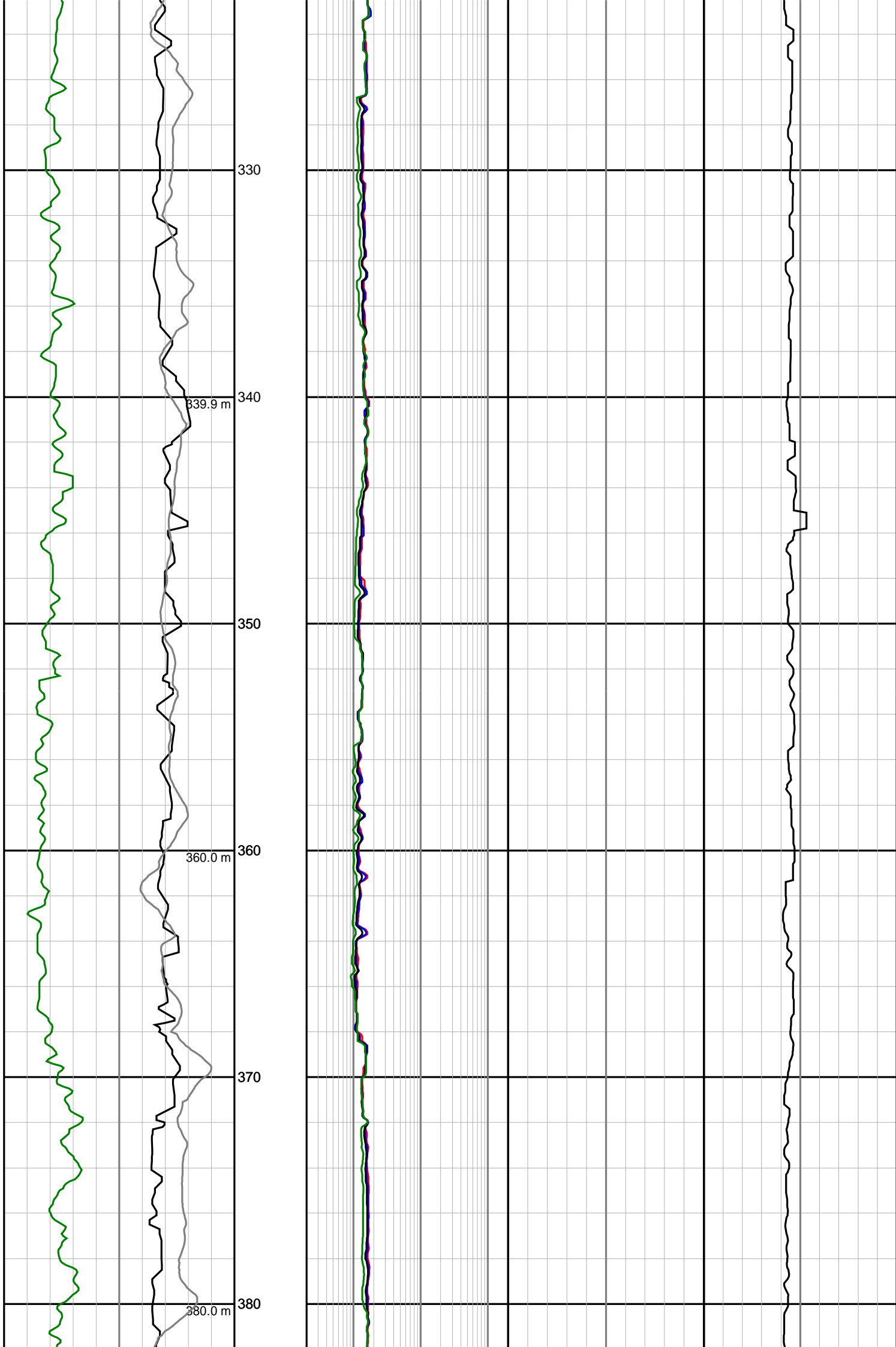
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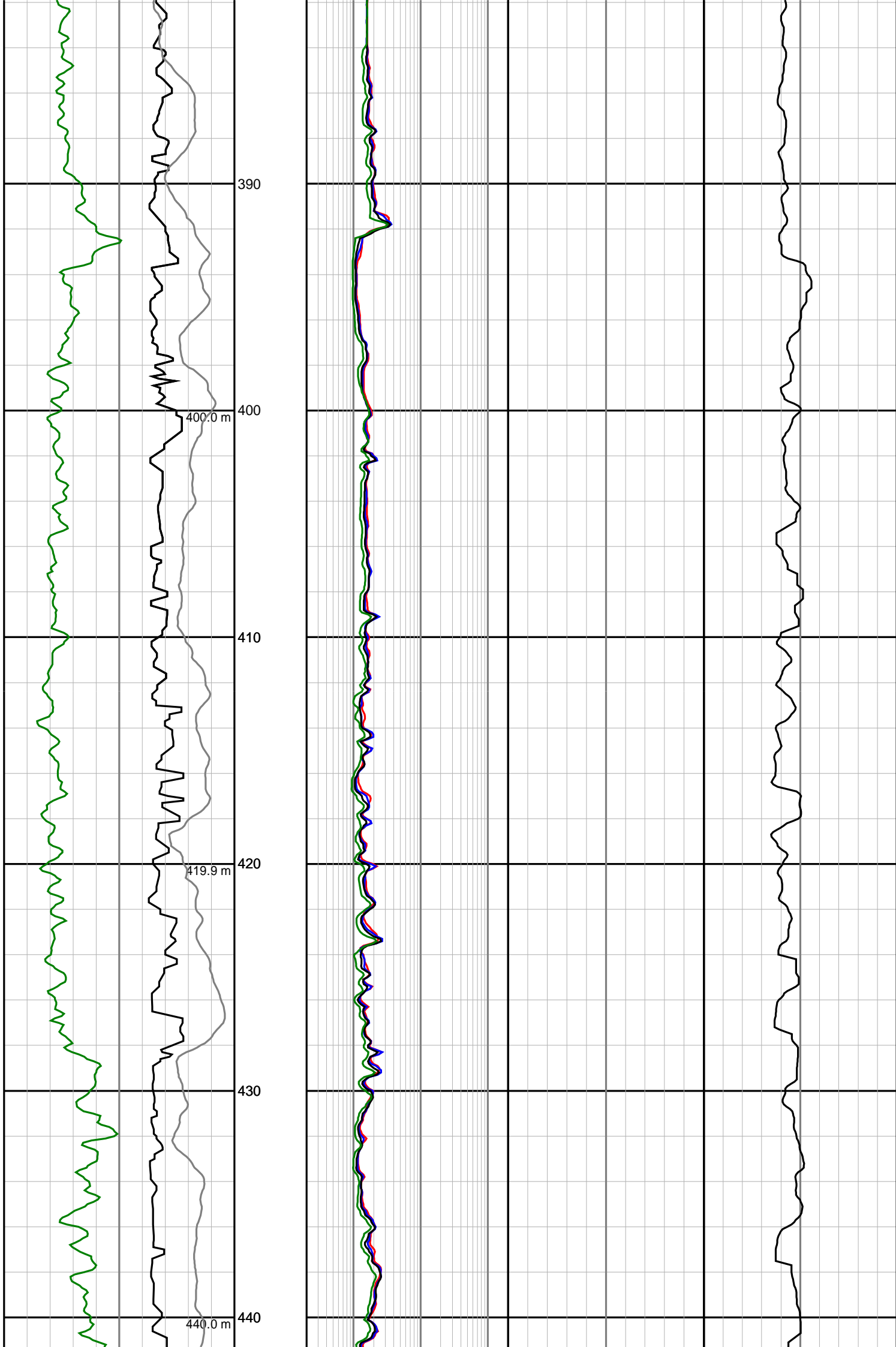


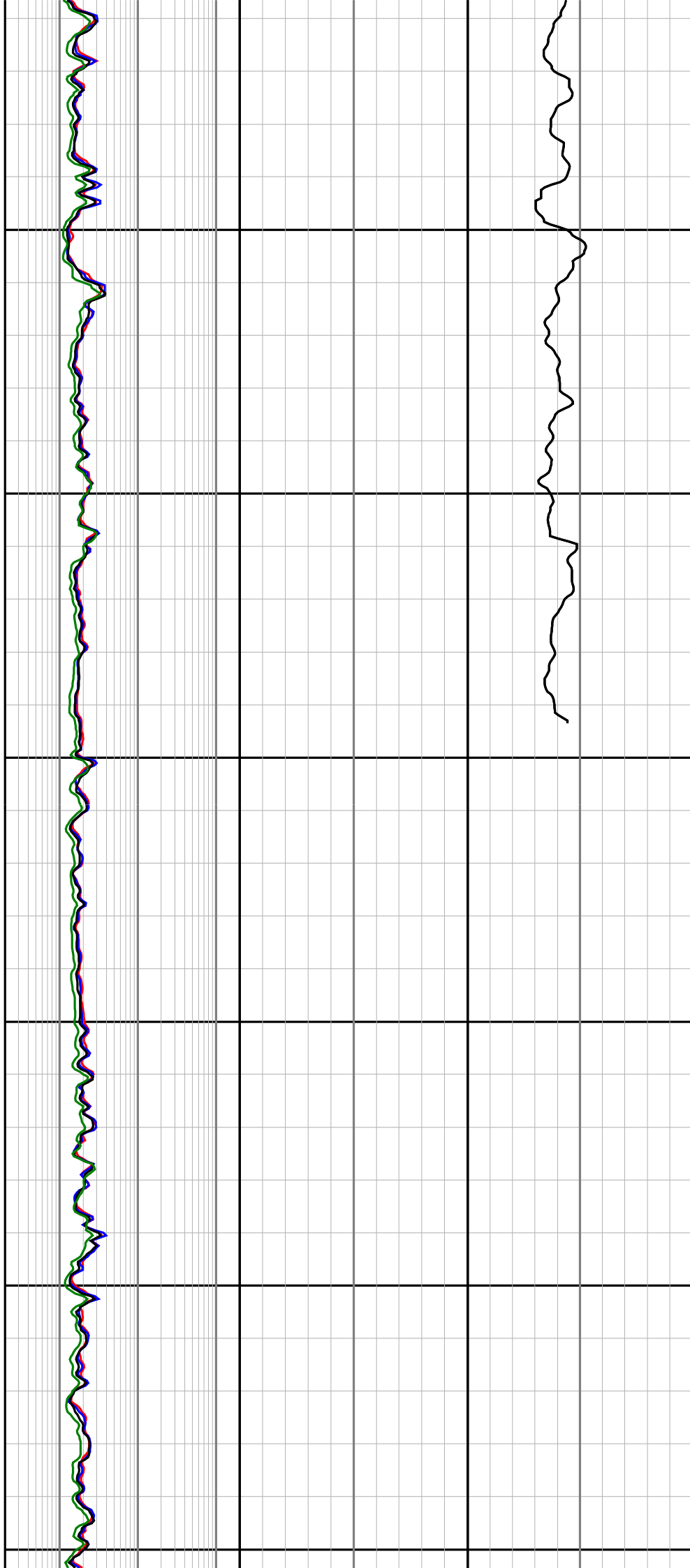
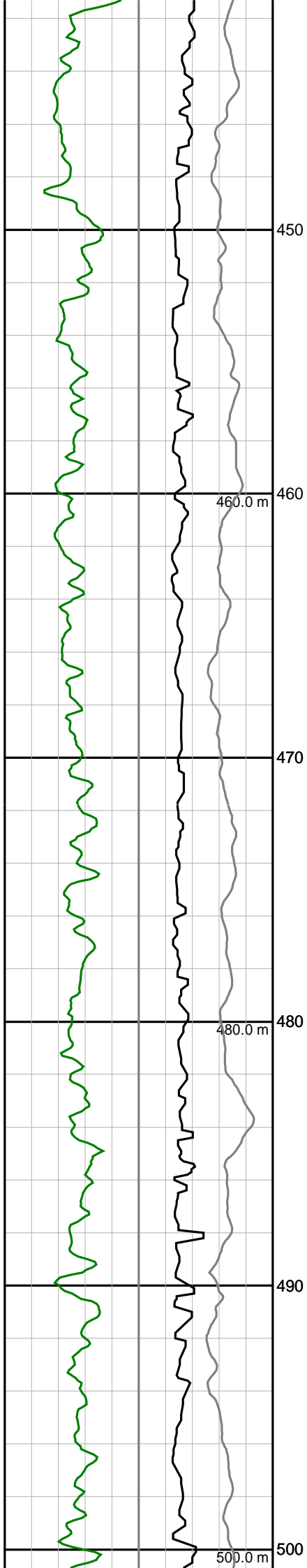


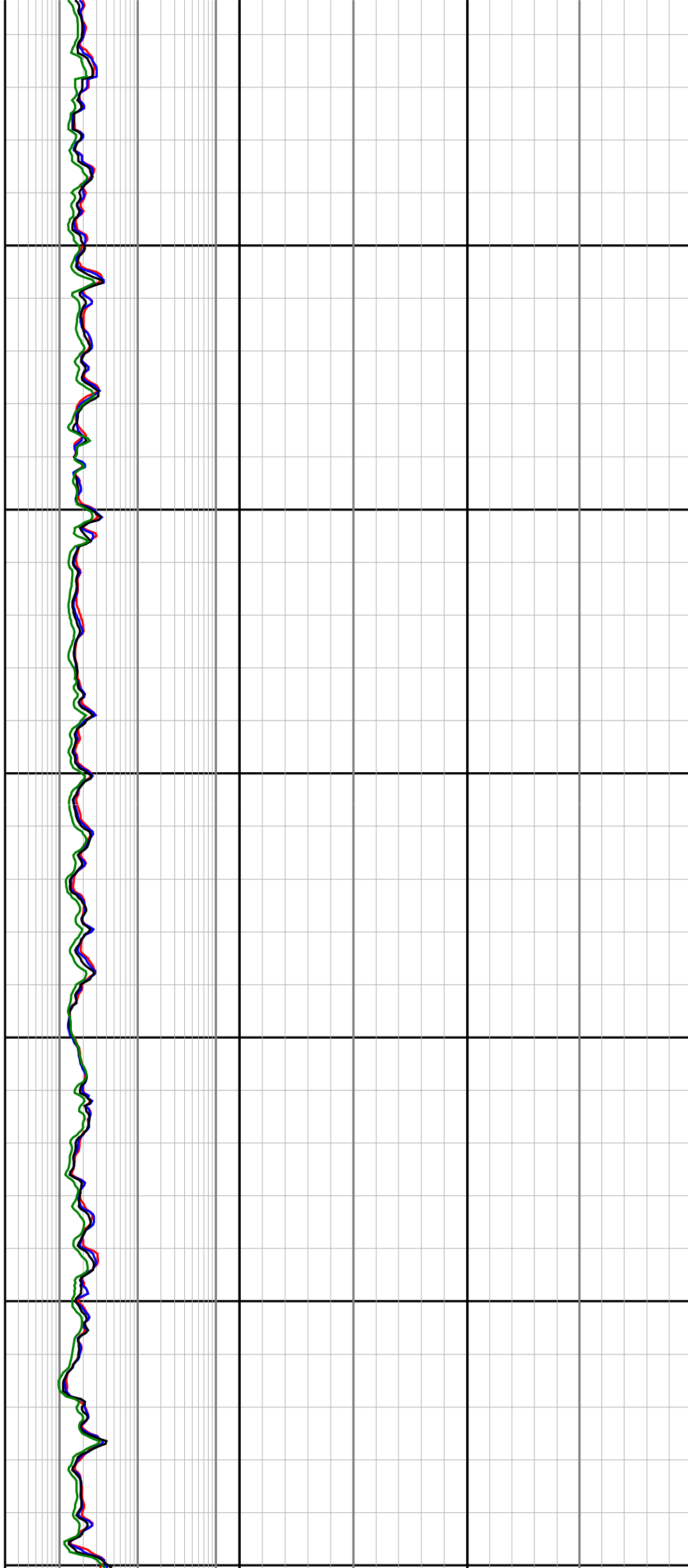
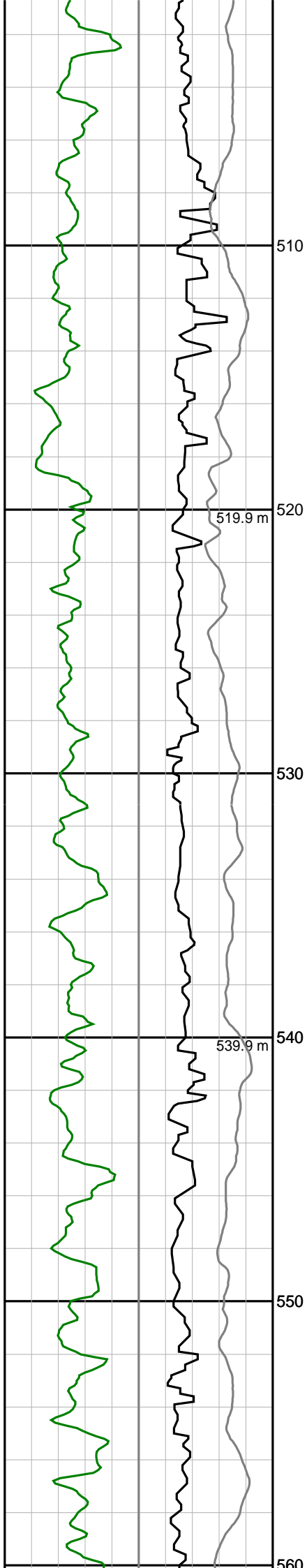


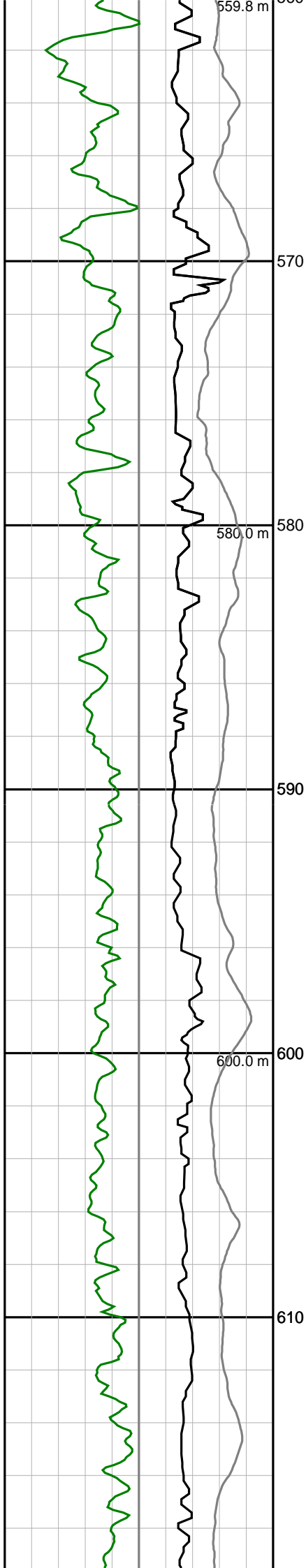


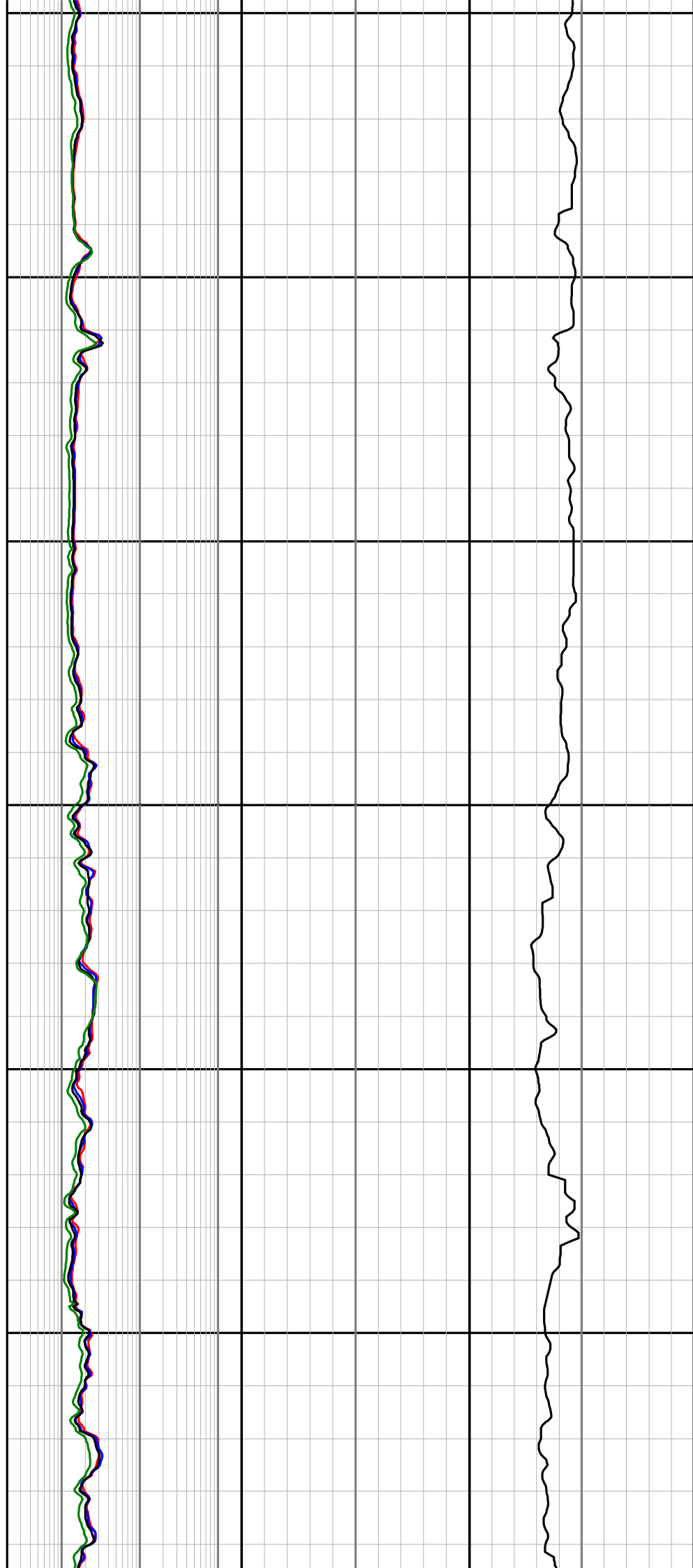
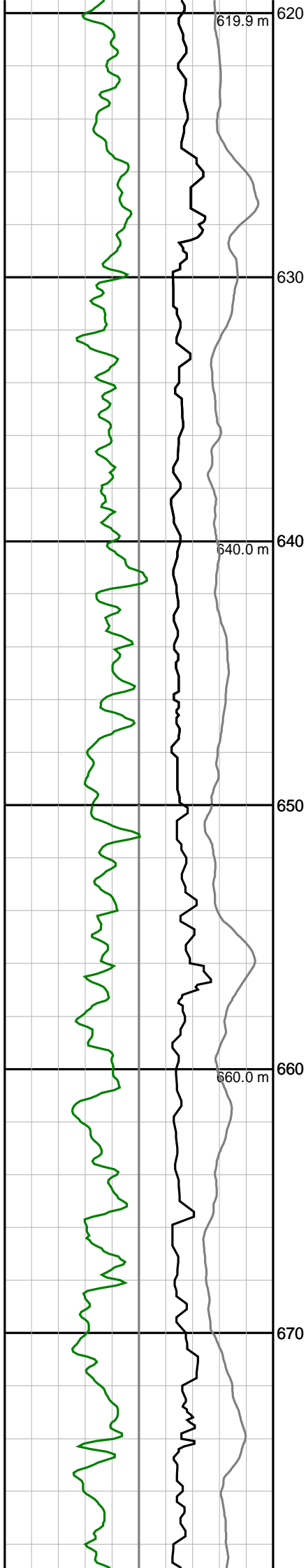


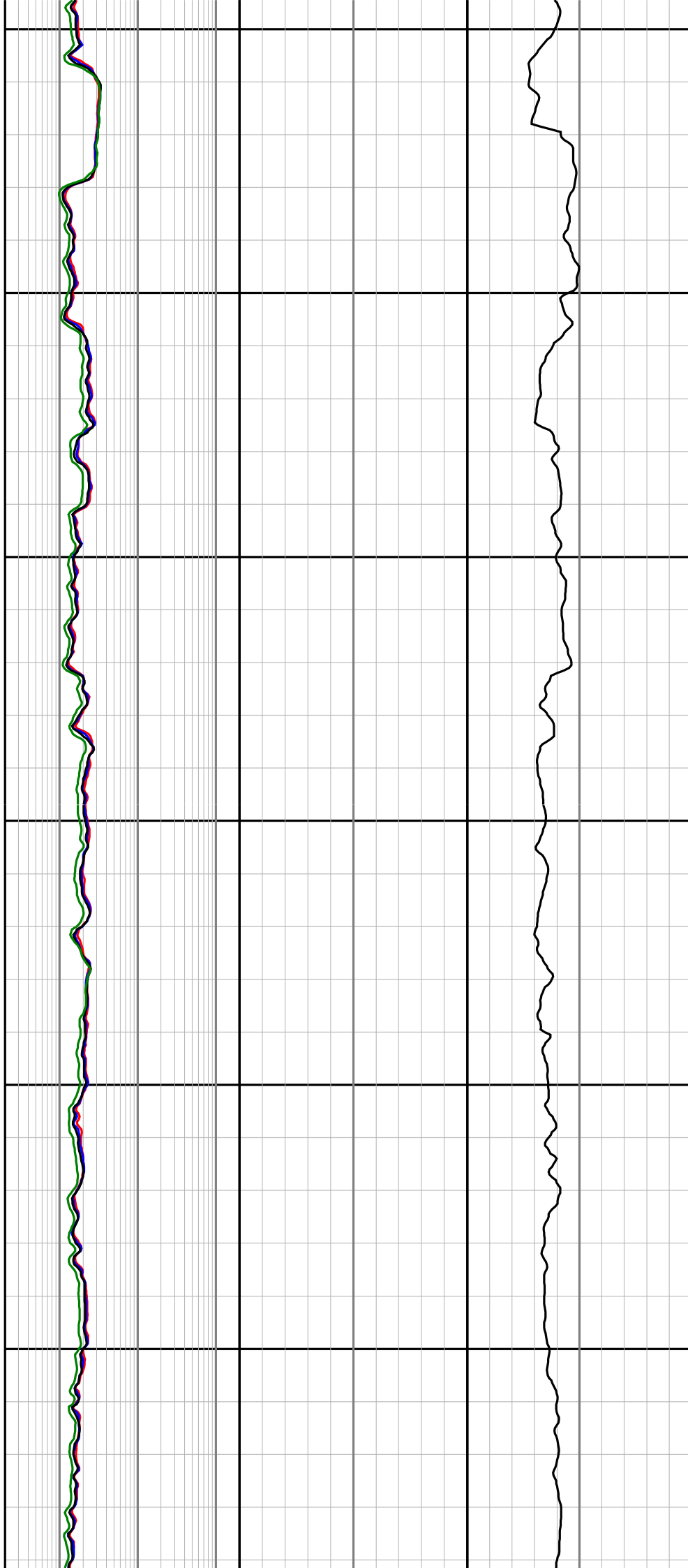
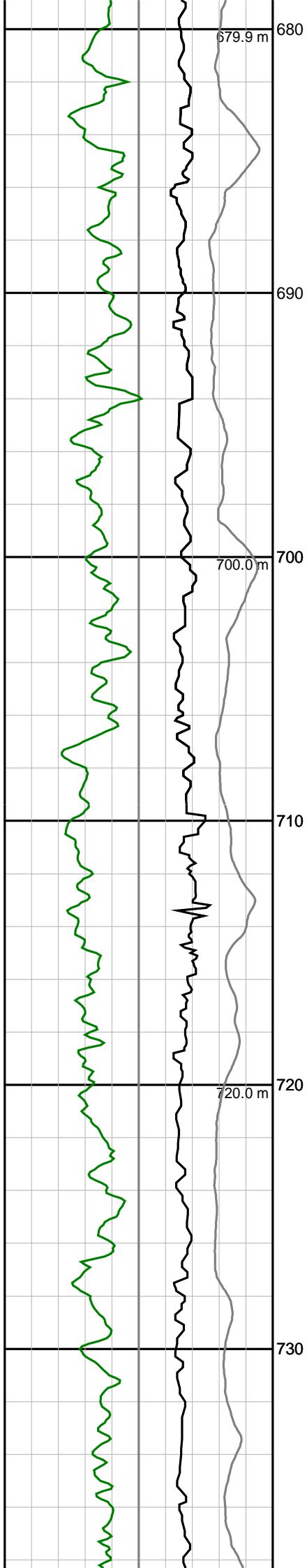


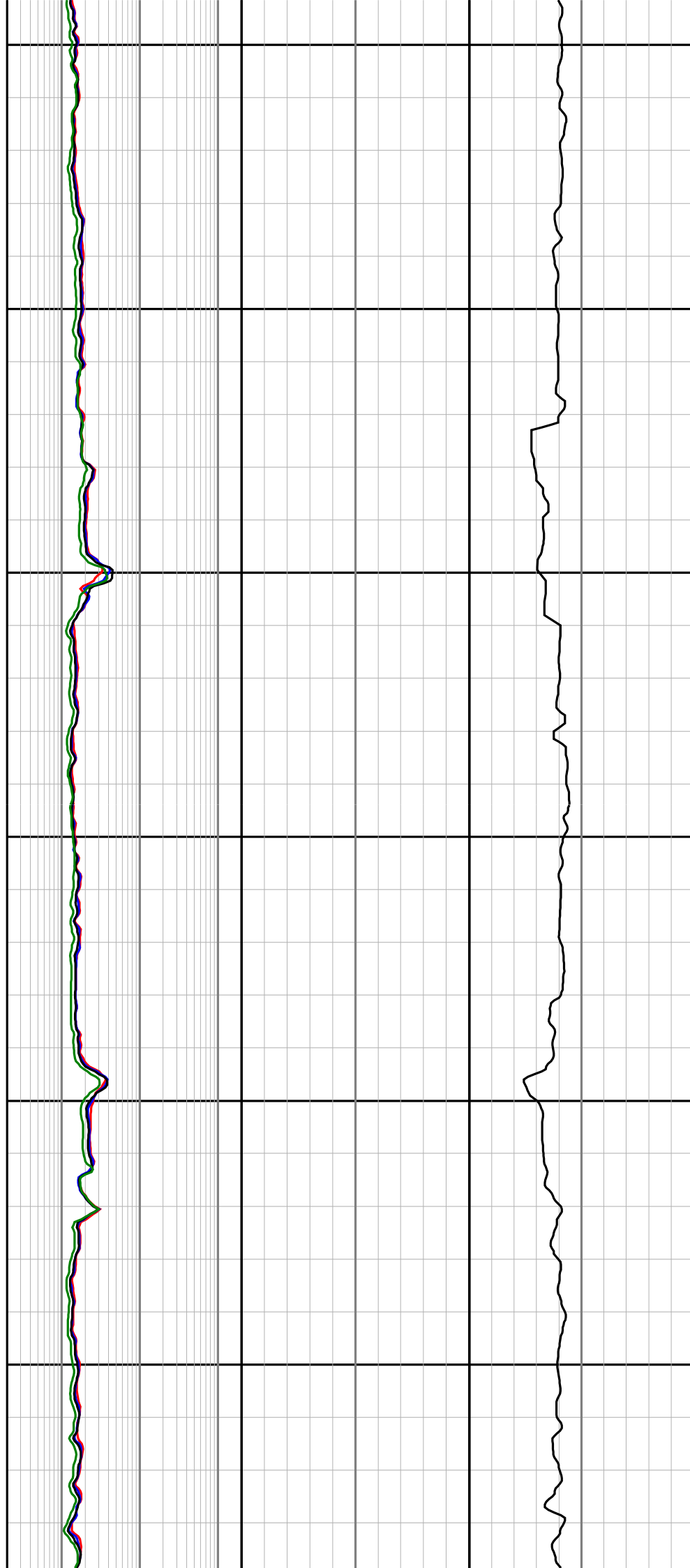
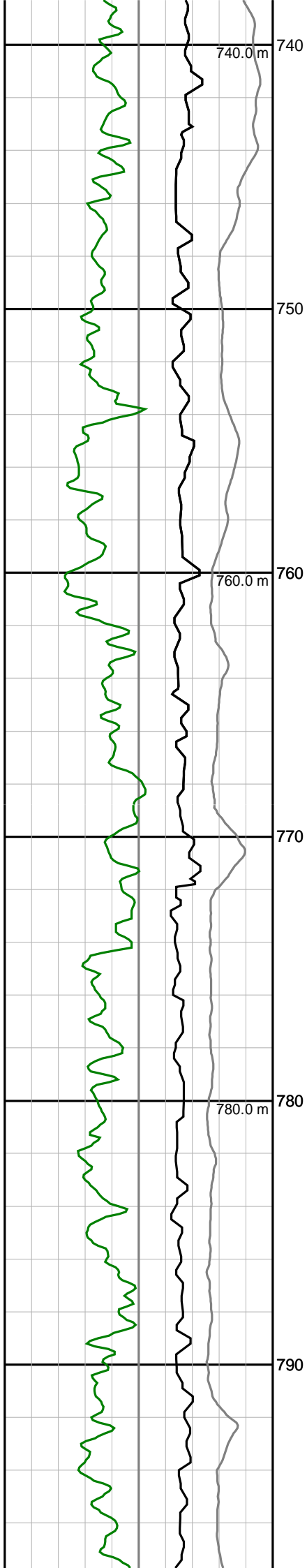


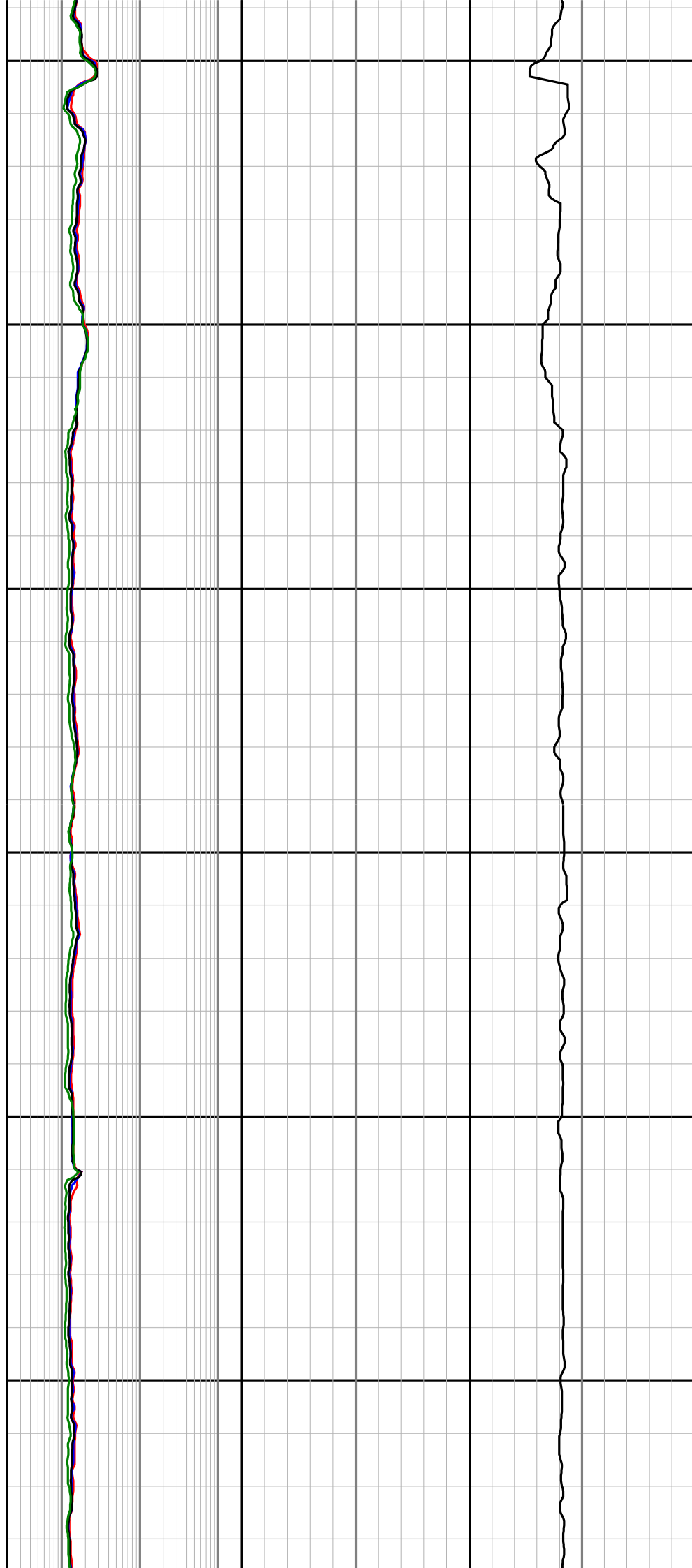
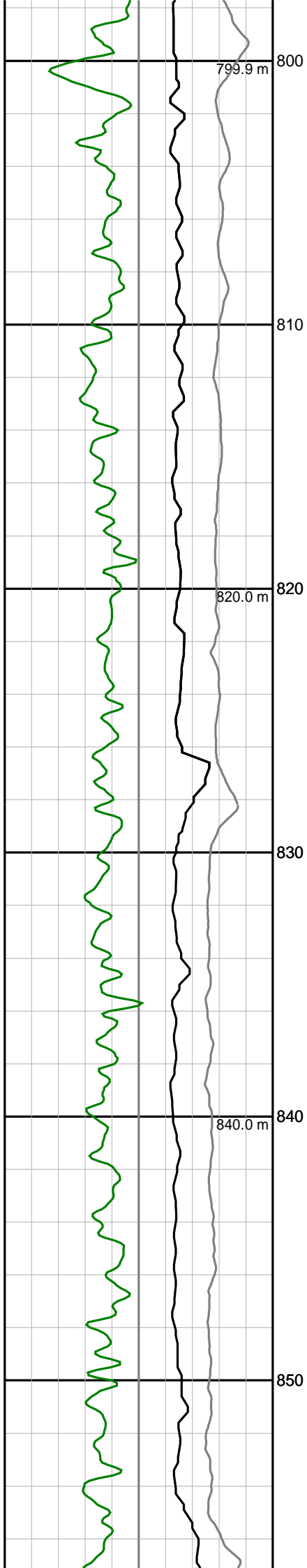


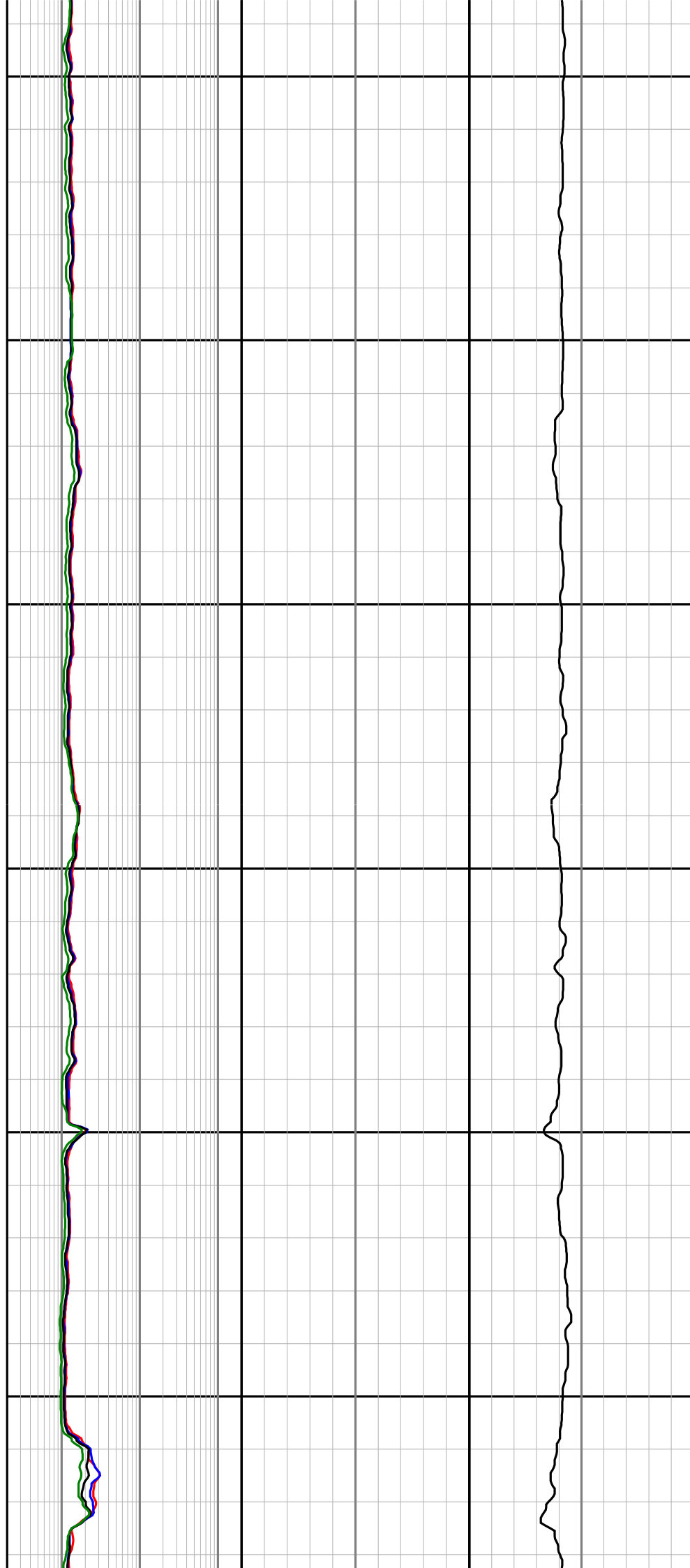
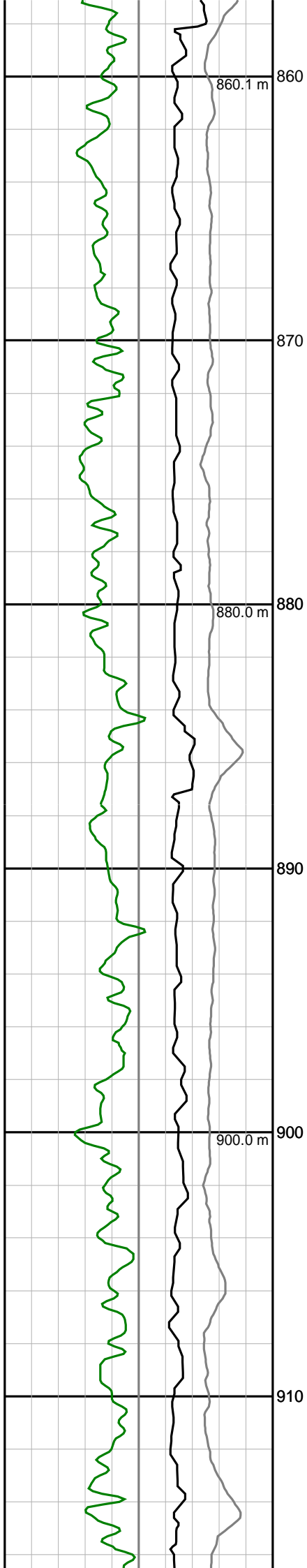


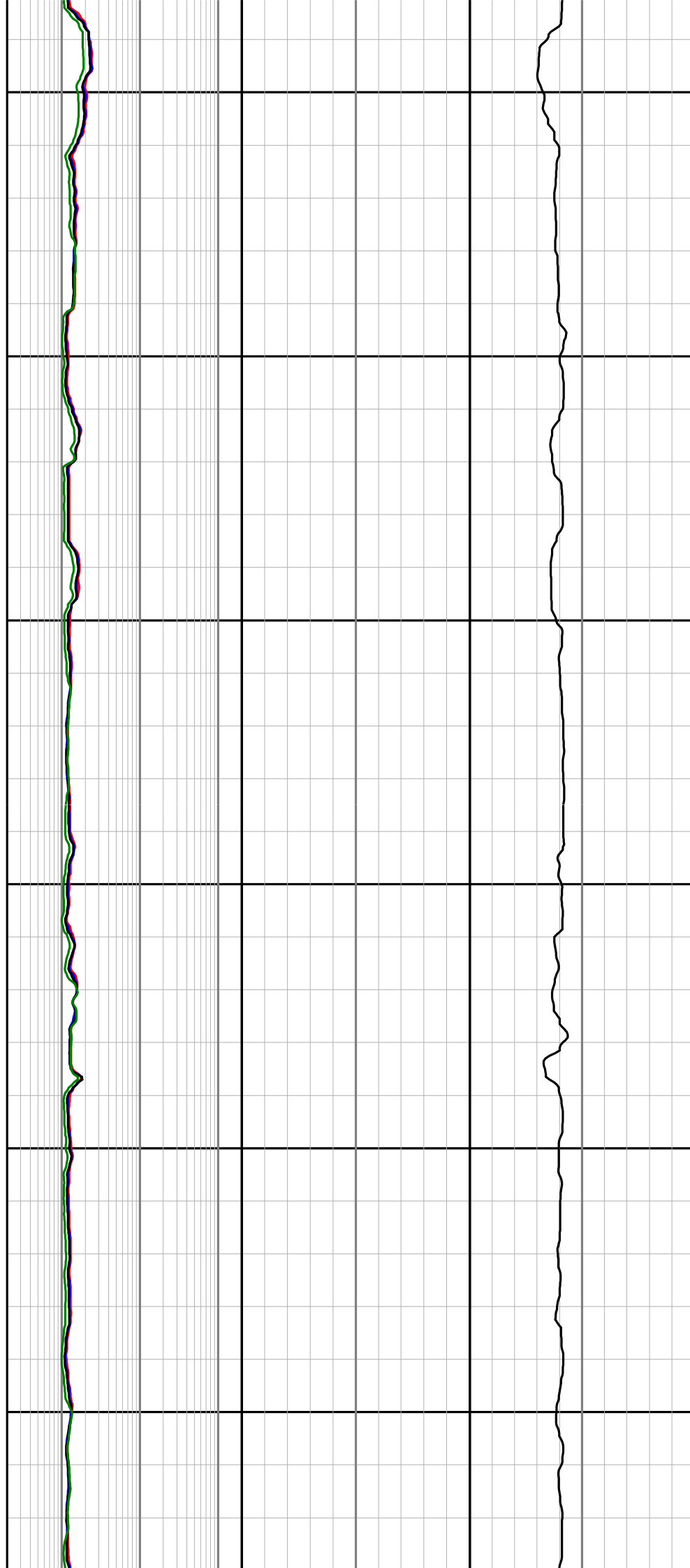
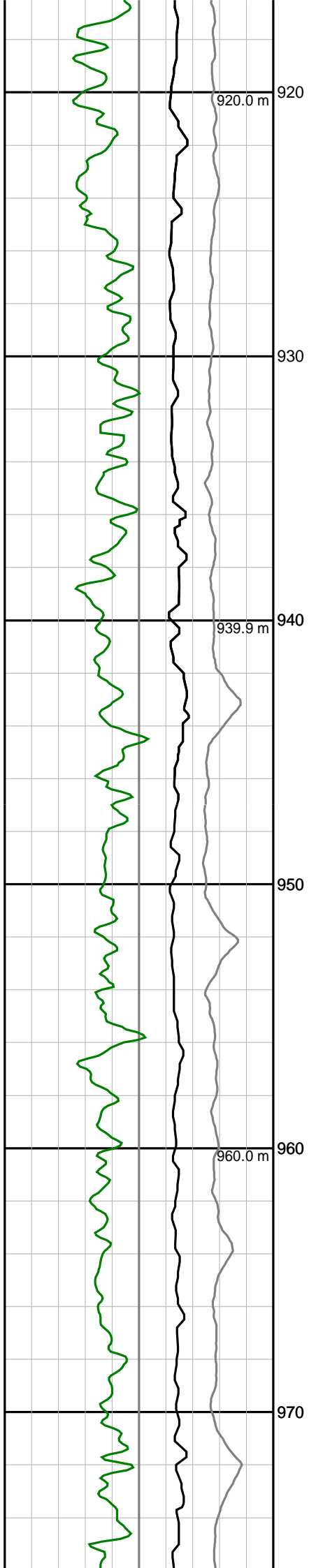


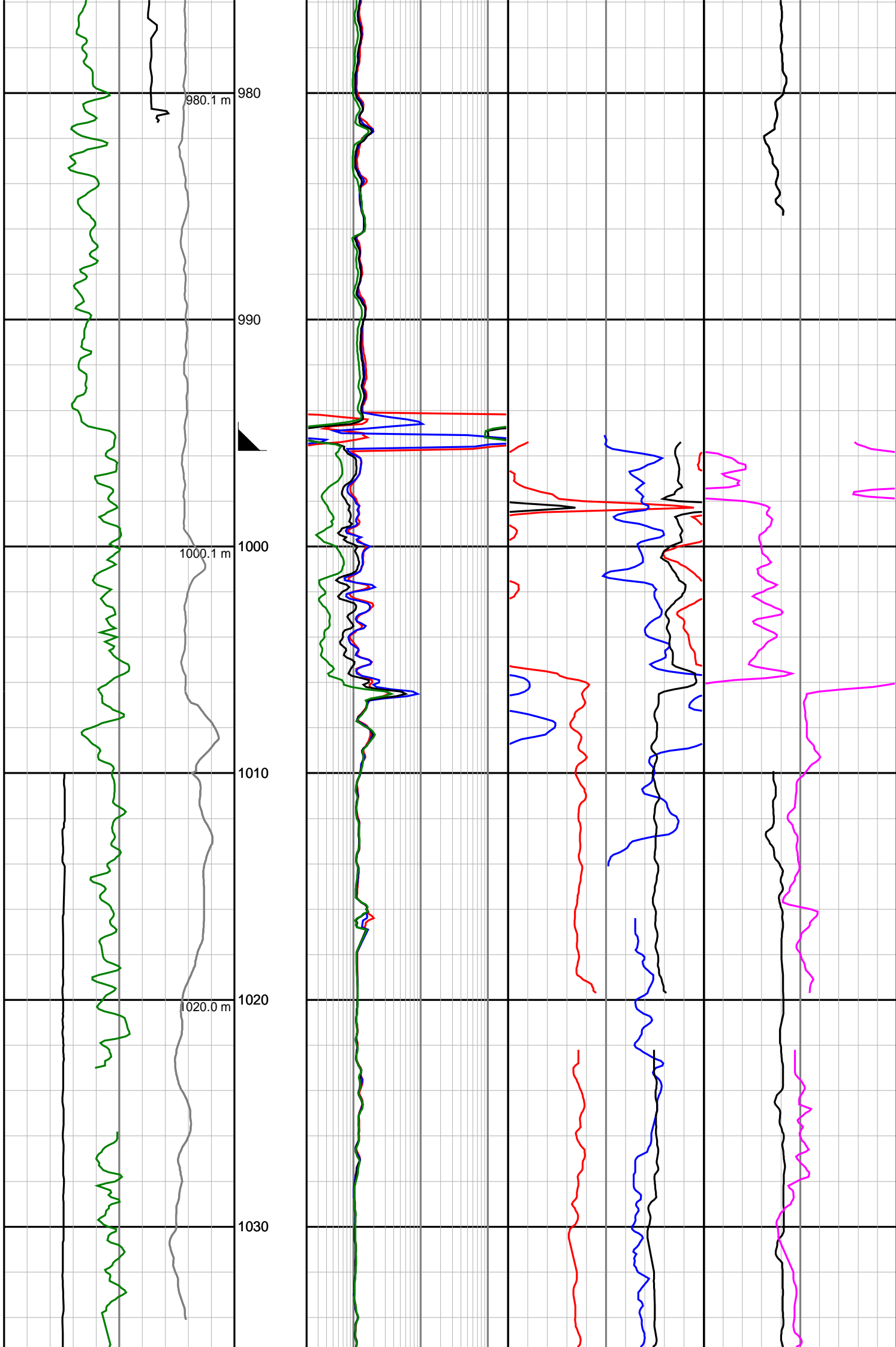


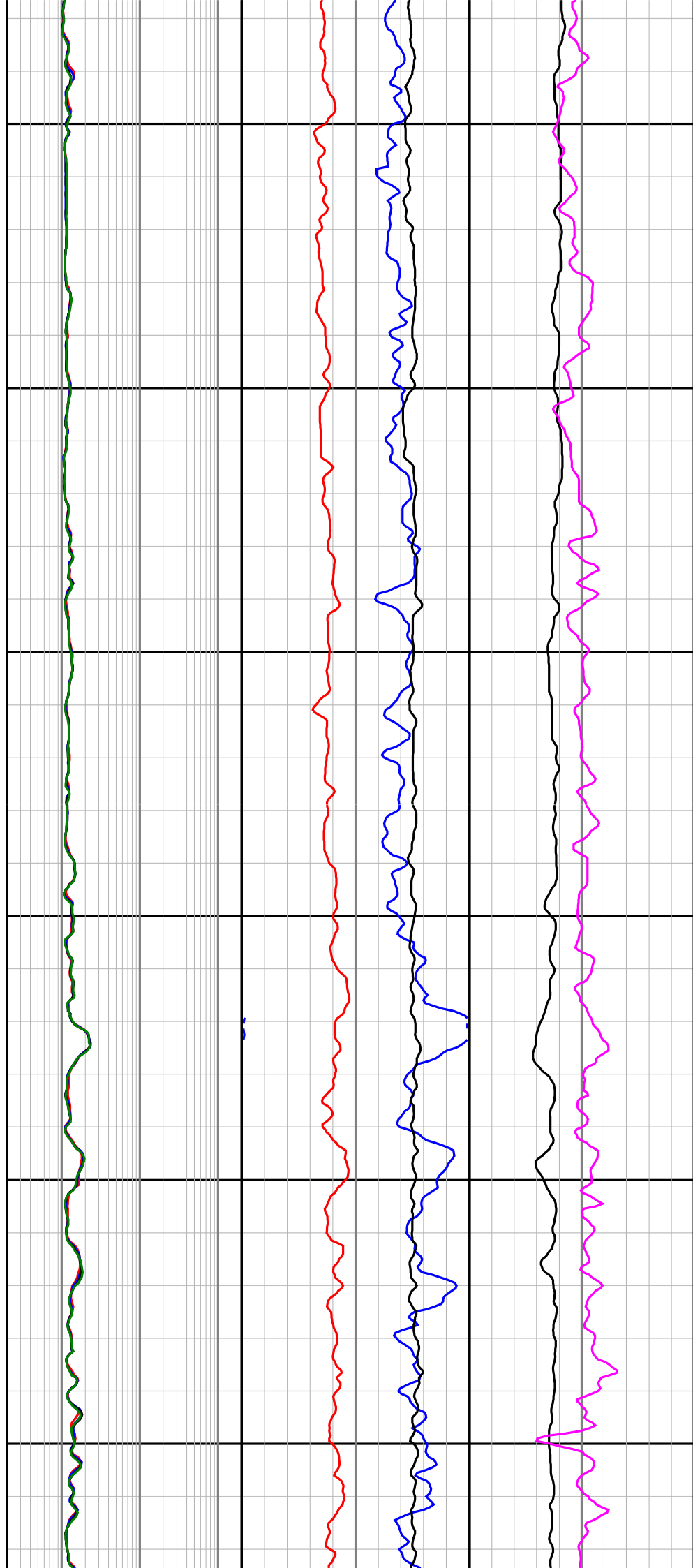
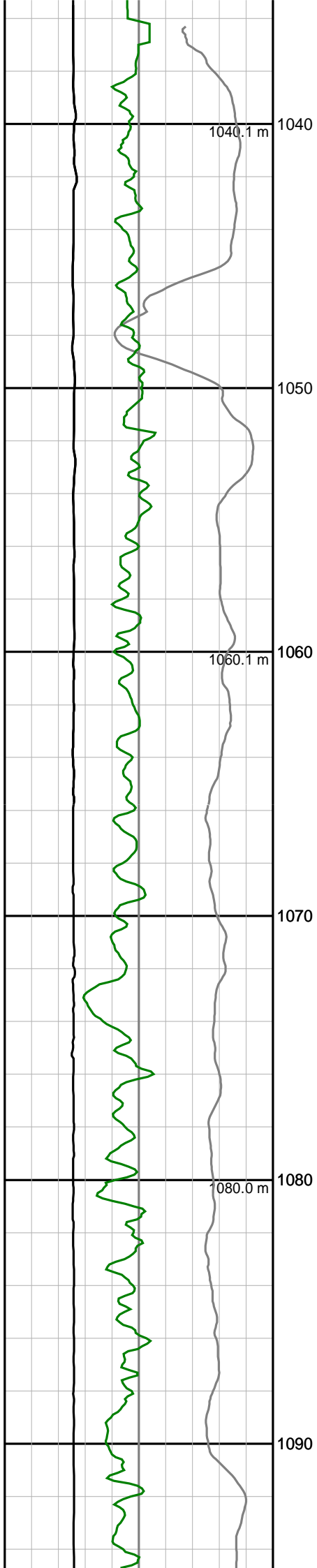


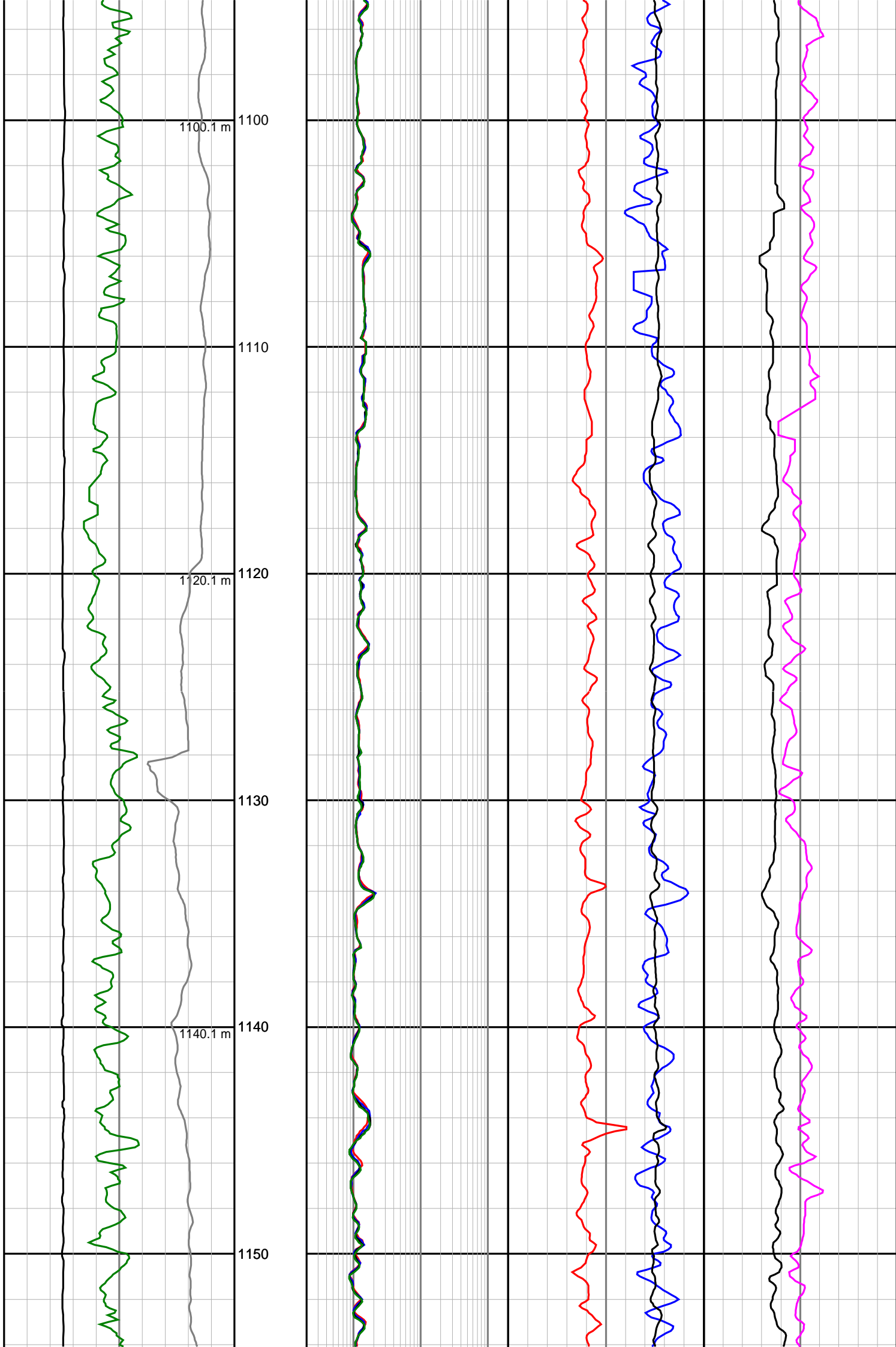


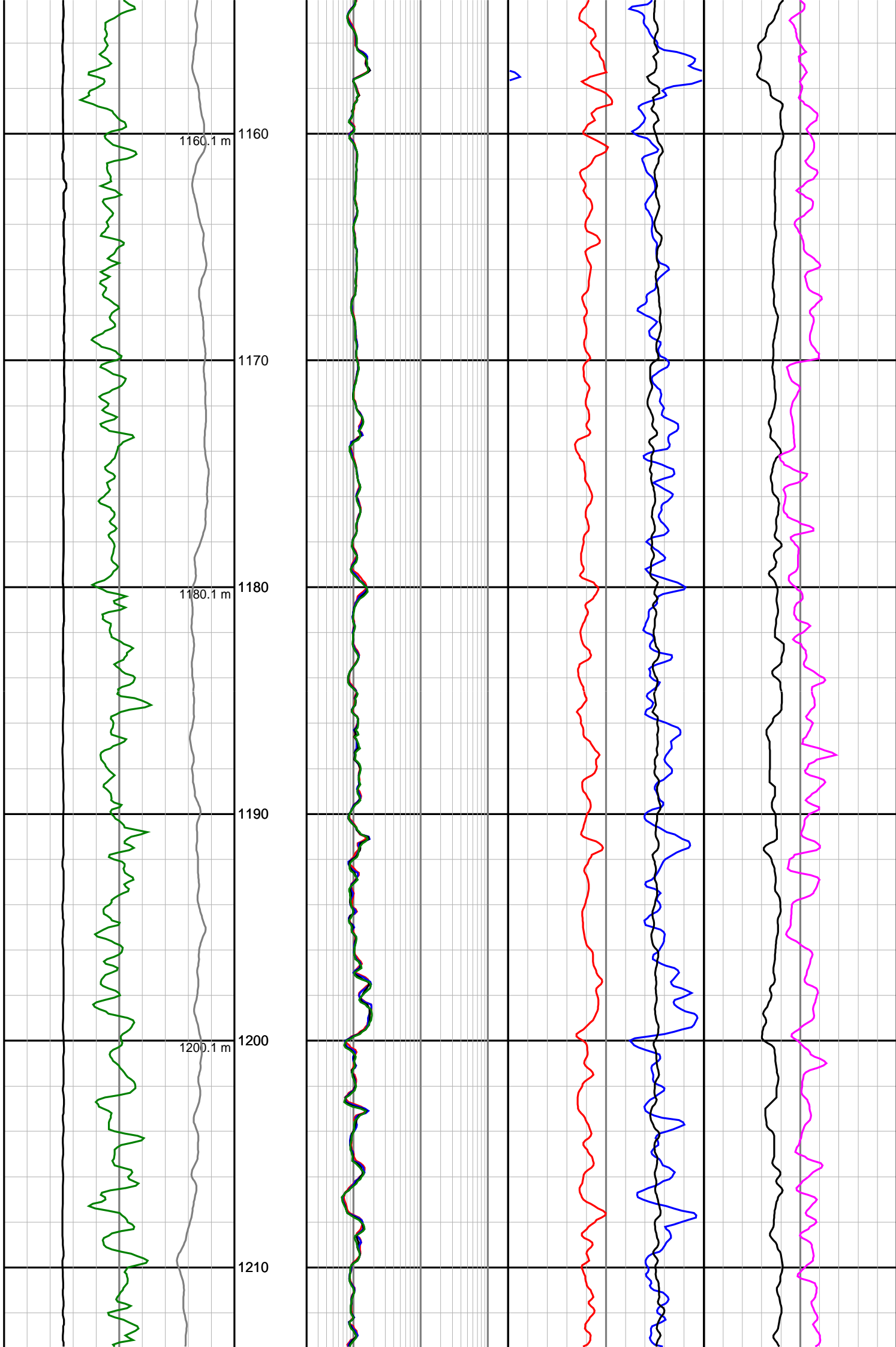


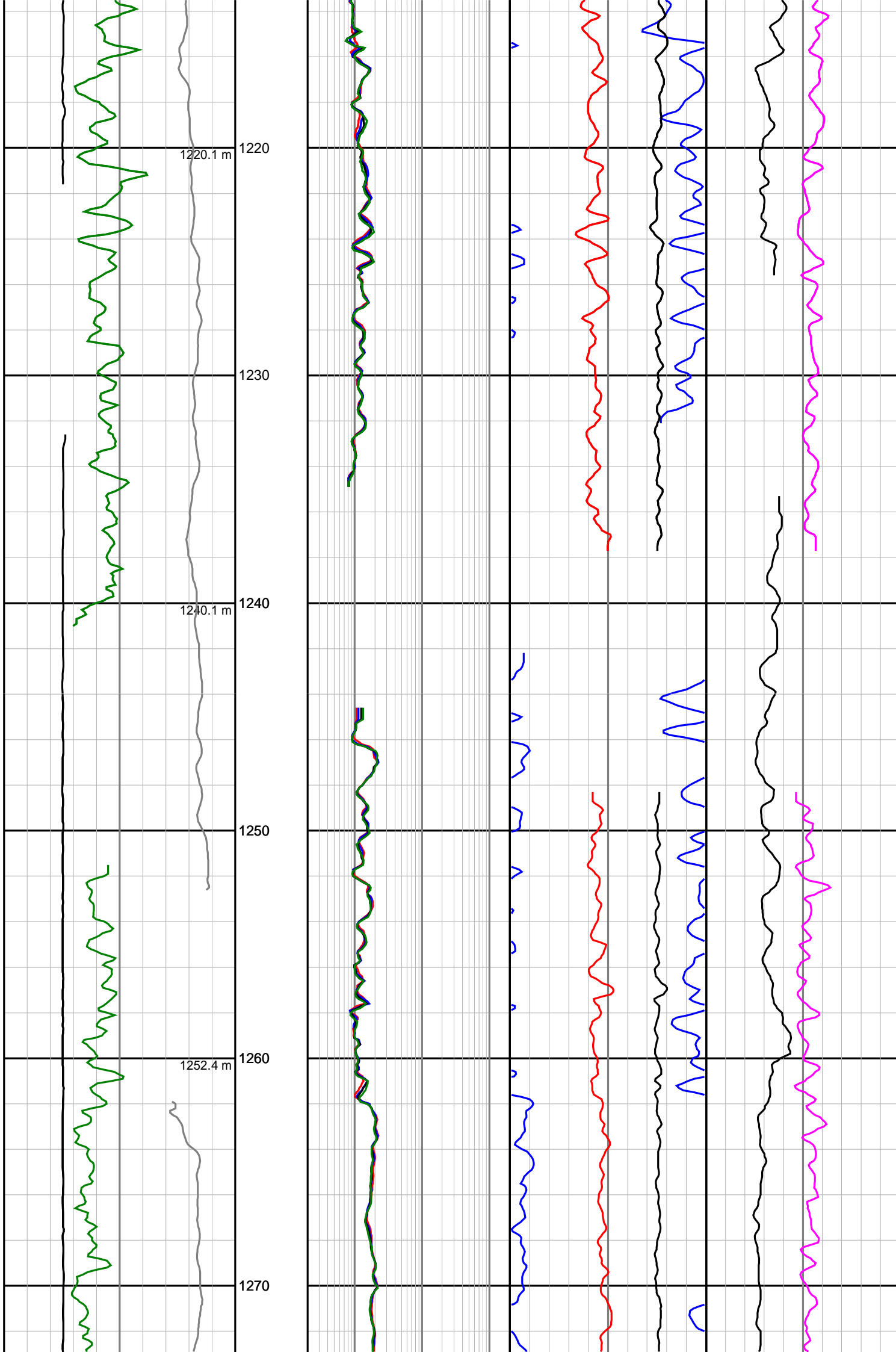


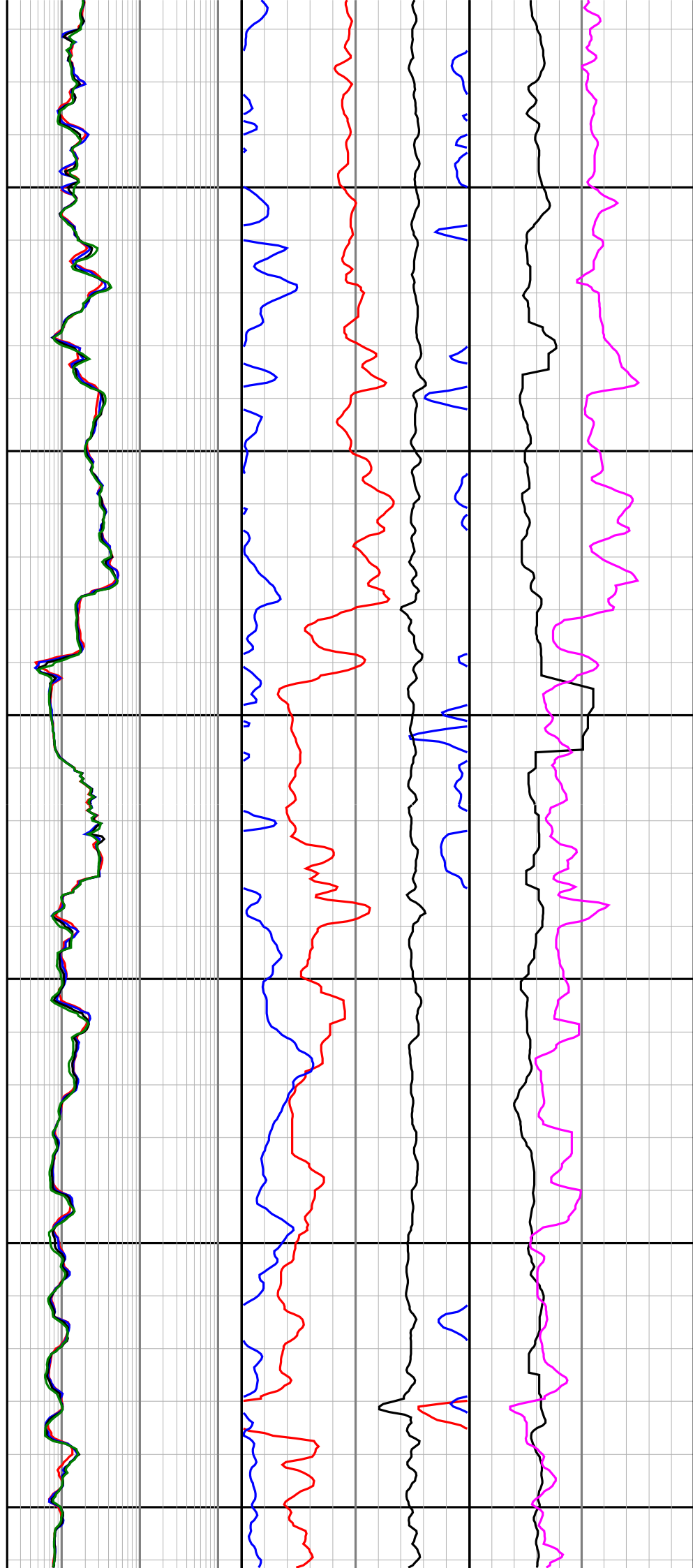
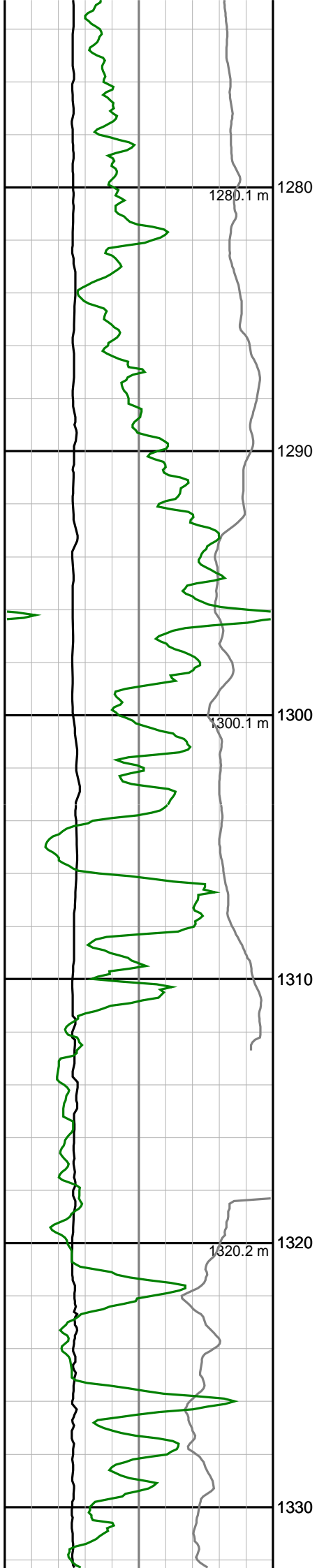


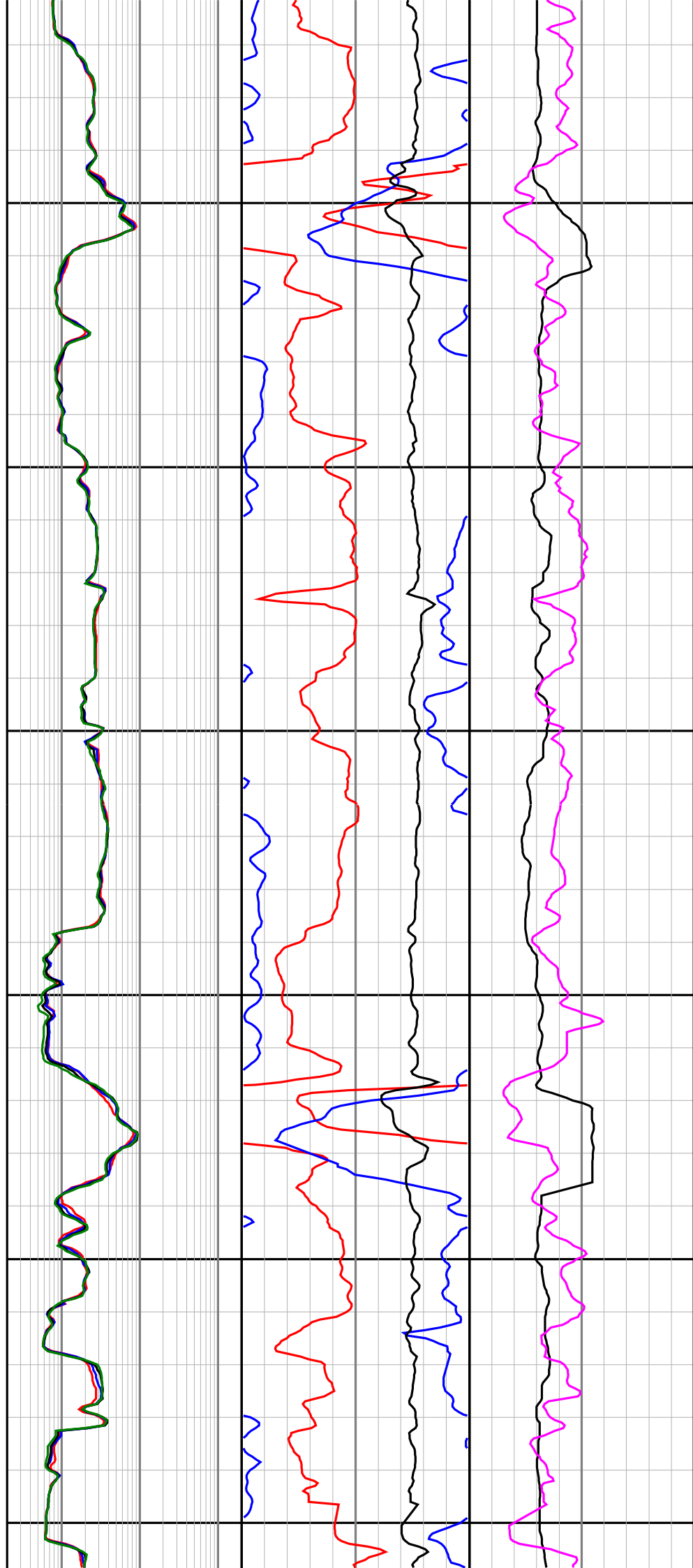


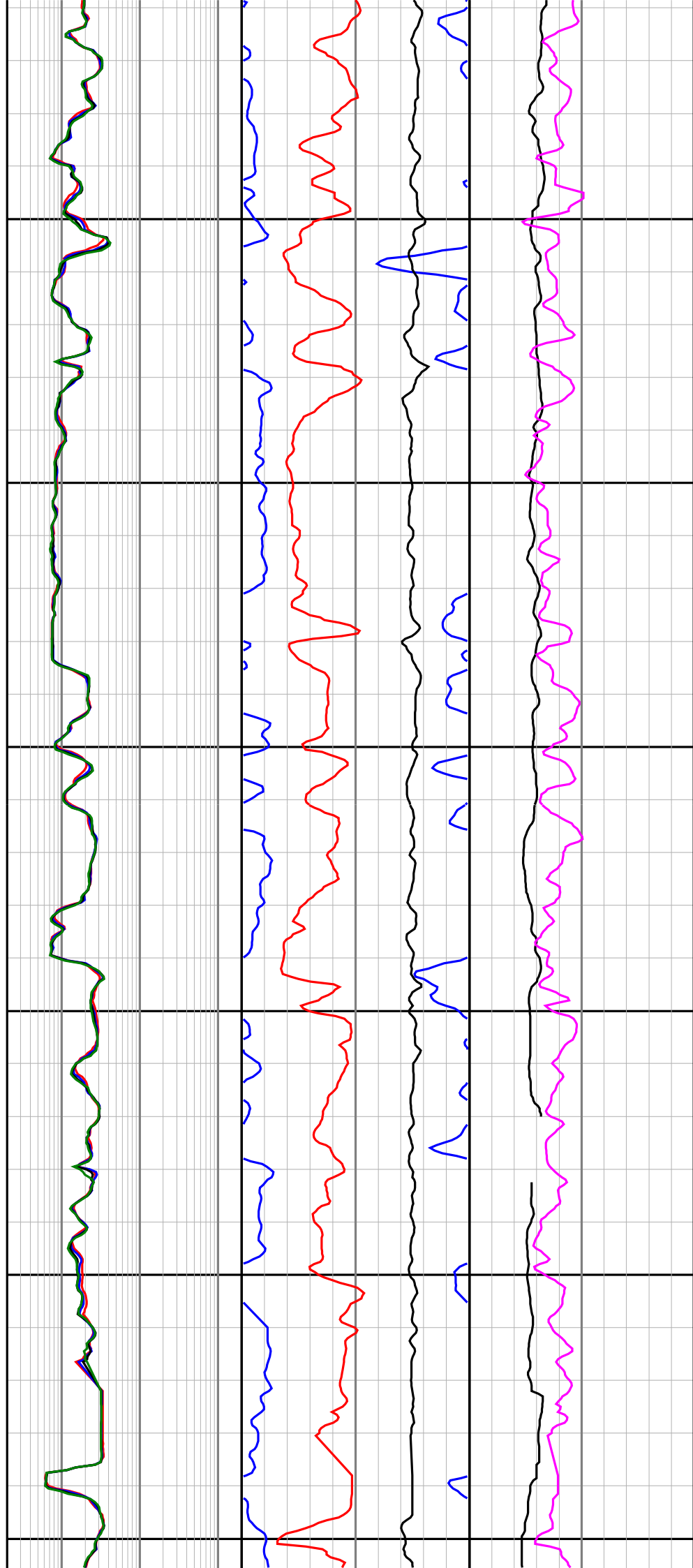
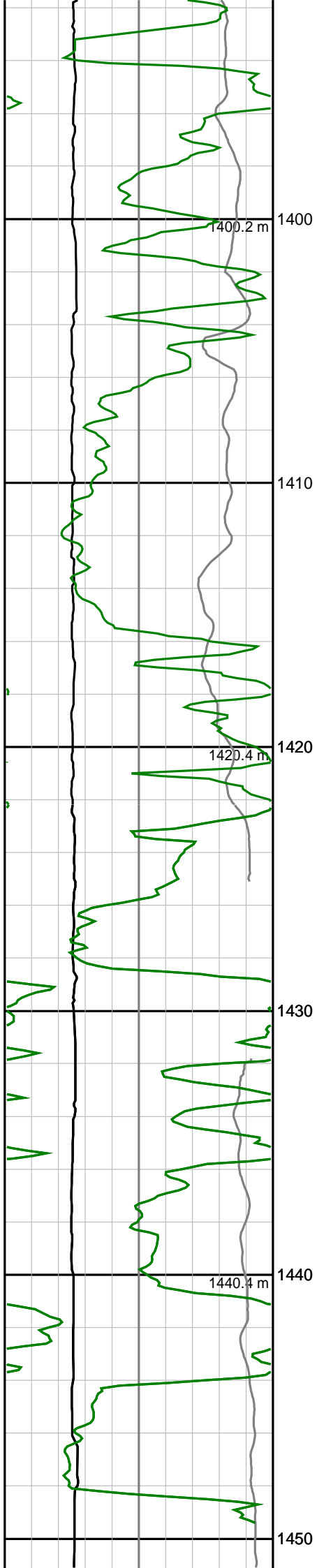


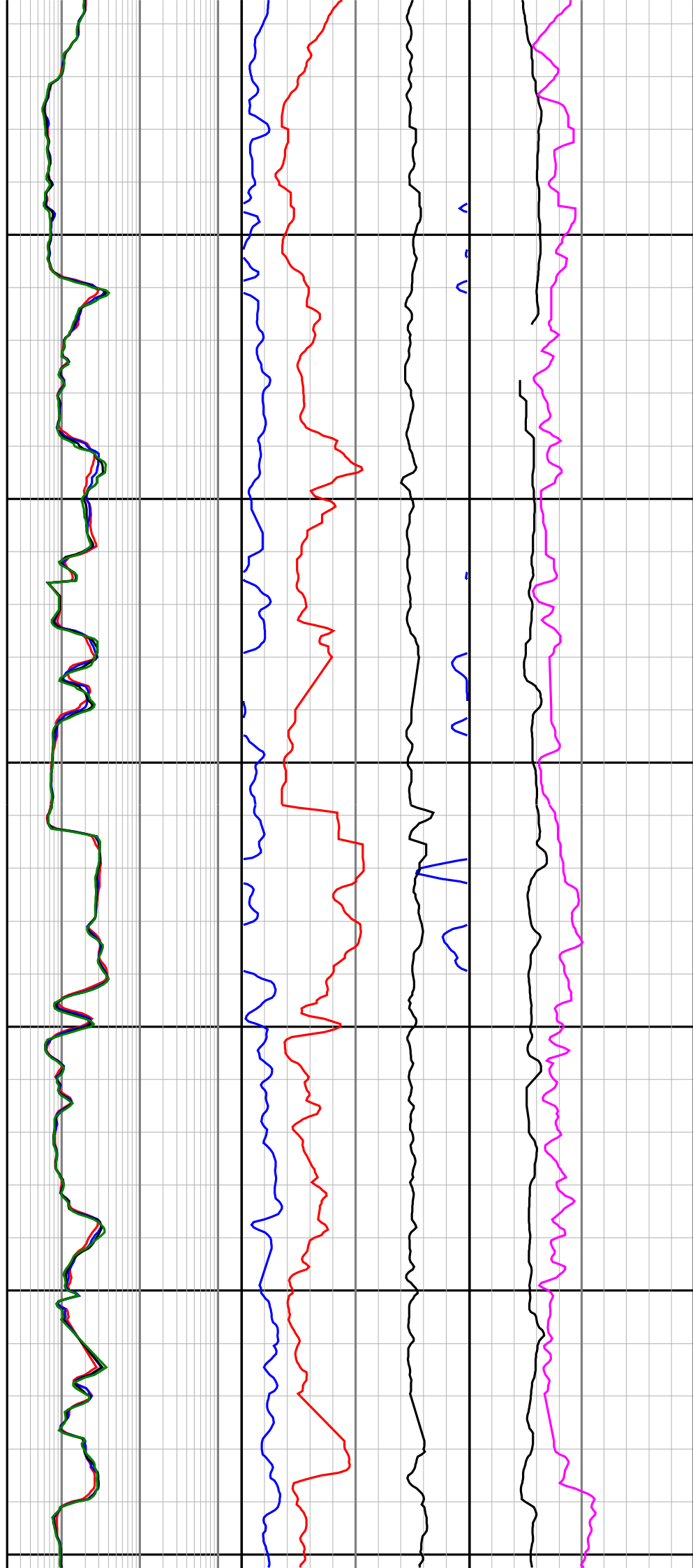
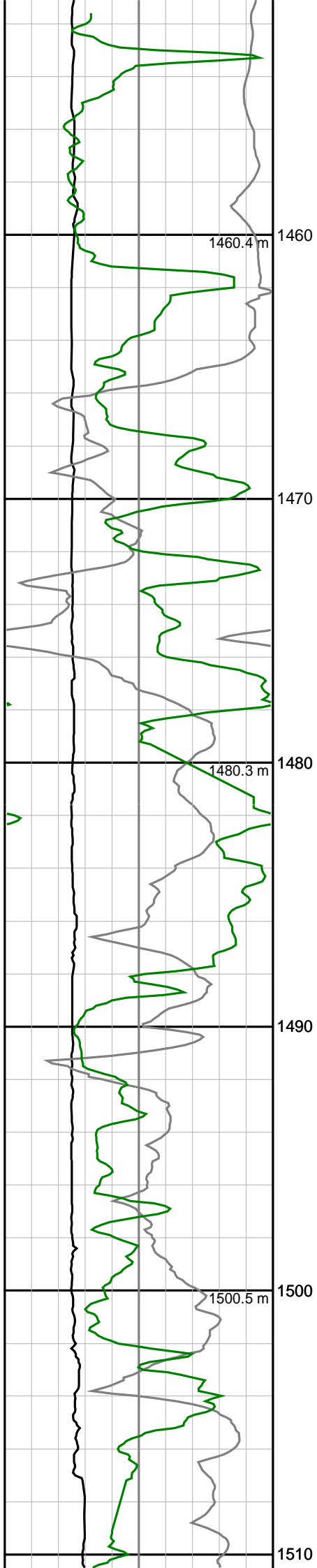


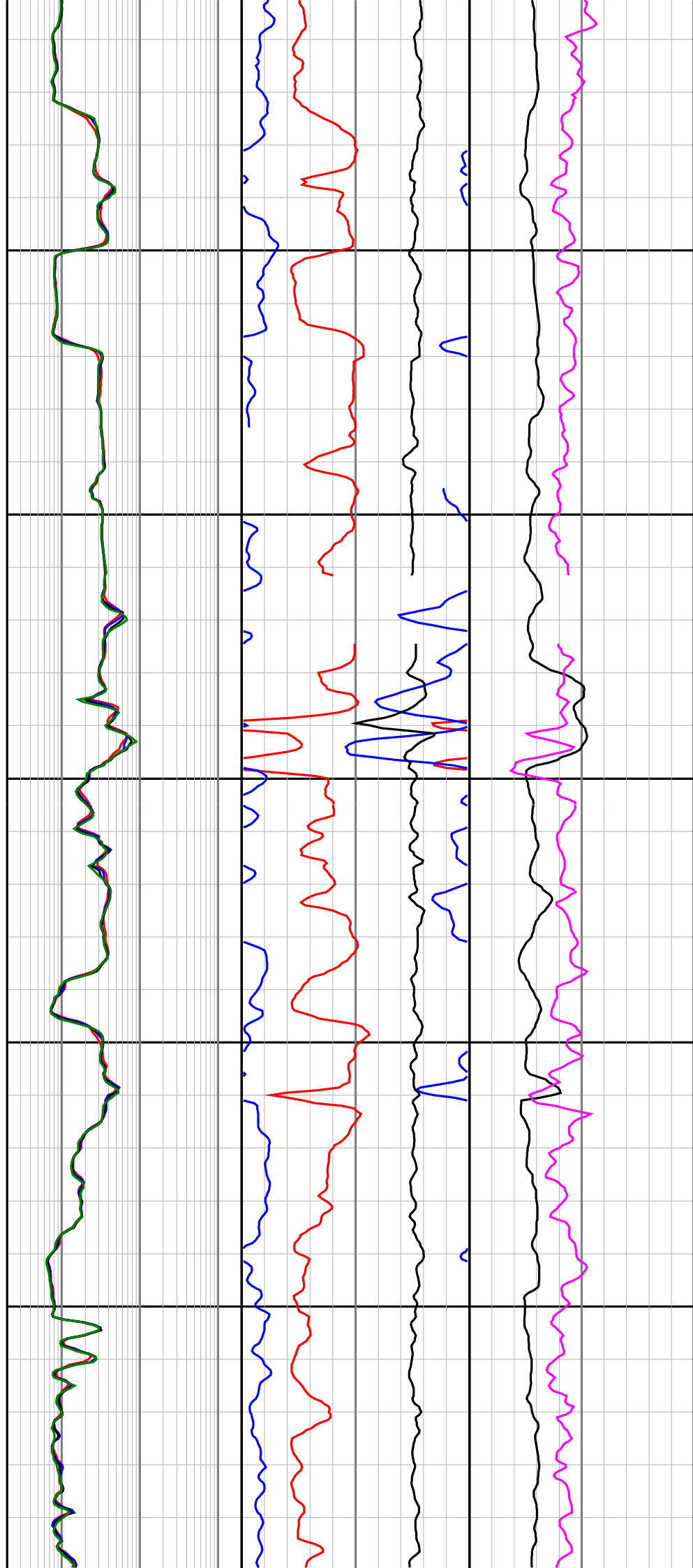
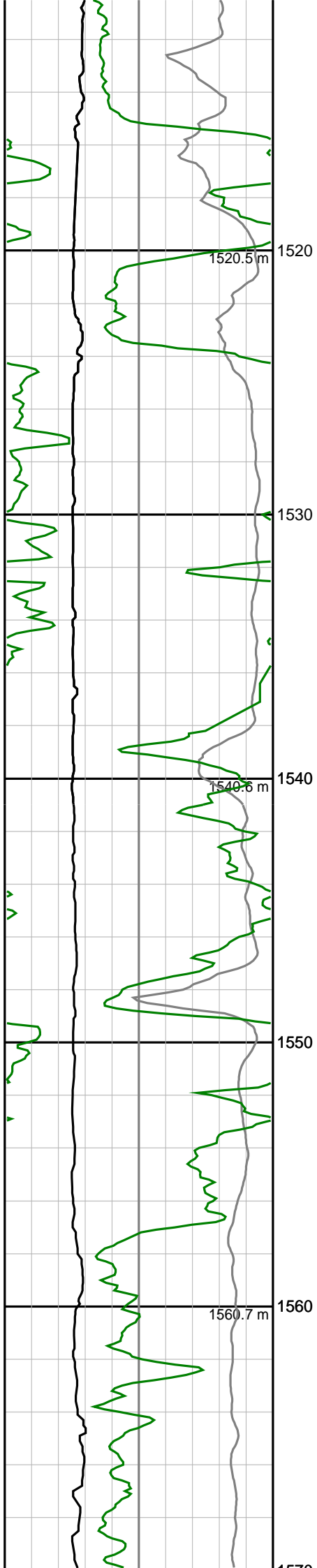


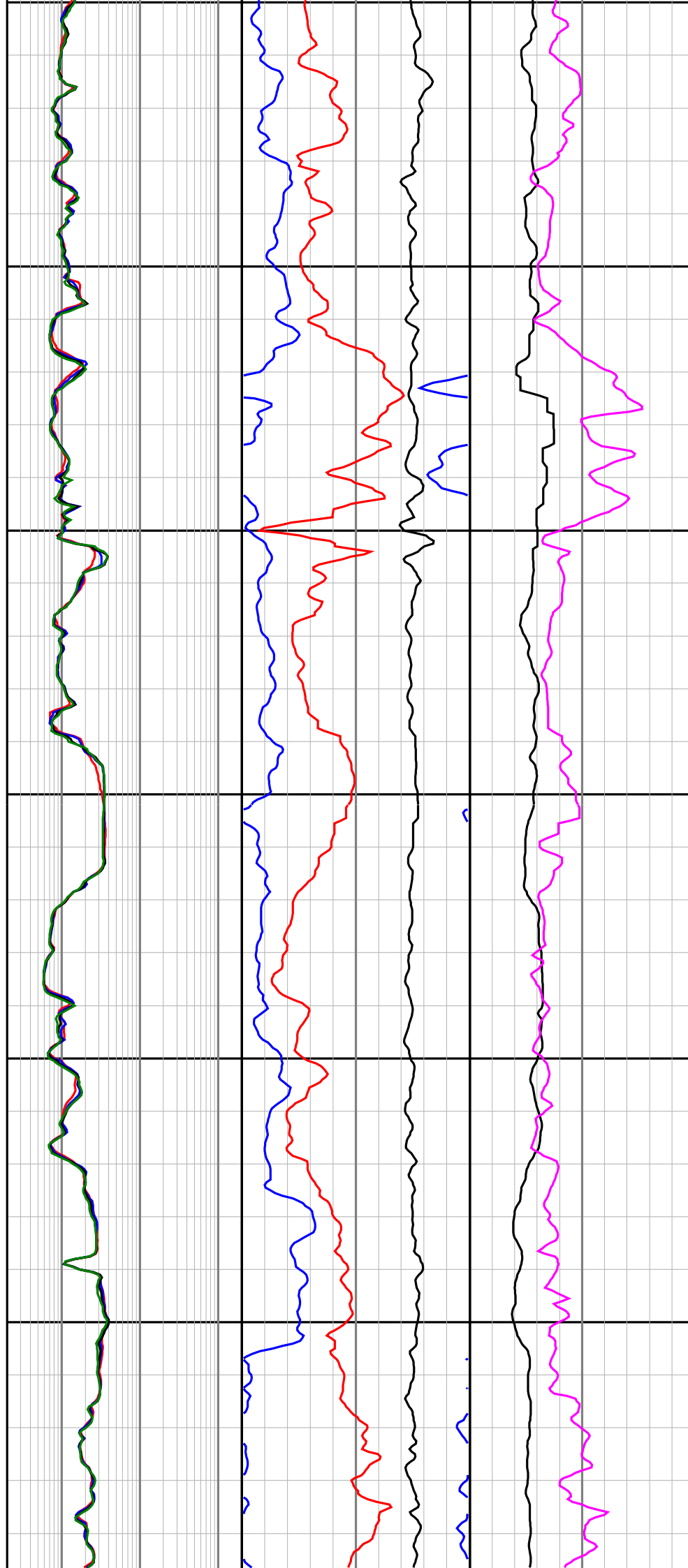
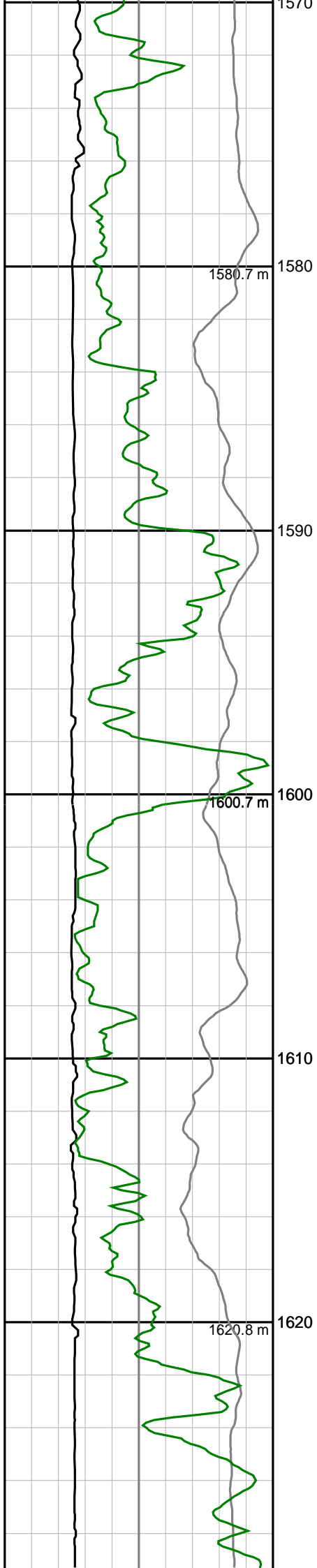


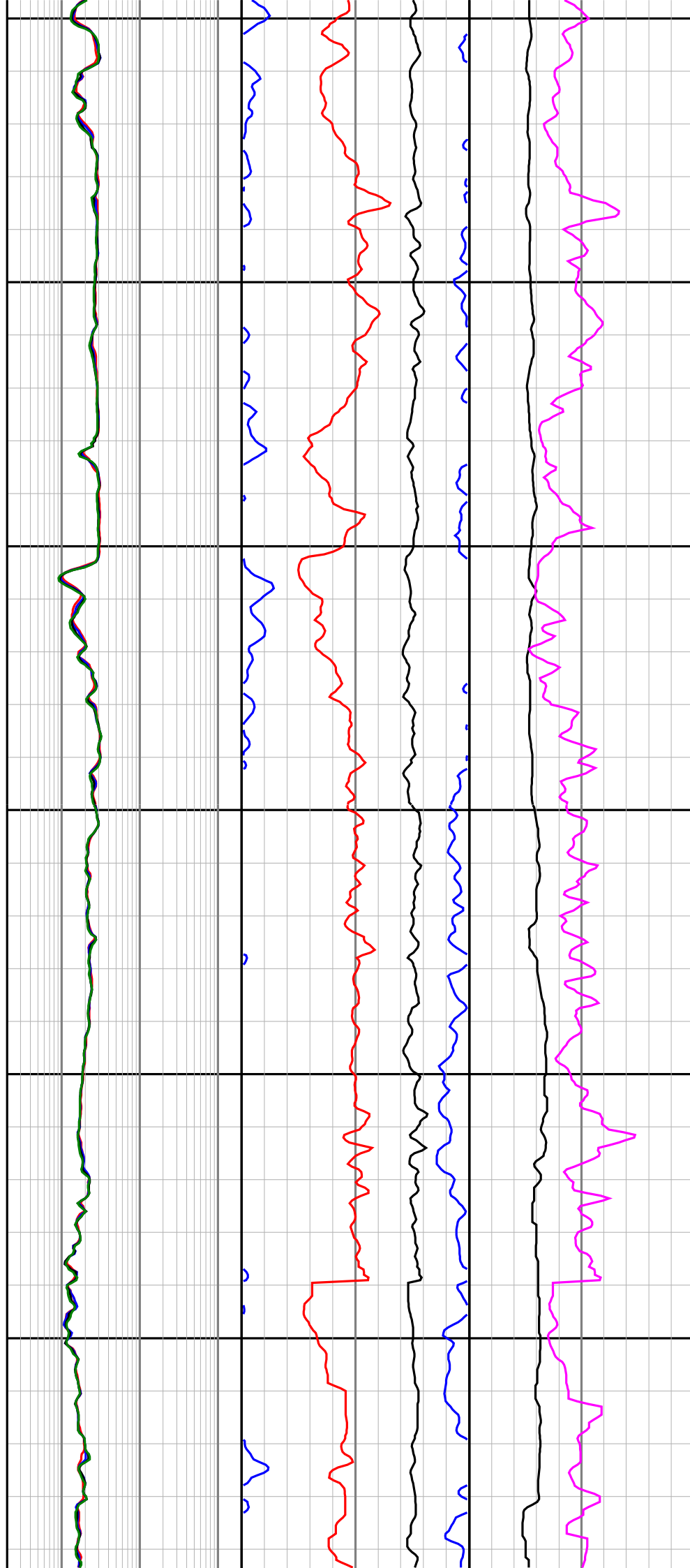
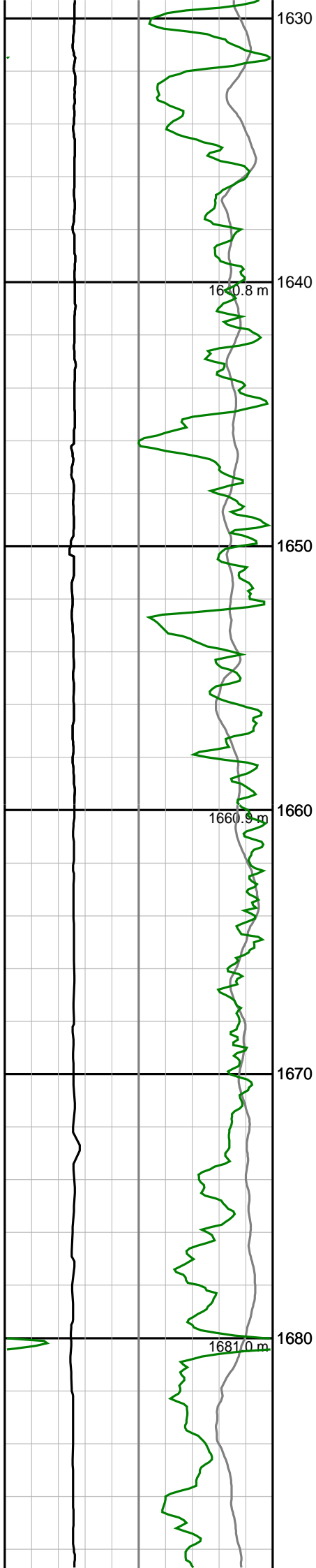


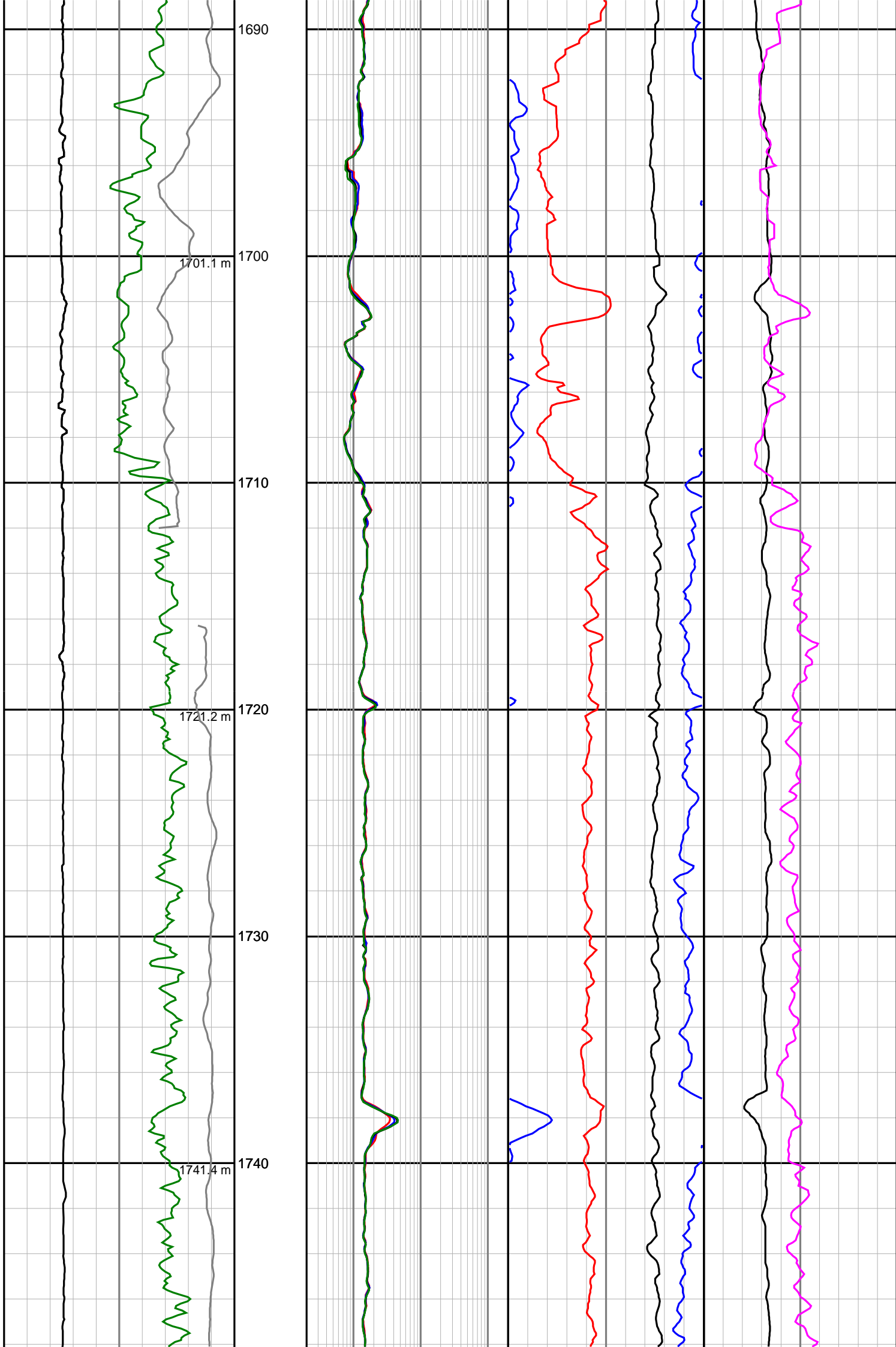


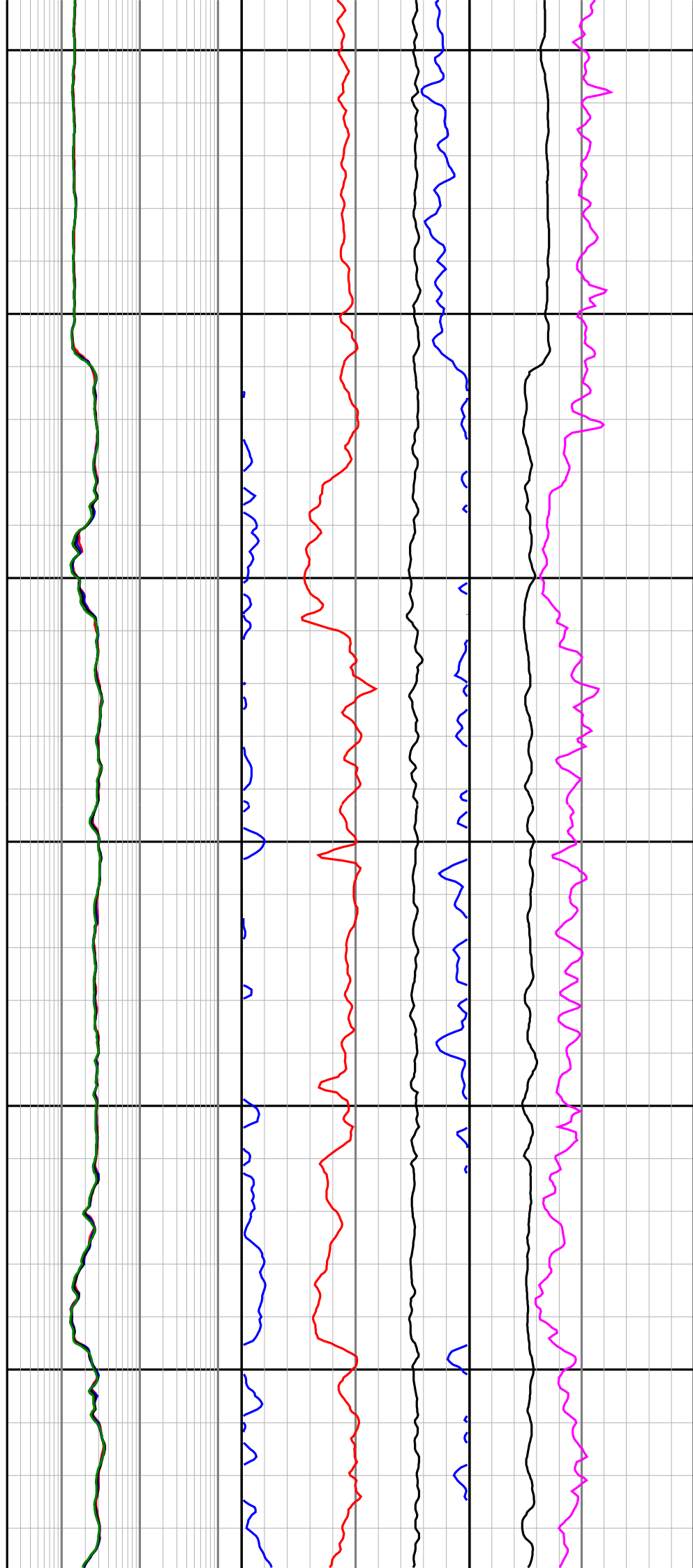
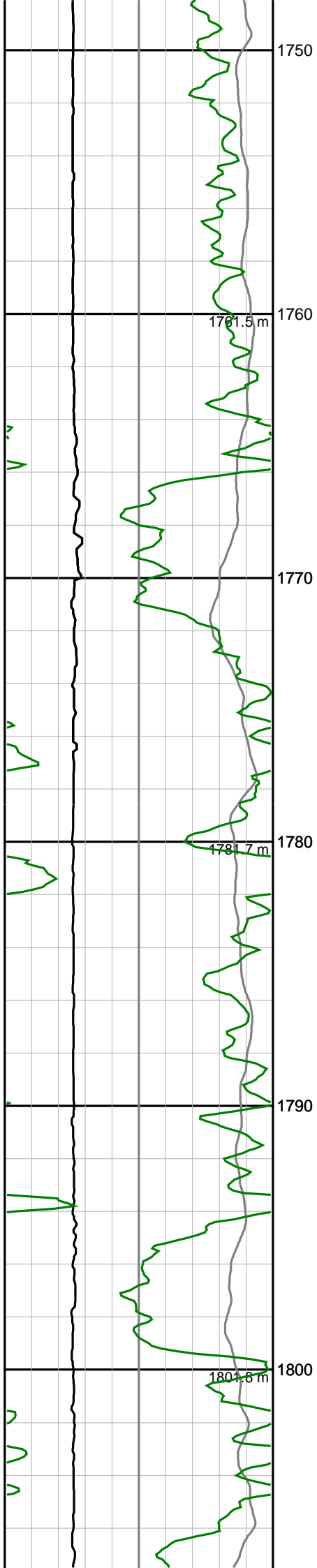


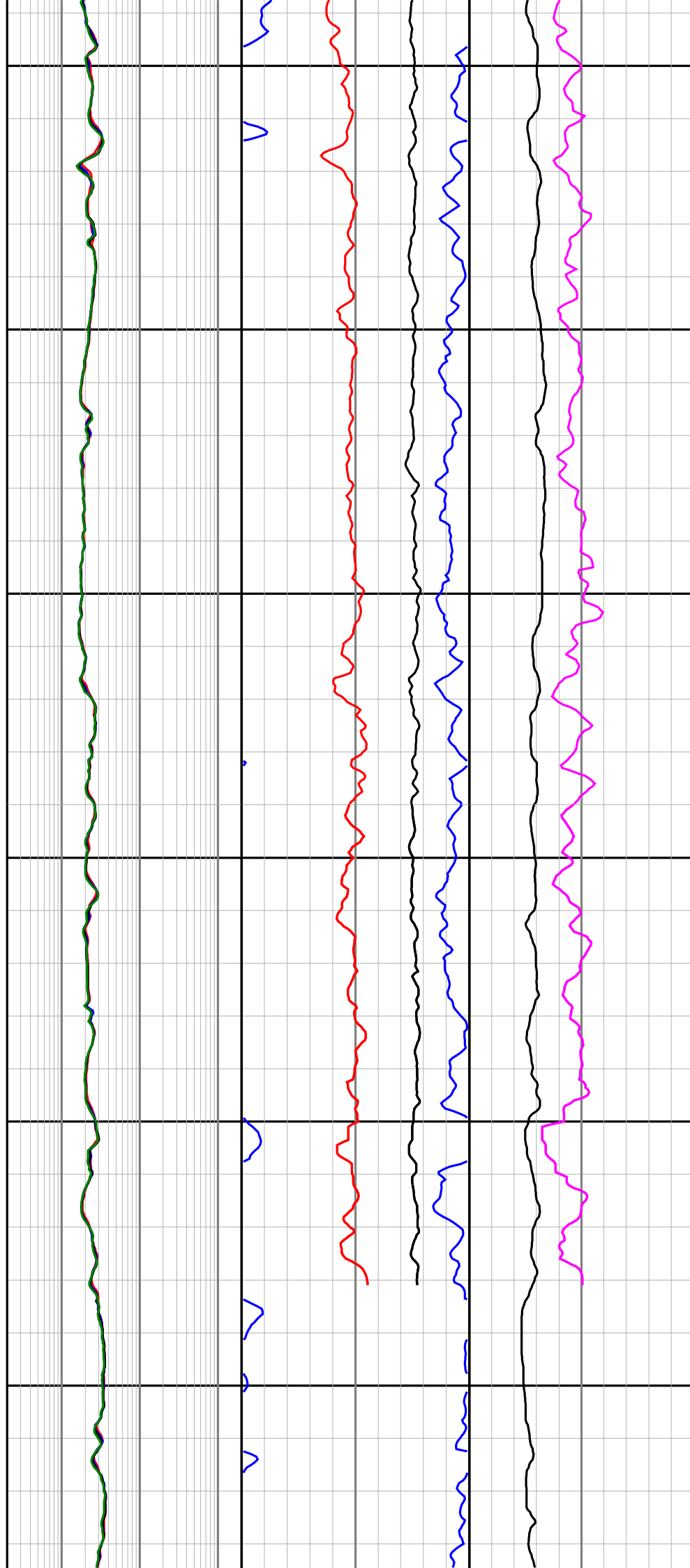
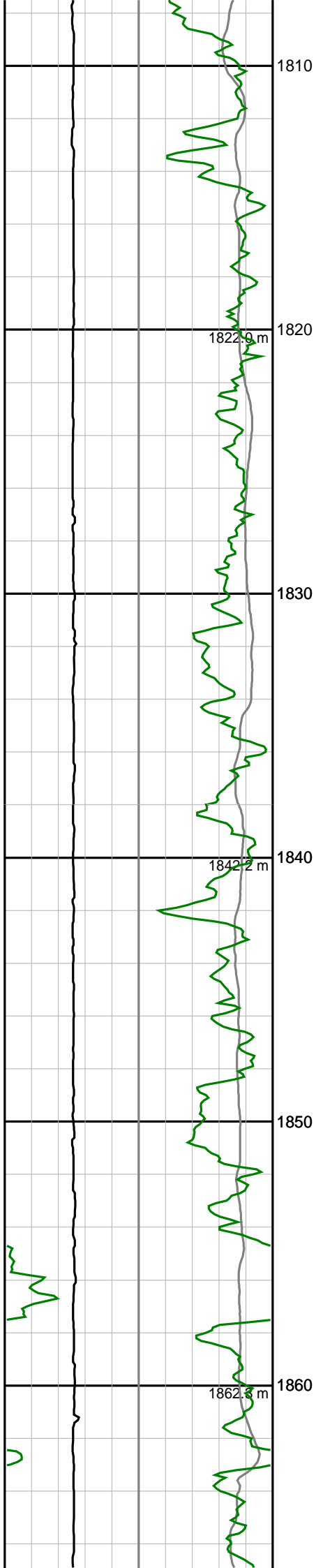


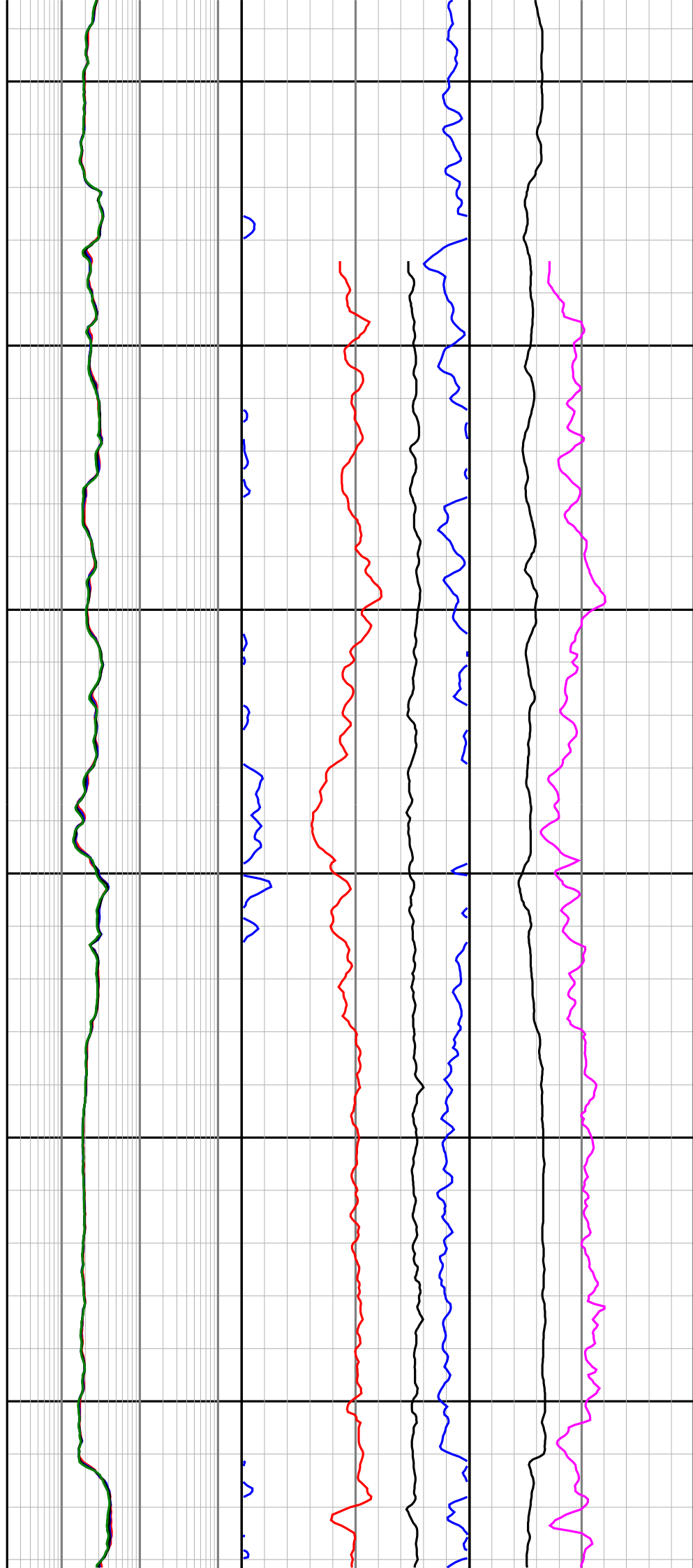
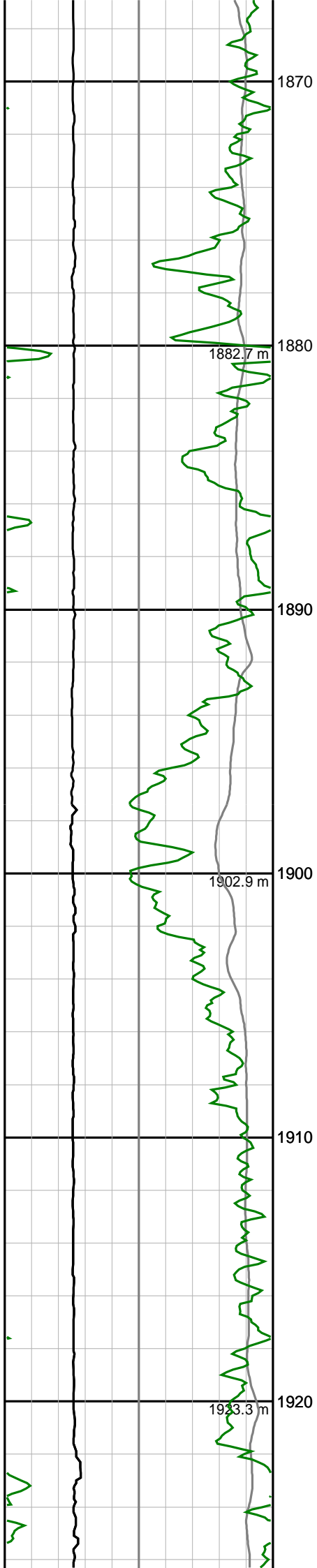


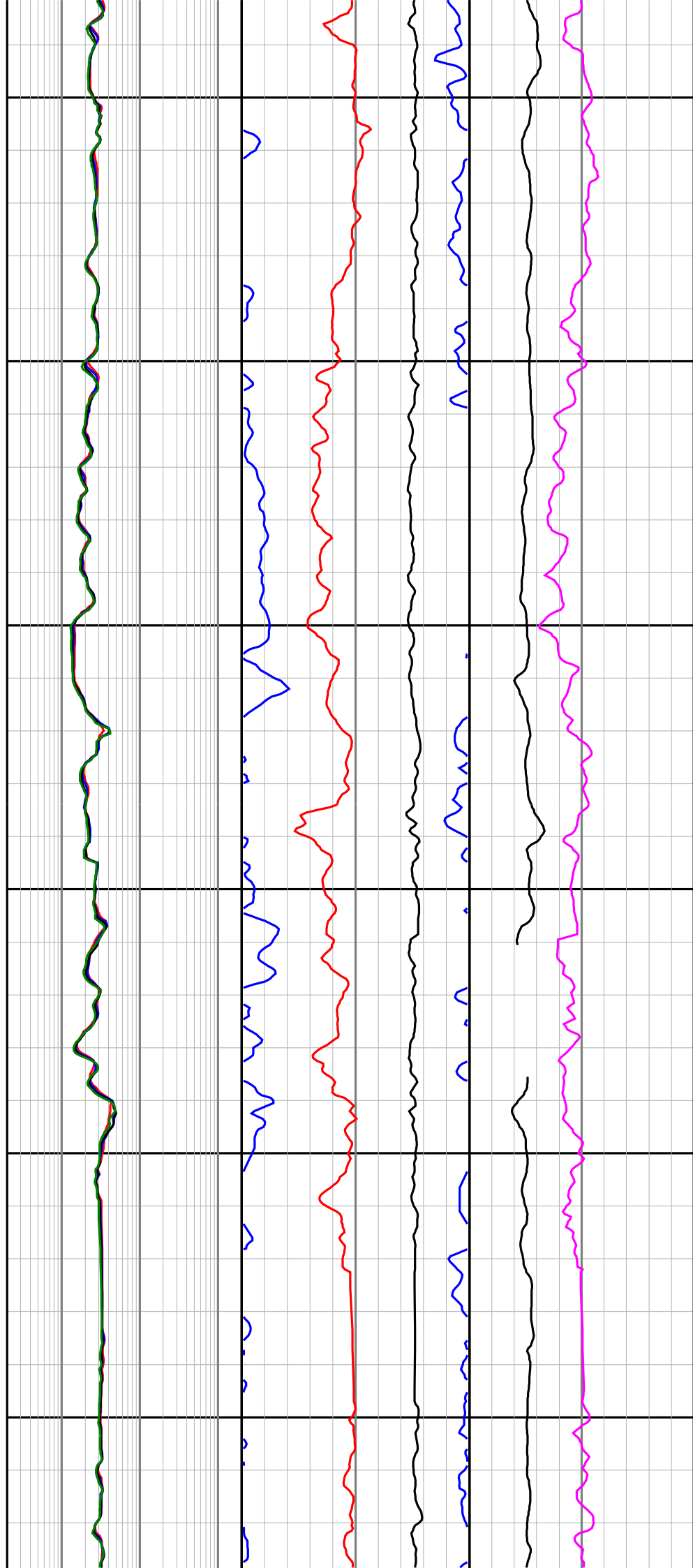
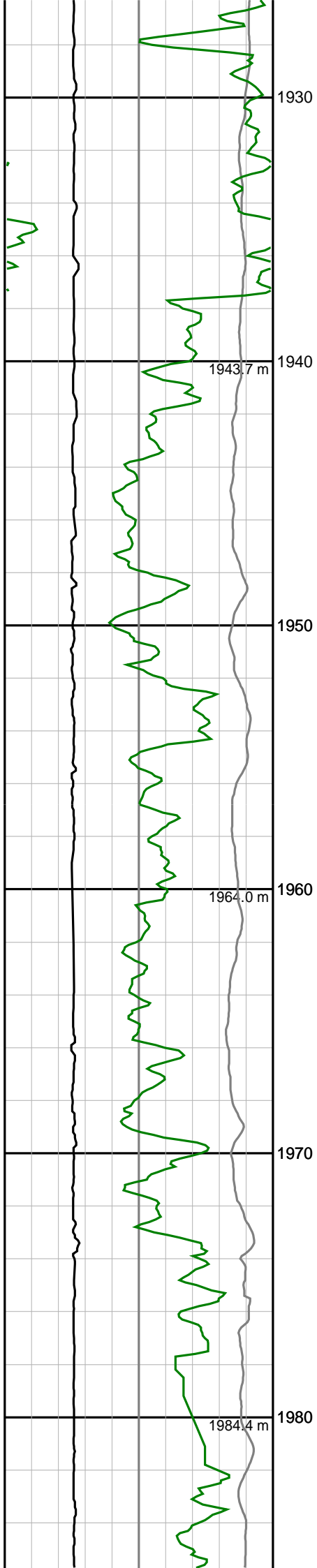


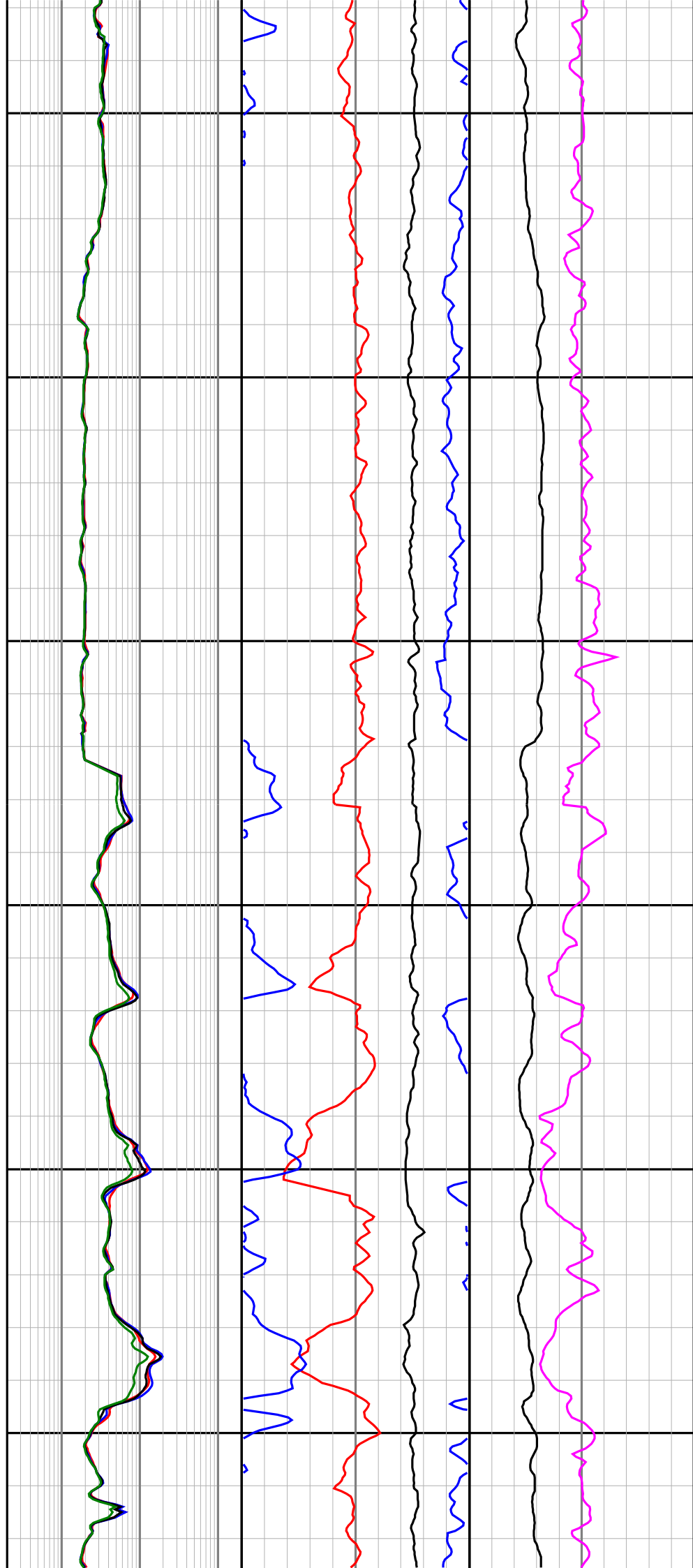
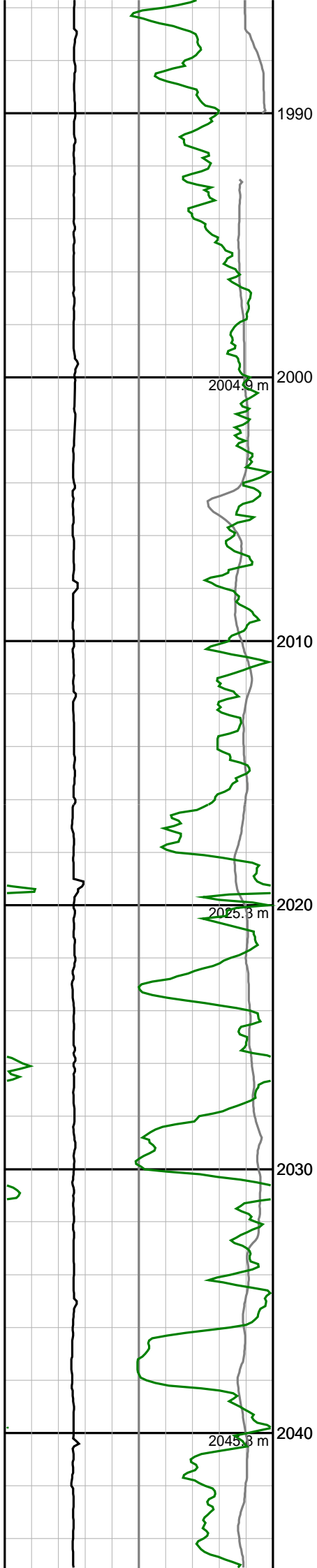


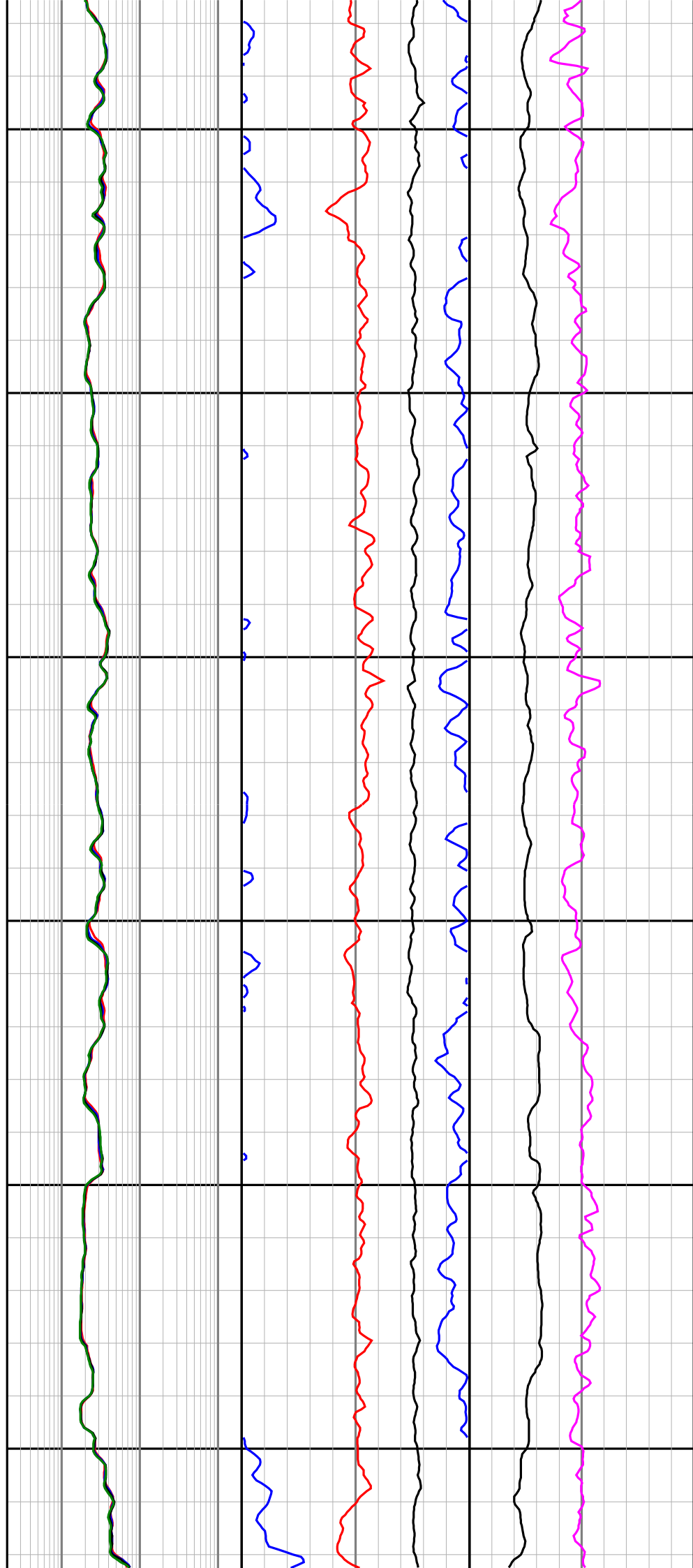
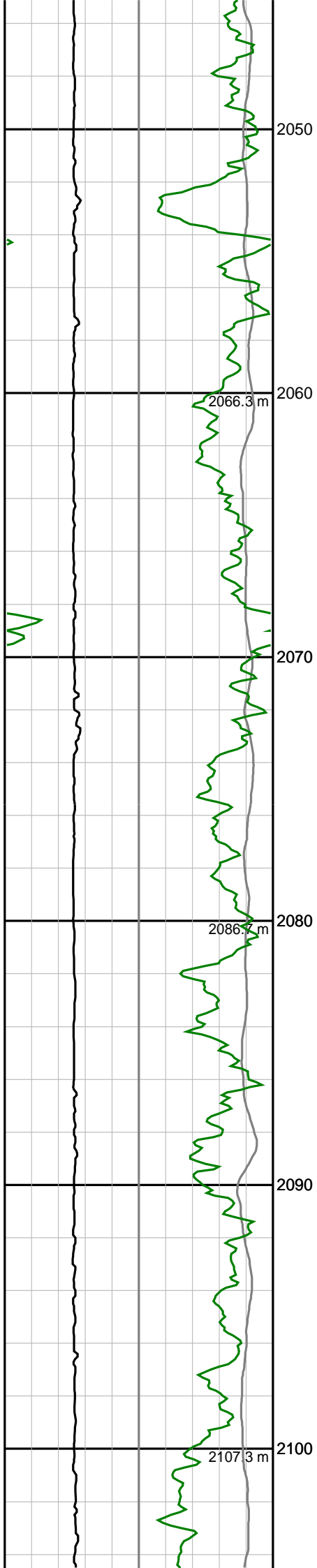


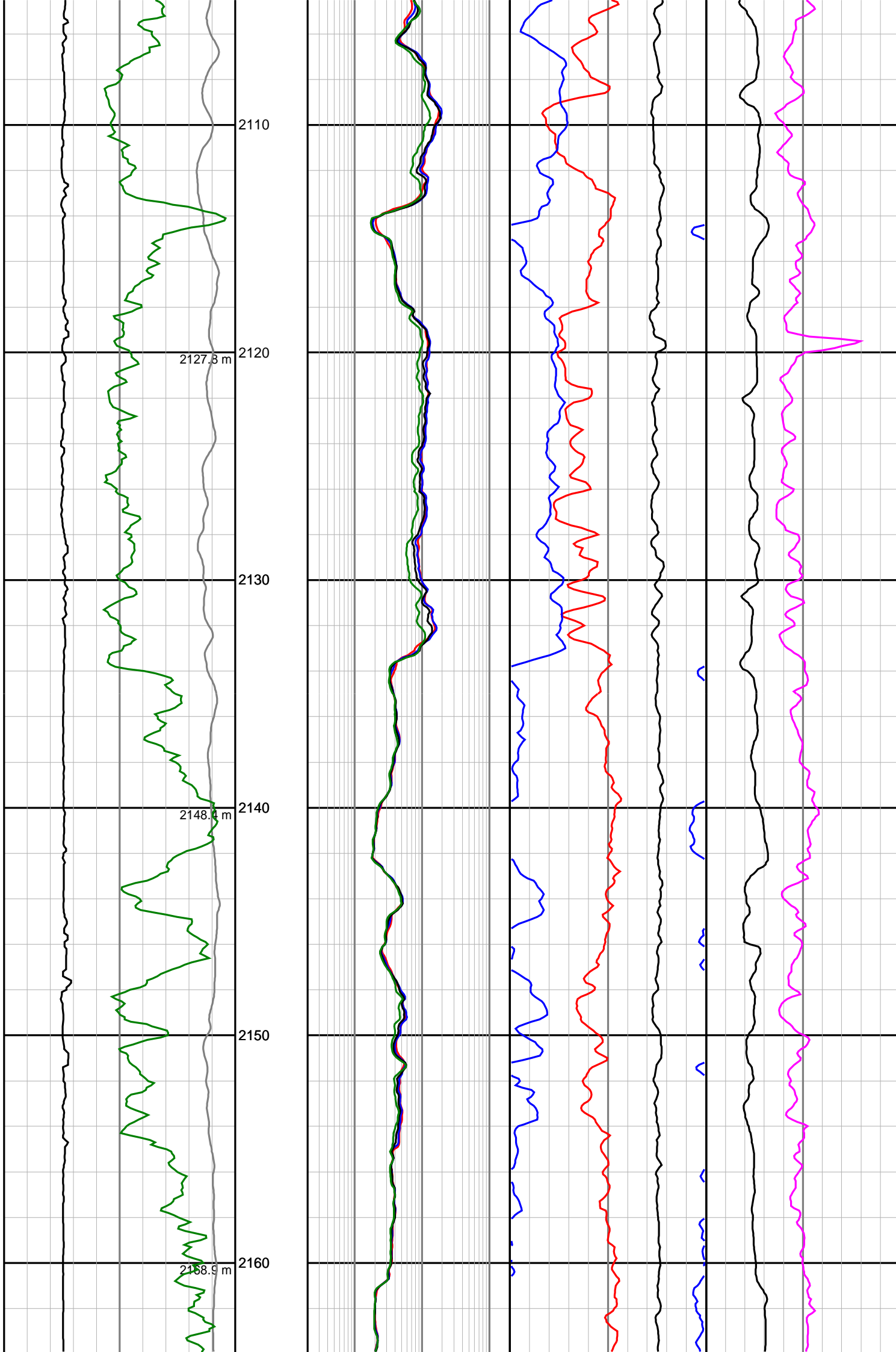


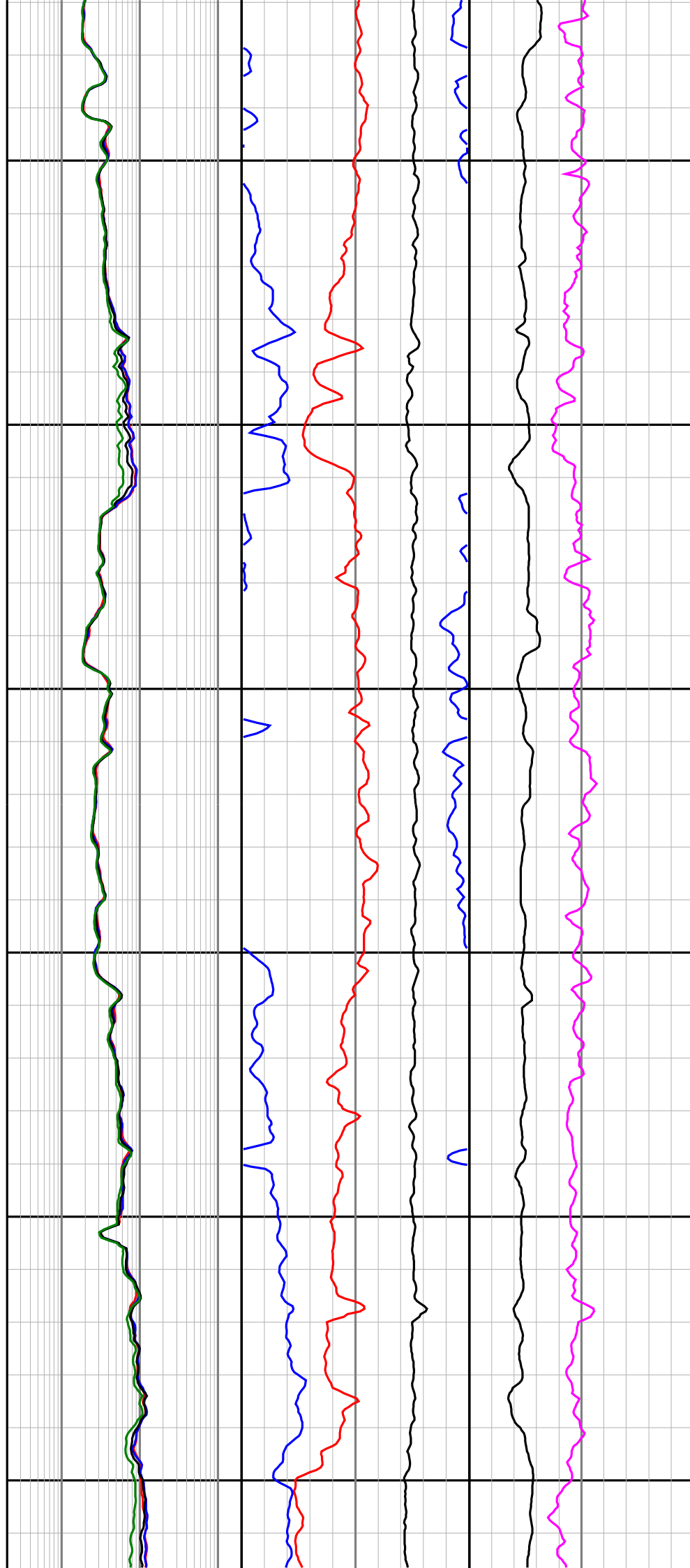
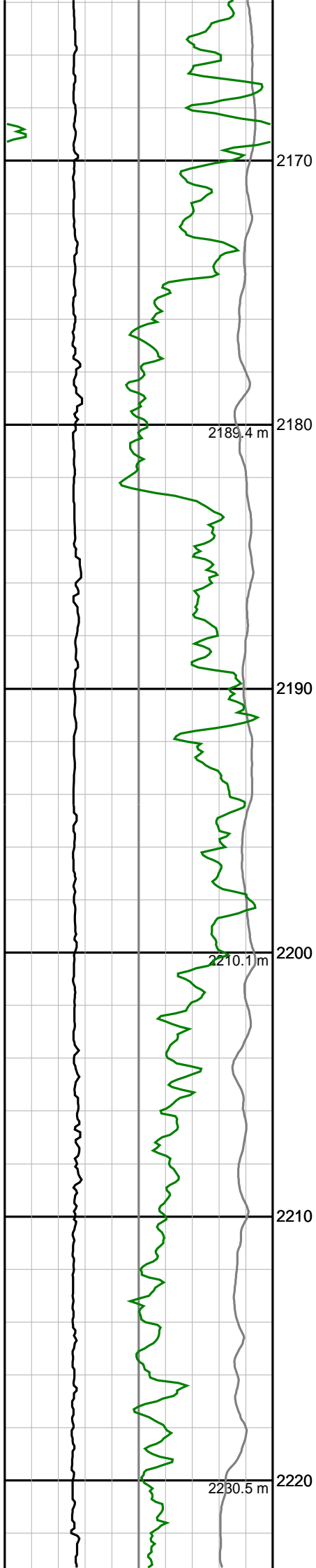


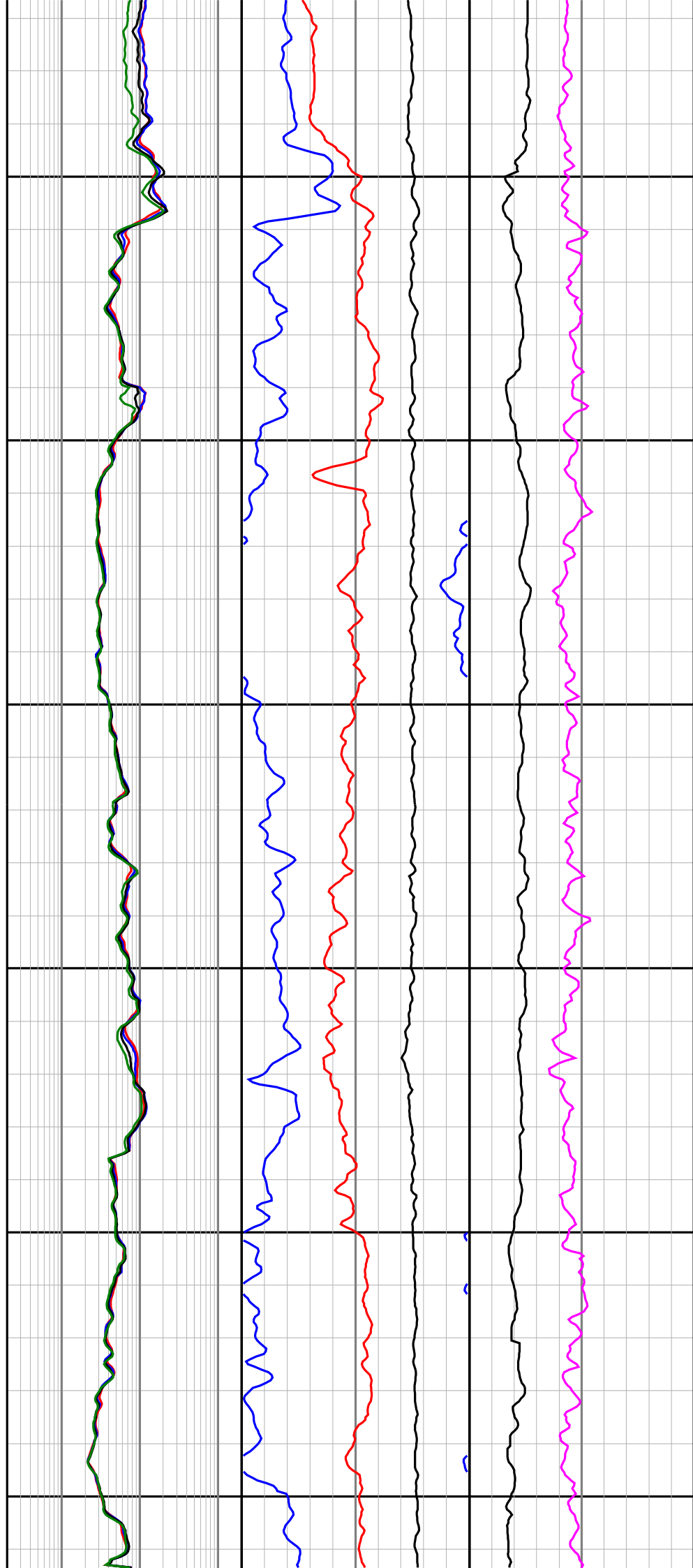
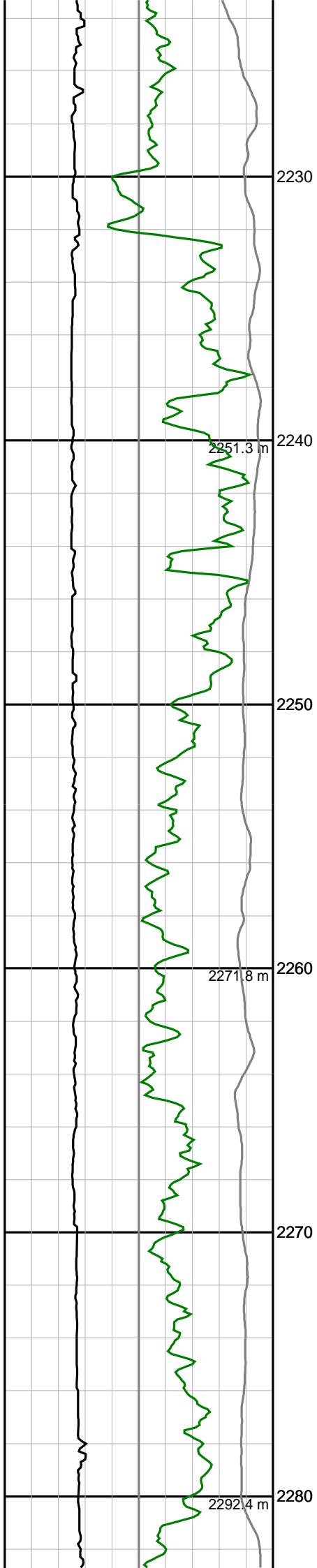


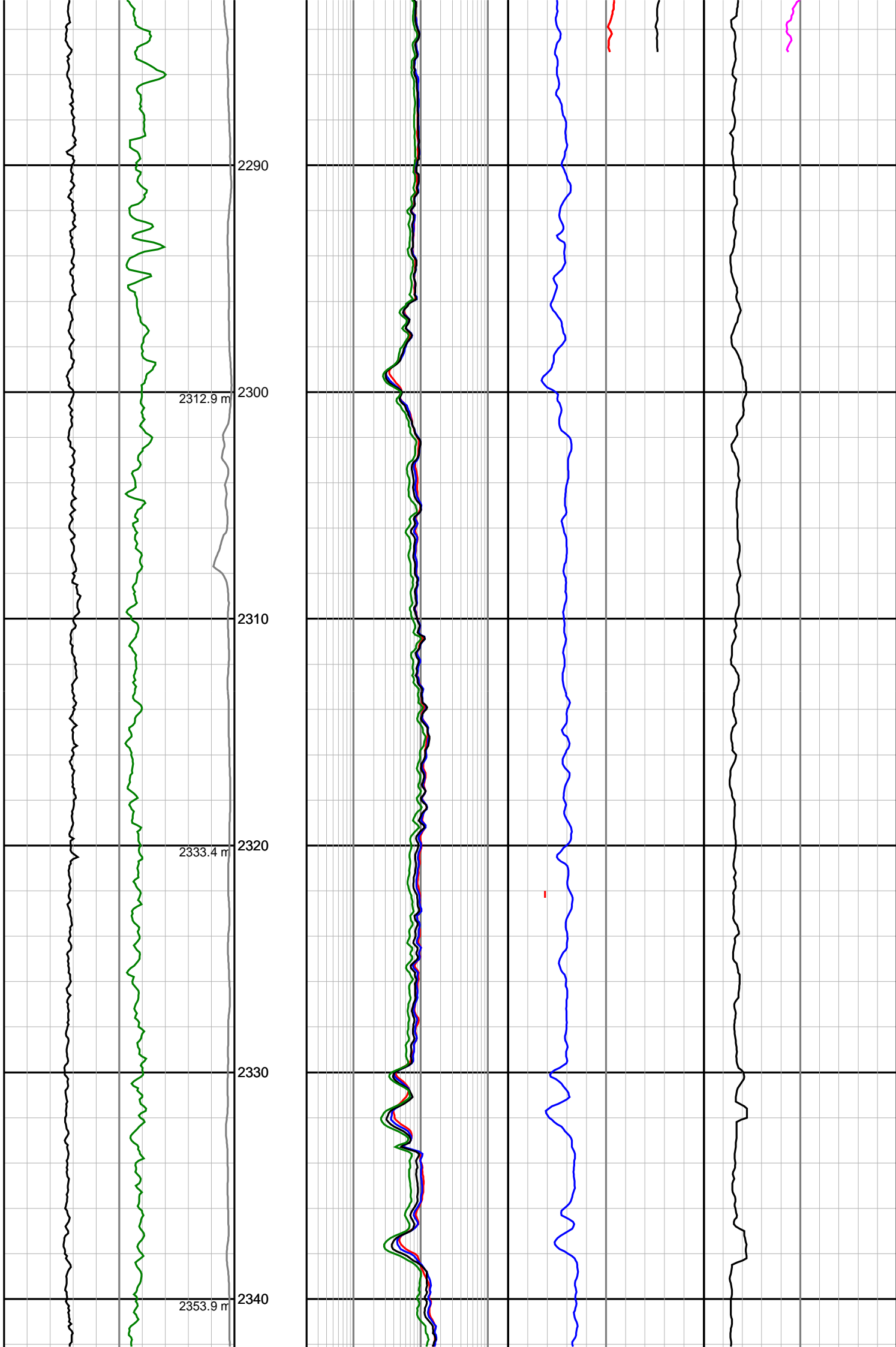


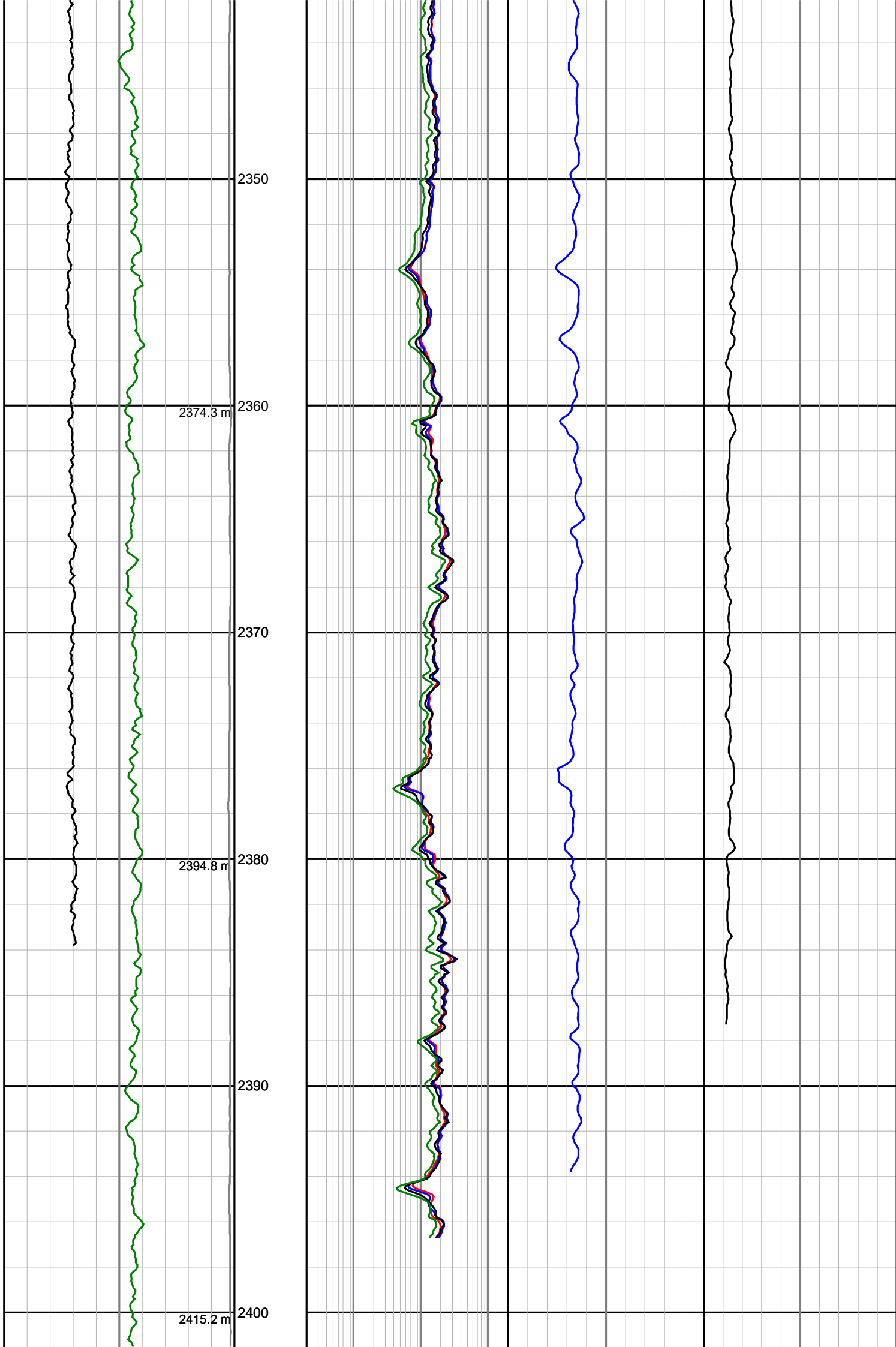


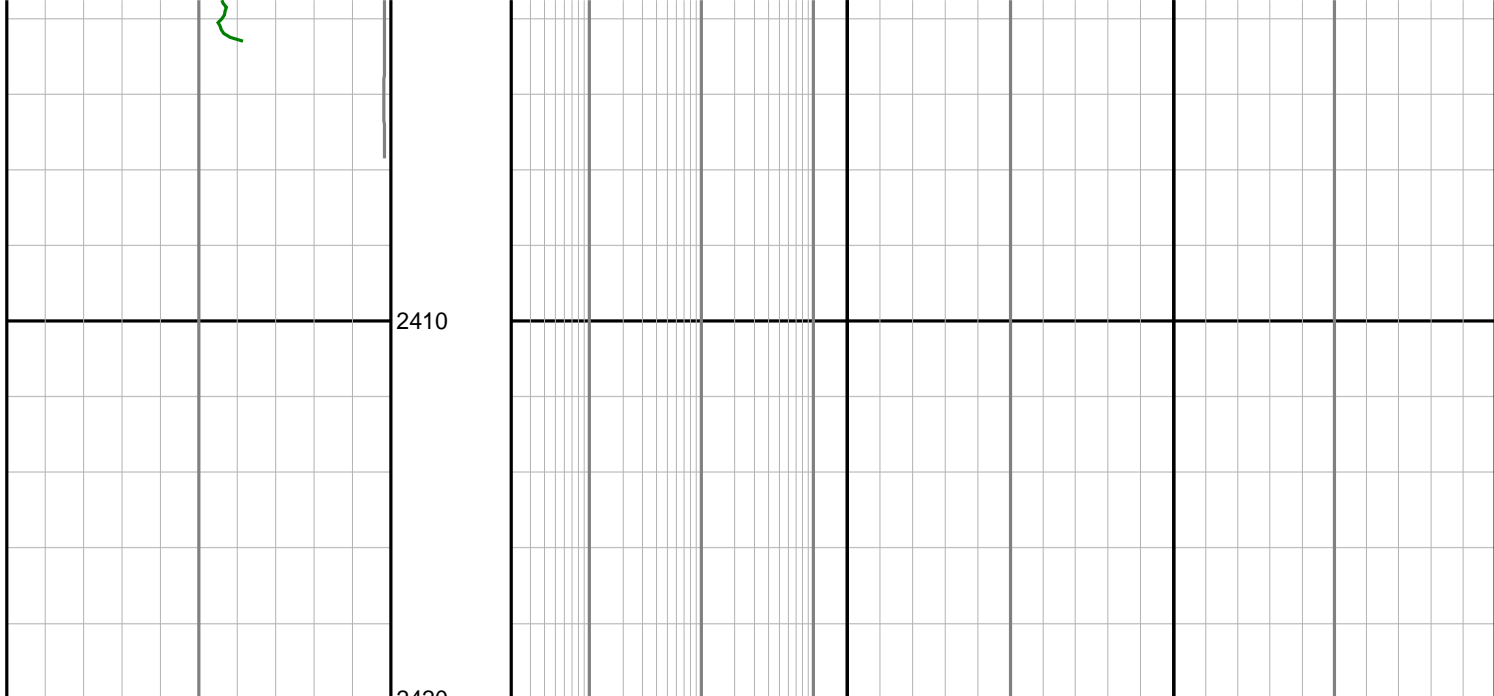












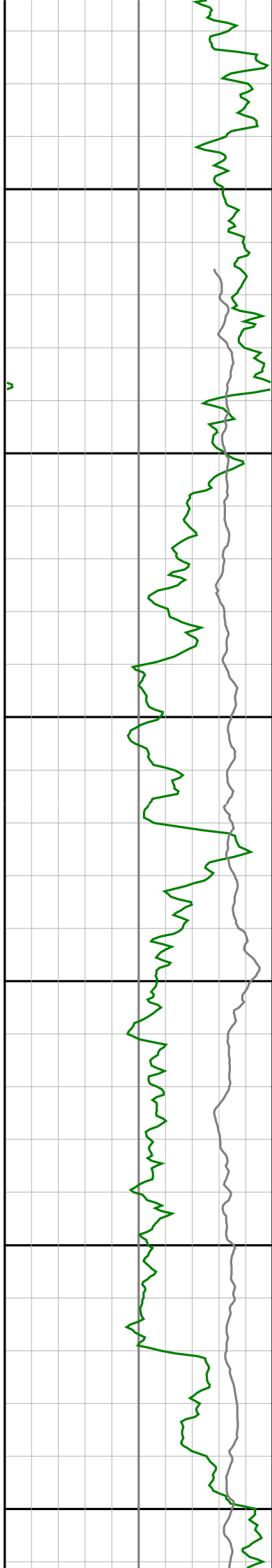
Gamma Ray (SGRC) 0 api 150	Depth TVD 1:200	Ext Shallow Phase Res (SEXP) 0.2 ohmm 200	Standoff Correction (SCO2) -0.75 gram per cc 0.25	Compressional Slowness (BATC) 40 microsec per ft 240
Rate of Penetration (SROP) 500 m/hr 0		Shallow Phase Res (SESP) 0.2 ohmm 200	Neutron Porosity (NUCL) 0.45 v/v -0.15	Photoelectric Effect (SNP2) 0 barns/electron 10
Acoustic Caliper (ACAL) 6 inches 16		Medium Phase Res (SEMP) 0.2 ohmm 200	Density (SBD2) 1.95 gram per cc 2.95	
Measured Depth metres		Deep Phase Res (SEDP) 0.2 ohmm 200		

Apache Energy Ltd Longtom-2

Repeat Section - 1, 2199.9 - 2287.4 mTVDRT
Repeat Section - 2, 2092.9 - 2151.3 mTVDRT

Wiped at 18:20-21:38 while pulling out of hole with no rotary and no pumps after LWD Run 200

Running Speed (RUN_SPD) 500 m/hr 0	Depth TVD 1:200	Deep Phase Res (SEDP) 0.2 ohmm 200	Formation Exposure Time (SFXE) 0 hours 20
		Medium Phase Res (SEMP) 0.2 ohmm 200	
		Shallow Phase Res (SESP) 0.2 ohmm 200	
Gamma Ray (SGRC) 0 api 150		Ext Shallow Phase Res (SEXP) 0.2 ohmm 200	Temperature (STEM) 0 deg C 100



2090

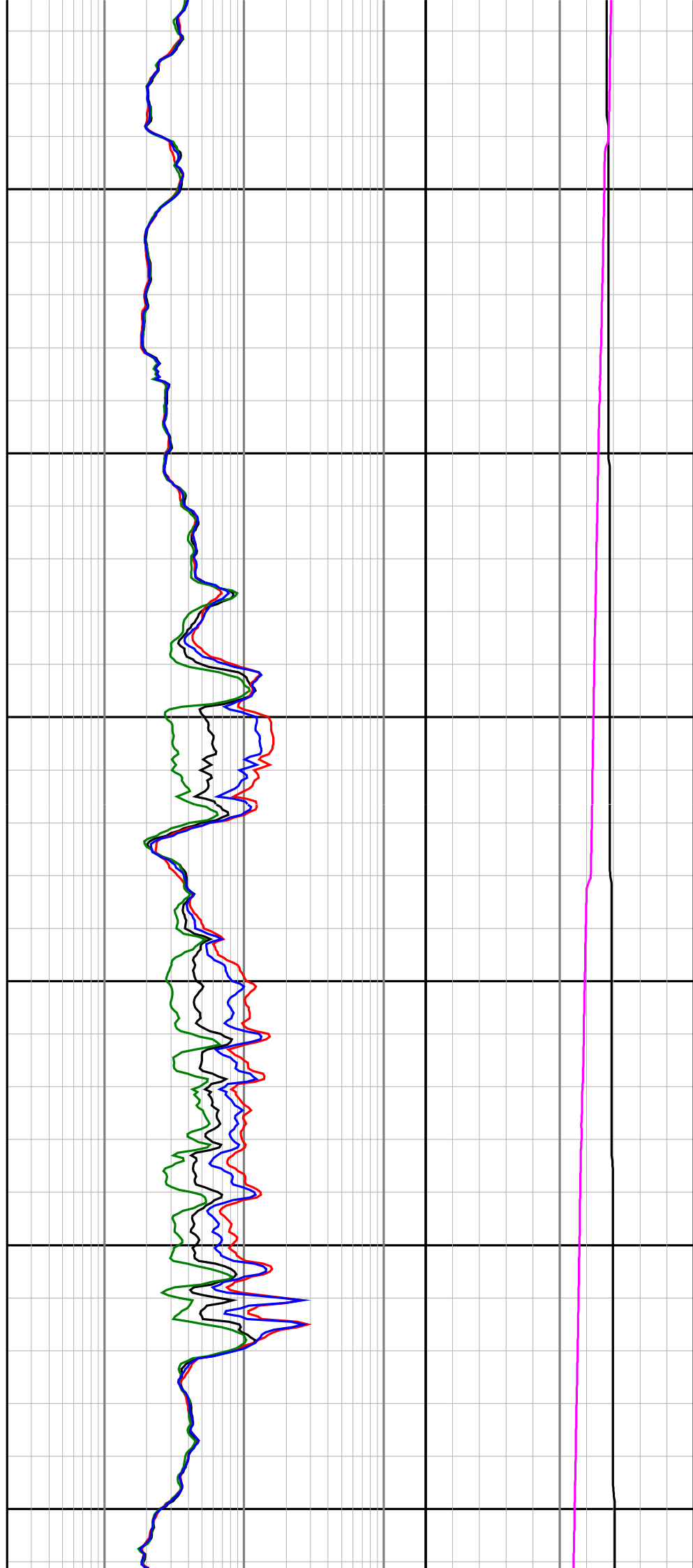
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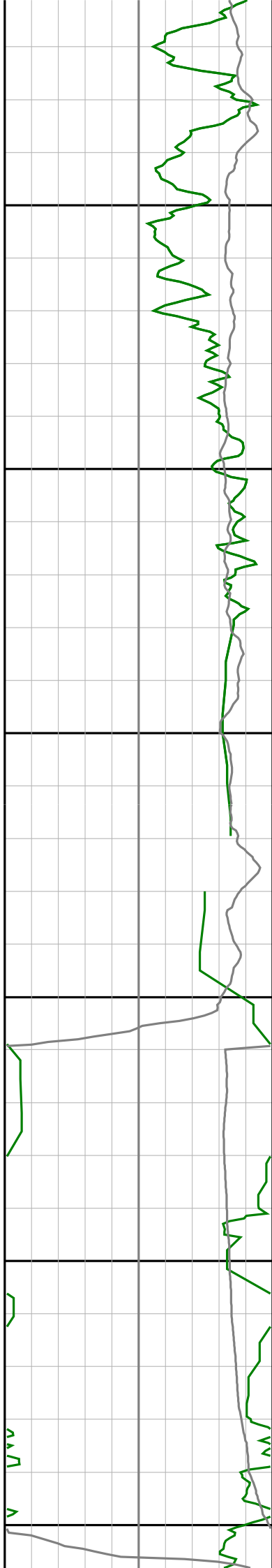
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2120

2130

2140





2150

2160

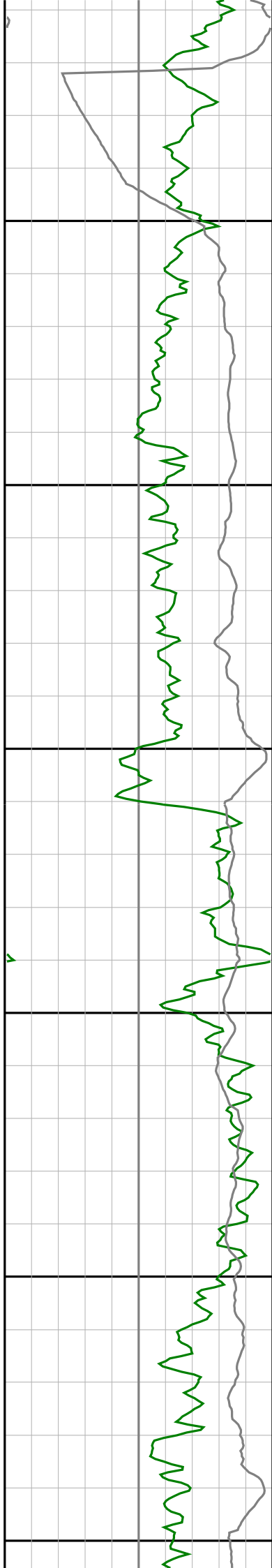
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2180

2190

2200





2210

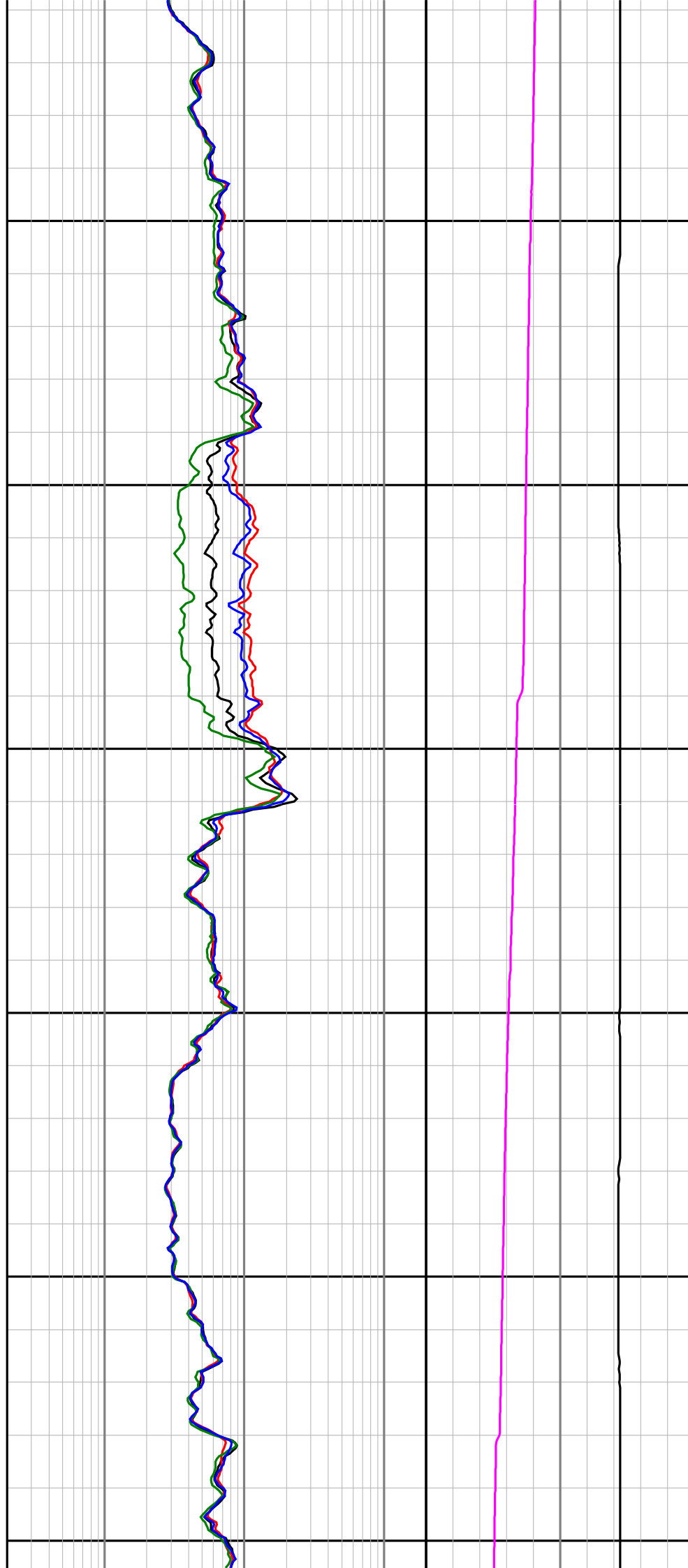
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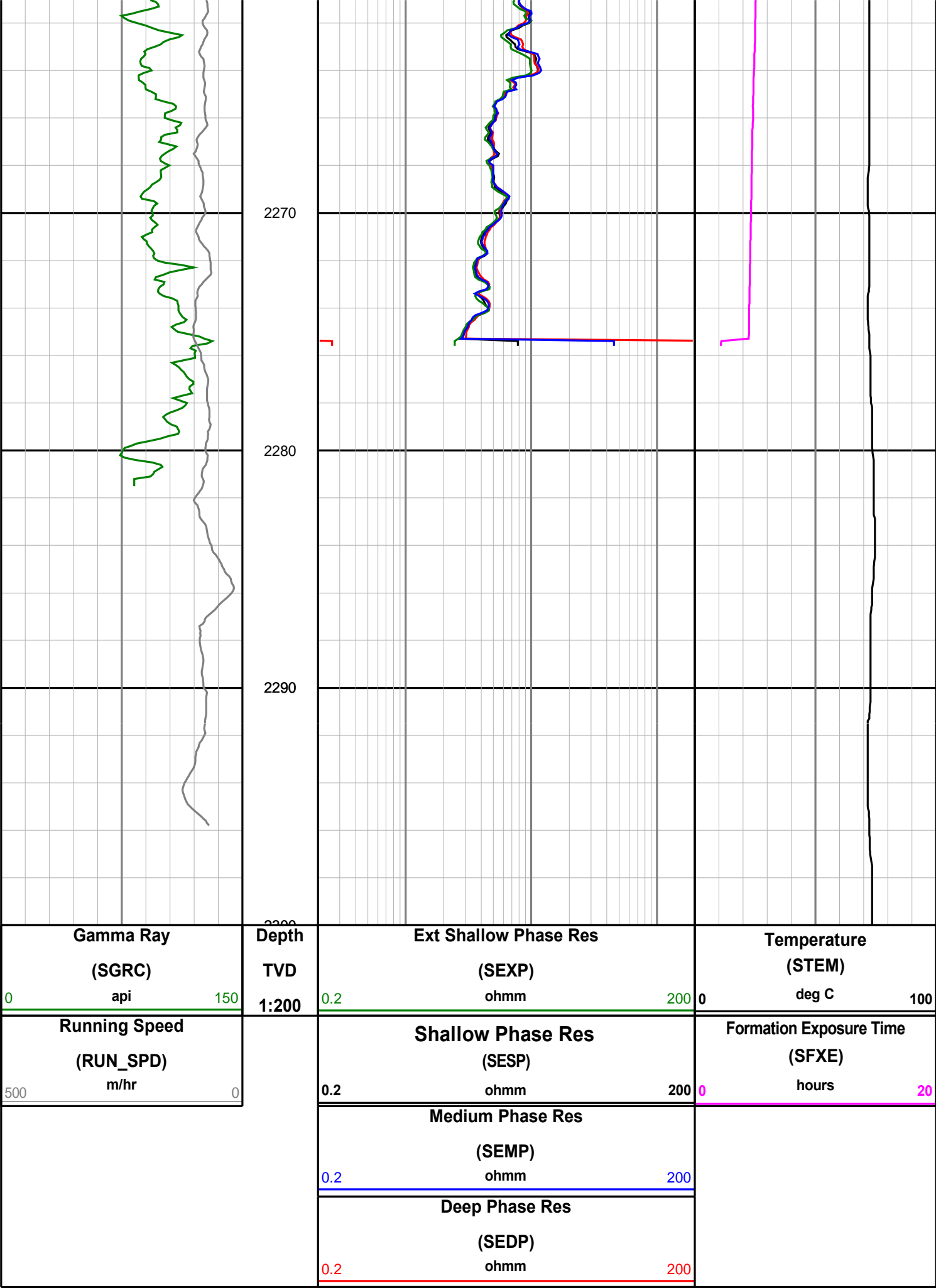
2230

2240

2250

2260







DIRECTIONAL SURVEY REPORT

Apache Energy Ltd
Longtom-2
Exploration
Victoria
Australia
AU-FE-0003298447
Final survey is projected to TD.

<i>Measured Depth (metres)</i>	<i>Inclination (degrees)</i>	<i>Direction (degrees)</i>	<i>Vertical Depth (metres)</i>	<i>Latitude (metres)</i>	<i>Departure (metres)</i>	<i>Vertical Section (metres)</i>	<i>Dogleg (deg/30m)</i>
78.300	0.00	0.00	78.300	0.000 N	0.000 E	0.000	TIE-IN
82.553	0.97	258.66	82.553	0.007 S	0.035 W	-0.031	6.83
112.760	0.85	147.07	112.758	0.244 S	0.164 W	-0.287	1.49
141.180	0.89	146.91	141.174	0.605 S	0.070 E	-0.362	0.05
167.690	1.01	154.86	167.681	0.990 S	0.282 E	-0.469	0.21
195.240	1.07	154.25	195.226	1.442 S	0.497 E	-0.620	0.06
280.640	0.94	157.28	280.613	2.804 S	1.113 E	-1.098	0.05
309.214	0.77	146.69	309.184	3.183 S	1.310 E	-1.212	0.24
337.704	0.79	157.77	337.671	3.526 S	1.490 E	-1.315	0.16
366.421	0.60	172.17	366.386	3.859 S	1.586 E	-1.472	0.27
424.641	0.46	168.46	424.604	4.391 S	1.674 E	-1.770	0.07
481.270	0.60	185.70	481.230	4.907 S	1.691 E	-2.110	0.11
566.250	0.73	188.21	566.205	5.883 S	1.569 E	-2.864	0.05
594.890	0.71	181.73	594.842	6.241 S	1.538 E	-3.131	0.09
623.800	0.70	174.98	623.750	6.597 S	1.548 E	-3.367	0.09
651.930	0.71	178.96	651.878	6.944 S	1.566 E	-3.590	0.05
680.500	0.56	173.05	680.446	7.261 S	1.587 E	-3.791	0.17
709.360	0.46	168.63	709.305	7.515 S	1.627 E	-3.936	0.12
738.170	0.32	152.68	738.114	7.700 S	1.686 E	-4.018	0.18
767.010	0.31	146.16	766.954	7.837 S	1.767 E	-4.052	0.04
795.700	0.25	96.83	795.644	7.909 S	1.873 E	-4.024	0.25
824.740	0.30	87.28	824.683	7.913 S	2.011 E	-3.926	0.07
853.150	0.47	59.73	853.093	7.851 S	2.185 E	-3.756	0.26
881.850	0.65	65.06	881.791	7.723 S	2.434 E	-3.487	0.20
910.570	0.94	47.41	910.509	7.494 S	2.756 E	-3.095	0.40
968.350	1.07	52.66	968.280	6.844 S	3.536 E	-2.081	0.08
1025.790	1.38	33.86	1025.707	5.944 S	4.349 E	-0.873	0.26
1055.310	1.47	38.91	1055.218	5.354 S	4.785 E	-0.152	0.16
1084.150	1.45	38.45	1084.048	4.779 S	5.245 E	0.577	0.02
1110.420	1.50	43.02	1110.309	4.267 S	5.686 E	1.249	0.14
1140.980	1.63	41.28	1140.858	3.649 S	6.245 E	2.079	0.14
1169.600	1.90	39.20	1169.464	2.976 S	6.813 E	2.954	0.29
1198.150	2.05	43.59	1197.997	2.239 S	7.465 E	3.932	0.22
1227.480	1.96	42.91	1227.309	1.492 S	8.168 E	4.956	0.10
1285.120	2.78	45.34	1284.900	0.212 N	9.833 E	7.336	0.43
1342.670	2.75	51.91	1342.383	2.044 N	11.911 E	10.106	0.17
1428.080	3.43	52.87	1427.668	4.852 N	15.563 E	14.691	0.24
1457.250	3.55	48.99	1456.784	5.972 N	16.941 E	16.463	0.27
1515.810	3.87	57.08	1515.222	8.236 N	19.967 E	20.220	0.31
1601.750	4.29	57.36	1600.944	11.544 N	25.106 E	26.235	0.15
1630.370	4.38	57.32	1629.482	12.711 N	26.927 E	28.362	0.10
1659.040	5.12	55.38	1658.054	14.028 N	28.900 E	30.703	0.79
1687.660	5.81	50.90	1686.544	15.666 N	31.074 E	33.410	0.85
1716.340	5.98	52.62	1715.072	17.488 N	33.387 E	36.344	0.26
1773.640	6.99	49.61	1772.005	21.558 N	38.413 E	42.796	0.56
1802.390	7.25	48.26	1800.534	23.899 N	41.098 E	46.356	0.32
1831.130	8.02	46.49	1829.019	26.486 N	43.904 E	50.173	0.84
1888.710	9.67	44.64	1885.912	32.695 N	50.218 E	59.025	0.87
1917.470	10.45	43.25	1914.229	36.314 N	53.704 E	64.042	0.85
1946.130	11.23	41.77	1942.377	40.288 N	57.343 E	69.415	0.86
1974.870	11.30	41.50	1970.564	44.484 N	61.073 E	75.004	0.10
2001.480	11.64	41.34	1996.642	48.452 N	64.573 E	80.270	0.38
2031.150	12.13	40.39	2025.676	53.073 N	68.570 E	86.345	0.54
2088.390	12.90	39.67	2081.556	62.571 N	76.545 E	98.655	0.41
2174.270	13.47	40.33	2165.172	77.574 N	89.136 E	118.096	0.21

<i>Measured Depth (metres)</i>	<i>Inclination (degrees)</i>	<i>Direction (degrees)</i>	<i>Vertical Depth (metres)</i>	<i>Latitude (metres)</i>	<i>Departure (metres)</i>	<i>Vertical Section (metres)</i>	<i>Dogleg (deg/30m)</i>
2203.500	13.66	40.55	2193.587	82.794 N	93.584 E	124.908	0.20
2232.270	13.75	40.70	2221.538	87.967 N	98.022 E	131.682	0.09
2292.010	13.36	41.52	2279.614	98.516 N	107.226 E	145.608	0.22
2319.460	12.54	43.59	2306.365	103.050 N	111.383 E	151.740	1.03
2348.120	12.18	45.64	2334.361	107.418 N	115.692 E	157.870	0.59
2376.110	11.96	45.76	2361.732	111.507 N	119.881 E	163.723	0.24
2422.000	11.96	45.76	2406.625	118.142 N	126.695 E	173.232	0.00

CALCULATION BASED ON MINIMUM CURVATURE METHOD

**SURVEY COORDINATES RELATIVE TO WELL SYSTEM REFERENCE POINT
TVD VALUES GIVEN RELATIVE TO DRILLING MEASUREMENT POINT**















**VERTICAL SECTION RELATIVE TO WELL HEAD
VERTICAL SECTION IS COMPUTED ALONG A CLOSURE OF 47.00 DEGREES (GRID)
A TOTAL CORRECTION OF 13.97 DEG FROM MAGNETIC NORTH TO GRID NORTH HAS BEEN APPLIED**

**HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD.
HORIZONTAL DISPLACEMENT(CLOSURE) AT 2422.000 METRES
IS 173.232 METRES ALONG 47.00 DEGREES (GRID)**

MWD RUN 100 - BHA







MWD RUN 100 - MWD

	Cumulative Length (m)		Sensor Measure Point Distance To Bit (m)
HWDP	257.54	8 DGWD 650 System	
Cross Over Sub	118.47		
Drill Collar	117.34	PM	30.190
Drilling Jars	90.29	ACAL	27.260
Drill collar	80.43	BAT	
	34.61		

MWD			HCIM		
Float Sub		12.83			
Integral Blade Stabilizer		12.05	DGR		17.710
Cross Over Sub		9.74			
		8.87			
9-5/8" SperryDrill Lobe 3/4 - 4M			EWR-P4		14.680
PDC		0.29			

MWD RUN 200 - BHA	MWD RUN 200 - MWD
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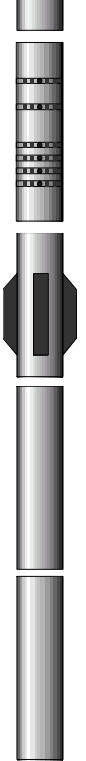
	Cumulative Length (m)		Sensor Measure Point Distance To Bit (m)
Drill Pipe (E)	390.90	Positive Pulser	
	290.90	TM	
HWDP		Hang-off Sub	
	151.53	PM	33.620
Drill Collar			
		ACAL	30.700
	132.74		
Drilling Jars		BAT	
	123.23	HCIM	
Drill Collar			
		CNP	20.520
Integral Blade Stabilizer	39.66		

Integral Blade Stabilizer					20.920
MWD		38.03	EWR-P4		17.540
Float Sub		10.43	SLD		14.790
Integral Blade Stabilizer		9.93	DDS		0
6-3/4" SperryDrill Lobe 1/2 - 3M		7.91	DGR		11.490
PDC		0.23			

MWD RUN 300 - BHA

MWD RUN 300 - MWD

	Cumulative Length (m)		Sensor Measure Point Distance To Bit (m)
Drill Pipe (E)	382.10	Positive Pulser	
		TM	
HWDP	282.10	Hang-off Sub	
		PM	25.280
Drill Collar	143.09	ACAL	22.360
		BAT	
Drilling Jars	124.30	HCIM	
		CNP	12.180
Drill Collar	114.79		

	Integral Blade Stabilizer	31.32	EWR-P4		9.200
		29.69			
	MWD		SLD		6.450
	Float Sub	2.09	DDS		0
	Integral Blade Stabilizer	1.59			
			DGR		
	Tricone	0.25			3.150



EWR Electromagnetic Wave Resistivity
DGR Dual Gamma Ray
SLD Stabilized Litho-Density
CNP Compensated Neutron Porosity
ACAL Acoustic Caliper
BAT Bi-Modal Acoustic Tool

[illegible]

WELL INFORMATION

MWD Run Number	100	200	300		
Date run completed	12-Nov-04	18-Nov-04	20-Nov-04		
Rig Bit Number	2	3	4		
Bit Size (mm)	311	216	216		
Tool Nominal OD (mm)	203	171	171		
Log Start Depth (TVD, m)	113	1008.92	2299.09		
Log End Depth (TVD, m)	1008.92	2299.09	2406.63		
Drill or Wipe	Drilling	Drilling	Drilling		
Drill/Wipe Start Date and Time	11-Nov-04 12:45	14-Nov-04 23:23	18-Nov-04 17:05		
Drill/Wipe End Date and Time	12-Nov-04 04:45	16-Nov-04 17:00	19-Nov-04 15:00		
Min Inc (deg) @ Depth (TVD, m)	0.25 @ 795.64	1.38 @ 1025.70	11.96 @ 2361.73		
Max Inc (deg) @ Depth (TVD, m)	1.07 @ 968.28	13.75 @ 2221.54	13.36 @ 2279.61		
Bit TFA(in2) / Bit Type	0.97 / Hycalog PDC	0.57 / REED PDC	0.59 / Security MR6520		
Flow Rate (gpm)	910	550	550		
Max AV (mpm) / CV (mpm) @ MWD	73.8 / 13.2	168.0 / 129.0	154.3 / 117.6		
Fluid Type	Sea Water	KCl/Idecap	KCl/Idecap		
Density (sg) / Viscosity (spl)	1.0 / 1.06	1.3 / 47.00	1.4 / 45.00		
Filtrate CL (ppm)	42,000	48,000	54,000		
pH / Fluid Loss (cptm)	8.00 / 2.0	8.70 / 4.2	9.00 / 4.8		
PV (cp) / YP (pa)	20 / 0.5	19 / 10.50	21 / 16.50		
% Solids / % Sand	9 / N/A	11 / 0.4	16 / 0.65		
% Oil / Oil:Water Ratio	N/A / N/A:91	N/A / N/A:89	N/A / N/A:84		
Rm @ Measured Temp (degC)	N/A @ N/A	0.10 @ 28.00	0.11 @ 23.30		
Rmf @ Measured Temp (degC)	N/A @ N/A	0.08 @ 28.00	0.10 @ 20.00		
Rmc @ Measured Temp (degC)	N/A @ N/A	0.15 @ 28.00	0.40 @ 24.50		
Max Tool Temp (degC) / Source	26.00 / EWR-P4	99.00 / EWR-P4	90.00 / EWR-P4		
Rm @ Max Tool Temp (degC)	N/A @ 26.00	0.04 @ 99.00	0.04 @ 90.00		
Lead MWD Engineer	T.Oberne	T.Oberne	T.Oberne		
Customer Representative	H.Everhart	H.Everhart	H.Everhart		

SENSOR INFORMATION

Downhole Processor Information					
Tool Type	HCIM	HCIM	HCIM		
Software Version	67.88	67.88	67.88		
Sub Serial Number	198840	197929	197929		
Insert Serial Number	132884	161828	161828		
Logging String Serial Number	62057XHGV8	62270XH1NRGV6	62270XH1NRGV6		
Date and Time Initialized	11-Nov-04 09:40	14-Nov-04 08:42	18-Nov-04 06:54		
Date and Time Read	12-Nov-04 09:57:27	18-Nov-04 04:38:00	20-Nov-04 03:45:19		

Directional Sensor Information					
Tool Type	PM	PM	PM		
Distance From Bit (m)	30.19	33.62	25.28		
Software Version	1.08	1.08	1.08		
Sub Serial Number	111363	194447	194447		
Sonde Serial Number	134019	175717	175717		
Sensor ID Number	2947	44645	44645		
Survey String Serial Number	DM90061055M8	DM90062415M6	DM90062415M6		
Toolface Offset (deg)	N/A	N/A	N/A		

Gamma Ray Sensor Information					
Tool Type	DGR	DGR	DGR		
Distance From Bit (m)	17.71	11.49	3.15		
Recorded Sample Period (sec)	12	12	12		
Software Version	N/A	N/A	N/A		
Sub Serial Number	10505993	1	1		
Insert/Sonde Serial Number	172498	53520	53520		

Resistivity Sensor Information					
Tool Type	EWR-P4	EWR-P4	EWR-P4		
Distance From Bit (m)	14.68	17.54	9.20		
Recorded Sample Period (sec)	12	12	12		
Software Version	1.38	1.38	1.38		
Sub Serial Number	174309	60579	60579		
Receiver Insert Serial Number	123481	99881	99881		
Transmitter Insert Serial Number	159149	144695	144695		
Receiver Orientation	Down	Down	Down		

Neutron Sensor Information					
Tool Type		CNP	CNP		
Distance From Bit (m)		20.52	12.18		
Recorded Sample Period (sec)		12	12		
Sub Serial Number		177933	177933		
Insert Serial Number		87644	87644		
Source Serial Number		4070NK	4070NK		
Source Factor		1.1400	1.1400		
Pin Orientation		Down	Down		

Density Sensor Information					
Tool Type		SLD	SLD		
Distance From Bit (m)		14.79	6.45		
Recorded Sample Period (sec)		14	14		
Software Version		11.00	11.00		
Sub Serial Number		121000	121000		
Insert Serial Number		77135	77135		
Sensor ID Number		324	324		
Source Serial Number		3085GW	3085GW		
Pin Orientation		Up	Up		
Stabilizer Blade O.D. (mm)		209.550	209.550		
DPA Offset		N/A	N/A		

Caliper Sensor Information					
Tool Type	ACAL	ACAL	ACAL		

Distance From Bit (m)	27.26	30.70	22.36		
Software Version	2.05	2.05	2.05		
Sub Serial Number	165483	138157	138157		
Insert Serial Number	141729	113417	113417		

Sonic Sensor Information

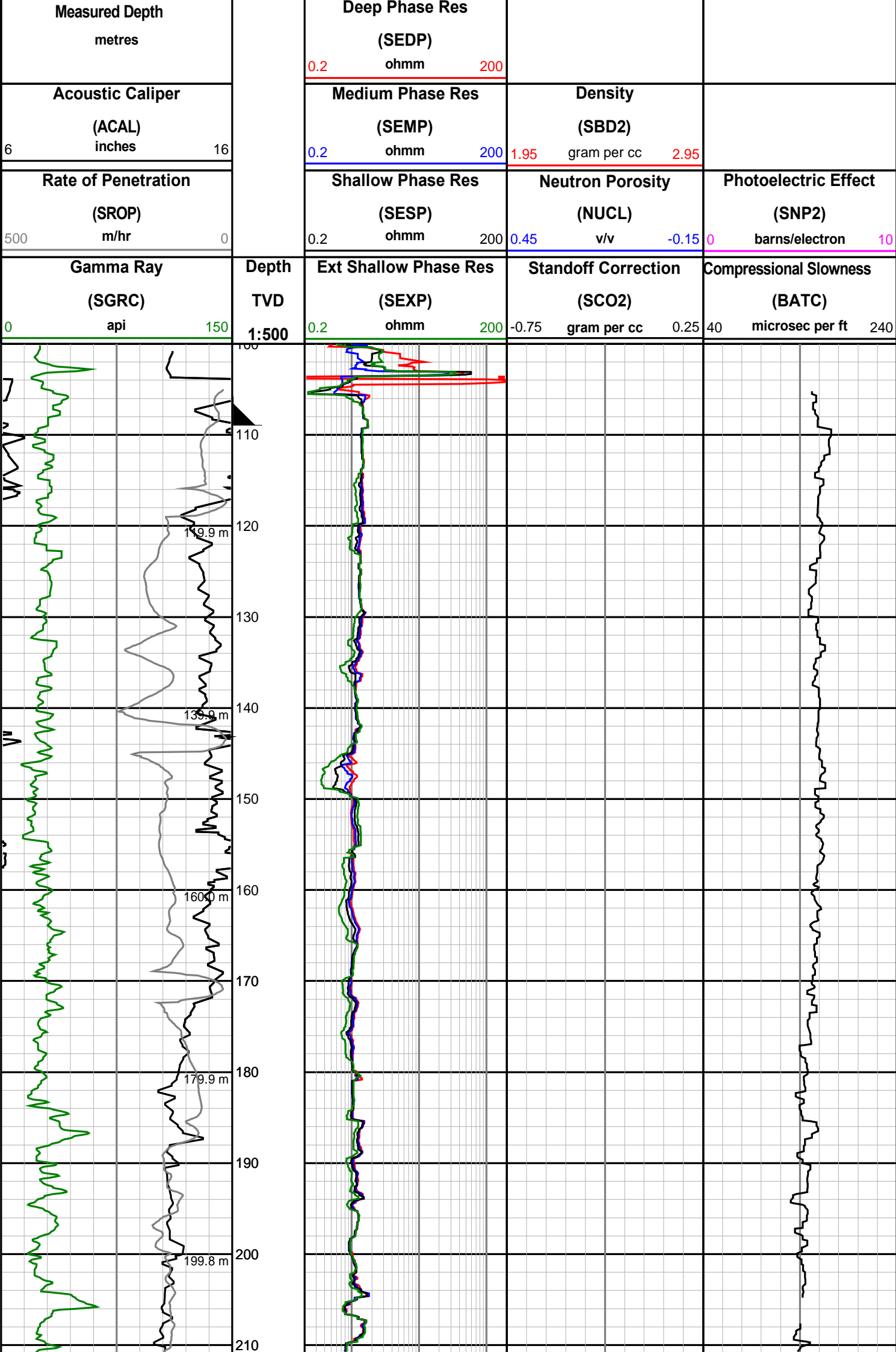
Tool Type	BAT	BAT	BAT		
Distance From Bit (m)	23.06	26.91	18.57		
Recorded Sample Period (sec)	18	18	18		
Software Version	4.00	4.00	4.00		
Sub Serial Number	144401	132327	132327		
Receiver Insert Serial Number	136555	161198	161198		
Transmitter Insert Serial Number	143996	116793	116793		

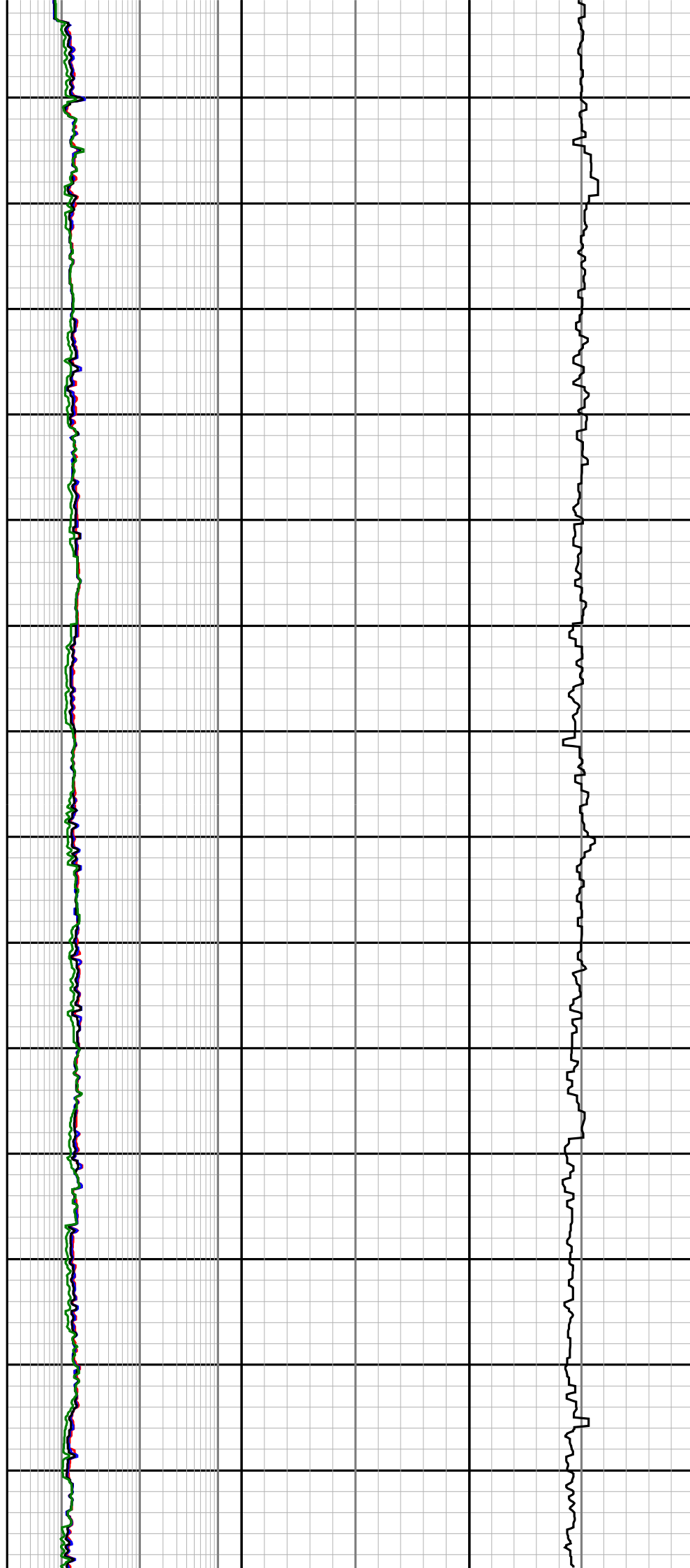
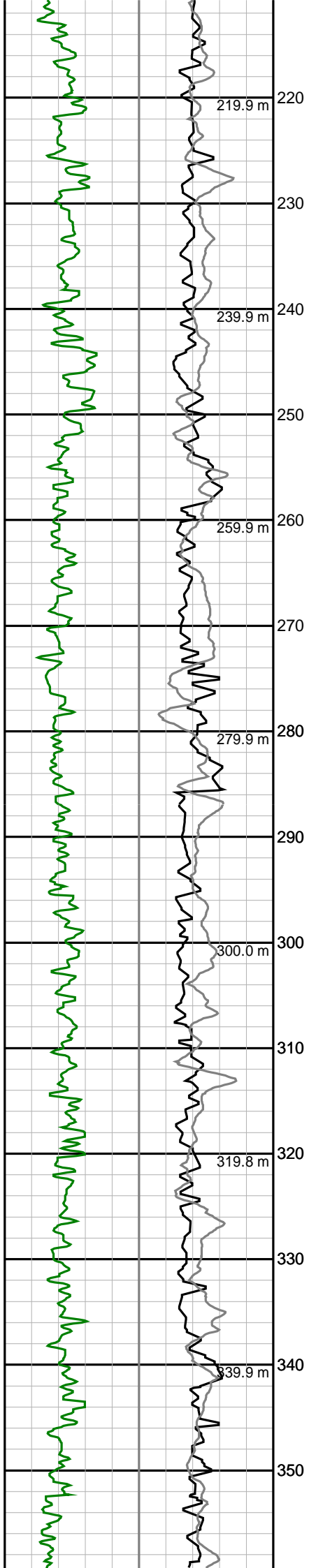
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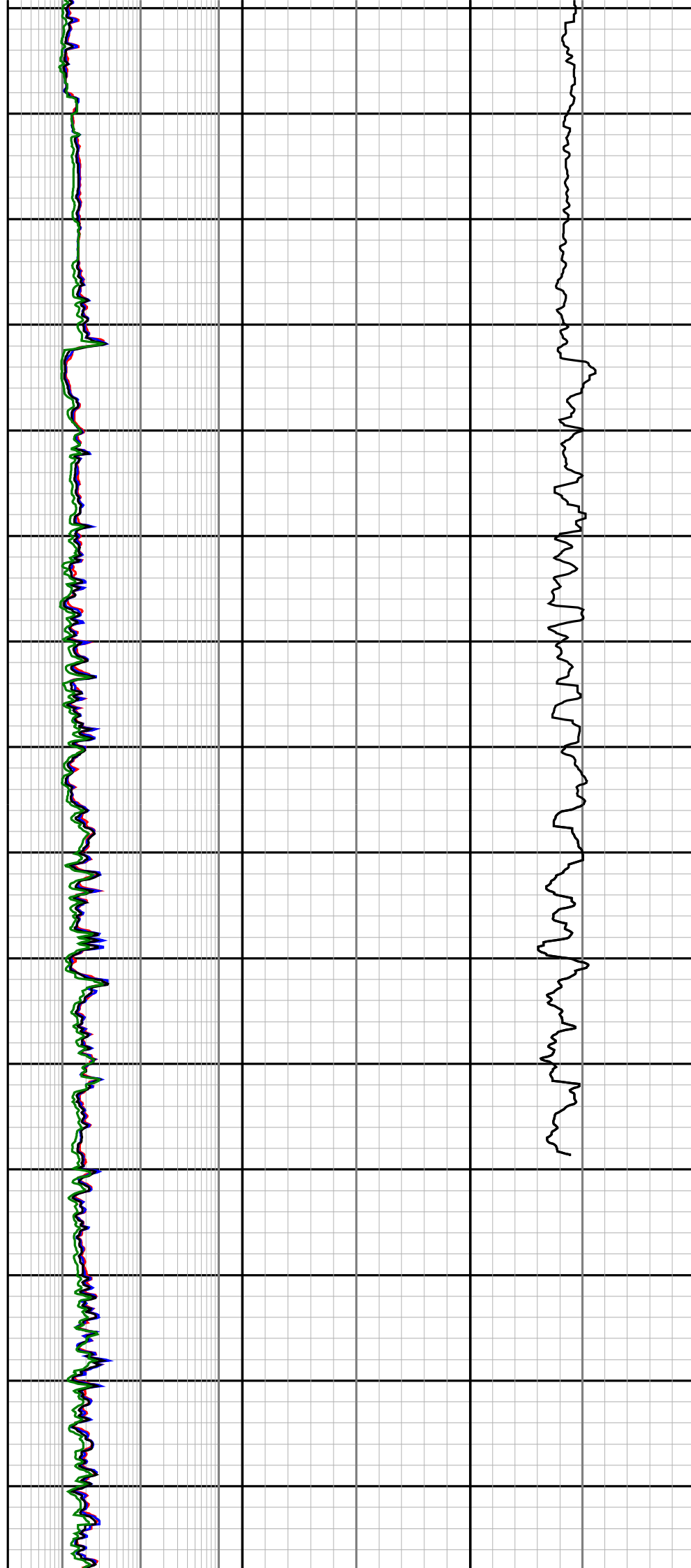
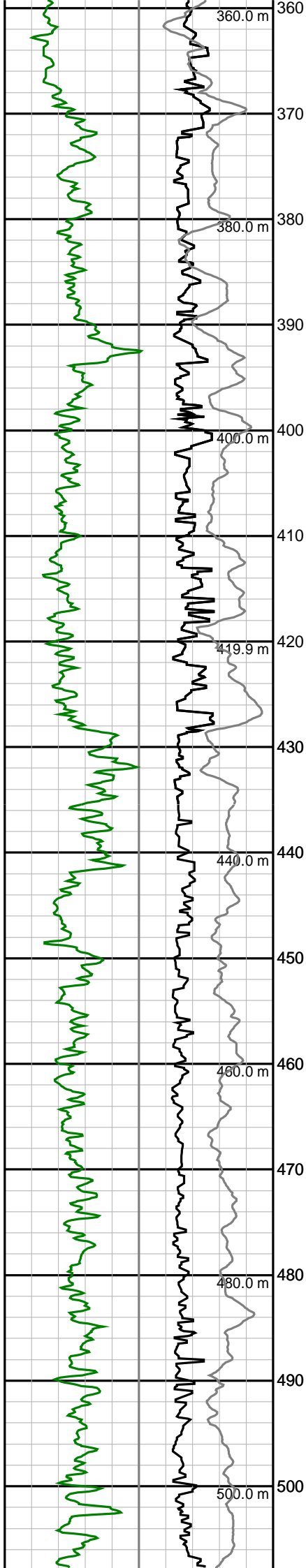
- All depths are bit depths and referenced to the drillers pipe tally.
- AV/CV is calculated at the MWD collar using the Powers Law for water based muds and the Bingham's Plastic Law for oil based muds.
- Curve mnemonics are:
 SGRC - Smoothed Gamma Ray Combined, api
 SEXP - Smoothed Extra Shallow Phase Resistivity, ohm-m
 SESP - Smoothed Shallow Phase Resistivity, ohm-m
 SEMP - Smoothed Medium Phase Resistivity, ohm-m
 SEDP - Smoothed Deep Phase Resistivity, ohm-m
 SROP - Smoothed Rate of Penetration, m/hr
 ACAL - Acoustic Caliper, inches
 BATC - Bi-Modal Acoustic Compressional Slowness, usec/ft
 SBD2 - Smoothed Best Bin Bulk Density Compensated, g/cc
 SCO2 - Smoothed Best Bin Stand-off Correction, g/cc
 SNP2 - Smoothed Best Bin Near Photoelectric Effect, b/e
 NUCL - Smoothed Porosity (Limestone Matrix) corrected for Salinity, Temperature and Pressure, v/v
 STEM - Smoothed Medium Phase Resistivity Temperature, degC
- CNP data processed using the CNP-E algorithm using the following parameters and is based on a Limestone Matrix:
 MW = 1.25 - 1.40 sg
 Formation Salinity = 25000 ppm, Cl
 Mud Salinity = 43000 - 54000 ppm, Cl
 Matrix Density = 2.71 g/cc
 Fluid Density = 1.00 g/cc
- CNP data has been reprocessed using data from the Caliper (ACAL) tool for borehole diameter.
- Surface depth tracking system damaged.
- Gap in density data due to intermittent problems with density (SLD) tool.
- Density (SLD) tool failed while running in hole prior to Run 300.
- Gaps in compressional slowness (BATC) data due to weak signal.
- Repeat sections from 2092.9 to 2151.3 and 2199.9 to 2287.4 mMDRT @ 18:20 to 21:38 16-Nov-04 was wiped while pulling out of hole with no rotary and no pumps after LWD Run 200

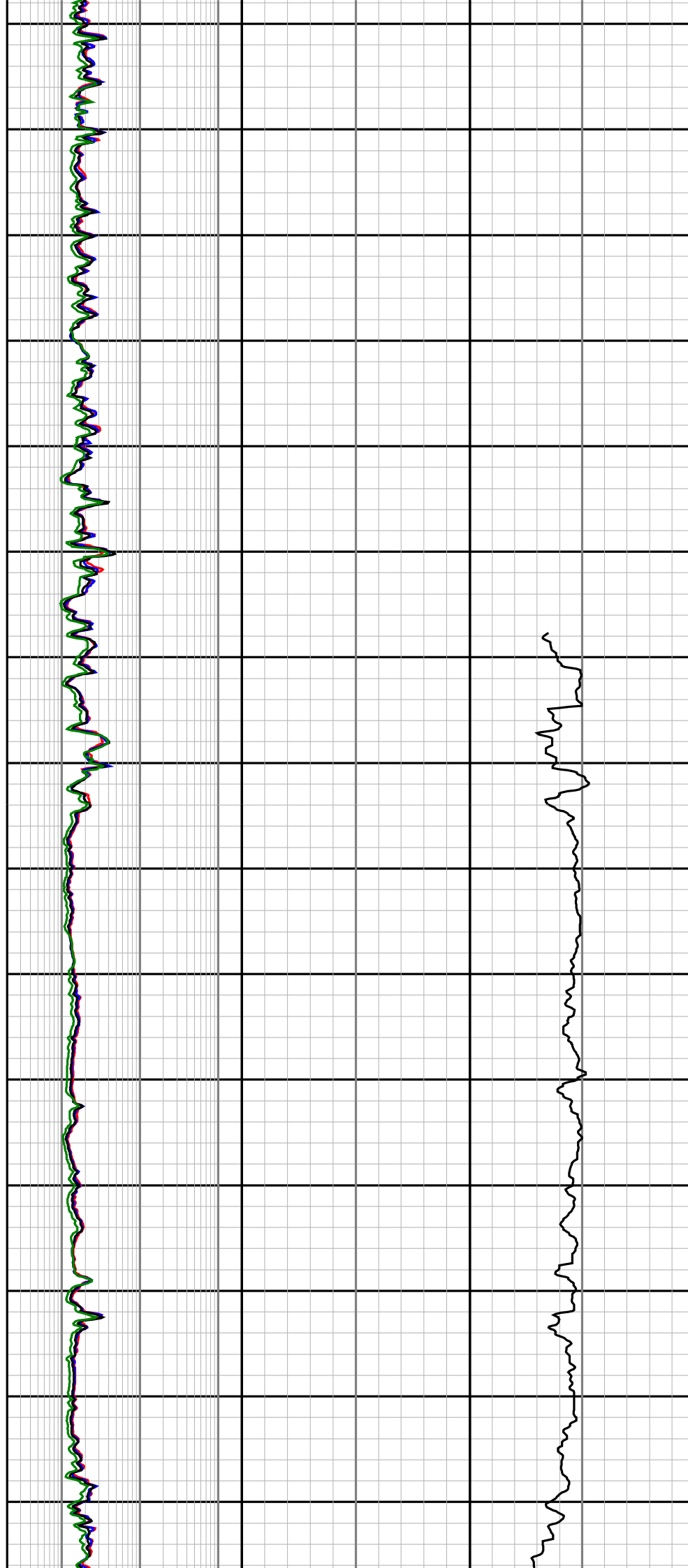
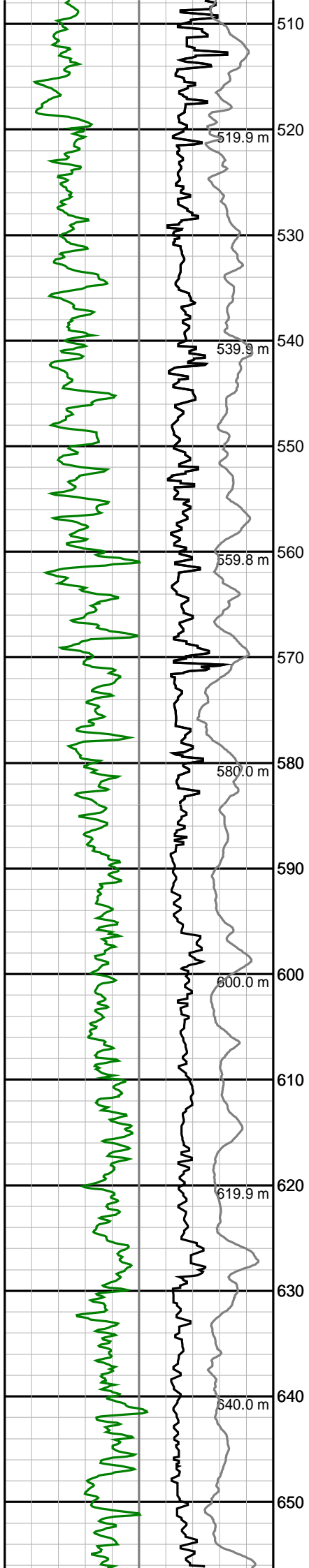
WARRANTY

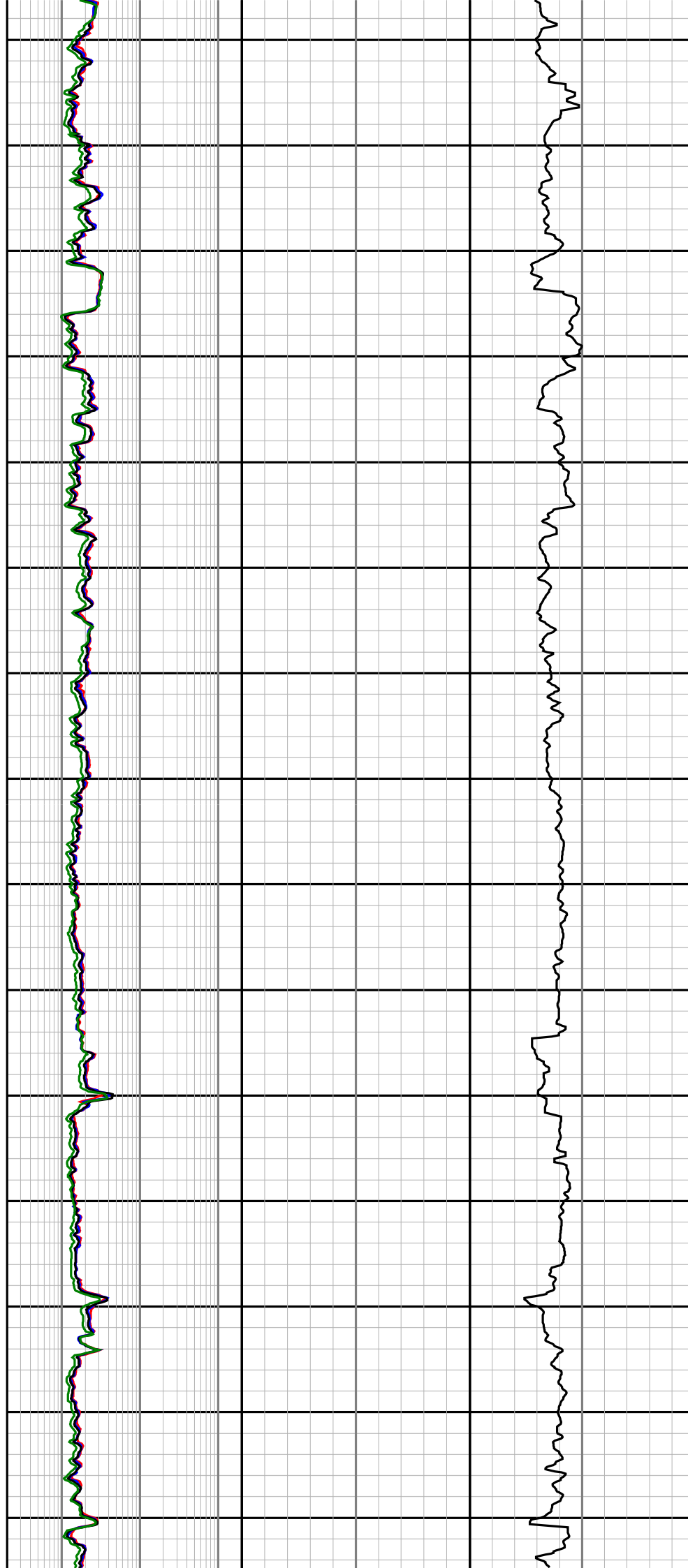
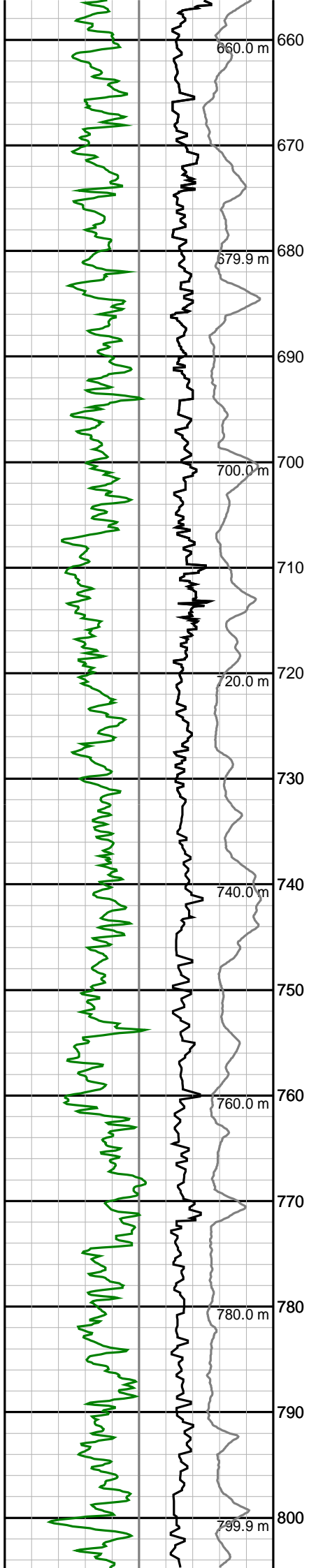
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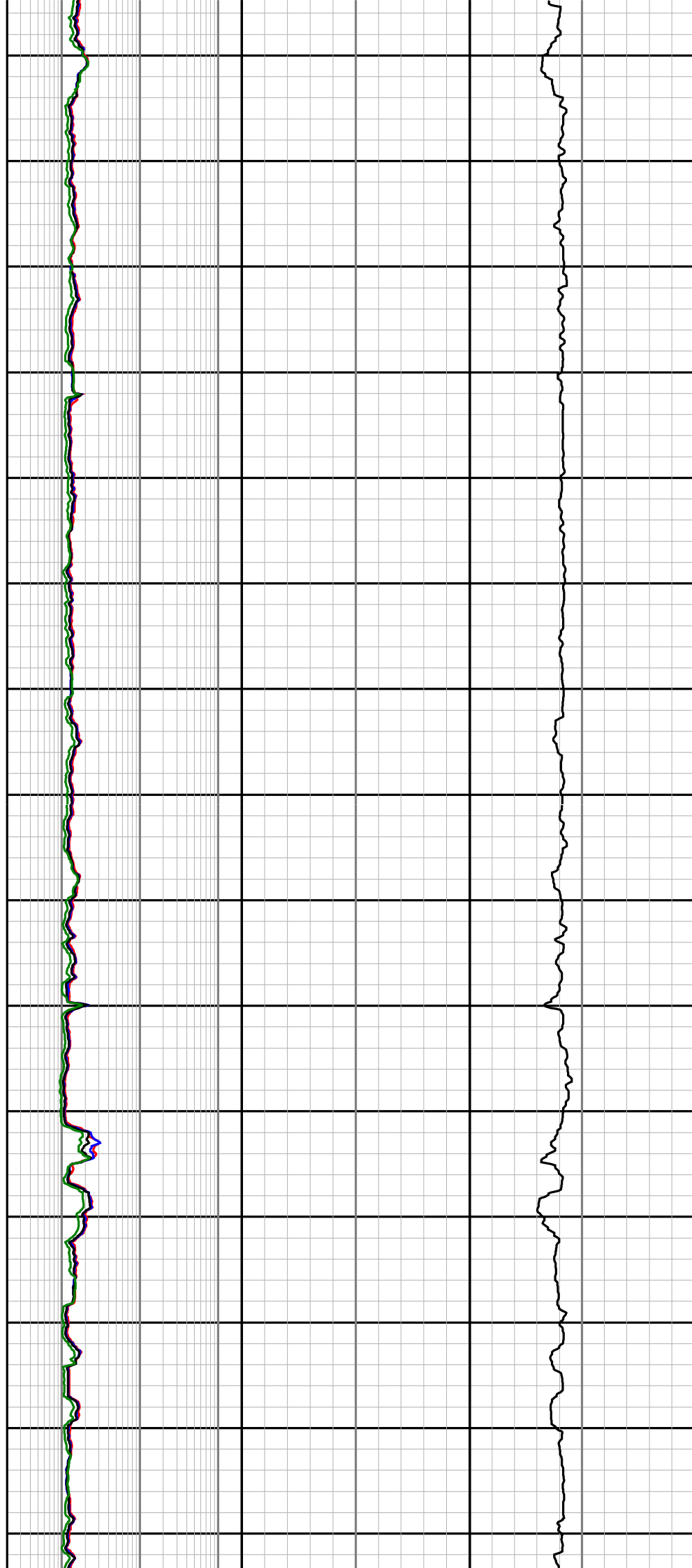
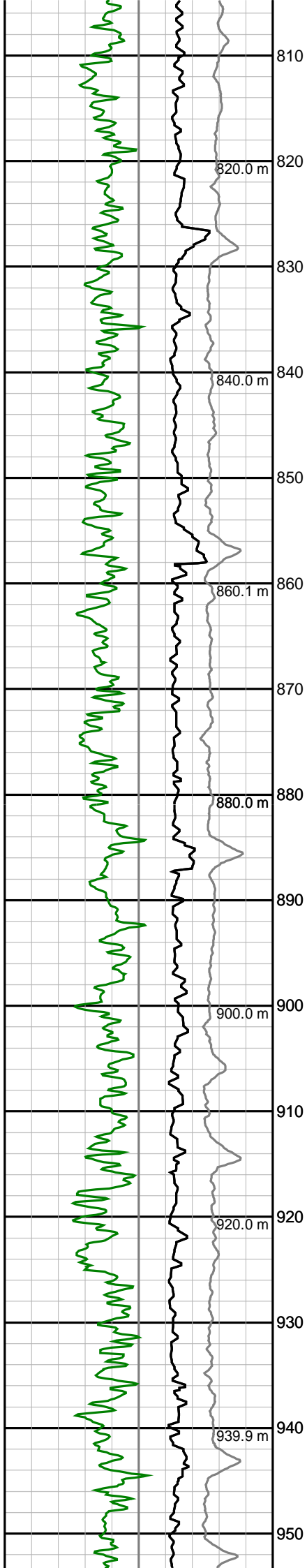


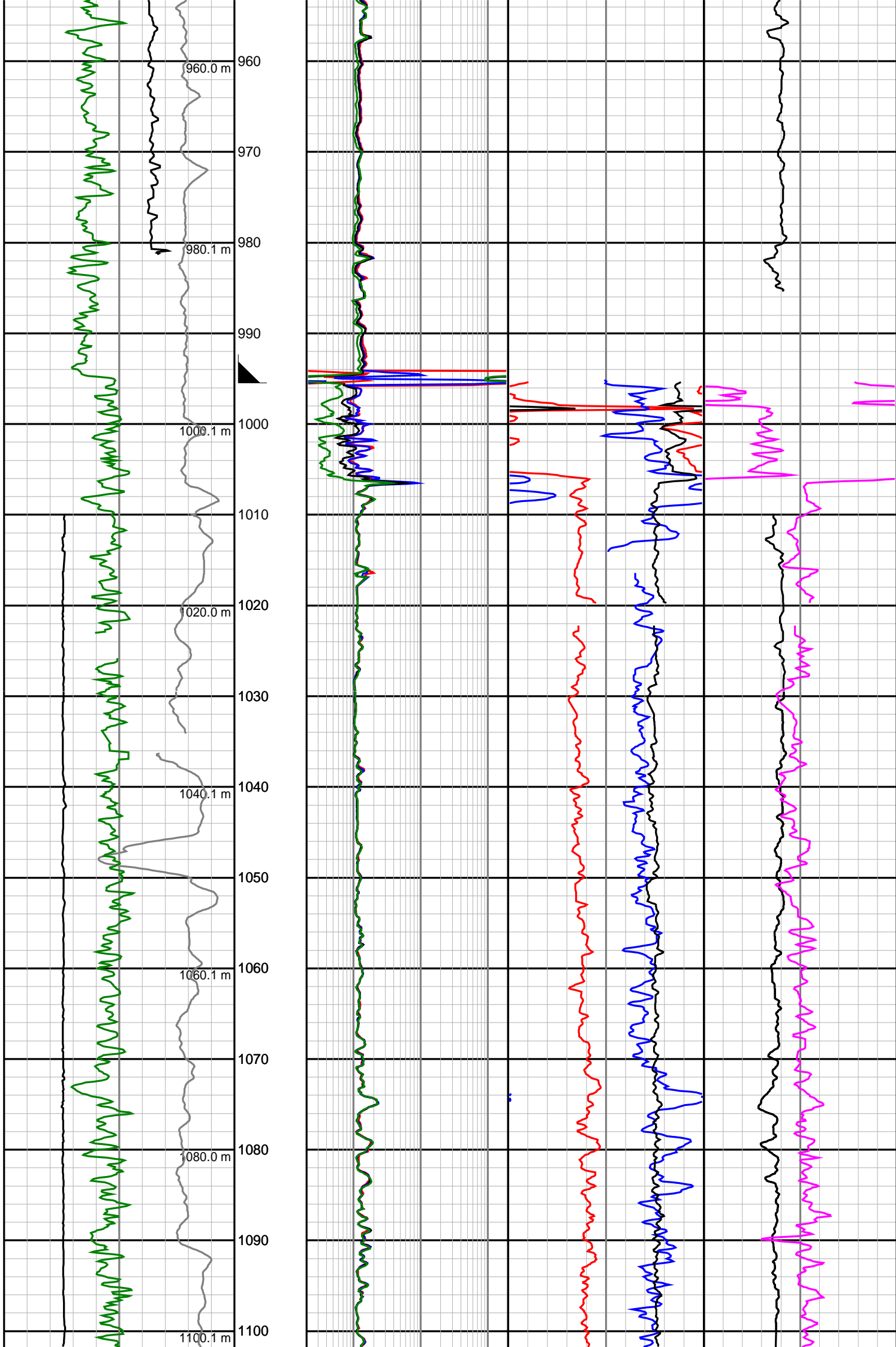


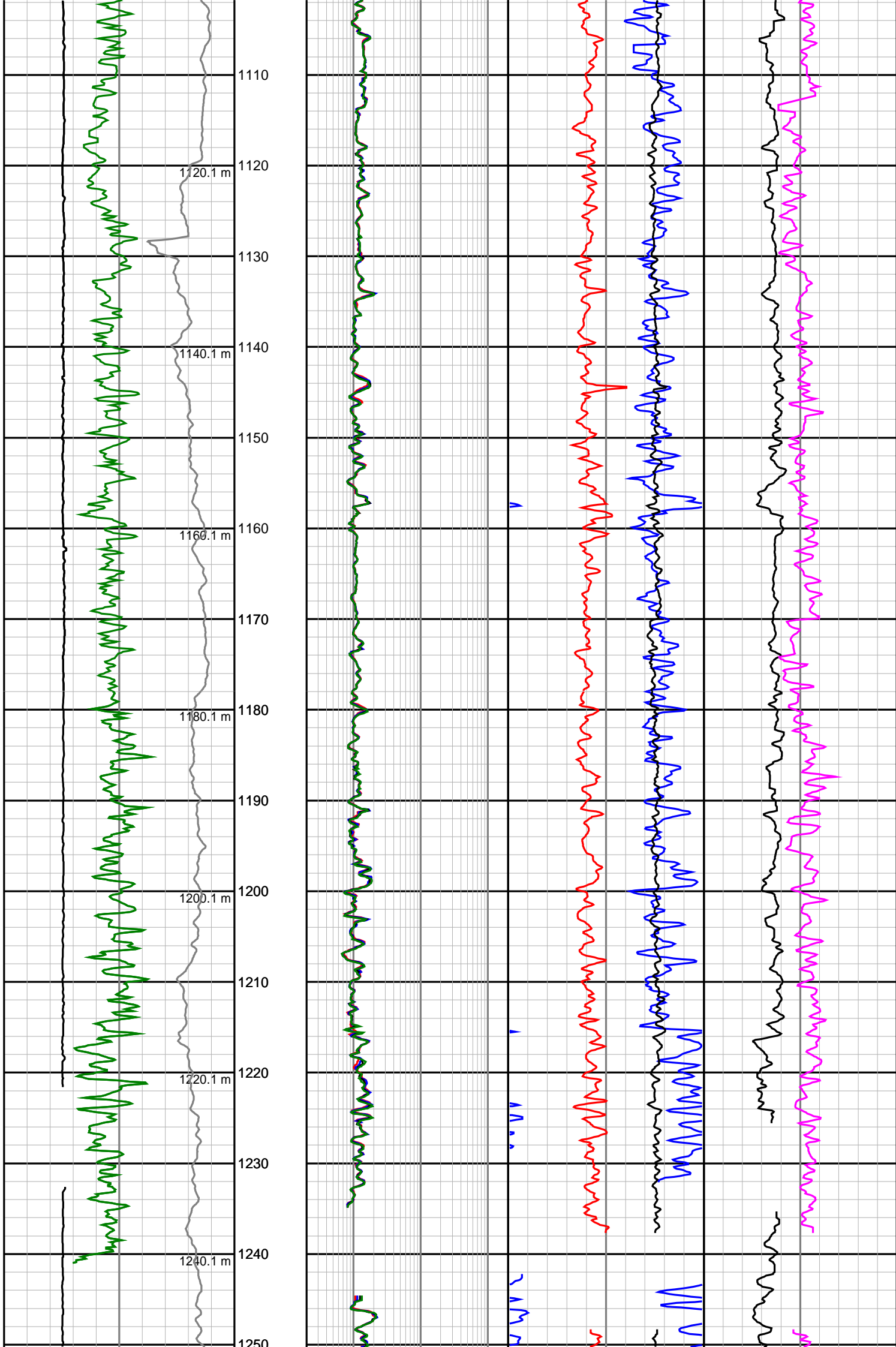


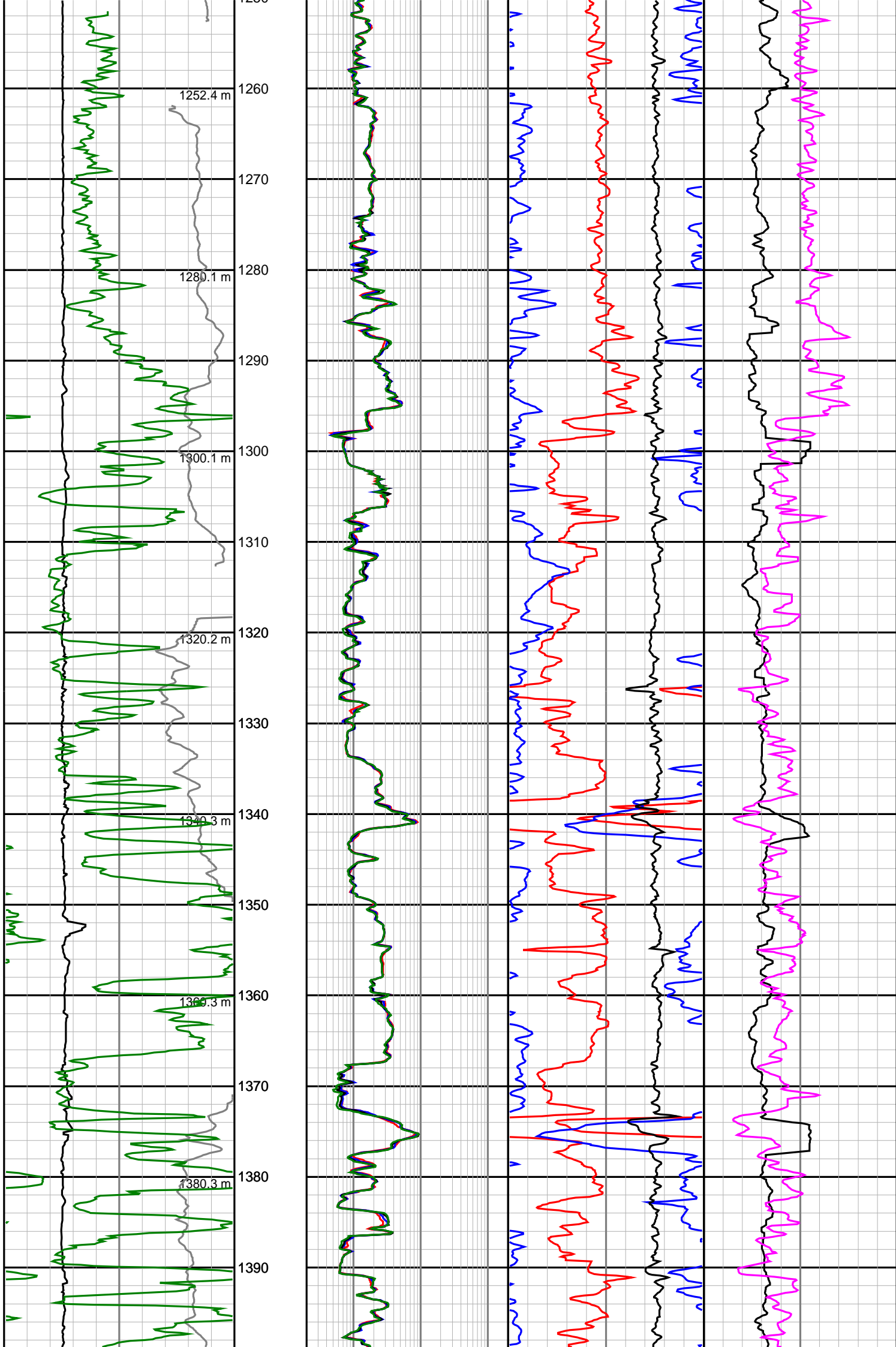


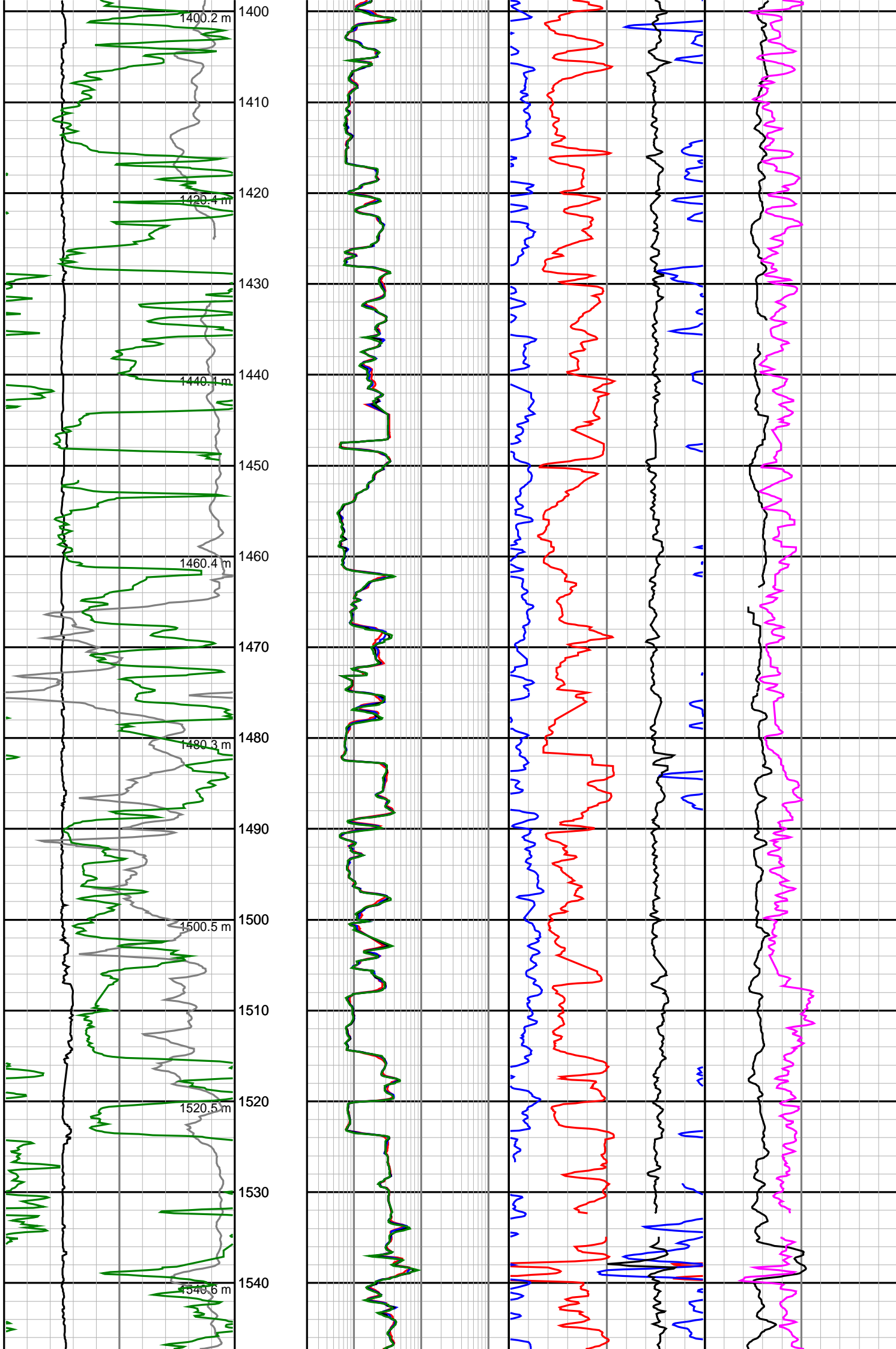


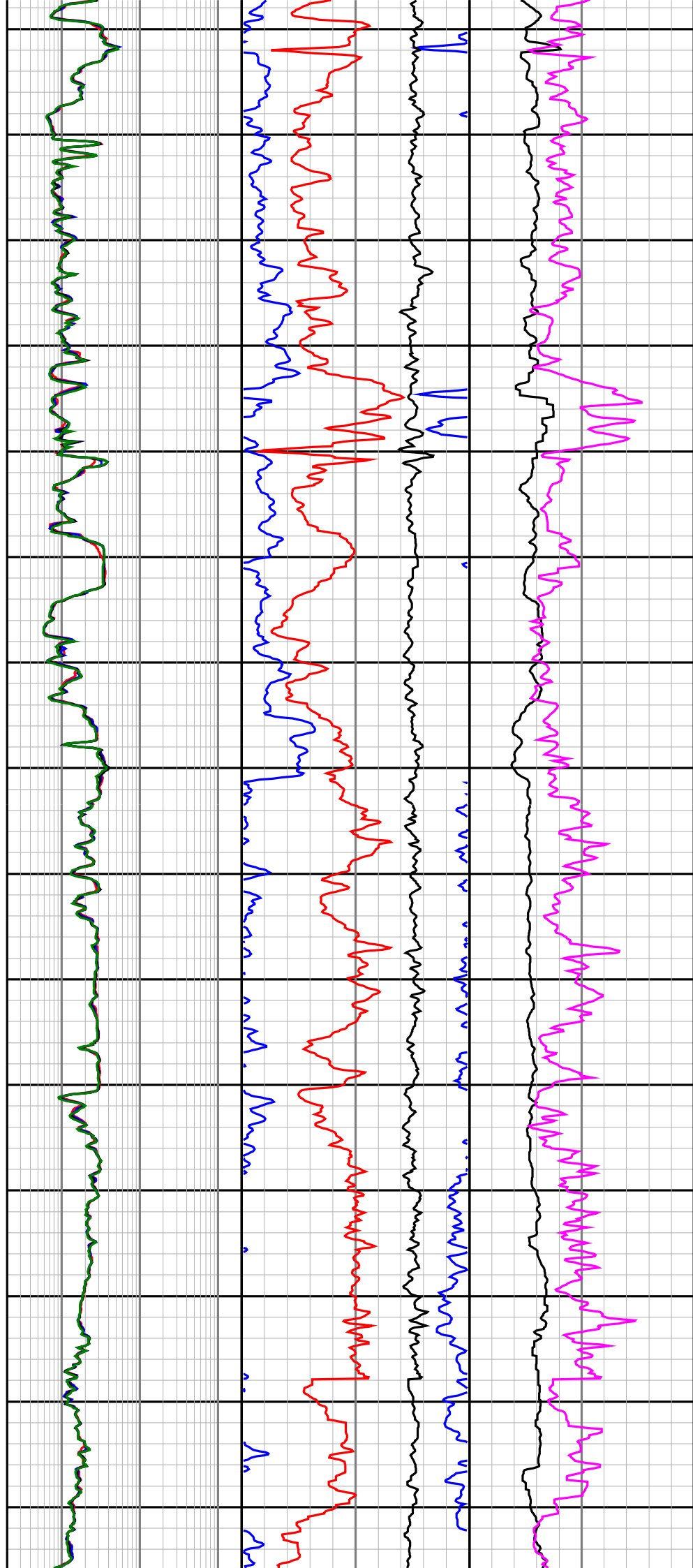
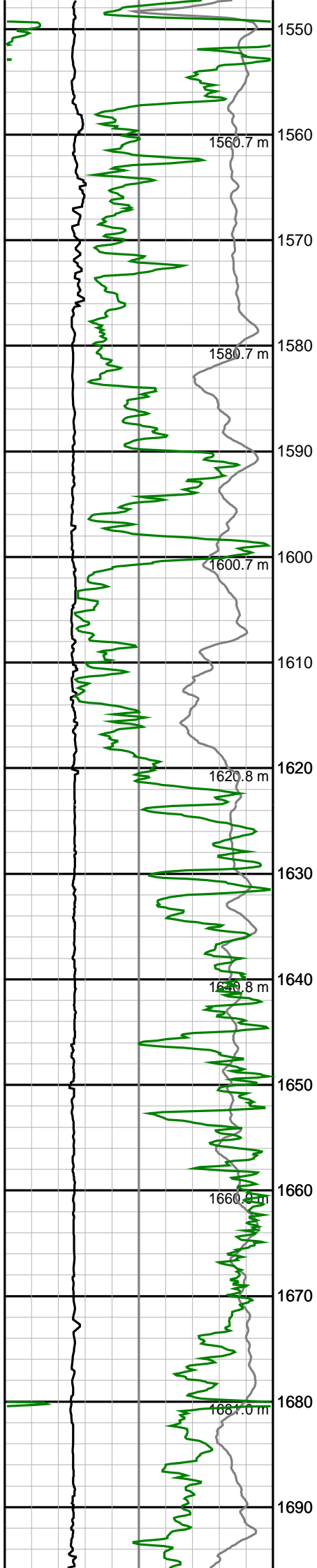


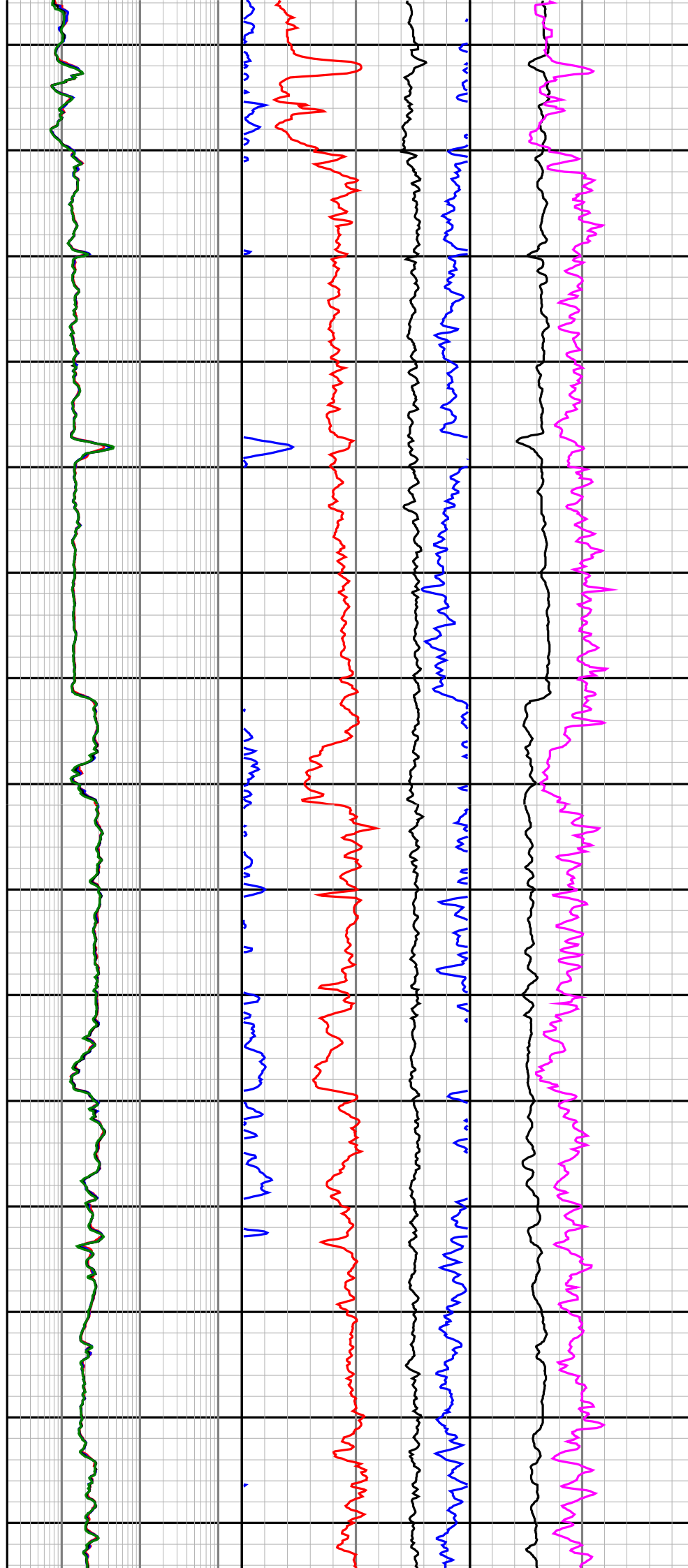
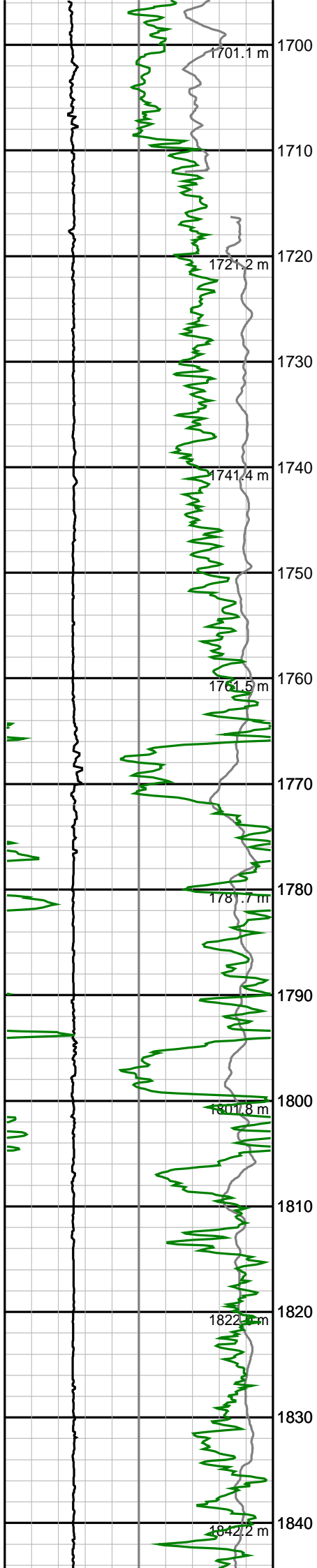


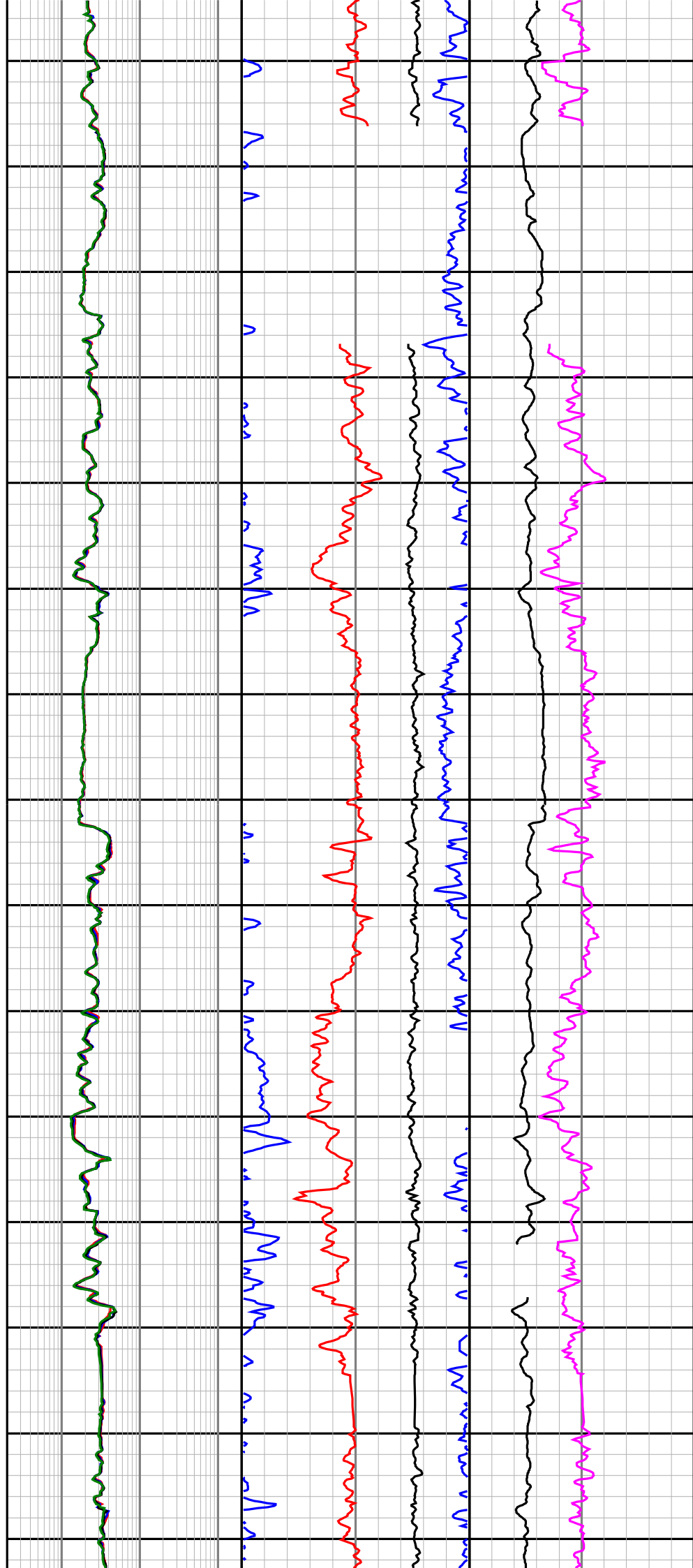
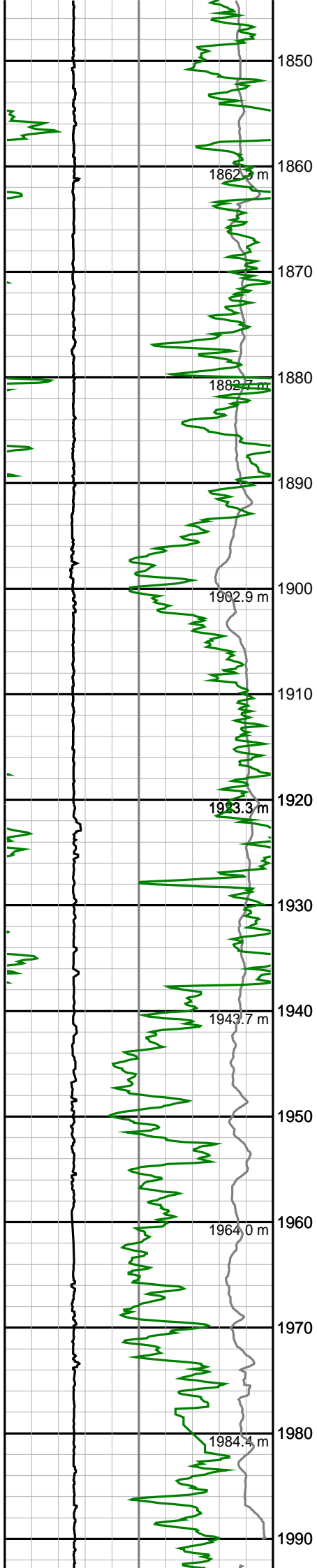


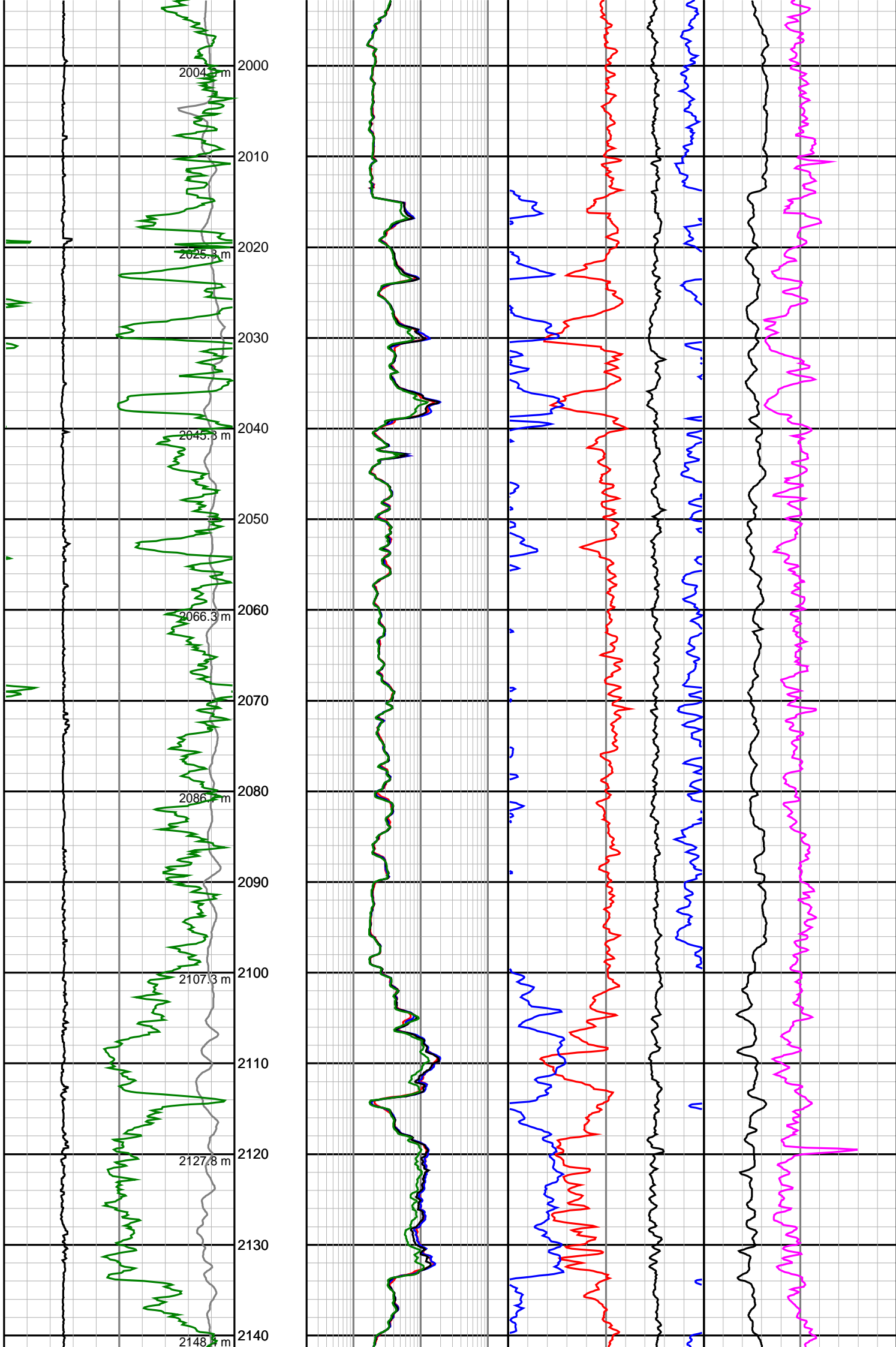


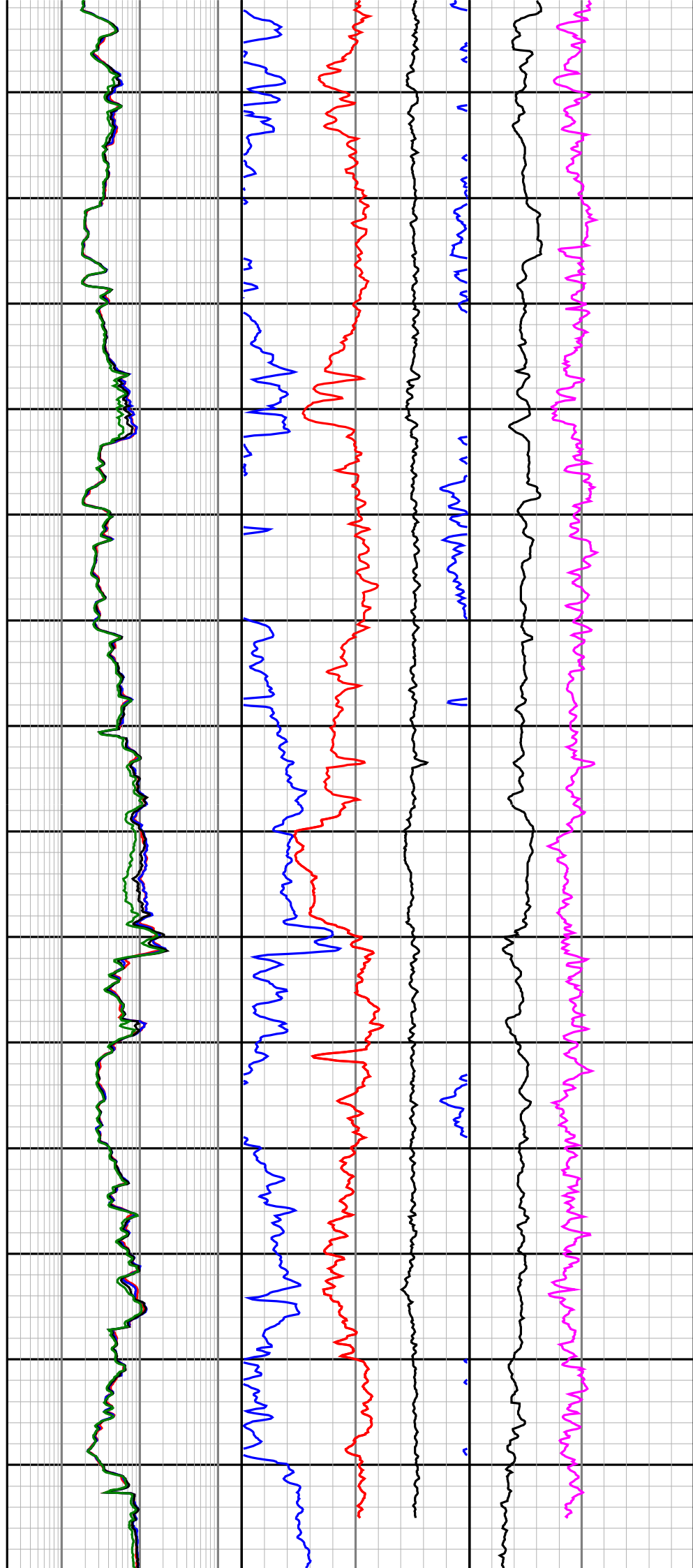
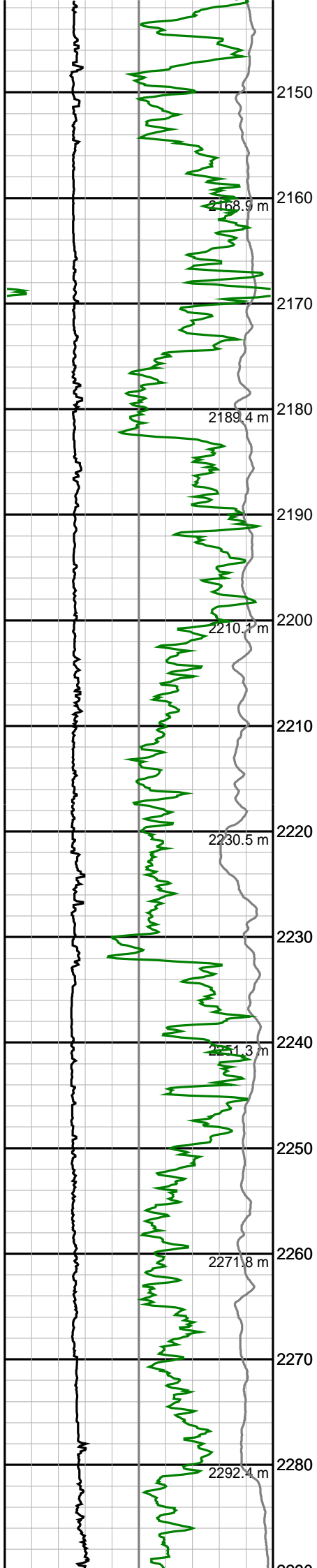


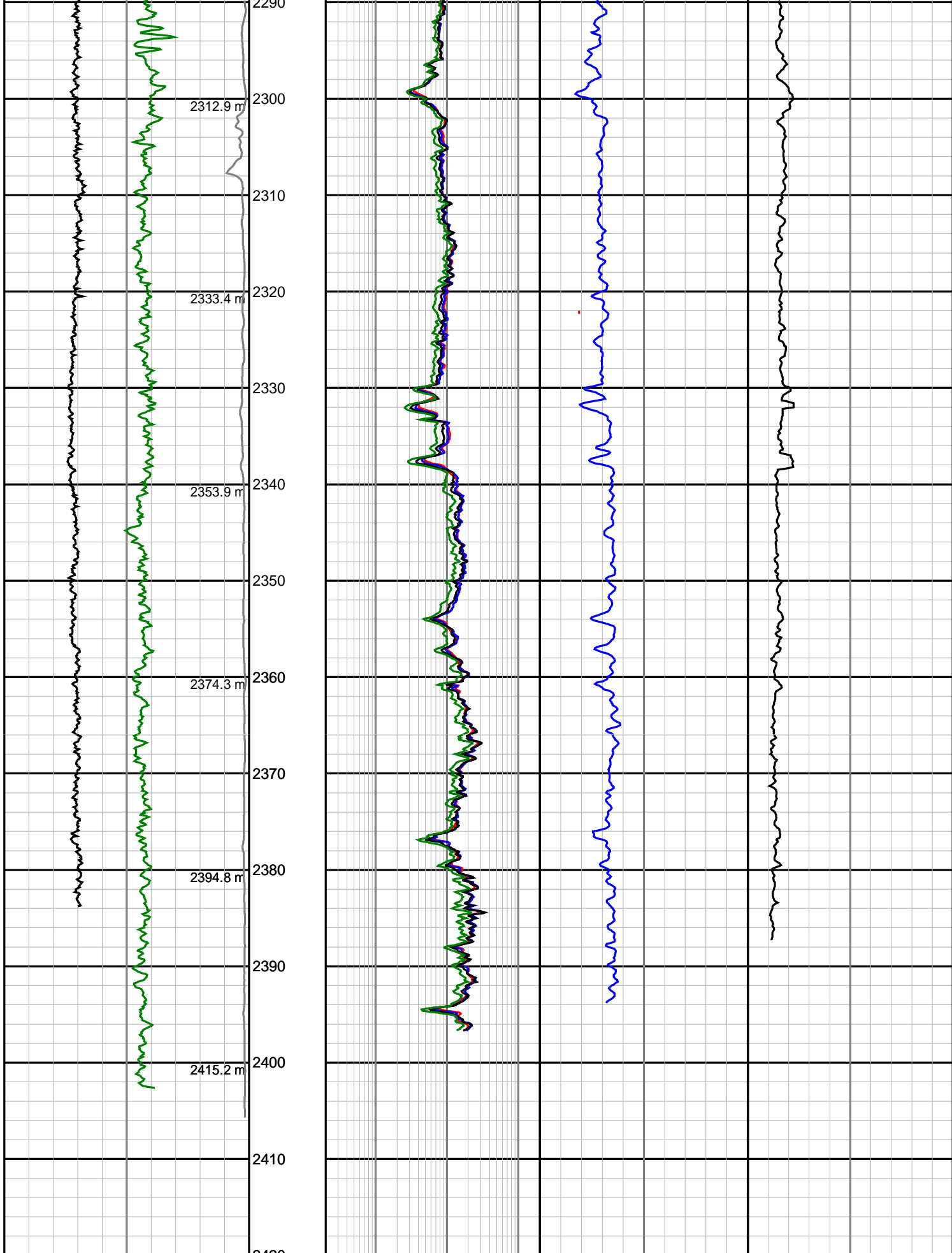












Gamma Ray (SGRC) api	Depth TVD 1:500	Ext Shallow Phase Res (SEXP) ohmm	Standoff Correction (SCO2) gram per cc	Compressional Slowness (BATC) microsec per ft
0150		0.2200	-0.750.25	40240
Rate of Penetration (SROP) m/hr	Shallow Phase Res (SESP) ohmm	Neutron Porosity (NUCL) v/v	Photoelectric Effect (SNP2) barns/electron	
5000	0.2200	0.45-0.15	010	

Acoustic Caliper (ACAL) inches	Medium Phase Res (SEMP) ohmm	Density (SBD2) gram per cc
6	0.2	1.95
Measured Depth metres	Deep Phase Res (SEDP) ohmm	2.95
16	200	200

Apache Energy Ltd

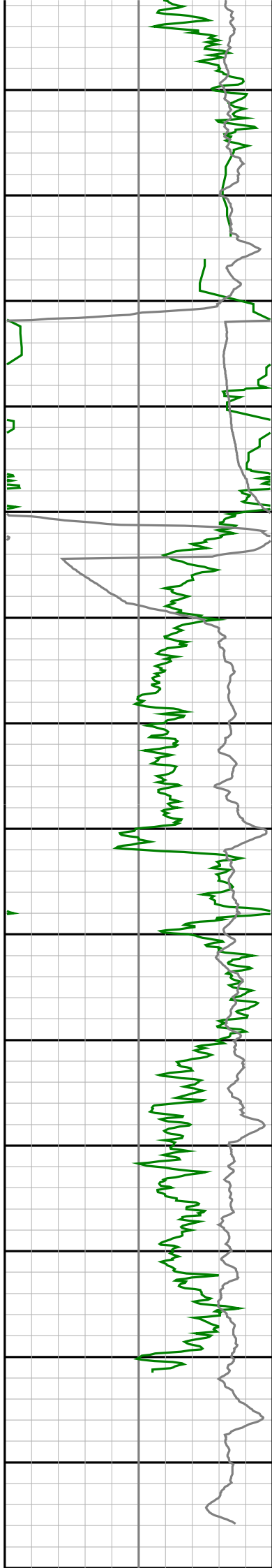
Longtom-2

Repeat Section - 1, 2199.9 - 2287.4 mTVDRT

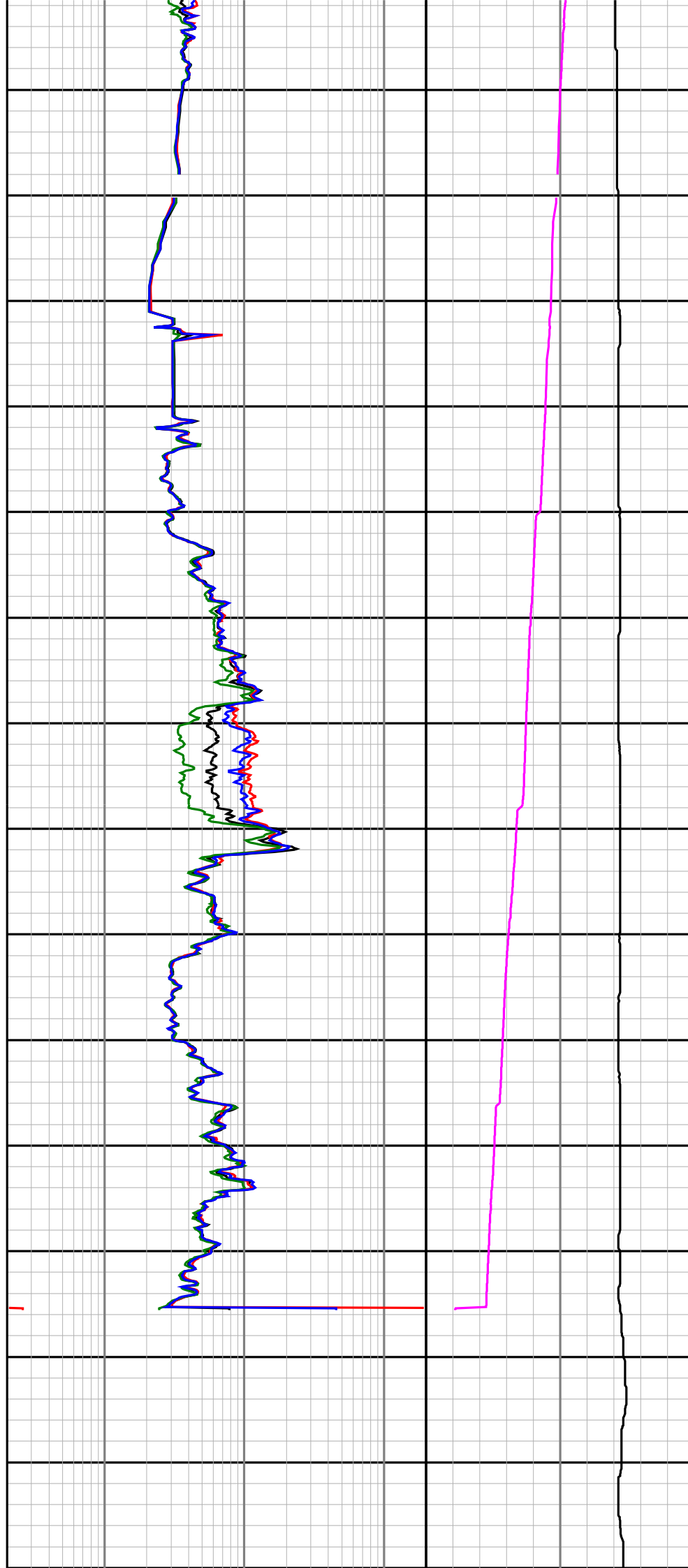
Repeat Section - 2, 2092.9 - 2151.3 mTVDRT

Wiped at 18:20-21:38 while pulling out of hole with no rotary and no pumps after LWD Run 200

		Deep Phase Res (SEDP) ohmm			
		0.2	200		
		Medium Phase Res (SEMP) ohmm			
		0.2	200		
Running Speed (RUN_SPD) m/hr		Shallow Phase Res (SESP) ohmm		Formation Exposure Time (SFXE) hours	
500	0	0.2	200	0	20
Gamma Ray (SGRC) api		Ext Shallow Phase Res (SEXP) ohmm		Temperature (STEM) deg C	
0	150	0.2	200	0	100
	Depth TVD 1:500				
	2080				
	2090				
	2100				
	2110				
	2120				
	2130				
	2140				
	2150				



2160
2170
2180
2190
2200
2210
2220
2230
2240
2250
2260
2270
2280
2290
2300



Gamma Ray (SGRC) api	Depth TVD 1:500	Ext Shallow Phase Res (SEXP) ohmm	Temperature (STEM) deg C
0 150		0.2 200	0 100
Running Speed (RUN_SPD) m/hr		Shallow Phase Res (SESP) ohmm	Formation Exposure Time (SFXE) hours
500 0		0.2 200	0 20
		Medium Phase Res (SEMP) ohmm	
		0.2 200	
		Deep Phase Res (SEDP) ohmm	
		0.2 200	



DIRECTIONAL SURVEY REPORT

Apache Energy Ltd
Longtom-2
Exploration
Victoria
Australia
AU-FE-0003298447
Final survey is projected to TD.

Measured Depth (metres)	Inclination (degrees)	Direction (degrees)	Vertical Depth (metres)	Latitude (metres)	Departure (metres)	Vertical Section (metres)	Dogleg (deg/30m)
78.300	0.00	0.00	78.300	0.000 N	0.000 E	0.000	TIE-IN
82.553	0.97	258.66	82.553	0.007 S	0.035 W	-0.031	6.83
112.760	0.85	147.07	112.758	0.244 S	0.164 W	-0.287	1.49
141.180	0.89	146.91	141.174	0.605 S	0.070 E	-0.362	0.05
167.690	1.01	154.86	167.681	0.990 S	0.282 E	-0.469	0.21
195.240	1.07	154.25	195.226	1.442 S	0.497 E	-0.620	0.06
280.640	0.94	157.28	280.613	2.804 S	1.113 E	-1.098	0.05
309.214	0.77	146.69	309.184	3.183 S	1.310 E	-1.212	0.24
337.704	0.79	157.77	337.671	3.526 S	1.490 E	-1.315	0.16
366.421	0.60	172.17	366.386	3.859 S	1.586 E	-1.472	0.27
424.641	0.46	168.46	424.604	4.391 S	1.674 E	-1.770	0.07
481.270	0.60	185.70	481.230	4.907 S	1.691 E	-2.110	0.11
566.250	0.73	188.21	566.205	5.883 S	1.569 E	-2.864	0.05
594.890	0.71	181.73	594.842	6.241 S	1.538 E	-3.131	0.09
623.800	0.70	174.98	623.750	6.597 S	1.548 E	-3.367	0.09
651.930	0.71	178.96	651.878	6.944 S	1.566 E	-3.590	0.05
680.500	0.56	173.05	680.446	7.261 S	1.587 E	-3.791	0.17
709.360	0.46	168.63	709.305	7.515 S	1.627 E	-3.936	0.12
738.170	0.32	152.68	738.114	7.700 S	1.686 E	-4.018	0.18
767.010	0.31	146.16	766.954	7.837 S	1.767 E	-4.052	0.04
795.700	0.25	96.83	795.644	7.909 S	1.873 E	-4.024	0.25
824.740	0.30	87.28	824.683	7.913 S	2.011 E	-3.926	0.07
853.150	0.47	59.73	853.093	7.851 S	2.185 E	-3.756	0.26
881.850	0.65	65.06	881.791	7.723 S	2.434 E	-3.487	0.20
910.570	0.94	47.41	910.509	7.494 S	2.756 E	-3.095	0.40
968.350	1.07	52.66	968.280	6.844 S	3.536 E	-2.081	0.08
1025.790	1.38	33.86	1025.707	5.944 S	4.349 E	-0.873	0.26
1055.310	1.47	38.91	1055.218	5.354 S	4.785 E	-0.152	0.16
1084.150	1.45	38.45	1084.048	4.779 S	5.245 E	0.577	0.02
1110.420	1.50	43.02	1110.309	4.267 S	5.686 E	1.249	0.14
1140.980	1.63	41.28	1140.858	3.649 S	6.245 E	2.079	0.14
1169.600	1.90	39.20	1169.464	2.976 S	6.813 E	2.954	0.29
1198.150	2.05	43.59	1197.997	2.239 S	7.465 E	3.932	0.22
1227.480	1.96	42.91	1227.309	1.492 S	8.168 E	4.956	0.10
1285.120	2.78	45.34	1284.900	0.212 N	9.833 E	7.336	0.43

Measured Depth (metres)	Inclination (degrees)	Direction (degrees)	Vertical Depth (metres)	Latitude (metres)	Departure (metres)	Vertical Section (metres)	Dogleg (deg/30m)
1342.670	2.75	51.91	1342.383	2.044 N	11.911 E	10.106	0.17
1428.080	3.43	52.87	1427.668	4.852 N	15.563 E	14.691	0.24
1457.250	3.55	48.99	1456.784	5.972 N	16.941 E	16.463	0.27
1515.810	3.87	57.08	1515.222	8.236 N	19.967 E	20.220	0.31
1601.750	4.29	57.36	1600.944	11.544 N	25.106 E	26.235	0.15
1630.370	4.38	57.32	1629.482	12.711 N	26.927 E	28.362	0.10
1659.040	5.12	55.38	1658.054	14.028 N	28.900 E	30.703	0.79
1687.660	5.81	50.90	1686.544	15.666 N	31.074 E	33.410	0.85
1716.340	5.98	52.62	1715.072	17.488 N	33.387 E	36.344	0.26
1773.640	6.99	49.61	1772.005	21.558 N	38.413 E	42.796	0.56
1802.390	7.25	48.26	1800.534	23.899 N	41.098 E	46.356	0.32
1831.130	8.02	46.49	1829.019	26.486 N	43.904 E	50.173	0.84
1888.710	9.67	44.64	1885.912	32.695 N	50.218 E	59.025	0.87
1917.470	10.45	43.25	1914.229	36.314 N	53.704 E	64.042	0.85
1946.130	11.23	41.77	1942.377	40.288 N	57.343 E	69.415	0.86
1974.870	11.30	41.50	1970.564	44.484 N	61.073 E	75.004	0.10
2001.480	11.64	41.34	1996.642	48.452 N	64.573 E	80.270	0.38
2031.150	12.13	40.39	2025.676	53.073 N	68.570 E	86.345	0.54
2088.390	12.90	39.67	2081.556	62.571 N	76.545 E	98.655	0.41
2174.270	13.47	40.33	2165.172	77.574 N	89.136 E	118.096	0.21
2203.500	13.66	40.55	2193.587	82.794 N	93.584 E	124.908	0.20
2232.270	13.75	40.70	2221.538	87.967 N	98.022 E	131.682	0.09
2292.010	13.36	41.52	2279.614	98.516 N	107.226 E	145.608	0.22
2319.460	12.54	43.59	2306.365	103.050 N	111.383 E	151.740	1.03
2348.120	12.18	45.64	2334.361	107.418 N	115.692 E	157.870	0.59
2376.110	11.96	45.76	2361.732	111.507 N	119.881 E	163.723	0.24
2422.000	11.96	45.76	2406.625	118.142 N	126.695 E	173.232	0.00

CALCULATION BASED ON MINIMUM CURVATURE METHOD

SURVEY COORDINATES RELATIVE TO WELL SYSTEM REFERENCE POINT
TVD VALUES GIVEN RELATIVE TO DRILLING MEASUREMENT POINT









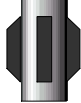





VERTICAL SECTION RELATIVE TO WELL HEAD
VERTICAL SECTION IS COMPUTED ALONG A CLOSURE OF 47.00 DEGREES (GRID)
A TOTAL CORRECTION OF 13.97 DEG FROM MAGNETIC NORTH TO GRID NORTH HAS BEEN APPLIED

HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD.
HORIZONTAL DISPLACEMENT(CLOSURE) AT 2422.000 METRES
IS 173.232 METRES ALONG 47.00 DEGREES (GRID)








MWD RUN 100 - BHA



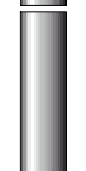








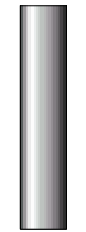

MWD RUN 100 - MWD

	Cumulative Length (m)	Sensor Measure Point Distance To Bit (m)
HWDP	257.54	
Cross Over Sub	118.47	
Drill Collar	117.34	
8 DGWD 650 System		
PM		
		30.190

Drilling Jars		90.29	ACAL		27.260
Drill collar		80.43	BAT		
MWD		34.61	HCIM		
Float Sub		12.83			
Integral Blade Stabilizer		12.05	DGR		17.710
Cross Over Sub		9.74			
9-5/8" SperryDrill Lobe 3/4 - 4M		8.87	EWR-P4		14.680
PDC		0.29			





MWD RUN 200 - BHA	MWD RUN 200 - MWD
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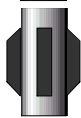








		Cumulative Length (m)			Sensor Measure Point Distance To Bit (m)
Drill Pipe (E)		390.90	Positive Pulser		
HWDP		290.90	TM		
			Hang-off Sub		
Drill Collar		151.53	PM		33.620

		132.74	ACAL		30.700
			BAT		
		123.23	HCIM		
			CNP		
		39.66	EWR-P4		20.520
			SLD		
		38.03	DDS		17.540
			DGR		
		10.43			14.790
		9.93			
		7.91			
		0.23			

MWD RUN 300 - BHA

MWD RUN 300 - MWD

		Cumulative Length (m)		Sensor Measure Point Distance To Bit (m)
		382.10		
		282.10	TM	
			Hang-off Sub	
		143.09	PM	25.280
			ACAL	

			ACAE		22.360
		124.30	BAT		
Drilling Jars					
			HCIM		
		114.79			
Drill Collar			CNP		12.180
		31.32	EWR-P4		9.200
Integral Blade Stabilizer					
		29.69	SLD		6.450
MWD					
		2.09	DDS		0
Float Sub					
		1.59	DGR		3.150
Integral Blade Stabilizer					
Tricone		0.25			



HALLIBURTON **Sperry-Sun**

SURFACE DATA LOGGING

END OF WELL REPORT

APACHE ENERGY LIMITED

Longtom-2

&

Longtom-2 ST1

November & December 2004

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1 INTRODUCTION

The Diamond Offshore Ocean Patriot semi submersible offshore drilling rig was used to drill the well in permit VIC P 54.

A Sperry-Sun Drilling Services INSITE (Integrated System for Information Technology and Engineering) mud logging unit was contracted by Apache Energy Ltd for the drilling of the Longtom-2 appraisal well. The unit provided a full Surface Data Logging (SDL) network for the job. This included both real-time and lagged data acquisition, data processing, data storage and data presentation.

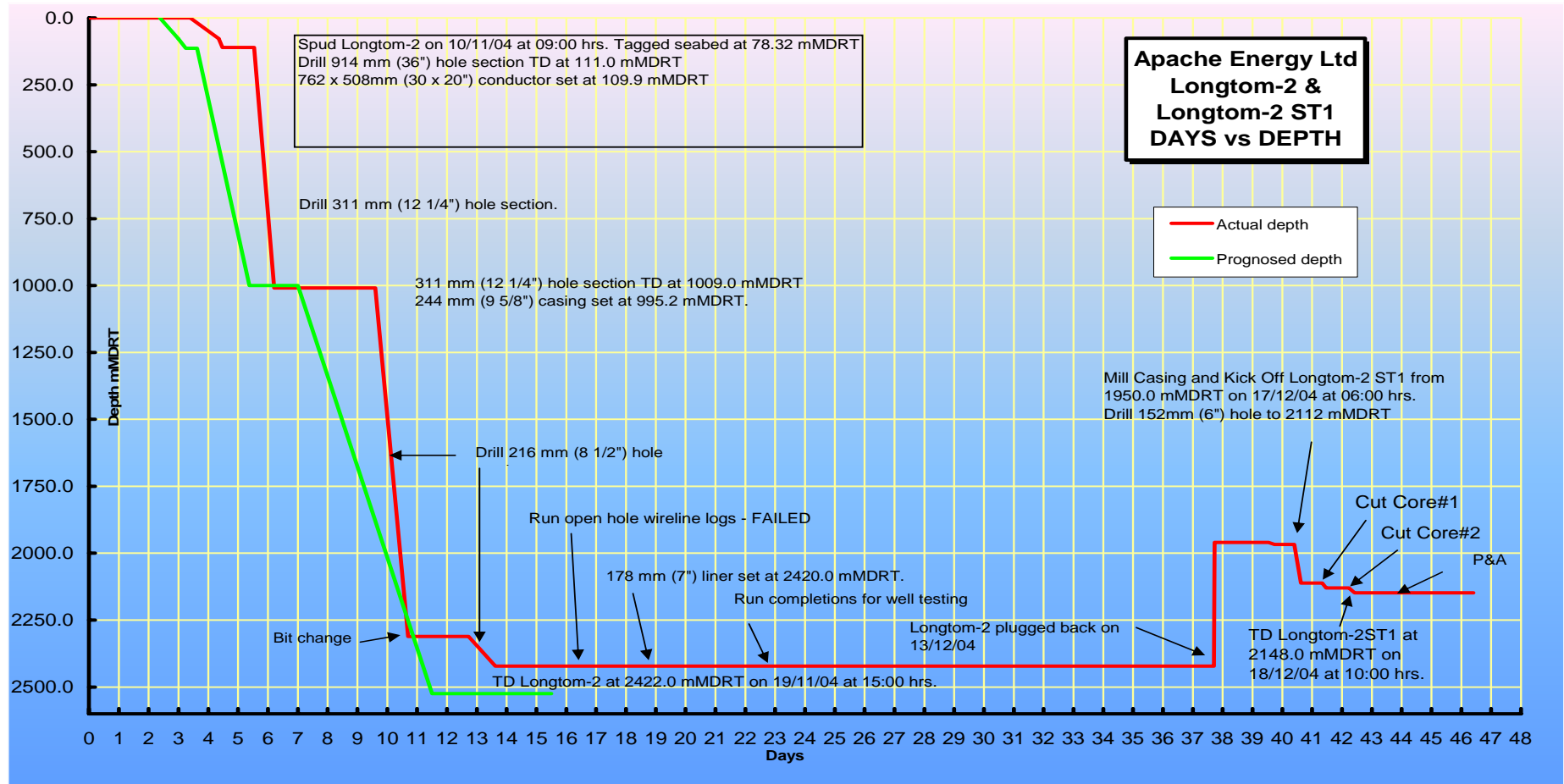
Measurement While Drilling (MWD) and Directional Drilling services were included in the SDL database to provide a comprehensive real time, and post-recorded evaluation of the formations drilled.

Full surface data logging commenced after the well was spudded, upon the arrival of crew on the rig, at 13:00 hrs on the 10th November 2004, and continued for the duration of the well. The well reached a total depth of 2422.0 mMDRT at 14:55 hrs on the 19th November 2004. The well was subsequently plugged back on the 13th December 2004, after running a successful DST program. A whipstock was then set at 1954.9 mMDRT and a casing window was milled at 1960.0 mMDRT to commence Longtom-2 ST1.

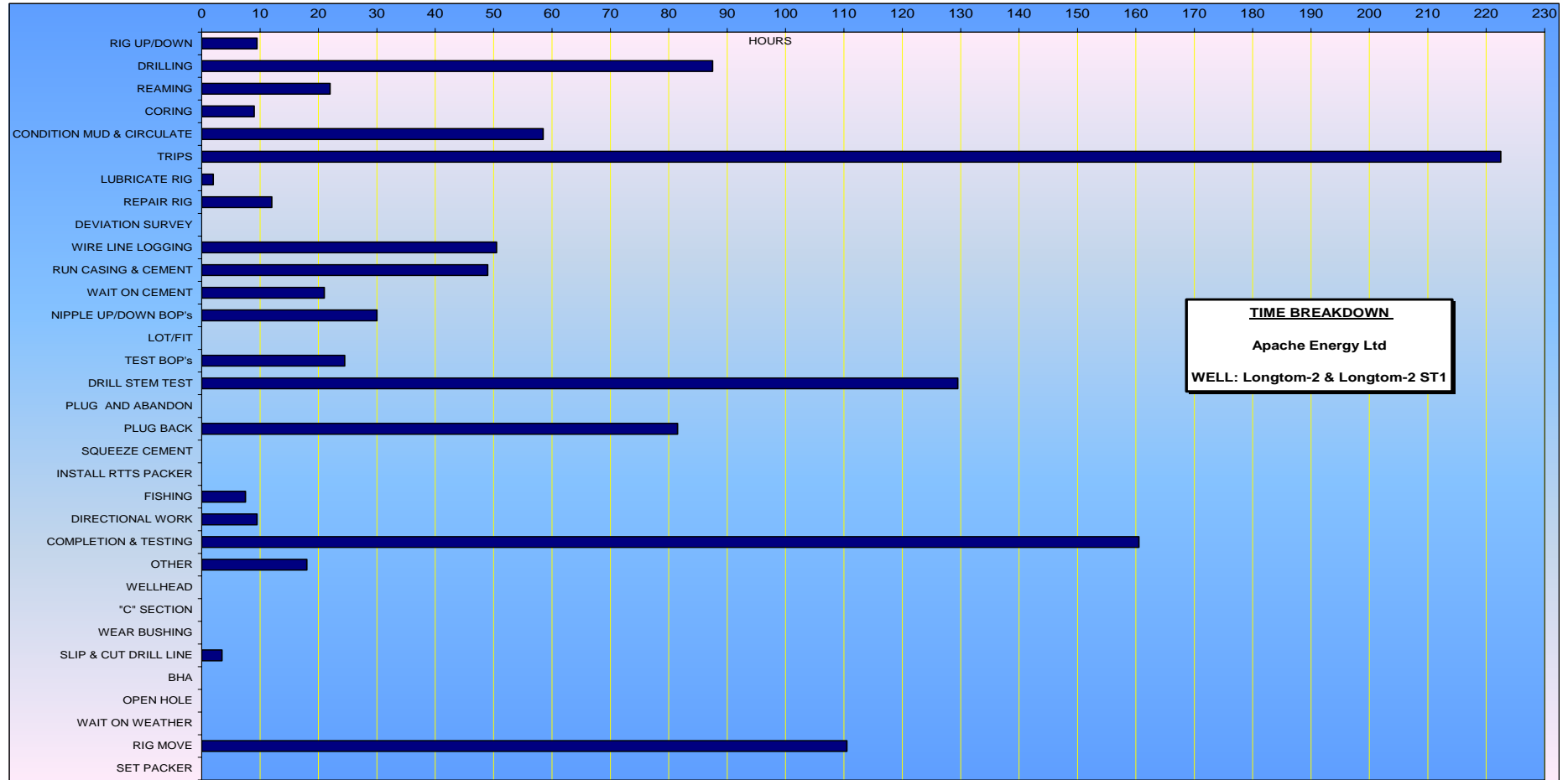
Longtom-2 ST1 reached a total depth of 2148.0 mMDRT at 10:09 hrs on 18th December 2004.

This report is intended as a summary of the information and data collected, processed and monitored as part of the INSITE service agreement.

1.1 Days vs Depth: Longtom-2 and Longtom-2 ST1



1.2 Time Break Down: Longtom-2 and Longtom-2ST1



2 WELL SUMMARY

2.1 WELL GENERAL INFORMATION

Well Name:	Longtom-2 & Longtom-2 ST1
Operator:	Apache Energy Ltd
Classification	Appraisal
Permit:	VIC P 54
Surface Location:	Lat: 38° 06' 11.89" S Long: 148° 19' 00.92" E UTM Easting: 615 462.43 UTM Northing: 5 781 904.33
Country	Australia
Drilling Rig:	Ocean Patriot
Type of rig	Semi submersible
Contractor:	Diamond Offshore
Depth Measured From	Rig Floor
Permanent Datum	Mean Sea Level
RT to MSL	21.50 m
Water Depth	56.80 m
Total Depth Longtom-2	2422.0 mMDRT
Total Depth Longtom-2 ST1	2148.0 mMDRT

3 SYNOPSIS: LONGTOM-2

3.1 GEOLOGICAL SUMMARY

The Longtom structure is located approximately 31 km from the nearest landfall in southeastern Victoria in approximately 56 meters of water. Longtom is close to existing production infrastructure including the Snapper (~27.7 km to WSW), Tuna (~12.5 km to SE) and Marlin (~17 km to SW) fields operated by ESSO and the Patricia Baleen Field operated by OMV (~15.5 km to NE).

Longtom-2 is an appraisal well designed to test the 251 m gas column encountered in Longtom-1/ST1 and deeper untested and undrilled intervals. Longtom-1/ST1 was drilled in 1995 by BHPP (100%) to test a buttress closure within the Emperor Sub-group (previously referred to as the Judith Formation). Shows, log interpretation and the results of an RFT tool run indicate Longtom-1 intersected a 50 m section of interbedded sandstones and shales of the Admiral Formation (part of the Emperor Sub-group) before intersecting a normal fault and older Strzelecki Group sediments on the footwall side of the fault. Log analysis indicates a 17.7 m of net gas pay. Based on RFT pressures a 251 m gas column can be interpreted within the gas-bearing sandstones in Longtom-1. Longtom-ST1 was subsequently drilled downdip from Longtom-1, away from the fault and intersected further gas bearing sandstones interbedded in shales. The sidetrack intersected a vertical section of approximately 231 m of gas bearing sandstones and shales. Difficulties encountered while trying to log the sidetrack meant only LWD gamma and resistivity data were obtained over the pay section in the sidetrack. No production testing was conducted in either the original borehole or sidetrack and the discovery was deemed to be non-commercial based on interpretation of reservoir quality and gas markets at the time which were supplied exclusively by the ESSO/BHPP joint venture.

The Longtom trap is a three-way dip closure buttress closure formed by the juxtaposition of the Emperor Sub-group sandstones and shales on the southern downthrown side against the Strzelecki Group on the northern upthrown side along a major WNW-ESE trending fault. This fault is one of several similarly oriented faults within the Rosedale Fault System that defines the northern edge of the Central Deep. Faulting along WNW-ESE faults of the Rosedale Fault System commenced in the Santonian-Campanian. The structure lies along the same NE-SW anticlinal trend as Barracouta, Snapper, Sunfish (to the SW) and Sperm Whale, Patricia, Baleen to the NE. This trend was formed in the Late to Middle Miocene in response to compressional tectonics.

In Longtom-1/ST1 the Admiral Formation sandstones are described as fine to medium grained, poorly to moderately sorted, common lithic grains and argillaceous matrix. The key

risk for the Longtom-2 well is the lack of well developed permeability within these fluvio-lacustrine sandstones. There is, as yet no production from the Admiral Formation or the Emperor Sub-group in the Gippsland Basin. In Longtom-1 twenty three RFT pressure points were attempted with six valid tests indicating a range of permeabilities from 15.9 mD to 0.6 mD. However given the proximity of a major fault zone to the section it is possible that the section has been degraded by fault-zone activity. Six sidewall cores from Longtom-1 were described petrographically, an “overcompacted” framework with long to concavo-convex grain contacts and ductily-deformed micaceous lithic grains which have partly “flowed” between more resistant detrital grains was reported in all samples. While this fabric may be a product of normal compaction proximity to a major fault and exposure to compressive stresses within the fault zone could also be responsible. In this case, it is likely that the porosity and permeability of the sandstones would improve away from the fault.

Offset well data suggests that sandstone package thickness and sand/shale ratios increase with increasing depth in the Admiral Formation. Neither Longtom-1 or the sidetrack reached the base of the Admiral Formation and it has been estimated that approximately 160 m of additional section that could be drilled (in a TVD sense). The thickest section of the Admiral Formation penetrated in the basin so far was 320 m in Judith-1.

Both top seal and cross-fault seal for the prospect have been proven by Longtom-1/ST1. Top seal is provided by lacustrine shales of the Kipper Formation. Cross-fault seal is provided by the argillaceous sandstones and shales of the Strzelecki Group. The effectiveness of both top and lateral cross-fault seal were proven by the results of Longtom-1/ST1.

The source rock for hydrocarbons in the Gippsland are coals and coaly mudstones of the Golden Beach and Halibut Sub-groups. The presence of several commercial fields in the area and the gas recovered in Longtom-1/ST1 demonstrates the effectiveness of the source and migration pathway. The main risk for the Longtom-2 appraisal well is the lack of significant reservoir development within the Admiral Formation sandstones.

3.2 DRILLING SUMMARY Longtom-2

914 mm (36") Hole

The 914 mm (36") hole section was drilled in one bit run.

The run included a 914 mm (36") hole opener run in conjunction with a Security XNIC 660 mm (26") bit, dressed with 1 x 28 and 3 x 25 nozzles. This bit assembly was run with a conventional rotary drilling assembly and drilled from 78.32 mMDRT to section TD of 111.0 mMDRT. The section was drilled using seawater combined with and gel sweeps.

The 762 x 508 mm (30" x 20") conductor was set at 109.9 mMDRT.

311 mm (12 ¼") Hole

The 311 mm (12 ¼") hole section was drilled in one bit run.

This run included a Hycalog DS40HFGNU bit, dressed with 4 x 16 nozzles. This bit was run with a conventional rotary drilling assembly and Sperry Sun MWD/FEWD/PWD tools, along with a Sperry Sun performance motor and drilled from 111.0 mMDRT to 1009.0 mMDRT. The cement in the 762 x 508 mm (30" x 20") casing was tagged at 104.0 mMDRT. After washing/drilling 5.9 m of cement, the shoe was drilled at 109.9 mMDRT. Drilling continued to a hole section TD of 1009.0 mMDRT with seawater combined with 40 bbls guar gum sweeps. Prior to POOH, and then a 150bbls PHG sweep was pumped. The well was then displaced with a further 300bbls PHG and 170bbls KCL/PHPA mud.

The 508 x 244 mm (20" x 9 ⅝") casing was set at 995.3 mMDRT.

216 mm (8 ½") Hole

216 mm (8 ½") hole section was drilled in 2 bit runs.

The first run included a Hycalog DSX104HG bit, dressed with 1 X 13 and 4 X 12 nozzles and was drilled with a conventional rotary drilling assembly and Sperry Sun MWD/FEWD/PWD tools, along with a Sperry Sun performance motor. The cement in the 508 x 244 mm (20" x 9 ⅝") casing was tagged at 964 mMDRT and whilst drilling cement to 980 mMDRT the hole was displaced with 1.25 sg Idcap D mud. After drilling 3 m of new formation from 1009.0 mMDRT to 1012.0 mMDRT, the well was aligned to perform an FIT (EMW = 1.7 sg (14.19 ppg) using 1.25 sg (10.4 ppg) IDCAP mud. Drilling continued from 1012.0 mMDRT to 2030.0 mMDRT, where upon controlled drilling at 50 m/hr was requested. Eventually an ROP of 50 m/hr was not attainable and at 2312.0 mMDRT it was decided to make a bit change.

The second run included a Smith GFHI300 DFS, dressed with 3 x 16 nozzles and was drilled with a conventional rotary drilling assembly and Sperry Sun MWD/FEWD/PWD tools. This section was drilled to 2422.0 mMDRT, Total Depth at 14:55 hours 19th November, 2004.

An attempt to run Wireline logs proved unsuccessful, hanging up at 1800.0 mMDRT and it was determined to instigate a full wiper trip to bottom. A new bit was picked up for the wiper trip.

A third run included a Hycalog DSX104HG, dressed with 5 x 12 nozzles which drilled no new hole.

PROBLEMS ON TRIP

When pulling out of hole, an MWD repeat section wipe was performed from 2312.0 mMDRT to 2100.0 mMDRT after which several tight sections were encountered. The pipe was worked at 2016m, 1946m, 1862m, 1846m and 1816m where a maximum overpull of 36mT was observed. Tripping out continued to 1750.0 mMDRT where further tight hole was encountered and it was observed that the hole was not taking correct fill.

The pipe was back reamed out of hole from 1750.0 mMDRT to 1671.0 mMDRT, with a total gas peak reading of 11% being observed. The well was flow checked and deemed static. Circulation was resumed and total gas peaks of 66%, 63%, 91% and 96% were measured. There were no indications on surface of any increased flow into the well. At this point the calibration status of the THA was called into question.

The well was again flow checked and deemed static. A quick calibration on the fly indicated that the THA readings were potentially incorrect (perhaps exaggerated by a factor of 70).

The well was monitored on the trip tank whilst the bit was ran back to bottom, the hole returning the correct amount of fluid. 6m of fill was encountered when the bit was back to bottom. Whilst running back to bottom the THA was thoroughly recalibrated.

Once back at bottom, the circulation of bottoms-up was commenced. After pumping 20.7 m³, a gain of 2 m³ was taken, with mud coming out of the rotary. The well was shut in and the diverter was closed. Pressures were monitored; SIDPP 0kPa, SICP 3381kPa whilst kill sheets were prepared. The influx was circulated out via the choke and the riser was displaced with 1.26 sg mud. The BOP was flushed with water and the choke and kill lines were displaced with 1.26 sg mud. The well was opened and monitored on the trip tank – static. The well was circulated with the mud increased to 1.32 sg and a gas peak of 35% was observed. The choke and kill lines were flushed with 1.32 sg mud prior to performing a 10 stand check trip to 2013.0 mMDRT.

The bit was run back to bottom from 2013.0 mMDRT to 2311.0 mMDRT with 2 m of fill found at bottom. Bottoms-up was circulated, a maximum gas reading of 16.4% being observed. The hole was circulated until gas levels had reduced to less than 4%. A flow check revealed that the well was static and the string was pulled out of the hole from 2311.0 mMDRT to 1645.0 mMDRT. A maximum overpull of 9 mton encountered at 1650.0 mMDRT and the hole

continued to take correct fill. The string was back reamed out of the hole from 1645.0 mMDRT to 995.0 mMDRT (Casing Shoe).

Bottoms-up was circulated – no gas, and a flow check revealed the well to be static.

A final flow check prior to pulling the BHA through the BOP's was static. The BHA was racked back and the MWD tools were downloaded whilst the mud motor was laid out.

WIRELINER PROGRAM

Due to tight hole, all three attempts to run Wireline were unsuccessful. A fourth attempt on drill pipe was unsuccessful too and the Wireline Program was abandoned.

DST PROGRAM

178 mm (7") liner was run and cemented with the shoe at 2420.0 mMDRT and the liner lap at 877.0 mMDRT. Two DST tests were then conducted.

3.3 DRILLING SUMMARY Longtom-2 ST1

Longtom-2 ST1 commenced on 13th December 2004 at 12:30 hrs.

After plugging back Longtom-2 a whipstock was run and set with the top set at 1954.9 mMDRT.

152 mm (6") Milling Runs

A 152 mm (6") window was milled through the 178 mm (7") liner from 1955.2 mMDRT to 1967.7 mMDRT using two milling runs.

The first run included a milling/whipstock assembly. RIH and tagged cement at 1960.3 mMDRT. Set whipstock with top at 1954.9 mMDRT. Commenced milling window from 1955.2 mMDRT. Drillstring became stuck at 1958.0 mMDRT. Worked free and milled to 1959.0 mMDRT. Drillstring again became stuck at 1958.0 mMDRT when lifting off bottom. Freed pipe and POH to check mill.

The second run included a window milling assembly. RIH and milled from 1959.0 to 1967.7 mMDRT. Circulated bottoms up and POH.

152 mm (6") Hole

152 mm (6") hole section was drilled with three bit runs.

The first run included a Reed Hycalog 211 PDC bit, dressed with 4 X 16 nozzles and was drilled with a conventional rotary drilling assembly. Drilled from 1967.7 mMDRT to core point at 2112.0 mMDRT. POH to pick up coring assembly.

The second run included a Security DBS core bit. Cut core#1 from 2112.0 mMDRT to 2130.0 mMDRT. POH to retrieve core. Cut 18.0 m, Retrieved 17.61m of core.

The third run included a re-run of the Security DBS core bit. Cut core#2 from 2130.0 mMDRT to 2148.0 mMDRT. POH to retrieve core. Cut 18.0 m, Retrieved 18.0m of core. This depth was also the total depth of Longtom-2 ST1. The well was then plugged and abandoned.

4.0 LOGGING SERVICES SUPPLIED

4.1 GEOLOGICAL MONITORING

EQUIPMENT

Autocalcimeter
Company Workstation
Database PC (ADI)
Draw works Depth Encoder
FID Chromatograph
FID Total Gas Detector
Floating Gas Trap
Flow Out Paddle
H₂S detectors (x4)
CO₂ detector
Hookload and WOB
HP Design jet Printer
Hydrometers
INSITE IRIS Data acquisition PC
Mud Density In/Out
Mud Temperature In/Out
Mud Conductivity Out
Pit Volume Sensors (x7)
Pressure Sensors (x2)
Printrex Printer
Pump Stroke Counters (x3)
Rig Floor Monitor (x2)
Standard Fluoroscope
Standard Stereo Microscope
Toolpusher Monitor
Workstation PC

4.2 SERVICES PROVIDED

Data files in .pdf, ASCII (LAS) format
Formation Evaluation
Geological and Engineering Reporting
Hydraulics Analysis using Planit
Interpreted Lithology
Plots of daily drilling activities
Real Time Drilling Monitoring
Real Time Log Display of MWD/LWD data
Real Time monitoring of drilling fluids
Real Time Tabular Display of Data
Real Time Trip Monitoring
Real Time Display of Data
Sample Collection and Processing
Timers for Hours and Revolutions on drilling assembly

4.3 MONITORED PARAMETERS

Block Position
Choke Pressure
Continuous Gas Percentage in Air
Depth
Flow Out
Gas Analysis (C1-C5)
H2S Gas
CO2 Gas
Hookload
Hydrocarbon Shows
Formation Lithology
Mud Density In and Out
Mud Temperature In and Out
Mud Conductivity out
Mud Volume
MWD data
On/Off Bottom status
Pump Stroke and Volume of Mud Pumped
Rate of Penetration
Revolutions per Minute of Top Drive

Stand Pipe Pressure

Swab\Surge Calculation

Torque and Vibration

Weight on Bit including Drag and Obstructions

Well Volumes and Lag Calculations

4.4 PERSONNEL

INSITE engineers continuously monitored all operations and encountered considerable problems in maintaining the database during the early stages whilst drilling Longtom-2 and Longtom-2 ST1. They provided any well and drilling data upon request, notified the appropriate personnel of any irregularities or anticipated problems, provided daily reports, print outs of data and prepared master logs and final reports.

4.5 SAMPLE COLLECTION

One extra large bag (600 g) of water-washed cuttings was collected for each interval sampled. A small portion of washed sample was placed into Samplex trays (3 sets) and the remainder air-dried and split into three sets.

The splits were distributed to Apache Energy Ltd (1 x 200g), Victorian DPI (1 x 200g) and AGSO (1 x 200g).

The three sets of Samplex Trays were distributed to Apache Energy Ltd (x1), Victorian DPI (x1) and AGSO (x1)

Mud samples were sent to Apache Energy Ltd.

Sidewall cores/Rotary SWC's were not collected as the hole condition was not conducive to running a successful Wireline Program

Palynology samples were collected at depths designated by the Wellsite Geologist and Air expressed to Apache Energy Ltd. The Geologist maintained a full list of samples on forwarded.

4.6 SAMPLE DISTRIBUTION

All samples collected were sent attention:

Barry Lloyd
Kestrel Information Management
39 McDowell Street
Welshpool
WA 6106

Washed and Dried Samples (3 sets)

Set 1: Washed/Dried Splits

Apache Energy Ltd

Set 2: Washed/Dried Splits

Victorian DPI

Set 3: Washed/Dried Splits

AGSO

Samplex Trays (3 Sets)

Set 1: Samplex Trays

Apache Energy Ltd

Set 2: Samplex Trays

Victorian DPI

Set 3: Samplex Trays

AGSO

Mud Samples

Various Mud Samples

Apache Energy Ltd

Palynology Samples

Apache Energy Ltd

Hot Shot via helicopter directly to Apache Energy Ltd under the direction of the Wellsite Geologist.

5.0 GEOLOGY AND SHOWS

5.1 INTRODUCTION

Sampling of drilled cuttings by Sperry-Sun commenced in the 311 mm (12 ¼") hole section, from 1009.0 mMDRT until the total well depth of 2422.0 mMDRT. Spot sample collection for quick inspection, as well as a change in the programmed sampling frequency depended on the rate of penetration and were at the discretion of the Wellsite Geologist.

Samples of washed, air-dried cuttings were collected over the following intervals:

Longtom-2	
SAMPLE DEPTH mMDRT	SAMPLE FREQUENCY Metres
1009.0 – 1020.0	11
1020.0 – 1800.0	10
1800.0 – 2415.0	5
2415.0 – 2422.0	7

Longtom-2 ST1	
SAMPLE DEPTH mMDRT	SAMPLE FREQUENCY Metres
1967.7 – 1970.0	2.3
1970.0 – 2110.0	5

Cuttings were logged on site by Sperry Sun geologists using a binocular microscope. An ultraviolet light box was used to inspect the fluorescence of cuttings.

Gas was monitored by a Total Hydrocarbon Gas detector (Flame Ionisation Detector – F.I.D), calibrated such that 50 API units, or 10,000 parts per million (ppm) is equivalent to 1% methane gas in air. An on-line F.I.D gas chromatograph recorded the gas breakdown, calibrated to analyse C1, C2, C3, isotopic C4, normal C4 alkanes, neo C5, isotopic C5 and normal C5.

Regular gas system checks were performed to ensure the correct functioning of the gas detection and measurement system. Check gas 2.5% (pure methane) and 10% (pure methane) were used to ascertain correct readings by the total gas detection equipment, and gas mixture was used to check the chromatograph. A successful and accurate chromatograph calibration was done prior to drilling 12.25' hole. Subsequent checks with carbide to test for blockages to flow detection detected blockages, all of which were rectified. However a technician had to be called out later to reset the chromatograph flows and recalibrate the chromatograph and total gas detectors which although inaccurate in

magnitude could detect gas from the well. The Total Gas detector equipment was thoroughly calibrated via a conference line with the Perth office on the 23rd November 2004 with the Wellsite geologist witnessing the whole process and ratifying accuracy. As of mid afternoon 23rd November 2004 both gas detectors were deemed operational and calibrated to the satisfaction of the client and service operators both on the rig and in Perth. Regular carbide checks were maintained after this.

LITHOLOGICAL SUMMARY FOR Longtom-2

Following is a tabulated lithological summary of Longtom-2 and Longtom-2 ST1. The intervals have been determined on the basis of cuttings lithology and drilling parameters and are consistent with those delineated by the Wellsite Geologist.

Interpretative Depth 1009.2 to 1100.0 mMDRT		Lithology Interbedded CALCISILTITE (grading in part to SILTY MARL) and CALCARENITE.	
ROP. (metre/hour)	Drilling Parameters (Avg)	Maximum Formation Gas: % Chromatograph Analysis:	Average Formation Gas: % Chromatograph Analysis:
Min. 7.3 Max. 242.5 Avg. 76.5	WOB : 8.4MT RPM(surf): 72 RPM(mot): 161 TRQ : 3087lb/ft	C ₁ : ppm C ₂ : ppm C ₃ : ppm C ₄ TOT : ppm	C ₁ avg : ppm C ₂ avg : ppm C ₃ avg : ppm C ₄ TOT avg : ppm
<p>CALCISILTITE (52 to 65%): medium grey to dark greenish grey, light grey in part, trace to 5% silt, minor to common calcite cement, grades in part to silty marl, trace to 5% micro pyrite, trace to 5% moderate green glauconite, trace fossil fragments, soft to firm, amorphous to locally sub blocky.</p> <p>SILTY MARL (5 to 15%, decreasing with depth): very light grey to light grey, common silt, rare very fine quartz grains, common calcite cement, trace micro pyrite, soft to firm, amorphous to sub blocky.</p> <p>CALCARENITE (30 to 33%): very light grey to light olive grey, 5 to 10% very fine to fine grained quartz, trace very fine greenish grey glauconite, trace micro pyrite, rare fossil fragments (Forams), pyritised in part, 10 to 20% argillaceous, sub rounded, soft to moderately firm, sub blocky.</p>			

Interpretative Depth 1100.0 to 1150.0 mMDRT		Lithology Calcarenite, Silty Marl, Calcisiltite.	
ROP. (metre/hour)	Drilling Parameters (Avg)	Maximum Formation Gas: % Chromatograph Analysis:	Average Formation Gas: % Chromatograph Analysis:
Min. 3.6 Max. 231.1 Avg. 88.8	WOB : 8.0MT RPM(surf): 74 RPM(mot): 161 TRQ : 2998lb/ft	C ₁ : ppm C ₂ : ppm C ₃ : ppm C ₄ TOT : ppm	C ₁ avg : ppm C ₂ avg : ppm C ₃ avg : ppm C ₄ TOT avg : ppm
<p>CALCARENITE: (20 - 33%): white very light grey, trace very fine to fine grained quartz, trace very fine greenish grey glauconite, trace micro pyrite, rare fossil fragments (Forams), 10 to 20% argillaceous, sub rounded, soft to moderately firm, sub blocky.</p> <p>SILTY MARL: (5 - 15%): very light grey to light grey, common silt, rare very fine quartz grains, common calcite cement, trace micro pyrite, soft to firm, amorphous to sub blocky.</p>			

CALCISILTITE: (52 - 70%) medium grey to light greenish grey, light grey in part, 10 to 15% silt, minor to common calcite cement, grades in part to silty marl, 5 to 10% micro pyrite, rare nodular pyrite, trace to 5% moderate green glauconite, minor fossils and fossil fragments, minor argillaceous matrix, trace crystalline calcite, soft to firm, amorphous to sub blocky.

Interpretative Depth 1150.0 to 1290.0 mMDRT		Lithology Calcarenite, Silty Marl, Argillaceous Calcisiltite.	
ROP. (metre/hour)	Drilling Parameters (Avg)	Maximum Formation Gas: % Chromatograph Analysis:	Average Formation Gas: % Chromatograph Analysis:
Min. 4.9 Max. 125.5 Avg. 75.5	WOB : 7.9MT RPM(surf): 74 RPM(mot): 161 TRQ : 3153lb/ft	C ₁ : ppm C ₂ : ppm C ₃ : ppm C ₄ TOT : ppm	C ₁ avg : ppm C ₂ avg : ppm C ₃ avg : ppm C ₄ TOT avg : ppm
<p>CALCARENITE: (9 - 25%): white very light grey, trace very fine to fine grained quartz, trace very fine greenish grey glauconite, trace micro pyrite, rare fossil fragments (Forams), 10% argillaceous matrix, sub rounded, soft to moderately firm, sub blocky.</p> <p>SILTY MARL: (1 - 10%): very light grey to light grey, common silt, rare very fine quartz grains, common calcite cement, trace micro pyrite, soft to firm, amorphous to sub blocky.</p> <p>ARGILLACEOUS CALCISILTITE: (70 - 90%): medium grey to light greenish grey, light grey in part, 10 to 15% silt, minor to common calcite cement, grades in part to silty marl, minor to common micro pyrite, trace nodular pyrite, trace moderate green glauconite, minor fossils and fossil fragments, abundant argillaceous matrix, trace crystalline calcite, soft to firm, amorphous to sub blocky.</p>			

Interpretative Depth 1290.0 to 1510.0 mMDRT		Lithology Interbedded SANDSTONE, SILTY CLAYSTONE and COAL seams.	
ROP. (metre/hour)	Drilling Parameters (Avg)	Maximum Formation Gas: % Chromatograph Analysis:	Average Formation Gas: % Chromatograph Analysis:
Min. 5.6 Max. 207.1 Avg. 77.8	WOB : 6.0MT RPM(surf): 77 RPM(mot): 161 TRQ : 3390lb/ft	C ₁ : ppm C ₂ : ppm C ₃ : ppm C ₄ TOT : ppm	C ₁ avg : ppm C ₂ avg : ppm C ₃ avg : ppm C ₄ TOT avg : ppm
<p>SANDSTONE (50 to 90%): predominantly white to light grey, light brownish grey in part, dominantly returned loose with nil trace hard cemented finer grained aggregates, very fine to very coarse grained, predominantly medium to coarse, minor very coarse and fine, angular to sub rounded, minor well rounded, trace bit fractured grains, moderately sorted, trace strong silica cement, trace intergranular pyrite cement, trace light brownish grey argillaceous matrix, trace nodular pyrite, poor to fair inferred porosity. No shows.</p> <p>SILTY CLAYSTONE (10 to 50%): generally as above; medium grey to brownish grey, soft to moderately firm, sub blocky, common carbonaceous specks and fragments, abundant silty</p>			

matrix, trace micro pyrite, trace micro mica, weakly calcareous.

COAL (30%): commonly dusky brown to brownish black, minor moderate brown, earthy to sub vitreous lustre, blocky to sub conchoidal fracture, commonly argillaceous, lignitic.

COAL (nil to 40%): commonly dusky brown to brownish black, minor moderate brown, earthy to sub vitreous lustre, blocky to sub fissile, minor sub conchoidal fracture, commonly argillaceous, lignitic.

Interpretative Depth 1510.0 to 1580.0 mMDRT		Lithology Interbedded SANDSTONE, SILTY CLAYSTONE and COAL seams.	
ROP. (metre/hour)	Drilling Parameters (Avg)	Maximum Formation Gas: % Chromatograph Analysis:	Average Formation Gas: % Chromatograph Analysis:
Min. 12.9 Max. 571.2 Avg. 52.9	WOB : 6.7MT RPM(surf): 52 RPM(mot): 127 TRQ : 3390lb/ft	C ₁ : ppm C ₂ : ppm C ₃ : ppm C ₄ TOT : ppm	C ₁ avg : ppm C ₂ avg : ppm C ₃ avg : ppm C ₄ TOT avg : ppm
<p>SANDSTONE (10 to 60%): Quartzose, predominantly white to light grey, medium to coarse, dominantly medium, sub rounded to rounded, rare sub angular, moderately well sorted, trace bit fractured grains, trace to 5% silica cement, trace light brownish grey argillaceous matrix, silty in part, trace nodular pyrite, trace micro pyrite, fair to good inferred porosity. No shows.</p> <p>SILTY CLAYSTONE (10 to 55%): medium grey to brownish grey, soft to moderately firm, sub blocky, common carbonaceous specks and fragments, abundant silty matrix, trace micro pyrite, trace micro mica, trace coaly fragments, weakly calcareous.</p> <p>COAL (10 to 80%): dusky brown to brownish black, minor moderate brown, earthy to sub vitreous lustre, blocky to sub conchoidal fracture, slightly argillaceous in part, lignitic.</p>			

Interpretative Depth 1580.0 to 1640.0 mMDRT		Lithology Interbedded WEATHERED VOLCANICS, SANDSTONE and SILTY CLAYSTONE with trace to minor COAL seams.	
ROP. (metre/hour)	Drilling Parameters (Avg)	Maximum Formation Gas: % Chromatograph Analysis:	Average Formation Gas: % Chromatograph Analysis:
Min. 61.5 Max. 180.6 Avg. 112.0	WOB : 10.3MT RPM(surf): 76 RPM(mot): 150 TRQ : 4918lb/ft	C ₁ : ppm C ₂ : ppm C ₃ : ppm C ₄ TOT : ppm	C ₁ avg : ppm C ₂ avg : ppm C ₃ avg : ppm C ₄ TOT avg : ppm
<p>SANDSTONE (14 to 25%): white to light grey, fine to medium , dominantly medium, sub angular to sub rounded, moderately sorted, trace silica cement, common white to light brownish grey argillaceous matrix, silty in part, trace nodular pyrite, trace micro pyrite, poor inferred porosity, no shows, possible quartz vein at 1620.0 mMDRT, clear to translucent, medium to very coarse, dominantly very coarse, sub angular, rare angular, poorly sorted, trace</p>			

to 5% siliceous cement, trace micro pyrite, loose, poor inferred porosity, no shows.

SILTY CLAYSTONE (40 to 80%): light brown to pale yellowish brown, 10 to 20% silt, rare very fine quartz, trace carbonaceous flecks, trace micromicaceous, trace micro pyrite, rare nodular pyrite, soft, dispersive in part.

VOLCANIC (5 to 32%): white, greenish grey, bit crushed, soft to firm, aggregated in part, 10 to 20% silt, minor feldspar laths in aggregates, trace altered yellowish grey feldspar, trace micaceous, minor chlorite, trace micro pyrite, localised nodular pyrite, minor, pale blue green and light grey microcrystalline angular aggregates, hard.

COAL (Trace to 10%): brownish black, minor moderate brown, sub vitreous lustre, blocky to sub conchoidal fracture, slightly argillaceous in part, lignitic.

Interpretative Depth 1640.0 to 1670.0 mMDRT		Lithology Interbedded SANDSTONE and SILTY CLAYSTONE.	
ROP. (metre/hour)	Drilling Parameters (Avg)	Maximum Formation Gas: % Chromatograph Analysis:	Average Formation Gas: % Chromatograph Analysis:
Min. 25.2 Max. 77.7 Avg. 52.3	WOB : 11MT RPM(surf): 77 RPM(mot): 171 TRQ : 3863lb/ft	C ₁ : ppm C ₂ : ppm C ₃ : ppm C ₄ TOT : ppm	C ₁ avg : ppm C ₂ avg : ppm C ₃ avg : ppm C ₄ TOT avg : ppm
<p>SANDSTONE (5 to 14%): white to light grey, fine to medium, dominantly fine, sub angular to sub rounded, moderately sorted, trace to 5% silica cement, common white to argillaceous matrix, silty in part, trace calcite cement, trace nodular pyrite, trace micro pyrite, fair to local aggregates, good inferred porosity, no shows.</p> <p>SILTY CLAYSTONE (14 to 80%): light brownish grey to light olive grey, soft, amorphous, sub blocky in part, abundant silt, rare very fine sand, trace carbonaceous flecks, trace micromicaceous, trace to 2% micro pyrite, trace nodular pyrite, grading in part to claystone.</p> <p>COAL (Trace): brownish black, minor moderate brown, sub vitreous lustre, blocky to sub conchoidal fracture, slightly argillaceous in part, lignitic.</p>			

Interpretative Depth 1670.0 to 1750.0 mMDRT		Lithology Interbedded CLAYSTONE (grading in part to SILTY CLAYSTONE) and SANDSTONE with trace COAL seams.	
ROP. (metre/hour)	Drilling Parameters (Avg)	Maximum Formation Gas: % Chromatograph Analysis:	Average Formation Gas: % Chromatograph Analysis:
Min. 14.2 Max. 89.8 Avg. 50.5	WOB : 9.9MT RPM(surf): 77 RPM(mot): 162 TRQ : 4034lb/ft	C ₁ : ppm C ₂ : ppm C ₃ : ppm C ₄ TOT : ppm	C ₁ avg : ppm C ₂ avg : ppm C ₃ avg : ppm C ₄ TOT avg : ppm
CLAYSTONE (40 to 80%): light brownish grey to light olive grey, soft to firm, sub blocky to			

amorphous, trace to 5% silt, trace micro pyrite, trace micromicaceous.

SILTY CLAYSTONE (14 to 50%): light grey to light olive grey, soft, amorphous, sub blocky in part, abundant silt, rare very fine sand, trace carbonaceous flecks, trace micromicaceous, trace to 2% micro pyrite, trace nodular pyrite, grading in part to Claystone as above.

SANDSTONE (5 to 18%): white to light grey, fine to medium, dominantly fine, sub angular to sub rounded, moderately sorted, trace to 5% silica cement, trace feldspar, trace mica, common white argillaceous matrix, silty in part, trace calcite cement, minor siliceous cement, trace nodular pyrite, trace micro pyrite, common aggregates, poor inferred porosity, no shows.

COAL (Trace, above 1700.0 mMDRT): brownish black, minor moderate brown, sub vitreous lustre, blocky to sub conchoidal fracture, slightly argillaceous in part, lignitic.

Interpretative Depth 1750.0 to 1790.0 mMDRT		Lithology CLAYSTONE interbedded and intergradational with SILTY CLAYSTONE and SANDSTONE.	
ROP. (metre/hour)	Drilling Parameters (Avg)	Maximum Formation Gas: % Chromatograph Analysis:	Average Formation Gas: % Chromatograph Analysis:
Min. 23.0 Max. 255.8 Avg. 58.5	WOB : 7.5MT RPM(surf): 71 RPM(mot): 162 TRQ : 4338lb/ft	C ₁ : ppm C ₂ : ppm C ₃ : ppm C _{4 TOT} : ppm	C _{1avg} : ppm C _{2avg} : ppm C _{3avg} : ppm C _{4 TOT avg} : ppm

CLAYSTONE (35 to 80%): light bluish grey to greenish grey, firm, sub blocky, trace to 5% silt, trace micro pyrite, trace micromicaceous.

SILTY CLAYSTONE (10 to 40%): light grey to light olive grey, soft, amorphous, sub blocky in part, abundant silt, rare very fine sand, trace carbonaceous flecks, trace micromicaceous, trace to 2% micro pyrite, trace nodular pyrite, grading in part to Claystone as above.

SANDSTONE (Trace to 25%): white to light grey, silt to very fine, dominantly very fine, sub rounded, poorly sorted, trace to 5% silica cement, trace mica, common white argillaceous matrix, silty in part, minor calcite cement, trace weak siliceous cement, trace micro pyrite, commonly aggregated, poor inferred porosity, no shows.

Interpretative Depth 1790.0 to 1860.0 mMDRT		Lithology SILTY CLAYSTONE grading to CLAYSTONE in part, interbedded with SANDSTONE.	
ROP. (metre/hour)	Drilling Parameters (Avg)	Maximum Formation Gas: % Chromatograph Analysis:	Average Formation Gas: % Chromatograph Analysis:
Min. 27.2 Max. 103.3 Avg. 56.7	WOB : 7.6MT RPM(surf): 76 RPM(mot): 162 TRQ : 4729lb/ft	C ₁ : ppm C ₂ : ppm C ₃ : ppm C _{4 TOT} : ppm	C _{1avg} : ppm C _{2avg} : ppm C _{3avg} : ppm C _{4 TOT avg} : ppm

CLAYSTONE (35 to 80%): light bluish grey to greenish grey, firm, sub blocky, trace to 5% silt, trace micro pyrite, trace micromicaceous.

SILTY CLAYSTONE (10 to 40%): light grey to light olive grey, soft, amorphous, sub blocky in part, abundant silt, rare very fine sand, trace carbonaceous flecks, trace micromicaceous, trace to 2% micro pyrite, trace nodular pyrite, grading in part to Claystone as above.

SANDSTONE (Trace to 25%): white to light grey, silt to very fine, dominantly very fine, sub rounded, poorly sorted, trace to 5% silica cement, trace mica, common white argillaceous matrix, silty in part, minor calcite cement, trace weak siliceous cement, trace micro pyrite, commonly aggregated, poor inferred porosity, no shows.

Interpretative Depth 1860.0 to 1930.0 mMDRT		Lithology CLAYSTONE grading in part to SILTY CLAYSTONE, interbedded with SANDSTONE.	
ROP. (metre/hour)	Drilling Parameters (Avg)	Maximum Formation Gas: % Chromatograph Analysis:	Average Formation Gas: % Chromatograph Analysis:
Min. 24.8 Max. 108.6 Avg. 56.7	WOB : 7.3MT RPM(surf): 75 RPM(mot): 162 TRQ : 5018lb/ft	C ₁ : ppm C ₂ : ppm C ₃ : ppm C _{4 TOT} : ppm	C _{1avg} : ppm C _{2avg} : ppm C _{3avg} : ppm C _{4 TOT avg} : ppm
<p>CLAYSTONE (Trace to 80%): pale brown to light brownish grey, soft, dispersive, rarely sub blocky, minor silt, rare very fine quartz, trace carbonaceous flecks, trace micromicaceous, trace micro pyrite, local trace nodular pyrite, rare trace brownish black, coal fragments, sub vitreous lustre, blocky to sub conchoidal fracture, lignitic.</p> <p>SILTY CLAYSTONE (18 to 80%): white to yellowish grey, soft, dispersive, rarely sub blocky, abundant silt, 5 to 10% carbonaceous flecks, trace micromicaceous, trace micro pyrite, local trace pyrite nodules.</p> <p>SANDSTONE (Trace to 2%): white, aggregates, soft to firm, fine to medium grained, sub angular to sub rounded, dominantly sub rounded, poorly sorted, abundant white clay matrix, local trace chloritic clay, trace mica, rare micro pyrite, poor inferred porosity, no shows.</p>			

Interpretative Depth 1930.0 to 1970.0 mMDRT		Lithology Interbedded and intergradational CLAYSTONE (grading to SILTY CLAYSTONE) and SANDSTONE.	
ROP. (metre/hour)	Drilling Parameters (Avg)	Maximum Formation Gas: % Chromatograph Analysis:	Average Formation Gas: % Chromatograph Analysis:
Min. 29.9 Max. 93.7 Avg. 60.4	WOB : 8.2MT RPM(surf): 75 RPM(mot): 162 TRQ : 4839lb/ft	C ₁ : ppm C ₂ : ppm C ₃ : ppm C _{4 TOT} : ppm	C _{1avg} : ppm C _{2avg} : ppm C _{3avg} : ppm C _{4 TOT avg} : ppm
<p>SILTY CLAYSTONE (5 to 15%): white to yellowish grey, soft to firm, amorphous, sub blocky in part, minor silt, rare very fine quartz, trace mica, trace carbonaceous flecks and micro-laminae, trace micro pyrite.</p>			

SILTY CLAYSTONE (25 to 28%): light grey to light olive grey, firm to hard, sub blocky, abundant silt to very fine quartz, grades in part to Siltstone, 5 to 10% carbonaceous flecks and micro-laminae, trace micromicaceous, trace micro pyrite, local trace pyrite nodules.

SANDSTONE (15 to 25%): white, aggregates, firm to hard, friable in part, fine to medium grained, sub angular to sub rounded, dominantly sub rounded, poorly sorted, abundant white clay matrix, local trace chloritic clay, minor siliceous cement, trace to 5% carbonaceous flecks, rare carbonaceous laminae, trace mica, rare micro pyrite, poor inferred porosity, no shows.

CLAYSTONE (35 to 60%): pale brown to light brownish grey, soft, dispersive, rarely sub blocky, minor silt, rare very fine quartz, trace carbonaceous flecks, trace micromicaceous, trace micro pyrite, local trace nodular pyrite, rare trace brownish black, coal fragments, sub vitreous lustre, blocky to sub conchoidal fracture, lignitic.

Interpretative Depth 1970.0 to 2010.0 mMDRT		Lithology Interbedded SANDSTONE, SILTSTONE (grading locally to SANDY SILTSTONE) and CLAYSTONE.	
ROP. (metre/hour)	Drilling Parameters (Avg)	Maximum Formation Gas: % Chromatograph Analysis:	Average Formation Gas: % Chromatograph Analysis:
Min. 10.9 Max. 88.1 Avg. 51.3	WOB : 13.7MT RPM(surf): 74 RPM(mot): 160 TRQ : 5053lb/ft	C ₁ : ppm C ₂ : ppm C ₃ : ppm C ₄ TOT : ppm	C ₁ avg : ppm C ₂ avg : ppm C ₃ avg : ppm C ₄ TOT avg : ppm
<p>SANDSTONE (20 to 70%): white, aggregated to loose, firm to hard, friable in part, fine to medium grained, dominantly fine, sub angular to sub rounded, dominantly sub rounded, poorly sorted, abundant white clay matrix, minor siliceous cement, trace to 5% carbonaceous flecks, trace mica, rare micro pyrite, poor inferred porosity, no shows.</p> <p>SILTSTONE (20 to 25%): very light grey to light bluish grey, firm to hard, blocky, abundant silt, rare very fine quartz, 5 to 10% carbonaceous flecks and micro-laminae, trace micromicaceous, trace micro pyrite, local trace nodular pyrite, grading in part to Silty Claystone.</p> <p>SANDY SILTSTONE (20 to 40%): very light grey to light bluish grey, firm to hard, blocky, abundant silt, 5 to 10% very fine to fine sand, 5 to 10% carbonaceous flecks and micro-laminae, trace micromicaceous, trace micro pyrite, local trace nodular pyrite, grading in part to Siltstone as above.</p> <p>CLAYSTONE (10 to 60%): light bluish grey to light olive grey, firm to hard, blocky, trace silt, trace micromicaceous, trace carbonaceous flecks.</p>			

Interpretative Depth 2010.0 to 2075.0 mMDRT		Lithology Interbedded CLAYSTONE and SANDSTONE grading to SANDY SILTSTONE in part.	
ROP. (metre/hour)	Drilling Parameters (Avg)	Maximum Formation Gas: % Chromatograph Analysis:	Average Formation Gas: % Chromatograph Analysis:
Min. 10.9 Max. 78.5 Avg. 46.5	WOB : 10.2MT RPM(surf): 75 RPM(mot): 161 TRQ : 4624lb/ft	C ₁ : ppm C ₂ : ppm	C ₁ avg : ppm C ₂ avg : ppm

		C₃ : ppm C_{4 TOT} : ppm	C_{3avg} : ppm C_{4 TOT avg} : ppm
<p>CLAYSTONE (30 to 90%): light bluish grey to light olive grey, firm to hard, blocky, trace silt, trace micromicaceous, trace carbonaceous flecks.</p> <p>SANDSTONE (5 to 30%): Quartzose, white to very light grey, returned loose, trace friable aggregates, very fine to fine grained, minor medium, angular to sub angular, well sorted, minor argillaceous matrix, trace moderate red and black lithic grains, poor inferred porosity, no shows.</p> <p>SANDY SILTSTONE (5 to 20%): very light grey to light bluish grey, firm to hard, blocky, abundant silt, 5 to 10% very fine to fine sand, 5 to 10% carbonaceous flecks and micro-laminae, trace micromicaceous, trace micro pyrite, local trace nodular pyrite, grading in part to Siltstone.</p>			

Interpretative Depth 2075.0 to 2115.0 mMDRT		Lithology Interbedded CLAYSTONE (FERRUGINISED in part) and SANDSTONE grading in part to SANDY SILTSTONE.	
ROP. (metre/hour) Min. 2.7 Max. 77.9 Avg. 46.1	Drilling Parameters (Avg) WOB : 11.1MT RPM(surf): 74 RPM(mot): 161 TRQ : 5171lb/ft	Maximum Formation Gas: % Chromatograph Analysis: C₁ : ppm C₂ : ppm C₃ : ppm C_{4 TOT} : ppm	Average Formation Gas: % Chromatograph Analysis: C_{1avg} : ppm C_{2avg} : ppm C_{3avg} : ppm C_{4 TOT avg} : ppm
<p>CLAYSTONE (60 to 90%): light bluish grey to light olive grey, firm to hard, blocky, trace silt, trace micromicaceous, trace carbonaceous flecks.</p> <p>SANDSTONE (5 to 15%): white to very light grey, returned loose, trace friable aggregates, very fine to fine grained, minor medium, angular to sub angular, well sorted, minor argillaceous matrix, trace moderate red and black lithic grains, poor inferred porosity, no shows.</p> <p>SANDY SILTSTONE (3 to 20%): very light grey to light bluish grey, firm to hard, blocky, abundant silt, 5 to 10% very fine to fine sand, 5 to 10% carbonaceous flecks and micro-laminae, trace micromicaceous, trace micro pyrite, local trace nodular pyrite, grading in part to Siltstone.</p> <p>FERRUGINOUS CLAYSTONE (Trace to 10%): moderate reddish brown, mottled moderate brown in part, soft, amorphous to occasionally sub blocky, trace silt and very fine quartz grains in part, non calcareous.</p>			

Interpretative Depth 2115.0 to 2285.0 mMDRT		Lithology Interbedded CLAYSTONE and SANDSTONE grading in part to SANDY SILTSTONE.	
ROP. (metre/hour) Min. 2.3 Max. 104.4	Drilling Parameters (Avg) WOB : 9.1MT RPM(surf): 73	Maximum Formation Gas: 19.7 % Chromatograph Analysis:	Average Formation Gas: 10.0 % Chromatograph Analysis:

Avg. 49.9	RPM(mot): 160 TRQ : 5420lb/ft	C₁ : ppm C₂ : ppm C₃ : ppm C_{4 TOT} : ppm	C_{1avg} : ppm C_{2avg} : ppm C_{3avg} : ppm C_{4 TOT avg} : ppm
<p>CLAYSTONE (5 to 50%, generally decreasing with depth): light bluish grey to light olive grey, firm to hard, blocky, trace silt, trace micromicaceous, trace carbonaceous flecks.</p> <p>SANDSTONE (30 to 80%): white to very light grey, returned loose, trace friable aggregates, very fine to fine grained, minor medium, angular to sub angular, well sorted, minor argillaceous matrix, trace moderate red and black lithic grains, poor inferred porosity, no shows.</p> <p>SANDY SILTSTONE (10 to 30%): very light grey to light bluish grey, firm to hard, blocky, abundant silt, 5 to 10% very fine to fine sand, 5 to 10% carbonaceous flecks and micro-laminae, trace micromicaceous, trace micro pyrite, local trace nodular pyrite, grading in part to Siltstone.</p>			

Interpretative Depth 2285.0 to 2312.0 mMDRT		Lithology Interbedded CLAYSTONE, SANDSTONE (grading to SANDY SILTSTONE in part) and VOLCANICLASTICS.	
ROP. (metre/hour) Min. 3.0 Max. 58.0 Avg. 24.0	Drilling Parameters (Avg) WOB : 7.2 MT RPM(surf): 77 RPM(mot): 163 TRQ : 5798 lb/ft	Maximum Formation Gas: n/a % Chromatograph Analysis: C₁ : ppm C₂ : ppm C₃ : ppm C_{4 TOT} : ppm	Average Formation Gas: n/a % Chromatograph Analysis: C_{1avg} : ppm C_{2avg} : ppm C_{3avg} : ppm C_{4 TOT avg} : ppm
<p>FERRUGINOUS CLAYSTONE (Trace to 10%): pale reddish brown to predominantly moderate reddish brown, generally very soft to soft, occasionally moderately firm, amorphous, trace sub blocky, trace very fine grained quartz, trace silt, non calcareous.</p> <p>VOLCANICLASTIC (10 to 50 %, increasing with depth): light grey to light greenish grey (5G 8/1), rare very light grey, moderately firm to hard, amorphous to sub blocky in firmer fraction, 5 to 10% silt, trace very fine sand (sand fraction possibly being washed out of cuttings), rare coarse sand, pitted, sub angular, weak trace feldspar laths, trace mica, abundant altered chlorite-rich clay matrix, trace very coarse grained siliceous agglomerates, trace micromicaceous, trace micro pyritic, trace black lithics, very hard; rare greyish blue green siliceous grains, cryptocrystalline, bladed, very weak trace pyritic micro-veining, very hard; 5 to 10% moderate brown to light brown lithics with trace altered plagioclase and trace black lithics, trace mica, commonly firm, silicified, firm to hard in part, bit crushed in part.</p> <p>CLAYSTONE (10 to 20%): light bluish grey to light olive grey, firm to hard, blocky, trace silt, trace micromicaceous, trace carbonaceous flecks.</p> <p>SANDSTONE (25 to 70%): white to very light grey, returned loose, trace friable aggregates, very fine to fine grained, minor medium, angular to sub angular, well sorted, minor argillaceous matrix, trace moderate red and black lithic grains, poor inferred porosity, no shows.</p> <p>SANDY SILTSTONE (10 to 40%): very light grey to light bluish grey, firm to hard, blocky, abundant silt, 5 to 10% very fine to fine sand, 5 to 10% carbonaceous flecks and micro-laminae, trace micromicaceous, trace micro pyrite, local trace nodular pyrite, grading in part to Siltstone.</p>			

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Interpretative Depth 2312.0 – 2330.0 mMDRT		Lithology Interbedded VOLCANOCLASTICS, SANDY SILTSTONE and CLAYSTONE with minor COAL.	
ROP. (metre/hour) Min. 4.0 Max. 56.0 Avg. 29.0	Drilling Parameters (Avg) WOB : 6.3MT RPM(surf): 118 RPM(mot): n/a TRQ : 9115 lb/ft	Maximum Formation Gas: 19.7 % Chromatograph Analysis: C₁ : ppm C₂ : ppm C₃ : ppm C_{4 TOT} : ppm	Average Formation Gas: 10.0 % Chromatograph Analysis: C_{1avg} : ppm C_{2avg} : ppm C_{3avg} : ppm C_{4 TOT avg} : ppm
<p>VOLCANICLASTIC (67 to 74%): light grey to light greenish grey (5G 8/1), rare very light grey, porphyritic?, hard to extremely hard, 5 to 10% silt, 10 to 20% medium to coarse quartz, rare very coarse, angular to sub angular, pitted, trace alkaline feldspar, trace mica, abundant altered chlorite-rich clay matrix, weak trace calcitic in part, granular in part, rare calcite veining, trace pyrite nodules, trace siderite, trace very coarse grained siliceous aggregates, trace micromicaceous, trace micro pyritic, trace black lithics, very hard; rare greyish blue green siliceous grains, cryptocrystalline, commonly bladed, very hard; 5 to 10% moderate brown to moderate reddish brown lithics with trace fine to medium angular quartz, trace black lithics, trace mica, silicified and hard in part, bit crushed and firm in part.</p> <p>COAL (2 to 10%, maximum at 2327.5 mMDRT): brownish black, greyish black, dull lustre, rare sub vitreous lustre, commonly uneven fracture, sub blocky in part, slightly argillaceous in part, grades in part to carbonaceous claystone, trace micro pyrite.</p> <p>CLAYSTONE (Trace): yellowish grey to light olive grey, soft, rarely firm, 5 to 10% coaly fragments, brownish black, sub vitreous lustre, blocky to sub conchoidal fracture, lignitic, trace micro pyrite.</p> <p>SANDY SILTSTONE (8 to 10%): very light grey to light bluish grey, firm to hard, blocky, abundant silt, 5 to 10% very fine to fine sand, 5 to 10% carbonaceous flecks and micro-laminae, trace micromicaceous, trace micro pyrite, local trace nodular pyrite, grading in part to Siltstone.</p>			

Interpretative Depth 2330.0 to 2342.5 m MDRT		Lithology Interbedded VOLCANICLASTICS, SANDY SILTSTONE, CALCAREOUS CLAYSTONE and CLAYSTONE.	
ROP. (metre/hour) Min. 7.0 Max. 21.0 Avg. 11.0	Drilling Parameters (Avg) WOB : 5.2 MT RPM(surf): 109 RPM(mot): n/a TRQ : 13236 lb/ft	Maximum Formation Gas: 4.9 % Chromatograph Analysis: C₁ : ppm C₂ : ppm C₃ : ppm C_{4 TOT} : ppm	Average Formation Gas: 7.8 % Chromatograph Analysis: C_{1avg} : ppm C_{2avg} : ppm C_{3avg} : ppm C_{4 TOT avg} : ppm
<p>VOLCANICLASTIC (13 to 68%): light grey to light greenish grey (5G 8/1), rare very light grey, hard to extremely hard, 5 to 10% silt, 10 to 20% medium to coarse quartz, rare very coarse,</p>			

angular to sub angular, pitted, trace alkaline feldspar, trace mica, abundant altered chlorite-rich clay matrix, weak trace calcitic in part, granular in part, rare calcite veining, trace pyrite nodules, trace siderite, trace very coarse grained siliceous aggregates, trace micromicaceous, trace micro pyritic, trace black lithics, very hard; rare greyish blue green siliceous grains, cryptocrystalline, commonly bladed, very hard; 5 to 10% moderate brown to moderate reddish brown lithics with trace fine to medium angular quartz, trace black lithics, trace mica, silicified and hard in part, bit crushed and firm in part.

SANDY SILTSTONE (20 to 70%): white to yellowish grey, light brown in part, firm to hard, commonly aggregated, 20 to 30% silt, trace very fine quartz, trace white argillaceous matrix, 5 to 10% calcareous, trace mica, trace micro pyrite, rare calcareous concretions in 2342.5 mMDRT, very coarse sand sized, grains composed of silt to very fine grained quartz, abundant calcite cement, common micro pyrite, thin calcareous coating.

CALCAREOUS CLAYSTONE (10 to 40%): light grey to medium bluish grey, rare medium grey, firm to very hard, sub blocky to blocky, trace dolomitic in part, trace silt, cryptocrystalline.

CLAYSTONE (5%, at 2342.5 mMDRT): yellowish grey to light olive grey, soft, rarely firm, trace coaly fragments, brownish black, sub vitreous lustre, blocky to sub conchoidal fracture, lignitic, trace micro pyrite.

Interpretative Depth 2342.5 to 2375.0 mMDRT		Lithology Interbedded VOLCANIC SANDSTONE, SANDY SILTSTONE and CALCAREOUS CLAYSTONE with trace CARBONACEOUS CLAYSTONE.	
ROP. (metre/hour)	Drilling Parameters (Avg)	Maximum Formation Gas: 12.8 % Chromatograph Analysis:	Average Formation Gas: 6.2 % Chromatograph Analysis:
Min. 6.0 Max. 20.0 Avg. 10.0	WOB : 10.1 MT RPM(surf): 114 RPM(mot): n/a TRQ : 13025 lb/ft	C₁ : 32517 ppm C₂ : 5198 ppm C₃ : 5314 ppm C_{4 TOT} : 10555 ppm	C_{1avg} : 15090 ppm C_{2avg} : 1818 ppm C_{3avg} : 1313 ppm C_{4 TOT avg} : 3013 ppm
<p>VOLCANIC SANDSTONE (77 to 96%): moderate yellowish green, white in part, loose, poor to moderately sorted, very hard individual grains, medium to coarse quartz, dominantly medium, angular to sub angular, pitted, 5 to 10% feldspar, commonly altered, trace mica, abundant pale green silicified grains, cryptocrystalline, trace olivine, very hard; trace black grains, hard, granular in part (pyroxene? based on cleavage), trace moderate orange pink (10R 7/4) grains, trace siderite, trace black lithics, trace siliceous cement, trace micro pyrite, weak trace nodular pyrite, no shows.</p> <p>CARBONACEOUS CLAYSTONE (Trace): brownish black, greyish black, dull lustre, uneven fracture, sub blocky, slightly argillaceous in part, grades in part to carbonaceous claystone, trace micro pyrite.</p> <p>SANDY SILTSTONE (Trace to 10%): white to yellowish grey, light brown in part, firm to hard, commonly aggregated, 20 to 30% silt, trace very fine quartz, trace white argillaceous matrix, 5 to 10% calcareous, trace mica, trace micro pyrite, rare calcareous concretions in 2342.5 mMDRT, very coarse sand sized, grains composed of silt to very fine grained quartz, abundant calcite cement, common micro pyrite, thin calcareous coating.</p> <p>CALCAREOUS CLAYSTONE (Trace to 10%): light grey to medium bluish grey, rare medium grey, firm to very hard, sub blocky to blocky, trace dolomitic in part, trace silt, cryptocrystalline.</p> <p>CLAYSTONE (5%, at 2342.5 mMDRT): yellowish grey to light olive grey, soft, rarely firm, trace</p>			

coaly fragments, brownish black, sub vitreous lustre, blocky to sub conchoidal fracture, lignitic, trace micro pyrite.

Interpretative Depth 2375.0 to 2422.0 mMDRT TD		Lithology VOLCANIC SANDSTONE with thin interbeds of CLAYSTONE (CARBONACEOUS in part and SILICEOUS below 2405 mMDRT) and SANDY SILTSTONE.	
ROP. (metre/hour) Min. 2.0 Max. 21.0 Avg. 7.0	Drilling Parameters (Avg) WOB : 11.5 MT RPM(surf): 102 RPM(mot): n/a TRQ : 11116 lb/ft	Maximum Formation Gas: 2.7 % Chromatograph Analysis: C₁ : 7544 ppm C₂ : 1092 ppm C₃ : 1233 ppm C_{4 TOT} : 1333 ppm	Average Formation Gas: 2.0 % Chromatograph Analysis: C_{1avg} : 4683 ppm C_{2avg} : 590 ppm C_{3avg} : 596 ppm C_{4 TOT avg} : 625 ppm
<p>VOLCANIC SANDSTONE (82 to 97%): moderate yellowish green, white in part, returned loose, poor to moderately sorted, very hard individual grains, medium to coarse quartz, dominantly medium, trace very coarse, angular to sub angular, pitted, 5 to 10% feldspar, commonly altered, trace mica, abundant pale green silicified grains, cryptocrystalline, trace olivine, very hard; trace black grains, hard, granular in part, trace moderate orange pink (10R 7/4) grains, trace siderite, trace black lithics, trace siliceous cement, trace micro pyrite, weak trace nodular pyrite, no shows.</p> <p>CLAYSTONE (2 to 5%): light grey to medium bluish grey, rare medium grey, firm to very hard, sub blocky to blocky, trace dolomitic in part, trace silt, cryptocrystalline.</p> <p>SILICIFIED CLAYSTONE (10 to 15%, below 2405.0 mMDRT): medium grey, light brownish grey, light olive grey, hard to very hard, blocky, amorphous, highly silicified.</p> <p>CARBONACEOUS CLAYSTONE (Trace): brownish black, greyish black, dull lustre, uneven fracture, sub blocky, slightly argillaceous in part, grades in part to carbonaceous claystone, trace micro pyrite.</p> <p>SANDY SILTSTONE (Nil to 2%, above 2385.0 mMDRT): white to yellowish grey, light brown in part, firm to hard, commonly aggregated, 20 to 30% silt, trace very fine quartz, trace white argillaceous matrix, 5 to 10% calcareous, trace mica, trace micro pyrite, rare calcareous concretions in 2342.5 mMDRT, very coarse sand sized, grains composed of silt to very fine grained quartz, abundant calcite cement, common micro pyrite, thin calcareous coating.</p>			



RIG MONITORING

FORMATION EVALUATION LOG SCALE 1:500

Country : **Australia**
Field : **Longtom**
Location : **Lat: 38° 6' 11.89" South**
Long: 148° 19' 0.92" East
Well : **Longtom-2**
Company : **Apache Energy Ltd**
Rig : **Ocean Patriot**

LOCATION

Latitude : **38° 6' 11.89" South**
Longitude : **148° 19' 0.92" East**
UTM Easting = **615,462.43 m**
UTM Northing = **5,781,904.33 m**

Company : **Apache Energy Ltd**
Rig : **Ocean Patriot**
Well : **Longtom-2**
Field : **Longtom**
Country : **Australia**
DOE Number :

Other Services
FEWD

Permanent Datum : **Mean Sea Level** Elevation : **0.00 m**

Log Measured From : **Drill Floor** 21.50 m Above Permanent Datum

Drilling Measured From : **Drill Floor**

MD LOG

Depth Logged : **0 m** To **2,600.00 m** Unit No. : **197** Job No. : **AUFE0003298447**

Date Logged : **10-Nov-04** To **19-Nov-04**

Total Depth MD : **2,600.00 m** TVD : **2,581.29 m**

Spud Date : **10-Nov-04** Plot Type : **Field** Plot Date : **12-Apr-05**

Run No. Size Borehole Record (MD) Run No. Size Borehole Record (MD)

1 914,000 mm 78.30 m 111.00 m
2 311,000 mm 111.00 m 1,009.00 m
3 216,000 mm 1,009.00 m 2,311.00 m
4 216,000 mm 2,311.00 m 2,422.00 m

Size Casing Record (MD) To
508,000 mm 462.00 kgpm SURFACE 109.90 m
340,000 mm 70.00 kgpm SURFACE 995.20 m
178,000 mm 43.00 kgpm SURFACE 2,420.00 m

LEGEND

Abbreviations and Symbols

Drilling Data

BG Background Gas
BHT Bottomhole Temp
C Carbide Test
CB Core Bit
CG Connection Gas
CKF Check For Flow
CO Circulate Out
DB Diamond Bit
DC Depth Correction
DS Direction Survey
DST Drillstem Test
FLT Flowline Temp.
LAT Logged After Trip
NB New Bit
NR No Returns
PDC Polycrystalline Diamond
Compound Bit
PR Partial Returns
RPM Revs Per Minute
RRB Rerun Bit
STG Short Trip Gas
TB Turbo Drill
TG Trip Gas
U Gas Units
WOB Weight On Bit

Mud Data

Cl- Chloride Ion Conc Rm Mud Resistivity
FC Filter Cake Rmf Filtrate Resistivity
FL Filtrate Loss S Solids Content
G Gels Vis Funnel Viscosity
pH Hydrogen Ion Content MW Mud Weight
PV Plastic Viscosity YP Yield Point

Engineering Data

Core No. Water
DST No. Salt Water
Casing Seat Fresh Water
Side Wall Core Hydrocarbons Smell
Gas Traces H2S Smell
Gas [RFT] Interval Tester
Oil Traces [E-LOG] Wireline Log Run
Oil [LOT] Leakoff Test

Lithology Symbols

Sand Limestone
Sandstone Dolomite
Silt Marl
Siltstone Tuff
Clay Quartzite
Claystone Conglomerate
Shale Gravel
Calcilutite Halite
Calcsiltite Coal
Calcarenite

Drilling Rate m per hr		Measured Depth m	Rotary Mode m	Cuttings Lithology	Visual/Inferred Porosity	Oil Show	EWR Deep	Gas Chromatograph	Calclmtry	Interpreted Lithology	True Vertical Depth m	Lithology Descriptions and Remarks
Gamma Ray api							ohm-metre	Gas Hydrcbn Avg %					ppm
200	100	0					0.2 2 20	GC C1 Avg GC1 Intvl C1 Avg GC1 Intvl C2 Avg GC1 Intvl C3 Avg GC1 Intvl C4 Total Avg	%CaCO3 100 %MgCO3			
400	300	200					0.02 0.2 2	10 100 1K 10K 100K				
0	100	200					2 20 200					
Keith Ratnam - Data Engineer Magdy El Gammal - Data Engineer Gary Bloom - Data Engineer Steve McDonald - Mud Logger David Hartney - Mud Logger												
Bit 1 914 mm Security XNIC Jets: 1x28, 3x25 TFA: 2.04 In/Out: 78.0/111.0 mMDRT Drilled: 33.0 m HOB: 2.5 Bit Grading:												
Dev@ 82.34m Inc 0.97 deg Az 258.66 deg												
Bit 2 311 mm Hycalog DS40HFGNU Jets: 4x16 TFA: 0.79 In/Out: 109.0/1009.0 mMDRT Drilled: 900.0 m HOB: 12.43 Bit Grading: 1-2 -BT G-D-EC-TD												
Dev@ 112.76m Inc 0.85 deg Az 147.07 deg												
111.0 mMDRT TD 914mm Section. 508mm Casing shoe set at 109.90 mMDRT												
Drill with Seawater												

Drill with Seawater
Gel Sweeps

Returns to seabed

150.0

200.0

250.0

Dev@ 141.18m Inc 0.89 deg
Az 146.91 deg

Dev@ 167.69m Inc 1.01 deg
Az 154.86 deg

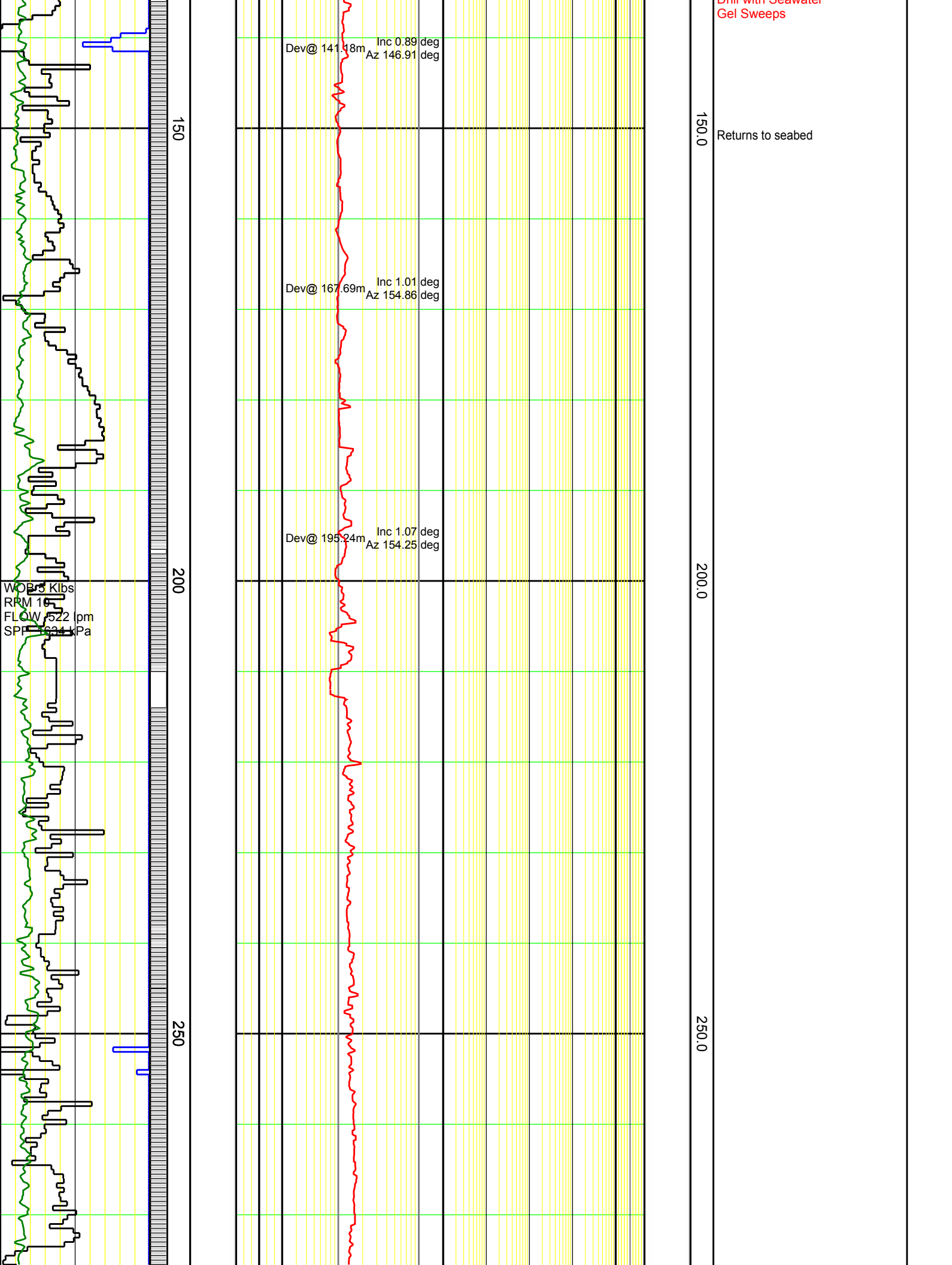
Dev@ 195.24m Inc 1.07 deg
Az 154.25 deg

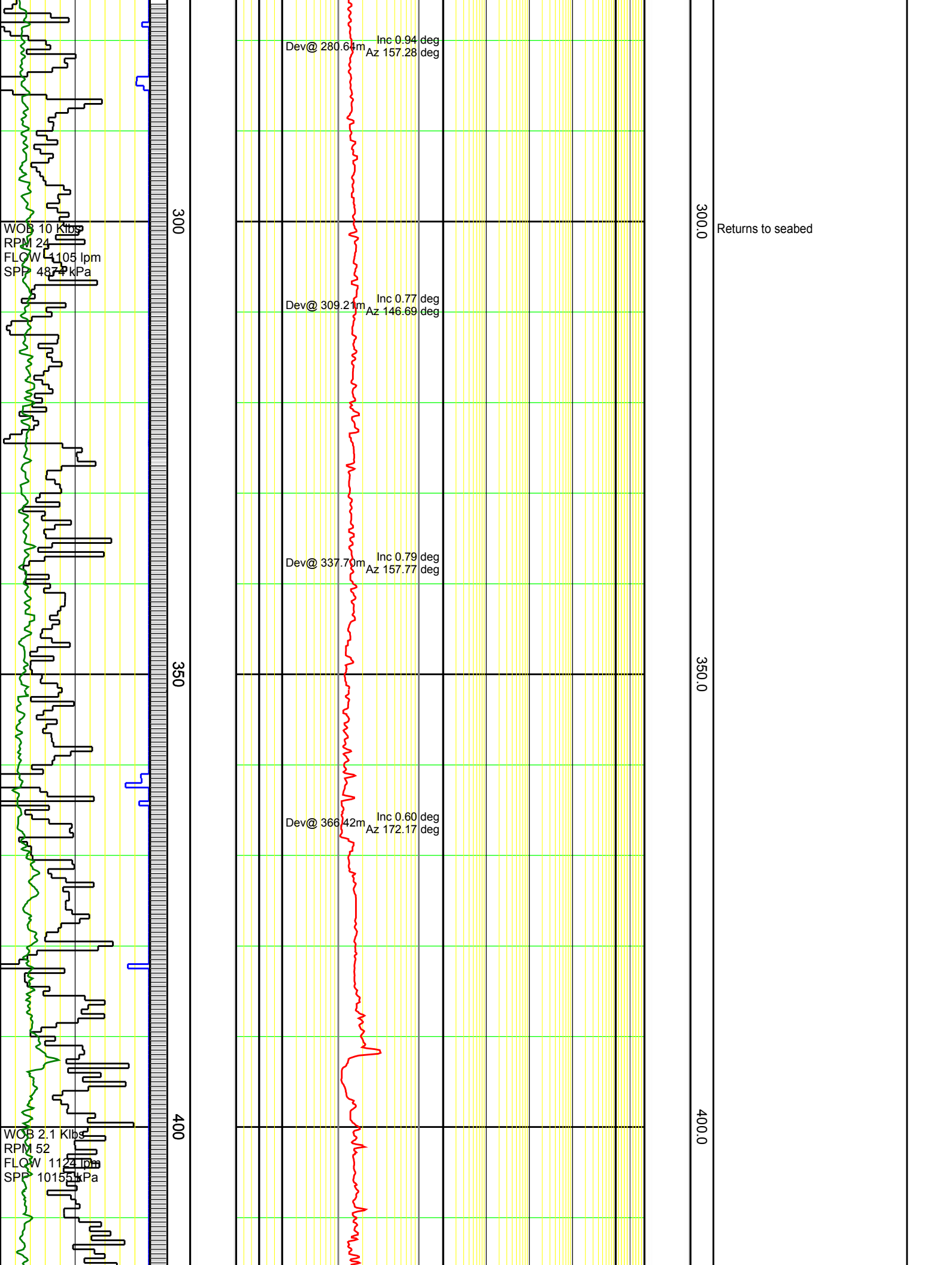
WOB 3 Klbs
RRM 1
FLOW 522 ipm
SPR 1634 kPa

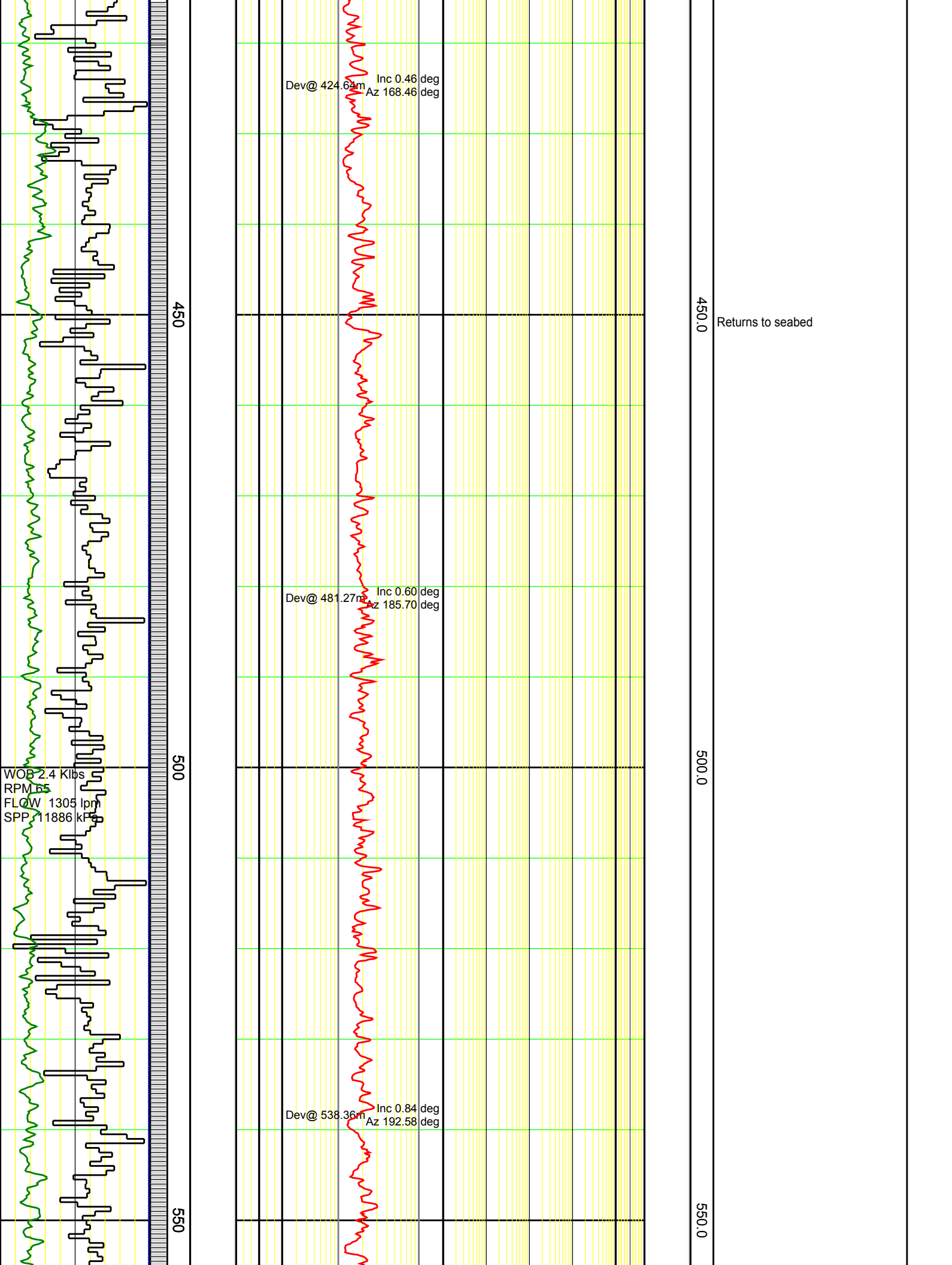
150

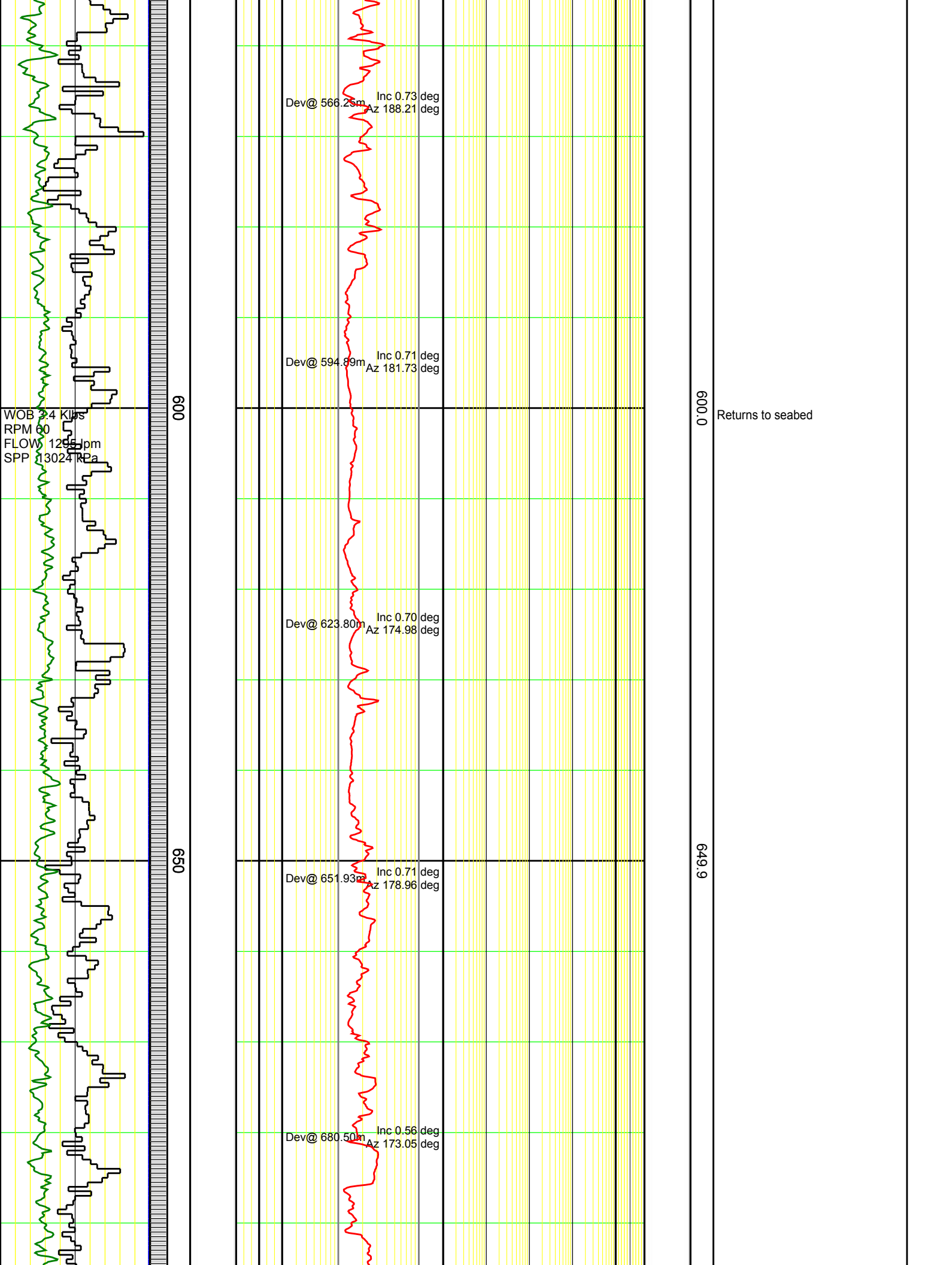
200

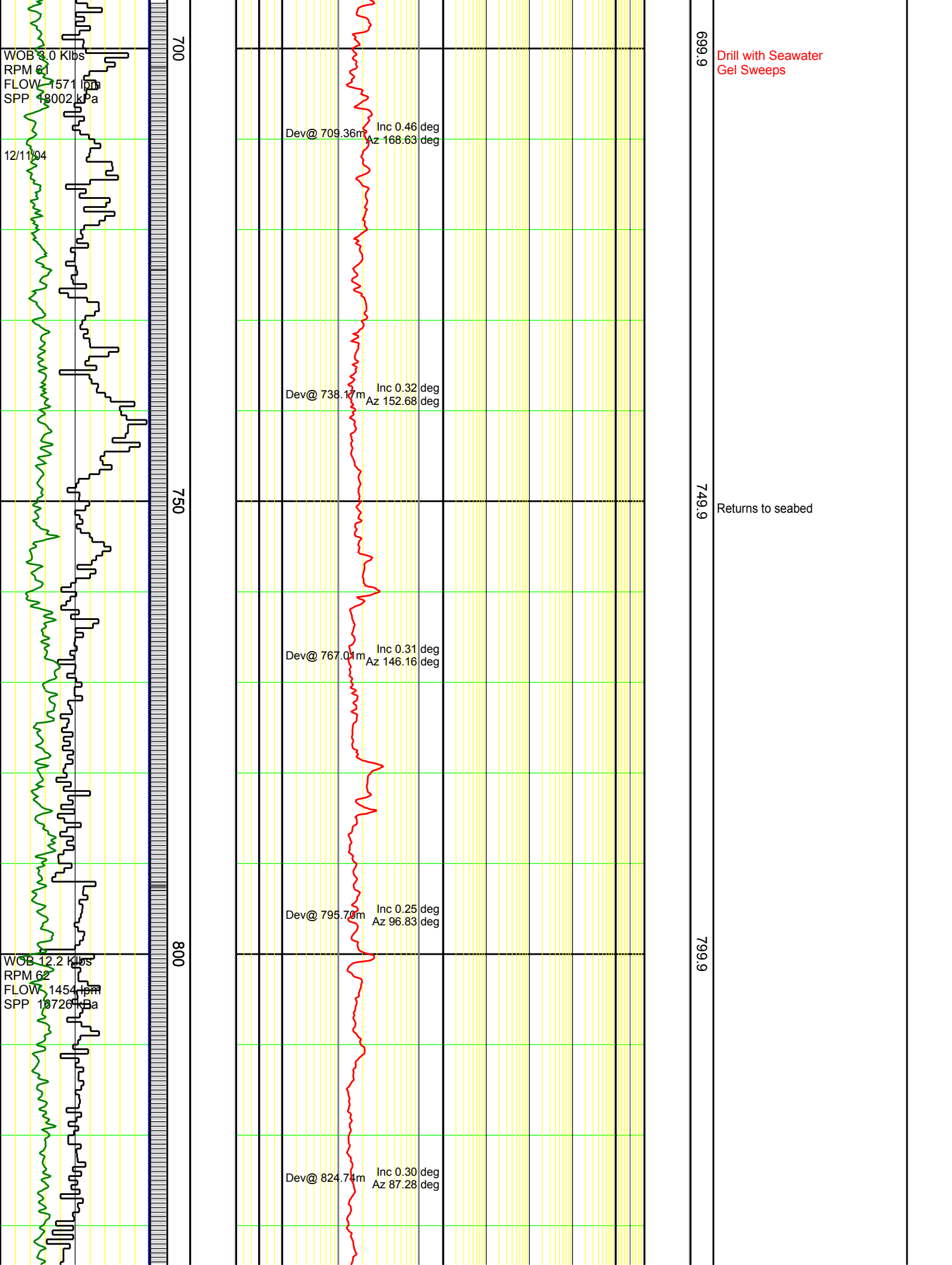
250

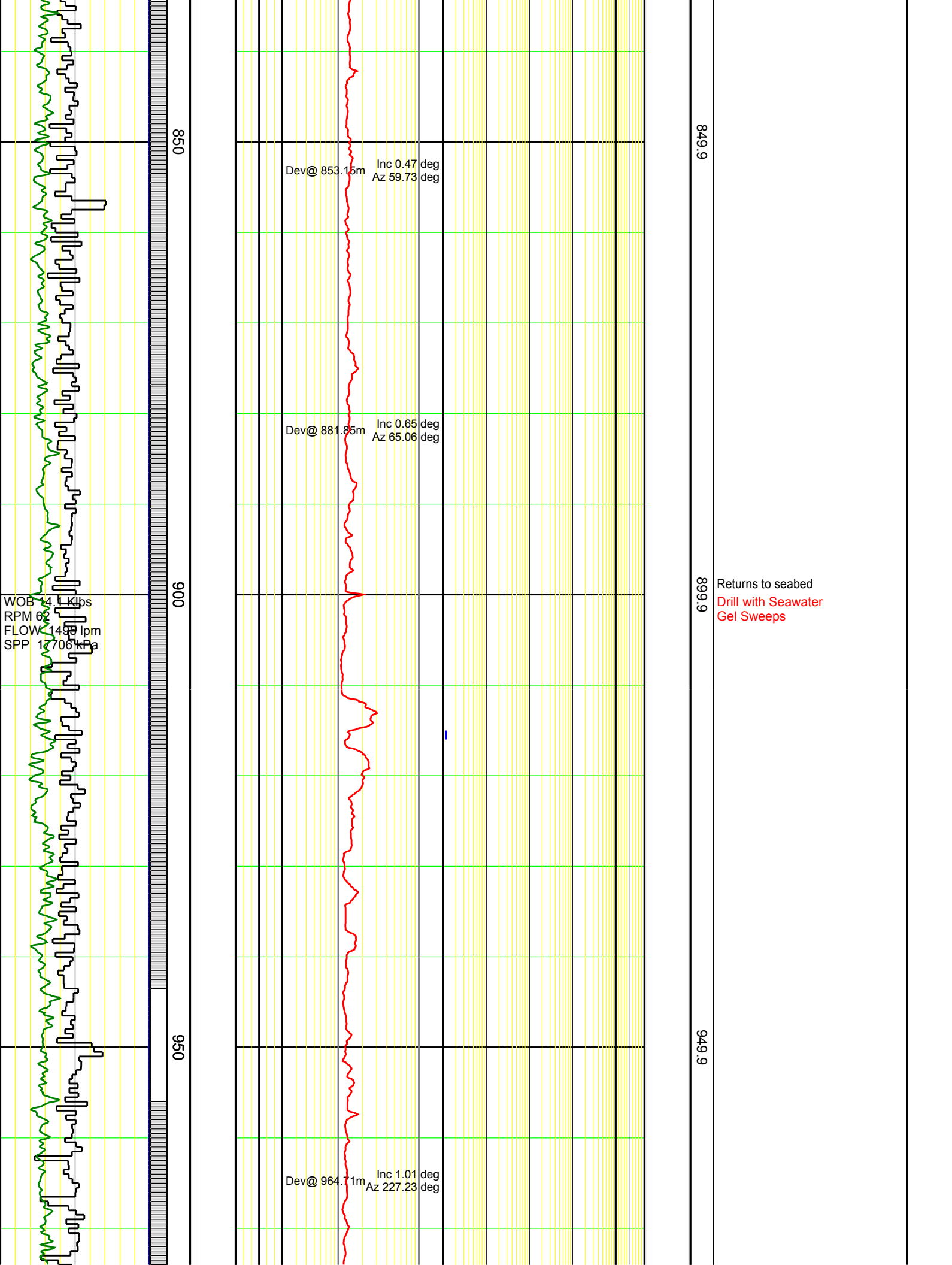


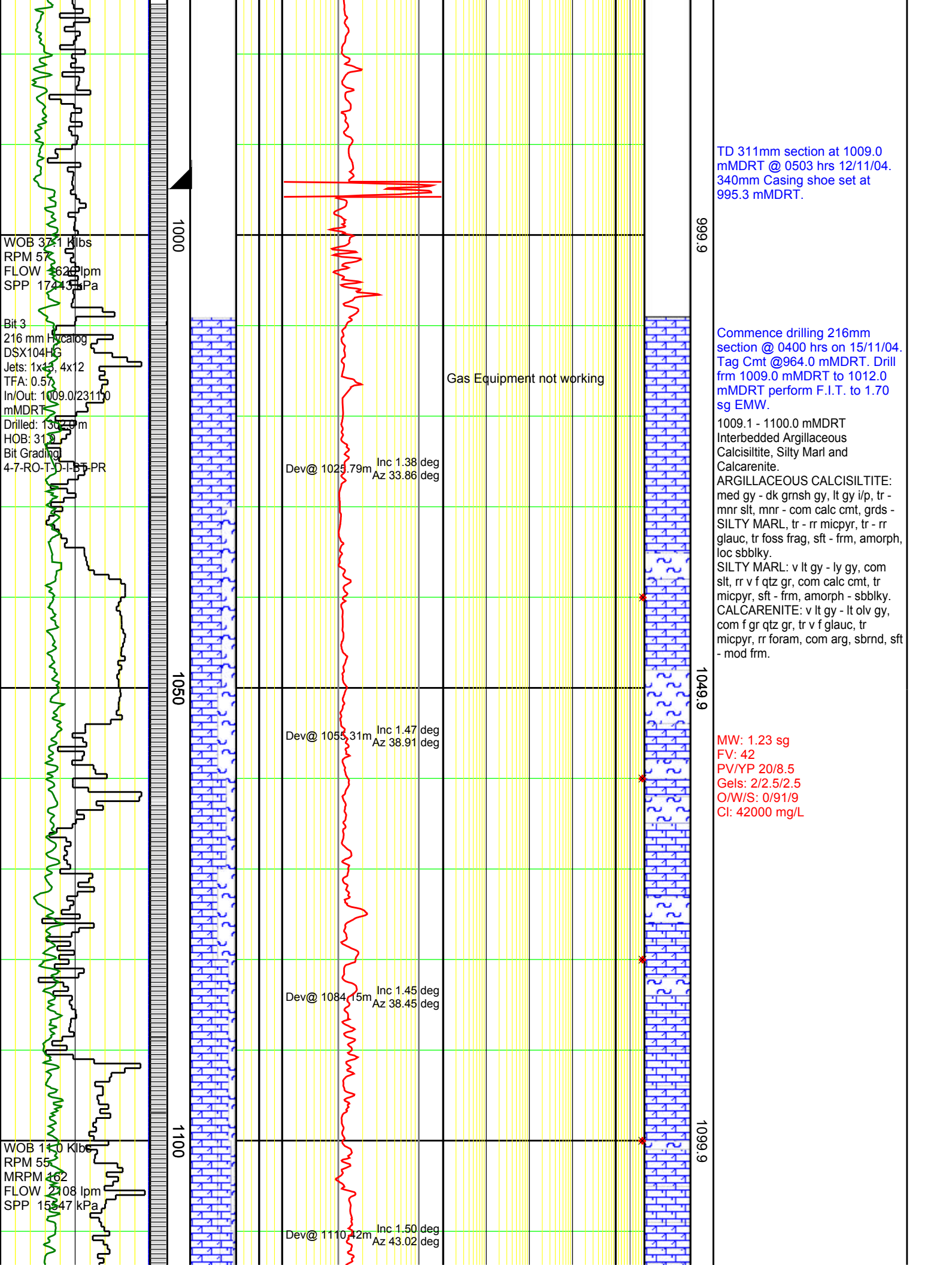


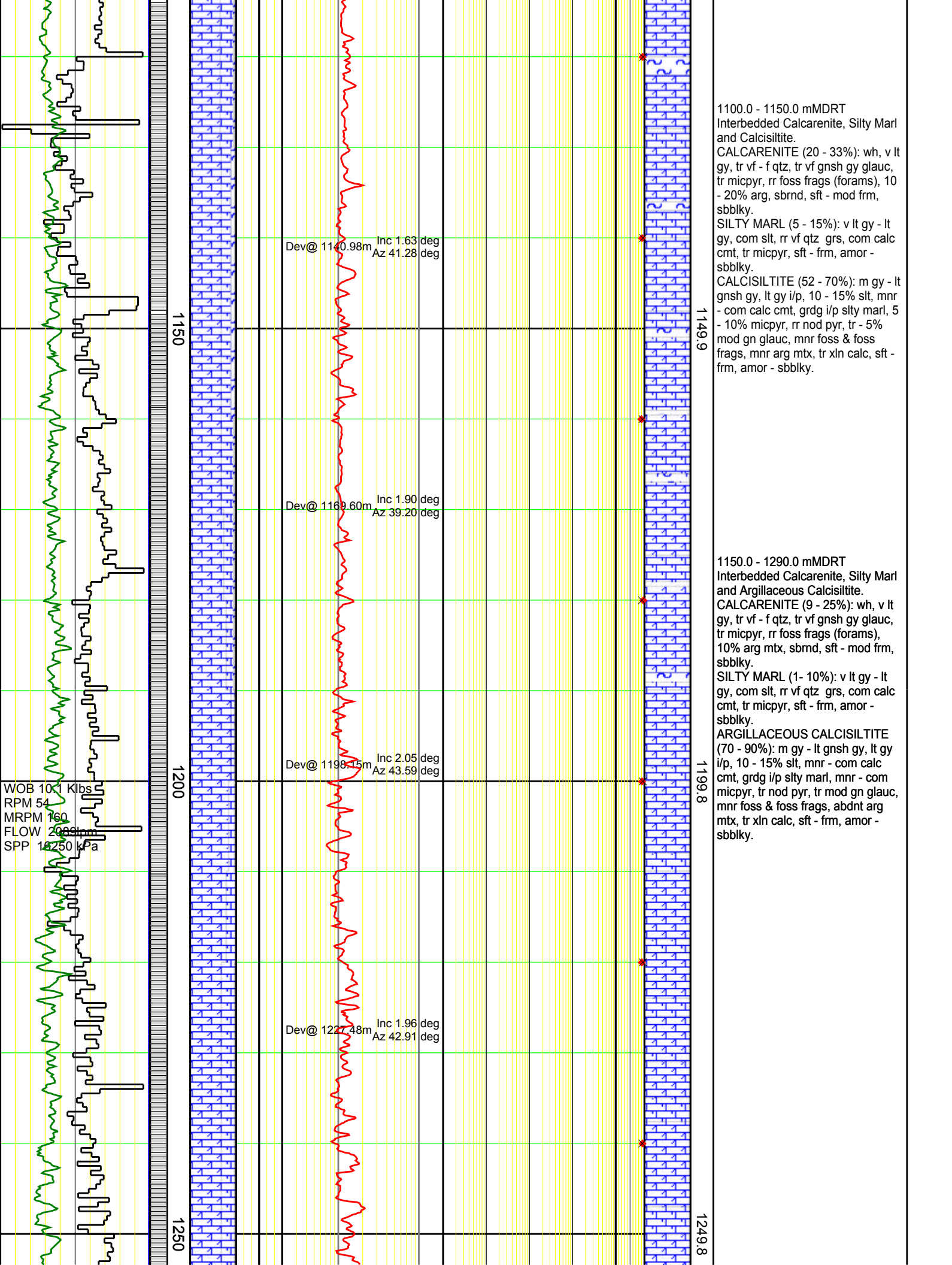


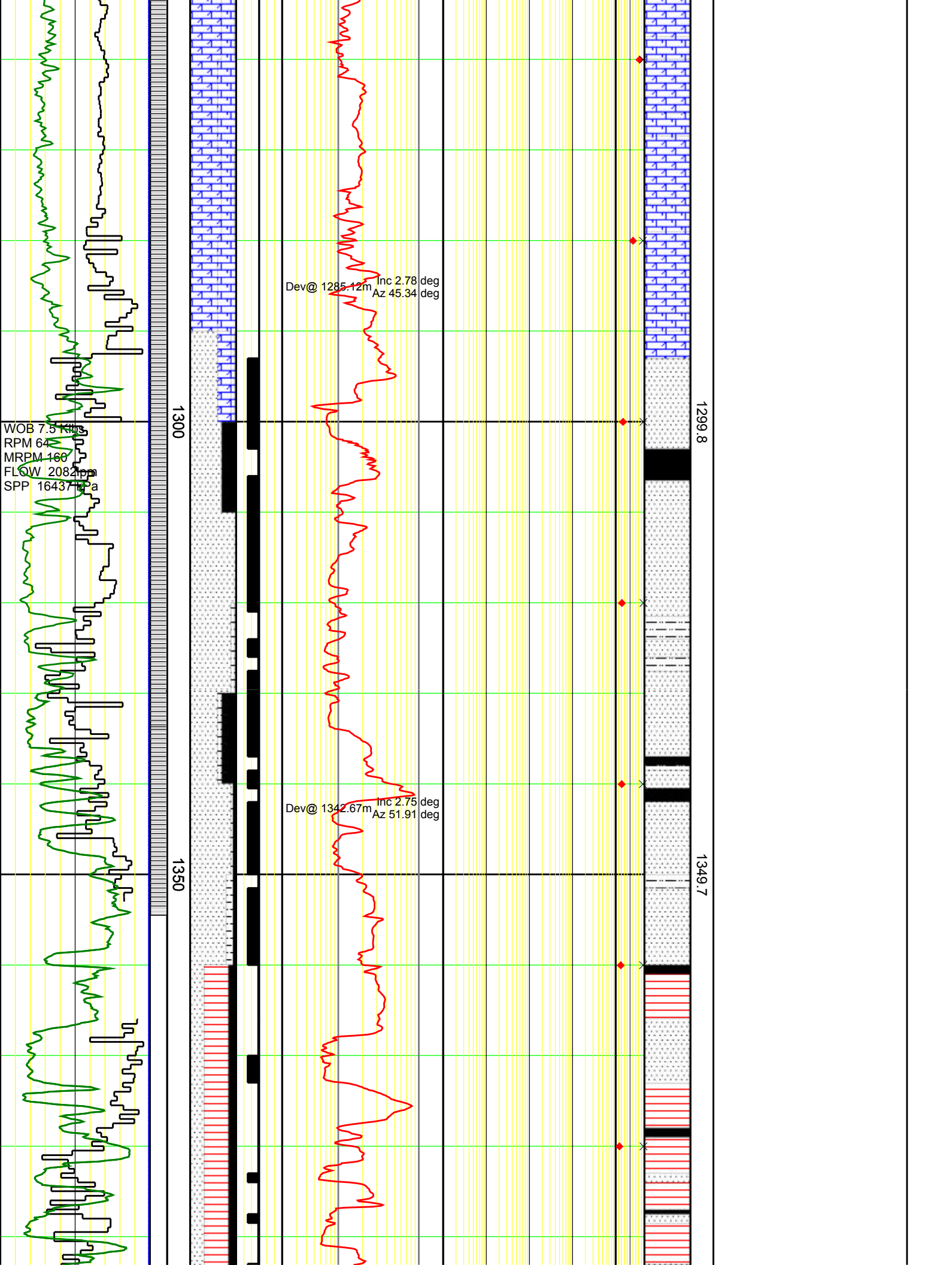


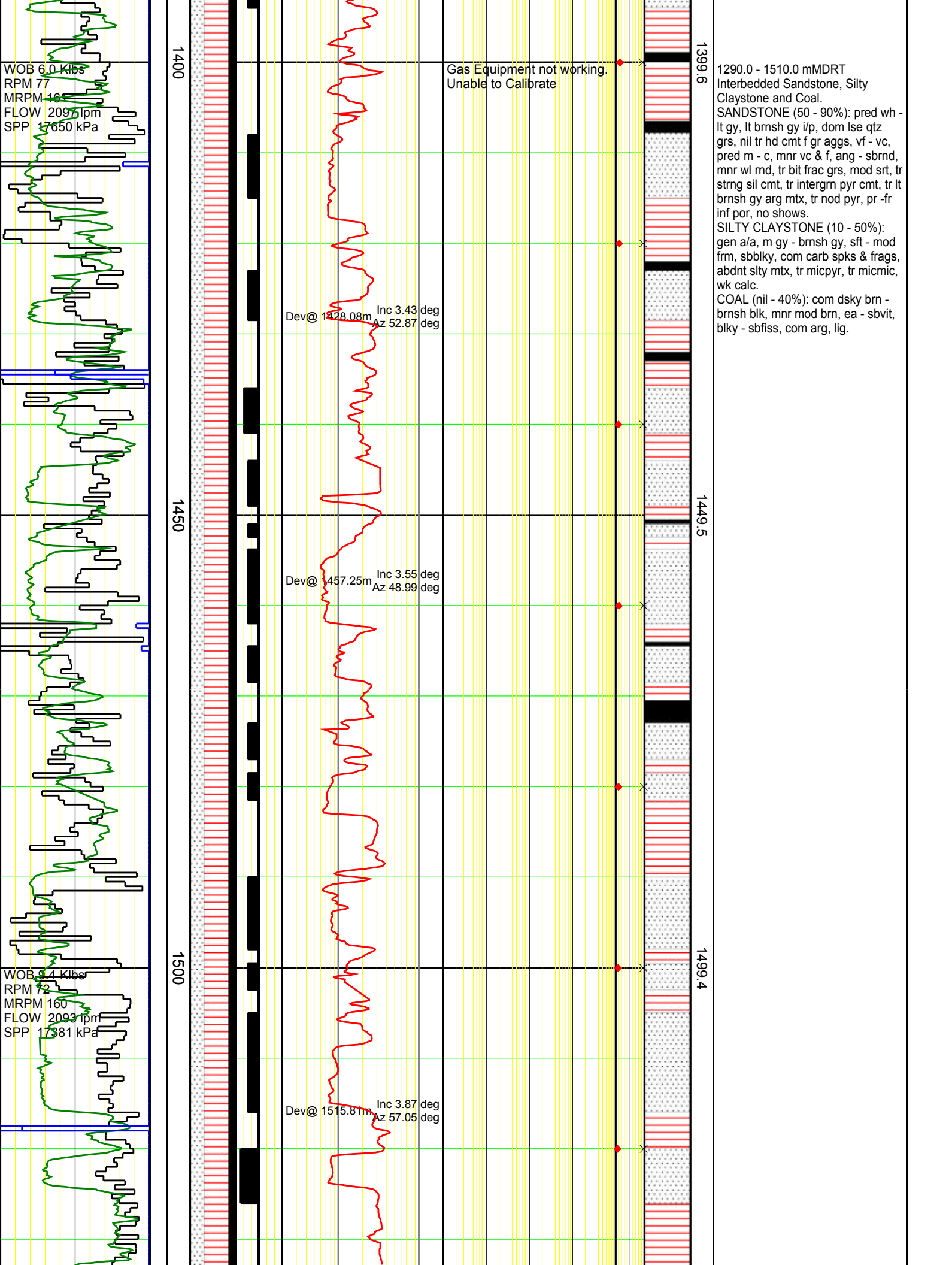


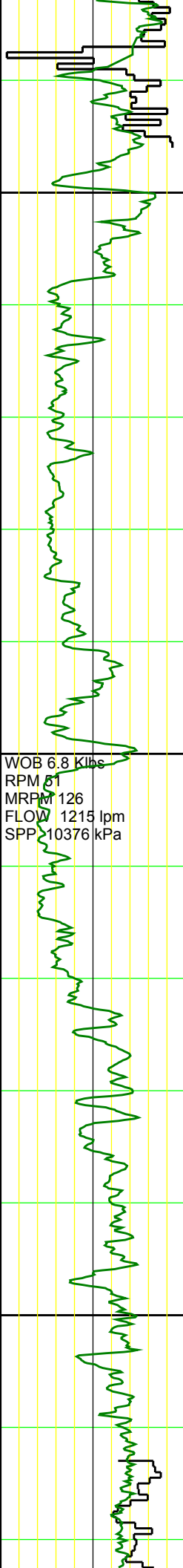












1550

1600

1650

Dev@ 1601.75m Inc 4.29 deg
Az 57.36 deg

Dev@ 1630.27m Inc 4.38 deg
Az 57.32 deg

Dev@ 1659.04m Inc 5.12 deg
Az 55.37 deg

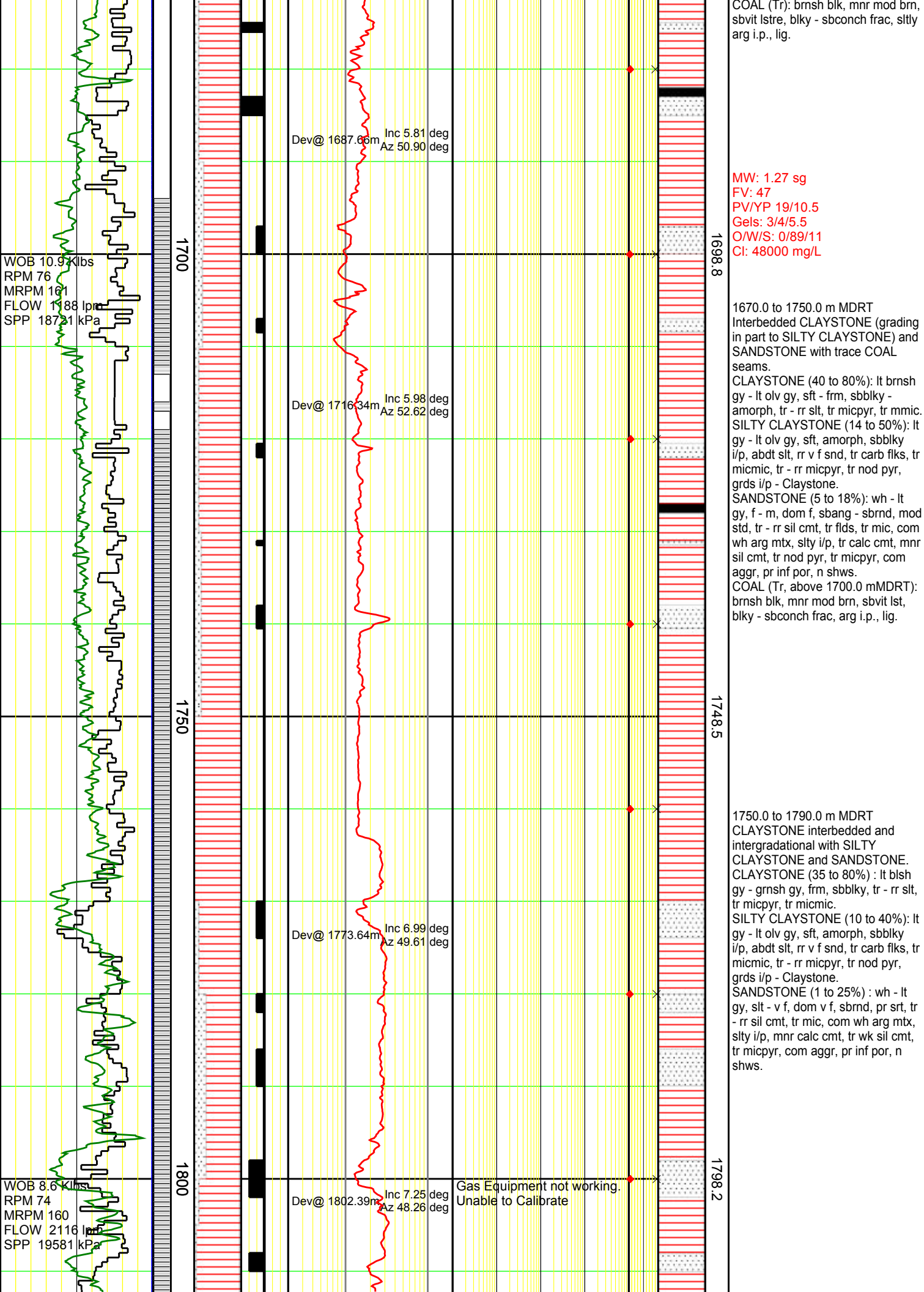
1545.3

1510.0 - 1580.0 mMDRT
Interbedded Sandstone, Silty
Claystone and Coal seams.
SANDSTONE (10 to 60%): Qtzose,
pred wh - lt gy, m - c, dom m, sbnd
- rnd, rr sbang, mod wl srt, tr bit frac
grs, tr - 5% sil cmt, tr lt brnsh gy arg
mtx, slty i/p, tr nod pyr, tr micpyr, fr
- gd inf por, no shows.
SILTY CLAYSTONE (10 to 55%):
m gy - brnsh gy, sft - mod frm,
sbbiky, com carb spks & frags,
abndt slty mtx, tr micpyr, tr micmic,
tr c frags, wk calc.
COAL (10 to 80%): dsky brn - brnsh
blk, mn mod brn, ea to subvit, blk
- sbconch, sli arg i/p, lig.

No data due to database failure
from 1545 mMDRT to 1665
mMDRT.

1580.0 to 1640.0 m MDRT
Interbedded WEATHERED
VOLCANICS, SANDSTONE and
SILTY CLAYSTONE with trace to
minor COAL seams.
SANDSTONE (14 to 25%): wh - lt
gy, f - m, dom m, sbang - sbnd,
mod srt, tr sil cmt, com wh - lt brnsh
gy arg mtx, slty i/p, tr nod pyr, tr
micpyr, pr inf por, n shw, pos qtz vn
@ 1620.0 mMDRT, clr - trnsint, m -
v c, dom v c, sbang, rr ang, pr srt, tr
- rr sil cmt, tr micpyr, lse, pr inf por,
n shw.
SILTY CLAYSTONE (40 to 80%): lt
brn - p yelsh brn, com - abdt slt, rr v
f qtz, tr carb flks, tr mmic, tr micpyr,
rr nod pyr, sft, disp i/p.
VOLCANIC (5 to 32%): wh, grnsh
gy, bit cr, sft - frm, aggr i/p, com -
abdt slt, mn feld lths in aggr, tr alt
yelsh gy feld, tr mic, mn chl, tr
micpyr, loc nod pyr, mn, pl bl gm &
lt gy micxln ang aggr, hd.
COAL (Trace to 10%): brnsh blk,
mn mod brn, sbvitr lstre, blk
- sbconch frac, arg i/p, lig.

1640.0 to 1670.0 m MDRT
Interbedded SANDSTONE and
SILTY CLAYSTONE.
SANDSTONE (5 to 14%): wh - lt
gy, f - med, dom f, sbang - sbnd,
mod std, tr - rr sil cmt, com wh - arg
mtx, slty i.p., tr calc cmt, tr nod pyr,
tr micpyr, fr - loc aggr, gd inf por, n
shw.
SILTY CLAYSTONE (14 to 80%): lt
brnsh gy - lt olv gy, sft, amorph,
sbbiky i.p., abdt slt, rr v f snd, tr
carb flks, tr mmic, tr - rr micpyr, tr
nod pyr, grd i.p. - CLAYSTONE.



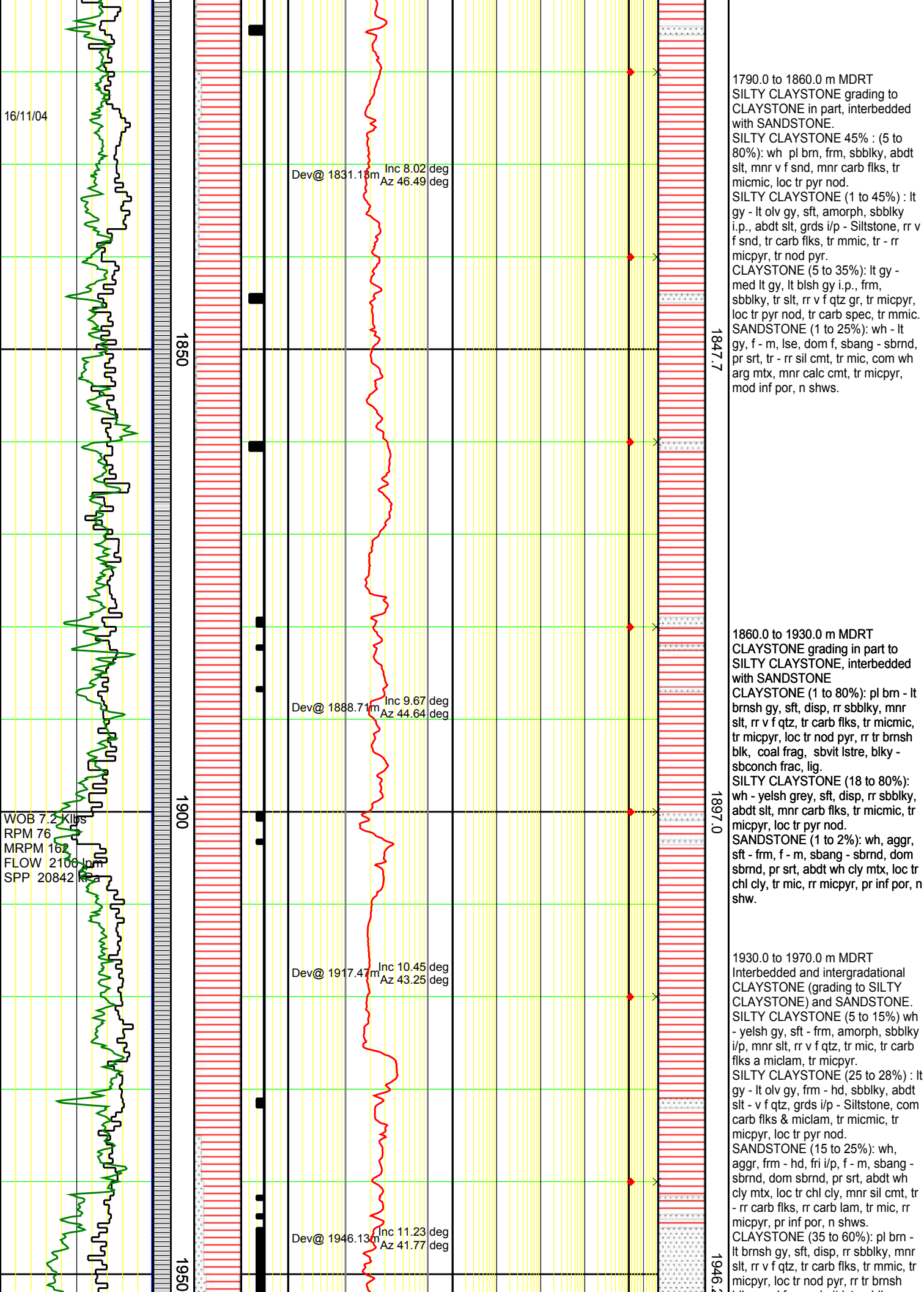
COAL (Tr): brnsh blk, mnr mod brn, sbvit lstre, blk - sbconch frac, sltly arg i.p., lig.

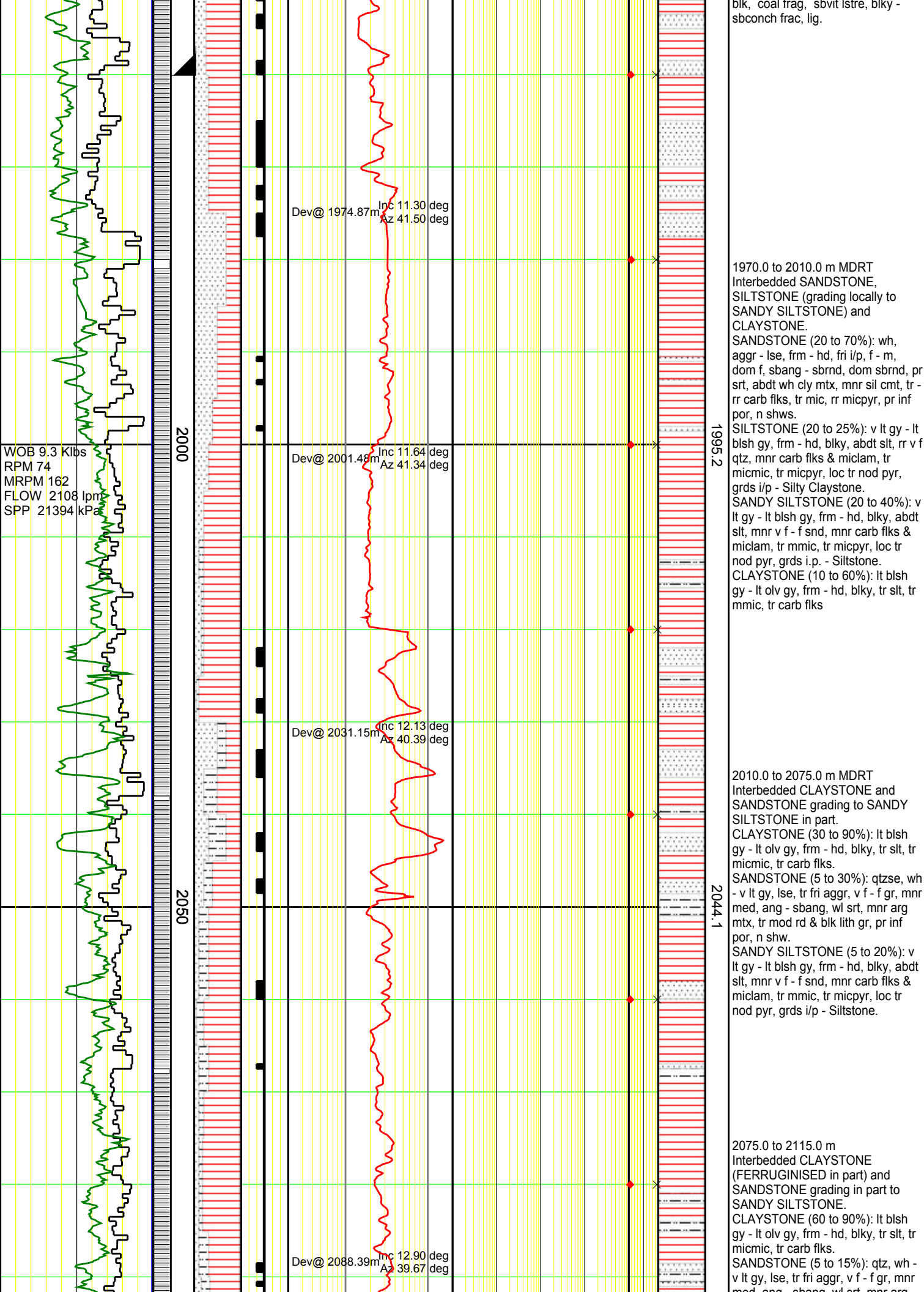
MW: 1.27 sg
FV: 47
PV/YP 19/10.5
Gels: 3/4/5.5
O/W/S: 0/89/11
Cl: 48000 mg/L

1670.0 to 1750.0 m MDRT
Interbedded CLAYSTONE (grading in part to SILTY CLAYSTONE) and SANDSTONE with trace COAL seams.
CLAYSTONE (40 to 80%): lt brnsh gy - lt olv gy, sft - frm, sbblky - amorph, tr - rr slt, tr micpyr, tr mmic.
SILTY CLAYSTONE (14 to 50%): lt gy - lt olv gy, sft, amorph, sbblky i/p, abdt slt, rr v f snd, tr carb flks, tr micmic, tr - rr micpyr, tr nod pyr, grds i/p - Claystone.
SANDSTONE (5 to 18%): wh - lt gy, f - m, dom f, sbang - sbrnd, mod std, tr - rr sil cmt, tr flds, tr mic, com wh arg mtz, slty i/p, tr calc cmt, mnr sil cmt, tr nod pyr, tr micpyr, com aggr, pr inf por, n shws.
COAL (Tr, above 1700.0 mMDRT): brnsh blk, mnr mod brn, sbvit lst, blk - sbconch frac, arg i.p., lig.

1750.0 to 1790.0 m MDRT
CLAYSTONE interbedded and intergradational with SILTY CLAYSTONE and SANDSTONE.
CLAYSTONE (35 to 80%): lt blsh gy - grnsh gy, frm, sbblky, tr - rr slt, tr micpyr, tr micmic.
SILTY CLAYSTONE (10 to 40%): lt gy - lt olv gy, sft, amorph, sbblky i/p, abdt slt, rr v f snd, tr carb flks, tr micmic, tr - rr micpyr, tr nod pyr, grds i/p - Claystone.
SANDSTONE (1 to 25%): wh - lt gy, slt - v f, dom v f, sbrnd, pr srt, tr - rr sil cmt, tr mic, com wh arg mtz, slty i/p, mnr calc cmt, tr wk sil cmt, tr micpyr, com aggr, pr inf por, n shws.

Gas Equipment not working.
Unable to Calibrate



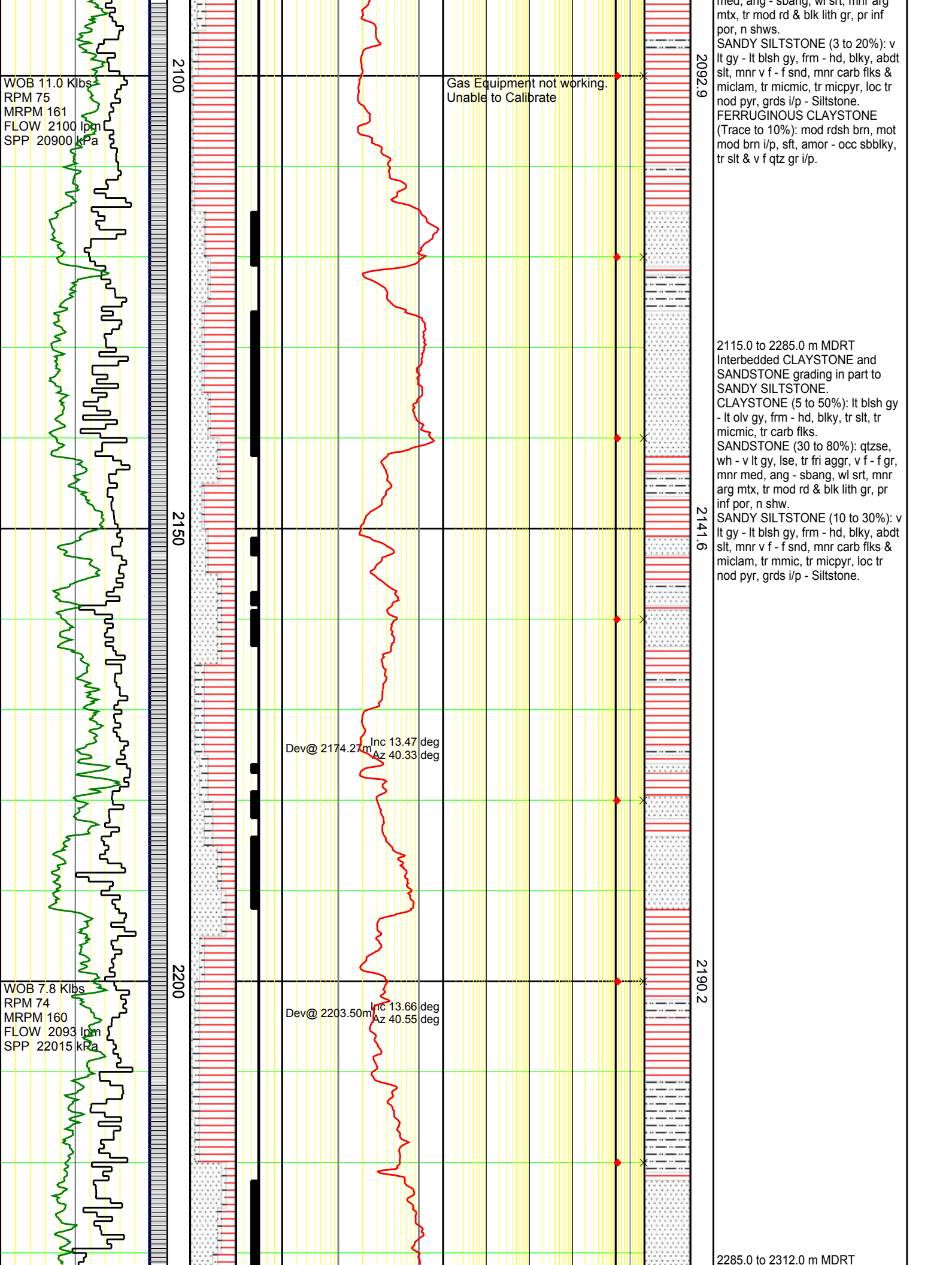


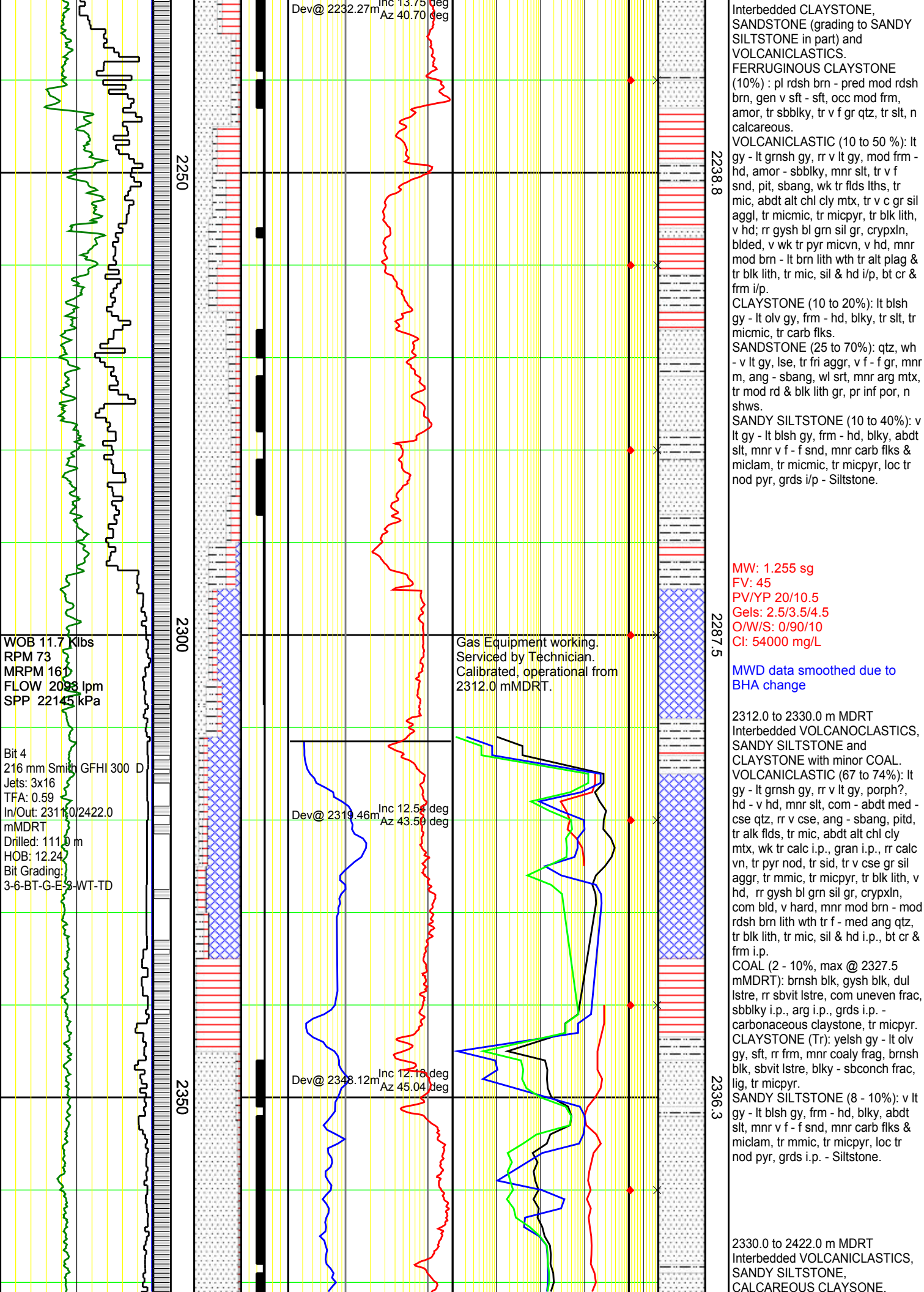
blk, coal frag, sbvit lstre, blkly - sbconch frac, lig.

1970.0 to 2010.0 m MDRT
Interbedded SANDSTONE, SILTSTONE (grading locally to SANDY SILTSTONE) and CLAYSTONE.
SANDSTONE (20 to 70%): wh, aggr - lse, frm - hd, fri i/p, f - m, dom f, sbang - sbrnd, dom sbrnd, pr srt, abdt wh cly mtx, mnr sil cmt, tr - rr carb flks, tr mic, rr micpyr, pr inf por, n shws.
SILTSTONE (20 to 25%): v lt gy - lt blsh gy, frm - hd, blkly, abdt slt, rr v f qtz, mnr carb flks & miclam, tr micmic, tr micpyr, loc tr nod pyr, grds i/p - Silty Claystone.
SANDY SILTSTONE (20 to 40%): v lt gy - lt blsh gy, frm - hd, blkly, abdt slt, mnr v f - f snd, mnr carb flks & miclam, tr mmic, tr micpyr, loc tr nod pyr, grds i.p. - Siltstone.
CLAYSTONE (10 to 60%): lt blsh gy - lt olv gy, frm - hd, blkly, tr slt, tr mmic, tr carb flks

2010.0 to 2075.0 m MDRT
Interbedded CLAYSTONE and SANDSTONE grading to SANDY SILTSTONE in part.
CLAYSTONE (30 to 90%): lt blsh gy - lt olv gy, frm - hd, blkly, tr slt, tr micmic, tr carb flks.
SANDSTONE (5 to 30%): qtzse, wh - v lt gy, lse, tr fri aggr, v f - f gr, mnr med, ang - sbang, wl srt, mnr arg mtx, tr mod rd & blk lith gr, pr inf por, n shw.
SANDY SILTSTONE (5 to 20%): v lt gy - lt blsh gy, frm - hd, blkly, abdt slt, mnr v f - f snd, mnr carb flks & miclam, tr mmic, tr micpyr, loc tr nod pyr, grds i/p - Siltstone.

2075.0 to 2115.0 m
Interbedded CLAYSTONE (FERRUGINISED in part) and SANDSTONE grading in part to SANDY SILTSTONE.
CLAYSTONE (60 to 90%): lt blsh gy - lt olv gy, frm - hd, blkly, tr slt, tr micmic, tr carb flks.
SANDSTONE (5 to 15%): qtz, wh - v lt gy, lse, tr fri aggr, v f - f gr, mnr med, ang - sbang, wl srt, mnr arg





WOB 11.7 Klbs
RPM 73
MRPM 161
FLOW 2098 lpm
SPP 22145 kPa

Bit 4
216 mm Smith GFHI 300 D
Jets: 3x16
TFA: 0.59
In/Out: 2311.0/2422.0
mMDRT
Drilled: 111.0 m
HOB: 12.24
Bit Grading:
3-6-BT-G-E-3-WT-TD

Gas Equipment working.
Serviced by Technician.
Calibrated, operational from
2312.0 mMDRT.

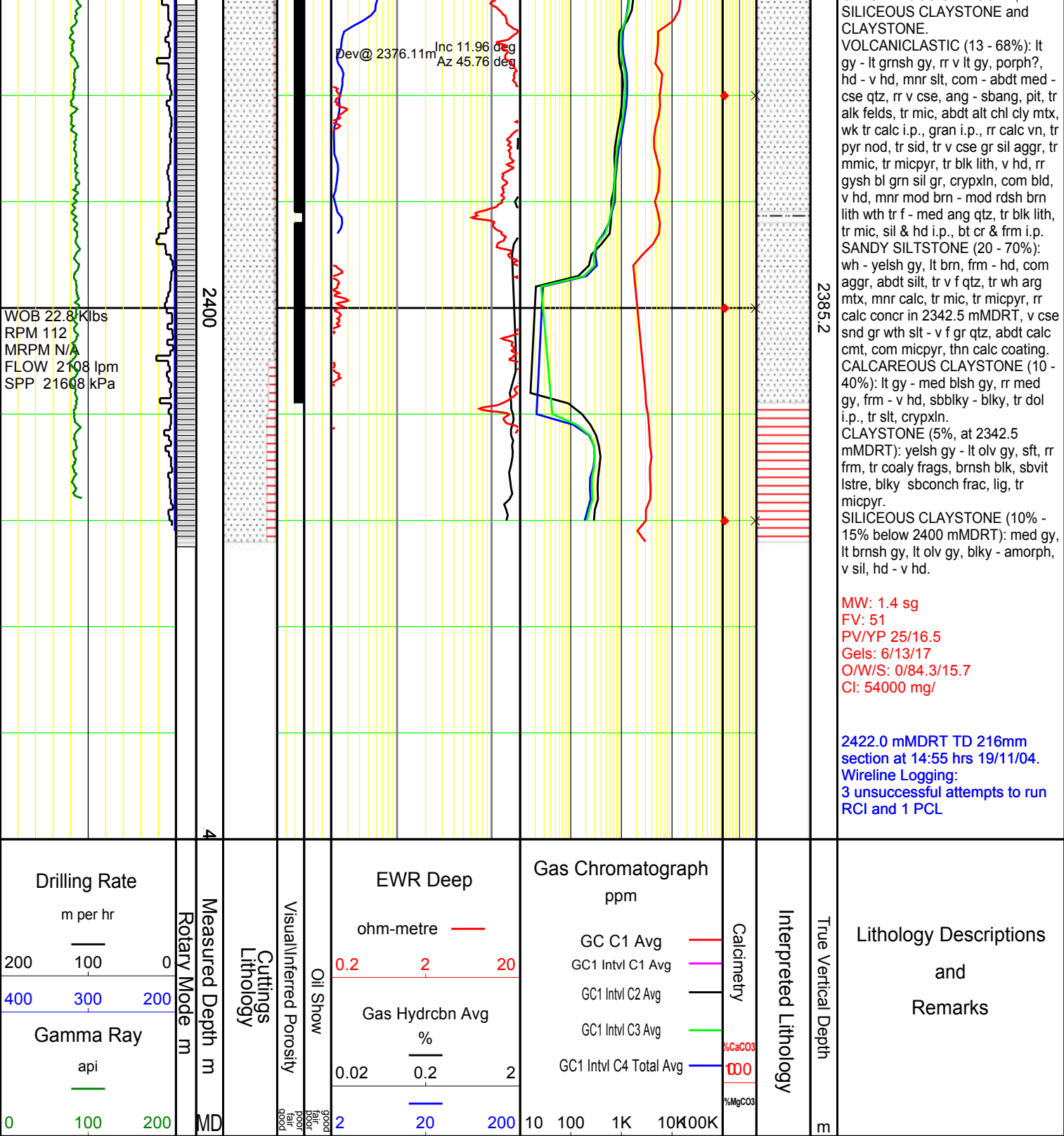
Interbedded CLAYSTONE, SANDSTONE (grading to SANDY SILTSTONE in part) and VOLCANICLASTICS. FERRUGINOUS CLAYSTONE (10%): pl rdsh brn - pred mod rdsh brn, gen v sft - sft, occ mod frm, amor, tr sbblky, tr v f gr qtz, tr slt, n calcareous. VOLCANICLASTIC (10 to 50 %): lt gy - lt grnsh gy, rr v lt gy, mod frm - hd, amor - sbblky, mntr slt, tr v f snd, pit, sbang, wk tr flds lths, tr mic, abdt alt chl cly mtx, tr v c gr sil aggl, tr micmic, tr micpyr, tr blk lith, v hd; rr gysh bl grn sil gr, crypxln, blded, v wk tr pyr micvn, v hd, mntr mod brn - lt brn lith wth tr alt plag & tr blk lith, tr mic, sil & hd i/p, bt cr & frm i/p. CLAYSTONE (10 to 20%): lt blsh gy - lt olv gy, frm - hd, blk, tr slt, tr micmic, tr carb flks. SANDSTONE (25 to 70%): qtz, wh - v lt gy, lse, tr fri aggr, v f - f gr, mntr m, ang - sbang, wl srt, mntr arg mtx, tr mod rd & blk lith gr, pr inf por, n shws. SANDY SILTSTONE (10 to 40%): v lt gy - lt blsh gy, frm - hd, blk, abdt slt, mntr v f - f snd, mntr carb flks & miclam, tr micmic, tr micpyr, loc tr nod pyr, grds i/p - Siltstone.

MW: 1.255 sg
FV: 45
PV/YP 20/10.5
Gels: 2.5/3.5/4.5
O/W/S: 0/90/10
Cl: 54000 mg/L

MWD data smoothed due to BHA change

2312.0 to 2330.0 m MDRT
Interbedded VOLCANOCLASTICS, SANDY SILTSTONE and CLAYSTONE with minor COAL. VOLCANICLASTIC (67 to 74%): lt gy - lt grnsh gy, rr v lt gy, porph?, hd - v hd, mntr slt, com - abdt med - cse qtz, rr v cse, ang - sbang, pitd, tr alk flds, tr mic, abdt alt chl cly mtx, wk tr calc i.p., gran i.p., rr calc vn, tr pyr nod, tr sid, tr v cse gr sil aggr, tr mmic, tr micpyr, tr blk lith, v hd, rr gysh bl grn sil gr, crypxln, com bld, v hard, mntr mod brn - mod rdsh brn lith wth tr f - med ang qtz, tr blk lith, tr mic, sil & hd i.p., bt cr & frm i.p. COAL (2 - 10%, max @ 2327.5 mMDRT): brnsh blk, gysh blk, dul lstre, rr sbvit lstre, com uneven frac, sbblky i.p., arg i.p., grds i.p. - carbonaceous claystone, tr micpyr. CLAYSTONE (Tr): yelsh gy - lt olv gy, sft, rr frm, mntr coaly frag, brnsh blk, sbvit lstre, blk - sbconch frac, lig, tr micpyr. SANDY SILTSTONE (8 - 10%): v lt gy - lt blsh gy, frm - hd, blk, abdt slt, mntr v f - f snd, mntr carb flks & miclam, tr mmic, tr micpyr, loc tr nod pyr, grds i.p. - Siltstone.

2330.0 to 2422.0 m MDRT
Interbedded VOLCANICLASTICS, SANDY SILTSTONE, CALCAREOUS CLAYSTONE.





RIG MONITORING

FORMATION EVALUATION Formation Evaluation

Country : Australia
Field : Longtom
Location : Lat: 38° 6' 11.89" South
Long: 148° 19' 0.92" East
Well : Longtom-2 ST1
Company : Apache Energy Ltd
Rig : Ocean Patriot
Rig : Ocean Patriot

LOCATION

Latitude : 38° 6' 11.89" South
Longitude : 148° 19' 0.92" East
UTM Easting = 615,462.43 m
UTM Northing = 5,781,904.33 m

Company : Apache Energy Ltd
Rig : Ocean Patriot
Well : Longtom-2 ST1
Field : Longtom
Country : Australia
DOE Number :

Other Services
FEWD

Permanent Datum : Mean Sea Level Elevation : 0.00 m

Log Measured From : Drill Floor 21.50 m Above Permanent Datum

Drilling Measured From : Drill Floor

MD LOG

KB
DF 21.50 m
GL
WD 56.80 m

Depth Logged : 1,960.00 m To 2,200.00 m

Date Logged : 13-Dec-04 To 18-Dec-04

Total Depth MD : 2,200.00 m TVD : 2,190.18 m

Spud Date : 11-Dec-04

Unit No. : 197
Plot Type : Final
Plot Date : 30-Mar-05

Job No. : AUFEE003444457

Run No. Size Borehole Record (MD)
From To
8 152.000 mm 1,967.70 m 2,112.00 m
9 152.000 mm 2,112.00 m 2,130.00 m
10 152.000 mm 2,130.00 m 2,148.00 m

Run No. Size Borehole Record (MD)
From To
Size Weight
178,000 mm 43.00 kgpm 877.00 m 1,960.00 m

LEGEND

Abbreviations and Symbols

Drilling Data

BG Background Gas
BHT Bottomhole Temp
C Carbide Test
CB Core Bit
CG Connection Gas
CKF Check For Flow
CO Circulate Out
DB Diamond Bit
DC Depth Correction
DS Direction Survey
DST Drillstem Test
FLT Flowline Temp.
LAT Logged After Trip
NB New Bit
NR No Returns
PDC Polycrystalline Diamond
Compound Bit
PR Partial Returns
RPM Revs Per Minute
RRB Rerun Bit
STG Short Trip Gas
TB Turbo Drill
TG Trip Gas
U Gas Units
WOR Weight On Bit

Mud Data

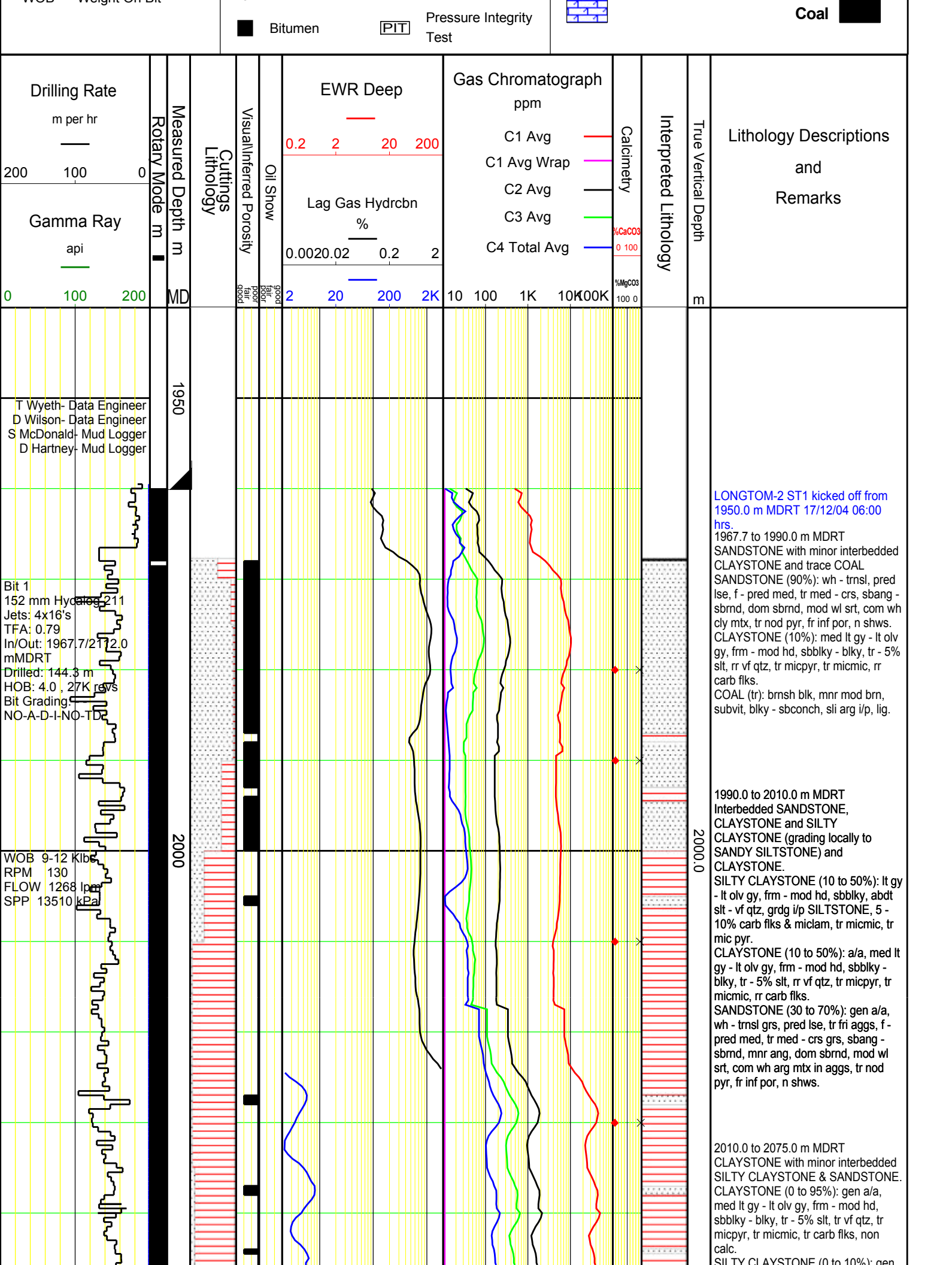
Cl- Chloride Ion Conc Rm Mud Resistivity
FC Filter Cake Rmf Filtrate Resistivity
FL Filtrate Loss S Solids Content
G Gels Vis Funnel Viscosity
pH Hydrogen Ion Content MW Mud Weight
PV Plastic Viscosity YP Yield Point

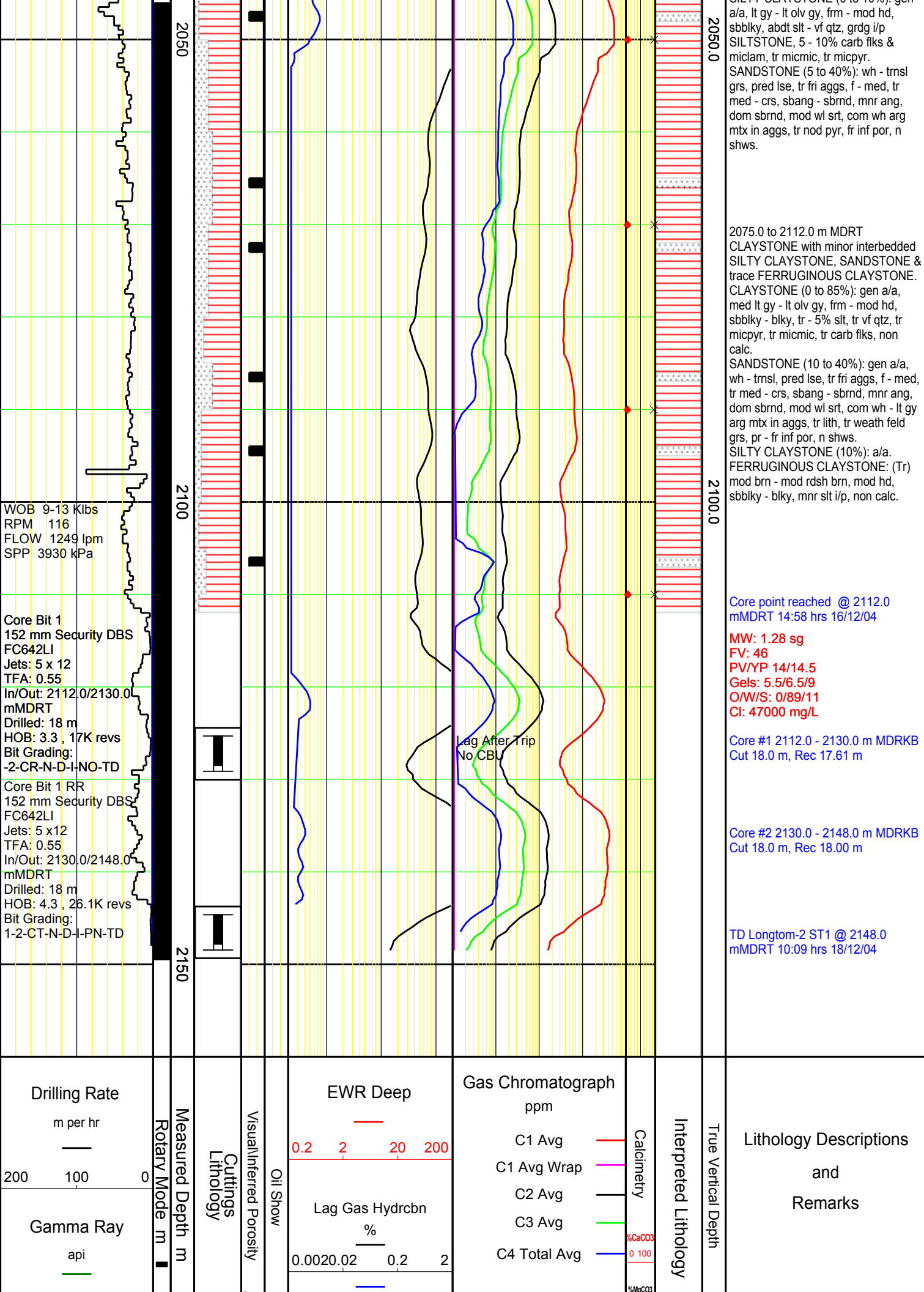
Engineering Data

Core No. Water
DST No. Salt Water
Casing Seat Fresh Water
Side Wall Core Hydrocarbons Smell
Gas Traces H2S Smell
Gas Interval Tester
Oil Traces Wireline Log Run
Oil Leakoff Test

Lithology Symbols

Sand
Sandstone
Silt
Siltstone
Igneous
Clay
Claystone
Shale
Calcilutite
Calcisiltite
Calcarenite
Limestone
Dolomite
Marl
Tuff
Quartzite
Conglomerate
Gravel
Halite





0	100	200	MD	good fail	good fail	good fail	2	20	200	2K	10	100	1K	10K	100K	1000	m
---	-----	-----	----	--------------	--------------	--------------	---	----	-----	----	----	-----	----	-----	------	------	---

**Q - FACTOR ANALYSIS
AND
ZERO OFFSET VSP REPORT
FOR**



APACHE ENERGY LIMITED

**Well: LONGTOM-2
Field: *EXPLORATION*
Area: *OFFSHORE - AUSTRALIA***

Report Status:	Approval Report
Analyst:	Wahyu B. Prasetya & Aldrin Muchtar
Reviewed By:	Mark Newman
Date:	January, 2005
Report reference:	APACHE004

VSfusion
A BAKER HUGHES – CGG COMPANY
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JL. Raya Cilandak KKO, Jakarta 12560 - Indonesia
Telephone : +62-21-788 41123
Fax : +62-21-788 41122
Email: aldrin.muchtar@vsfusion.com

Data Acquisition

by



Baker Atlas

Data Processing

by



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Jakarta 12560 - Indonesia
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In the processing and interpretation of the data, **VS**Fusion employees have relied on experience and exercised their best judgement. However, since all interpretations are opinions based on inferences from acoustical or other measurements, we cannot and we do not guarantee the accuracy or the correctness of any interpretations. As such, we shall not be liable for any loss, cost, damages or expenses resulting from reliance on such interpretation.

VSfusion

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APPENDIX

ZVSP PROCESSING FLOWCHART

FIGURES

Figure 1	Nomenclature Chart
Figure 2	FK Analysis – ZVSP Stacked Data
Figure 3	FK Analysis – Undeconvolved Unenhanced Upwaves
Figure 4	FK Analysis – Deconvolved Unenhanced Upwaves
Figure 5	Average Peak Amplitudes
Figure 6	Average Frequencies
Figure 7	Amplitude Spectra in dB
Figure 8	Spectral Ratios
Figure 9	Attenuation Slopes
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Figure 13	Q Factor – Depth Domain
Figure 14	Q Factor – Time Domain

ENCLOSURES

Enclosure 1A	Field Report
Enclosure 1B	Wellbore & Source - Receivers Field Geometry
Enclosure 2	Hydrophone & Geophone Stacked Data
Enclosure 3	Velocity Curves & Time-Depth Curve
Enclosure 4A	VSP Processing Sequences Display, at scale of 20 cm/sec
Enclosure 4B	Corridor Stack Display, at scale of 20 cm/sec

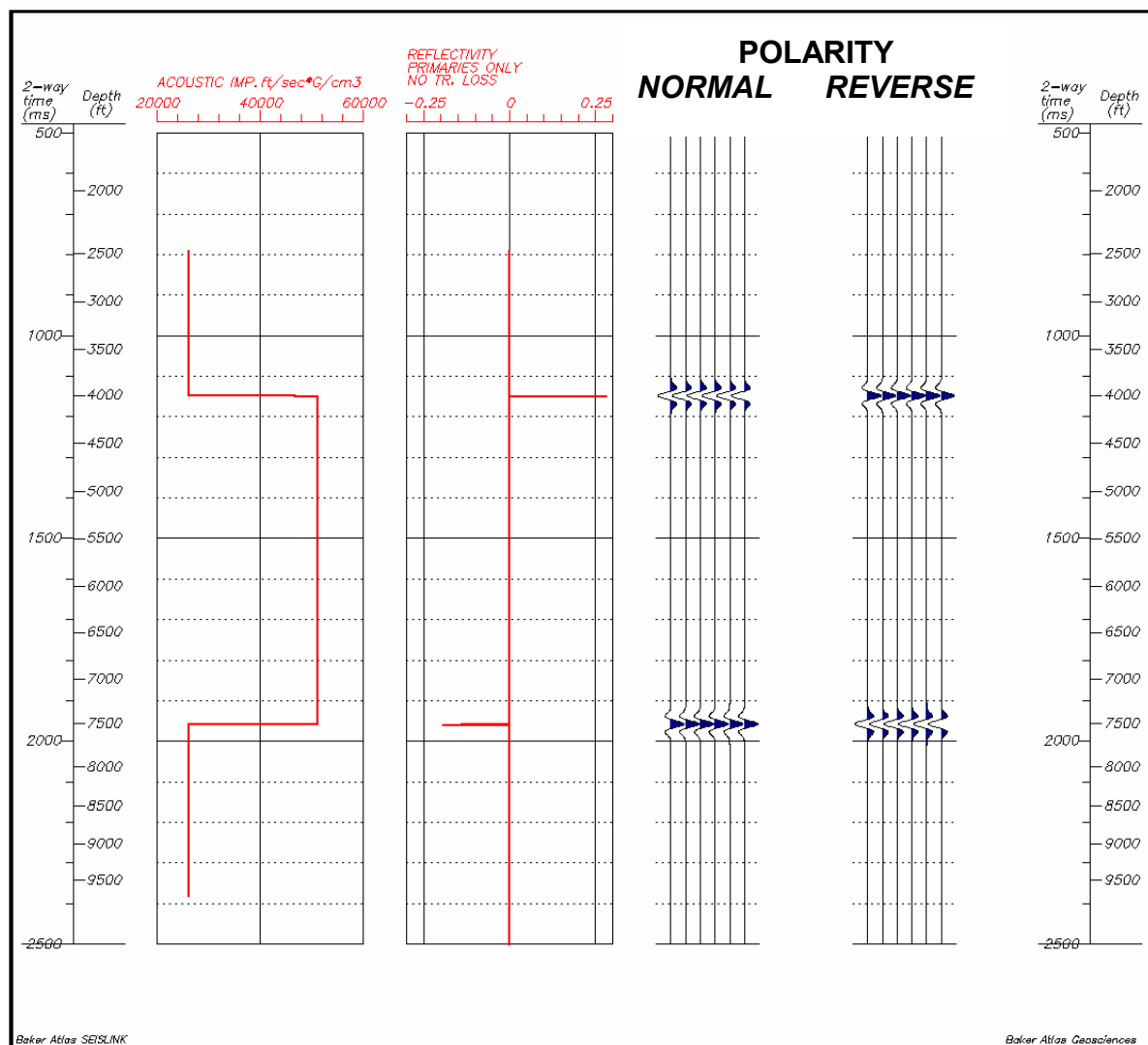
1. INTRODUCTION

BAKER ATLAS conducted a Zero Offset Source (Rig Source) VSP Survey for APACHE ENERGY LIMITED in their LONGTOM-2 well located offshore Australia. The wireline service for this survey was also provided by Baker Atlas Logging Services.

All measured depths are referenced to the Derrick Floor (DF) elevation of 21.5 meters above AHD. Seismic Datum for this well is AHD.

The borehole was reported as a slightly deviated well, the depths and times of the data have been corrected to vertical using supplied deviation data.

The polarity convention used in this report is illustrated below.



2. DATA ACQUISITION

Baker Atlas Downhole Seismic Services crew arrived at the well on 25 November 2004. All equipment was tested on site prior to the survey. Baker Atlas employed standard techniques for the Zero Offset (Rig) Source VSP survey.

The energy source used for this survey was a 4x150 cu.in. sleeve gun array. The energy source was located 46.3m offset from the wellhead on a bearing of 330 degrees North, at a depth of 5m below AHD. A reference phone was positioned 2m below the source for timing and source energy monitoring purposes. Water depth was 56.8m below AHD.

The survey was recorded using a multi level receiver (MLR) string consisting of 5 downhole receivers with an intertool spacing of 15m. Each tool was 3 component gimbaled. The VSP data consisted of 3720 files (3 components geophone and 1 component hydrophone), they have been gathered into 146 recorded levels between 205 m and 2376 m measured depth below DF. The data was recorded in one run.

At the start of the survey, the wireline depth sensor was zeroed at the Derrick Floor elevation and the geophone was lowered down the well. During the downtrip the geophone receiver was stopped to check the equipment performance and checkshot data were recorded at depths of 880, 865, 850, 835, 820, 1345, 1360, 1375, 1390, 1405, 2020, 2035, 2050, 2065 and 2080m. TD was tagged at 2376m and then recording continued as the geophone was pulled up the well to a depth of 205 meters.

At each downhole station, the wireline cable was stopped and the geophone firmly clamped to the borehole wall by means of the remote control locking arm of the tool. An average of 5 shots were recorded for each depth level.

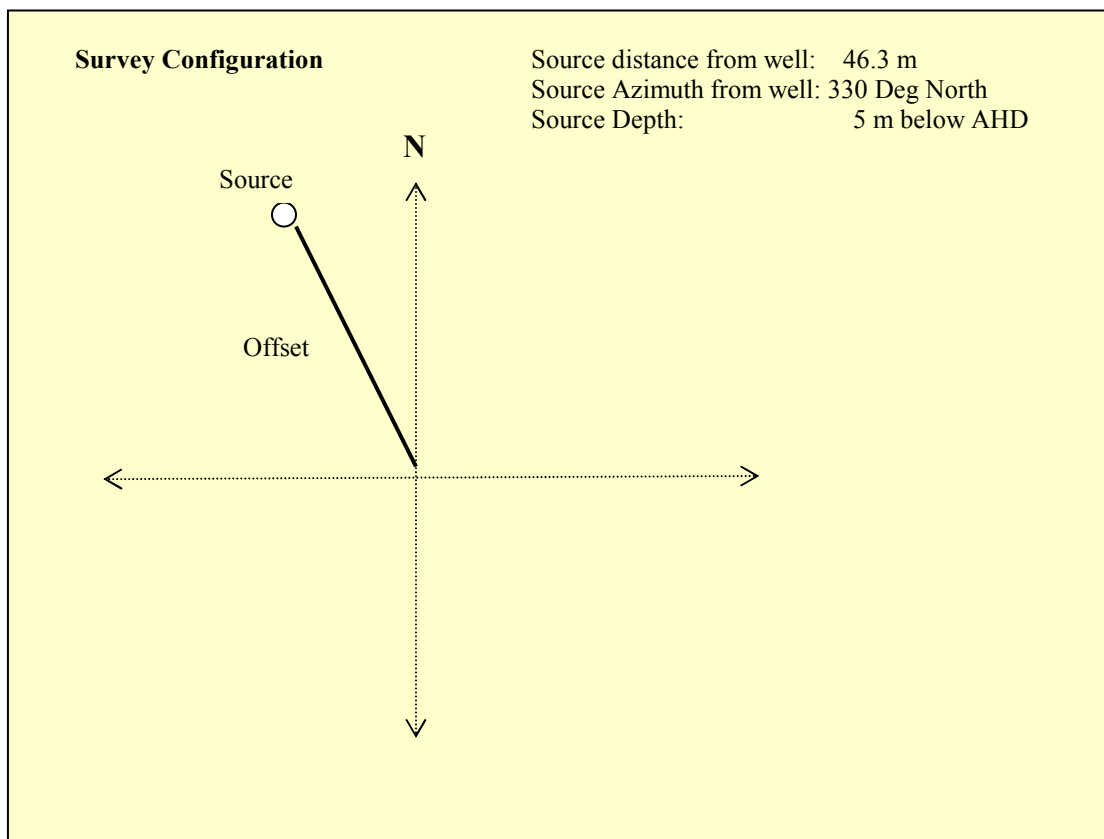
3. VELOCITY CHECKSHOT DATA PROCESSING

3.1. Stacking

The digital data were demultiplexed and displayed. The reference phone (hydrophone) traces were examined and first-break times were picked from these data. Each recorded downhole geophone trace was subsequently shifted by the first-break time value of the corresponding reference phone trace (hydrophone). A time correction of 1.3 ms to account for the time from reference phone to source at water velocity was then applied to the data so that all downhole geophone traces were referenced back to the source. The downhole geophone traces for each depth level were then stacked using a median summation technique.

3.2. Survey Geometry

It is important to accurately describe VSP geometry for each trace. Survey geometry was applied to the VSP data prior to the First Break picking.



3.3. First break picking

First-break times were picked from stacked vertical geophone component records. The first break picking was performed manually and no filtering was applied. Enclosure 2 displays the stacked seismic data for all levels for the vertical component.

3.4. Velocity Survey Processing

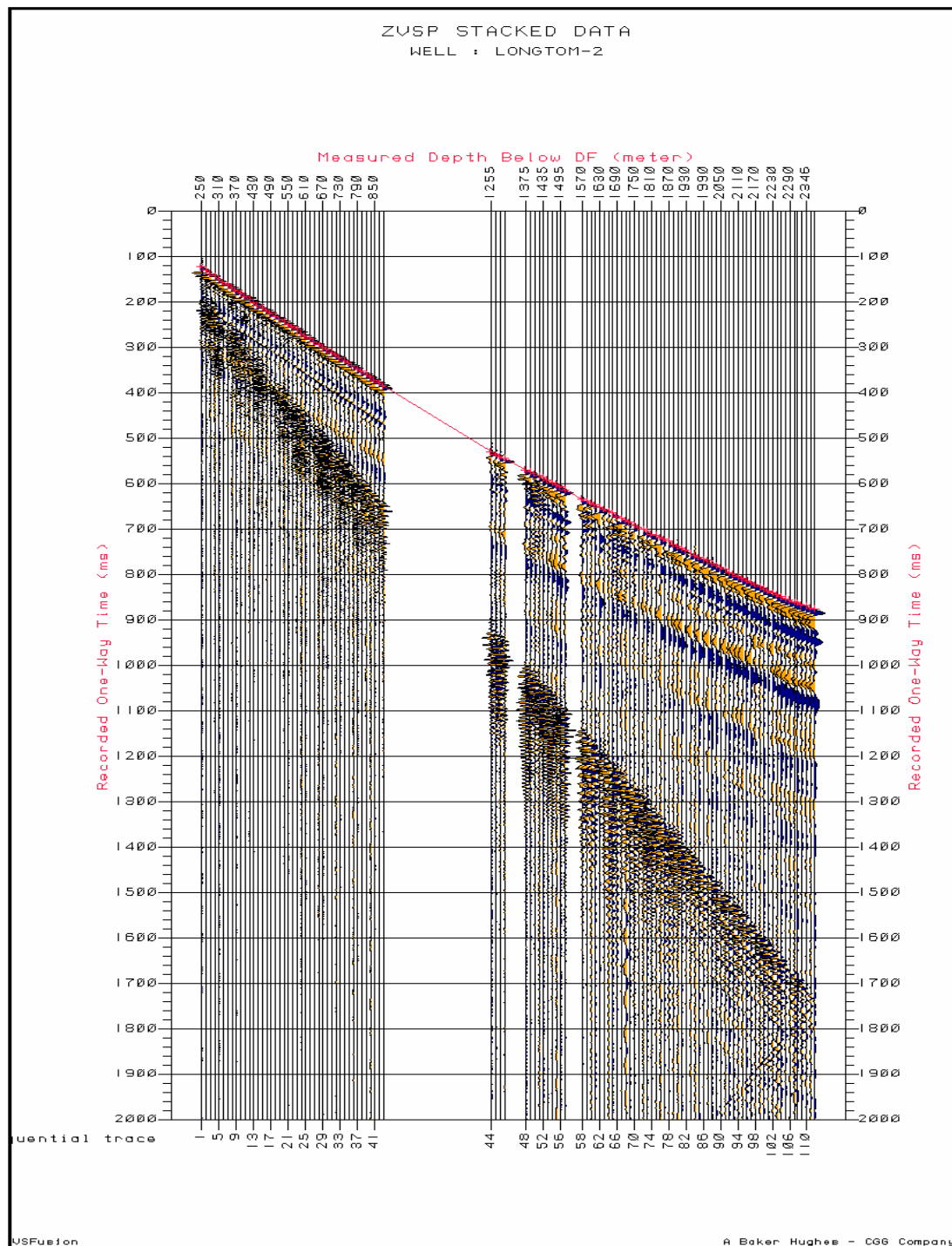
A total of 112 levels have been used in the production of the final velocity computations. Due to poor cementation of the casing to the borehole a total of 34 levels were omitted from the processing due to the subsequent poor signal and unreliable times. Levels affected were between depths of 205m – 235m, 895m – 1240m, 1315m – 1360m and 1525m – 1555m below DF.

The observed first break times were converted to vertical times using the cosine correction to derive the corrected vertical times from the source gun to the well geophone. The time correction from source energy to datum is performed by dividing the source energy depth with water velocity of 1524 m/sec. This static time has then been applied to all the check level times to correct them back to AHD. These corrections can be seen in the Time/Depth Information Table sheet (Page 17).

4. ZERO OFFSET VSP DATA PROCESSING

4.1. Data Quality

A total of 112 levels were included in the final VSP processing. The remaining stacked data is generally of good quality with well defined first arrivals however the data is predominantly low frequency and there is evidence of downgoing tube wave in the recorded data. A zero phase bandpass filter 5,10 – 80,120 Hz has been applied to remove random noise from the stack data prior to further processing.



4.2. Spherical Divergence Correction

The vertical geophone component traces were edited and stacked, the first arrival onset picked and the traces sorted on measured depth. A compensation for amplitude decay due to spherical divergence was applied using an exponential gain function of $T^{1.5}$ (where T is the recorded time). A display of the Gained Total Wavefield or VSP Stacked Data is shown in Enclosure 4A at a scale of 20 cm/sec.

4.3. Wavefield separation by median filtering

Median filtering is a data smoothing technique (Figure A). The median filter operates at constant time (zero moveout) “across” the data set. The filter length N refers to the number of consecutive traces over which the filter will be applied.

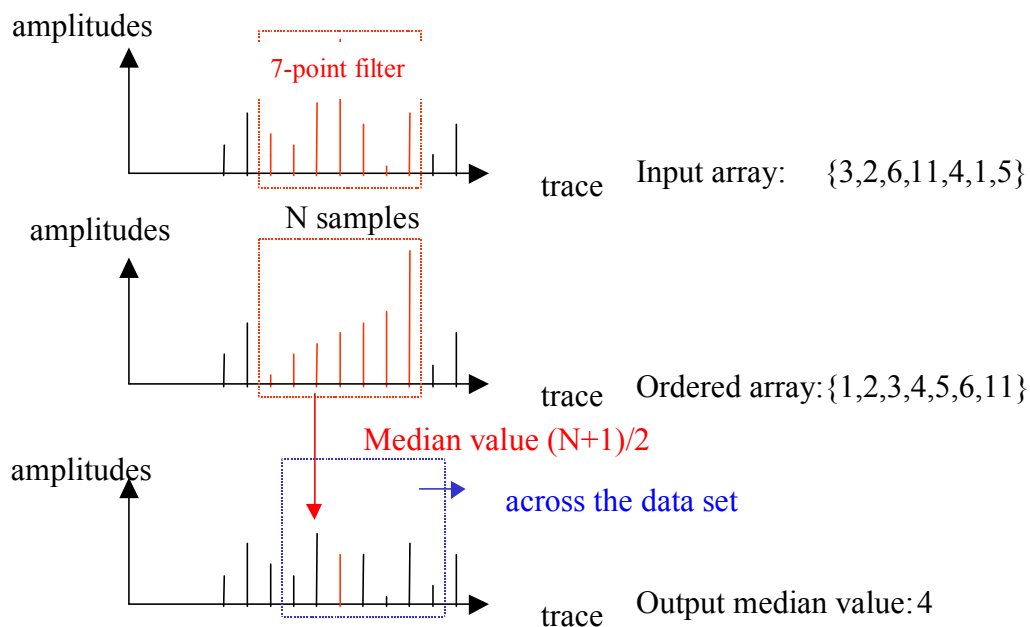


Figure A: Principle of median filtering

At each time sample, the array of N samples is arranged in order of increasing amplitudes. The median value occupies the $(N+1)/2$ position in the array. An N point median filter will generate one output trace by taking this median value from N samples at each time array point. The output trace will be assigned to the position occupied by the centre trace of the filter.

Two properties that make median filter attractive in VSP data processing are:

- Median filter rejects noise spikes (because the data are ordered according to amplitudes values, a spike will almost always occupy a position other than the median value, and as such, will be rejected).
- Median filter passes step functions without altering them.

The smoothing property of the median filter constitutes an inconvenience. Hence, the filter length necessary for wavefield separation must be carefully chosen and it is data dependent.

The wavefield separation by median filtering is performed as follows:

The downgoing wavefield is aligned by shifting each trace by the negative of the first arrival time.

A median filter was applied to pass downwaves. The estimated signal is the downgoing wavefield.

Upon estimation, the downgoing wavefield is then subtracted from the input total wavefield to yield the upcoming wavefield along with a residual noise component.

The noise component can be rejected with a short median filter applied after the upwaves have been time aligned to two-way time. This is done by adding the first break time.

4.4. Wavefield Separation, Downgoing Wavefield

The downgoing waves were flattened using the first arrival times. Each trace was cross-correlated with a selected reference trace using a time window around the first arrival, and the first arrival times were subsequently shifted to ensure maximum coherency of the downgoing waves. A 11-point median filter was applied to the total wavefield to pass the flattened downgoing waves. This was followed by a zero phase 5,10 – 60,90 Hz bandpass filter.

4.5. Wavefield Separation, Upgoing Wavefield

The flattened downgoing waves were then subtracted from the total wavefield to provide the upcoming waves, this upcoming waves were then shifted to corrected two-way time below datum as the Undeconvolved Unenhanced Upwaves, displayed in Enclosure 4A. This was followed by a zero phase 5,10 – 60,90 Hz bandpass filter.

These displays describe the primary and multiple reflection responses of the subsurface at the borehole location, within and below the depth range of the VSP.

Any dip across the well location can be recognised by moveout of the primary event to shorter time, as the geophone moves up the well and away from the lithology creating the reflection. No azimuth of dip can be computed from this display but true dip can be computed from a measurement of the delta T against vertical depth increment.

4.6. Deterministic Deconvolution

Downwave deconvolution is used to compress the seismic wavelet and suppress the multiple reflections. An important assumption of VSP downwave deconvolution is that the waves propagate vertically. This implies a zero offset from the well head, flat layers and a vertical borehole. In this way, the upcoming wavefield equals to the convolution between the downgoing wavefield and the reflectivity series of the earth. An inverse

operator from the downgoing wavefield is derived and then used to deconvolve the upcoming wavefield. The deconvolution is carried out in the frequency domain by spectral division. Therefore, convolving the upcoming wavefield with the inverse of the downgoing wavefield will theoretically remove all multiple reflections generated above the receiver, as well as the source signature characteristic. Only the reflection response generated below the receiver will remain.

This deconvolution approach is unique to zero-offset VSP. Due to the fact that downgoing energy strikes the downhole geophone from the above, and upcoming reflections will strike the phone from below, the downgoing wavetrain can easily be extracted from the recorded total wavefield. This is direct contrast to surface seismic data, where all recorded energy impinges on the geophone from below. Because the downgoing wavefield in a VSP survey is a measured quantity, not an estimated one as with surface recorded data, VSP downgoing deconvolution is a deterministic process, not a predictive process. Downgoing deconvolution provides source shaping as well as multiple suppression capabilities.

4.7. Operator Design

Deconvolution operators are designed from the downgoing wavefield. The ultimate goal is to design an operator that will compress the downgoing wavetrain to the desired output wavelet. If the deconvolved downgoing data shows no residual reverberations over the length of design window, then the operator design step was successful, and those inverse operators should be used to deconvolve the upcoming wavefield. A designed single operator can be applied to all traces. This operator is designed from a summed trace taken over a user-specified range of downwaves.

4.8. Operator Length

The length of the operator design window will determine how many multiple events will be removed. With the assumption of zero offset, in theory, the entire downwave trace could be used for operator design. In practice, however, the length over which to design the operator must be limited. With longer window lengths, the effect of violating this assumption is augmented. It is therefore, recommended that the shortest possible window be used that contains all reverberations of significant amplitude.

Individual deconvolution operators were designed using 500 ms of the downgoing waveform for each depth level to shape the wavetrain to a spike. These operators were then applied to the corresponding upcoming waves.

4.9. Enhanced Deconvolved Upwaves

In order to improve continuity and suppress the noise of the upwaves, a 5-point median filter was applied to the deconvolved upwaves followed by a zero phase frequency 5,10 – 60,90Hz bandpass filter this upwaves was then displayed as a Deconvolved Enhanced Upwaves or Final Upwaves.

4.10. Corridor Stack

A corridor was defined close to the time of the first arrivals and a corridor stack generated. A raw corridor stack and filtered corridor stack is illustrated in Enclosure 4B.

5. Q-ANALYSIS

The downgoing wavefield in VSP data provides a direct observation of the changing nature of the seismic source wavelet as it propagates through the earth, and is an ideal dataset for the study of seismic attenuation. A Spectral Ratio method was used to estimate the Q factor. This method is based on the assumption that the logarithm of the amplitude of a seismic wave decays at a rate approximately proportional to the frequency, and that the attenuation is independent of frequency.

The spectral ratio method requires that the input downgoing wavefield should only contain the direct arrival waveform and must be free from any kind of reflection arrivals, multiples, trace balance gain or amplitude compensation.

Attributes from Q - Analysis

Several attributes were generated during the Q-analysis which helped to optimize Q-processing parameters and to assess uncertainty in the final results.

1. **Average peak amplitudes** were calculated within a short time window placed around the first arrival time curve. The amplitude graph helps assess the data quality in both acquisition and processing (**Figure 5**). For example, double casing, poor coupling of casing with formation, variation of the quality of cementation, and poor geophone coupling would severely affect the recorded waveforms. The poor quality data should be excluded for Q-analysis. The amplitude graph also helps determine a reliable reference point based on which spectral ratios are calculated.
2. **Average frequencies (AF)** were calculated from each windowed downgoing waveform (**Figure 6**). Typically, in recorded seismic data, an increasing loss of amplitude and phase distortion of the wavelet with time is observed. The amplitude distortion is due to a frequency dependent attenuation while the phase distortion is due to dispersion. The high frequency components of the spectrum of the seismic wavelet travel with a higher velocity and are more quickly attenuated and phase shifted than the low frequency ones. The frequency graph should always display a frequency decrease with increasing depth. The rate of the decay is indicative of seismic attenuation; the higher the rate the stronger the attenuation, and vice versa. AF was found to decrease from 513m to 1420m, but the trend was disrupted further down possibly by the change in geological structures or lithologies.
3. **Amplitude spectra in dB** were calculated for all receiver levels using the multitaper method, and displayed for selected depth levels (**Figure 7**). This graph helps to assess the quality of data, and also to determine a reliable bandwidth for Q-estimation.
4. **Spectral ratios** were calculated between every receiver level and a reference level (**Figure 8**). With the help of the amplitude graphs (Figure 5), the reference level was chosen to be at depth 588m TVD below datum. The spectral ratios are approximately linear between 10(18)-70(36) Hz(dB/Oct) for the shallow data therefore a bandwidth of 10(18)-70(36) Hz(dB/Oct) was chosen for Q analysis. Another factor determining the bandwidth is that the

slope of spectral ratios versus frequency should be negative. However, in real data examples, positive slopes sometimes do occur, resulting in negative quality factors, which are meaningless.

5. **Attenuation slopes** were computed on the assumption that energy loss is proportional to frequency. This was done by linear regression of spectral ratios between 10 Hz and 70 Hz (**Figure 9**). Attenuation slopes should always be negative. The “Q” profile of the earth depends upon the change of attenuation slope with depth or time. The higher the rate of change, the stronger the attenuation and hence the lower the Q value. Note that there is a similarity between the attenuation slope and average frequency curves (Figure 6).
6. **Intercepts of fitted lines** were computed through the least-squares line regression. They carry information about the source function, receiver function, geometric spreading and coupling factor. The intercepts are expected to decrease with depth from the reference point down to TD (**Figure 10**).
7. **Standard errors of line fitting** were calculated from the deviations between observed points (spectral ratios) and fitted lines. Large errors indicate a poor fit and hence low data quality (**Figure 11**). The average relative error is about 10%. These errors are later translated into standard errors in Q estimates (**Figure 12**).

Cumulative and Interval Q (Qcm)

Cumulative Q was calculated from the reference level at 558m and the interval Q was calculated from the Qcm-depth curve (**Figures 13 and 14**). An average quality factor (Qfmt) of 65 was computed from the whole depth range.

Uncertainty Analysis

Intrinsic attenuation is just one of the factors affecting the amplitudes and shape of the seismic waves. Some factors are related to the propagation of waves in non-homogeneous media and some are related to the acquisition and processing of the data. For example, earth layering, wave scattering and transmission, source signature and geophone coupling all affect the estimated Q. These effects are partially eliminated during data processing. The amplitude decay caused by spherical divergence can be almost one order of magnitude larger than that caused by intrinsic attenuation. However if spherical divergence is assumed to be frequency independent, it should have no influence on the estimated quality factor Q. Variable borehole conditions such as casing and cementing severely affect both amplitude and frequency content of VSP data, and hence increase uncertainty in Q.

While the exact errors in Q are difficult to quantify, the standard errors in line regression have been used as an indicator of uncertainty in Q. That is, the standard errors of the least-squared line fitting multiplied by cumulative Q give the absolute errors in cumulative Q (**Figure 12**).

Finally it should be noted that the developed spectral ratio method is only applicable to vertical or near vertical wells. In this case study the well deviation is up to 13 degrees, hence its effects on Q are considered to be minimal.

6. OPERATION PARAMETERS

Well Name	: LONGTOM-2
Well Location	: Offshore - Australia
Wellhead Co-ordinates	: 38 deg 06' 11.89" South
Latitude	: 148 deg 19' 00.92" East
Longitude	
UTM Coordinate	: 5781904.33 m North
	: 615462.43 m East
Geographic Datum	: GDA94
Projection	: MGA, GRS80 Spheroid, Zone 55, CM 147° East
Derrick Floor Elevation	: 21.5 m Above AHD
Datum Plane	: 0.00 m (AHD)
Water Depth at Source	: 56.8 m below AHD
Total Depth – VSP	: 2376 m below DF
Number of Levels Occupied	: 146 levels
Shallowest Geophone Level	: 205 m (DF)
Deepest Geophone Level	: 2376 m (DF)
Tool in Hole	: 19:07 on 25 November 2004
Tool out of Hole	: 23:26 on 25 November 2004
Net Operating Time	: 4 hours and 19 minutes
Source Type	: Sleeve Gun 4 x 150 Cu. In.
Record Length	: 4 sec.
Sample Rate	: 1 ms
Source Location	: 46.3 m, N 330 DEG from Wellhead
Source Depth	: 5 m below AHD
Seismic Observer	: B. Read
Client Representative	: J. Sonogo

7. EQUIPMENT SPECIFICATION

Recording System	PDAQ 4 data channels SEG Y format 1 msec. Sampling rate 4 sec. Record length Filter. High cut : 250 hz Low cut : 6 hz Notch : OUT
Downhole Tool	Type : AWS 1300 GM Frequency : 10 hz Preamp Gain : 51 db
Source Type	Sleeve Gun
Gun Volume	4 x 150 Cubic inch
Gun to gun distance	None

8. VELOCITY SURVEY

VELOCITY SURVEY

CLIENT**WELL**

AREA

CONTRACTOR

SURVEY DATE

SURVEY UNITS

DATUM ELEVATION

KB ELEVATION

RCVR REF. ELEVATION

WELL ELEVATION

DATUM CORRECT. VELOCITY

SOURCE TYPE

GEOPHONE TYPE

SAMPLE RATE

WELL CASING

APACHE ENERGY LIMITED**LONGTOM-2**

OFFSHORE - AUSTRALIA

BAKER ATLAS

25 NOVEMBER 2004

M

0.00 M ABOVE SEA LEVEL

21.50 M ABOVE SEA LEVEL

21.50 M ABOVE DATUM REF

21.50 M ABOVE DATUM REF

1524.00 M /SEC

SLEEVE GUN

AWS 1300 GM

1.00 MSEC

9. SOURCE / RECEIVER GEOMETRY TABLE

APACHE ENERGY LIMITED

WELL : LONGTOM-2

SOURCE / RECEIVER GEOMETRY TABLE

RECEIVER REFERENCE ELEVATION = 21.50 M ABOVE DATUM REF.

SOURCE / RECEIVER COORDINATES ARE REFERENCED TO WELLHEAD

SOURCE / RECEIVER (S-R) OFFSET IS PLAN VIEW

----- RECEIVER -----				----- SOURCE -----				OFFSET
MEASURED DEPTH (DGM) (M)	VERT. DEPTH (M)	X COORD. (M)	Y COORD. (M)	ELEV (ES) (M)	DEPTH (DS) (M)	X COORD. (M)	Y COORD. (M)	(S-R) (M)
250.0	250.0	0.9	-2.3	0.0	5.0	-23.1	40.1	48.8
265.0	265.0	1.0	-2.6	0.0	5.0	-23.1	40.1	49.0
280.0	280.0	1.1	-2.8	0.0	5.0	-23.1	40.1	49.3
295.0	295.0	1.2	-3.0	0.0	5.0	-23.1	40.1	49.5
310.0	310.0	1.3	-3.2	0.0	5.0	-23.1	40.1	49.7
325.0	325.0	1.4	-3.4	0.0	5.0	-23.1	40.1	49.9
340.0	340.0	1.5	-3.6	0.0	5.0	-23.1	40.1	50.1
355.0	355.0	1.5	-3.7	0.0	5.0	-23.1	40.1	50.3
370.0	370.0	1.6	-3.9	0.0	5.0	-23.1	40.1	50.5
385.0	385.0	1.6	-4.0	0.0	5.0	-23.1	40.1	50.6
400.0	400.0	1.6	-4.2	0.0	5.0	-23.1	40.1	50.7
415.0	415.0	1.7	-4.3	0.0	5.0	-23.1	40.1	50.9
430.0	430.0	1.7	-4.4	0.0	5.0	-23.1	40.1	51.0
445.0	445.0	1.7	-4.6	0.0	5.0	-23.1	40.1	51.1
460.0	460.0	1.7	-4.7	0.0	5.0	-23.1	40.1	51.2
475.0	475.0	1.7	-4.8	0.0	5.0	-23.1	40.1	51.4
490.0	490.0	1.7	-5.0	0.0	5.0	-23.1	40.1	51.5
505.0	505.0	1.7	-5.2	0.0	5.0	-23.1	40.1	51.6
520.0	520.0	1.6	-5.4	0.0	5.0	-23.1	40.1	51.8
535.0	535.0	1.6	-5.5	0.0	5.0	-23.1	40.1	51.9
550.0	550.0	1.6	-5.7	0.0	5.0	-23.1	40.1	52.0
565.0	565.0	1.6	-5.9	0.0	5.0	-23.1	40.1	52.2
580.0	580.0	1.6	-6.1	0.0	5.0	-23.1	40.1	52.3
595.0	595.0	1.5	-6.2	0.0	5.0	-23.1	40.1	52.5
610.0	610.0	1.5	-6.4	0.0	5.0	-23.1	40.1	52.7
625.0	624.9	1.5	-6.6	0.0	5.0	-23.1	40.1	52.8
640.0	639.9	1.6	-6.8	0.0	5.0	-23.1	40.1	53.0
655.0	654.9	1.6	-7.0	0.0	5.0	-23.1	40.1	53.2
670.0	669.9	1.6	-7.1	0.0	5.0	-23.1	40.1	53.3
685.0	684.9	1.6	-7.3	0.0	5.0	-23.1	40.1	53.5
700.0	699.9	1.6	-7.4	0.0	5.0	-23.1	40.1	53.6
715.0	714.9	1.6	-7.6	0.0	5.0	-23.1	40.1	53.7
730.0	729.9	1.7	-7.6	0.0	5.0	-23.1	40.1	53.8
745.0	744.9	1.7	-7.7	0.0	5.0	-23.1	40.1	53.9
760.0	759.9	1.7	-7.8	0.0	5.0	-23.1	40.1	54.0
775.0	774.9	1.8	-7.9	0.0	5.0	-23.1	40.1	54.1
790.0	789.9	1.9	-7.9	0.0	5.0	-23.1	40.1	54.1
805.0	804.9	1.9	-7.9	0.0	5.0	-23.1	40.1	54.2
820.0	819.9	2.0	-7.9	0.0	5.0	-23.1	40.1	54.2
835.0	834.9	2.1	-7.9	0.0	5.0	-23.1	40.1	54.2
850.0	849.9	2.2	-7.9	0.0	5.0	-23.1	40.1	54.2
865.0	864.9	2.3	-7.8	0.0	5.0	-23.1	40.1	54.2
880.0	879.9	2.4	-7.7	0.0	5.0	-23.1	40.1	54.2
1255.0	1254.8	9.0	-0.7	0.0	5.0	-23.1	40.1	51.9

----- RECEIVER -----				----- SOURCE -----				OFFSET
MEASURED DEPTH (DGM) (M)	VERT. DEPTH (M)	X COORD. (M)	Y COORD. (M)	ELEV (ES) (M)	DEPTH (DS) (M)	X COORD. (M)	Y COORD. (M)	(S-R) (M)
1270.0	1269.8	9.4	-0.2	0.0	5.0	-23.1	40.1	51.8
1285.0	1284.8	9.8	0.2	0.0	5.0	-23.1	40.1	51.8
1300.0	1299.8	10.4	0.7	0.0	5.0	-23.1	40.1	51.7
1375.0	1374.7	13.3	3.1	0.0	5.0	-23.1	40.1	51.9
1390.0	1389.6	13.9	3.6	0.0	5.0	-23.1	40.1	52.0
1405.0	1404.6	14.6	4.1	0.0	5.0	-23.1	40.1	52.1
1420.0	1419.6	15.2	4.6	0.0	5.0	-23.1	40.1	52.3
1435.0	1434.6	15.9	5.1	0.0	5.0	-23.1	40.1	52.4
1450.0	1449.5	16.6	5.7	0.0	5.0	-23.1	40.1	52.6
1465.0	1464.5	17.3	6.3	0.0	5.0	-23.1	40.1	52.8
1480.0	1479.5	18.1	6.9	0.0	5.0	-23.1	40.1	53.0
1495.0	1494.5	18.9	7.4	0.0	5.0	-23.1	40.1	53.2
1510.0	1509.4	19.7	8.0	0.0	5.0	-23.1	40.1	53.5
1570.0	1569.3	23.2	10.3	0.0	5.0	-23.1	40.1	55.1
1585.0	1584.2	24.1	10.9	0.0	5.0	-23.1	40.1	55.5
1600.0	1599.2	25.0	11.5	0.0	5.0	-23.1	40.1	56.0
1615.0	1614.2	25.9	12.1	0.0	5.0	-23.1	40.1	56.5
1630.0	1629.1	26.9	12.7	0.0	5.0	-23.1	40.1	57.1
1645.0	1644.1	27.9	13.4	0.0	5.0	-23.1	40.1	57.6
1660.0	1659.0	29.0	14.1	0.0	5.0	-23.1	40.1	58.3
1675.0	1673.9	30.1	14.9	0.0	5.0	-23.1	40.1	58.9
1690.0	1688.9	31.3	15.8	0.0	5.0	-23.1	40.1	59.6
1705.0	1703.8	32.5	16.8	0.0	5.0	-23.1	40.1	60.3
1720.0	1718.7	33.7	17.7	0.0	5.0	-23.1	40.1	61.1
1735.0	1733.6	35.0	18.8	0.0	5.0	-23.1	40.1	61.9
1750.0	1748.5	36.3	19.9	0.0	5.0	-23.1	40.1	62.8
1765.0	1763.4	37.7	20.9	0.0	5.0	-23.1	40.1	63.7
1780.0	1778.3	39.0	22.1	0.0	5.0	-23.1	40.1	64.7
1795.0	1793.2	40.4	23.3	0.0	5.0	-23.1	40.1	65.7
1810.0	1808.1	41.8	24.6	0.0	5.0	-23.1	40.1	66.8
1825.0	1822.9	43.3	25.9	0.0	5.0	-23.1	40.1	67.9
1840.0	1837.8	44.9	27.4	0.0	5.0	-23.1	40.1	69.2
1855.0	1852.6	46.5	29.1	0.0	5.0	-23.1	40.1	70.5
1870.0	1867.4	48.2	30.7	0.0	5.0	-23.1	40.1	71.9
1885.0	1882.2	49.8	32.3	0.0	5.0	-23.1	40.1	73.4
1900.0	1897.0	51.6	34.1	0.0	5.0	-23.1	40.1	75.0
1915.0	1911.8	53.4	36.0	0.0	5.0	-23.1	40.1	76.7
1930.0	1926.5	55.3	38.1	0.0	5.0	-23.1	40.1	78.5
1945.0	1941.3	57.2	40.1	0.0	5.0	-23.1	40.1	80.3
1960.0	1956.0	59.1	42.3	0.0	5.0	-23.1	40.1	82.3
1975.0	1970.7	61.1	44.5	0.0	5.0	-23.1	40.1	84.4
1990.0	1985.4	63.1	46.7	0.0	5.0	-23.1	40.1	86.5
2005.0	2000.1	65.0	49.0	0.0	5.0	-23.1	40.1	88.6
2020.0	2014.8	67.1	51.3	0.0	5.0	-23.1	40.1	90.9
2035.0	2029.4	69.1	53.7	0.0	5.0	-23.1	40.1	93.3
2050.0	2044.1	71.2	56.2	0.0	5.0	-23.1	40.1	95.7
2065.0	2058.7	73.3	58.7	0.0	5.0	-23.1	40.1	98.2
2080.0	2073.4	75.4	61.2	0.0	5.0	-23.1	40.1	100.8
2095.0	2088.0	77.5	63.7	0.0	5.0	-23.1	40.1	103.4
2110.0	2102.6	79.7	66.3	0.0	5.0	-23.1	40.1	106.2
2125.0	2117.2	81.9	69.0	0.0	5.0	-23.1	40.1	109.0
2140.0	2131.8	84.1	71.6	0.0	5.0	-23.1	40.1	111.8
2155.0	2146.4	86.3	74.2	0.0	5.0	-23.1	40.1	114.7
2170.0	2161.0	88.5	76.8	0.0	5.0	-23.1	40.1	117.5
2185.0	2175.6	90.8	79.5	0.0	5.0	-23.1	40.1	120.5
2200.0	2190.2	93.1	82.2	0.0	5.0	-23.1	40.1	123.6
2215.0	2204.8	95.4	84.9	0.0	5.0	-23.1	40.1	126.7

----- RECEIVER -----				----- SOURCE -----				OFFSET
MEASURED DEPTH (DGM) (M)	VERT. DEPTH (M)	X COORD. (M)	Y COORD. (M)	ELEV (ES) (M)	DEPTH (DS) (M)	X COORD. (M)	Y COORD. (M)	(S-R) (M)
2230.0	2219.3	97.7	87.6	0.0	5.0	-23.1	40.1	129.8
2245.0	2233.9	100.0	90.2	0.0	5.0	-23.1	40.1	132.9
2260.0	2248.5	102.3	92.9	0.0	5.0	-23.1	40.1	136.1
2275.0	2263.1	104.6	95.5	0.0	5.0	-23.1	40.1	139.3
2290.0	2277.7	106.9	98.2	0.0	5.0	-23.1	40.1	142.4
2305.0	2292.3	109.2	100.7	0.0	5.0	-23.1	40.1	145.5
2316.0	2303.0	110.9	102.5	0.0	5.0	-23.1	40.1	147.8
2331.0	2317.6	113.1	104.8	0.0	5.0	-23.1	40.1	150.9
2346.0	2332.3	115.4	107.1	0.0	5.0	-23.1	40.1	153.9
2361.0	2347.0	117.6	109.3	0.0	5.0	-23.1	40.1	156.9
2376.0	2361.6	119.9	111.5	0.0	5.0	-23.1	40.1	159.8

10. TIME / DEPTH INFORMATION TABLE**APACHE ENERGY LIMITED****WELL : LONGTOM-2****TIME / DEPTH INFORMATION TABLE**

ALL TIMES ARE ONE-WAY TIMES

* = NOT USED IN VELOCITY COMPUTATIONS

DATUM ELEVATION 0.00 M ABOVE SEA LEVEL

DATUM CORRECT. VELOCITY 1524.00 M /SEC

MEASURED GEOPHONE DEPTH (DGM)	RAW TIME PICK (MS)	SRC-REC DIST. PLAN-VIEW (SRC_REC) (M)	COS (I)	TIME CORRECTION COS (MS)	CORRECTION DATUM (MS)	VERTICAL TIME (TGD) (MS)
250.0	123.2	48.8	0.977	-2.8	3.3	123.7
265.0	130.9	49.0	0.980	-2.7	3.3	131.5
280.0	137.8	49.3	0.982	-2.5	3.3	138.5
295.0	144.0	49.5	0.983	-2.4	3.3	144.9
310.0	150.4	49.7	0.985	-2.3	3.3	151.4
325.0	157.0	49.9	0.986	-2.2	3.3	158.2
340.0	162.7	50.1	0.987	-2.0	3.3	163.9
355.0	168.3	50.3	0.988	-1.9	3.3	169.6
370.0	175.5	50.5	0.989	-1.9	3.3	176.9
385.0	180.4	50.6	0.990	-1.8	3.3	181.9
400.0	188.5	50.7	0.991	-1.7	3.3	190.1
415.0	195.0	50.9	0.992	-1.6	3.3	196.6
430.0	202.9	51.0	0.992	-1.6	3.3	204.6
445.0	207.7	51.1	0.993	-1.5	3.3	209.5
460.0	213.1	51.2	0.993	-1.5	3.3	214.9
475.0	219.8	51.4	0.994	-1.4	3.3	221.7
490.0	226.4	51.5	0.994	-1.4	3.3	228.3
505.0	232.1	51.6	0.994	-1.3	3.3	234.0
520.0	238.3	51.8	0.995	-1.3	3.3	240.3
535.0	243.9	51.9	0.995	-1.3	3.3	246.0
550.0	249.7	52.0	0.995	-1.2	3.3	251.8
565.0	255.5	52.2	0.995	-1.2	3.3	257.6
580.0	261.9	52.3	0.996	-1.2	3.3	264.1
595.0	269.0	52.5	0.996	-1.1	3.3	271.1
610.0	275.0	52.7	0.996	-1.1	3.3	277.2
625.0	281.6	52.8	0.996	-1.1	3.3	283.8
640.0	288.1	53.0	0.996	-1.1	3.3	290.3
655.0	294.3	53.2	0.996	-1.0	3.3	296.5
670.0	300.6	53.3	0.997	-1.0	3.3	302.8
685.0	306.2	53.5	0.997	-1.0	3.3	308.5
700.0	312.0	53.6	0.997	-1.0	3.3	314.3
715.0	317.7	53.7	0.997	-1.0	3.3	320.0
730.0	323.5	53.8	0.997	-0.9	3.3	325.9
745.0	329.5	53.9	0.997	-0.9	3.3	331.8
760.0	335.3	54.0	0.997	-0.9	3.3	337.7
775.0	341.3	54.1	0.997	-0.9	3.3	343.7
790.0	347.3	54.1	0.997	-0.9	3.3	349.7
805.0	353.2	54.2	0.998	-0.9	3.3	355.6
820.0	359.7	54.2	0.998	-0.8	3.3	362.1
835.0	365.5	54.2	0.998	-0.8	3.3	367.9
850.0	371.7	54.2	0.998	-0.8	3.3	374.2
865.0	378.0	54.2	0.998	-0.8	3.3	380.5

APACHE ENERGY LIMITED

LONGTOM-2

MEASURED GEOPHONE DEPTH (DGM)	RAW TIME PICK (MS)	SRC-REC DIST. PLAN-VIEW (SRC_REC)	COS (I)	TIME CORRECTION COS	CORRECTION DATUM	VERTICAL TIME (TGD)
(M)	(MS)	(M)		(MS)	(MS)	(MS)
880.0	384.7	54.2	0.998	-0.8	3.3	387.2
1255.0	530.6	51.9	0.999	-0.5	3.3	533.4
1270.0	535.7	51.8	0.999	-0.5	3.3	538.5
1285.0	540.8	51.8	0.999	-0.5	3.3	543.7
1300.0	545.1	51.7	0.999	-0.4	3.3	547.9
1375.0	569.4	51.9	0.999	-0.4	3.3	572.2
1390.0	573.7	52.0	0.999	-0.4	3.3	576.6
1405.0	577.9	52.1	0.999	-0.4	3.3	580.7
1420.0	583.4	52.3	0.999	-0.4	3.3	586.3
1435.0	587.5	52.4	0.999	-0.4	3.3	590.4
1450.0	592.7	52.6	0.999	-0.4	3.3	595.5
1465.0	598.5	52.8	0.999	-0.4	3.3	601.4
1480.0	603.6	53.0	0.999	-0.4	3.3	606.5
1495.0	608.2	53.2	0.999	-0.4	3.3	611.1
1510.0	613.8	53.5	0.999	-0.4	3.3	616.7
1570.0	635.5	55.1	0.999	-0.4	3.3	638.4
1585.0	639.9	55.5	0.999	-0.4	3.3	642.7
1600.0	643.0	56.0	0.999	-0.4	3.3	645.9
1615.0	648.6	56.5	0.999	-0.4	3.3	651.5
1630.0	652.5	57.1	0.999	-0.4	3.3	655.4
1645.0	657.0	57.6	0.999	-0.4	3.3	659.9
1660.0	661.8	58.3	0.999	-0.4	3.3	664.6
1675.0	665.8	58.9	0.999	-0.4	3.3	668.6
1690.0	671.6	59.6	0.999	-0.4	3.3	674.4
1705.0	677.0	60.3	0.999	-0.4	3.3	679.9
1720.0	681.3	61.1	0.999	-0.4	3.3	684.2
1735.0	686.1	61.9	0.999	-0.5	3.3	688.9
1750.0	691.3	62.8	0.999	-0.5	3.3	694.1
1765.0	696.3	63.7	0.999	-0.5	3.3	699.1
1780.0	701.0	64.7	0.999	-0.5	3.3	703.8
1795.0	706.4	65.7	0.999	-0.5	3.3	709.2
1810.0	711.8	66.8	0.999	-0.5	3.3	714.6
1825.0	714.9	67.9	0.999	-0.5	3.3	717.7
1840.0	719.3	69.2	0.999	-0.5	3.3	722.0
1855.0	723.9	70.5	0.999	-0.5	3.3	726.7
1870.0	728.8	71.9	0.999	-0.6	3.3	731.6
1885.0	733.6	73.4	0.999	-0.6	3.3	736.3
1900.0	738.7	75.0	0.999	-0.6	3.3	741.3
1915.0	743.1	76.7	0.999	-0.6	3.3	745.8
1930.0	748.8	78.5	0.999	-0.6	3.3	751.4
1945.0	754.2	80.3	0.999	-0.7	3.3	756.8
1960.0	759.0	82.3	0.999	-0.7	3.3	761.6
1975.0	762.8	84.4	0.999	-0.7	3.3	765.3
1990.0	767.2	86.5	0.999	-0.7	3.3	769.8
2005.0	771.0	88.6	0.999	-0.8	3.3	773.6
2020.0	776.4	90.9	0.999	-0.8	3.3	778.9
2035.0	781.5	93.3	0.999	-0.8	3.3	783.9
2050.0	786.3	95.7	0.999	-0.9	3.3	788.6
2065.0	790.9	98.2	0.999	-0.9	3.3	793.3
2080.0	795.8	100.8	0.999	-1.0	3.3	798.1
2095.0	799.9	103.4	0.999	-1.0	3.3	802.2
2110.0	804.8	106.2	0.999	-1.1	3.3	807.0
2125.0	809.1	109.0	0.999	-1.1	3.3	811.3
2140.0	814.5	111.8	0.999	-1.1	3.3	816.6
2155.0	818.6	114.7	0.999	-1.2	3.3	820.7
2170.0	822.6	117.5	0.998	-1.2	3.3	824.7
2185.0	827.9	120.5	0.998	-1.3	3.3	829.9

APACHE ENERGY LIMITED

LONGTOM-2

MEASURED GEOPHONE DEPTH (DGM)	RAW TIME PICK (MS)	SRC-REC DIST. PLAN-VIEW (SRC_REC)	COS (I)	TIME CORRECTION COS (MS)	CORRECTION DATUM (MS)	VERTICAL TIME (TGD) (MS)
2200.0	832.3	123.6	0.998	-1.4	3.3	834.3
2215.0	837.1	126.7	0.998	-1.4	3.3	839.0
2230.0	840.8	129.8	0.998	-1.5	3.3	842.6
2245.0	845.0	132.9	0.998	-1.5	3.3	846.8
2260.0	849.2	136.1	0.998	-1.6	3.3	850.9
2275.0	853.6	139.3	0.998	-1.6	3.3	855.2
2290.0	857.6	142.4	0.998	-1.7	3.3	859.2
2305.0	861.2	145.5	0.998	-1.8	3.3	862.7
2316.0	863.4	147.8	0.998	-1.8	3.3	864.9
2331.0	866.8	150.9	0.998	-1.9	3.3	868.2
2346.0	870.4	153.9	0.998	-1.9	3.3	871.8
2361.0	873.8	156.9	0.998	-2.0	3.3	875.1
2376.0	876.8	159.8	0.998	-2.0	3.3	878.1

11. VELOCITY TABLE

APACHE ENERGY LIMITED

WELL : LONGTOM-2

VELOCITY TABLE

RECEIVER REFERENCE ELEVATION = 21.50 M ABOVE DATUM REF.

DATUM ELEVATION 0.00 M ABOVE SEA LEVEL

DATUM CORRECT. VELOCITY 1524.00 M /SEC

MEASURED GEOPHONE DEPTH	DEPTH CORR. TO DATUM (DGD)	TIME CORR. TO DATUM (TGD)	AVERAGE VELOCITY	RMS VELOCITY	INTERVAL DEPTH (DELDGD)	INTERVAL TIME (DELDGT)	INTERVAL VELOCITY
(M)	(M)	(MS)	(M /SEC)	(M /SEC)	(M)	(MS)	(M /SEC)
					228.5	123.7	1847.1
250.0	228.5	123.7	1847.1	1847.1	-----		
					15.0	7.8	1923.9
265.0	243.5	131.5	1851.7	1851.8	-----		
					15.0	7.1	2125.7
280.0	258.5	138.5	1865.6	1866.7	-----		
					15.0	6.4	2360.5
295.0	273.5	144.9	1887.3	1891.1	-----		
					15.0	6.5	2296.3
310.0	288.5	151.4	1905.0	1910.3	-----		
					15.0	6.7	2225.6
325.0	303.5	158.2	1918.6	1924.8	-----		
					15.0	5.8	2595.5
340.0	318.5	163.9	1942.5	1952.4	-----		
					15.0	5.7	2638.1
355.0	333.5	169.6	1965.8	1979.2	-----		
					15.0	7.3	2055.9
370.0	348.5	176.9	1969.5	1982.4	-----		
					15.0	5.0	3024.8
385.0	363.5	181.9	1998.3	2018.0	-----		
					15.0	8.2	1833.4
400.0	378.5	190.1	1991.2	2010.4	-----		
					15.0	6.5	2293.1
415.0	393.5	196.6	2001.2	2020.4	-----		
					15.0	8.0	1883.1
430.0	408.5	204.6	1996.6	2015.3	-----		
					15.0	4.9	3053.2
445.0	423.5	209.5	2021.4	2045.6	-----		
					15.0	5.5	2750.1
460.0	438.5	214.9	2039.9	2066.5	-----		
					15.0	6.7	2229.3
475.0	453.5	221.7	2045.7	2071.6	-----		
					15.0	6.6	2257.6
490.0	468.5	228.3	2051.8	2077.3	-----		
					15.0	5.7	2632.5
505.0	483.5	234.0	2066.0	2092.5	-----		
					15.0	6.3	2376.2
520.0	498.5	240.3	2074.1	2100.5	-----		
					15.0	5.6	2663.2
535.0	513.5	246.0	2087.6	2115.0	-----		
					15.0	5.8	2567.1
550.0	528.5	251.8	2098.7	2126.6	-----		

APACHE ENERGY LIMITED

LONGTOM-2

MEASURED GEOPHONE DEPTH	DEPTH CORR. TO DATUM (DGD)	TIME CORR. TO DATUM (TGD)	AVERAGE VELOCITY	RMS VELOCITY	INTERVAL DEPTH	INTERVAL TIME	INTERVAL VELOCITY
(DGM)	(DGD)	(TGD)			(DELDGD)	(DELDGT)	
(M)	(M)	(MS)	(M /SEC)	(M /SEC)	(M)	(MS)	(M /SEC)
					15.0	5.8	2573.0
565.0	543.5	257.6	2109.5	2137.7	-----		
					15.0	6.4	2330.6
580.0	558.5	264.1	2114.9	2142.7	-----		
					15.0	7.1	2127.4
595.0	573.5	271.1	2115.2	2142.3	-----		
					15.0	6.0	2480.7
610.0	588.5	277.2	2123.2	2150.2	-----		
					15.0	6.6	2261.9
625.0	603.4	283.8	2126.4	2152.9	-----		
					15.0	6.5	2304.0
640.0	618.4	290.3	2130.4	2156.4	-----		
					15.0	6.2	2409.9
655.0	633.4	296.5	2136.2	2162.0	-----		
					15.0	6.3	2386.4
670.0	648.4	302.8	2141.4	2166.9	-----		
					15.0	5.7	2637.8
685.0	663.4	308.5	2150.6	2176.5	-----		
					15.0	5.8	2573.5
700.0	678.4	314.3	2158.4	2184.5	-----		
					15.0	5.7	2653.5
715.0	693.4	320.0	2167.2	2193.7	-----		
					15.0	5.9	2547.8
730.0	708.4	325.9	2174.1	2200.6	-----		
					15.0	6.0	2512.9
745.0	723.4	331.8	2180.1	2206.6	-----		
					15.0	5.9	2557.5
760.0	738.4	337.7	2186.7	2213.2	-----		
					15.0	6.0	2489.1
775.0	753.4	343.7	2192.0	2218.3	-----		
					15.0	6.0	2518.3
790.0	768.4	349.7	2197.6	2223.7	-----		
					15.0	5.9	2523.2
805.0	783.4	355.6	2203.0	2229.1	-----		
					15.0	6.5	2312.9
820.0	798.4	362.1	2205.0	2230.6	-----		
					15.0	5.8	2572.1
835.0	813.4	367.9	2210.8	2236.4	-----		
					15.0	6.3	2388.7
850.0	828.4	374.2	2213.8	2239.1	-----		
					15.0	6.3	2388.6
865.0	843.4	380.5	2216.7	2241.6	-----		
					15.0	6.7	2233.7
880.0	858.4	387.2	2217.0	2241.5	-----		
					374.9	146.2	2564.0
1255.0	1233.3	533.4	2312.1	2334.3	-----		
					15.0	5.1	2931.9
1270.0	1248.3	538.5	2318.0	2340.7	-----		
					15.0	5.1	2916.7
1285.0	1263.3	543.7	2323.6	2346.8	-----		
					15.0	4.2	3545.0
1300.0	1278.3	547.9	2333.0	2358.4	-----		
					74.9	24.3	3077.6
1375.0	1353.2	572.2	2364.7	2393.4	-----		
					15.0	4.3	3447.6
1390.0	1368.1	576.6	2372.9	2403.1	-----		

APACHE ENERGY LIMITED

LONGTOM-2

MEASURED GEOPHONE DEPTH	DEPTH CORR. TO DATUM (DGD)	TIME CORR. TO DATUM (TGD)	AVERAGE VELOCITY	RMS VELOCITY	INTERVAL DEPTH	INTERVAL TIME	INTERVAL VELOCITY
(DGM)	(DGD)	(TGD)			(DELDGD)	(DELDGT)	
(M)	(M)	(MS)	(M /SEC)	(M /SEC)	(M)	(MS)	(M /SEC)
					15.0	4.1	3614.2
1405.0	1383.1	580.7	2381.7	2413.9	-----		
					15.0	5.6	2682.3
1420.0	1398.1	586.3	2384.6	2416.6	-----		
					15.0	4.1	3635.9
1435.0	1413.1	590.4	2393.3	2427.2	-----		
					15.0	5.1	2930.1
1450.0	1428.0	595.5	2397.9	2431.9	-----		
					15.0	5.9	2546.7
1465.0	1443.0	601.4	2399.4	2433.1	-----		
					15.0	5.1	2950.0
1480.0	1458.0	606.5	2404.0	2437.9	-----		
					15.0	4.6	3277.9
1495.0	1473.0	611.1	2410.5	2445.2	-----		
					15.0	5.6	2651.4
1510.0	1487.9	616.7	2412.7	2447.2	-----		
					59.9	21.7	2760.9
1570.0	1547.8	638.4	2424.5	2458.5	-----		
					15.0	4.4	3435.7
1585.0	1562.7	642.7	2431.4	2466.4	-----		
					15.0	3.1	4769.3
1600.0	1577.7	645.9	2442.8	2482.8	-----		
					15.0	5.7	2647.2
1615.0	1592.7	651.5	2444.5	2484.2	-----		
					15.0	3.9	3884.0
1630.0	1607.6	655.4	2453.0	2494.8	-----		
					14.9	4.5	3333.4
1645.0	1622.6	659.9	2459.0	2501.4	-----		
					14.9	4.8	3142.2
1660.0	1637.5	664.6	2463.9	2506.6	-----		
					14.9	4.0	3720.0
1675.0	1652.4	668.6	2471.4	2515.6	-----		
					14.9	5.8	2582.3
1690.0	1667.4	674.4	2472.4	2516.2	-----		
					14.9	5.5	2732.5
1705.0	1682.3	679.9	2474.4	2518.0	-----		
					14.9	4.3	3465.8
1720.0	1697.2	684.2	2480.7	2525.1	-----		
					14.9	4.7	3157.1
1735.0	1712.1	688.9	2485.3	2529.9	-----		
					14.9	5.2	2857.3
1750.0	1727.0	694.1	2488.1	2532.6	-----		
					14.9	5.0	2972.4
1765.0	1741.9	699.1	2491.6	2536.0	-----		
					14.9	4.6	3203.6
1780.0	1756.8	703.8	2496.3	2541.0	-----		
					14.9	5.5	2727.6
1795.0	1771.7	709.2	2498.1	2542.5	-----		
					14.9	5.3	2786.9
1810.0	1786.6	714.6	2500.2	2544.4	-----		
					14.9	3.1	4794.5
1825.0	1801.4	717.7	2510.1	2558.4	-----		
					14.8	4.3	3414.2
1840.0	1816.3	722.0	2515.6	2564.4	-----		
					14.8	4.6	3190.3
1855.0	1831.1	726.7	2519.9	2568.9	-----		

APACHE ENERGY LIMITED

LONGTOM-2

MEASURED GEOPHONE DEPTH	DEPTH CORR. TO DATUM (DGD)	TIME CORR. TO DATUM (TGD)	AVERAGE VELOCITY	RMS VELOCITY	INTERVAL DEPTH	INTERVAL TIME	INTERVAL VELOCITY
(DGM)	(DGD)	(TGD)			(DELDGD)	(DELDGT)	
(M)	(M)	(MS)	(M /SEC)	(M /SEC)	(M)	(MS)	(M /SEC)
					14.8	4.9	3021.3
1870.0	1845.9	731.6	2523.3	2572.2	----- 14.8	4.7	3125.0
1885.0	1860.7	736.3	2527.1	2576.1	----- 14.8	5.0	2934.2
1900.0	1875.5	741.3	2529.9	2578.7	----- 14.8	4.4	3319.2
1915.0	1890.3	745.8	2534.6	2583.7	----- 14.7	5.6	2632.1
1930.0	1905.0	751.4	2535.3	2584.1	----- 14.7	5.4	2738.9
1945.0	1919.8	756.8	2536.8	2585.2	----- 14.7	4.8	3052.1
1960.0	1934.5	761.6	2540.0	2588.5	----- 14.7	3.7	3929.7
1975.0	1949.2	765.3	2546.8	2596.7	----- 14.7	4.4	3327.3
1990.0	1963.9	769.8	2551.3	2601.5	----- 14.7	3.8	3870.6
2005.0	1978.6	773.6	2557.8	2609.2	----- 14.7	5.3	2744.6
2020.0	1993.3	778.9	2559.1	2610.2	----- 14.7	5.0	2905.4
2035.0	2007.9	783.9	2561.3	2612.2	----- 14.6	4.7	3115.3
2050.0	2022.6	788.6	2564.6	2615.5	----- 14.6	4.6	3172.6
2065.0	2037.2	793.3	2568.1	2619.1	----- 14.6	4.8	3026.3
2080.0	2051.9	798.1	2570.9	2621.7	----- 14.6	4.1	3569.3
2095.0	2066.5	802.2	2576.0	2627.4	----- 14.6	4.8	3053.6
2110.0	2081.1	807.0	2578.9	2630.2	----- 14.6	4.3	3406.6
2125.0	2095.7	811.3	2583.2	2634.9	----- 14.6	5.3	2740.7
2140.0	2110.3	816.6	2584.3	2635.6	----- 14.6	4.1	3581.8
2155.0	2124.9	820.7	2589.2	2641.1	----- 14.6	4.0	3657.9
2170.0	2139.5	824.7	2594.4	2647.0	----- 14.6	5.2	2784.4
2185.0	2154.1	829.9	2595.6	2647.9	----- 14.6	4.3	3353.0
2200.0	2168.7	834.3	2599.5	2652.0	----- 14.6	4.7	3100.8
2215.0	2183.3	839.0	2602.3	2654.7	----- 14.6	3.7	3975.6
2230.0	2197.8	842.6	2608.3	2661.9	----- 14.6	4.2	3494.7
2245.0	2212.4	846.8	2612.7	2666.6	----- 14.6	4.1	3587.5
2260.0	2227.0	850.9	2617.3	2671.8	----- 14.6	4.3	3374.9
2275.0	2241.6	855.2	2621.2	2675.8	-----		

MEASURED GEOPHONE DEPTH	DEPTH CORR. TO DATUM (DGD)	TIME CORR. TO DATUM (TGD)	AVERAGE VELOCITY	RMS VELOCITY	INTERVAL DEPTH (DELDGD)	INTERVAL TIME (DELDGT)	INTERVAL VELOCITY
(M)	(M)	(MS)	(M /SEC)	(M /SEC)	(M)	(MS)	(M /SEC)
2290.0	2256.2	859.2	2625.9	2681.1	14.6	4.0	3638.6
2305.0	2270.8	862.7	2632.3	2689.0	14.6	3.5	4201.4
2316.0	2281.5	864.9	2638.0	2696.9	10.7	2.2	4902.1
2331.0	2296.1	868.2	2644.6	2705.2	14.6	3.4	4337.3
2346.0	2310.8	871.8	2650.7	2712.6	14.7	3.5	4163.6
2361.0	2325.5	875.1	2657.4	2721.1	14.7	3.3	4406.6
2376.0	2340.1	878.1	2665.1	2731.5	14.7	3.0	4914.7

12. DATA INTERPOLATED EVERY 10 M BELOW DATUM**APACHE ENERGY LIMITED****WELL : LONGTOM-2**

DATUM ELEVATION 0.00 M ABOVE SEA LEVEL

DATUM CORRECT. VELOCITY 1524.00 M /SEC

DATA INTERPOLATED EVERY 10.00 M BELOW DATUM
 THIS INTERPOLATION BASED ON CALIBRATED ACOUSTIC LOG

DATUM	-----	TIME	-----	-----	VELOCITY	-----
DEPTH	1 WAY	2 WAY	AVERAGE	INTERVAL	RMS	
(DGD)	(TGD)					
10.00	5.41	10.83	1847.14	1847.14	1847.14	
20.00	10.83	21.66	1847.14	1847.14	1847.14	
30.00	16.24	32.48	1847.14	1847.14	1847.14	
40.00	21.66	43.31	1847.14	1847.14	1847.14	
50.00	27.07	54.14	1847.14	1847.14	1847.14	
60.00	32.48	64.97	1847.14	1847.14	1847.14	
70.00	37.90	75.79	1847.14	1847.14	1847.14	
80.00	43.31	86.62	1847.14	1847.14	1847.14	
90.00	48.72	97.45	1847.14	1847.14	1847.14	
100.00	54.14	108.28	1847.14	1847.14	1847.14	
110.00	59.55	119.10	1847.14	1847.14	1847.14	
120.00	64.97	129.93	1847.14	1847.14	1847.14	
130.00	70.38	140.76	1847.14	1847.14	1847.14	
140.00	75.79	151.59	1847.14	1847.14	1847.14	
150.00	81.21	162.41	1847.14	1847.14	1847.14	
160.00	86.62	173.24	1847.14	1847.14	1847.14	
170.00	92.03	184.07	1847.14	1847.14	1847.14	
180.00	97.45	194.90	1847.14	1847.14	1847.14	
190.00	102.86	205.72	1847.14	1847.14	1847.14	
200.00	108.28	216.55	1847.14	1847.14	1847.14	
210.00	113.69	227.38	1847.14	1847.14	1847.14	
220.00	119.10	238.21	1847.14	1847.15	1847.14	
230.00	124.48	248.97	1847.63	1858.43	1847.63	
240.00	129.68	259.36	1850.69	1923.88	1850.75	
250.00	134.56	269.12	1857.94	2050.90	1858.38	
260.00	139.19	278.38	1867.94	2158.44	1869.14	
270.00	143.43	286.85	1882.49	2360.46	1885.49	
280.00	147.74	295.48	1895.21	2318.18	1899.52	
290.00	152.12	304.23	1906.43	2285.22	1911.70	
300.00	156.61	313.22	1915.59	2225.57	1921.42	
310.00	160.69	321.37	1929.24	2453.87	1936.74	
320.00	164.53	329.06	1944.95	2601.92	1954.86	
330.00	168.32	336.64	1960.56	2638.10	1972.85	
340.00	172.81	345.62	1967.47	2226.32	1979.85	
350.00	177.44	354.87	1972.55	2162.20	1984.82	
360.00	180.74	361.48	1991.79	3024.82	2008.68	
370.00	185.45	370.90	1995.13	2123.21	2011.67	
380.00	190.74	381.48	1992.26	1891.63	2008.44	
390.00	195.10	390.20	1998.99	2293.09	2015.24	
400.00	200.08	400.16	1999.20	2007.44	2015.05	
410.00	205.08	410.16	1999.24	2000.91	2014.70	
420.00	208.35	416.71	2015.81	3053.17	2035.13	
430.00	211.86	423.73	2029.60	2847.99	2051.23	
440.00	215.63	431.26	2040.52	2654.70	2063.29	
450.00	220.12	440.23	2044.37	2229.31	2066.80	
460.00	224.57	449.13	2048.39	2247.73	2070.54	
470.00	228.90	457.80	2053.31	2308.24	2075.29	

DATUM DEPTH (DGD)	----- 1 WAY (TGD)	TIME 2 WAY	----- AVERAGE	VELOCITY INTERVAL	----- RMS
480.00	232.70	465.39	2062.77	2632.51	2085.58
490.00	236.76	473.53	2069.57	2459.04	2092.56
500.00	240.90	481.80	2075.53	2416.39	2098.55
510.00	244.66	489.31	2084.55	2663.19	2108.35
520.00	248.50	497.01	2092.52	2599.51	2116.83
530.00	252.40	504.80	2099.86	2568.00	2124.52
540.00	256.28	512.57	2107.03	2573.03	2132.02
550.00	260.44	520.87	2111.85	2409.04	2136.72
560.00	264.79	529.58	2114.89	2296.70	2139.45
570.00	269.49	538.98	2115.11	2127.41	2139.24
580.00	273.75	547.50	2118.70	2346.24	2142.61
590.00	277.84	555.69	2123.50	2444.11	2147.36
600.00	282.26	564.53	2125.66	2261.94	2149.20
610.00	286.63	573.27	2128.16	2289.31	2151.40
620.00	290.94	581.89	2131.00	2319.81	2154.00
630.00	295.09	590.19	2134.92	2409.89	2157.80
640.00	299.27	598.54	2138.54	2394.46	2161.29
650.00	303.40	606.80	2142.40	2422.29	2165.05
660.00	307.19	614.38	2148.52	2637.82	2171.51
670.00	311.04	622.08	2154.05	2595.32	2177.26
680.00	314.91	629.82	2159.35	2585.65	2182.74
690.00	318.68	637.36	2165.19	2653.45	2188.90
700.00	322.55	645.10	2170.21	2583.23	2194.05
710.00	326.48	652.97	2174.70	2542.32	2198.58
720.00	330.46	660.92	2178.77	2512.86	2202.63
730.00	334.40	668.79	2183.04	2541.95	2206.93
740.00	338.32	676.65	2187.26	2546.59	2211.17
750.00	342.34	684.68	2190.80	2489.08	2214.63
760.00	346.33	692.65	2194.46	2508.13	2218.23
770.00	350.30	700.59	2198.13	2519.05	2221.87
780.00	354.26	708.52	2201.77	2523.16	2225.46
790.00	358.46	716.92	2203.87	2381.27	2227.35
800.00	362.72	725.43	2205.58	2349.82	2228.83
810.00	366.60	733.21	2209.47	2572.14	2232.75
820.00	370.69	741.37	2212.11	2448.81	2235.24
830.00	374.87	749.75	2214.08	2388.63	2237.01
840.00	379.06	758.12	2216.01	2388.63	2238.74
850.00	383.44	766.87	2216.79	2284.74	2239.27
860.00	387.82	775.65	2217.50	2279.50	2239.73
870.00	391.72	783.45	2220.95	2564.03	2243.19
880.00	395.62	791.25	2224.33	2564.01	2246.58
890.00	399.52	799.05	2227.65	2564.01	2249.89
900.00	403.42	806.85	2230.90	2564.03	2253.14
910.00	407.32	814.65	2234.09	2564.01	2256.32
920.00	411.22	822.45	2237.22	2564.03	2259.43
930.00	415.12	830.25	2240.29	2564.01	2262.49
940.00	419.02	838.05	2243.30	2564.03	2265.48
950.00	422.92	845.85	2246.26	2564.01	2268.41
960.00	426.83	853.65	2249.16	2564.01	2271.29
970.00	430.73	861.45	2252.02	2564.03	2274.11
980.00	434.63	869.25	2254.82	2564.01	2276.87
990.00	438.53	877.05	2257.57	2564.03	2279.58
1000.00	442.43	884.85	2260.27	2564.01	2282.25
1010.00	446.33	892.65	2262.92	2564.03	2284.86
1020.00	450.23	900.45	2265.53	2564.01	2287.42
1030.00	454.13	908.25	2268.09	2564.03	2289.94
1040.00	458.03	916.05	2270.61	2564.01	2292.41
1050.00	461.93	923.85	2273.09	2564.01	2294.84
1060.00	465.83	931.65	2275.53	2564.03	2297.23
1070.00	469.73	939.45	2277.92	2564.01	2299.57

DATUM	-----	TIME	-----	-----	VELOCITY	-----
DEPTH	1 WAY		2 WAY	AVERAGE	INTERVAL	RMS
(DGD)	(TGD)					
1080.00	473.63		947.25	2280.28	2564.03	2301.87
1090.00	477.53		955.05	2282.59	2564.01	2304.13
1100.00	481.43		962.85	2284.87	2564.01	2306.35
1110.00	485.33		970.65	2287.12	2564.03	2308.54
1120.00	489.23		978.45	2289.32	2564.03	2310.69
1130.00	493.13		986.25	2291.50	2564.01	2312.80
1140.00	497.03		994.06	2293.64	2564.01	2314.88
1150.00	500.93	1001.86		2295.74	2564.03	2316.92
1160.00	504.83	1009.66		2297.81	2564.01	2318.93
1170.00	508.73	1017.46		2299.85	2564.03	2320.91
1180.00	512.63	1025.26		2301.86	2564.01	2322.85
1190.00	516.53	1033.06		2303.84	2564.01	2324.77
1200.00	520.43	1040.86		2305.79	2564.01	2326.65
1210.00	524.33	1048.66		2307.71	2564.05	2328.51
1220.00	528.23	1056.46		2309.61	2564.01	2330.33
1230.00	532.13	1064.26		2311.47	2564.01	2332.13
1240.00	535.70	1071.40		2314.72	2799.10	2335.56
1250.00	539.12	1078.23		2318.61	2929.27	2339.79
1260.00	542.54	1085.09		2322.39	2916.70	2343.88
1270.00	545.56	1091.13		2327.87	3310.97	2350.33
1280.00	548.46	1096.92		2333.81	3453.84	2357.51
1290.00	551.71	1103.42		2338.19	3077.62	2362.40
1300.00	554.96	1109.92		2342.52	3077.62	2367.21
1310.00	558.21	1116.41		2346.80	3077.62	2371.96
1320.00	561.46	1122.91		2351.03	3077.62	2376.65
1330.00	564.71	1129.41		2355.21	3077.67	2381.27
1340.00	567.95	1135.91		2359.34	3077.62	2385.84
1350.00	571.20	1142.41		2363.43	3077.62	2390.34
1360.00	574.22	1148.43		2368.45	3321.17	2396.16
1370.00	577.09	1154.18		2373.98	3477.45	2402.76
1380.00	579.86	1159.72		2379.89	3614.22	2409.98
1390.00	583.29	1166.57		2383.05	2917.17	2413.28
1400.00	586.83	1173.66		2385.71	2823.03	2415.96
1410.00	589.58	1179.16		2391.54	3635.80	2423.07
1420.00	592.79	1185.57		2395.46	3116.13	2427.36
1430.00	596.30	1192.60		2398.12	2846.47	2430.04
1440.00	600.23	1200.45		2399.09	2546.71	2430.82
1450.00	603.78	1207.56		2401.54	2815.41	2433.26
1460.00	607.10	1214.20		2404.87	3010.66	2436.79
1470.00	610.15	1220.30		2409.24	3277.85	2441.72
1480.00	613.71	1227.42		2411.56	2810.15	2444.01
1490.00	617.45	1234.90		2413.15	2673.41	2445.47
1500.00	621.07	1242.14		2415.18	2760.90	2447.43
1510.00	624.69	1249.39		2417.18	2760.90	2449.36
1520.00	628.32	1256.63		2419.16	2760.90	2451.27
1530.00	631.94	1263.88		2421.12	2760.90	2453.16
1540.00	635.56	1271.12		2423.06	2760.90	2455.02
1550.00	639.02	1278.05		2425.57	2887.10	2457.57
1560.00	641.93	1283.87		2430.15	3435.74	2462.88
1570.00	644.25	1288.51		2436.93	4311.24	2472.01
1580.00	646.74	1293.48		2443.03	4026.44	2479.85
1590.00	650.52	1301.03		2444.22	2647.23	2480.85
1600.00	653.41	1306.82		2448.69	3455.30	2486.01
1610.00	656.09	1312.17		2453.95	3736.63	2492.39
1620.00	659.09	1318.17		2457.95	3333.47	2496.86
1630.00	662.22	1324.44		2461.41	3189.04	2500.58
1640.00	665.28	1330.56		2465.13	3268.69	2504.66
1650.00	667.97	1335.94		2470.18	3720.00	2510.73
1660.00	671.55	1343.10		2471.89	2790.62	2512.30
1670.00	675.37	1350.74		2472.72	2620.14	2512.92

DATUM	-----	TIME	-----	-----	VELOCITY	-----
DEPTH	1 WAY	2 WAY	AVERAGE	INTERVAL	RMS	
(DGD)	(TGD)					
1680.00	679.03	1358.06	2474.12	2732.49	2514.16	
1690.00	682.09	1364.18	2477.67	3264.98	2518.03	
1700.00	685.06	1370.11	2481.55	3373.69	2522.36	
1710.00	688.22	1376.45	2484.66	3157.14	2525.65	
1720.00	691.65	1383.30	2486.80	2915.82	2527.73	
1730.00	695.11	1390.22	2488.81	2890.77	2529.66	
1740.00	698.48	1396.95	2491.14	2972.37	2531.98	
1750.00	701.64	1403.29	2494.14	3156.41	2535.15	
1760.00	704.94	1409.88	2496.67	3035.03	2537.71	
1770.00	708.61	1417.21	2497.86	2727.62	2538.73	
1780.00	712.21	1424.41	2499.27	2776.67	2539.99	
1790.00	715.28	1430.56	2502.52	3253.31	2543.48	
1800.00	717.37	1434.73	2509.18	4794.57	2552.91	
1810.00	720.17	1440.35	2513.28	3562.20	2557.62	
1820.00	723.18	1446.36	2516.67	3327.44	2561.29	
1830.00	726.31	1452.63	2519.57	3190.28	2564.34	
1840.00	729.60	1459.21	2521.92	3039.03	2566.68	
1850.00	732.87	1465.74	2524.33	3062.72	2569.10	
1860.00	736.07	1472.14	2526.94	3124.93	2571.78	
1870.00	739.46	1478.92	2528.87	2947.66	2573.63	
1880.00	742.69	1485.39	2531.33	3094.71	2576.12	
1890.00	745.71	1491.41	2534.51	3319.22	2579.55	
1900.00	749.48	1498.96	2535.09	2648.35	2579.91	
1910.00	753.21	1506.41	2535.82	2684.05	2580.43	
1920.00	756.85	1513.70	2536.83	2745.49	2581.25	
1930.00	760.13	1520.25	2539.05	3052.10	2583.46	
1940.00	763.00	1526.00	2542.60	3481.22	2587.43	
1950.00	765.58	1531.16	2547.09	3872.92	2592.84	
1960.00	768.59	1537.17	2550.14	3327.38	2596.11	
1970.00	771.33	1542.67	2554.02	3639.35	2600.57	
1980.00	774.07	1548.13	2557.92	3658.45	2605.06	
1990.00	777.71	1555.42	2558.79	2744.62	2605.73	
2000.00	781.22	1562.44	2560.10	2850.83	2606.89	
2010.00	784.61	1569.22	2561.78	2946.39	2608.45	
2020.00	787.82	1575.64	2564.03	3115.30	2610.72	
2030.00	790.99	1581.98	2566.41	3157.63	2613.13	
2040.00	794.18	1588.37	2568.68	3130.48	2615.42	
2050.00	797.49	1594.98	2570.57	3026.28	2617.25	
2060.00	800.38	1600.77	2573.77	3453.70	2620.76	
2070.00	803.35	1606.70	2576.71	3369.67	2623.92	
2080.00	806.63	1613.25	2578.64	3053.64	2625.81	
2090.00	809.60	1619.20	2581.53	3363.93	2628.90	
2100.00	812.84	1625.68	2583.53	3084.40	2630.87	
2110.00	816.49	1632.98	2584.24	2740.76	2631.37	
2120.00	819.31	1638.61	2587.55	3548.47	2635.07	
2130.00	822.07	1644.14	2591.02	3620.13	2639.00	
2140.00	824.85	1649.69	2594.43	3603.02	2642.83	
2150.00	828.44	1656.87	2595.25	2784.41	2643.46	
2160.00	831.67	1663.34	2597.19	3093.77	2645.36	
2170.00	834.68	1669.37	2599.79	3317.54	2648.10	
2180.00	837.91	1675.82	2601.72	3100.80	2649.99	
2190.00	840.65	1681.31	2605.11	3640.89	2653.83	
2200.00	843.24	1686.49	2608.97	3860.51	2658.37	
2210.00	846.11	1692.21	2611.96	3494.66	2661.64	
2220.00	848.91	1697.82	2615.11	3564.68	2665.13	
2230.00	851.75	1703.50	2618.13	3520.87	2668.44	
2240.00	854.72	1709.43	2620.76	3374.94	2671.21	
2250.00	857.50	1714.99	2623.92	3594.32	2674.72	
2260.00	860.10	1720.21	2627.59	3835.92	2679.00	
2270.00	862.48	1724.97	2631.93	4201.35	2684.39	

DATUM	-----	TIME	-----	-----	VELOCITY	-----
DEPTH	1 WAY		2 WAY	AVERAGE	INTERVAL	RMS
(DGD)	(TGD)					
2280.00	864.55		1729.10	2637.21	4839.75	2691.60
2290.00	866.82		1733.63	2641.85	4413.20	2697.54
2300.00	869.16		1738.32	2646.24	4268.56	2703.00
2310.00	871.56		1743.12	2650.42	4163.55	2708.11
2320.00	873.84		1747.68	2654.95	4386.38	2713.83
2330.00	876.00		1752.01	2659.81	4623.81	2720.20
2340.00	878.04		1756.08	2665.03	4914.66	2727.33

13. DATA INTERPOLATED EVERY 2 MS BELOW DATUM**APACHE ENERGY LIMITED****WELL : LONGTOM-2**

DATUM ELEVATION 0.00 M ABOVE SEA LEVEL

DATUM CORRECT. VELOCITY 1524.00 M /SEC

DATA INTERPOLATED EVERY 2.00 MS BELOW DATUM
 THIS INTERPOLATION BASED ON CALIBRATED ACOUSTIC LOG

----- TIME -----	DATUM	----- VELOCITY -----
2 WAY	1 WAY	AVERAGE
	(TGD)	INTERVAL
	DEPTH	RMS
	(DGD)	
2.00	1.00	1.85
4.00	2.00	3.69
6.00	3.00	5.54
8.00	4.00	7.39
10.00	5.00	9.24
12.00	6.00	11.08
14.00	7.00	12.93
16.00	8.00	14.78
18.00	9.00	16.62
20.00	10.00	18.47
22.00	11.00	20.32
24.00	12.00	22.17
26.00	13.00	24.01
28.00	14.00	25.86
30.00	15.00	27.71
32.00	16.00	29.55
34.00	17.00	31.40
36.00	18.00	33.25
38.00	19.00	35.10
40.00	20.00	36.94
42.00	21.00	38.79
44.00	22.00	40.64
46.00	23.00	42.48
48.00	24.00	44.33
50.00	25.00	46.18
52.00	26.00	48.03
54.00	27.00	49.87
56.00	28.00	51.72
58.00	29.00	53.57
60.00	30.00	55.41
62.00	31.00	57.26
64.00	32.00	59.11
66.00	33.00	60.96
68.00	34.00	62.80
70.00	35.00	64.65
72.00	36.00	66.50
74.00	37.00	68.34
76.00	38.00	70.19
78.00	39.00	72.04
80.00	40.00	73.89
82.00	41.00	75.73
84.00	42.00	77.58
86.00	43.00	79.43
88.00	44.00	81.27
90.00	45.00	83.12
92.00	46.00	84.97
94.00	47.00	86.82

----- TIME -----		DATUM	----- VELOCITY -----		
2 WAY	1 WAY	DEPTH	AVERAGE	INTERVAL	RMS
	(TGD)	(DGD)			
96.00	48.00	88.66	1847.14	1847.15	1847.14
98.00	49.00	90.51	1847.14	1847.14	1847.14
100.00	50.00	92.36	1847.14	1847.14	1847.14
102.00	51.00	94.20	1847.14	1847.15	1847.14
104.00	52.00	96.05	1847.14	1847.14	1847.14
106.00	53.00	97.90	1847.14	1847.15	1847.14
108.00	54.00	99.75	1847.14	1847.14	1847.14
110.00	55.00	101.59	1847.14	1847.15	1847.14
112.00	56.00	103.44	1847.14	1847.14	1847.14
114.00	57.00	105.29	1847.14	1847.15	1847.14
116.00	58.00	107.13	1847.14	1847.14	1847.14
118.00	59.00	108.98	1847.14	1847.15	1847.14
120.00	60.00	110.83	1847.14	1847.15	1847.14
122.00	61.00	112.68	1847.14	1847.15	1847.14
124.00	62.00	114.52	1847.14	1847.14	1847.14
126.00	63.00	116.37	1847.14	1847.15	1847.14
128.00	64.00	118.22	1847.14	1847.14	1847.14
130.00	65.00	120.06	1847.14	1847.14	1847.14
132.00	66.00	121.91	1847.14	1847.15	1847.14
134.00	67.00	123.76	1847.14	1847.14	1847.14
136.00	68.00	125.61	1847.14	1847.15	1847.14
138.00	69.00	127.45	1847.14	1847.15	1847.14
140.00	70.00	129.30	1847.14	1847.15	1847.14
142.00	71.00	131.15	1847.14	1847.14	1847.14
144.00	72.00	132.99	1847.14	1847.14	1847.14
146.00	73.00	134.84	1847.14	1847.15	1847.14
148.00	74.00	136.69	1847.14	1847.14	1847.14
150.00	75.00	138.54	1847.14	1847.14	1847.14
152.00	76.00	140.38	1847.14	1847.15	1847.14
154.00	77.00	142.23	1847.14	1847.14	1847.14
156.00	78.00	144.08	1847.14	1847.14	1847.14
158.00	79.00	145.92	1847.14	1847.14	1847.14
160.00	80.00	147.77	1847.14	1847.15	1847.14
162.00	81.00	149.62	1847.14	1847.15	1847.14
164.00	82.00	151.47	1847.14	1847.12	1847.14
166.00	83.00	153.31	1847.14	1847.15	1847.14
168.00	84.00	155.16	1847.14	1847.14	1847.14
170.00	85.00	157.01	1847.14	1847.14	1847.14
172.00	86.00	158.85	1847.14	1847.14	1847.14
174.00	87.00	160.70	1847.14	1847.15	1847.14
176.00	88.00	162.55	1847.14	1847.15	1847.14
178.00	89.00	164.40	1847.14	1847.12	1847.14
180.00	90.00	166.24	1847.14	1847.15	1847.14
182.00	91.00	168.09	1847.14	1847.14	1847.14
184.00	92.00	169.94	1847.14	1847.15	1847.14
186.00	93.00	171.78	1847.14	1847.12	1847.14
188.00	94.00	173.63	1847.14	1847.15	1847.14
190.00	95.00	175.48	1847.14	1847.14	1847.14
192.00	96.00	177.33	1847.14	1847.15	1847.14
194.00	97.00	179.17	1847.14	1847.14	1847.14
196.00	98.00	181.02	1847.14	1847.14	1847.14
198.00	99.00	182.87	1847.14	1847.15	1847.14
200.00	100.00	184.71	1847.14	1847.12	1847.14
202.00	101.00	186.56	1847.14	1847.15	1847.14
204.00	102.00	188.41	1847.14	1847.14	1847.14
206.00	103.00	190.26	1847.14	1847.15	1847.14
208.00	104.00	192.10	1847.14	1847.12	1847.14
210.00	105.00	193.95	1847.14	1847.15	1847.14
212.00	106.00	195.80	1847.14	1847.15	1847.14
214.00	107.00	197.64	1847.14	1847.14	1847.14

----- TIME -----		DATUM	----- VELOCITY -----		
2 WAY	1 WAY	DEPTH	AVERAGE	INTERVAL	RMS
	(TGD)	(DGD)			
216.00	108.00	199.49	1847.14	1847.14	1847.14
218.00	109.00	201.34	1847.14	1847.14	1847.14
220.00	110.00	203.19	1847.14	1847.15	1847.14
222.00	111.00	205.03	1847.14	1847.14	1847.14
224.00	112.00	206.88	1847.14	1847.14	1847.14
226.00	113.00	208.73	1847.14	1847.15	1847.14
228.00	114.00	210.57	1847.14	1847.14	1847.14
230.00	115.00	212.42	1847.14	1847.14	1847.14
232.00	116.00	214.27	1847.14	1847.14	1847.14
234.00	117.00	216.12	1847.14	1847.15	1847.14
236.00	118.00	217.96	1847.14	1847.14	1847.14
238.00	119.00	219.81	1847.14	1847.14	1847.14
240.00	120.00	221.66	1847.14	1847.15	1847.14
242.00	121.00	223.50	1847.14	1847.14	1847.14
244.00	122.00	225.35	1847.14	1847.15	1847.14
246.00	123.00	227.20	1847.14	1847.12	1847.14
248.00	124.00	229.07	1847.33	1870.74	1847.33
250.00	125.00	230.99	1847.94	1923.89	1847.96
252.00	126.00	232.92	1848.55	1923.87	1848.57
254.00	127.00	234.84	1849.14	1923.87	1849.18
256.00	128.00	236.76	1849.72	1923.89	1849.77
258.00	129.00	238.69	1850.30	1923.87	1850.36
260.00	130.00	240.61	1850.87	1923.89	1850.93
262.00	131.00	242.54	1851.42	1923.87	1851.50
264.00	132.00	244.56	1852.75	2027.18	1852.90
266.00	133.00	246.69	1854.81	2125.66	1855.10
268.00	134.00	248.81	1856.83	2125.66	1857.26
270.00	135.00	250.94	1858.82	2125.66	1859.39
272.00	136.00	253.07	1860.78	2125.67	1861.49
274.00	137.00	255.19	1862.71	2125.66	1863.55
276.00	138.00	257.32	1864.62	2125.67	1865.58
278.00	139.00	259.55	1867.27	2232.79	1868.48
280.00	140.00	261.91	1870.79	2360.47	1872.46
282.00	141.00	264.27	1874.26	2360.44	1876.36
284.00	142.00	266.63	1877.69	2360.44	1880.21
286.00	143.00	268.99	1881.06	2360.47	1883.99
288.00	144.00	271.35	1884.39	2360.44	1887.72
290.00	145.00	273.71	1887.63	2353.94	1891.33
292.00	146.00	276.00	1890.43	2296.30	1894.39
294.00	147.00	278.30	1893.19	2296.30	1897.42
296.00	148.00	280.60	1895.92	2296.33	1900.39
298.00	149.00	282.89	1898.60	2296.30	1903.32
300.00	150.00	285.19	1901.25	2296.30	1906.21
302.00	151.00	287.48	1903.87	2296.30	1909.06
304.00	152.00	289.74	1906.19	2256.04	1911.55
306.00	153.00	291.97	1908.27	2225.59	1913.77
308.00	154.00	294.19	1910.33	2225.59	1915.95
310.00	155.00	296.42	1912.37	2225.59	1918.11
312.00	156.00	298.64	1914.38	2225.56	1920.24
314.00	157.00	300.87	1916.36	2225.59	1922.34
316.00	158.00	303.09	1918.32	2225.59	1924.41
318.00	159.00	305.63	1922.18	2532.59	1928.83
320.00	160.00	308.22	1926.39	2595.46	1933.71
322.00	161.00	310.82	1930.54	2595.49	1938.52
324.00	162.00	313.41	1934.65	2595.49	1943.26
326.00	163.00	316.01	1938.70	2595.49	1947.92
328.00	164.00	318.61	1942.72	2597.69	1952.54
330.00	165.00	321.24	1946.93	2638.09	1957.42
332.00	166.00	323.88	1951.10	2638.09	1962.23
334.00	167.00	326.52	1955.21	2638.09	1966.96

----- TIME -----		DATUM	----- VELOCITY -----		
2 WAY	1 WAY	DEPTH	AVERAGE	INTERVAL	RMS
	(TGD)	(DGD)			
336.00	168.00	329.16	1959.28	2638.09	1971.64
338.00	169.00	331.80	1963.29	2638.09	1976.24
340.00	170.00	334.22	1966.01	2424.80	1979.18
342.00	171.00	336.28	1966.53	2055.94	1979.63
344.00	172.00	338.33	1967.05	2055.94	1980.09
346.00	173.00	340.39	1967.57	2055.97	1980.53
348.00	174.00	342.45	1968.08	2055.94	1980.97
350.00	175.00	344.50	1968.58	2055.94	1981.41
352.00	176.00	346.56	1969.07	2055.97	1981.84
354.00	177.00	348.68	1969.96	2125.27	1982.68
356.00	178.00	351.71	1975.88	3024.81	1990.06
358.00	179.00	354.73	1981.74	3024.81	1997.33
360.00	180.00	357.76	1987.54	3024.84	2004.50
362.00	181.00	360.78	1993.27	3024.81	2011.55
364.00	182.00	363.67	1998.20	2890.50	2017.43
366.00	183.00	365.51	1997.30	1833.40	2016.47
368.00	184.00	367.34	1996.41	1833.40	2015.52
370.00	185.00	369.17	1995.53	1833.40	2014.58
372.00	186.00	371.01	1994.65	1833.40	2013.65
374.00	187.00	372.84	1993.79	1833.40	2012.73
376.00	188.00	374.67	1992.94	1833.40	2011.82
378.00	189.00	376.51	1992.09	1833.44	2010.92
380.00	190.00	378.34	1991.26	1833.40	2010.02
382.00	191.00	380.60	1992.67	2261.60	2011.42
384.00	192.00	382.89	1994.24	2293.09	2012.99
386.00	193.00	385.19	1995.79	2293.09	2014.54
388.00	194.00	387.48	1997.32	2293.09	2016.08
390.00	195.00	389.77	1998.84	2293.09	2017.59
392.00	196.00	392.07	2000.34	2293.09	2019.09
394.00	197.00	394.20	2001.01	2133.06	2019.69
396.00	198.00	396.08	2000.42	1883.09	2019.02
398.00	199.00	397.97	1999.83	1883.09	2018.36
400.00	200.00	399.85	1999.24	1883.12	2017.71
402.00	201.00	401.73	1998.67	1883.09	2017.06
404.00	202.00	403.61	1998.09	1883.09	2016.42
406.00	203.00	405.50	1997.53	1883.12	2015.78
408.00	204.00	407.38	1996.97	1883.09	2015.16
410.00	205.00	409.76	1998.84	2380.55	2017.10
412.00	206.00	412.81	2003.96	3053.16	2023.41
414.00	207.00	415.87	2009.02	3053.19	2029.64
416.00	208.00	418.92	2014.04	3053.16	2035.79
418.00	209.00	421.97	2019.02	3053.19	2041.87
420.00	210.00	424.87	2023.20	2897.83	2046.79
422.00	211.00	427.62	2026.65	2750.09	2050.70
424.00	212.00	430.37	2030.06	2750.09	2054.55
426.00	213.00	433.12	2033.44	2750.12	2058.37
428.00	214.00	435.87	2036.79	2750.09	2062.14
430.00	215.00	438.59	2039.96	2719.57	2065.68
432.00	216.00	440.82	2040.84	2229.34	2066.47
434.00	217.00	443.05	2041.71	2229.31	2067.25
436.00	218.00	445.28	2042.57	2229.31	2068.02
438.00	219.00	447.51	2043.42	2229.31	2068.79
440.00	220.00	449.74	2044.27	2229.34	2069.54
442.00	221.00	451.97	2045.10	2229.31	2070.30
444.00	222.00	454.21	2045.98	2238.65	2071.08
446.00	223.00	456.46	2046.93	2257.60	2071.96
448.00	224.00	458.72	2047.87	2257.60	2072.82
450.00	225.00	460.98	2048.80	2257.60	2073.68
452.00	226.00	463.24	2049.72	2257.60	2074.53
454.00	227.00	465.49	2050.64	2257.60	2075.37

----- TIME -----		DATUM	----- VELOCITY -----		
2 WAY	1 WAY	DEPTH	AVERAGE	INTERVAL	RMS
	(TGD)	(DGD)			
456.00	228.00	467.75	2051.55	2257.60	2076.21
458.00	229.00	470.27	2053.57	2515.08	2078.33
460.00	230.00	472.90	2056.09	2632.51	2081.05
462.00	231.00	475.53	2058.58	2632.51	2083.76
464.00	232.00	478.16	2061.06	2632.51	2086.43
466.00	233.00	480.80	2063.51	2632.51	2089.08
468.00	234.00	483.43	2065.94	2632.51	2091.70
470.00	235.00	485.81	2067.27	2379.03	2093.01
472.00	236.00	488.19	2068.58	2376.25	2094.29
474.00	237.00	490.56	2069.88	2376.25	2095.56
476.00	238.00	492.94	2071.17	2376.22	2096.82
478.00	239.00	495.31	2072.44	2376.25	2098.06
480.00	240.00	497.69	2073.71	2376.25	2099.30
482.00	241.00	500.26	2075.77	2570.47	2101.47
484.00	242.00	502.92	2078.20	2663.21	2104.10
486.00	243.00	505.59	2080.60	2663.18	2106.71
488.00	244.00	508.25	2082.99	2663.21	2109.29
490.00	245.00	510.91	2085.36	2663.18	2111.84
492.00	246.00	513.57	2087.69	2658.84	2114.35
494.00	247.00	516.14	2089.63	2567.08	2116.38
496.00	248.00	518.71	2091.56	2567.08	2118.39
498.00	249.00	521.27	2093.47	2567.08	2120.38
500.00	250.00	523.84	2095.36	2567.08	2122.36
502.00	251.00	526.41	2097.24	2567.14	2124.31
504.00	252.00	528.98	2099.11	2568.24	2126.26
506.00	253.00	531.55	2100.98	2573.06	2128.21
508.00	254.00	534.12	2102.84	2573.00	2130.14
510.00	255.00	536.70	2104.69	2573.06	2132.06
512.00	256.00	539.27	2106.52	2573.00	2133.96
514.00	257.00	541.84	2108.33	2573.06	2135.84
516.00	258.00	544.32	2109.78	2482.67	2137.30
518.00	259.00	546.65	2110.64	2330.63	2138.08
520.00	260.00	548.99	2111.48	2330.63	2138.85
522.00	261.00	551.32	2112.32	2330.63	2139.62
524.00	262.00	553.65	2113.15	2330.69	2140.38
526.00	263.00	555.98	2113.98	2330.63	2141.14
528.00	264.00	558.31	2114.80	2330.63	2141.88
530.00	265.00	560.45	2114.90	2140.14	2141.88
532.00	266.00	562.58	2114.94	2127.38	2141.82
534.00	267.00	564.70	2114.99	2127.38	2141.77
536.00	268.00	566.83	2115.04	2127.44	2141.72
538.00	269.00	568.96	2115.08	2127.38	2141.66
540.00	270.00	571.08	2115.13	2127.38	2141.61
542.00	271.00	573.21	2115.17	2127.44	2141.56
544.00	272.00	575.65	2116.37	2440.92	2142.74
546.00	273.00	578.13	2117.71	2480.71	2144.07
548.00	274.00	580.61	2119.03	2480.77	2145.40
550.00	275.00	583.10	2120.35	2480.71	2146.71
552.00	276.00	585.58	2121.65	2480.77	2148.01
554.00	277.00	588.06	2122.95	2480.77	2149.31
556.00	278.00	590.35	2123.57	2296.69	2149.86
558.00	279.00	592.62	2124.07	2261.90	2150.27
560.00	280.00	594.88	2124.56	2261.96	2150.68
562.00	281.00	597.14	2125.05	2261.90	2151.08
564.00	282.00	599.40	2125.54	2261.96	2151.49
566.00	283.00	601.66	2126.02	2261.90	2151.89
568.00	284.00	603.93	2126.53	2270.75	2152.32
570.00	285.00	606.24	2127.15	2304.02	2152.87
572.00	286.00	608.54	2127.77	2304.02	2153.42
574.00	287.00	610.85	2128.38	2303.96	2153.96

----- TIME -----		DATUM	----- VELOCITY -----		
2 WAY	1 WAY	DEPTH	AVERAGE	INTERVAL	RMS
	(TGD)	(DGD)			
576.00	288.00	613.15	2128.99	2304.02	2154.50
578.00	289.00	615.45	2129.60	2304.02	2155.03
580.00	290.00	617.76	2130.20	2303.96	2155.56
582.00	291.00	620.14	2131.05	2378.17	2156.37
584.00	292.00	622.55	2132.01	2409.85	2157.29
586.00	293.00	624.96	2132.96	2409.91	2158.20
588.00	294.00	627.37	2133.90	2409.91	2159.11
590.00	295.00	629.78	2134.83	2409.91	2160.01
592.00	296.00	632.19	2135.76	2409.85	2160.90
594.00	297.00	634.58	2136.65	2398.74	2161.74
596.00	298.00	636.97	2137.49	2386.41	2162.54
598.00	299.00	639.36	2138.32	2386.47	2163.32
600.00	300.00	641.74	2139.15	2386.41	2164.11
602.00	301.00	644.13	2139.97	2386.41	2164.88
604.00	302.00	646.52	2140.78	2386.47	2165.65
606.00	303.00	648.95	2141.75	2434.45	2166.60
608.00	304.00	651.59	2143.38	2637.82	2168.31
610.00	305.00	654.23	2145.00	2637.82	2170.02
612.00	306.00	656.86	2146.62	2637.82	2171.71
614.00	307.00	659.50	2148.22	2637.82	2173.39
616.00	308.00	662.14	2149.80	2637.82	2175.06
618.00	309.00	664.75	2151.28	2605.35	2176.59
620.00	310.00	667.32	2152.64	2573.55	2177.99
622.00	311.00	669.89	2153.99	2573.49	2179.37
624.00	312.00	672.47	2155.34	2573.55	2180.75
626.00	313.00	675.04	2156.68	2573.55	2182.12
628.00	314.00	677.61	2158.00	2573.55	2183.48
630.00	315.00	680.24	2159.49	2627.62	2185.03
632.00	316.00	682.89	2161.06	2653.44	2186.67
634.00	317.00	685.55	2162.61	2653.44	2188.30
636.00	318.00	688.20	2164.15	2653.44	2189.92
638.00	319.00	690.85	2165.69	2653.44	2191.52
640.00	320.00	693.51	2167.20	2650.94	2193.11
642.00	321.00	696.05	2168.39	2547.79	2194.30
644.00	322.00	698.60	2169.57	2547.85	2195.49
646.00	323.00	701.15	2170.74	2547.79	2196.67
648.00	324.00	703.70	2171.90	2547.85	2197.84
650.00	325.00	706.24	2173.06	2547.79	2199.00
652.00	326.00	708.79	2174.19	2543.03	2200.14
654.00	327.00	711.30	2175.23	2512.88	2201.16
656.00	328.00	713.81	2176.26	2512.88	2202.18
658.00	329.00	716.33	2177.28	2512.82	2203.19
660.00	330.00	718.84	2178.30	2512.88	2204.19
662.00	331.00	721.35	2179.31	2512.88	2205.19
664.00	332.00	723.87	2180.34	2520.32	2206.21
666.00	333.00	726.43	2181.47	2557.50	2207.35
668.00	334.00	728.99	2182.60	2557.50	2208.48
670.00	335.00	731.54	2183.72	2557.50	2209.60
672.00	336.00	734.10	2184.83	2557.50	2210.72
674.00	337.00	736.66	2185.93	2557.50	2211.83
676.00	338.00	739.20	2186.97	2536.80	2212.86
678.00	339.00	741.69	2187.86	2489.07	2213.73
680.00	340.00	744.17	2188.75	2489.07	2214.59
682.00	341.00	746.66	2189.63	2489.07	2215.44
684.00	342.00	749.15	2190.50	2489.07	2216.29
686.00	343.00	751.64	2191.38	2489.07	2217.13
688.00	344.00	754.14	2192.26	2497.13	2218.00
690.00	345.00	756.66	2193.21	2518.31	2218.93
692.00	346.00	759.18	2194.15	2518.25	2219.85
694.00	347.00	761.69	2195.08	2518.31	2220.77

----- TIME -----		DATUM	----- VELOCITY -----		
2 WAY	1 WAY	DEPTH	AVERAGE	INTERVAL	RMS
	(TGD)	(DGD)			
696.00	348.00	764.21	2196.01	2518.25	2221.68
698.00	349.00	766.73	2196.93	2518.25	2222.59
700.00	350.00	769.25	2197.86	2519.90	2223.49
702.00	351.00	771.77	2198.78	2523.13	2224.41
704.00	352.00	774.30	2199.71	2523.19	2225.31
706.00	353.00	776.82	2200.62	2523.13	2226.21
708.00	354.00	779.34	2201.53	2523.19	2227.11
710.00	355.00	781.87	2202.44	2523.13	2227.99
712.00	356.00	784.31	2203.12	2444.40	2228.63
714.00	357.00	786.62	2203.43	2312.99	2228.87
716.00	358.00	788.94	2203.73	2312.93	2229.11
718.00	359.00	791.25	2204.04	2312.93	2229.35
720.00	360.00	793.56	2204.34	2312.99	2229.59
722.00	361.00	795.88	2204.64	2312.93	2229.82
724.00	362.00	798.19	2204.94	2312.93	2230.06
726.00	363.00	800.73	2205.87	2543.58	2230.98
728.00	364.00	803.30	2206.88	2572.14	2231.99
730.00	365.00	805.88	2207.88	2572.14	2232.99
732.00	366.00	808.45	2208.87	2572.14	2233.99
734.00	367.00	811.02	2209.86	2572.14	2234.98
736.00	368.00	813.58	2210.82	2561.52	2235.93
738.00	369.00	815.97	2211.30	2388.61	2236.36
740.00	370.00	818.36	2211.78	2388.67	2236.78
742.00	371.00	820.75	2212.26	2388.67	2237.21
744.00	372.00	823.14	2212.73	2388.61	2237.63
746.00	373.00	825.52	2213.20	2388.67	2238.05
748.00	374.00	827.91	2213.67	2388.67	2238.46
750.00	375.00	830.30	2214.14	2388.61	2238.88
752.00	376.00	832.69	2214.60	2388.61	2239.29
754.00	377.00	835.08	2215.06	2388.67	2239.70
756.00	378.00	837.47	2215.52	2388.61	2240.11
758.00	379.00	839.86	2215.98	2388.61	2240.51
760.00	380.00	842.25	2216.44	2388.67	2240.91
762.00	381.00	844.56	2216.68	2311.34	2241.10
764.00	382.00	846.79	2216.73	2233.70	2241.08
766.00	383.00	849.02	2216.77	2233.76	2241.06
768.00	384.00	851.26	2216.82	2233.70	2241.04
770.00	385.00	853.49	2216.86	2233.76	2241.02
772.00	386.00	855.73	2216.91	2233.70	2241.01
774.00	387.00	857.96	2216.95	2233.76	2240.99
776.00	388.00	860.45	2217.66	2492.68	2241.67
778.00	389.00	863.02	2218.55	2564.03	2242.56
780.00	390.00	865.58	2219.44	2564.03	2243.44
782.00	391.00	868.14	2220.32	2564.03	2244.32
784.00	392.00	870.71	2221.19	2564.03	2245.20
786.00	393.00	873.27	2222.07	2564.03	2246.06
788.00	394.00	875.84	2222.93	2563.96	2246.93
790.00	395.00	878.40	2223.80	2564.03	2247.79
792.00	396.00	880.96	2224.66	2564.03	2248.64
794.00	397.00	883.53	2225.51	2564.03	2249.49
796.00	398.00	886.09	2226.36	2564.03	2250.34
798.00	399.00	888.66	2227.21	2564.03	2251.18
800.00	400.00	891.22	2228.05	2563.96	2252.01
802.00	401.00	893.78	2228.89	2564.03	2252.85
804.00	402.00	896.35	2229.72	2564.03	2253.67
806.00	403.00	898.91	2230.55	2564.03	2254.50
808.00	404.00	901.48	2231.38	2564.03	2255.32
810.00	405.00	904.04	2232.20	2563.96	2256.13
812.00	406.00	906.60	2233.01	2564.03	2256.94
814.00	407.00	909.17	2233.83	2564.03	2257.75

----- TIME -----		DATUM	----- VELOCITY -----		
2 WAY	1 WAY (TGD)	DEPTH (DGD)	AVERAGE	INTERVAL	RMS
816.00	408.00	911.73	2234.64	2564.03	2258.55
818.00	409.00	914.30	2235.44	2564.03	2259.34
820.00	410.00	916.86	2236.24	2564.03	2260.14
822.00	411.00	919.42	2237.04	2563.96	2260.93
824.00	412.00	921.99	2237.84	2564.03	2261.71
826.00	413.00	924.55	2238.63	2564.03	2262.49
828.00	414.00	927.12	2239.41	2564.03	2263.27
830.00	415.00	929.68	2240.19	2564.03	2264.04
832.00	416.00	932.24	2240.97	2564.03	2264.81
834.00	417.00	934.81	2241.75	2563.96	2265.58
836.00	418.00	937.37	2242.52	2564.03	2266.34
838.00	419.00	939.94	2243.28	2564.03	2267.09
840.00	420.00	942.50	2244.05	2564.03	2267.85
842.00	421.00	945.06	2244.81	2564.03	2268.60
844.00	422.00	947.63	2245.56	2563.96	2269.34
846.00	423.00	950.19	2246.32	2564.03	2270.08
848.00	424.00	952.76	2247.07	2564.03	2270.82
850.00	425.00	955.32	2247.81	2564.03	2271.56
852.00	426.00	957.88	2248.55	2564.03	2272.29
854.00	427.00	960.45	2249.29	2563.96	2273.01
856.00	428.00	963.01	2250.03	2564.03	2273.74
858.00	429.00	965.58	2250.76	2564.03	2274.46
860.00	430.00	968.14	2251.49	2564.03	2275.17
862.00	431.00	970.70	2252.21	2564.03	2275.89
864.00	432.00	973.27	2252.94	2564.03	2276.59
866.00	433.00	975.83	2253.65	2563.96	2277.30
868.00	434.00	978.40	2254.37	2564.03	2278.00
870.00	435.00	980.96	2255.08	2564.03	2278.70
872.00	436.00	983.52	2255.79	2564.03	2279.40
874.00	437.00	986.09	2256.50	2564.03	2280.09
876.00	438.00	988.65	2257.20	2564.03	2280.78
878.00	439.00	991.22	2257.90	2563.96	2281.46
880.00	440.00	993.78	2258.59	2564.03	2282.14
882.00	441.00	996.34	2259.28	2564.03	2282.82
884.00	442.00	998.91	2259.97	2564.03	2283.50
886.00	443.00	1001.47	2260.66	2564.03	2284.17
888.00	444.00	1004.04	2261.34	2563.96	2284.84
890.00	445.00	1006.60	2262.02	2564.03	2285.50
892.00	446.00	1009.16	2262.70	2564.03	2286.17
894.00	447.00	1011.73	2263.38	2564.03	2286.83
896.00	448.00	1014.29	2264.05	2564.03	2287.48
898.00	449.00	1016.86	2264.71	2563.96	2288.14
900.00	450.00	1019.42	2265.38	2564.09	2288.79
902.00	451.00	1021.98	2266.04	2563.96	2289.43
904.00	452.00	1024.55	2266.70	2564.09	2290.08
906.00	453.00	1027.11	2267.36	2563.96	2290.72
908.00	454.00	1029.68	2268.01	2563.96	2291.35
910.00	455.00	1032.24	2268.66	2564.09	2291.99
912.00	456.00	1034.80	2269.31	2563.96	2292.62
914.00	457.00	1037.37	2269.95	2564.09	2293.25
916.00	458.00	1039.93	2270.60	2563.96	2293.88
918.00	459.00	1042.50	2271.23	2563.96	2294.50
920.00	460.00	1045.06	2271.87	2564.09	2295.12
922.00	461.00	1047.62	2272.51	2563.96	2295.74
924.00	462.00	1050.19	2273.14	2564.09	2296.35
926.00	463.00	1052.75	2273.76	2563.96	2296.96
928.00	464.00	1055.32	2274.39	2563.96	2297.57
930.00	465.00	1057.88	2275.01	2564.09	2298.18
932.00	466.00	1060.44	2275.63	2563.96	2298.78
934.00	467.00	1063.01	2276.25	2564.09	2299.38

----- TIME -----		DATUM	----- VELOCITY -----		
2 WAY	1 WAY (TGD)	DEPTH (DGD)	AVERAGE	INTERVAL	RMS
936.00	468.00	1065.57	2276.87	2563.96	2299.98
938.00	469.00	1068.14	2277.48	2563.96	2300.58
940.00	470.00	1070.70	2278.09	2564.09	2301.17
942.00	471.00	1073.27	2278.69	2563.96	2301.76
944.00	472.00	1075.83	2279.30	2564.09	2302.35
946.00	473.00	1078.39	2279.90	2563.96	2302.93
948.00	474.00	1080.96	2280.50	2564.09	2303.51
950.00	475.00	1083.52	2281.10	2563.96	2304.09
952.00	476.00	1086.09	2281.69	2564.09	2304.67
954.00	477.00	1088.65	2282.28	2563.96	2305.24
956.00	478.00	1091.21	2282.87	2563.96	2305.81
958.00	479.00	1093.78	2283.46	2563.96	2306.38
960.00	480.00	1096.34	2284.04	2564.09	2306.95
962.00	481.00	1098.91	2284.63	2563.96	2307.51
964.00	482.00	1101.47	2285.21	2564.09	2308.08
966.00	483.00	1104.03	2285.78	2563.96	2308.64
968.00	484.00	1106.60	2286.36	2564.09	2309.19
970.00	485.00	1109.16	2286.93	2563.96	2309.75
972.00	486.00	1111.73	2287.50	2564.09	2310.30
974.00	487.00	1114.29	2288.07	2563.96	2310.85
976.00	488.00	1116.85	2288.63	2563.96	2311.40
978.00	489.00	1119.42	2289.20	2564.09	2311.94
980.00	490.00	1121.98	2289.76	2563.96	2312.48
982.00	491.00	1124.55	2290.32	2564.09	2313.02
984.00	492.00	1127.11	2290.87	2563.96	2313.56
986.00	493.00	1129.67	2291.43	2563.96	2314.10
988.00	494.00	1132.24	2291.98	2564.09	2314.63
990.00	495.00	1134.80	2292.53	2563.96	2315.16
992.00	496.00	1137.37	2293.08	2564.09	2315.69
994.00	497.00	1139.93	2293.62	2563.96	2316.22
996.00	498.00	1142.49	2294.16	2563.96	2316.74
998.00	499.00	1145.06	2294.70	2564.09	2317.26
1000.00	500.00	1147.62	2295.24	2563.96	2317.78
1002.00	501.00	1150.19	2295.78	2564.09	2318.30
1004.00	502.00	1152.75	2296.31	2563.96	2318.81
1006.00	503.00	1155.31	2296.85	2563.96	2319.33
1008.00	504.00	1157.88	2297.38	2564.09	2319.84
1010.00	505.00	1160.44	2297.90	2564.09	2320.35
1012.00	506.00	1163.01	2298.43	2563.96	2320.85
1014.00	507.00	1165.57	2298.95	2563.96	2321.36
1016.00	508.00	1168.13	2299.48	2564.09	2321.86
1018.00	509.00	1170.70	2300.00	2563.96	2322.36
1020.00	510.00	1173.26	2300.51	2563.96	2322.86
1022.00	511.00	1175.83	2301.03	2564.09	2323.36
1024.00	512.00	1178.39	2301.54	2563.96	2323.85
1026.00	513.00	1180.95	2302.05	2563.96	2324.34
1028.00	514.00	1183.52	2302.56	2564.09	2324.83
1030.00	515.00	1186.08	2303.07	2564.09	2325.32
1032.00	516.00	1188.65	2303.58	2563.96	2325.81
1034.00	517.00	1191.21	2304.08	2563.96	2326.29
1036.00	518.00	1193.77	2304.58	2564.09	2326.78
1038.00	519.00	1196.34	2305.08	2563.96	2327.26
1040.00	520.00	1198.90	2305.58	2564.09	2327.73
1042.00	521.00	1201.47	2306.08	2563.96	2328.21
1044.00	522.00	1204.03	2306.57	2563.96	2328.69
1046.00	523.00	1206.59	2307.06	2564.09	2329.16
1048.00	524.00	1209.16	2307.55	2563.96	2329.63
1050.00	525.00	1211.72	2308.04	2564.09	2330.10
1052.00	526.00	1214.29	2308.53	2563.96	2330.57
1054.00	527.00	1216.85	2309.01	2563.96	2331.03

----- TIME -----		DATUM	----- VELOCITY -----		
2 WAY	1 WAY	DEPTH	AVERAGE	INTERVAL	RMS
	(TGD)	(DGD)			
1056.00	528.00	1219.41	2309.50	2564.09	2331.49
1058.00	529.00	1221.98	2309.98	2563.96	2331.96
1060.00	530.00	1224.54	2310.46	2564.09	2332.42
1062.00	531.00	1227.11	2310.93	2563.96	2332.87
1064.00	532.00	1229.67	2311.41	2563.96	2333.33
1066.00	533.00	1232.23	2311.88	2564.09	2333.78
1068.00	534.00	1235.01	2312.76	2778.08	2334.69
1070.00	535.00	1237.94	2313.91	2931.88	2335.95
1072.00	536.00	1240.88	2315.07	2931.88	2337.21
1074.00	537.00	1243.81	2316.22	2931.88	2338.45
1076.00	538.00	1246.74	2317.36	2931.88	2339.70
1078.00	539.00	1249.66	2318.49	2924.68	2340.92
1080.00	540.00	1252.58	2319.59	2916.63	2342.11
1082.00	541.00	1255.50	2320.70	2916.75	2343.31
1084.00	542.00	1258.41	2321.80	2916.63	2344.49
1086.00	543.00	1261.33	2322.89	2916.75	2345.68
1088.00	544.00	1264.46	2324.37	3125.00	2347.35
1090.00	545.00	1268.00	2326.61	3545.04	2350.10
1092.00	546.00	1271.55	2328.84	3544.92	2352.85
1094.00	547.00	1275.09	2331.06	3544.92	2355.58
1096.00	548.00	1278.59	2333.19	3495.73	2358.16
1098.00	549.00	1281.66	2334.54	3077.64	2359.67
1100.00	550.00	1284.74	2335.89	3077.64	2361.17
1102.00	551.00	1287.82	2337.24	3077.64	2362.67
1104.00	552.00	1290.90	2338.58	3077.64	2364.16
1106.00	553.00	1293.97	2339.92	3077.64	2365.64
1108.00	554.00	1297.05	2341.25	3077.64	2367.12
1110.00	555.00	1300.13	2342.58	3077.51	2368.59
1112.00	556.00	1303.21	2343.90	3077.64	2370.06
1114.00	557.00	1306.29	2345.22	3077.64	2371.52
1116.00	558.00	1309.36	2346.53	3077.64	2372.97
1118.00	559.00	1312.44	2347.84	3077.64	2374.42
1120.00	560.00	1315.52	2349.14	3077.64	2375.86
1122.00	561.00	1318.60	2350.44	3077.64	2377.30
1124.00	562.00	1321.67	2351.73	3077.51	2378.72
1126.00	563.00	1324.75	2353.02	3077.64	2380.15
1128.00	564.00	1327.83	2354.31	3077.64	2381.57
1130.00	565.00	1330.91	2355.59	3077.64	2382.98
1132.00	566.00	1333.98	2356.86	3077.64	2384.38
1134.00	567.00	1337.06	2358.13	3077.64	2385.78
1136.00	568.00	1340.14	2359.40	3077.64	2387.18
1138.00	569.00	1343.22	2360.66	3077.64	2388.57
1140.00	570.00	1346.29	2361.92	3077.51	2389.95
1142.00	571.00	1349.37	2363.17	3077.64	2391.33
1144.00	572.00	1352.45	2364.42	3077.64	2392.70
1146.00	573.00	1355.81	2366.16	3361.57	2394.73
1148.00	574.00	1359.26	2368.05	3447.63	2396.97
1150.00	575.00	1362.71	2369.92	3447.63	2399.19
1152.00	576.00	1366.15	2371.80	3447.63	2401.41
1154.00	577.00	1369.67	2373.78	3518.07	2403.79
1156.00	578.00	1373.29	2375.93	3614.26	2406.41
1158.00	579.00	1376.90	2378.07	3614.26	2409.02
1160.00	580.00	1380.51	2380.20	3614.14	2411.62
1162.00	581.00	1383.87	2381.88	3354.61	2413.56
1164.00	582.00	1386.55	2382.39	2682.37	2414.05
1166.00	583.00	1389.23	2382.91	2682.25	2414.53
1168.00	584.00	1391.92	2383.42	2682.37	2415.02
1170.00	585.00	1394.60	2383.93	2682.37	2415.50
1172.00	586.00	1397.28	2384.44	2682.37	2415.98
1174.00	587.00	1400.63	2386.07	3344.85	2417.86

----- TIME -----		DATUM	----- VELOCITY -----		
2 WAY	1 WAY	DEPTH	AVERAGE	INTERVAL	RMS
	(TGD)	(DGD)			
1176.00	588.00	1404.26	2388.20	3635.86	2420.46
1178.00	589.00	1407.90	2390.32	3635.86	2423.04
1180.00	590.00	1411.53	2392.43	3635.86	2425.61
1182.00	591.00	1414.76	2393.85	3229.37	2427.19
1184.00	592.00	1417.69	2394.75	2930.05	2428.13
1186.00	593.00	1420.62	2395.65	2930.18	2429.06
1188.00	594.00	1423.55	2396.55	2930.05	2429.99
1190.00	595.00	1426.48	2397.45	2930.18	2430.92
1192.00	596.00	1429.23	2398.04	2751.34	2431.49
1194.00	597.00	1431.78	2398.29	2546.75	2431.69
1196.00	598.00	1434.33	2398.54	2546.63	2431.89
1198.00	599.00	1436.87	2398.79	2546.75	2432.08
1200.00	600.00	1439.42	2399.04	2546.63	2432.28
1202.00	601.00	1441.97	2399.28	2546.75	2432.47
1204.00	602.00	1444.75	2399.92	2783.81	2433.10
1206.00	603.00	1447.70	2400.83	2949.95	2434.05
1208.00	604.00	1450.65	2401.74	2949.95	2434.99
1210.00	605.00	1453.60	2402.65	2950.07	2435.93
1212.00	606.00	1456.55	2403.55	2949.95	2436.87
1214.00	607.00	1459.67	2404.73	3118.41	2438.15
1216.00	608.00	1462.95	2406.16	3277.83	2439.77
1218.00	609.00	1466.23	2407.60	3277.95	2441.38
1220.00	610.00	1469.50	2409.02	3277.83	2442.99
1222.00	611.00	1472.78	2410.45	3277.83	2444.59
1224.00	612.00	1475.47	2410.89	2684.57	2445.00
1226.00	613.00	1478.12	2411.29	2651.37	2445.35
1228.00	614.00	1480.77	2411.68	2651.49	2445.70
1230.00	615.00	1483.42	2412.07	2651.37	2446.05
1232.00	616.00	1486.07	2412.45	2651.49	2446.39
1234.00	617.00	1488.76	2412.90	2684.33	2446.80
1236.00	618.00	1491.52	2413.46	2760.99	2447.34
1238.00	619.00	1494.28	2414.02	2760.86	2447.88
1240.00	620.00	1497.04	2414.58	2760.86	2448.41
1242.00	621.00	1499.80	2415.14	2760.99	2448.95
1244.00	622.00	1502.56	2415.69	2760.86	2449.48
1246.00	623.00	1505.32	2416.25	2760.86	2450.01
1248.00	624.00	1508.08	2416.80	2760.99	2450.54
1250.00	625.00	1510.84	2417.35	2760.86	2451.07
1252.00	626.00	1513.60	2417.90	2760.86	2451.60
1254.00	627.00	1516.37	2418.45	2760.99	2452.12
1256.00	628.00	1519.13	2418.99	2760.86	2452.65
1258.00	629.00	1521.89	2419.53	2760.86	2453.17
1260.00	630.00	1524.65	2420.08	2760.99	2453.69
1262.00	631.00	1527.41	2420.62	2760.86	2454.20
1264.00	632.00	1530.17	2421.16	2760.86	2454.72
1266.00	633.00	1532.93	2421.69	2760.99	2455.23
1268.00	634.00	1535.69	2422.23	2760.86	2455.74
1270.00	635.00	1538.45	2422.76	2760.86	2456.25
1272.00	636.00	1541.21	2423.29	2760.86	2456.76
1274.00	637.00	1543.97	2423.82	2760.99	2457.27
1276.00	638.00	1546.74	2424.35	2760.86	2457.78
1278.00	639.00	1549.92	2425.54	3181.76	2459.08
1280.00	640.00	1553.35	2427.11	3435.67	2460.90
1282.00	641.00	1556.79	2428.69	3435.67	2462.72
1284.00	642.00	1560.22	2430.26	3435.67	2464.54
1286.00	643.00	1564.02	2432.38	3794.19	2467.16
1288.00	644.00	1568.79	2436.01	4769.29	2472.40
1290.00	645.00	1573.56	2439.62	4769.29	2477.61
1292.00	646.00	1578.05	2442.80	4489.87	2481.99
1294.00	647.00	1580.69	2443.11	2647.22	2482.25

----- TIME -----		DATUM	----- VELOCITY -----		
2 WAY	1 WAY	DEPTH	AVERAGE	INTERVAL	RMS
	(TGD)	(DGD)			
1296.00	648.00	1583.34	2443.43	2647.34	2482.51
1298.00	649.00	1585.99	2443.74	2647.22	2482.78
1300.00	650.00	1588.64	2444.06	2647.22	2483.04
1302.00	651.00	1591.28	2444.37	2647.22	2483.30
1304.00	652.00	1594.53	2445.59	3242.68	2484.64
1306.00	653.00	1598.41	2447.79	3883.91	2487.38
1308.00	654.00	1602.29	2449.99	3884.03	2490.12
1310.00	655.00	1606.18	2452.18	3884.03	2492.84
1312.00	656.00	1609.71	2453.83	3536.87	2494.76
1314.00	657.00	1613.05	2455.17	3333.50	2496.26
1316.00	658.00	1616.38	2456.51	3333.37	2497.74
1318.00	659.00	1619.71	2457.84	3333.37	2499.22
1320.00	660.00	1623.02	2459.12	3305.54	2500.64
1322.00	661.00	1626.16	2460.16	3142.21	2501.73
1324.00	662.00	1629.30	2461.19	3142.21	2502.82
1326.00	663.00	1632.45	2462.21	3142.33	2503.91
1328.00	664.00	1635.59	2463.24	3142.21	2505.00
1330.00	665.00	1638.96	2464.60	3366.94	2506.51
1332.00	666.00	1642.68	2466.48	3719.97	2508.78
1334.00	667.00	1646.40	2468.36	3719.97	2511.03
1336.00	668.00	1650.12	2470.23	3719.97	2513.27
1338.00	669.00	1653.41	2471.46	3293.33	2514.62
1340.00	670.00	1655.99	2471.63	2582.28	2514.72
1342.00	671.00	1658.57	2471.79	2582.28	2514.83
1344.00	672.00	1661.16	2471.96	2582.28	2514.93
1346.00	673.00	1663.74	2472.12	2582.28	2515.03
1348.00	674.00	1666.32	2472.29	2582.28	2515.13
1350.00	675.00	1668.99	2472.58	2671.39	2515.37
1352.00	676.00	1671.72	2472.97	2732.54	2515.70
1354.00	677.00	1674.46	2473.35	2732.54	2516.04
1356.00	678.00	1677.19	2473.73	2732.42	2516.37
1358.00	679.00	1679.92	2474.11	2732.54	2516.70
1360.00	680.00	1682.75	2474.64	2829.83	2517.19
1362.00	681.00	1686.22	2476.09	3465.82	2518.85
1364.00	682.00	1689.68	2477.54	3465.70	2520.50
1366.00	683.00	1693.15	2478.99	3465.82	2522.14
1368.00	684.00	1696.62	2480.43	3465.70	2523.78
1370.00	685.00	1699.83	2481.50	3209.96	2524.91
1372.00	686.00	1702.98	2482.48	3157.23	2525.95
1374.00	687.00	1706.14	2483.46	3157.10	2526.98
1376.00	688.00	1709.30	2484.44	3157.10	2528.01
1378.00	689.00	1712.42	2485.37	3124.76	2528.98
1380.00	690.00	1715.28	2485.91	2857.42	2529.49
1382.00	691.00	1718.14	2486.45	2857.30	2529.99
1384.00	692.00	1720.99	2486.98	2857.30	2530.50
1386.00	693.00	1723.85	2487.52	2857.42	2531.00
1388.00	694.00	1726.71	2488.05	2857.30	2531.50
1390.00	695.00	1729.67	2488.73	2959.96	2532.17
1392.00	696.00	1732.64	2489.43	2972.41	2532.86
1394.00	697.00	1735.61	2490.12	2972.41	2533.54
1396.00	698.00	1738.59	2490.81	2972.29	2534.22
1398.00	699.00	1741.56	2491.50	2972.41	2534.91
1400.00	700.00	1744.73	2492.48	3175.42	2535.94
1402.00	701.00	1747.94	2493.49	3203.61	2537.01
1404.00	702.00	1751.14	2494.50	3203.61	2538.09
1406.00	703.00	1754.34	2495.51	3203.61	2539.16
1408.00	704.00	1757.44	2496.36	3094.97	2540.03
1410.00	705.00	1760.17	2496.69	2727.66	2540.31
1412.00	706.00	1762.89	2497.02	2727.54	2540.58
1414.00	707.00	1765.62	2497.34	2727.66	2540.86

----- TIME -----		DATUM	----- VELOCITY -----		
2 WAY	1 WAY	DEPTH	AVERAGE	INTERVAL	RMS
	(TGD)	(DGD)			
1416.00	708.00	1768.35	2497.67	2727.66	2541.13
1418.00	709.00	1771.08	2497.99	2727.66	2541.41
1420.00	710.00	1773.85	2498.38	2773.32	2541.75
1422.00	711.00	1776.64	2498.79	2786.99	2542.11
1424.00	712.00	1779.42	2499.19	2786.99	2542.47
1426.00	713.00	1782.21	2499.59	2786.87	2542.83
1428.00	714.00	1785.00	2500.00	2786.99	2543.19
1430.00	715.00	1788.66	2501.62	3657.47	2545.09
1432.00	716.00	1793.45	2504.82	4794.56	2549.61
1434.00	717.00	1798.24	2508.01	4794.56	2554.12
1436.00	718.00	1802.58	2510.56	4335.08	2557.46
1438.00	719.00	1805.99	2511.81	3414.18	2558.85
1440.00	720.00	1809.41	2513.07	3414.31	2560.24
1442.00	721.00	1812.82	2514.32	3414.18	2561.62
1444.00	722.00	1816.24	2515.56	3414.18	2563.00
1446.00	723.00	1819.43	2516.50	3193.36	2563.98
1448.00	724.00	1822.62	2517.43	3190.31	2564.95
1450.00	725.00	1825.81	2518.36	3190.31	2565.91
1452.00	726.00	1829.00	2519.28	3190.19	2566.88
1454.00	727.00	1832.13	2520.13	3132.69	2567.74
1456.00	728.00	1835.15	2520.82	3021.36	2568.42
1458.00	729.00	1838.18	2521.50	3021.24	2569.10
1460.00	730.00	1841.20	2522.19	3021.24	2569.77
1462.00	731.00	1844.22	2522.87	3021.24	2570.44
1464.00	732.00	1847.29	2523.61	3066.41	2571.18
1466.00	733.00	1850.41	2524.43	3125.00	2572.02
1468.00	734.00	1853.53	2525.25	3124.88	2572.85
1470.00	735.00	1856.66	2526.07	3125.00	2573.69
1472.00	736.00	1859.78	2526.88	3125.00	2574.52
1474.00	737.00	1862.78	2527.51	2992.80	2575.13
1476.00	738.00	1865.71	2528.06	2934.20	2575.65
1478.00	739.00	1868.65	2528.61	2934.33	2576.17
1480.00	740.00	1871.58	2529.16	2934.20	2576.69
1482.00	741.00	1874.51	2529.71	2934.20	2577.20
1484.00	742.00	1877.70	2530.59	3186.16	2578.12
1486.00	743.00	1881.02	2531.66	3319.21	2579.26
1488.00	744.00	1884.34	2532.71	3319.21	2580.40
1490.00	745.00	1887.66	2533.77	3319.21	2581.53
1492.00	746.00	1890.84	2534.63	3178.34	2582.42
1494.00	747.00	1893.47	2534.76	2631.96	2582.49
1496.00	748.00	1896.10	2534.89	2632.08	2582.56
1498.00	749.00	1898.73	2535.02	2632.08	2582.62
1500.00	750.00	1901.36	2535.15	2632.08	2582.69
1502.00	751.00	1904.00	2535.28	2632.08	2582.76
1504.00	752.00	1906.69	2535.50	2696.78	2582.91
1506.00	753.00	1909.43	2535.77	2738.89	2583.13
1508.00	754.00	1912.17	2536.04	2738.89	2583.34
1510.00	755.00	1914.91	2536.31	2739.01	2583.55
1512.00	756.00	1917.65	2536.57	2738.89	2583.76
1514.00	757.00	1920.46	2536.93	2809.94	2584.07
1516.00	758.00	1923.51	2537.61	3052.12	2584.75
1518.00	759.00	1926.56	2538.29	3052.12	2585.42
1520.00	760.00	1929.62	2538.97	3052.12	2586.09
1522.00	761.00	1932.67	2539.64	3052.12	2586.76
1524.00	762.00	1936.08	2540.78	3408.57	2588.01
1526.00	763.00	1940.01	2542.60	3929.69	2590.22
1528.00	764.00	1943.94	2544.42	3929.69	2592.42
1530.00	765.00	1947.87	2546.23	3929.57	2594.62
1532.00	766.00	1951.40	2547.51	3530.64	2596.06
1534.00	767.00	1954.72	2548.53	3327.27	2597.15

----- TIME -----		DATUM	----- VELOCITY -----		
2 WAY	1 WAY	DEPTH	AVERAGE	INTERVAL	RMS
	(TGD)	(DGD)			
1536.00	768.00	1958.05	2549.55	3327.39	2598.24
1538.00	769.00	1961.38	2550.56	3327.27	2599.32
1540.00	770.00	1964.84	2551.74	3460.33	2600.62
1542.00	771.00	1968.71	2553.45	3870.61	2602.67
1544.00	772.00	1972.58	2555.16	3870.61	2604.71
1546.00	773.00	1976.45	2556.86	3870.61	2606.74
1548.00	774.00	1979.82	2557.90	3366.09	2607.87
1550.00	775.00	1982.56	2558.14	2744.63	2608.05
1552.00	776.00	1985.31	2558.38	2744.51	2608.23
1554.00	777.00	1988.05	2558.62	2744.63	2608.41
1556.00	778.00	1990.79	2558.86	2744.63	2608.59
1558.00	779.00	1993.56	2559.12	2760.62	2608.79
1560.00	780.00	1996.46	2559.57	2905.40	2609.19
1562.00	781.00	1999.37	2560.01	2905.27	2609.59
1564.00	782.00	2002.27	2560.45	2905.40	2609.99
1566.00	783.00	2005.18	2560.89	2905.40	2610.39
1568.00	784.00	2008.09	2561.34	2916.02	2610.80
1570.00	785.00	2011.21	2562.05	3115.36	2611.51
1572.00	786.00	2014.32	2562.75	3115.23	2612.21
1574.00	787.00	2017.44	2563.45	3115.36	2612.91
1576.00	788.00	2020.55	2564.16	3115.36	2613.61
1578.00	789.00	2023.69	2564.88	3135.38	2614.34
1580.00	790.00	2026.86	2565.65	3172.49	2615.12
1582.00	791.00	2030.03	2566.42	3172.61	2615.90
1584.00	792.00	2033.21	2567.18	3172.61	2616.68
1586.00	793.00	2036.38	2567.94	3172.61	2617.45
1588.00	794.00	2039.44	2568.57	3065.06	2618.07
1590.00	795.00	2042.47	2569.15	3026.25	2618.62
1592.00	796.00	2045.50	2569.72	3026.37	2619.17
1594.00	797.00	2048.52	2570.29	3026.25	2619.72
1596.00	798.00	2051.55	2570.86	3026.37	2620.27
1598.00	799.00	2055.06	2572.04	3512.70	2621.58
1600.00	800.00	2058.63	2573.29	3569.34	2622.98
1602.00	801.00	2062.20	2574.53	3569.09	2624.37
1604.00	802.00	2065.77	2575.77	3569.34	2625.76
1606.00	803.00	2068.93	2576.50	3157.96	2626.49
1608.00	804.00	2071.98	2577.09	3053.47	2627.06
1610.00	805.00	2075.04	2577.68	3053.71	2627.64
1612.00	806.00	2078.09	2578.27	3053.47	2628.21
1614.00	807.00	2081.15	2578.87	3059.08	2628.79
1616.00	808.00	2084.55	2579.89	3406.49	2629.89
1618.00	809.00	2087.96	2580.92	3406.74	2630.99
1620.00	810.00	2091.37	2581.94	3406.49	2632.09
1622.00	811.00	2094.77	2582.95	3406.49	2633.19
1624.00	812.00	2097.70	2583.37	2921.88	2633.56
1626.00	813.00	2100.44	2583.56	2740.72	2633.69
1628.00	814.00	2103.18	2583.76	2740.72	2633.83
1630.00	815.00	2105.92	2583.95	2740.72	2633.96
1632.00	816.00	2108.66	2584.14	2740.72	2634.10
1634.00	817.00	2111.74	2584.74	3076.66	2634.68
1636.00	818.00	2115.32	2585.96	3581.79	2636.05
1638.00	819.00	2118.90	2587.18	3581.79	2637.41
1640.00	820.00	2122.48	2588.39	3581.79	2638.77
1642.00	821.00	2126.09	2589.63	3606.20	2640.16
1644.00	822.00	2129.75	2590.93	3657.96	2641.64
1646.00	823.00	2133.40	2592.23	3657.71	2643.11
1648.00	824.00	2137.06	2593.52	3657.96	2644.58
1650.00	825.00	2140.43	2594.46	3370.36	2645.58
1652.00	826.00	2143.22	2594.69	2784.42	2645.75
1654.00	827.00	2146.00	2594.92	2784.18	2645.92

----- TIME -----		DATUM	----- VELOCITY -----		
2 WAY	1 WAY (TGD)	DEPTH (DGD)	AVERAGE	INTERVAL	RMS
1656.00	828.00	2148.78	2595.15	2784.42	2646.09
1658.00	829.00	2151.57	2595.38	2784.42	2646.27
1660.00	830.00	2154.40	2595.67	2835.69	2646.50
1662.00	831.00	2157.76	2596.58	3352.78	2647.46
1664.00	832.00	2161.11	2597.49	3353.03	2648.43
1666.00	833.00	2164.46	2598.40	3353.03	2649.38
1668.00	834.00	2167.82	2599.30	3353.03	2650.34
1670.00	835.00	2170.98	2599.98	3166.26	2651.02
1672.00	836.00	2174.08	2600.58	3100.83	2651.60
1674.00	837.00	2177.18	2601.18	3100.83	2652.18
1676.00	838.00	2180.29	2601.77	3100.83	2652.76
1678.00	839.00	2183.42	2602.41	3136.47	2653.39
1680.00	840.00	2187.40	2604.04	3975.59	2655.36
1682.00	841.00	2191.37	2605.68	3975.59	2657.32
1684.00	842.00	2195.35	2607.30	3975.59	2659.27
1686.00	843.00	2199.14	2608.71	3795.41	2660.91
1688.00	844.00	2202.64	2609.76	3494.63	2662.05
1690.00	845.00	2206.13	2610.81	3494.63	2663.19
1692.00	846.00	2209.63	2611.85	3494.87	2664.32
1694.00	847.00	2213.14	2612.92	3513.43	2665.49
1696.00	848.00	2216.73	2614.07	3587.65	2666.76
1698.00	849.00	2220.32	2615.21	3587.40	2668.03
1700.00	850.00	2223.90	2616.36	3587.40	2669.30
1702.00	851.00	2227.46	2617.46	3558.11	2670.52
1704.00	852.00	2230.84	2618.35	3375.00	2671.45
1706.00	853.00	2234.21	2619.24	3375.00	2672.39
1708.00	854.00	2237.59	2620.13	3375.00	2673.32
1710.00	855.00	2240.96	2621.01	3374.76	2674.25
1712.00	856.00	2244.55	2622.14	3590.58	2675.50
1714.00	857.00	2248.19	2623.33	3638.67	2676.83
1716.00	858.00	2251.83	2624.51	3638.67	2678.15
1718.00	859.00	2255.47	2625.69	3638.43	2679.47
1720.00	860.00	2259.56	2627.40	4094.48	2681.54
1722.00	861.00	2263.76	2629.23	4201.42	2683.81
1724.00	862.00	2267.97	2631.05	4201.42	2686.07
1726.00	863.00	2272.40	2633.14	4433.59	2688.75
1728.00	864.00	2277.30	2635.77	4902.10	2692.36
1730.00	865.00	2282.12	2638.29	4820.31	2695.79
1732.00	866.00	2286.46	2640.25	4337.40	2698.26
1734.00	867.00	2290.80	2642.21	4337.16	2700.73
1736.00	868.00	2295.13	2644.16	4337.40	2703.18
1738.00	869.00	2299.34	2645.96	4203.86	2705.39
1740.00	870.00	2303.50	2647.70	4163.57	2707.52
1742.00	871.00	2307.66	2649.44	4163.57	2709.64
1744.00	872.00	2311.89	2651.25	4224.12	2711.86
1746.00	873.00	2316.30	2653.26	4406.74	2714.41
1748.00	874.00	2320.70	2655.27	4406.49	2716.94
1750.00	875.00	2325.11	2657.27	4406.74	2719.47
1752.00	876.00	2329.98	2659.80	4874.51	2722.91
1754.00	877.00	2334.90	2662.37	4914.79	2726.41
1756.00	878.00	2339.81	2664.93	4914.55	2729.90

14. DIRECTIONAL SURVEY

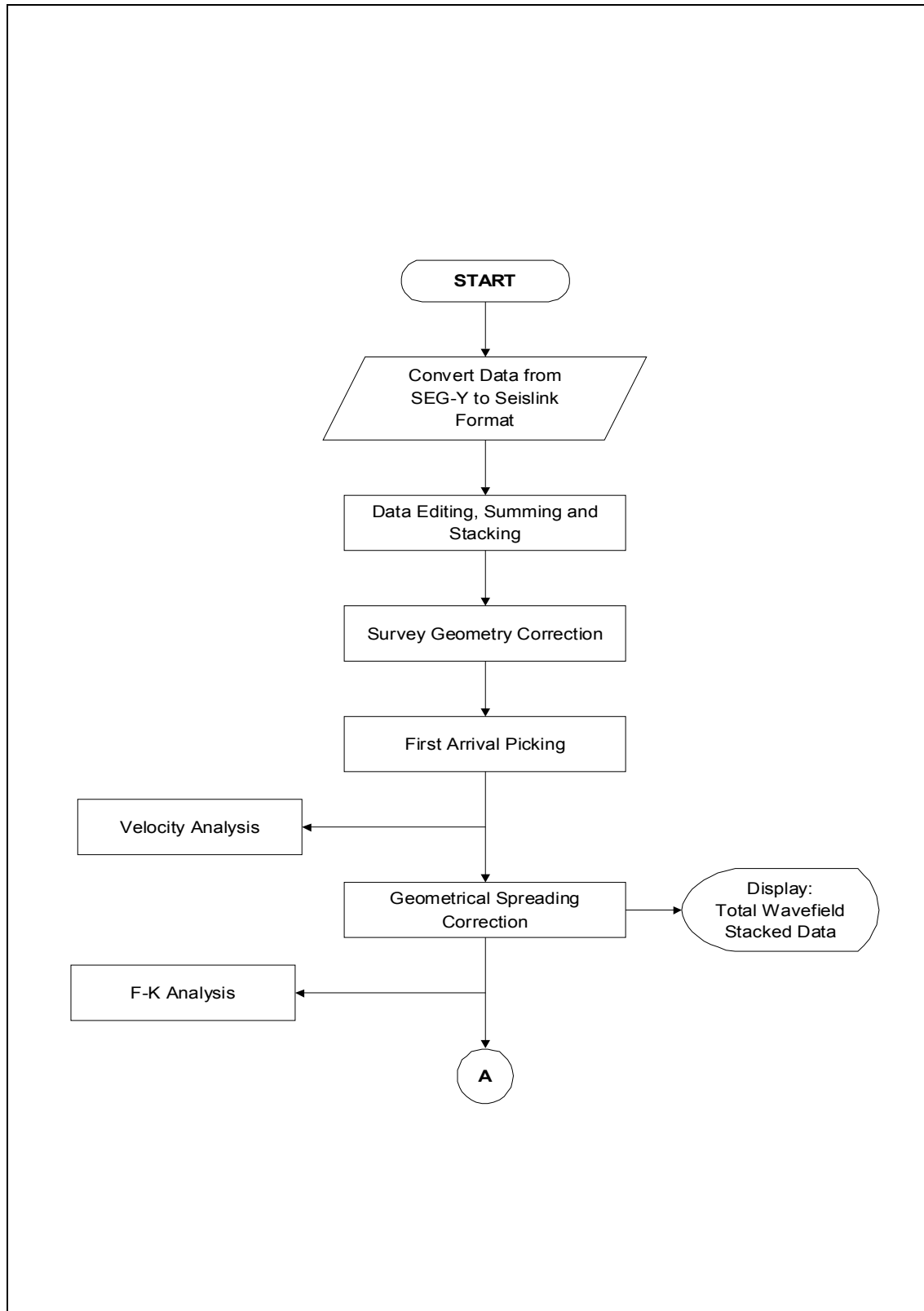
APACHE ENERGY LIMITED
WELL : LONGTOM-2

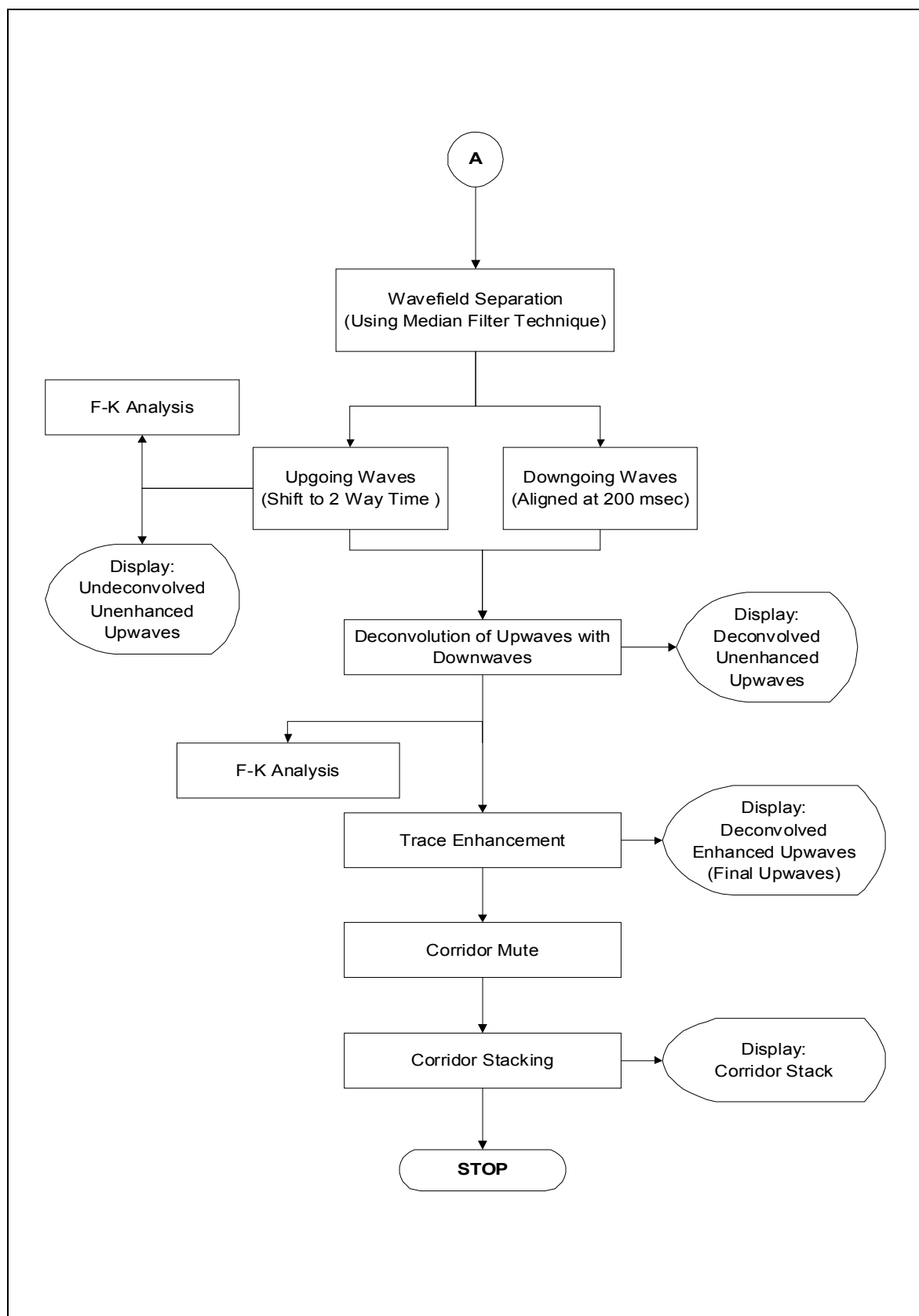
DIRECTIONAL SURVEY
 CONTRACTOR
 SURVEY DATE
 REFERENCE ELEVATION

BAKER ATLAS
 25 NOVEMBER 2004
 21.50 M ABOVE DATUM REF.

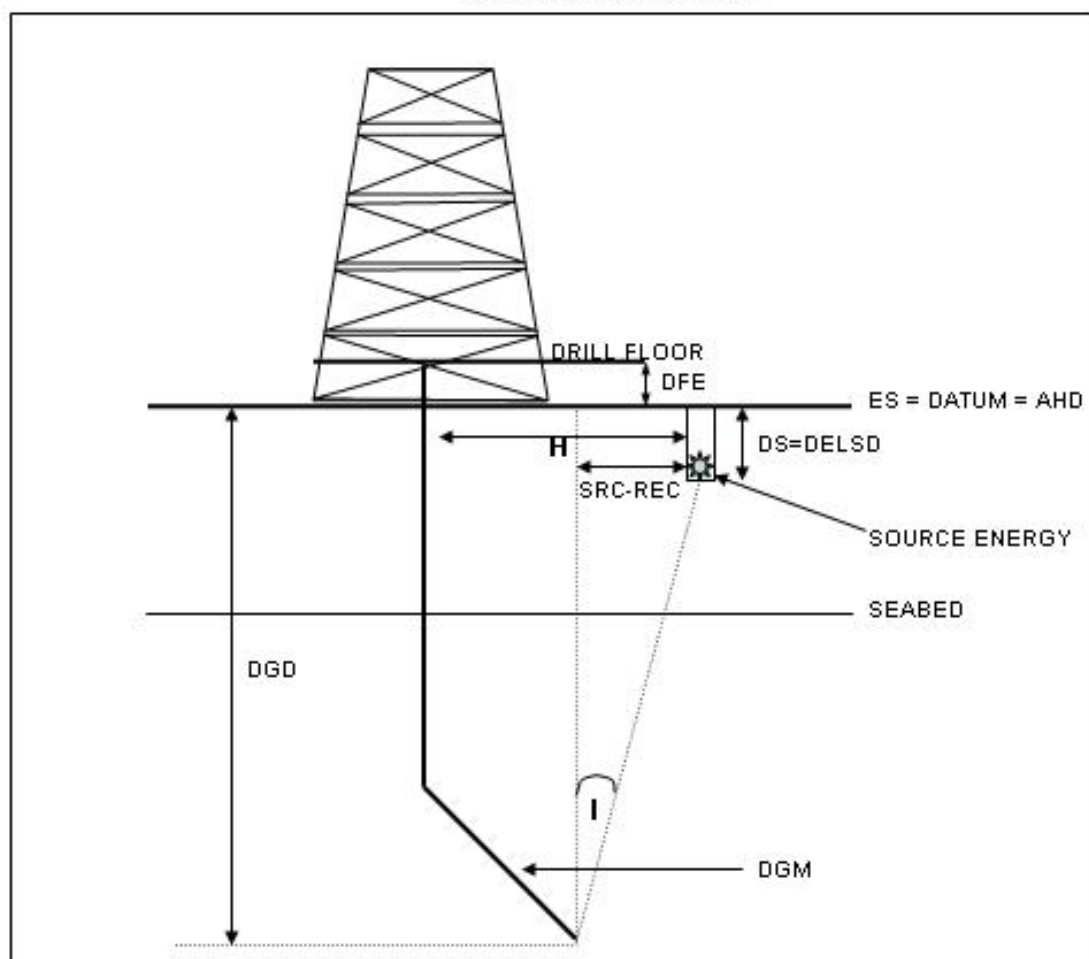
MEASURED DEPTH	VERTICAL DEPTH	NORTH-SOUTH COORDINATE NORTH = +	EAST-WEST COORDINATE EAST = +
(M)	(M)	(M)	(M)
0.00	0.00	0.00	0.00
82.55	82.55	-0.01	-0.04
112.76	112.76	-0.24	-0.16
141.18	141.17	-0.61	0.07
167.69	167.68	-0.99	0.28
195.24	195.23	-1.44	0.50
280.64	280.61	-2.80	1.11
309.21	309.18	-3.18	1.31
337.70	337.67	-3.53	1.49
366.42	366.39	-3.86	1.59
424.64	424.60	-4.39	1.67
481.27	481.23	-4.91	1.69
566.25	566.21	-5.88	1.57
594.89	594.84	-6.24	1.54
623.80	623.75	-6.60	1.55
651.93	651.88	-6.94	1.57
680.50	680.45	-7.26	1.59
709.36	709.30	-7.51	1.63
738.17	738.11	-7.70	1.69
767.01	766.95	-7.84	1.77
795.70	795.64	-7.91	1.87
824.74	824.68	-7.91	2.01
853.15	853.09	-7.85	2.18
881.85	881.79	-7.72	2.43
910.57	910.51	-7.49	2.76
968.35	968.28	-6.84	3.54
1025.79	1025.71	-5.94	4.35
1055.31	1055.22	-5.35	4.78
1084.15	1084.05	-4.78	5.24
1110.42	1110.31	-4.27	5.69
1140.98	1140.86	-3.65	6.24
1169.60	1169.46	-2.98	6.81
1198.15	1198.00	-2.24	7.47
1227.48	1227.31	-1.49	8.17
1285.12	1284.90	0.21	9.83
1342.67	1342.38	2.04	11.91
1428.08	1427.67	4.85	15.56
1457.25	1456.78	5.97	16.94
1515.81	1515.22	8.24	19.97
1601.75	1600.94	11.54	25.11
1630.37	1629.48	12.71	26.93
1659.04	1658.05	14.03	28.90
1687.66	1686.54	15.67	31.07
1716.34	1715.07	17.49	33.39
1773.64	1772.01	21.56	38.41

MEASURED DEPTH	VERTICAL DEPTH	NORTH-SOUTH COORDINATE NORTH = +	EAST-WEST COORDINATE EAST = +
(M)	(M)	(M)	(M)
1802.39	1800.53	23.90	41.10
1831.13	1829.02	26.49	43.90
1888.71	1885.91	32.69	50.22
1917.47	1914.23	36.31	53.70
1946.13	1942.38	40.29	57.34
1974.87	1970.56	44.48	61.07
2001.48	1996.64	48.45	64.57
2031.15	2025.68	53.07	68.57
2088.39	2081.56	62.57	76.54
2174.27	2165.17	77.57	89.14
2203.50	2193.59	82.79	93.58
2232.27	2221.54	87.97	98.02
2292.01	2279.61	98.52	107.23
2319.46	2306.36	103.05	111.38
2348.12	2334.36	107.42	115.69
2376.11	2361.73	111.51	119.88

Appendix 1. ZVSP PROCESSING FLOWCHART



**Figure 1. NOMENCLATURE CHART
OFFSHORE SURVEY**



DFE	=	Drill Floor Elevation
ES	=	Source Elevation = Datum = MSL or AHD
DS	=	Source Depth below AHD
H	=	Source Well Head Horizontal Distance
DELSO	=	DS
DGM	=	Geophone Measured Depth (Measured from DF along Borehole)
DGD	=	Geophone True vertical Depth (TVD measured from AHD)
TGD	=	One-Way Corrected Time to AHD
2 TGD	=	Two-Way Corrected Time to AHD
VE	=	Elevation Correction Velocity
SRC-REC	=	Source Receiver Horizontal Distance
DELDGD	=	Interval Vertical Depth
DELDGT	=	Interval Time
Cos I	=	$(DGD - DELSD) / \sqrt{(SRC - REC)^2 + (DGD - DELSD)^2}$

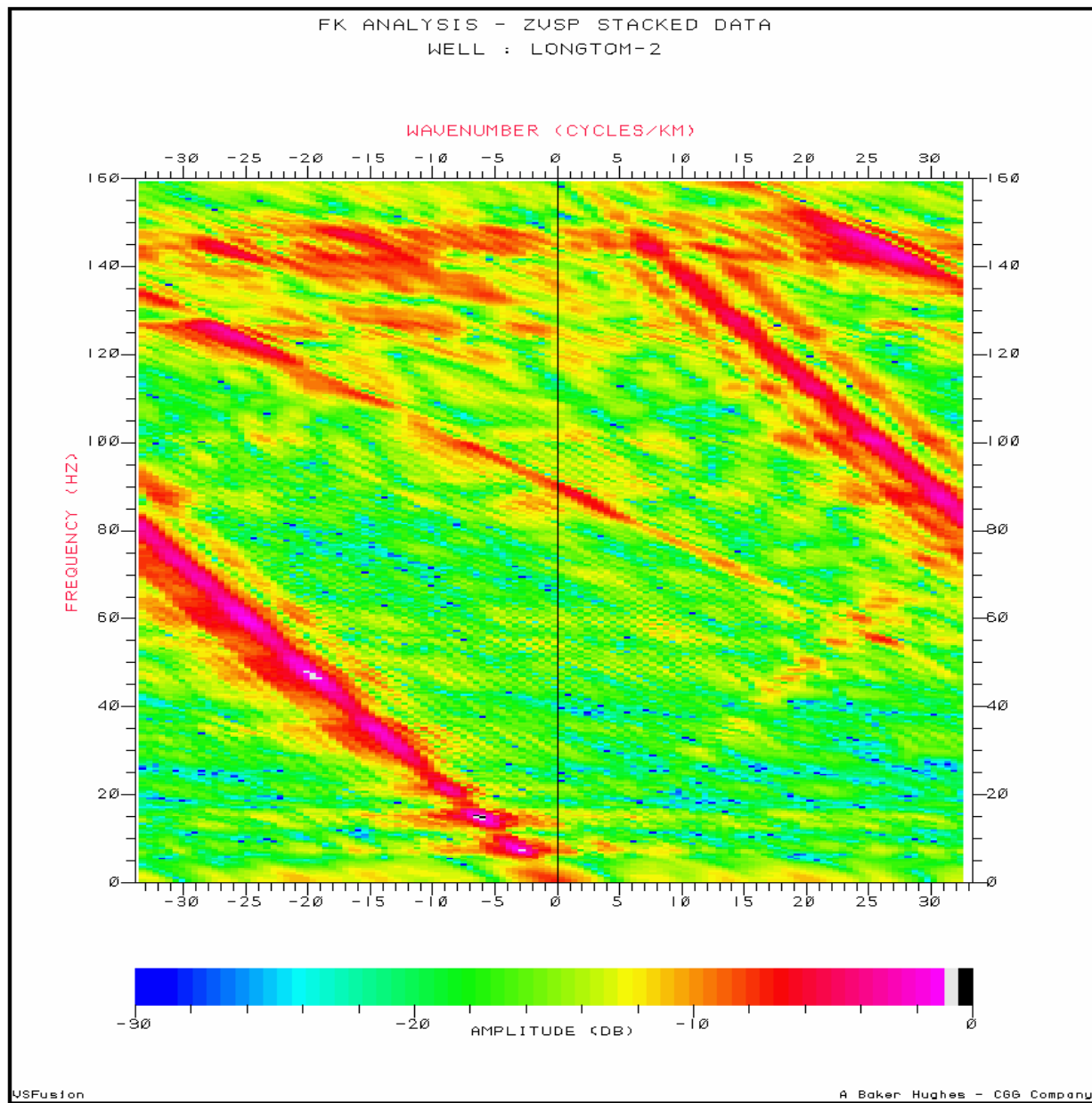
Figure 2. FK ANALYSIS – ZVSP STACKED DATA

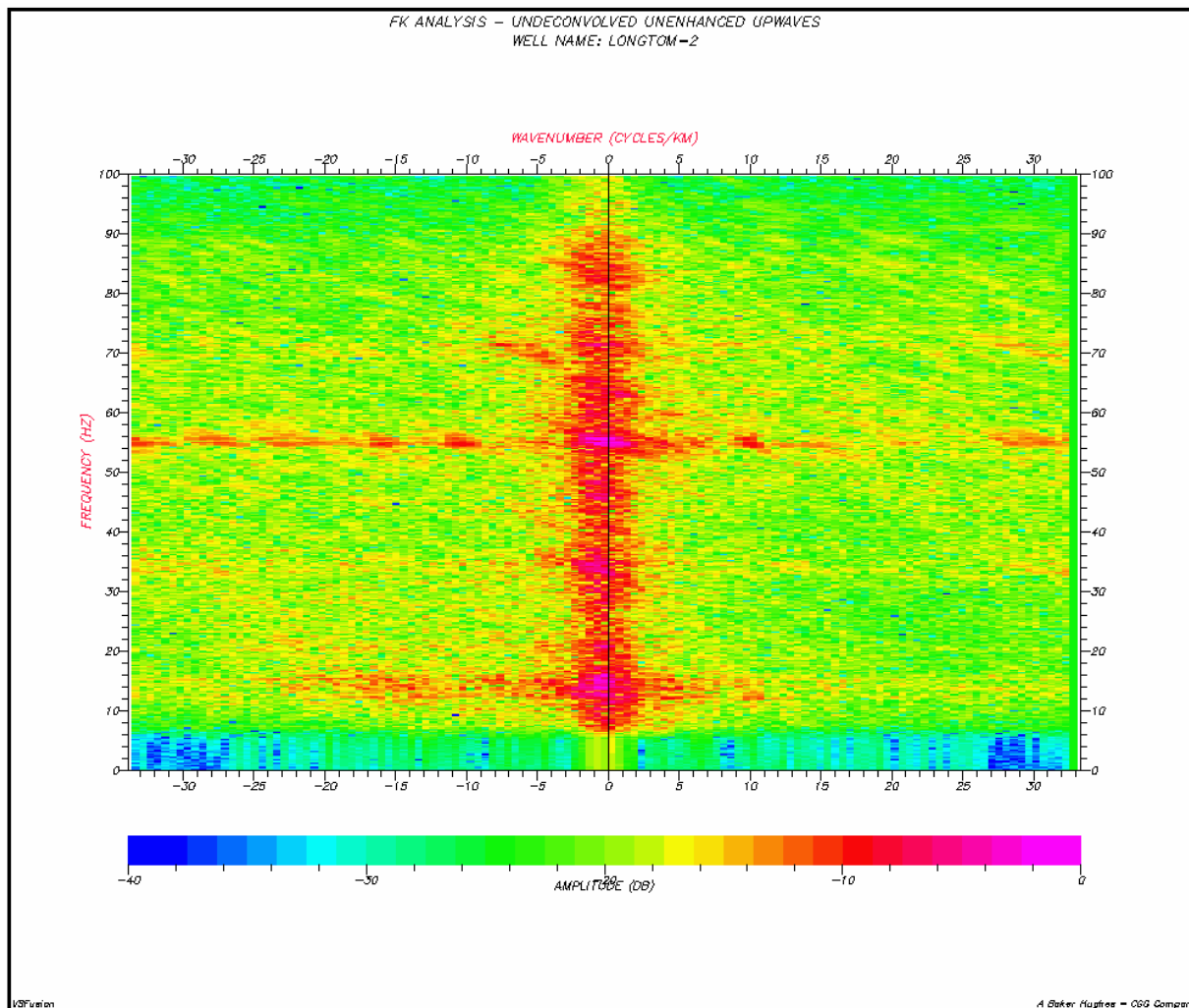
Figure 3. FK ANALYSIS – UNDECONVOLVED UNENHANCED UPWAVES

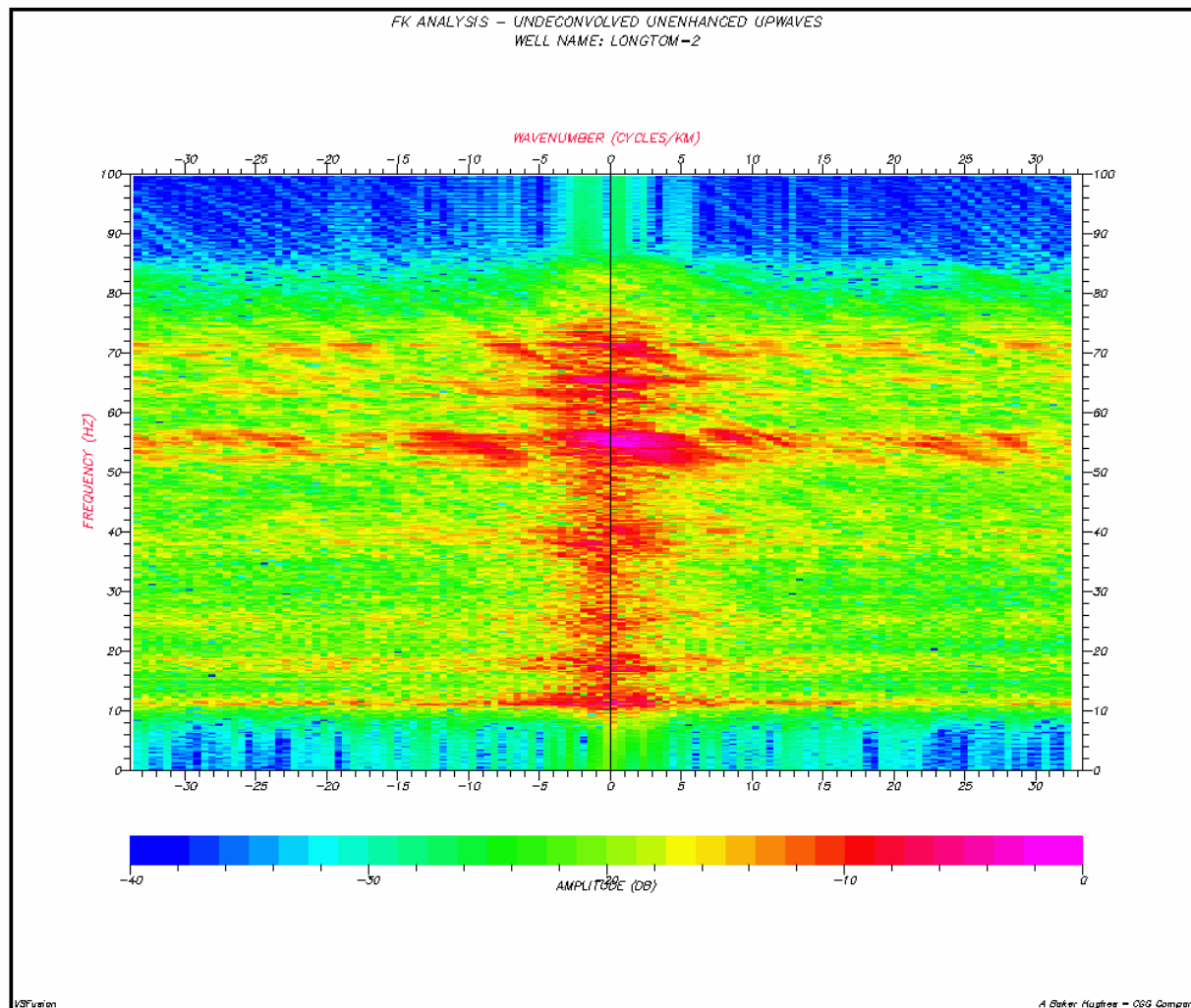
Figure 4. FK ANALYSIS – DECONVOLVED UNENHANCED UPWAVES

Figure 5. **Peak Amplitude**
Well Name: Longtom-2

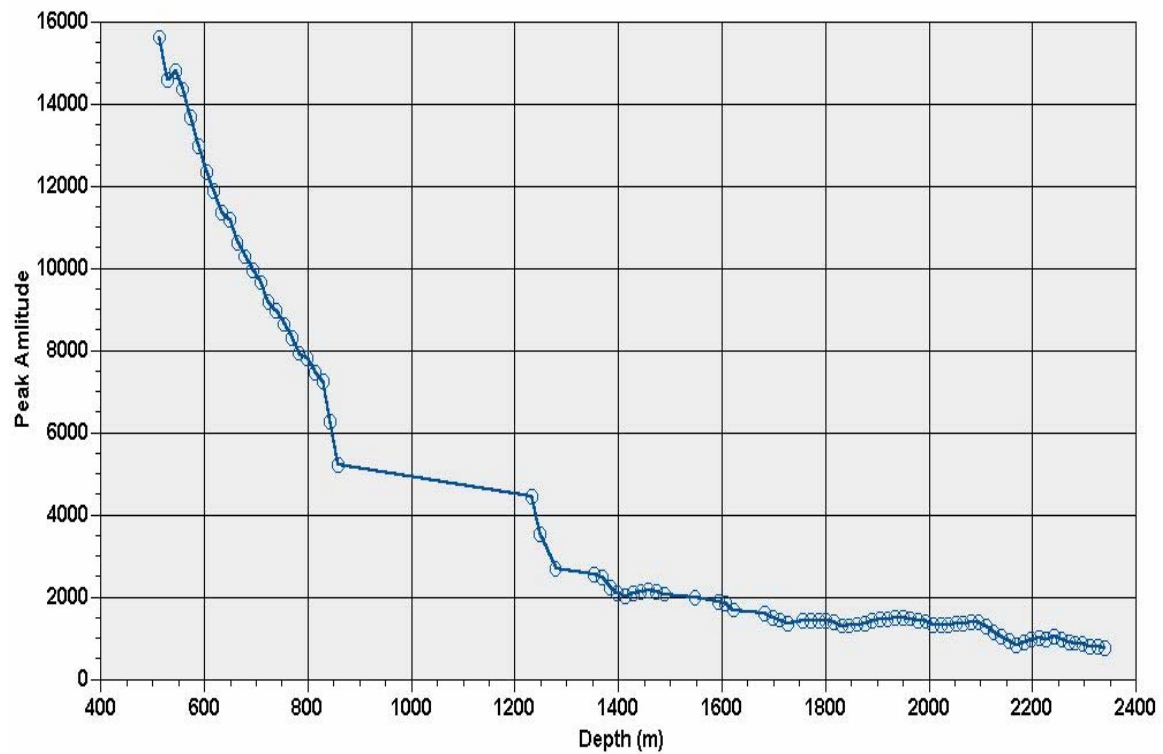


Figure 6. **Average Frequency**
Well Name: Longtom-2

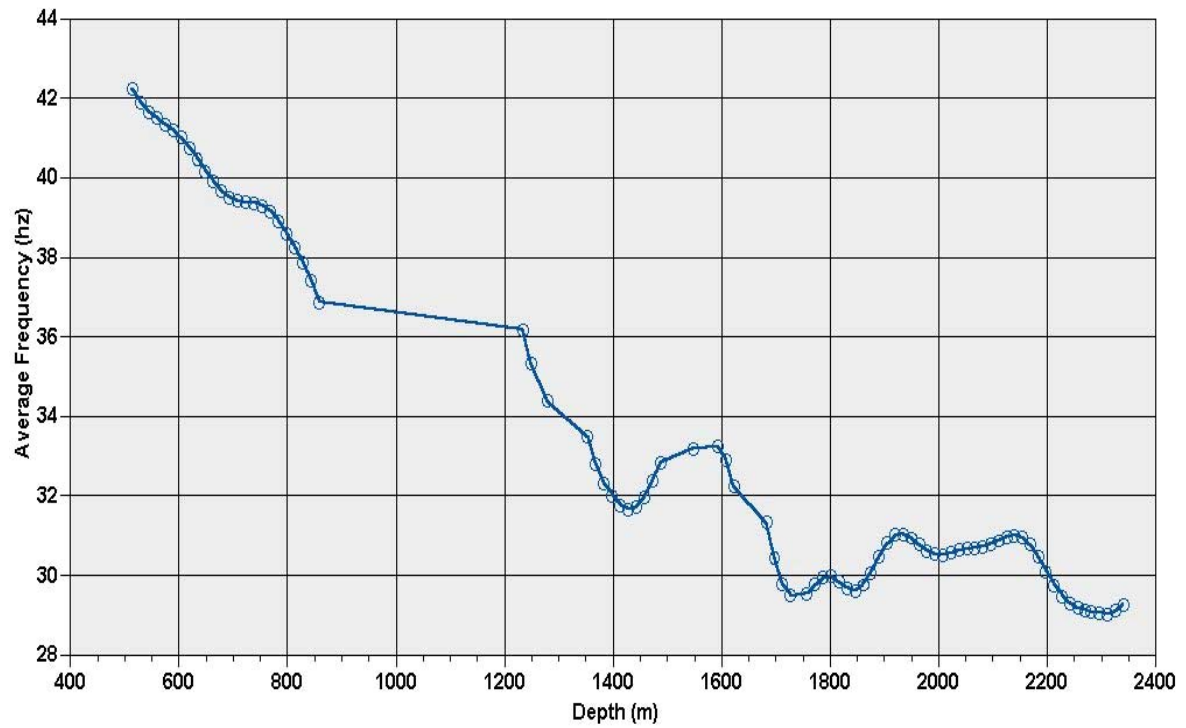


Figure 7. **Spectral Amplitude**
Well Name: Longtom-2

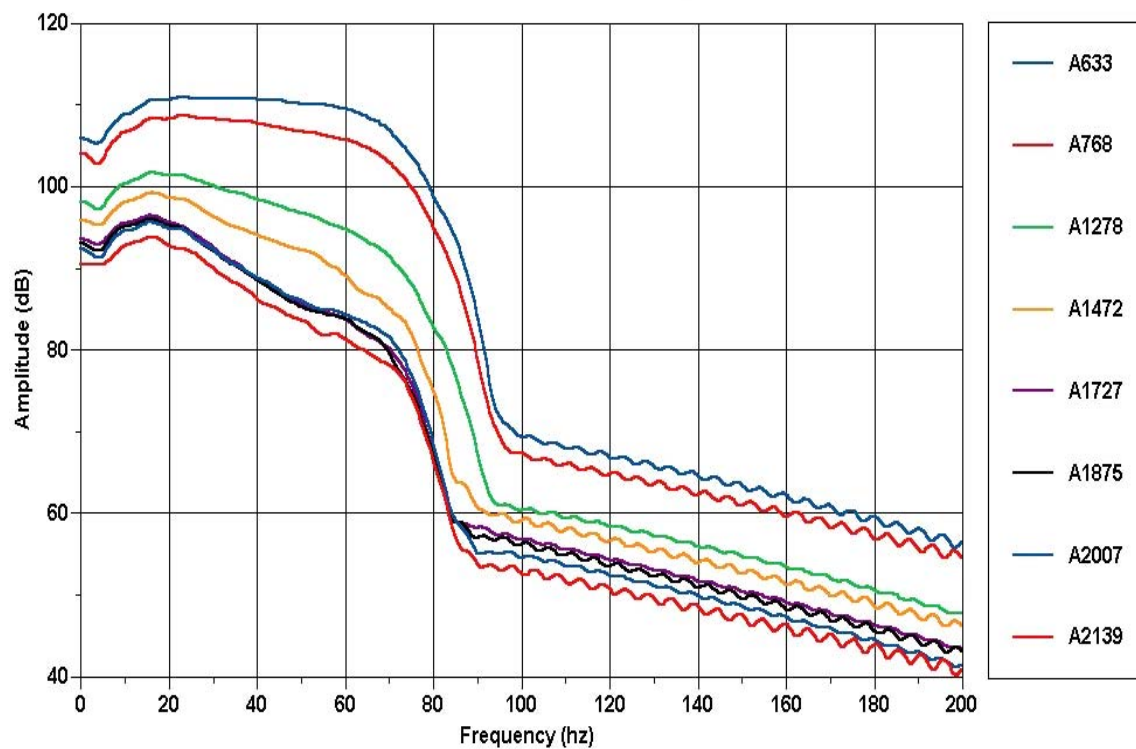


Figure 8. **Spectral Ratio Amplitude**

Well Name: Longtom-2

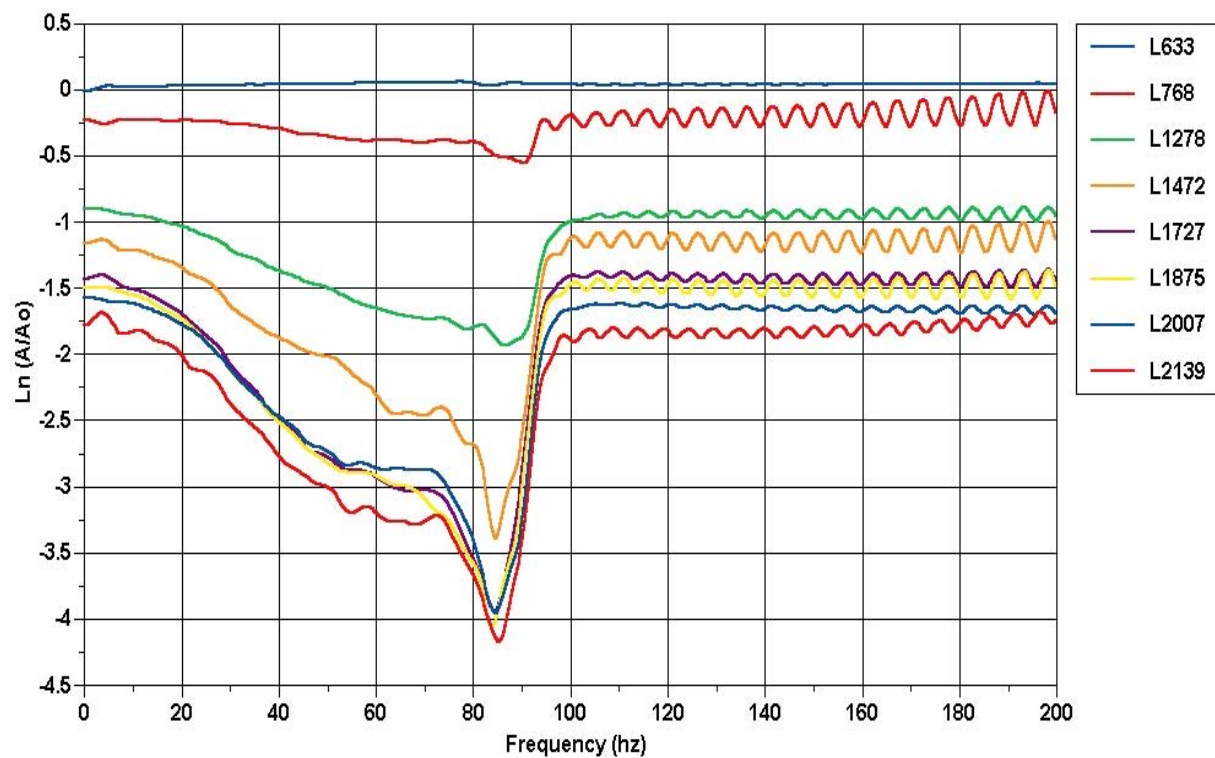


Figure 9.

Attenuation Slope

Well Name: Longtom-2

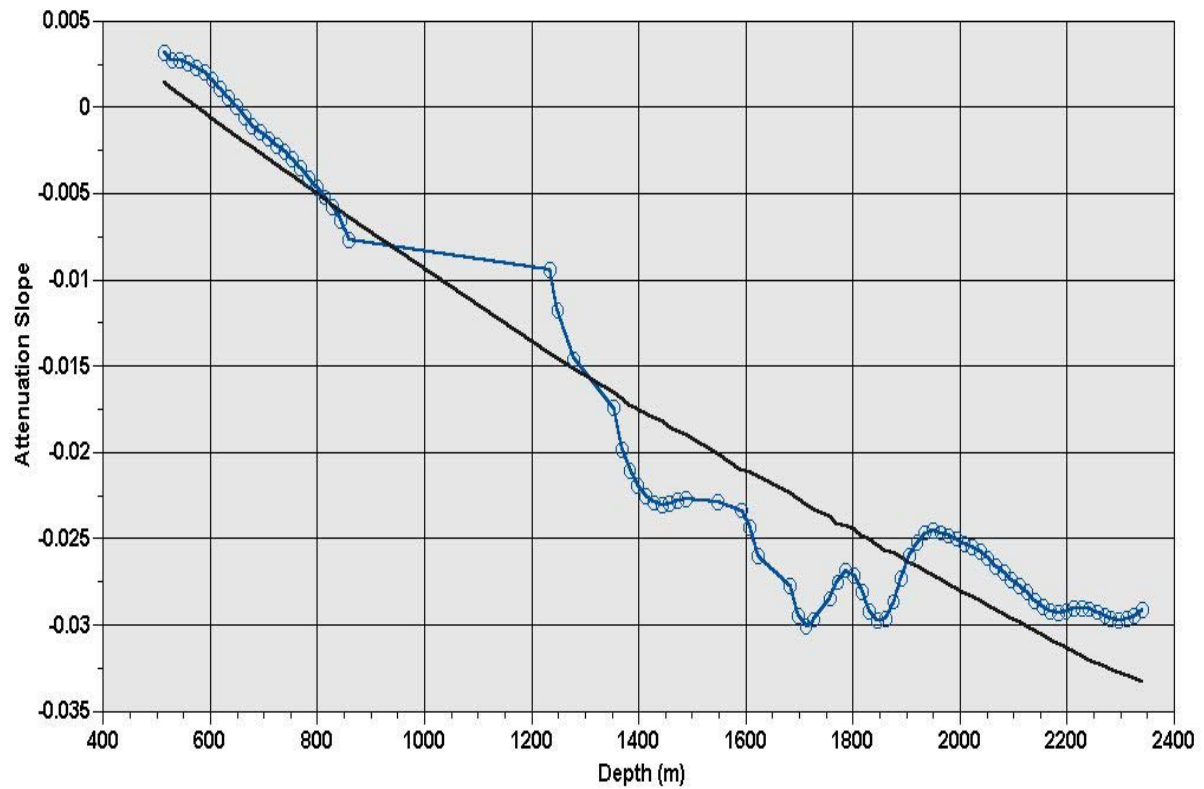


Figure 10. Intercept

Well Name: Longtom-2

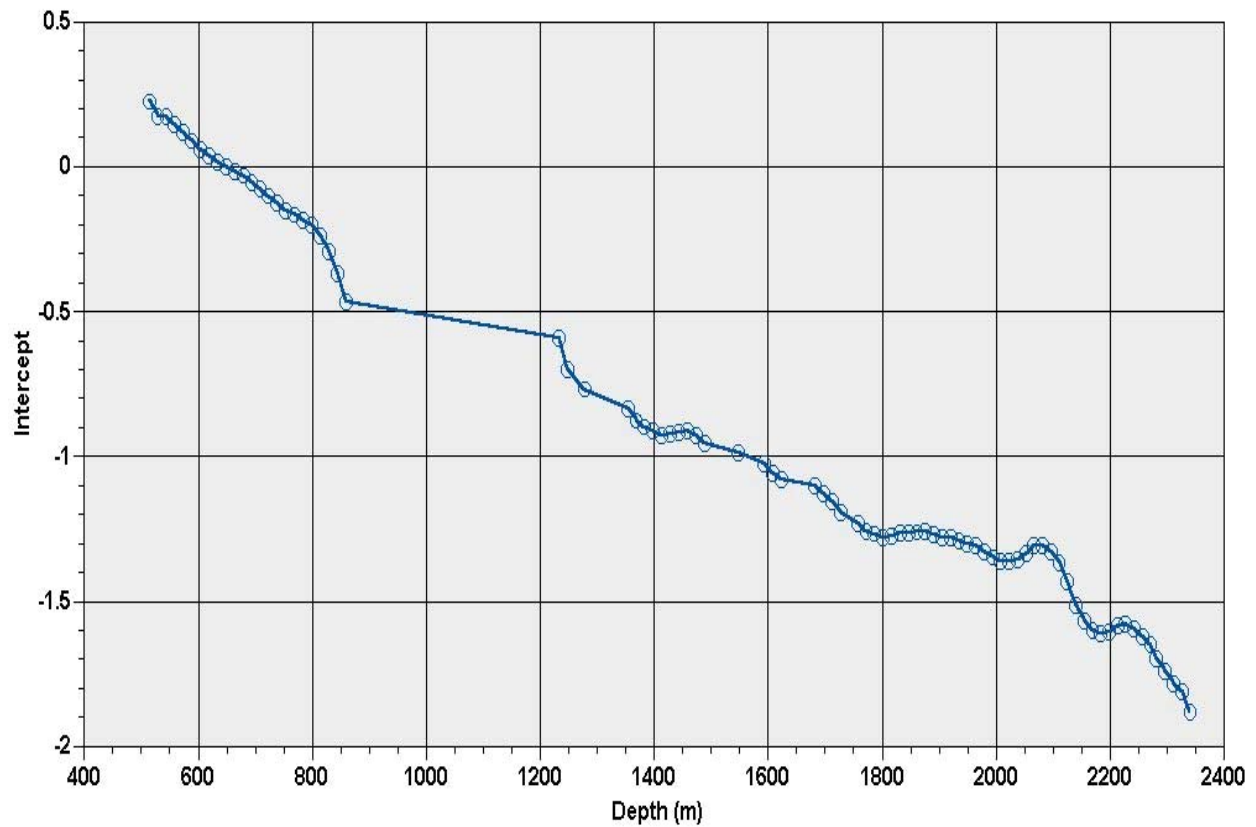


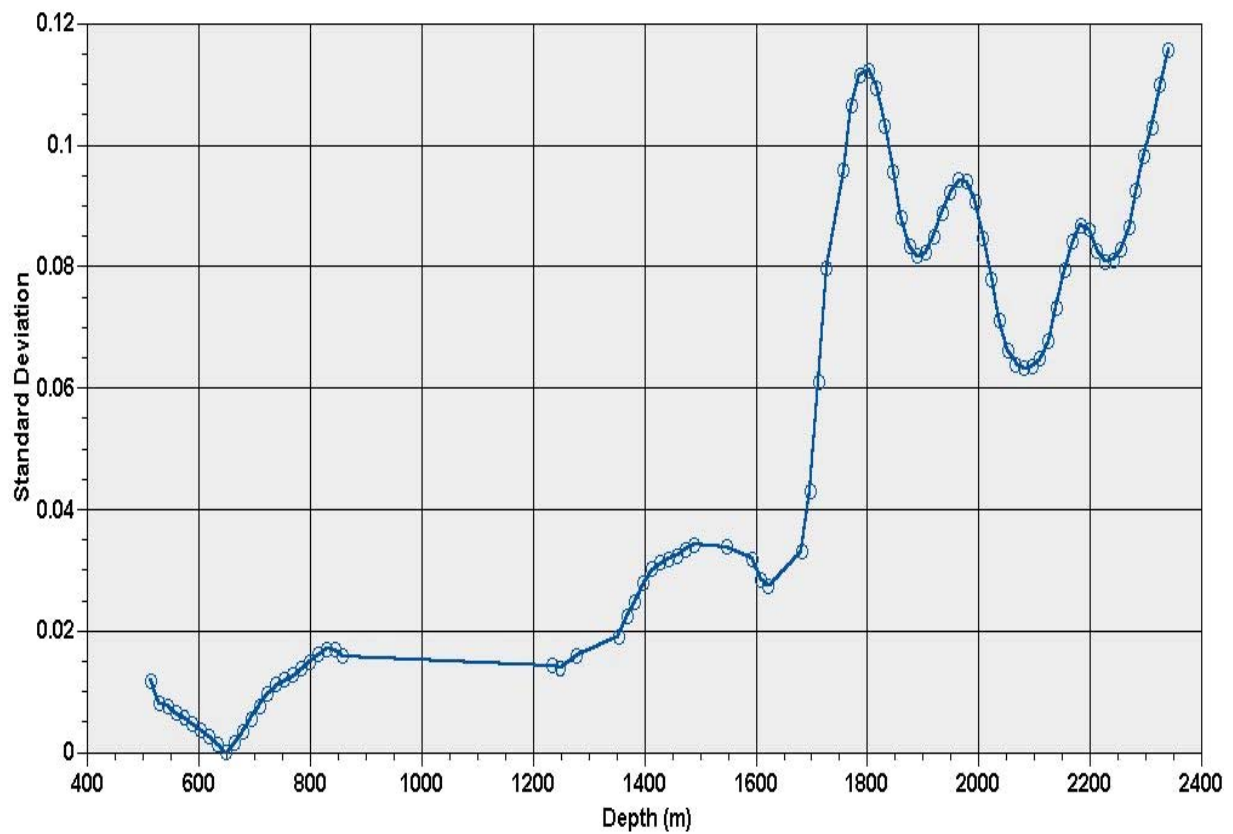
Figure 11. Standard Deviation**Well Name: Longtom-2**

Figure 12.

Error in Qumulative Q

Well Name: Longtom-2

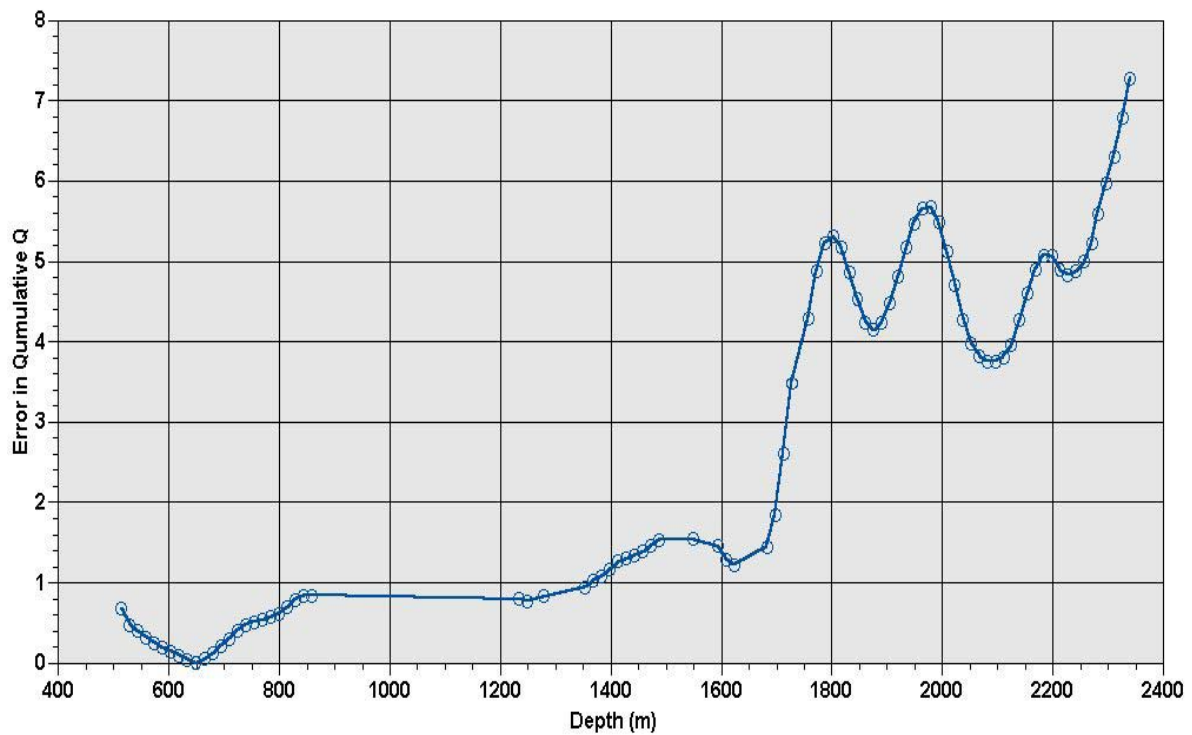


Figure 13.

Q Factor

Well Name: Longtom-2

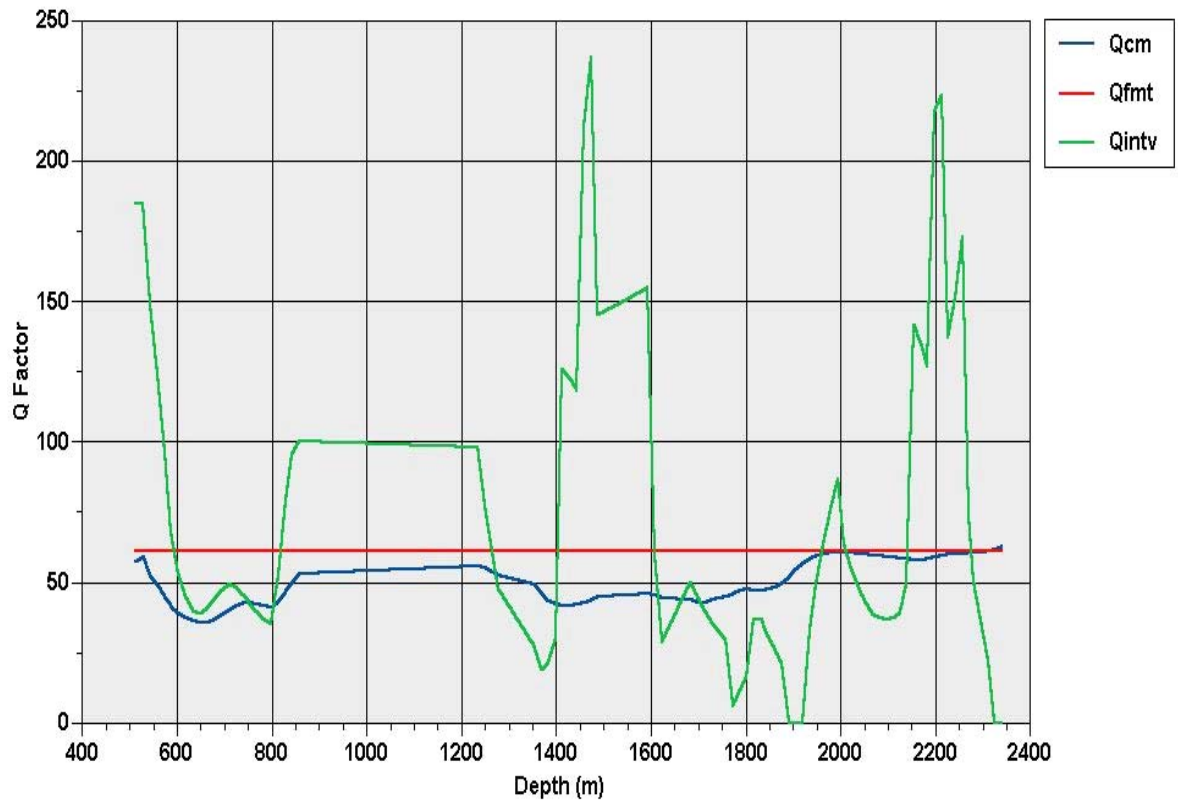
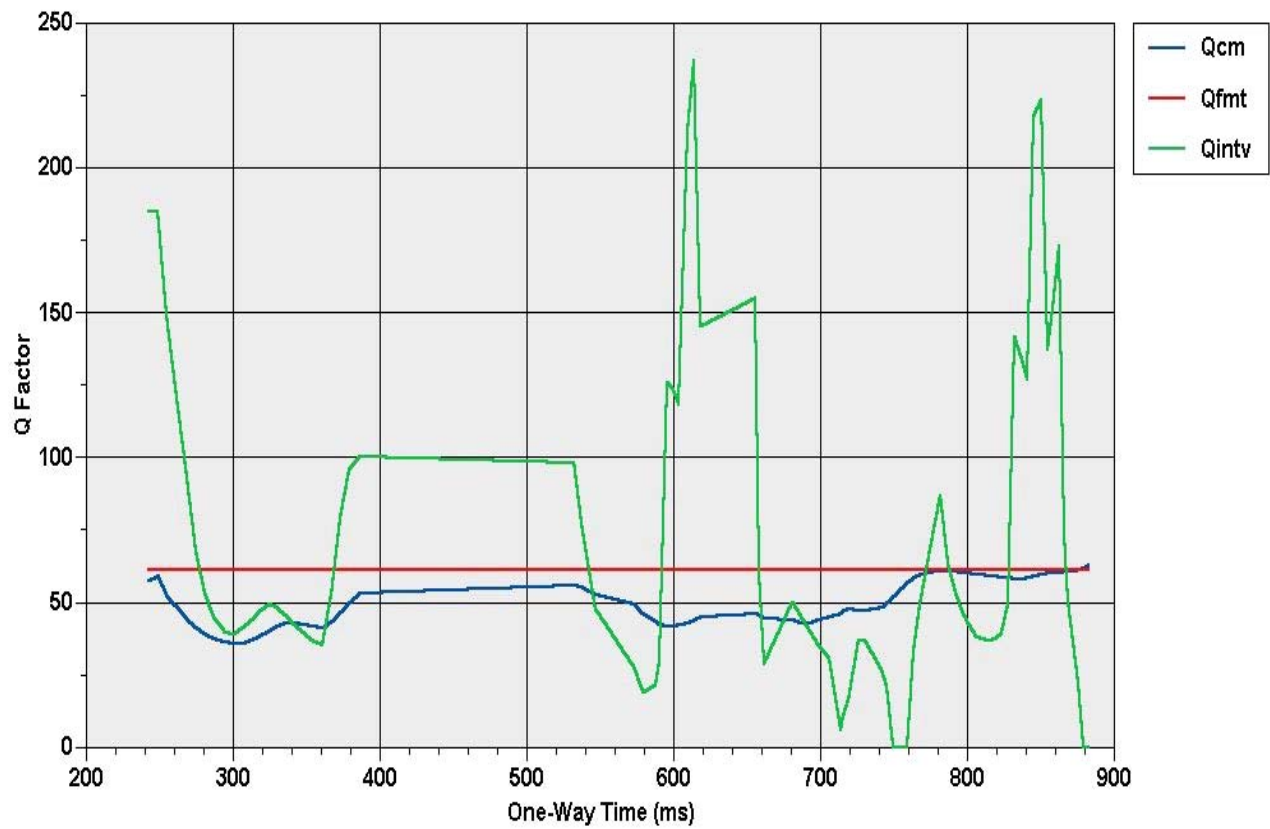


Figure 14.

Q Factor

Well Name: Longtom-2



ENCLOSURE 1A

BOREHOLE SEISMIC ANALYSIS

FOR

APACHE ENERGY LIMITED

PREPARED BY

BAKER ATLAS

DOWNHOLE SEISMIC SERVICES

WELL : LONGTOM-2
LOCATION : OFFSHORE AUSTRALIA
ENGINEER : B.READ
DATE : THU 25TH NOVEMBER 2004

FIELD ENGINEER'S LOG

SURVEY INFORMATION

CLIENT	APACHE ENERGY LIMITED		
CLIENT REP	J.SONEGO		
WELL NAME	LONGTOM-2		
WELL LOCATION	OFFSHORE AUSTRALIA		
FIELD NAME	EXPLORATION		
RIG NAME	OCEAN PATRIOT		
ENGINEER	B.READ		
TYPE OF SERVICE	ZVSP (MLR)		
WIRELINE CO. AND DISTRICT	BAKER ATLAS, DARWIN		
WIRELINE OPERATOR	UNIT 8677		
RUN NUMBER	1	TOTAL TRIPS THIS RUN	1
WEATHER / SEAS	CLEAR, CALM	SURVEY DATE	THU 25TH NOVEMBER 2004
LINEID	LONGTOM2	FILE NAME :	RAW
		SERVICE ORDER NO.	516565

WELL INFORMATION

WELL HEAD COORDINATES	LAT: 38 DEG 06' 11.89" S LONG:148 DEG 19' 00.92" E		
NORTHING	NOT AVAILABLE	ELEV D.F.	21.5
EASTING	NOT AVAILABLE	OPEN HOLE DIAMETER	8.5 IN
RIG HEADING	46 Deg	MAX. TEMPERATURE	194 F
GROUND ELEVATION	-56.8	FLUID TYPE	KCL POLYMER
WATER DEPTH	56.8	CASING : (DIAMETER / DEPTH)	
WELL T.D.	2421	1	30" 0 - 114 M
REFERENCE DATUM	MEAN SEA LEVEL	2	9 5/8 - 998.0 M
DEVIATED WELL	YES	3	7" 998 - 2419M
MAXIMUM DEVIATION	13.75 DEG @ 2232 M	4	CASED HOLE

DOWNHOLE RECEIVER

RECEIVER TYPE	AWS 1300 GM	ARM LENGTH	STANDARD 6-14"
SENSOR TYPE	GEOPHONE	SENSOR FREQ.	10 HZ
GIMBALLED	YES	GIMBAL TYPE	1025
RCVR SPACING	15 M	ASSET NO RCV-1	166483
ASSET NO. RCV-3	189237	ASSET NO RCV-4	166476
		PREAMP GAIN	51 dB
		ZERO POINT	DRILL FLOOR
		ASSET NO RCV-2	186706
		ASSET NO RCV-5	166202

LOGGING TOOLS USED

1309XA/MLR STRING

--

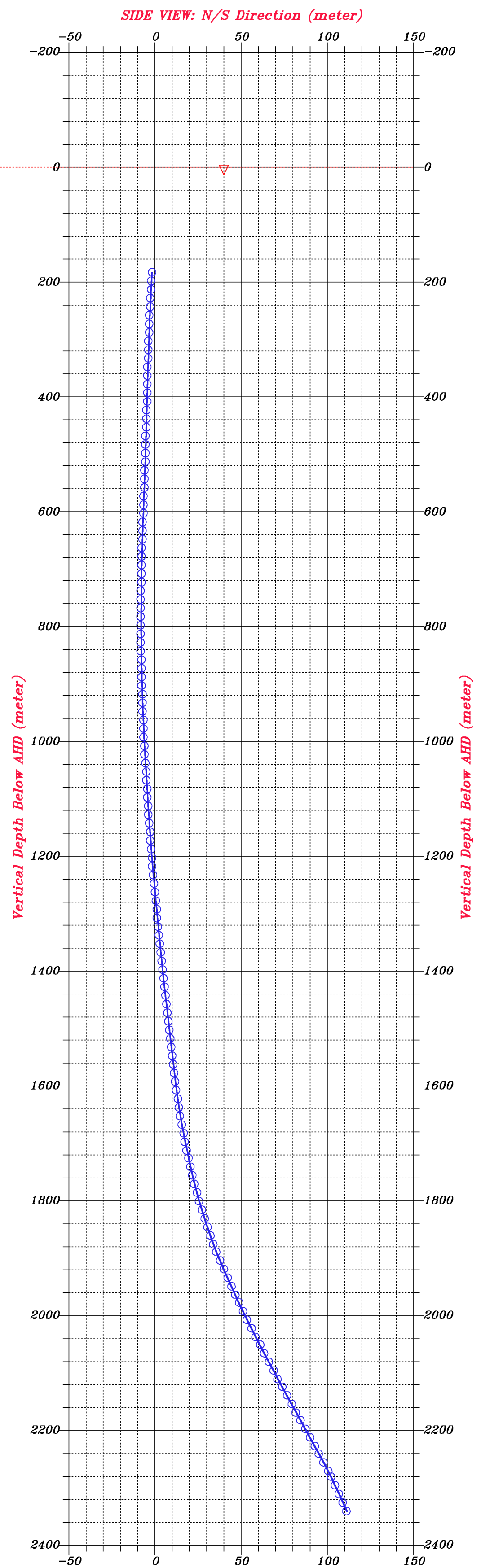
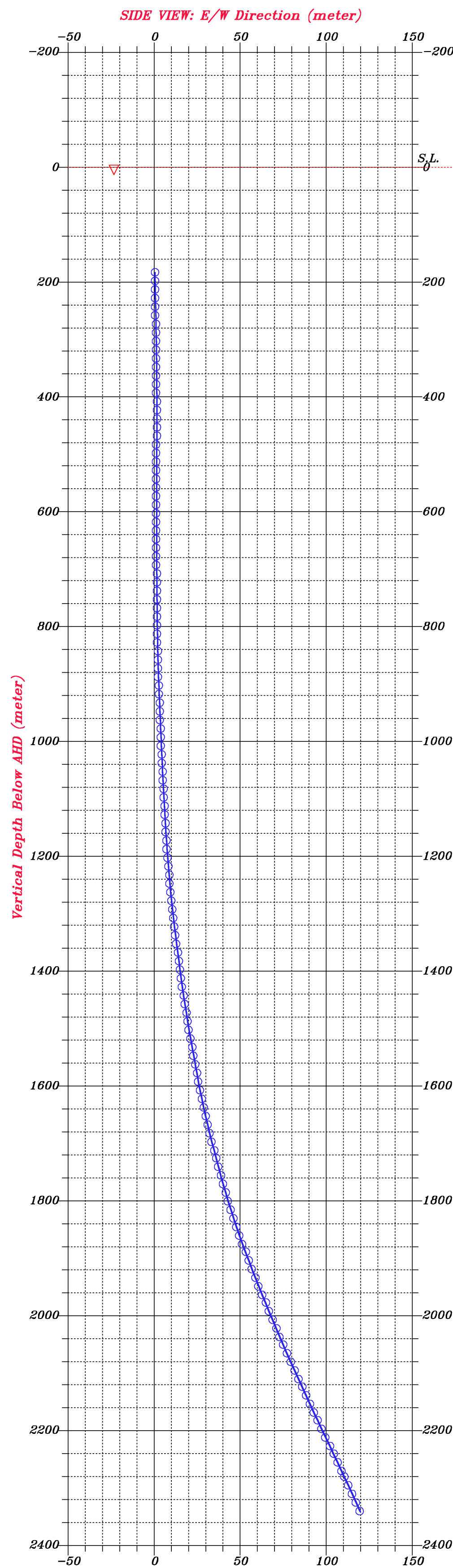
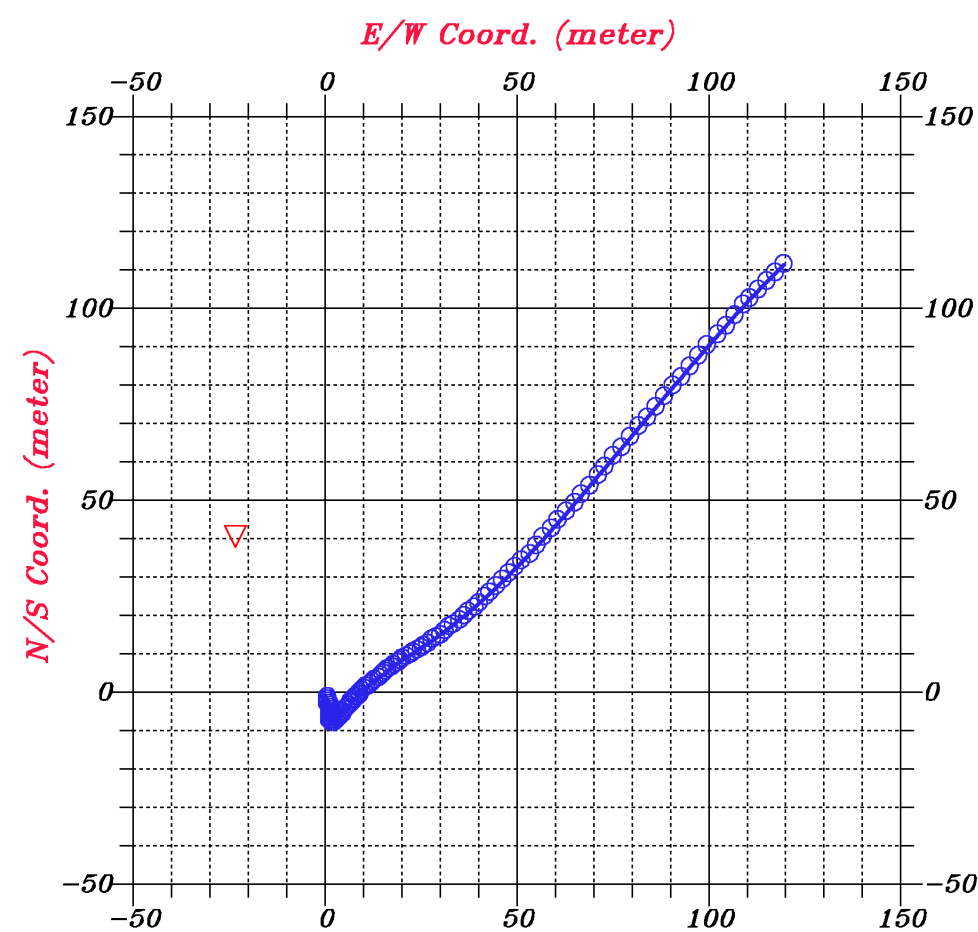
DERRICK FLOOR (DF) ELEVATION 21.5 M ABOVE AHD

SOURCE	
1	1990
2	1990
3	1990
4	1990
5	1990
6	1990
7	1990
8	1990
9	1990
10	1990
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90	1990
91	1990
92	1990
93	1990
94	1990
95	1990
96	1990
97	1990
98	1990
99	1990
100	1990

ENERGY SOURCE SLEEVE GUN

INSTRUMENTS

RECORDING SYSTEM DSS 16CH A/D

[illegible]

FIELD ENGINEER'S LOG

RECORDING SYSTEM

RECORDING UNIT ASSET NUMBER	<u>9700LA 302869</u>		
SURFACE A/D TYPE AND NUMBER	<u>DSS 16CH A/D</u>		
DOWNHOLE A/D TYPE AND ASSET NUMBER	<u>6221XA 189564</u>		
SURFACE A/D TOTAL CHANNELS	<u>8</u>	DOWNHOLE A/D TOTAL CHANNELS	<u>16</u>
FLASK TYPE	<u>HIGH TEMP</u>		
SAMPLE RATE	<u>1 MILLISECOND</u>	RECORD LENGTH	<u>4 SECONDS</u>
SWEEP LENGTH	<u>N/A</u>	TRANSMIT OFFSET	<u>N/A</u>
TIME OF START OF RECORD TO TIME BREAK	<u>100 MSECS</u>		
LOW CUT FILTER	<u>DC (0 Hz)</u>	HIGH CUT FILTER	<u>250 Hz</u>
TAPE TYPE	<u>DAT TAPE</u>	TAPE FORMAT	<u>TAR & SEGY</u>

CHANNELS ASSIGNMENT AND GAIN :

CH 1 <u>V</u>	CH 2 <u>H</u>	CH 3 <u>T</u>
CH 4 <u>V</u>	CH 5 <u>H</u>	CH 6 <u>T</u>
CH 7 <u>V</u>	CH 8 <u>H</u>	CH 9 <u>T</u>
CH 10 <u>V</u>	CH 11 <u>H</u>	CH 12 <u>T</u>
CH 13 <u>V</u>	CH 14 <u>H</u>	CH 15 <u>T</u>
CH 16 <u>N/A</u>	CH 17 <u>N/A</u>	CH 18 <u>N/A</u>
CH 19 <u>N/A</u>	CH 20 <u>SIG</u>	CH 21 <u>N/A</u>
CH 22 <u>N/A</u>	CH 23 <u>N/A</u>	CH 24 <u>N/A</u>
CH 25 <u>N/A</u>	CH 26 <u>N/A</u>	CH 26 <u>N/A</u>
CH 28 <u>N/A</u>	CH 29 <u>N/A</u>	CH 30 <u>N/A</u>
CH 31 <u>N/A</u>	CH 32 <u>N/A</u>	

WIRELINE & WTS PANEL

WIRELINE ASSET NO	<u>9520LA 10103244</u>	WIRELINE TYPE	<u>7H47RTZHS</u>
WIRELINE LENGTH	<u>7740M</u>	WTS TYPE / ASSET NO.	<u>5710XD 172466</u>
TRANSMIT GAIN	<u>42</u>	MODE 2 GAIN 1	<u>10</u>
MODE 2 EQN. 1	<u>66</u>	MODE 2 GAIN 2	<u>50</u>
MODE 5 GAIN 1	<u>9</u>	MODE 2 EQN. 3	<u>OUT</u>
		MODE 5 EQN. 1	<u>60</u>
		MODE 5 EQN. 2	

INTERCONNECTS

SPACING DISTANCE	<u>15 M</u>	ASSET NO. INC-1	<u>190274</u>	ASSET NO. INC-2	<u>190275</u>
ASSET NO. INC-3	<u>152532</u>	ASSET NO. INC-4	<u>186728</u>	ASSET NO. INC-5	<u>190271</u>

SPECIAL FEATURES



SEISMIC DATUM : MEAN SEA LEVEL CORRECTION VELOCITY 1500 M/SEC

LOGS AVAILABLE ON SITE :

(N)	PRIORITY
(N)	CALIBRATION
(N)	SYNTHETIC
(Y)	VSP
(Y)	VELOCITY
(N)	INVERSION
(N)	OFFSET VSP
(N)	WALKWAY
(N)	PROXIMITY
(N)	NORMAL INCIDENCE
(N)	3 COMPONENTS
(N)	3D
(N)	NAVIGATION
(N)	GYRO

GUN TO HYDROPHONE CORRECTION 1.3 MSECS

HYDROPHONE DELAY = 0.0 MSECS

ZVSP AT 15 M INTERVALS FROM TD (2365M) TO TOP OF CEMENT AT

AND TOP OF LINER AT 1000M TO LOSS OF SIGNAL AT

GR CORRELATION WAS -2 M AT A DEPTH OF 2100 M

A TOTAL OF 145 LEVELS PLUS THREE CHECKSHOTS WERE TAKEN

DATA VERY POOR BETWEEN 1255 AND 845M DUE TO LACK OF CEMENT

[illegible]

AIRGUN SURVEY

OFFSET NO. 1

DISTANCE FROM WELL	46.3 M
AZIMUTH FROM WELL	330 Deg
ELEVATION FROM MSL	-5 M
GUN ARRAY TYPE	SLEEVE GUN
GUN CONTROLLER	GCU-4 6001LA 123483
WATER DEPTH	56.8 M
GUN DEPTH	5 M
NUMBER OF GUNS	4
GUN SEPERATION	1 M
GUN VOLUMES	4 X 150 CU IN
GUN UNIT NO.	127901, 127895, 011700, 011702
PIT DIMENSION (L,W,D)	OPEN SEA

OFFSET NO. 2

DISTANCE FROM WELL	N/A
AZIMUTH FROM WELL	N/A
ELEVATION FROM MSL	N/A
GUN ARRAY TYPE	N/A
GUN CONTROLLER	N/A
WATER DEPTH	N/A
GUN DEPTH	N/A
NUMBER OF GUNS	N/A
GUN SEPERATION	N/A
GUN VOLUMES	N/A
GUN UNIT NO.	N/A
PIT DIMENSION (L,W,D)	N/A

COMPRESSORS

TYPE & S/N :	RUCKER SYSTEM
FIRING PRESSURE	1800 PSI

COMPRESSORS

TYPE & S/N :	N/A
FIRING PRESSURE	N/A

REFERENCE PHONE

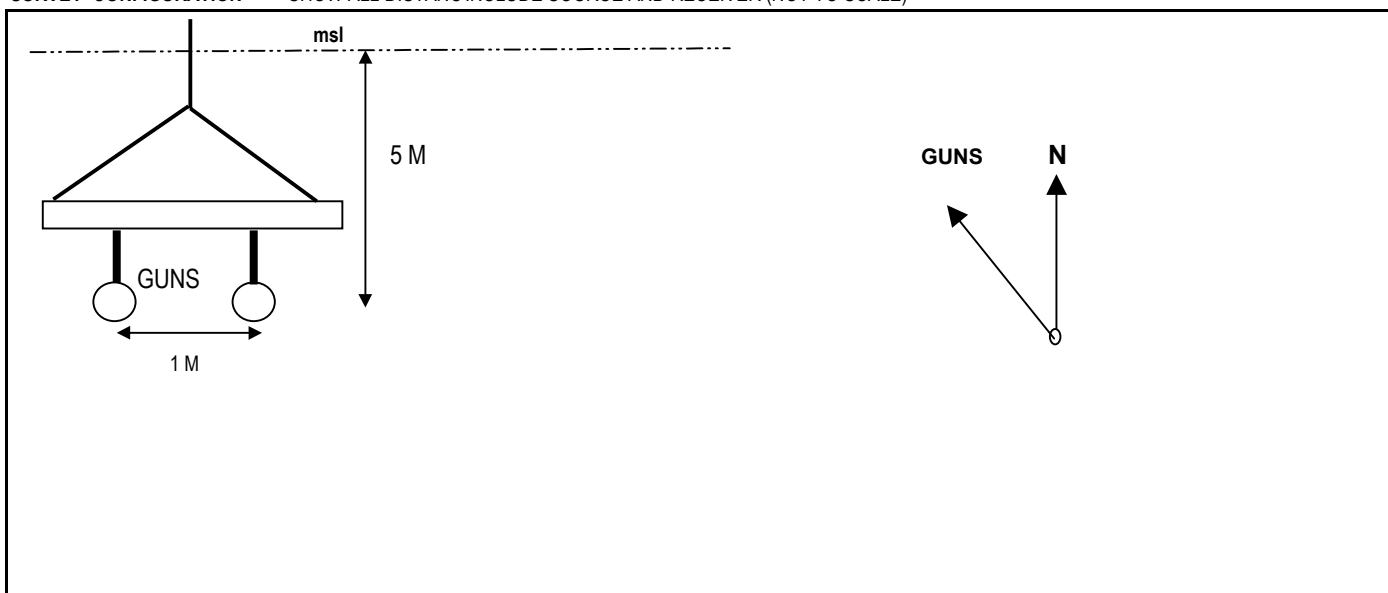
TYPE	MP8-D HYDROPHONE
DISTANCE TO SOURCE	2 M
DIRECTION TO SOURCE	DIRECTLY BELOW
DEPTH	7 M
FREQ.	15 Hz

REFERENCE PHONE

TYPE	N/A
DISTANCE TO SOURCE	N/A
DIRECTION TO SOURCE	N/A
DEPTH	N/A
FREQ.	N/A

SURVEY CONFIGURATION

SHOW ALL DISTANC INCLUDE SOURCE AND RECEIVER (NOT TO SCALE)



TOOL STATIONS

Baker Atlas

CLIENT APACHE ENERGY LIMITED
SOURCE 4 x 150 cu in Sleeve Gun

WELL NAME LONGTOM-2
ENGINEER B.READ

SERVICE ZVSP (MLR)
DATE THU 25TH NOVEMBER 2004

LEVEL NO	TOOL STATION DEPTH	FILE NUMBER	STATION NO.	TOOL NO	VERTICAL CHAN TIME PICK (MSEC)	TIME AT COMPLETION OF LEVEL	CABLE SLACK	PRE-AMP GAIN	REMARKS (COMMENTS, UH TIME, CHARGE TYPE, DEPTH, ETC)
1	880	1 -- 14	1	5	368.0	Thu 19:07 25/11 2004	0	0	
2	865	1 -- 14	1	4	705.0	Thu 19:07 25/11 2004	0	0	
3	850	1 -- 14	1	3	1071.0	Thu 19:07 25/11 2004	0	0	
4	835	1 -- 14	1	2	85.0	Thu 19:07 25/11 2004	0	0	
5	820	1 -- 14	1	1	1422.0	Thu 19:07 25/11 2004	0	0	Sig Ch Pick = 93.0 ms.gun timing
6	880	15 -- 17	2	5	384.0	Thu 19:17 25/11 2004	0	0	top of 7" liner - ringy trace
7	865	15 -- 17	2	4	375.0	Thu 19:30 25/11 2004	0	0	
8	850	15 -- 17	2	3	369.0	Thu 19:30 25/11 2004	0	0	
9	835	15 -- 17	2	2	363.0	Thu 19:17 25/11 2004	0	0	
10	820	15 -- 17	2	1	358.0	Thu 19:17 25/11 2004	0	0	Sig Ch Pick = 100.0 ms.1st checkshot
11	1405	18 -- 20	3	5	580.0	Thu 19:17 25/11 2004	0	0	
12	1390	18 -- 20	3	4	572.0	Thu 19:30 25/11 2004	0	0	
13	1375	18 -- 20	3	3	569.0	Thu 19:30 25/11 2004	0	0	2nd checkshot
14	1360	18 -- 20	3	2	559.0	Thu 19:30 25/11 2004	0	0	
15	1345	18 -- 20	3	1	555.0	Thu 19:30 25/11 2004	0	0	Sig Ch Pick = 100.0 ms.
16	2080	21 -- 23	4	5	795.0	Thu 19:30 25/11 2004	0	0	
17	2065	21 -- 23	4	4	790.0	Thu 19:45 25/11 2004	0	0	
18	2050	21 -- 23	4	3	786.0	Thu 19:45 25/11 2004	0	0	
19	2035	21 -- 23	4	2	782.0	Thu 19:45 25/11 2004	0	0	
20	2020	21 -- 23	4	1	776.0	Thu 19:45 25/11 2004	0	0	Sig Ch Pick = 100.0 ms.
21	2376	24 -- 35	5	5	877.0	Thu 20:24 25/11 2004	0	0	kill files 24 25 26 27 28 29 30.
22	2361	24 -- 35	5	4	874.0	Thu 20:24 25/11 2004	0	0	kill files 24 25 26 27 28 29 30.
23	2346	24 -- 35	5	3	870.0	Thu 20:24 25/11 2004	0	0	kill files 24 25 26 27 28 29 30.
24	2331	24 -- 35	5	2	867.0	Thu 20:24 25/11 2004	0	0	kill files 24 25 26 27 28 29 30.
25	2316	24 -- 35	5	1	863.0	Thu 20:24 25/11 2004	0	0	Sig Ch Pick = 98.9 ms. kill files 24 25 26 27 28 29 30.
26	2305	36 -- 41	6	5	862.0	Thu 20:31 25/11 2004	0	0	kill file 39.
27	2290	36 -- 41	6	4	857.0	Thu 20:31 25/11 2004	0	0	kill file 39.
28	2275	36 -- 41	6	3	853.0	Thu 20:31 25/11 2004	0	0	kill file 39.
29	2260	36 -- 41	6	2	849.0	Thu 20:31 25/11 2004	0	0	kill file 39.
30	2245	36 -- 41	6	1	846.0	Thu 20:31 25/11 2004	0	0	Sig Ch Pick = 99.0 ms. kill file 39.
31	2230	42 -- 52	7	5	841.0	Thu 20:42 25/11 2004	0	0	kill files 42 43 44 45 46 47.
32	2215	42 -- 52	7	4	837.0	Thu 20:42 25/11 2004	0	0	kill files 42 43 44 45 46 47.
33	2200	42 -- 52	7	3	833.0	Thu 20:42 25/11 2004	0	0	kill files 42 43 44 45 46 47.
34	2185	42 -- 52	7	2	829.0	Thu 20:42 25/11 2004	0	0	kill files 42 43 44 45 46 47.
35	2170	42 -- 52	7	1	824.0	Thu 20:42 25/11 2004	0	0	Sig Ch Pick = 100.0 ms. kill files 42 43 44 45 46 47.
36	2155	53 -- 57	8	5	820.0	Thu 20:48 25/11 2004	0	0	
37	2140	53 -- 57	8	4	816.0	Thu 20:48 25/11 2004	0	0	

TOOL STATIONS

Baker Atlas

CLIENT APACHE ENERGY LIMITED
SOURCE 4 x 150 cu in Sleeve Gun

WELL NAME LONGTOM-2
ENGINEER B.READ

SERVICE ZVSP (MLR)
DATE THU 25TH NOVEMBER 2004

LEVEL NO	TOOL STATION DEPTH	FILE NUMBER	STATION NO.	TOOL NO	VERTICAL CHAN TIME PICK (MSEC)	TIME AT COMPLETION OF LEVEL	CABLE SLACK	PRE-AMP GAIN	REMARKS (COMMENTS, UH TIME, CHARGE TYPE, DEPTH, ETC)
38	2125	53 -- 57	8	3	811.0	Thu 20:48 25/11 2004	0	0	
39	2110	53 -- 57	8	2	806.0	Thu 20:48 25/11 2004	0	0	
40	2095	53 -- 57	8	1	801.0	Thu 20:48 25/11 2004	0	0	Sig Ch Pick = 100.0 ms.
41	2080	58 -- 62	9	5	797.0	Thu 20:54 25/11 2004	0	0	
42	2065	58 -- 62	9	4	791.0	Thu 20:54 25/11 2004	0	0	
43	2050	58 -- 62	9	3	787.0	Thu 20:54 25/11 2004	0	0	
44	2035	58 -- 62	9	2	782.0	Thu 20:54 25/11 2004	0	0	
45	2020	58 -- 62	9	1	777.0	Thu 20:54 25/11 2004	0	0	Sig Ch Pick = 100.5 ms.
46	2005	63 -- 67	10	5	772.0	Thu 21:00 25/11 2004	0	0	
47	1990	63 -- 67	10	4	768.0	Thu 21:00 25/11 2004	0	0	
48	1975	63 -- 67	10	3	763.0	Thu 21:00 25/11 2004	0	0	
49	1960	63 -- 67	10	2	761.0	Thu 21:00 25/11 2004	0	0	
50	1945	63 -- 67	10	1	754.0	Thu 21:00 25/11 2004	0	0	Sig Ch Pick = 100.0 ms.
51	1930	68 -- 72	11	5	750.0	Thu 21:05 25/11 2004	0	0	
52	1915	68 -- 72	11	4	743.0	Thu 21:05 25/11 2004	0	0	
53	1900	68 -- 72	11	3	740.0	Thu 21:05 25/11 2004	0	0	
54	1885	68 -- 72	11	2	735.0	Thu 21:05 25/11 2004	0	0	
55	1870	68 -- 72	11	1	731.0	Thu 21:05 25/11 2004	0	0	Sig Ch Pick = 100.0 ms.
56	1855	73 -- 77	12	5	724.0	Thu 21:12 25/11 2004	0	0	
57	1840	73 -- 77	12	4	718.0	Thu 21:12 25/11 0	0	0	
58	1825	73 -- 77	12	3	715.0	Thu 21:12 25/11 2004	0	0	
59	1810	73 -- 77	12	2	713.0	Thu 21:12 25/11 0	0	0	
60	1795	73 -- 77	12	1	705.0	Thu 21:12 25/11 2004	0	0	Sig Ch Pick = 100.0 ms.
61	1780	78 -- 82	13	5	702.0	Thu 21:17 25/11 2004	0	0	
62	1765	78 -- 82	13	4	698.0	Thu 21:17 25/11 2004	0	0	
63	1750	78 -- 82	13	3	692.0	Thu 21:17 25/11 2004	0	0	
64	1735	78 -- 82	13	2	687.0	Thu 21:17 25/11 2004	0	0	
65	1720	78 -- 82	13	1	682.0	Thu 21:17 25/11 2004	0	0	Sig Ch Pick = 100.0 ms.
66	1705	83 -- 87	14	5	678.0	Thu 21:24 25/11 2004	0	0	
67	1690	83 -- 87	14	4	668.0	Thu 21:24 25/11 2004	0	0	
68	1675	83 -- 87	14	3	665.0	Thu 21:24 25/11 2004	0	0	
69	1660	83 -- 87	14	2	664.0	Thu 21:24 25/11 2004	0	0	
70	1645	83 -- 87	14	1	657.0	Thu 21:24 25/11 2004	0	0	Sig Ch Pick = 100.0 ms.
71	1630	88 -- 92	15	5	652.0	Thu 21:32 25/11 2004	0	0	
72	1615	88 -- 92	15	4	647.0	Thu 21:32 25/11 2004	0	0	
73	1600	88 -- 92	15	3	642.0	Thu 21:32 25/11 2004	0	0	

TOOL STATIONS

Baker Atlas

CLIENT APACHE ENERGY LIMITED
SOURCE 4 x 150 cu in Sleeve Gun

WELL NAME LONGTOM-2
ENGINEER B.READ

SERVICE ZVSP (MLR)
DATE THU 25TH NOVEMBER 2004

LEVEL NO	TOOL STATION DEPTH	FILE NUMBER	STATION NO.	TOOL NO	VERTICAL CHAN TIME PICK (MSEC)	TIME AT COMPLETION OF LEVEL	CABLE SLACK	PRE-AMP GAIN	REMARKS (COMMENTS, UH TIME, CHARGE TYPE, DEPTH, ETC)
74	1585	88 -- 92	15	2	638.0	Thu 21:32 25/11 2004	0	0	
75	1570	88 -- 92	15	1	629.0	Thu 21:32 25/11 2004	0	0	Sig Ch Pick = 100.0 ms.
76	1555	93 -- 97	16	5	624.0	Thu 21:38 25/11 2004	0	0	
77	1540	93 -- 97	16	4	621.0	Thu 21:38 25/11 2004	0	0	
78	1525	93 -- 97	16	3	617.0	Thu 21:38 25/11 2004	0	0	
79	1510	93 -- 97	16	2	615.0	Thu 21:38 25/11 2004	0	0	
80	1495	93 -- 97	16	1	611.0	Thu 21:38 25/11 2004	0	0	Sig Ch Pick = 100.0 ms.
81	1480	98 -- 102	17	5	605.0	Thu 21:43 25/11 2004	0	0	
82	1465	98 -- 102	17	4	600.0	Thu 21:43 25/11 2004	0	0	
83	1450	98 -- 102	17	3	594.0	Thu 21:43 25/11 2004	0	0	
84	1435	98 -- 102	17	2	588.0	Thu 21:43 25/11 2004	0	0	
85	1420	98 -- 102	17	1	582.0	Thu 21:43 25/11 2004	0	0	Sig Ch Pick = 100.0 ms.
86	1405	103 -- 107	18	5	577.0	Thu 21:49 25/11 2004	0	0	
87	1390	103 -- 107	18	4	574.0	Thu 21:49 25/11 2004	0	0	
88	1375	103 -- 107	18	3	570.0	Thu 21:49 25/11 2004	0	0	
89	1360	103 -- 107	18	2	563.0	Thu 21:49 25/11 2004	0	0	
90	1345	103 -- 107	18	1	560.0	Thu 21:49 25/11 2004	0	0	Sig Ch Pick = 100.0 ms.
91	1330	108 -- 112	19	5	553.0	Thu 21:56 25/11 2004	0	0	
92	1315	108 -- 112	19	4	549.0	Thu 21:56 25/11 2004	0	0	
93	1300	108 -- 112	19	3	545.0	Thu 21:56 25/11 2004	0	0	
94	1285	108 -- 112	19	2	536.0	Thu 21:56 25/11 2004	0	0	
95	1270	108 -- 112	19	1	534.0	Thu 21:56 25/11 2004	0	0	Sig Ch Pick = 100.0 ms.
96	1255	113 -- 118	20	5	526.0	Thu 22:03 25/11 2004	0	0	kill file 115.
97	1240	113 -- 118	20	4	526.0	Thu 22:03 25/11 2004	0	0	kill file 115.
98	1225	113 -- 118	20	3	512.0	Thu 22:03 25/11 2004	0	0	kill file 115.
99	1210	113 -- 118	20	2	502.0	Thu 22:03 25/11 2004	0	0	kill file 115.
100	1195	113 -- 118	20	1	495.0	Thu 22:03 25/11 2004	0	0	Sig Ch Pick = 100.0 ms. kill file 115.
101	1180	119 -- 123	21	5	495.0	Thu 22:09 25/11 2004	0	0	
102	1165	119 -- 123	21	4	493.0	Thu 22:09 25/11 2004	0	0	
103	1150	119 -- 123	21	3	491.0	Thu 22:09 25/11 2004	0	0	
104	1135	119 -- 123	21	2	461.0	Thu 22:09 25/11 2004	0	0	
105	1120	119 -- 123	21	1	472.0	Thu 22:09 25/11 2004	0	0	Sig Ch Pick = 100.0 ms.
106	1105	124 -- 128	22	5	471.0	Thu 22:14 25/11 2004	0	0	
107	1090	124 -- 128	22	4	463.0	Thu 22:20 25/11 2004	0	0	
108	1075	124 -- 128	22	3	459.0	Thu 22:20 25/11 2004	0	0	
109	1060	124 -- 128	22	2	455.0	Thu 22:14 25/11 2004	0	0	

TOOL STATIONS

Baker Atlas

CLIENT APACHE ENERGY LIMITED
SOURCE 4 x 150 cu in Sleeve Gun

WELL NAME LONGTOM-2
ENGINEER B.READ

SERVICE ZVSP (MLR)
DATE THU 25TH NOVEMBER 2004

LEVEL NO	TOOL STATION DEPTH	FILE NUMBER	STATION NO.	TOOL NO	VERTICAL CHAN TIME PICK (MSEC)	TIME AT COMPLETION OF LEVEL	CABLE SLACK	PRE-AMP GAIN	REMARKS (COMMENTS, UH TIME, CHARGE TYPE, DEPTH, ETC)
110	1045	124 -- 128	22	1	452.0	Thu 22:14 25/11 2004	0	0	Sig Ch Pick = 100.0 ms.
111	1030	129 -- 133	23	5	441.0	Thu 22:14 25/11 2004	0	0	
112	1015	129 -- 133	23	4	429.0	Thu 22:20 25/11 2004	0	0	
113	1000	129 -- 133	23	3	425.0	Thu 22:20 25/11 2004	0	0	
114	985	129 -- 133	23	2	422.0	Thu 22:20 25/11 2004	0	0	
115	970	129 -- 133	23	1	413.0	Thu 22:20 25/11 2004	0	0	Sig Ch Pick = 100.0 ms.
116	955	134 -- 138	24	5	405.0	Thu 22:20 25/11 2004	0	0	
117	940	134 -- 138	24	4	399.0	Thu 22:26 25/11 2004	0	0	
118	925	134 -- 138	24	3	395.0	Thu 22:26 25/11 2004	0	0	
119	910	134 -- 138	24	2	393.0	Thu 22:26 25/11 2004	0	0	
120	895	134 -- 138	24	1	389.0	Thu 22:26 25/11 2004	0	0	Sig Ch Pick = 100.0 ms.
121	880	139 -- 145	25	5	385.0	Thu 22:36 25/11 2004	0	0	kill file 139.
122	865	139 -- 145	25	4	379.0	Thu 22:36 25/11 2004	0	0	kill file 139.
123	850	139 -- 145	25	3	373.0	Thu 22:36 25/11 2004	0	0	kill file 139.
124	835	139 -- 145	25	2	366.0	Thu 22:36 25/11 2004	0	0	kill file 139.
125	820	139 -- 145	25	1	360.0	Thu 22:36 25/11 2004	0	0	Sig Ch Pick = 100.0 ms. kill file 139.
126	805	146 -- 150	26	5	354.0	Thu 22:43 25/11 2004	0	0	
127	790	146 -- 150	26	4	348.0	Thu 22:43 25/11 2004	0	0	
128	775	146 -- 150	26	3	342.0	Thu 22:43 25/11 2004	0	0	
129	760	146 -- 150	26	2	336.0	Thu 22:43 25/11 2004	0	0	
130	745	146 -- 150	26	1	330.0	Thu 22:43 25/11 2004	0	0	Sig Ch Pick = 100.0 ms.
131	730	151 -- 155	27	5	324.0	Thu 22:48 25/11 2004	0	0	
132	715	151 -- 155	27	4	318.0	Thu 22:48 25/11 2004	0	0	
133	700	151 -- 155	27	3	313.0	Thu 22:48 25/11 2004	0	0	
134	685	151 -- 155	27	2	307.0	Thu 22:48 25/11 2004	0	0	
135	670	151 -- 155	27	1	293.0	Thu 22:48 25/11 2004	0	0	Sig Ch Pick = 100.0 ms.
136	655	156 -- 160	28	5	295.0	Thu 22:54 25/11 2004	0	0	
137	640	156 -- 160	28	4	289.0	Thu 22:54 25/11 2004	0	0	
138	625	156 -- 160	28	3	283.0	Thu 22:54 25/11 2004	0	0	
139	610	156 -- 160	28	2	276.0	Thu 22:54 25/11 2004	0	0	
140	595	156 -- 160	28	1	270.0	Thu 22:54 25/11 2004	0	0	Sig Ch Pick = 100.0 ms.
141	580	161 -- 165	29	5	263.0	Thu 23:01 25/11 2004	0	0	
142	565	161 -- 165	29	4	256.0	Thu 23:01 25/11 2004	0	0	
143	550	161 -- 165	29	3	251.0	Thu 23:01 25/11 2004	0	0	
144	535	161 -- 165	29	2	245.0	Thu 23:01 25/11 2004	0	0	
145	520	161 -- 165	29	1	239.0	Thu 23:01 25/11 2004	0	0	Sig Ch Pick = 100.0 ms.

[illegible]

APACHE ENERGY LIMITED

WELL NAME: LONGTOM-2
ZERO OFFSET VSP SURVEY

ENCLOSURE 2

VELOCITY CHECKSHOT STACKED DATA

SHOT BY BAKER ATLAS
PROCESSED BY VSFUSION
PROJECT CODE APACHE004

25 NOVEMBER, 2004
NOVEMBER, 2004

ACQUISITION INFORMATION

-CABLE-

DERRICK FLOOR (DF) ELEVATION 21.5 M ABOVE AHD
WATER DEPTH 56.8 M BELOW AHD
MINIMUM DEPTH (DF) 205 M
MAXIMUM DEPTH (DF) 2376 M

-SOURCE-

ENERGY SOURCE SLEEVE GUN
NUMBER OF GUN 4
TOTAL GUN VOLUME 600 CU. INCH
GUN DEPTH 5.0 M BELOW AHD
SOURCE DISTANCE FROM WELLHEAD 46.3 M
SOURCE AZIMUTH FROM WELLHEAD 330 DEG. N

-INSTRUMENTS-

RECORDING SYSTEM DSS 16CH A/D
SAMPLING INTERVAL 1 MS
RECORD LENGTH 4 SECONDS
DOWNHOLE RECEIVER TYPE AWS 1300 GM
ELECTRIC LOGGING COMPANY BAKER ATLAS

PROCESSING SEQUENCE

1. CONVERT FROM SEG-Y FORMAT TO SEISLINK-X FORMAT
2. EDIT/SUM/PICK ARRIVALS (BREAK TO BREAK)
3. GEOMETRY SURVEY APPLIED

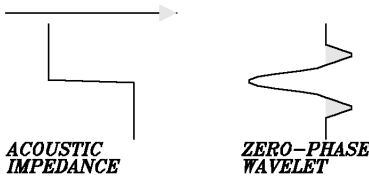
COMMENTS

ZERO POINT MEASUREMENT AT DERRICK FLOOR (DF)
SEISMIC REFERENCE DATUM IS AHD
REPLACEMENT VELOCITY = 1524 M/SEC.
VERTICAL TIME SCALE IS 20 CM/SEC.

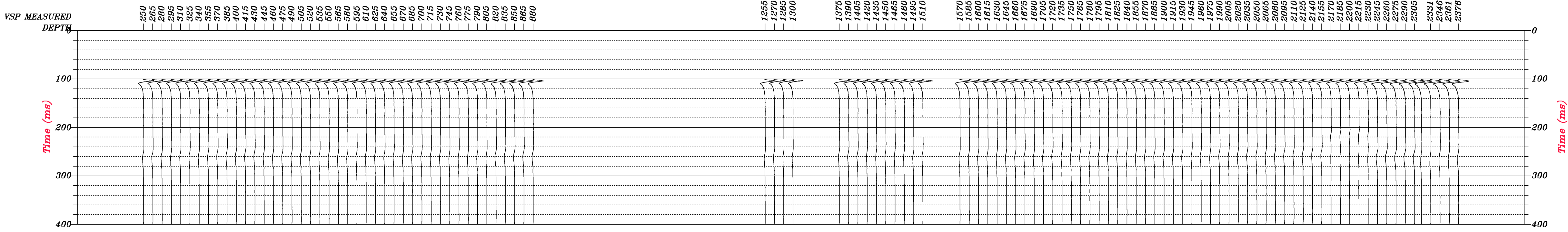
DISPLAY CONVENTION

NORMAL POLARITY

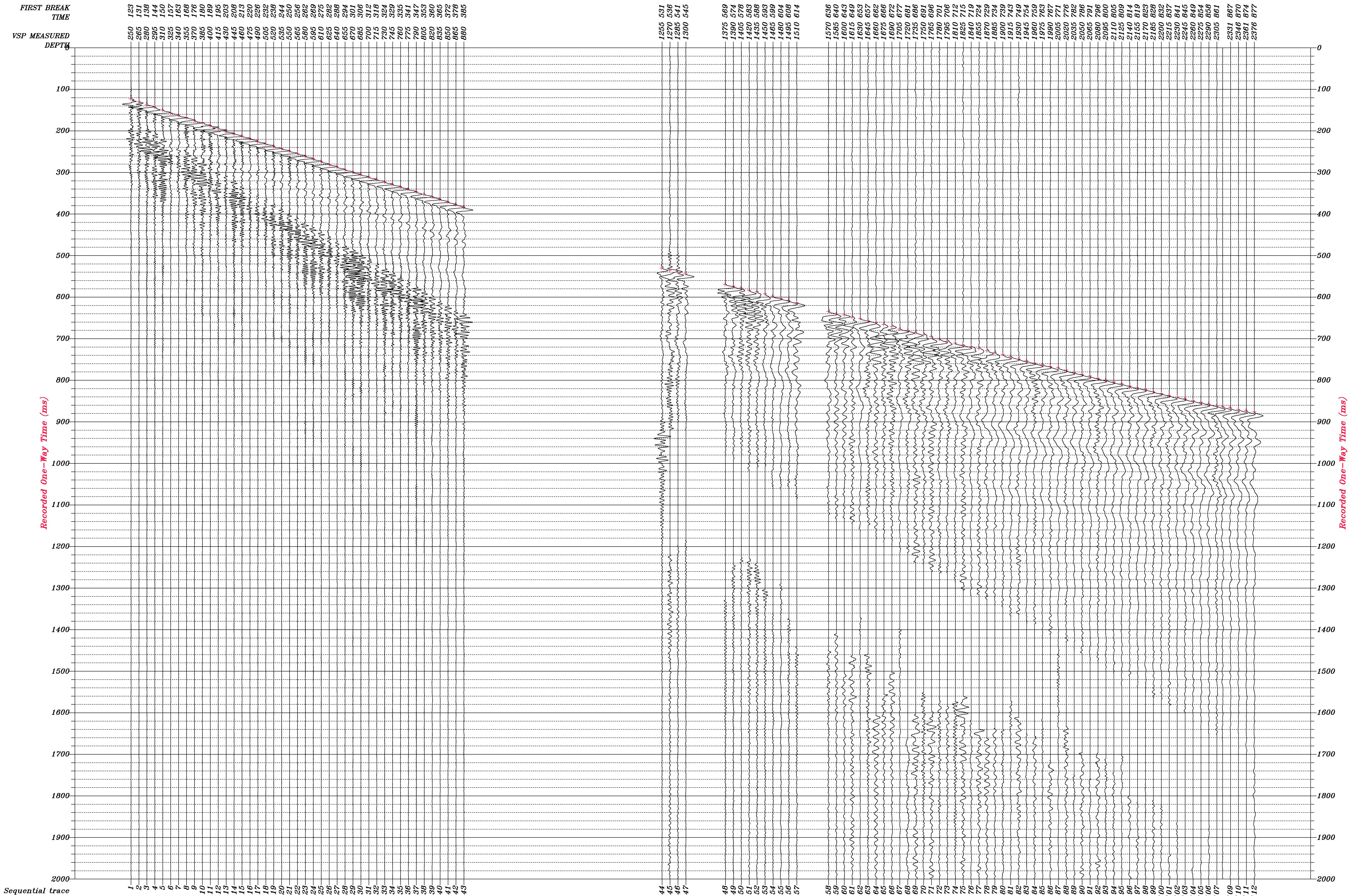
AN INCREASE IN ACOUSTIC IMPEDANCE
IS DISPLAYED AS A TROUGH



HYDROPHONE (SIGNATURE) STACKED DATA
ALIGNED AT 100 MSEC



GEOPHONE STACKED DATA
(VERTICAL COMPONENT)



APACHE ENERGY LIMITED

WELL NAME: LONGTOM-2
ZERO OFFSET VSP SURVEY

ENCLOSURE 3

VELOCITY CURVES & TIME-DEPTH CURVE

SHOT BY BAKER ATLAS
PROCESSED BY VSFUSION
PROJECT CODE APACHE004

25 NOVEMBER, 2004
NOVEMBER, 2004

ACQUISITION INFORMATION

-CABLE-

DERRICK FLOOR (DF) ELEVATION 21.5 M ABOVE AHD
WATER DEPTH 56.8 M BELOW AHD
MINIMUM DEPTH (DF) 205 M
MAXIMUM DEPTH (DF) 2376 M

-SOURCE-

ENERGY SOURCE SLEEVE GUN
NUMBER OF GUN 4
TOTAL GUN VOLUME 600 CU. INCH
GUN DEPTH 5.0 M BELOW AHD
SOURCE DISTANCE FROM WELLHEAD 46.3 M
SOURCE AZIMUTH FROM WELLHEAD 330 DEG. N

-INSTRUMENTS-

RECORDING SYSTEM DSS 16CH A/D
SAMPLING INTERVAL 1 MS
RECORD LENGTH 4 SECONDS
DOWNHOLE RECEIVER TYPE AWS 1300 GM
ELECTRIC LOGGING COMPANY BAKER ATLAS

PROCESSING SEQUENCE

1. CONVERT FROM SEG-Y FORMAT TO SEISLINK-X FORMAT
2. EDIT/SUM/PICK ARRIVALS (BREAK TO BREAK)
3. GEOMETRY SURVEY APPLIED
4. VELOCITY COMPUTATION

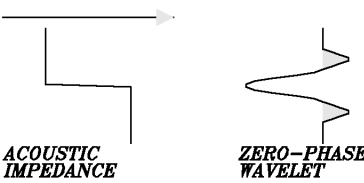
COMMENTS

ZERO POINT MEASUREMENT AT DERRICK FLOOR (DF)
SEISMIC REFERENCE DATUM IS AHD
REPLACEMENT VELOCITY = 1524 M/SEC.
VERTICAL DEPTH SCALE IS 150 M/INCH.

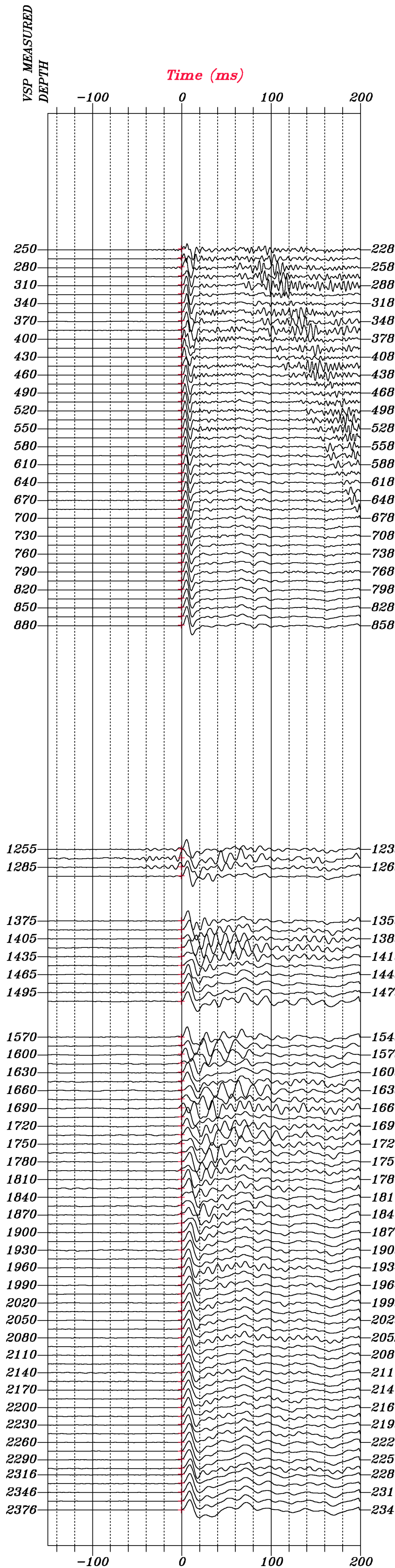
DISPLAY CONVENTION

NORMAL POLARITY

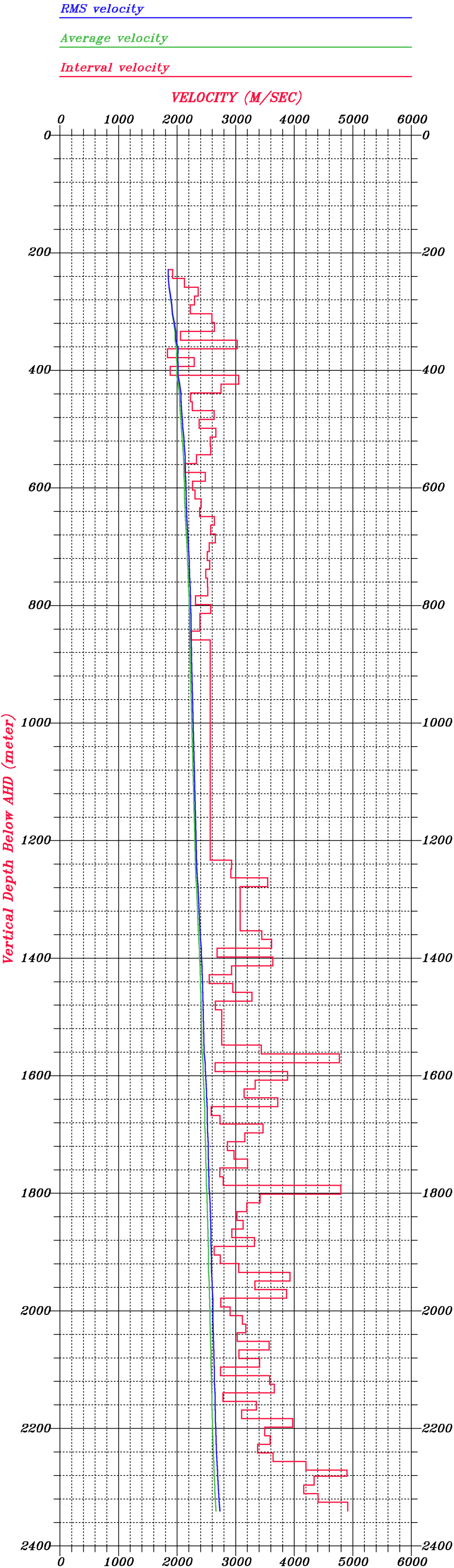
AN INCREASE IN ACOUSTIC IMPEDANCE
IS DISPLAYED AS A TROUGH



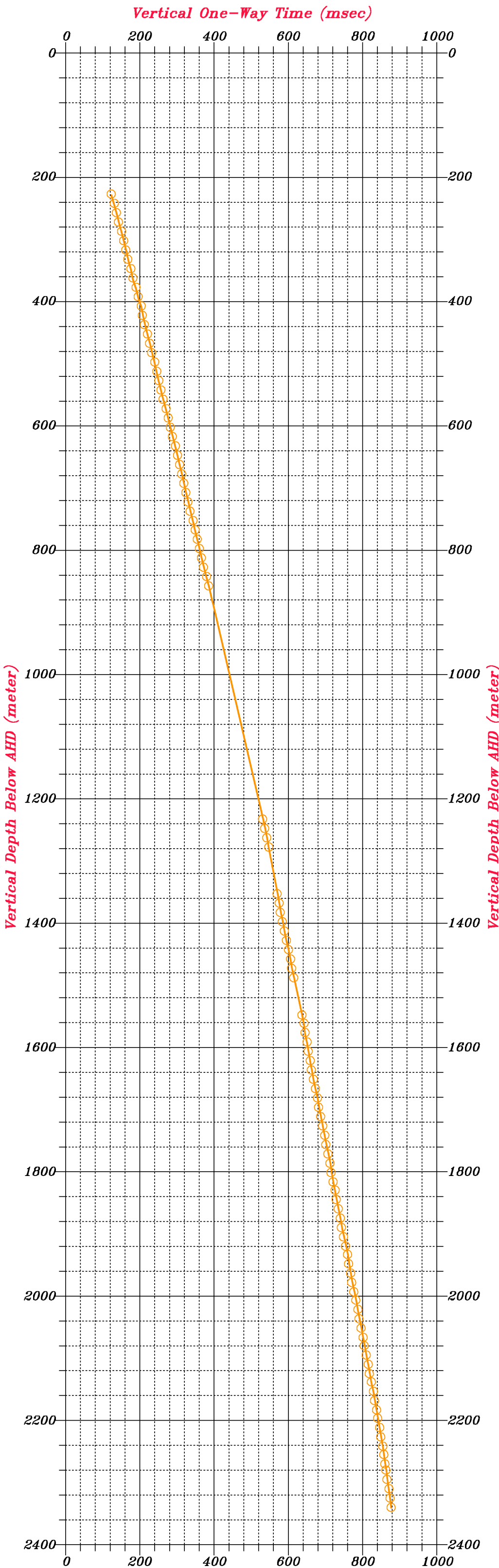
CHECKSHOT DATA ALIGNED
WELL: LONGTOM-2



VELOCITY CURVES
WELL: LONGTOM-2



TIME-DEPTH CURVE
WELL: LONGTOM-2



APACHE ENERGY LIMITED

WELL NAME: LONGTOM-2
ZERO OFFSET VSP SURVEY

ENCLOSURE 4A

VSP PROCESSING SEQUENCES DISPLAY

SHOT BY BAKER ATLAS
PROCESSED BY VSFUSION
PROJECT CODE APACHE004

25 NOVEMBER, 2004
NOVEMBER, 2004

ACQUISITION INFORMATION

--CABLE--

DERRICK FLOOR (DF) ELEVATION 21.5 M ABOVE AHD
WATER DEPTH 56.8 M BELOW AHD
MINIMUM DEPTH (OF) 205 M
MAXIMUM DEPTH (OF) 2376 M

--SOURCE--

ENERGY SOURCE SLEEVE GUN
NUMBER OF GUN 4
TOTAL GUN VOLUME 600 CU. INCH
GUN DEPTH 5.0 M BELOW AHD
SOURCE DISTANCE FROM WELLHEAD 46.3 M
SOURCE AZIMUTH FROM WELLHEAD 330 DEG. N

--INSTRUMENTS--

RECORDING SYSTEM DSS 16CH A/D
SAMPLING INTERVAL 1 MS
RECORD LENGTH 4 SECONDS
DOWNHOLE RECEIVER TYPE AWS 1300 GM
ELECTRIC LOGGING COMPANY BAKER ATLAS

ZVSP PROCESSING SEQUENCE

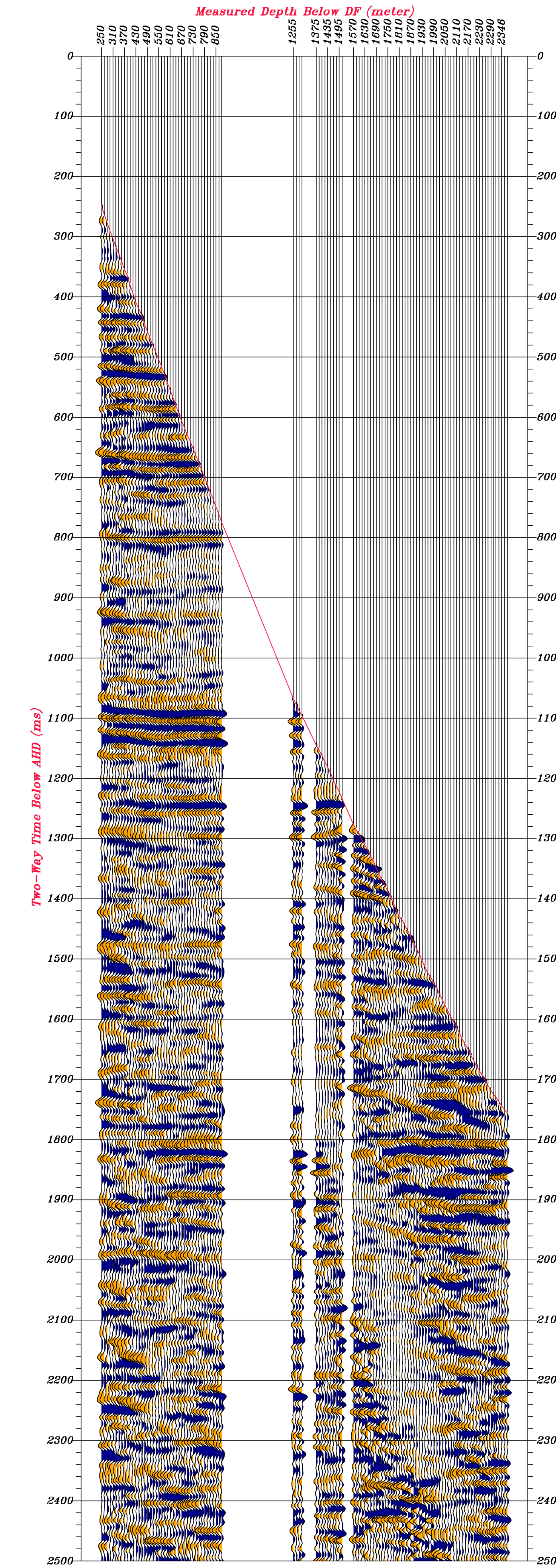
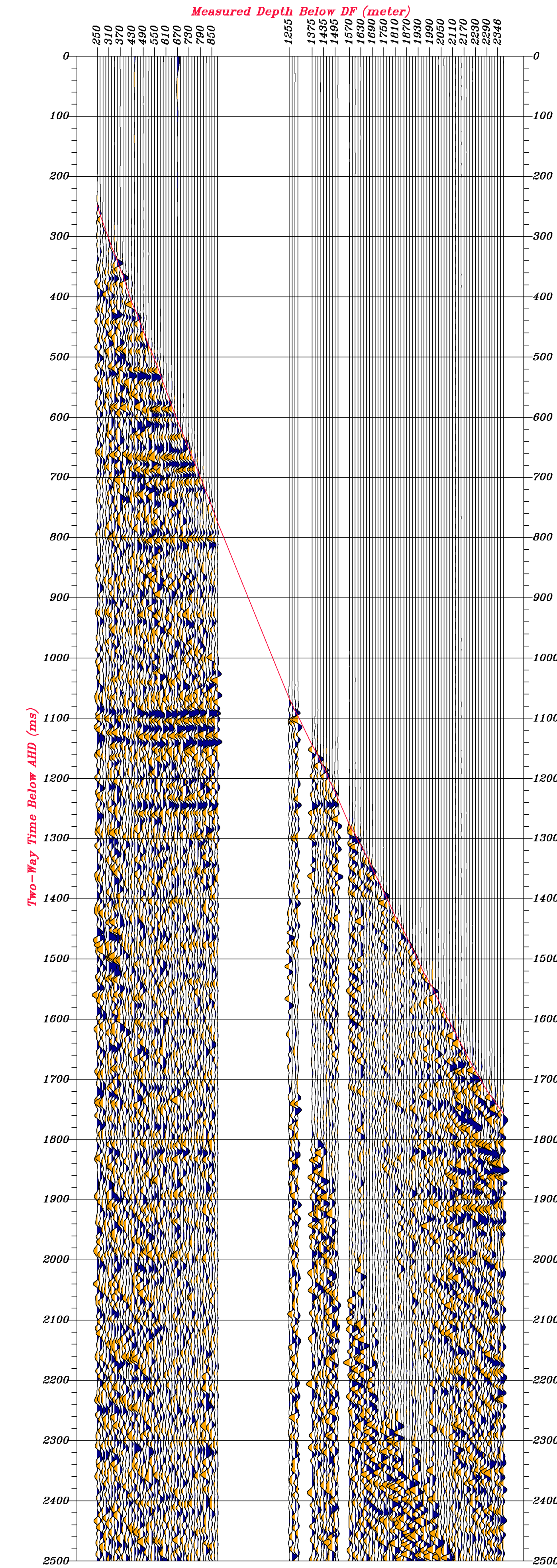
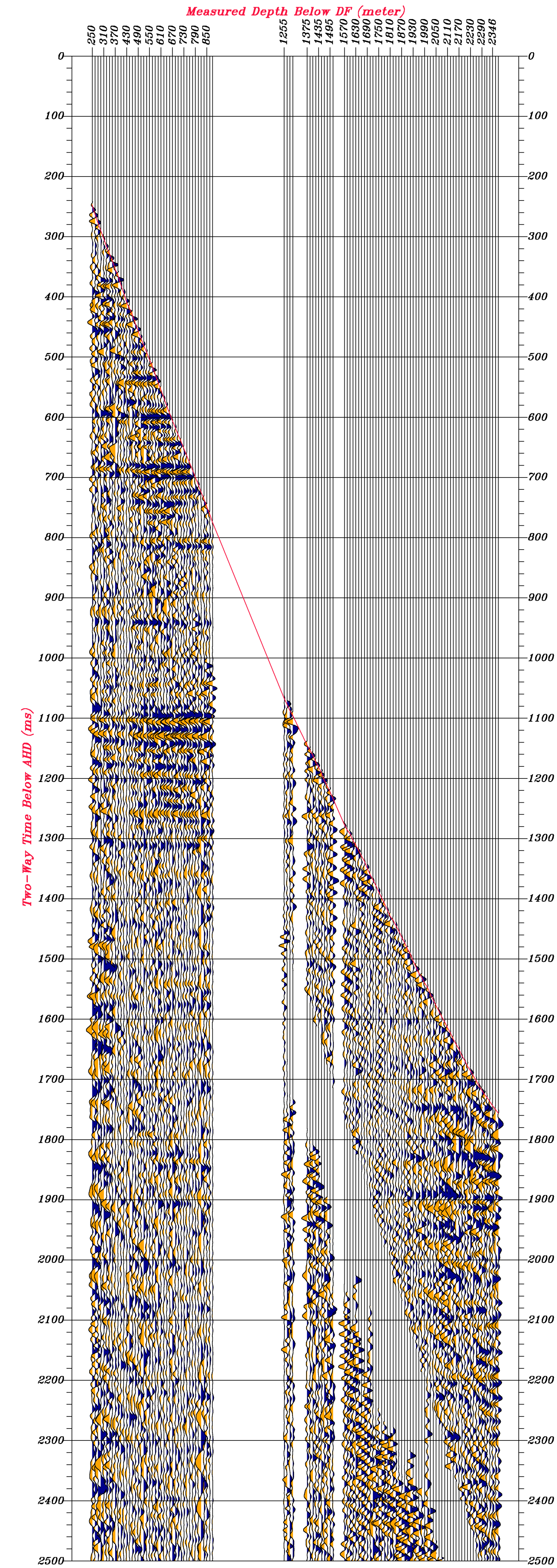
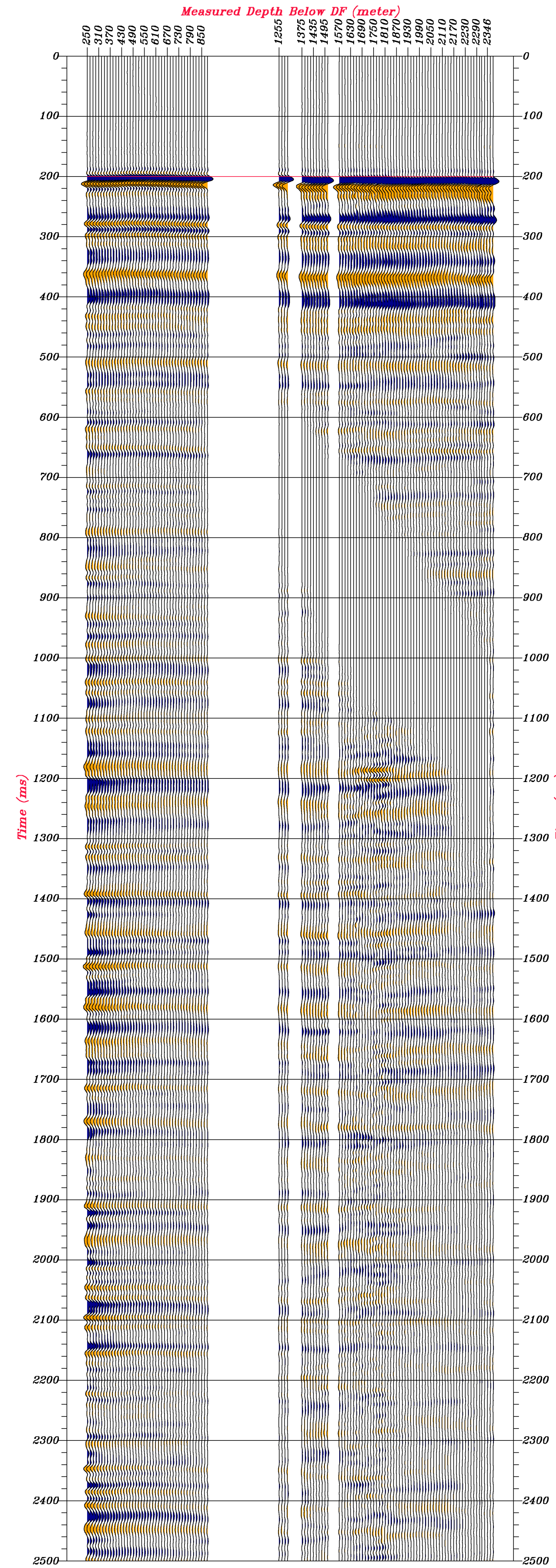
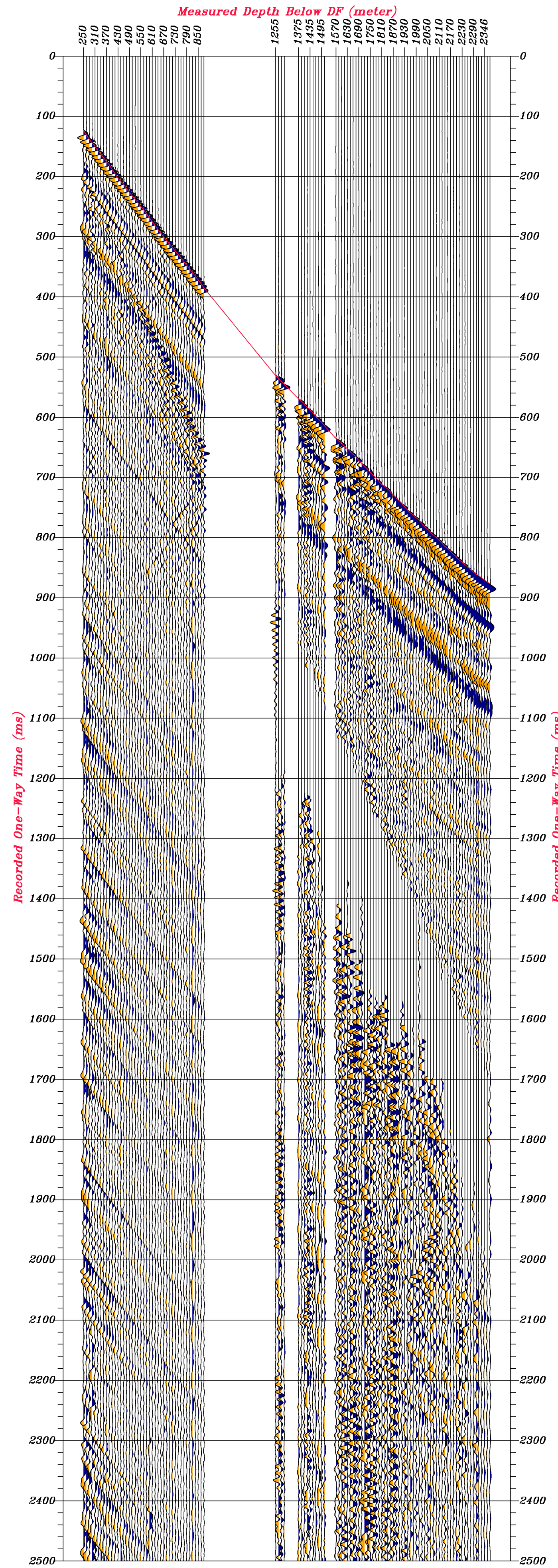
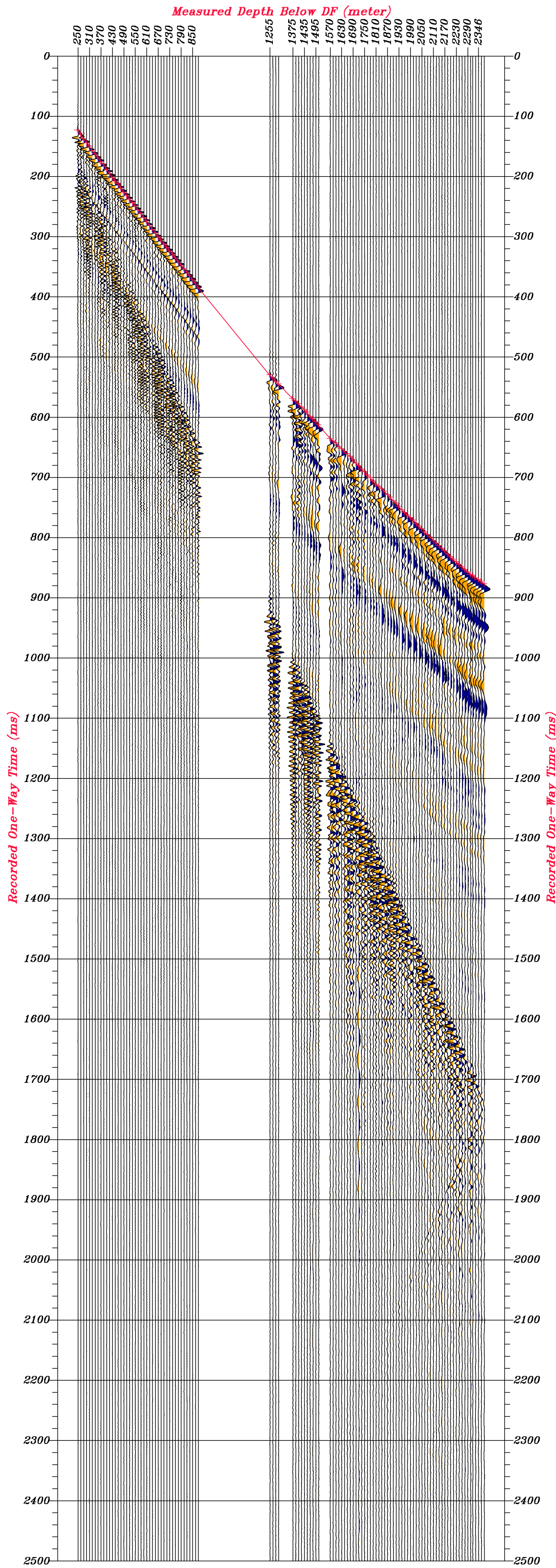
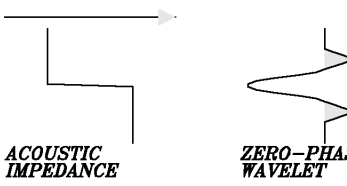
1. CONVERT FROM SEG-Y FORMAT TO SEISLINK-X FORMAT
2. RAW DATA EDIT AND STACKING
3. GEOMETRY SURVEY APPLIED
4. FIRST BREAK/FIRST TIME ARRIVAL PICKING
5. VELOCITY COMPUTATIONS
6. SPHERICAL DIVERGENCE-GEOMETRY SPREADING CORRECTION (T**1.5)
7. FK ANALYSIS TO DETERMINE FREQUENCY CONTENTS
8. ZERO BANDPASS FILTER 5,10 - 100,140 HZ
9. ESTIMATION OF DOWNGOING P-WAVES
FIRST BREAK ALIGNED AT 200 MSEC.
10. SUBTRACTION OF DOWNGOING P-WAVES WITH 11-POINT MEDIAN FILTER
11. TUBE-WAVES REMOVAL USING DIP MEDIAN FILTER
12. ZERO BANDPASS FILTER 5,10 - 60,90 HZ
13. SHIFT UPGOING WAVES TO TWO-WAY VERTICAL TIME BELOW DATUM
14. VSP DECONVOLUTION OF UPGOING P-WAVES :
DECON OPERATOR DESIGNED USING 500 MSEC OF DOWNWAVES
TO SHAPE WAVETRAIN TO A SPIKE
15. SPECTRAL WHITENING
16. ZERO BANDPASS FILTER 5,10 - 60,90 HZ AS FINAL UPWAVES
17. ENHANCEMENT OF DECONVOLVED UPWAVES USING 5-POINT MEDIAN FILTER
18. AUTOMATIC GAIN CONTROL (AGC) WITH WINDOW LENGTH 500 MSEC

COMMENTS

SEISMIC REFERENCE DATUM IS AHD
REPLACEMENT VELOCITY = 1524 M/SEC
TWO-WAY VERTICAL TIME IS REFERENCED BELOW DATUM OF AHD
TWO-WAY VERTICAL TIME SCALE IS 20 CM/SEC.
ALL DATA DISPLAYED AS NORMAL POLARITY

DISPLAY CONVENTION

NORMAL POLARITY
AN INCREASE IN ACOUSTIC IMPEDANCE
IS DISPLAYED AS A TROUGH



WELL NAME: LONGTOM-2
ZERO OFFSET VSP SURVEY

CORRIDOR STACK

SHOT BY BAKER ATLAS
PROCESSED BY VSFUSION
PROJECT CODE APACHE004

25 NOVEMBER, 2004
NOVEMBER, 2004

-CABLE-

DEBRICK FLOOR (DE) ELEVATION	21.5 M. ABOVE AHD
------------------------------	-------------------

DERRICK FLOOR (DF) ELEVATION	21.5 M ABOVE AHD
WATER DEPTH	56.8 M BELOW AHD
MINIMUM DEPTH (DF)	205 M
MAXIMUM DEPTH (DF)	2376 M

ENERGY SOURCE	SLEEVE GUN
NUMBER OF GUN	4

ENERGY SOURCE	SLEEVE GUN
NUMBER OF GUN	4
TOTAL GUN VOLUME	600 CU. INCH
GUN DEPTH	5.0 M BELOW AHD
SOURCE DISTANCE FROM WELLHEAD	46.3 M
SOURCE AZIMUTH FROM WELLHEAD	330 DEG. N

RECORDING SYSTEM	DSS 16CH A/D
SAMPLING INTERVAL	1 MC

RECORDING SYSTEM	DSS 16CH A/D
SAMPLING INTERVAL	1 MS
RECORD LENGTH	4 SECONDS
DOWNHOLE RECEIVER TYPE	AWS 1300 GM
ELECTRIC LOGGING COMPANY	BAKER ATLAS

1. CONVERT FROM SEG-Y FORMAT TO SEISLINK-X FORMAT
2. RAW DATA EDIT AND STACKING
3. SEISMOLOGY SURVEY APPLICATIONS

1. CONVERT FROM SEG-Y FORMAT TO SEISLINK-X FORMAT
2. RAW DATA EDIT AND STACKING
3. GEOMETRY SURVEY APPLIED
4. FIRST BREAK/FIRST TIME ARRIVAL PICKING
5. VELOCITY COMPUTATIONS
6. SPHERICAL DIVERGENCE-GEOMETRY SPREADING CORRECTION (T**1.5)
7. FK ANALYSIS TO DETERMINE FREQUENCY CONTENTS
8. ZERO BANDPASS FILTER 5,10 - 100,140 HZ
9. ESTIMATION OF DOWNGOING P-WAVES
FIRST BREAK ALIGNED AT 200 MSEC.
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15. SPECTRAL WHITENING
16. ZERO BANDPASS FILTER 5,10 - 60,90 HZ AS FINAL UPWAVES
17. ENHANCEMENT OF DECONVOLVED UPWAVES USING 5-POINT MEDIAN FILTER
18. CORRIDOR WINDOW MUTE
19. CORRIDOR STACK
20. ZERO PHASE BANDPASS FILTER AS ON DISPLAYS
21. AUTOMATIC GAIN CONTROL (AGC) WITH WINDOW LENGTH 500 MSEC

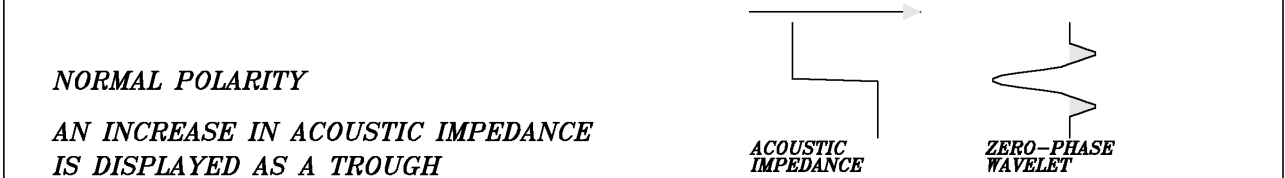
SEISMIC REFERENCE DATUM IS AHD
REPLACEMENT VELOCITY = 1524 M/SEC

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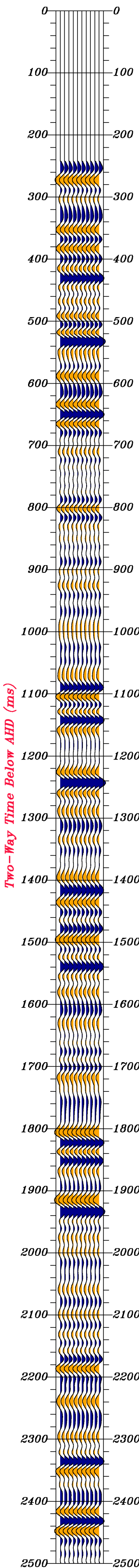
NORMAL POLARITY

AN INCREASE IN ACOUSTIC IMPEDANCE

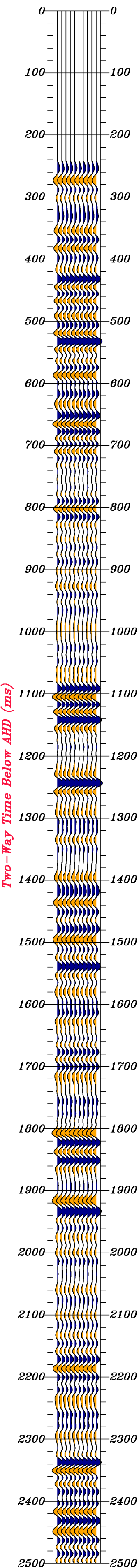
AN INCREASE IN ACOUSTIC IMPEDANCE IS DISPLAYED AS A TROUGH



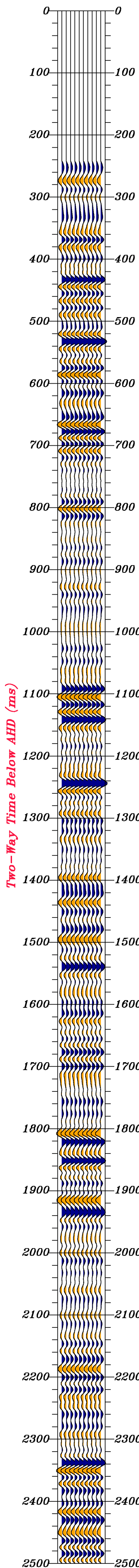
*Corr.Stack (Normal,
BPF 5,10 - 30,50 Hz*



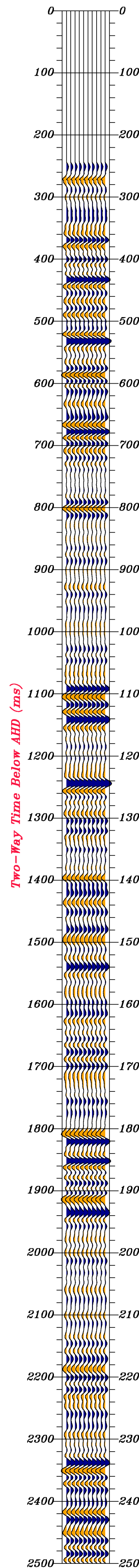
Corr.Stack (Normal)
BPF 5,10 - 40,60 Hz



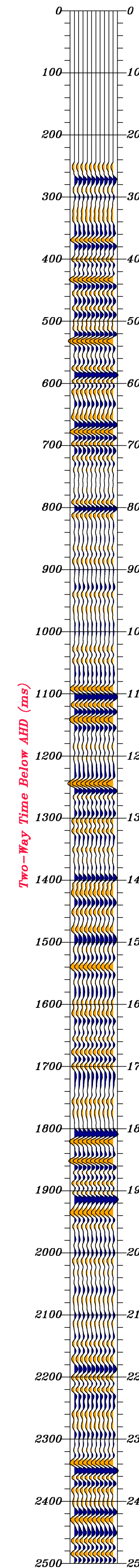
Corr.Stack (Normal)
BPF 5,10- 50,70 Hz



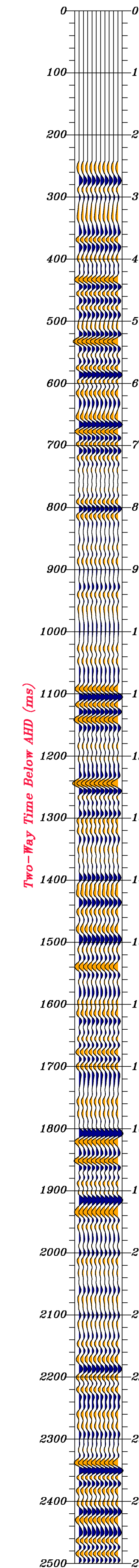
Corr.Stack (Norma
BPF 5,10 – 60,90 Hz



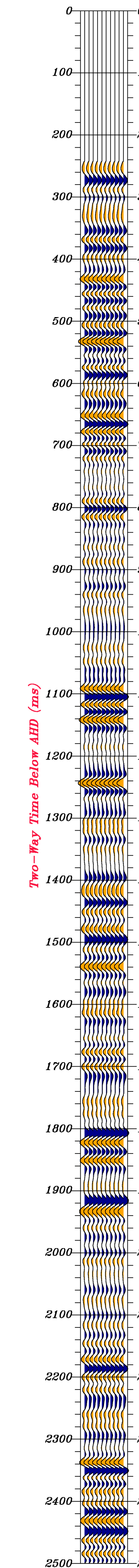
Corr.Stack (Reverse)
BPF 5,10 - 60,90 Hz



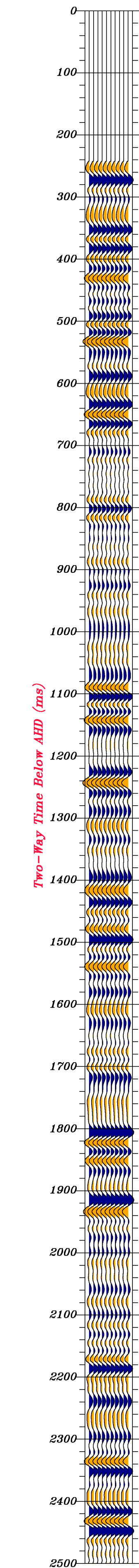
Corr.Stack (Reverse)
BPF 5,10 - 50,70 B



Corr.Stack (Reve.
BPF 5,10 - 40,60



Corr.Stack (Reverse)
BPF 5,10 - 30,50





CORE LABORATORIES AUSTRALIA PTY LTD

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Routine Core Analysis Well Longtom – 2 ST1 Offshore Australia

Prepared for
Apache Energy Ltd.

March 2005

File: PRP-04110

Rock Properties
Core Laboratories
Perth
Australia

These analyses, opinions or interpretations are based on observations and materials supplied by the client to whom, and for whose exclusive and confidential use, this report is made. The interpretations or opinions expressed represent the best judgment of Core Laboratories, (all errors and omissions excepted); but Core Laboratories and its officers and employees, assume no responsibility and make no warranty or representations, as to the productivity, proper operations, or profitability of any oil gas or other mineral well or sand in connection with which such report is used or relied upon.



CORE LABORATORIES AUSTRALIA PTY LTD

4th March 2005

Apache Energy Ltd.

Level 3

256 St. George's Tce.

Perth, WA 6005

Attention : Dr. Steve Moss

Subject : Routine Core Analysis
Well : Longtom - 2 ST1
File : PRP-04110

Dear Steve,

Presented herein is the final report of a routine core analysis study conducted on two cores from the above well that arrived at our laboratory on December 21st 2004.

We appreciate the opportunity to present this service to Apache Energy Ltd. Please contact us should you require any further information or assistance.

Yours sincerely,

Core Laboratories Australia Pty Ltd

James Brown
Senior Core Analyst

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INTRODUCTION

Fourteen inner core barrels (core 1, seven fibreglass barrels; core 2, seven aluminium barrels), containing two and one half inch diameter core were delivered to Core Laboratories' premises in Kewdale, on the 21st December 2004.

Services performed and presented in the report include:

- Total surface core gamma
- Spectral core gamma
- Profile permeametry on slabbed core
- Core photography on slabbed core - white light (large and small format on a CD-Rom)
- Horizontal Permeability, porosity, (at NOBP) and grain density measurements on plugs
- Residual fluid saturations
- Core description

The reported data for the above services are presented digitally on a CD-Rom, whilst the digital core photographs are on a CD-Rom. The core description and photographs were sent under separate covers.

SUMMARY

Porosity and permeability measurements were determined at a net confining stress of 1800psi for all routine core analysis samples.

	<u>Minimum</u>	<u>Maximum</u>	<u>Average</u>
<u>Core Plugs:</u>			
<u>Net Confining Pressure of 1800psig.</u>			
Porosity (%)	7.1	26.1	16.6
Permeability, Kinf, (md)	0.002	132	14.8
Grain Density (g/cc)	2.631	2.819	2.681

Note: Permeability data from fractured samples was not used in the above table.

As can be seen from the core photographs and inspection of the core, much of the core material contained stress release fracturing/parting. These partings may have been exacerbated by drying out of the core with time. In many cases, these partings are so closely spaced it was impossible to avoid them while drilling core plugs for porosity/permeability analyses. These core plugs containing partings/fractures have been flagged both in the tabular data on pages 6 through 8, and in the porosity/permeability cross-plot on page 16. The permeabilities within zones affected by stress-release fracturing may be unrepresentatively high and should be treated with caution.

Some of the profile permeability data tabulated on pages 10 through 15 are similarly flagged where stress fractures may have led to unrepresentatively high permeability values.

Since stress fractures are too closely spaced at some depths to obtain reservoir representative core plugs, alternate procedures for obtaining permeability values (such as rock-typing from thin section to obtain analog values from a data-base) should be considered.

LABORATORY PROCEDURES

Initial Inventory:

After the arrival of the cores on the 21st December 2004, the inner core barrels were unloaded, laid out in order and the barrel depths recorded on an in-house inventory (fourteen barrels). The barrels on arrival were approximately in three-metre lengths.

Core Preparation:

Total surface core gamma was run along the cores while still in the inner core barrels. The core was unloaded from the barrels, fitted together, cleaned of drilling fluids, and marked with a continuous slab line and core depths. Some sections of the core were frozen under dry ice due to the unconsolidated nature of the rock (2117.67-2121.38m, 2127.2-2130.00m, 2134.14-3135.14m and 2136.52-2138.45m). The cores were then plugged, slabbed into two half sections, and described by Duncan Barr. Surface spectral core gamma was then run prior to profile permeability measurements being taken and the core photographed.

Surface Core Gamma:

The cores were logged while still in the core barrels. A zero base-line was established, and a standard calibration tube logged prior to running the core. During the logging of the cores, one observer verified that each barrel passing the detector was in its correct sequence and orientation, whilst two people loaded and offloaded the barrels. As each barrel cleared the detector it was replaced in sequence on the lay out benches. The preliminary digitised surface gamma trace was sent by e-mail to Apache Energy Ltd once the core had been run.

Core Slabbing:

The competent sections of core were slabbed into two half sections using a 2% potassium chloride brine solution as the blade lubricant. The frozen sections of core were cut dry.

Spectral Core Gamma:

The cores were logged after they had been removed from their inner core barrels. The spectral core gamma was calibrated using known standards prior to the cores being run. A sample spacing of 2cm was used during measurement. The spectral core gamma has a higher resolution and compensates for the small diameter of the cores. The total core gamma trace is plotted on the integrated core log.

Profile Permeametry:

Profile permeametry was conducted on the cut face of the cores using the PDPK™300 profile permeameter. Measurements were made approximately every ten centimetres down the cores as requested. A total of 354 point measurements were attempted.

Core Photography:

After slabbing, the half section of the core was cleaned, then photographed under white light using a digital camera. The large format images were annotated with the routine core analysis data. A CD-Rom containing both large and small format images were forwarded under a separate cover.

Sample Preparation:

Before slabbing two sets of one inch diameter core plugs were drilled. The first set (set A, consisting of twenty-one plugs) were cut and trimmed using air. Six of the samples were mounted in nickel sleeves with screens, as they were unconsolidated. Set A core plugs were cut for Dean-Stark / tracer analysis. Ninety-seven core plugs were attempted for the second set of plugs (for porosity, permeability and grain density measurements), of which one failed and thirty-one were mounted in nickel sleeves. Set B core plugs were attempted at every 30 cms intervals after advice from the Apache Energy Ltd. Sampling depths were adjusted accordingly to avoid core breaks and/or shale sections. The plugs were cut and trimmed using a 2% potassium chloride brine. The plugs cut in the frozen core were drilled and trimmed using air, then mounted. All plugs (except set A) were placed in cool refluxing toluene to remove any residual hydrocarbons. Once cleaned, the plugs were removed from the soxhlet, air-dried to expel the excess toluene, then placed in cool refluxing methanol to remove residual salts. When cleaned of salts, the plugs were removed from the soxhlet, air-dried to expel the excess methanol, and dried in a controlled humidity oven at 60°C and 45% humidity. The plugs were then removed from the oven, placed into individual snap lock plastic bags and allowed to cool to room temperature.

Residual Fluid Saturations, Dean-Stark:

A subset of ten plugs from set A were selected, then individually placed into dried, pre-weighed thimbles, weighed and loaded into individual Dean-Stark distillation units. Boiling toluene was used to drive water out of the sample and to extract any hydrocarbons present. The distillation process was monitored until the water volume produced from each sample had stabilised. Following the Dean-Stark distillation, each plug with thimble was then dried in a convection oven at 95°C for an initial twenty-four hour period. The plugs were removed from the convection oven, cooled in a moisture-free environment and weighed. The water saturation was computed directly from the water recovered and the helium pore volume. The oil saturation was calculated based on the non-water weight loss during the Dean-Stark procedure. The core plugs were not extracted of residual salts. Following cleaning, the plugs were dried in a convection oven at 95°C for a twenty-four hour period. Eleven samples were not run. These samples remained sealed and stored for future possible analysis.

Corrected Residual Fluid Saturations:

Brine volumes of the plugs were determined by Dean-Stark analysis. The plugs were not cleaned in methanol and so retained salts originally dissolved in the water contained in the sample and any tracer that entered the core via mud filtrate (only distilled water emanates from the core samples during Dean-Stark analysis). Porosity, permeability and grain density were determined prior to the samples been crushed and a known volume of distilled water added to redissolve the salts and the

tracer. This brine was then analysed. Knowing the original volume of brine in the samples, the amount of distilled water added later and the sample weights, concentrations of the ions and tracer in the sample brine were then calculated. Knowing the concentration of the tracer in the mud system, the volume of mud filtrate that had invaded the sample was calculated, then subtracted from the volume of water that was produced by the Dean-Stark analysis. The brine saturations were then recalculated.

Grain Volume and Grain Density:

The weight, diameter and length of all plug samples were measured before they were processed through the Ultrapore™ porosimeter to determine grain volume. As a standard quality control measure, a calibration check plug was run after every ten samples. Grain density data was calculated from grain volume and sample weight data.

Permeability and Porosity:

The core plugs were run at a confining stress of 1800psi. while determining porosity and permeability. The confining stress was supplied by Apache Energy Ltd. A standard check plug was run with every set plug samples. Klinkenberg permeability (K_{inf}) values are obtained directly from the CMS™300, since it operates by unsteady-state principles. Porosity data was obtained by combining pore volumes from the CMS™300 data with grain volumes from the Ultrapore porosimeter. For in-house QC and in preparation for subsequent SCAL work, all samples were routinely run at ambient conditions. Plug data at ambient conditions is contained with digital version of the spreadsheet on the CD-Rom.

Core Description:

Duncan Barr conducted a core description on the slabbed core, the results of which are presented in a separate report.

POROSITY, PERMEABILITY and GRAIN DENSITY (NOBP)

SAMPLE NUMBER	DEPTH (m)	NOBP 1800psi			GRAIN DENSITY (g/cc)	COMMENTS
		PERMEABILITY		POROSITY		
		Kinf (md)	Kair (md)			
Core 1						
1	2112.43	0.019	0.047	14.6	2.668	
2	2112.70	0.024	0.057	14.0	2.688	
3	2113.03	0.052	0.108	15.5	2.687	
4	2113.36	0.044	0.093	15.5	2.670	
5	2113.85	0.018	0.045	14.4	2.684	
6	2114.11	0.028	0.065	14.9	2.678	
7	2114.41	0.003	0.007	8.9	2.703	
8	2114.72	0.015	0.038	13.7	2.681	
9	2115.17	-	-	-	2.676	Sample failed
10	2115.95	0.005	0.012	10.6	2.691	
11	2116.24	-	-	-	-	No sample
12	2116.56	0.040	0.082	13.9	2.682	
13	2116.87	0.008	0.016	9.9	2.691	
14	2117.16	0.097	0.198	13.4	2.685	
15	2117.52	0.177	0.292	13.9	2.688	
16	2117.70	17.9	22.4	15.4	2.675	Mounted
17	2118.05	120	142	24.3	2.672	Mounted (Fractured)
18	2118.35	239	296	26.1	2.664	Mounted (Fractured)
19	2118.70	85.3	105	23.6	2.664	Mounted (Fractured)
20	2118.97	460	537	25.7	2.664	Mounted (Fractured)
21	2119.26	305	396	24.3	2.675	Mounted (Fractured)
22	2119.50	123	146	23.5	2.634	Mounted (Fractured)
23	2119.82	110	124	23.3	2.666	Mounted (Fractured)
24	2120.15	23.0	27.7	17.2	2.662	Mounted
25	2120.45	20.0	23.6	18.9	2.675	Mounted
26	2120.74	14.5	17.5	17.8	2.669	Mounted
27	2121.06	9.27	11.2	18.1	2.674	Mounted
28	2121.33	7.45	8.61	17.2	2.741	Mounted
29	2121.65	5.38	6.43	18.5	2.689	
30	2121.93	14.3	15.9	20.0	2.710	
31	2122.16	31.5	34.5	21.1	2.713	
32	2122.46	0.010	0.025	7.1	2.692	
33	2122.74	0.004	0.010	8.6	2.707	
34	2124.55	0.002	0.004	13.2	2.699	
35	2124.92	0.007	0.014	14.9	2.697	
36	2125.36	0.002	0.004	14.2	2.699	
37	2125.59	0.002	0.005	13.7	2.701	
38	2125.97	0.068	0.115	14.9	2.686	
39	2126.25	0.271	0.421	17.2	2.686	
40	2126.57	0.810	0.999	18.0	2.705	
41	2126.87	0.004	0.010	8.7	2.702	
42	2127.14	10.8	12.2	19.7	2.686	
43	2127.48	38.1	45.5	20.7	2.663	Mounted
44	2127.79	169	190	23.4	2.676	Mounted (Fractured)
45	2128.06	55.9	65.0	21.1	2.672	Mounted
46	2128.36	46.0	51.6	20.4	2.672	Mounted

POROSITY, PERMEABILITY and GRAIN DENSITY (NOBP)

SAMPLE NUMBER	DEPTH (m)	NOBP 1800psi			GRAIN DENSITY (g/cc)	COMMENTS
		PERMEABILITY		POROSITY		
		Kinf (md)	Kair (md)			
47	2128.66	28.2	31.9	20.1	2.674	Mounted
48	2128.94	51.0	57.0	21.2	2.678	Mounted
49	2129.26	22.4	25.6	19.8	2.675	Mounted
50	2129.56	28.9	32.9	20.3	2.673	Mounted
51	2129.86	39.5	44.8	20.9	2.673	Mounted
Core 2						
52	2130.26	0.005	0.014	9.0	2.697	
53	2130.59	8.88	10.2	19.5	2.688	
54	2130.79	0.162	0.265	14.2	2.694	
55	2131.13	6.81	7.79	18.3	2.687	
56	2131.43	35.0	37.6	20.3	2.681	
57	2131.73	20.7	22.6	19.4	2.678	
58	2132.06	7.62	8.71	18.7	2.678	
59	2132.37	3.52	4.12	17.4	2.679	
60	2132.63	13.2	14.7	19.4	2.674	
61	2132.94	15.1	16.9	19.5	2.672	
62	2133.24	14.3	16.0	19.7	2.678	
63	2133.55	22.3	24.5	20.0	2.668	
64	2133.89	20.9	22.8	20.5	2.696	
65	2134.10	22.7	24.6	19.7	2.684	
66	2134.45	169	209	24.2	2.670	Mounted (Fractured)
67	2134.75	56.4	62.3	21.9	2.673	Mounted
68	2135.14	6.21	7.27	18.3	2.679	Mounted
69	2135.30	0.005	0.011	10.2	2.690	
70	2135.59	6.52	7.90	16.7	2.676	
71	2135.91	0.044	0.084	12.2	2.680	
72	2136.19	0.107	0.189	14.5	2.674	
73	2136.44	7.93	9.06	19.0	2.666	
74	2136.82	39.9	44.5	21.3	2.819	Mounted
75	2137.04	21.6	25.1	19.5	2.675	Mounted
76	2137.38	16.0	19.3	18.8	2.677	Mounted
77	2137.72	25.4	28.3	20.0	2.679	Mounted
78	2137.95	17.0	19.1	17.9	2.685	Mounted
79	2138.31	15.2	17.5	19.7	2.678	Mounted
80	2138.59	63.4	66.7	21.9	2.680	
81	2138.88	36.2	38.7	20.6	2.669	
82	2139.18	0.981	1.13	15.7	2.677	
83	2139.48	0.007	0.016	10.1	2.687	
84	2139.80	9.66	10.7	19.1	2.667	
85	2140.10	38.9	42.0	20.4	2.659	
86	2140.40	52.3	55.5	20.7	2.662	
87	2140.71	132	139	22.3	2.659	
88	2141.05	73.5	77.7	21.5	2.675	
89	2141.35	0.101	0.175	12.2	2.689	
90	2141.70	0.168	0.271	11.9	2.674	
91	2142.03	0.061	0.108	11.0	2.658	
92	2142.34	0.064	0.118	11.8	2.691	

POROSITY, PERMEABILITY and GRAIN DENSITY (NOBP)

SAMPLE NUMBER	DEPTH (m)	NOBP 1800psi			GRAIN DENSITY (g/cc)	COMMENTS
		PERMEABILITY		POROSITY		
		Kinf (md)	Kair (md)			
93	2142.64	0.007	0.016	7.9	2.695	
94	2144.61	0.011	0.030	13.5	2.690	
95	2145.63	0.030	0.056	12.9	2.631	
96	2145.84	0.015	0.033	12.6	2.650	
97	2146.61	0.007	0.015	10.5	2.680	

POROSITY, PERMEABILITY, GRAIN DENSITY and RESIDUAL FLUID SATURATIONS

SAMPLE NUMBER	DEPTH (m)	Ambient conditions			GRAIN DENSITY (g/cc)	RESIDUAL FLUID SATURATIONS				COMMENTS
		PERMEABILITY		POROSITY (%)		From Dean-Stark		Corrected*		
		Kinf (md)	Kair (md)			So (%)	Sw (%)	So (%)	Sw (%)	
14A	2117.10	-	-	-	-	-	-	-	-	Stored
18A	2118.56	-	-	-	-	-	-	-	-	Stored
20A	2118.92	713	836	25.8	2.654	0.0	70.7	0.0	56.0	Mounted
24A	2120.18	38.7	45.8	17.5	2.650	0.0	78.9	0.0	73.4	Mounted
30A	2121.87	-	-	20.4	2.685	0.0	68.5	0.0	63.6	Poor shape
33A	2122.70	-	-	-	-	-	-	-	-	Stored
41A	2126.84	-	-	-	-	-	-	-	-	Stored
46A	2128.40	19.1	22.2	19.6	2.696	0.0	72.0	0.0	66.6	Mounted
50A	2129.60	84.2	93.2	21.5	2.694	0.0	77.8	0.0	65.1	Mounted
54A	2130.86	-	-	-	-	-	-	-	-	Stored
59A	2132.28	12.6	14.0	19.7	2.689	0.0	68.3	0.0	64.7	
62A	2133.31	-	-	-	-	-	-	-	-	Stored
68A	2135.09	34.7	45.3	19.9	2.704	0.0	76.2	0.0	64.6	Mounted
70A	2135.67	-	-	-	-	-	-	-	-	Stored
73A	2136.48	-	-	-	-	-	-	-	-	Stored
78A	2137.91	25.4	29.8	17.8	2.707	0.0	96.0	0.0	74.6	Mounted
84A	2139.84	15.7	17.5	20.2	2.681	0.0	69.1	0.0	63.7	
87A	2140.75	282	296	23.8	2.683	0.0	56.8	0.0	49.5	
90A	2141.78	-	-	-	-	-	-	-	-	Stored
93A	2142.67	-	-	-	-	-	-	-	-	Stored
95A	2145.66	-	-	-	-	-	-	-	-	Stored

NOTE: **Corrected*** means mud filtrate taken into account, estimated by Thiocyanate Tracer found in the sample

PROFILE PERMEAMETRY

SAMPLE POINT	DEPTH (m)	PERMEABILITY		COMMENTS	SAMPLE POINT	DEPTH (m)	PERMEABILITY		COMMENTS
		Kinf (md)	Kair (md)				Kinf (md)	Kair (md)	
Core 1					33	2115.53	0.195	0.336	
1	2112.46	0.330	0.527		34	2115.65	0.176	0.308	
2	2112.55	0.024	0.062	Shaly sand	35	2115.74	0.236	0.394	
4	2112.65	1.45	1.96		36	2115.84	0.420	0.650	Shaly sand
5	2112.75	0.017	0.047	Shaly sand	37	2115.98	0.091	0.178	
6	2112.85	0.039	0.089	Shaly sand	38	2116.04	0.574	0.852	
7	2112.95	1.91	2.52		39	2116.17	-	-	Carbonaceous lamina
8	2113.07	1.97	2.59		40	2116.33	5.06	6.26	
10	2113.17	0.030	0.073		41	2116.44	3.96	4.98	
11	2113.25	0.293	0.475		42	2116.53	0.522	0.785	
12	2113.34	0.924	1.31		43	2116.62	-	-	Fracture
13	2113.46	3.23	4.10		44	2116.75	0.971	1.37	
14	2113.56	0.599	0.888		45	2116.83	0.105	0.200	
15	2113.67	0.089	0.175		46	2116.95	0.093	0.181	
16	2113.75	0.022	0.058	Shaly sand	47	2117.05	1.47	1.99	
17	2113.89	0.549	0.819		48	2117.20	1.12	1.56	
18	2113.96	0.843	1.20		49	2117.25	1.39	1.89	
19	2114.05	0.564	0.839		50	2117.34	1.82	2.43	
20	2114.15	0.137	0.249		51	2117.45	-	-	Fracture
21	2114.26	0.079	0.158		52	2117.55	0.485	0.734	
22	2114.36	0.024	0.062		53	2117.64	1.25	1.72	
23	2114.46	0.156	0.278		54	2117.75	6.45	7.85	
24	2114.56	0.179	0.312		55	2117.95	-	-	Carbonaceous parting
25	2114.66	2.00	2.63		57	2118.08	-	-	Fracture
26	2114.75	0.401	0.624		58	2118.17	58.8	64.3	Possible fracture
27	2114.88	-	-	2114.9-2115.3 Rubble	59	2118.25	-	-	Fracture
28	2115.06	2.54	3.28		60	2118.38	-	-	Fracture
30	2115.23	-	-	Fracture	61	2118.49	-	-	Soft core
31	2115.34	0.619	0.914		62	2118.60	-	-	Carbonaceous parting
32	2115.45	-	-	Poor seal	63	2118.64	115	124	Possible fracture

PROFILE PERMEAMETRY

SAMPLE POINT	DEPTH (m)	PERMEABILITY		COMMENTS	SAMPLE POINT	DEPTH (m)	PERMEABILITY		COMMENTS
		Kinf (md)	Kair (md)				Kinf (md)	Kair (md)	
64	2118.77	-	-	Fracture	94	2121.75	7.61	9.16	
65	2118.84	-	-	Fracture	95	2121.90	24.7	27.9	
66	2118.99	-	-	Fracture	96	2121.96	52.3	57.4	
67	2119.07	44.3	49.0		97	2122.03	25.0	28.3	
68	2119.15	5.48	6.74		98	2122.14	20.9	23.8	
69	2119.29	174	185	Fracture?	99	2122.25	0.233	0.392	
70	2119.35	-	-	Fracture	100	2122.35	0.181	0.316	
71	2119.46	-	-	Fracture	101	2122.44	0.063	0.131	
72	2119.55	415	434		102	2122.54	-	-	Fracture
73	2119.63	160	170		103	2122.65	0.151	0.271	
74	2119.76	-	-	Fracture	104	2122.78	0.616	0.912	
75	2119.88	-	-	Fracture	105	2122.85	0.685	1.00	
76	2119.94	-	-	Fracture	106	2122.96	-	-	Shale parting
77	2120.06	61.9	67.6		107	2123.06	0.124	0.230	
78	2120.15	2.82	3.61		108	2123.15	0.519	0.781	2122.9-2124.3 Shale
79	2120.25	3.68	4.64		109	2123.24	0.224	0.378	
80	2120.36	3.81	4.79		110	2123.34	-	-	Fracture
81	2120.44	65.1	70.9	Possible fracture	111	2123.45	0.165	0.291	
82	2120.54	12.8	14.9		112	2123.55	0.266	0.438	
83	2120.65	19.7	22.5		113	2123.66	0.204	0.349	
84	2120.73	16.3	18.8		114	2123.74	0.376	0.590	
85	2120.84	-	-	Carbonaceous parting	115	2123.83	0.088	0.172	
86	2120.95	3.63	4.56		116	2123.93	0.111	0.210	
87	2121.03	10.0	11.9		117	2124.04	0.038	0.089	
88	2121.15	8.67	10.3		118	2124.15	0.115	0.215	
89	2121.25	2.22	2.90		119	2124.25	-	-	Shale parting
90	2121.36	2.95	3.77		120	2124.35	0.126	0.233	
91	2121.45	6.05	7.39		121	2124.46	0.503	0.760	
92	2121.55	4.94	6.13		122	2124.58	0.149	0.268	
93	2121.70	6.21	7.57		123	2124.65	0.078	0.156	

PROFILE PERMEAMETRY

SAMPLE POINT	DEPTH (m)	PERMEABILITY		COMMENTS	SAMPLE POINT	DEPTH (m)	PERMEABILITY		COMMENTS
		Kinf (md)	Kair (md)				Kinf (md)	Kair (md)	
124	2124.76	0.037	0.085		154	2127.74	146	156	
125	2124.83	0.182	0.318		155	2127.88	246	260	Fracture ?
126	2124.95	0.078	0.157		156	2127.96	217	229	Fracture ?
127	2125.05	0.012	0.036		157	2128.08	64.9	70.7	
128	2125.15	0.022	0.058		158	2128.16	62.0	67.8	
129	2125.25	0.008	0.028		159	2128.25	46.9	51.7	
130	2125.33	0.144	0.260		160	2128.33	116	124	
131	2125.45	0.039	0.091		161	2128.44	0.584	0.864	
132	2125.56	0.046	0.103		162	2128.55	113	121	
133	2125.66	-	-	Poor seal	163	2128.63	24.6	27.8	
134	2125.75	0.362	0.571		164	2128.75	98.7	106	
135	2125.85	0.484	0.736		165	2128.85	164	174	
136	2125.93	0.289	0.471		166	2128.93	223	236	
137	2126.05	2.71	3.49		167	2129.05	32.2	36.0	
138	2126.12	0.155	0.277		168	2129.16	8.32	9.97	
139	2126.24	1.11	1.54		169	2129.28	28.4	31.9	
140	2126.33	2.91	3.73		170	2129.36	36.6	40.7	
141	2126.44	9.80	11.6		171	2129.45	47.9	52.8	
142	2126.56	7.21	8.72		172	2129.62	32.3	36.1	
143	2126.64	2.91	3.73		173	2129.67	18.5	21.2	
144	2126.75	0.050	0.110		174	2129.74	24.6	27.8	
145	2126.81	0.555	0.829		175	2129.88	9.06	10.8	
146	2126.94	1.19	1.64	2127-2129m Soft fragile core	176	2129.95	-	-	Poor seal
147	2127.05	38.1	42.3		Core 2				
148	2127.17	13.3	15.5		177	2130.06	33.7	37.7	
149	2127.25	22.5	25.5		178	2130.14	1.07	1.50	
150	2127.36	25.7	29.0		179	2130.23	0.204	0.355	
151	2127.44	105	113		180	2130.42	19.5	22.3	2130.33-60 Rubble
152	2127.56	-	-	Fracture	181	2130.51	15.4	17.8	
153	2127.68	-	-	Fracture	182	2130.65	2.42	3.17	

PROFILE PERMEAMETRY

SAMPLE POINT	DEPTH (m)	PERMEABILITY		COMMENTS	SAMPLE POINT	DEPTH (m)	PERMEABILITY		COMMENTS
		Kinf (md)	Kair (md)				Kinf (md)	Kair (md)	
183	2130.75	0.805	1.17		213	2133.96	21.4	24.3	
184	2130.88	1.96	2.61		214	2134.05	5.37	6.62	
185	2130.95	3.46	4.39		215	2134.14	18.8	21.5	
186	2131.05	9.52	11.3		216	2134.24	35.4	39.4	
187	2131.16	7.44	8.98		217	2134.37	-	-	Fracture
188	2131.24	10.7	12.7		218	2134.48	23.3	26.4	
189	2131.34	5.13	6.36		219	2134.57	58.2	63.7	
190	2131.46	44.5	49.1		220	2134.65	39.3	43.6	
191	2131.56	28.5	32.0		221	2134.78	52.1	57.2	
192	2131.66	3.75	4.74		222	2134.86	50.6	55.6	
193	2131.76	8.98	10.7		223	2134.96	53.9	59.1	
194	2131.87	10.0	11.9		224	2135.05	2.73	3.51	
195	2131.95	19.9	22.8		225	2135.17	1.62	2.17	
196	2132.11	40.0	44.4		226	2135.25	1.19	1.64	
197	2132.15	13.9	16.1		227	2135.35	2.19	2.86	
198	2132.25	11.7	13.7		228	2135.45	0.332	0.529	
199	2132.39	4.06	5.11		229	2135.56	1.23	1.69	
200	2132.45	6.17	7.55		230	2135.64	7.82	9.41	
201	2132.57	11.0	13.0	2132.6-2133.0 Rubble	231	2135.75	13.5	15.7	
202	2132.73	-	-	Fracture	232	2135.85	9.35	11.1	
203	2132.83	6.25	7.63		233	2135.94	1.05	1.47	
204	2132.98	61.8	67.3		234	2136.05	0.846	1.21	
205	2133.05	7.85	9.43		235	2136.14	4.79	5.95	
206	2133.16	9.19	11.0		236	2136.24	1.84	2.44	
207	2133.36	2.45	3.17		238	2136.34	-	-	Poor seal
208	2133.46	6.82	8.29		239	2136.41	9.24	11.0	
209	2133.59	48.1	53.0		240	2136.55	31.1	34.8	
210	2133.67	45.7	50.4		241	2136.66	22.4	25.4	
211	2133.76	8.10	9.70		242	2136.75	29.7	33.3	
212	2133.84	29.0	32.5		243	2136.88	44.3	49.0	

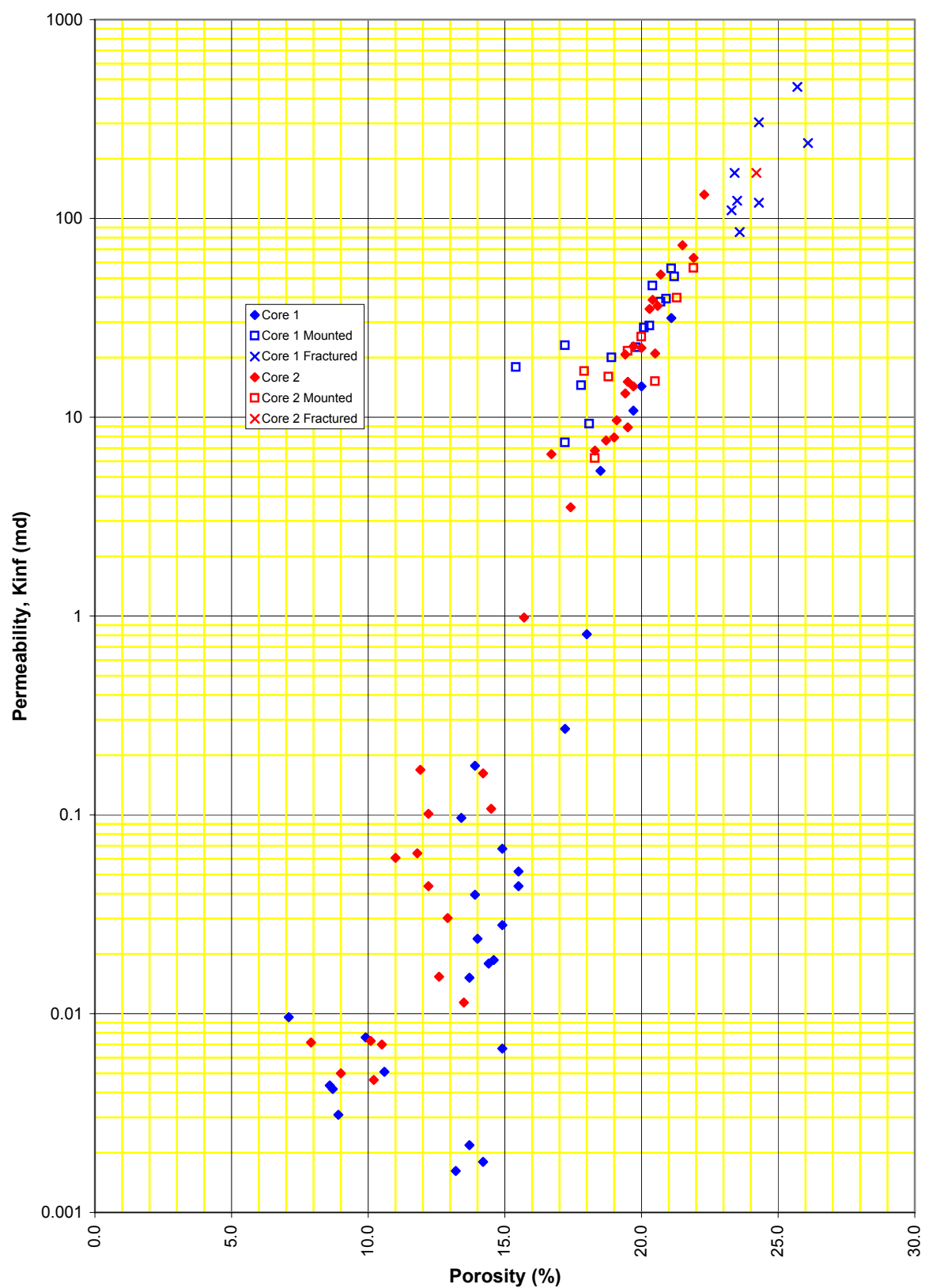
PROFILE PERMEAMETRY

SAMPLE POINT	DEPTH (m)	PERMEABILITY		COMMENTS	SAMPLE POINT	DEPTH (m)	PERMEABILITY		COMMENTS
		Kinf (md)	Kair (md)				Kinf (md)	Kair (md)	
244	2136.95	12.3	14.4	Carbonaceous parting	274	2139.96	-	-	Poor seal
245	2137.03	-	-		275	2140.05	17.7	20.3	
246	2137.15	9.07	10.8		276	2140.15	14.7	17.1	
247	2137.25	9.78	11.6		277	2140.26	7.45	8.98	
248	2137.36	8.15	9.77		278	2140.36	32.3	36.1	
249	2137.45	4.85	6.01	Fracture	279	2140.45	64.3	70.1	
250	2137.56	-	-		280	2140.56	37.8	41.9	
251	2137.69	91.0	98.2		281	2140.66	168	178	
252	2137.79	27.3	30.7		282	2140.77	151	161	
253	2137.86	2.61	3.36		283	2140.85	240	252	
254	2137.90	9.12	10.8		284	2140.95	70.6	76.8	
255	2138.05	8.84	10.5		285	2141.06	159	170	
256	2138.15	15.9	18.3		286	2141.15	50.9	55.9	
257	2138.27	42.4	46.9		287	2141.25	3.73	4.70	
258	2138.36	9.61	11.4		288	2141.38	0.457	0.697	
259	2138.45	50.5	55.5		289	2141.45	0.456	0.696	
260	2138.56	16.2	18.7		290	2141.55	-	-	Carbonaceous parting
261	2138.65	49.4	54.3		291	2141.65	4.05	5.07	
262	2138.75	66.1	72.0		292	2141.75	1.09	1.51	
263	2138.84	85.7	92.6		293	2141.84	2.50	3.23	
264	2138.92	73.1	79.4		294	2141.96	5.38	6.62	
265	2139.09	12.0	14.1		295	2142.06	0.317	0.508	
266	2139.15	3.37	4.26		296	2142.14	-	-	Carbonaceous parting
267	2139.25	0.240	0.400		297	2142.25	0.756	1.09	
268	2139.35	0.430	0.661		298	2142.37	0.546	0.814	
269	2139.44	0.194	0.334		299	2142.46	-	-	Poor seal
270	2139.55	1.07	1.49		300	2142.55	0.391	0.610	
271	2139.65	7.25	8.75		301	2142.69	0.637	0.937	
272	2139.75	14.3	16.6		302	2142.75	1.00	1.41	
273	2139.86	23.2	26.2		303	2142.86	4.14	5.18	

PROFILE PERMEAMETRY

SAMPLE POINT	DEPTH (m)	PERMEABILITY		COMMENTS	SAMPLE POINT	DEPTH (m)	PERMEABILITY		COMMENTS
		Kinf (md)	Kair (md)				Kinf (md)	Kair (md)	
304	2142.95	0.043	0.097	2142.9-2144.0 Shaly sand	334	2145.95	0.017	0.047	
305	2143.05	1.53	2.06		335	2146.05	0.021	0.055	
306	2143.15	0.011	0.034		336	2146.15	0.028	0.069	
307	2143.25	1.44	1.95		337	2146.26	0.057	0.121	
308	2143.35	0.123	0.227		338	2146.35	0.117	0.218	
309	2143.45	0.143	0.257		339	2146.45	0.010	0.032	
310	2143.55	0.258	0.426		340	2146.56	0.265	0.436	
311	2143.65	0.039	0.090		341	2146.66	0.039	0.089	
312	2143.76	0.005	0.020		342	2146.75	0.031	0.074	
313	2143.85	0.156	0.278		343	2146.86	0.016	0.044	
314	2143.95	0.020	0.052		344	2146.95	0.266	0.437	
315	2144.05	0.593	0.880		345	2147.05	1.18	1.62	
316	2144.15	0.276	0.451		346	2147.15	0.004	0.016	
317	2144.25	0.017	0.046		347	2147.25	-	-	Micro fracture
318	2144.36	0.010	0.032		348	2147.34	0.025	0.064	
319	2144.45	0.081	0.161		349	2147.45	0.150	0.268	
320	2144.56	0.891	1.27	Carbonaceous parting	350	2147.55	0.030	0.073	
321	2144.65	-	-		351	2147.66	0.019	0.052	
322	2144.75	-	-	Carbonaceous parting	352	2147.76	0.053	0.115	
323	2144.85	0.046	0.102	Carbonaceous parting	353	2147.86	0.054	0.116	
324	2144.95	0.757	1.09		354	2147.96	-	-	Micro fracture
325	2145.05	-	-						
326	2145.13	0.267	0.440						
327	2145.25	0.114	0.214						
328	2145.35	0.074	0.150						
329	2145.45	0.011	0.034						
330	2145.55	1.05	1.46						
331	2145.69	0.168	0.295						
332	2145.76	0.206	0.352						
333	2145.86	0.329	0.526						

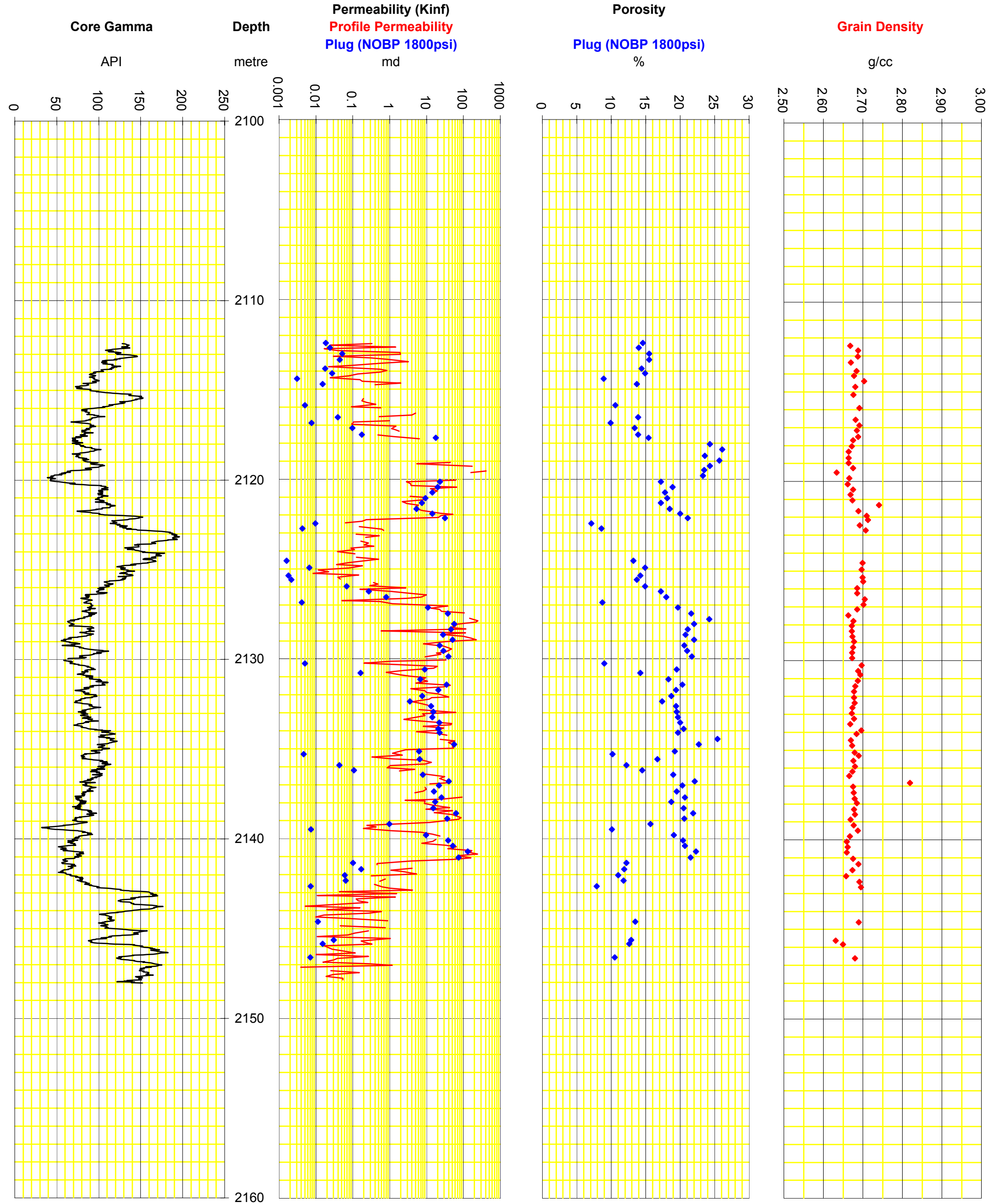
Permeability vs Porosity NOBP 1800psi





INTEGRATED CORELOG
 (Drillers Depths)

VERTICAL SCALE
 1 : 200

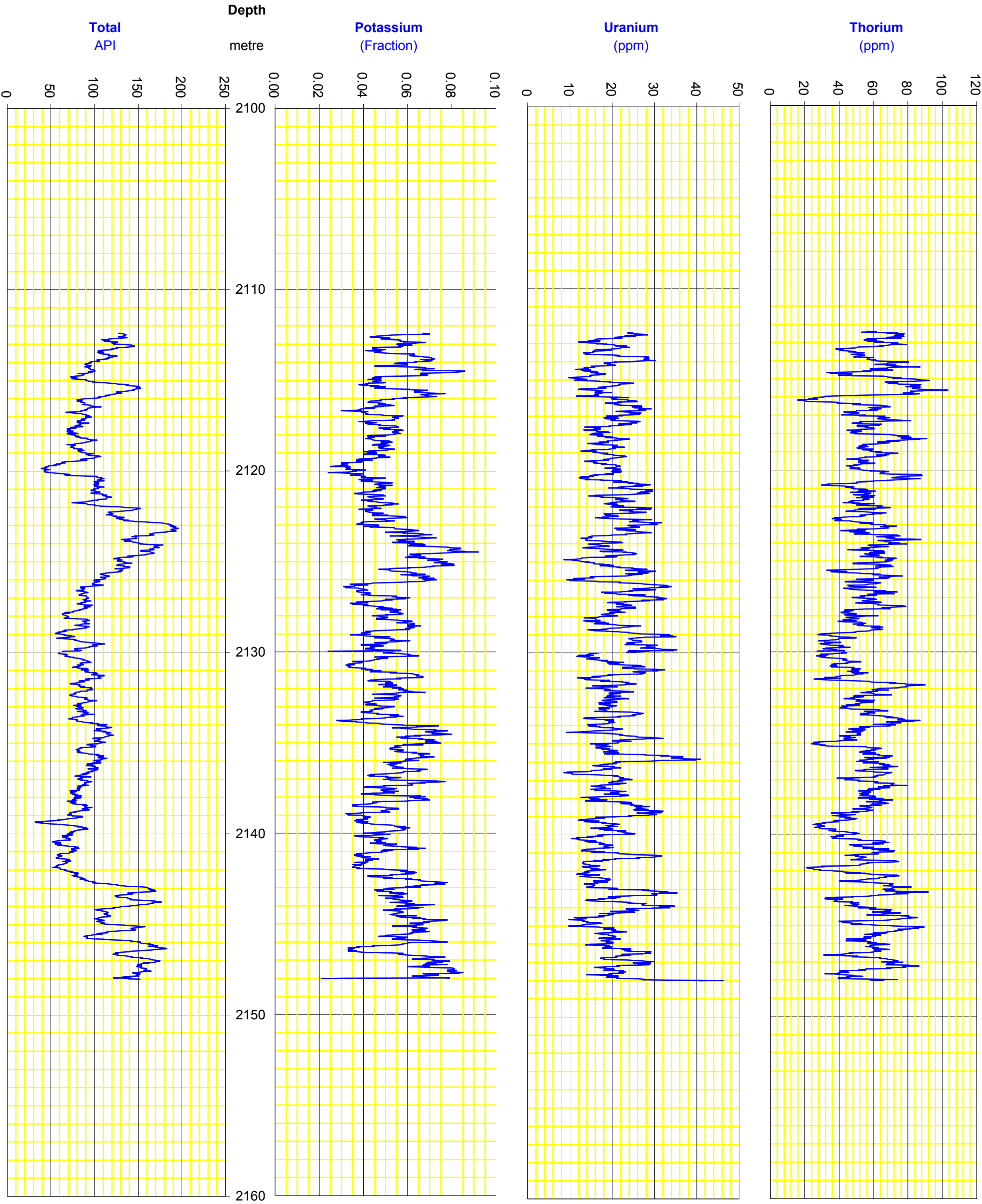




SPECTRAL CORE GAMMA

VERTICAL SCALE
1 : 200

Spectral Gamma



COMPANY : APACHE ENERGY LTD
WELL : LONGTOM-2 ST1

Core Inventory

TUBE	DEPTH (m)	
	TOP	BOTTOM

CORE 1

7	2112.39	2115.00
6	2115.00	2117.60
5	2117.60	2120.37
4	2120.37	2121.60
3	2121.60	2124.40
2	2124.40	2127.20
1	2127.20	2130.00

TUBE	DEPTH (m)	
	TOP	BOTTOM

CORE 2

	2130.00	2132.80
	2132.80	2135.60
	2135.60	2138.45
	2138.45	2139.60
	2139.60	2142.40
	2142.40	2145.20
	2145.20	2148.00

POROSITY, PERMEABILITY and GRAIN DENSITY (AMBIENT)

SAMPLE NUMBER	DEPTH (m)	AMBIENT CONDITIONS			GRAIN DENSITY (g/cc)	COMMENTS
		PERMEABILITY		POROSITY (%)		
		Kinf (md)	Kair (md)			
Core 1						
1	2112.43	0.043	0.089	14.7	2.668	
2	2112.70	0.044	0.098	14.1	2.688	
3	2113.03	0.081	0.164	16.0	2.687	
4	2113.36	0.069	0.142	15.9	2.670	
5	2113.85	0.031	0.076	14.7	2.684	
6	2114.11	0.048	0.108	15.1	2.678	
7	2114.41	0.008	0.017	9.4	2.703	
8	2114.72	0.035	0.077	13.9	2.681	
9	2115.17	-	-	-	2.676	Sample failed
10	2115.95	0.011	0.022	11.0	2.691	
11	2116.24	-	-	-	-	No sample
12	2116.56	0.069	0.135	14.2	2.682	
13	2116.87	0.015	0.033	10.4	2.691	
14	2117.16	0.226	0.402	13.8	2.685	
15	2117.52	0.509	0.766	14.0	2.688	
16	2117.70	42.6	54.9	16.3	2.675	Mounted
17	2118.05	191	240	25.4	2.672	Mounted (Fractured)
18	2118.35	400	501	27.3	2.664	Mounted (Fractured)
19	2118.70	159	205	25.0	2.664	Mounted (Fractured)
20	2118.97	623	752	26.6	2.664	Mounted (Fractured)
21	2119.26	497	656	25.4	2.675	Mounted (Fractured)
22	2119.50	209	256	24.8	2.634	Mounted (Fractured)
23	2119.82	167	197	24.3	2.666	Mounted (Fractured)
24	2120.15	60.8	77.1	18.1	2.662	Mounted
25	2120.45	47.4	57.4	19.8	2.675	Mounted
26	2120.74	35.0	43.7	18.6	2.669	Mounted
27	2121.06	23.7	29.2	18.9	2.674	Mounted
28	2121.33	20.3	23.5	18.0	2.741	Mounted
29	2121.65	6.15	7.34	19.0	2.689	
30	2121.93	15.6	17.4	20.5	2.710	
31	2122.16	34.5	37.7	21.7	2.713	
32	2122.46	0.030	0.056	7.5	2.692	
33	2122.74	0.008	0.020	9.1	2.707	
34	2124.55	0.003	0.008	14.2	2.699	
35	2124.92	0.009	0.019	15.6	2.697	
36	2125.36	0.003	0.008	14.8	2.699	
37	2125.59	0.004	0.009	14.3	2.701	
38	2125.97	0.091	0.154	15.4	2.686	
39	2126.25	0.507	0.733	17.8	2.686	
40	2126.57	0.960	1.190	18.4	2.705	
41	2126.87	0.008	0.019	8.9	2.702	
42	2127.14	11.9	13.4	20.2	2.686	
43	2127.48	76.2	97.5	21.6	2.663	Mounted
44	2127.79	229	273	24.2	2.676	Mounted (Fractured)
45	2128.06	103	126	22.0	2.672	Mounted
46	2128.36	67.6	78.2	21.1	2.672	Mounted
47	2128.66	45.8	53.7	20.8	2.674	Mounted

POROSITY, PERMEABILITY and GRAIN DENSITY (AMBIENT)

SAMPLE NUMBER	DEPTH (m)	AMBIENT CONDITIONS			GRAIN DENSITY (g/cc)	COMMENTS
		PERMEABILITY		POROSITY (%)		
		Kinf (md)	Kair (md)			
48	2128.94	73.2	84.8	22.0	2.678	Mounted
49	2129.26	42.3	49.3	20.6	2.675	Mounted
50	2129.56	47.4	56.7	21.0	2.673	Mounted
51	2129.86	57.1	67.3	21.7	2.673	Mounted
Core 2						
52	2130.26	0.017	0.033	8.9	2.697	Mounted (Fractured)
53	2130.59	16.7	18.9	20.2	2.688	
54	2130.79	0.260	0.399	14.8	2.694	
55	2131.13	7.86	9.00	18.8	2.687	
56	2131.43	39.3	42.2	20.9	2.681	
57	2131.73	22.4	24.4	19.9	2.678	
58	2132.06	8.35	9.57	19.2	2.678	
59	2132.37	3.94	4.64	17.9	2.679	
60	2132.63	14.7	16.4	20.0	2.674	
61	2132.94	16.8	18.8	20.1	2.672	
62	2133.24	16.3	18.2	20.3	2.678	Mounted
63	2133.55	24.5	27.0	20.5	2.668	
64	2133.89	27.5	29.8	21.1	2.696	
65	2134.10	24.2	26.3	20.2	2.684	
66	2134.45	303	379	25.4	2.670	
67	2134.75	83.0	95.6	22.7	2.673	
68	2135.14	17.0	19.6	19.2	2.679	
69	2135.30	0.008	0.021	10.6	2.690	
70	2135.59	10.9	13.9	17.3	2.676	
71	2135.91	0.086	0.149	12.3	2.680	
72	2136.19	0.192	0.312	15.0	2.674	Mounted
73	2136.44	9.20	10.5	19.5	2.666	
74	2136.82	58.3	67.0	22.1	2.819	
75	2137.04	36.7	43.7	20.3	2.675	
76	2137.38	33.4	41.4	19.5	2.677	
77	2137.72	39.7	45.6	20.7	2.679	
78	2137.95	37.0	42.5	18.7	2.685	
79	2138.31	27.7	32.3	20.5	2.678	
80	2138.59	67.4	70.8	22.4	2.680	
81	2138.88	38.7	41.4	21.1	2.669	
82	2139.18	0.859	1.15	16.1	2.677	Mounted
83	2139.48	0.011	0.029	10.5	2.687	
84	2139.80	10.5	11.7	19.7	2.667	
85	2140.10	41.8	45.1	20.9	2.659	
86	2140.40	55.9	59.3	21.2	2.662	
87	2140.71	140	148	22.9	2.659	
88	2141.05	78.5	82.9	22.1	2.675	
89	2141.35	0.168	0.275	12.7	2.689	
90	2141.70	0.306	0.456	12.4	2.674	
91	2142.03	0.157	0.240	11.0	2.658	
92	2142.34	0.129	0.213	11.9	2.691	Mounted
93	2142.64	0.023	0.039	8.3	2.695	
94	2144.61	0.019	0.052	14.0	2.690	

POROSITY, PERMEABILITY and GRAIN DENSITY (AMBIENT)

SAMPLE NUMBER	DEPTH (m)	AMBIENT CONDITIONS			GRAIN DENSITY (g/cc)	COMMENTS
		PERMEABILITY		POROSITY (%)		
		Kinf (md)	Kair (md)			
95	2145.63	0.077	0.123	13.2	2.631	
96	2145.84	0.039	0.073	13.2	2.650	
97	2146.61	0.010	0.027	11.0	2.680	

LONGTOM-2 DRILL STEM TEST 1

FINAL REPORT

LOWER ADMIRAL FORMATION

PERF INTERVAL 2184-2192.5 and 2212.5-2243.5 MDBRT

VIC/P54

Prepared for:
Apache Energy Limited

Prepared by:
Focal Petroleum Engineering Pty Ltd.

December, 2004





ABN No. 18 061 691 450

Reservoir Engineering & Simulation - Well Testing - Oil & Gas Property Evaluation

16th December, 2004

Apache Energy Limited
Level 3,
256 St George's Terrace,
Perth, WA, 6000

Attention: Mr Robert Benkovic

Dear Sir,

RE: LONGTOM-2 DRILL STEM TEST 1 FINAL REPORT

Longtom-2 was drilled as an exploration well in order to evaluate the hydrocarbon potential of the Admiral Formation. A significant hydrocarbon-bearing interval was identified by MWD logs within the formation. Attempts to obtain wireline formation logs and pressure data were unsuccessful therefore a large test interval was required to be perforated to establish the productivity of the Admiral Formation. In order to minimise wellbore and cross flow effects, the sands were segmented into two test intervals identified as the Upper and Lower Admiral test intervals. Upon completion of the DST 1, the zone was isolated by cement to allow testing of the Upper Admiral Sandstone to proceed. This interim report is focused on the test conducted on the Lower Admiral Sandstone perforated over the intervals 2184-2192.5 and 2212.5-2243.5 mdbrt.

Expro provided the surface welltest and subsea equipment. Halliburton was responsible for the TCP guns and the annular controlled downhole test tools. Petrotech provided onsite fluid analysis and PVT sampling. Icor provided surface corrosion monitoring and AWT was responsible for the overall test coordination, design and supervision. Focal Petroleum assisted in the test design and provided offshore reservoir engineering support.

Two gauge carriers were utilised in the test string with four gauges included in each of the carriers. The upper gauge carrier had two gauges ported to the formation and two monitoring the annulus pressure. The lower gauge carrier contained four gauges ported to measure the formation pressure. Expro's 400 SQ gauge #40586 located in the lower carrier was utilised for the analysis. The pressure measurement port was located at 1989.2 mdbrt. The measured gas gradient of 0.063 psi/ft was applied to the recorder run depth to establish the pressures at the mid point of perforations depth of 2213.8 mdbrt. A further correction was applied to correct mdbrt to the true vertical depth.



During the test no significant volume of condensate was produced. As a result, a molar recombination of the high-pressure condensate and gas flow volumes will not be utilised for the purposes of the test report. As with the interim report, the onsite gas analysis obtained by Petrotech was used for the final report. The laboratory analysis undertaken by Corelab was similar in overall gas composition and as a result, the onsite gas composition provided by Petrotech was utilised for the purposes of the final test report. The gas analysis results provided by Corelab have been included in the main body of the report under fluid analysis for perusal purposes.

Due to the flow dynamics associated with the drawdown period, the analysis of the pressure data was focused on the buildup period.

Visual inspection of the log-log pressure derivative plot of the pressure data is consistent with a reservoir demonstrating a low permeability to gas with negligible near wellbore damage.

The late time pressure response is indicative of a slight increase in kh/u either laterally or vertically away from the wellbore.

In order to confirm the estimates of the conventional interpretation and to more fully describe the reservoir flow characteristics of the zone of interest, Pressure History Matching (Analysis by Synthesis) was conducted. Three models were investigated (Composite, Multi-Layer and Vertical models). Given the non-uniqueness of the pressure response, all models provided similar results for P_i , kh , s and provided good agreement with the analytical results. The Composite and Multi-Layer models provided the best match of the entire data set and were considered most consistent with the known geology of the test interval.

For the purposes of the executive summary only the **Composite** analysis results have been summarised. In order to construct the deliverability plots, the average reservoir pressure and stabilised rate predictions from the composite model has been used.

The results of both the **Multi-layer** simulation model and the conventional analysis are discussed in more detail in the main body of the test report.

The results of the Analysis by Synthesis **Composite** model are as follows:

Average Reservoir Pressure @ MPP ($P_i = P_r$)	3873	psia
Apparent Skin Factor	+0.5	

Region 1

Net Pay	113	ft	(34.4 m)
Average Effective Permeability to gas	1.4	md	
Formation Flow Capacity	155	md.ft	(39.4 mD.m)
Region Radius	25	ft	(7.6 m)

Region 2

Net Pay	113	ft	(34.4 m)
Average Effective Permeability to gas	0.7	md	
Formation Flow Capacity	79	md.ft	(39.4 mD.m)
Region Radius	33	ft	(10.0 m)

Region 3

Net Pay	113	ft	(34.4 m)
Average Effective Permeability to gas	1.4	md	
Formation Flow Capacity	158	md.ft	(39.4 mD.m)
Region Radius	Infinite		

Stabilised Sandface AOF	15.9	MMscf/day
-------------------------	------	-----------

Stabilised Wellhead AOF	14.9	MMscf/day
-------------------------	------	-----------

A more detailed discussion of the test results and interpretation follow in the main body of the report.

If further clarification of the test interpretation is required, please contact the undersigned on (08) 9474 9622

Yours faithfully,

FOCAL PETROLEUM ENGINEERING PTY LTD

Terry Primeau

MANAGING DIRECTOR

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DISCUSSION

DISCUSSION

DST 1 was a cased hole test conducted through 4½" tubing stung into a permanent packer. Tubing conveyed perforating guns were used to perforate the Lower Admiral test interval over 2184-2192.5 and 2212.5-2243.5 mdbrt. The guns were not dropped off prior to flow testing. Annular activated circulating and shutin tools were used to initiate and terminate the downhole test.

The test consisted of a 10-minute pre flow against a closed choke followed by a one hour subsurface pressure buildup.

The clean-up/main flow period was of twelve (12) hours duration followed by a subsurface pressure buildup of twelve (12) hours. The well stream was initially produced to a surge tank to recover the diesel cushion and diverted to flare when gas was recovered. Once the well was cleaned up sufficiently, the well was trimmed through the three phase test separator to establish gas, condensate and water rates.

The scheduled rate after rate flow period was aborted due to the low deliverability encountered during the cleanup/main flow period. As a result, the test was terminated at the conclusion of the twelve hour buildup period.

During the twelve hour flow period, the gas flow rate declined from 20.0 MMSCF/D @ FTP=1036 psig to 19.1 MMSCF/D @ FTP = 965 psig and had not stabilised at the time of shutin.

Volumes produced during the cleanup/main flow are as follows:

Cum Gas Produced	7.65 mmscf
Cum Condensate	20.2 bbl
Avg Condensate/gas ratio	2.6 bbl/mmscf
Cum Water Produced	11.1 bbl
Avg water/gas ratio	1.45 bbl/mmscf

PRESSURE TRANSIENT ANALYSIS

Due to the flow dynamics associated with the drawdown period, the analysis of the pressure data was focused on the buildup period.

Visual inspection of the log-log pressure derivative plot of the pressure data is consistent with a reservoir demonstrating a low permeability to gas with negligible near wellbore damage. The first hour of buildup demonstrates radial or pseudo radial flow conditions. This is followed by a transition period of approximately ½ hour after which there is a slight decrease in the late time pressure derivative slope that is most likely indicating an increase in kh or decrease in u , laterally or vertically away from the wellbore. The terminal derivative data is flattening indicating the onset of radial flow conditions for the late time region.

In order to provide estimates of the reservoir flow parameters using conventional analysis techniques; log-log and semi-log analysis, radial flow conditions were assumed to exist during the initial and final hour of buildup time based on the pressure derivative response. A best fit of the corresponding semilog pressure data provided estimates of the early and late time reservoir parameters, which are summarised below as Zone 1 and Zone 2.

Average Reservoir Pressure @ MPP	3866	psia
Apparent Skin Factor (s)	+0.2	

Zone 1

Net Pay	113	ft	(34.4 m)
Average Effective Permeability to gas	1.3	md	
Formation Flow Capacity	145	md.ft	(39.4 mD.m)
Region Radius	25	ft	(7.6 m)

Zone 2

Net Pay	113	ft	(34.4 m)
Average Effective Permeability to gas	1.5	md	
Formation Flow Capacity	173	md.ft	(39.4 mD.m)
Radius of Investigation	121	ft	(36.9 m)

ANALYSIS BY SYNTHESIS

In order to confirm the estimates of the conventional interpretation and to more fully describe the reservoir flow characteristics of the zone of interest, Pressure History Matching (Analysis by Synthesis) was conducted. Three models were investigated (Composite, Multi-Layer and Vertical models). Given the non-uniqueness of the buildup pressure response, all models investigated provided similar results for the dominant reservoir flow characteristics. The Composite and Multi-Layer models provided the best match of the data and were considered most consistent with the known geology of the test interval.

The results of the **Composite** model are as follows:

Average Reservoir Pressure @ MPP	3873	psia
($P_i = P_r$)		
Apparent Skin Factor	+0.5	

Region 1

Net Pay	113	ft	(34.4 m)
Average Effective Permeability to gas	1.4	md	
Formation Flow Capacity	155	md.ft	(39.4 mD.m)
Region Radius	25	ft	(7.6 m)

Region 2

Net Pay	113	ft	(34.4 m)
Average Effective Permeability to gas	0.7	md	
Formation Flow Capacity	79	md.ft	(39.4 mD.m)
Region Radius	33	ft	(10.0 m)

Region 3

Net Pay	113	ft	(34.4 m)
Average Effective Permeability to gas	1.4	md	
Formation Flow Capacity	158	md.ft	(39.4 mD.m)
Region Radius	Infinite		

The results of **the Multi-Layer** model are as follows:

Average Reservoir Pressure @ MPP	3861	psia
----------------------------------	------	------

Layer 1

Net Pay	9.8	ft	(3 m)
Average Effective Permeability to gas	1.2	md	
Formation Flow Capacity	12	md.ft	(39.4 mD.m)
Apparent Skin Factor	0.5		
Layer Radius	18	ft	(5.4 m)

Layer 2

Net Pay	103	ft	(31.4m)
Average Effective Permeability to gas	1.6	md	
Formation Flow Capacity	164	md.ft	(39.4 mD.m)
Apparent Skin Factor	+1		
Layer Radius	Infinite		

Both simulation models predicted similar estimates of the stabilised flow rate which were circa 5.5 MMcf/d lower than the final measured test flow rate.

RESERVOIR PRESSURE

The gas gradient of 0.063 psi/ft calculated between the gauges positioned in the upper and lower pressure gauge carriers was used to correct the recorder run depth pressures to reservoir conditions.

The final measured buildup pressure was 3767 psia after 12 hours. The pressure was still increasing at the time the test was terminated. The initial synthetic reservoir pressure of 3873 psia @ mpp is considered to be a reasonable estimate of the average reservoir pressure and has been used for report purposes.

AOF POTENTIAL AND DELIVERABILITY

The Absolute Open Flow potential of a well is the rate at which the well would produce against zero sandface backpressure. Both the sandface and wellhead AOF's were determined using F.A.S.T. AOF. Since the well was flowing at virtually AOF conditions, an assumed slope of $n, n_t = 1.0$ was applied to the calculated stabilised flow point to provide estimates of the AOF potential of the well.

The results of the Stabilised AOF Predictions are as follows:

Stabilised Sandface AOF	15.9	MMscf/day
Stabilised Wellhead AOF	14.9	MMscf/day

DATA VALIDATION

DATA VALIDATION

Eight gauges were run in the DST tool string, of which six measured the tubing pressure below the PCT valve and two measured the annulus pressure. Of the gauges that measured below the PCTV, four Expro 400 SQ gauges were located in the lower carrier at 1989.2 and 1993.8 mdbrt (# 51248, # 40586, # 62078 and # 53553) and two gauges in the upper carrier at 1971.4 and 1976.3 mdbrt (EXPRO 400 SQ 61781 and EXPRO 100 # 20466).

All gauges recorded pressure and temperature data for the duration of the test. Data from both carriers was examined to identify unusual or non-reservoir pressure responses.

Figure 1 shows the data set for the lower gauge carrier for the entire recorder period. Figure 2 focuses on the main flow/build up period. Figure 3 is a zoomed portion of the buildup period. Figure 4 demonstrates that the gauges in the lower carrier pressure agree within 2 psi during the main build up sequence.

Figure 5 shows the entire data set for the lower gauge #40586 which was used for analysis purposes. Figure 6 is a plot of the entire data set for the upper gauge carrier.

Figure 7 is an overlay plot of the lower gauge carrier for the flow and buildup period.

FLOW VOLUMES

Gas flow rates and volumes provided by EXPRO were verified for accuracy using F.A.S.T Field Notes and accepted as presented. Liquid production rates and volumes were also accepted as presented. Since there was no significant condensate production during the test, a molar recombination of the high-pressure condensate and gas flow volumes will be not be incorporated into the test report.

RESERVOIR AND FLUID PARAMETERS

Values of net pay, porosity and water saturation were accepted as presented by Apache Energy. Onsite fluid parameters provided by Petrotech have been used for the purposes of this report.

Longtom 2 DST 1 Lower Gauge Carrier

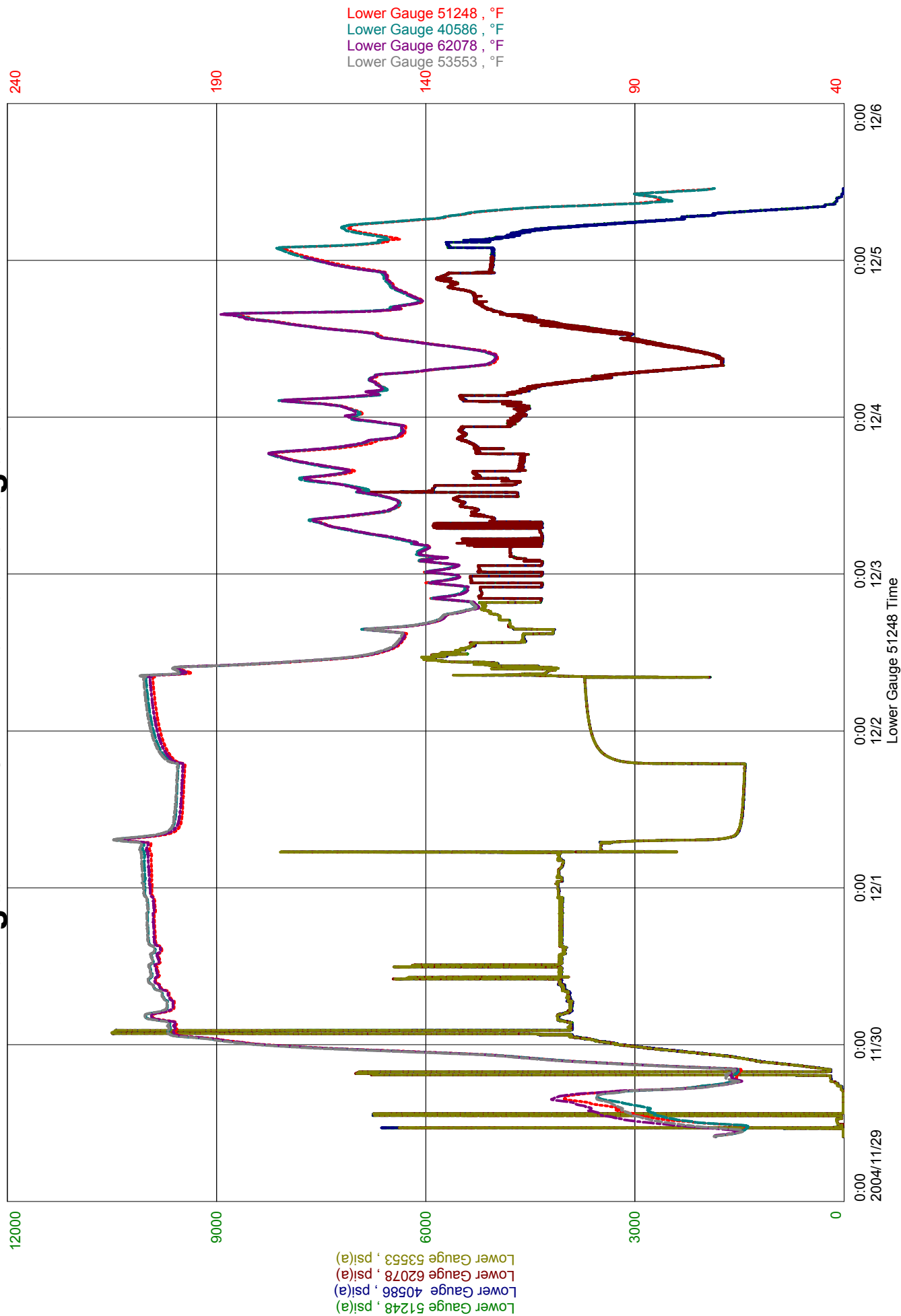


FIGURE 1

Longtom 2 DST 1 Lower Gauge Carrier

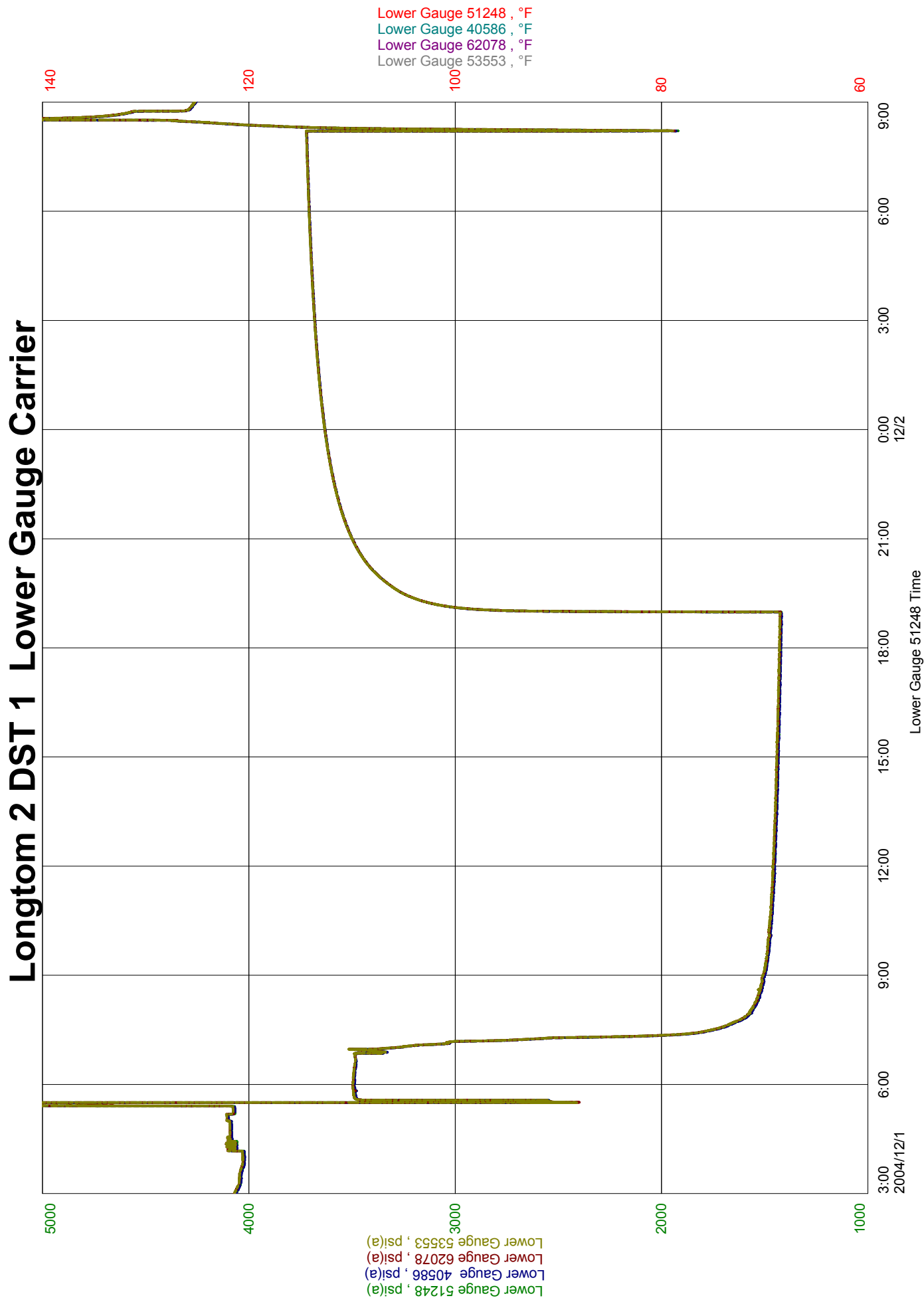


FIGURE 2

Longtom 2 DST 1 Lower Gauge Carrier

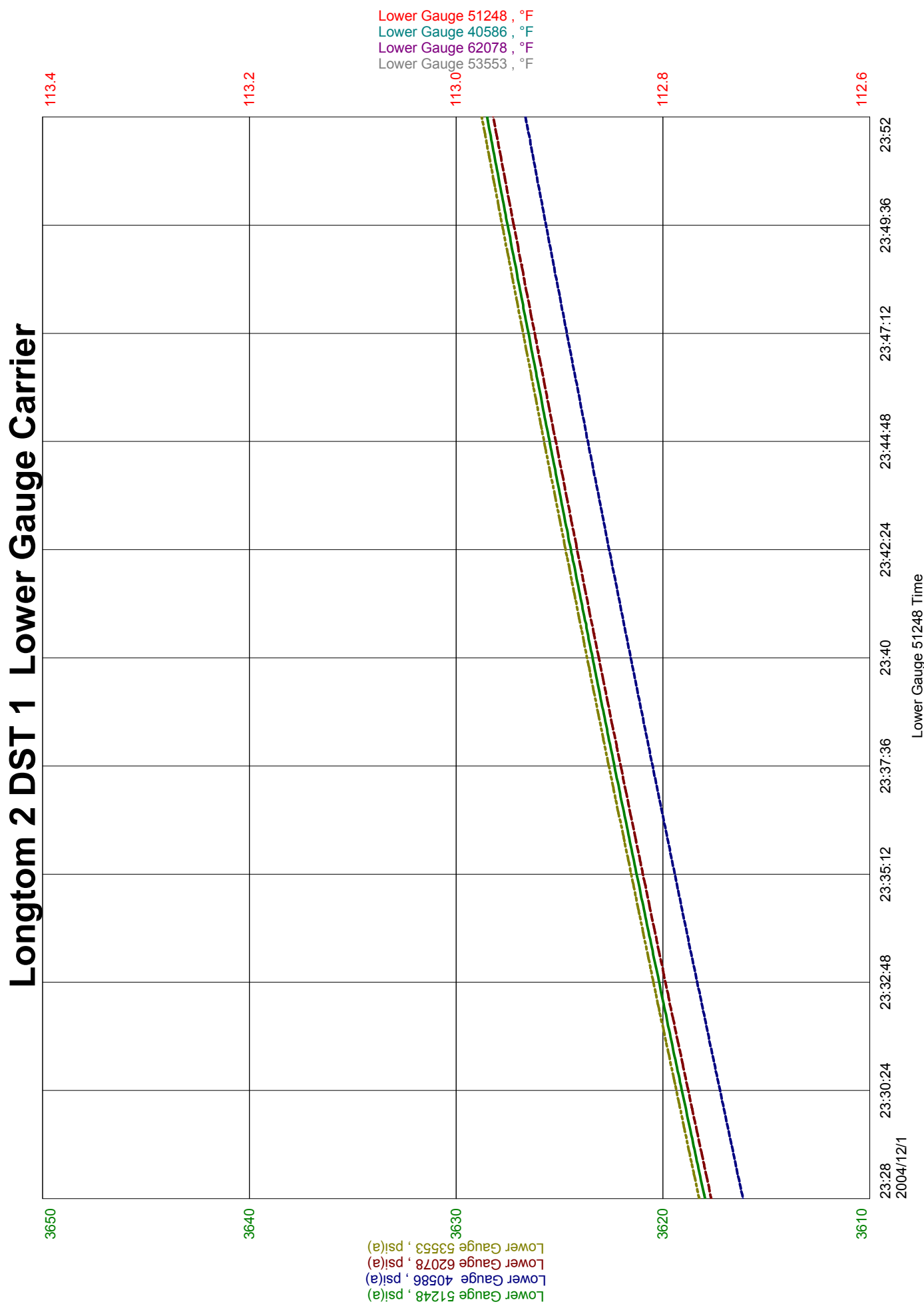
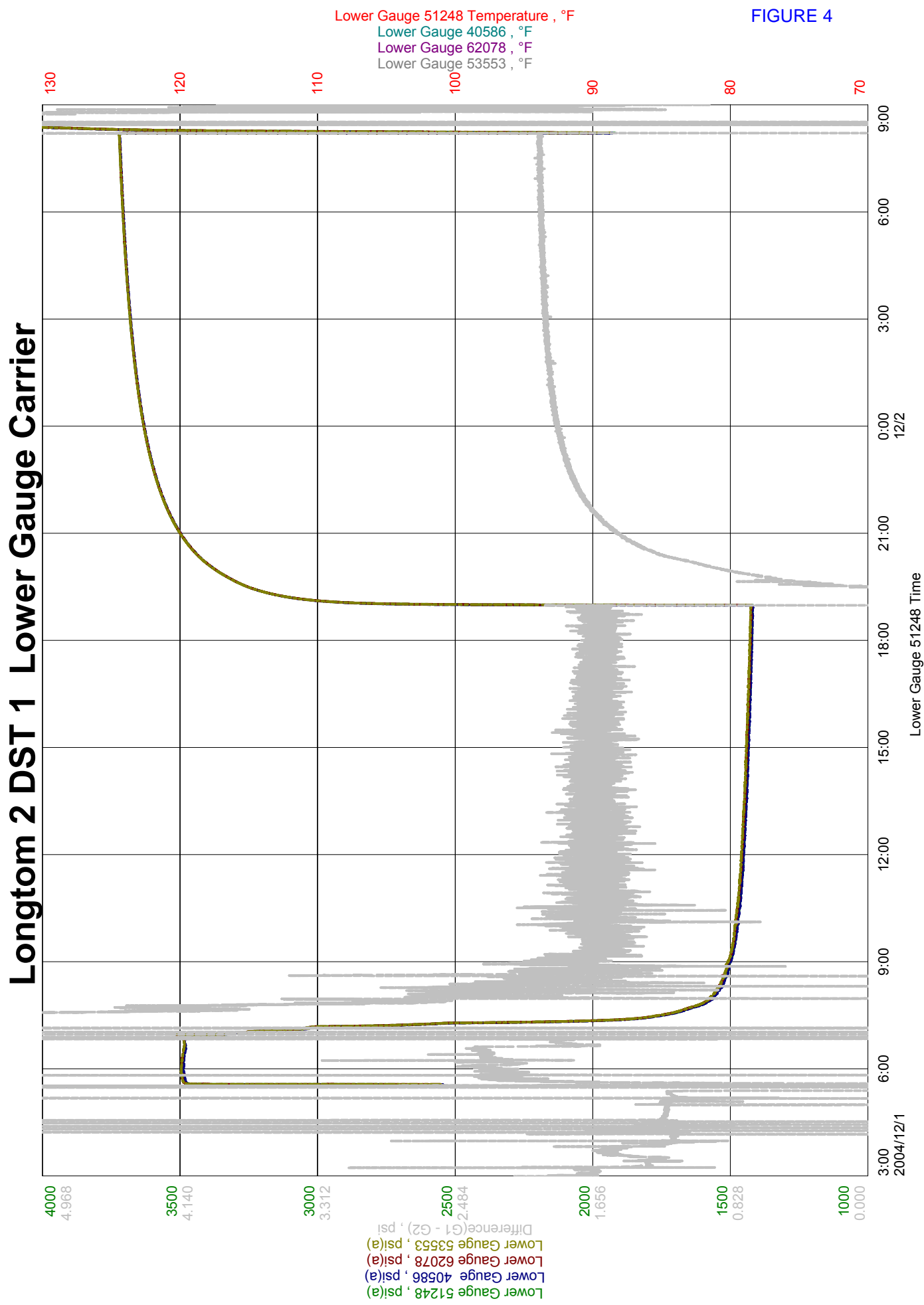


FIGURE 3

Longtom 2 DST 1 Lower Gauge Carrier



Longtom 2 DST 1 Lower Gauge Carrier

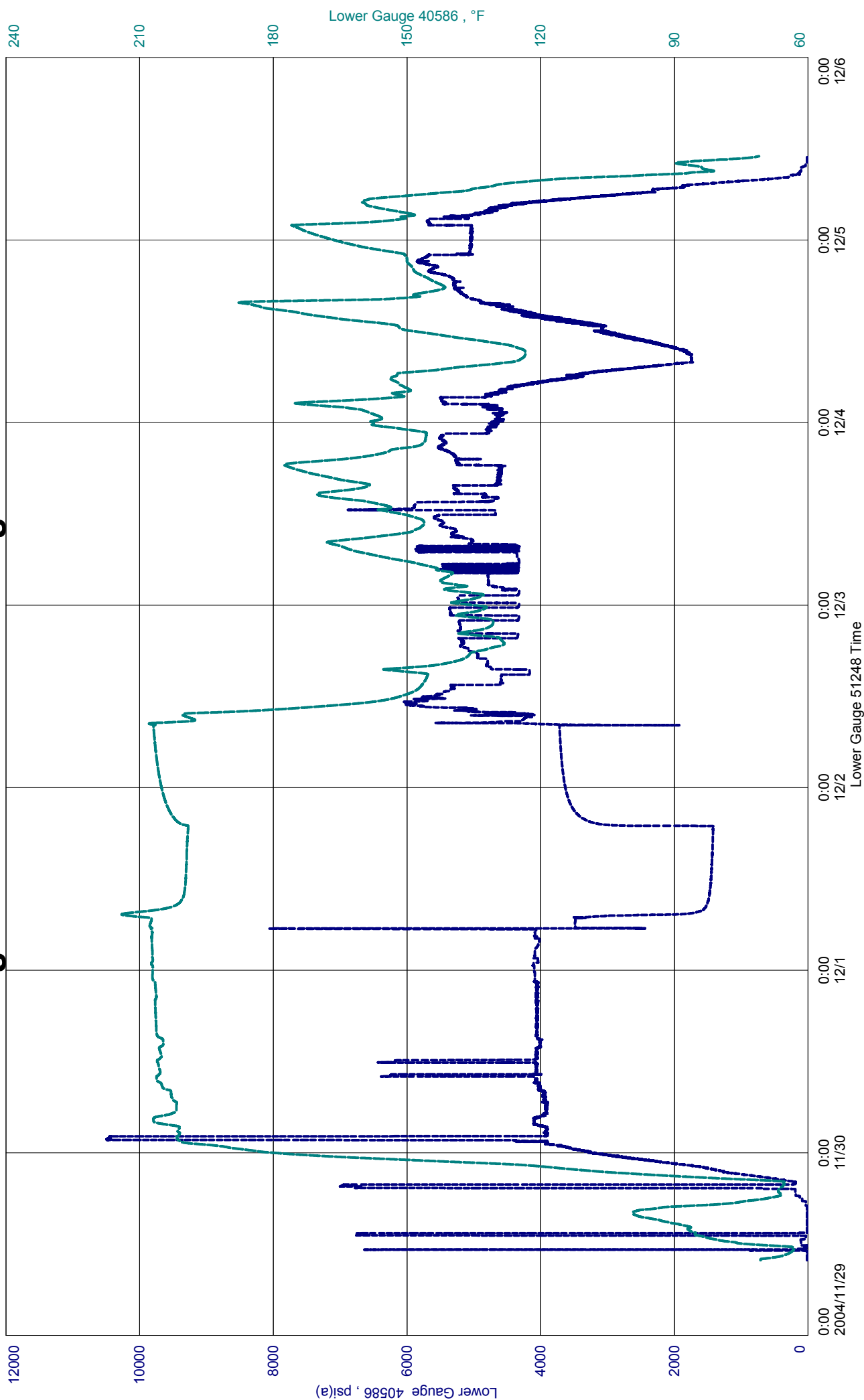


FIGURE 5

Longtom 2 DST 1 Upper Gauge Carrier

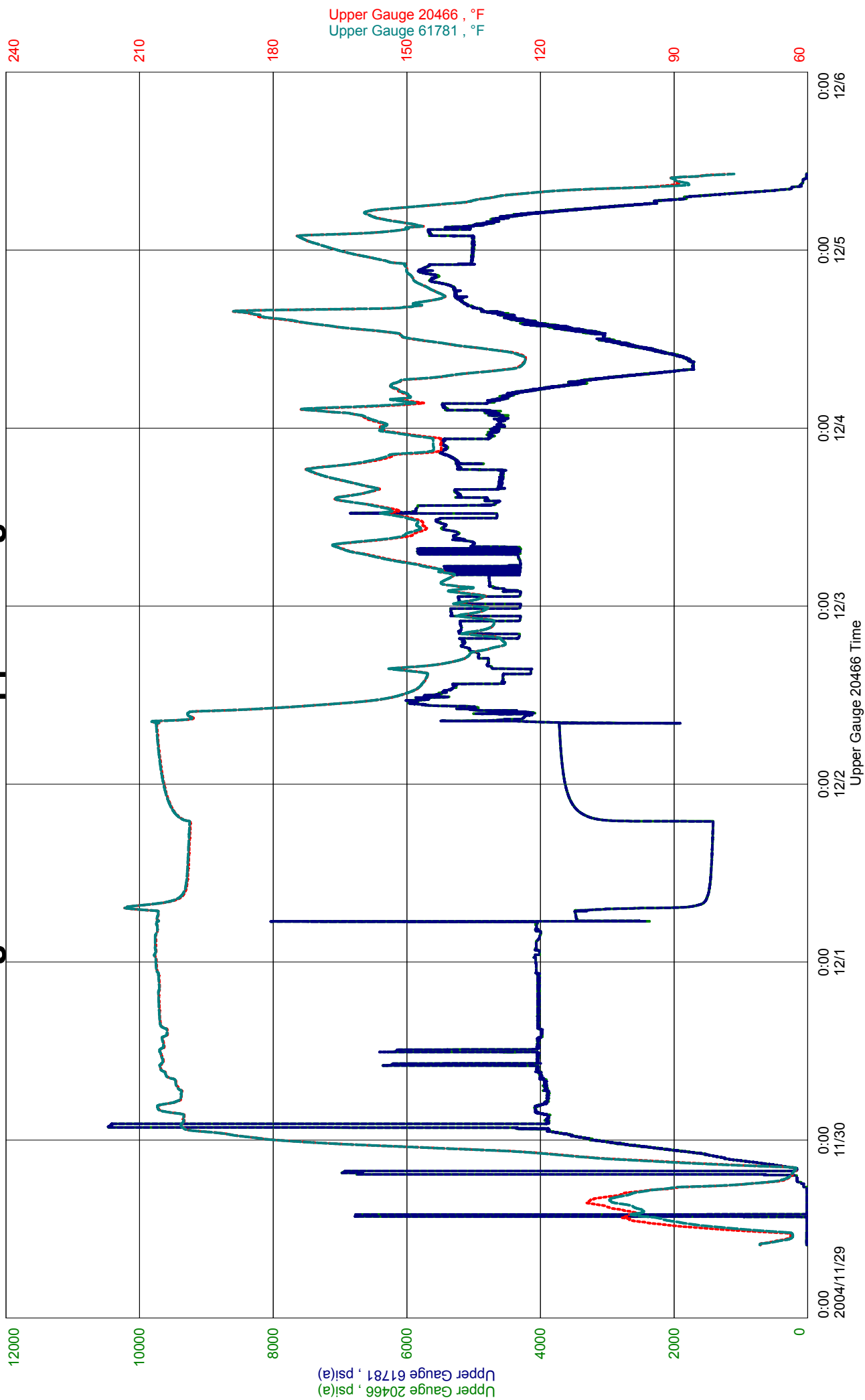


FIGURE 6

Longtom 2 DST 1 Upper Gauge Carrier

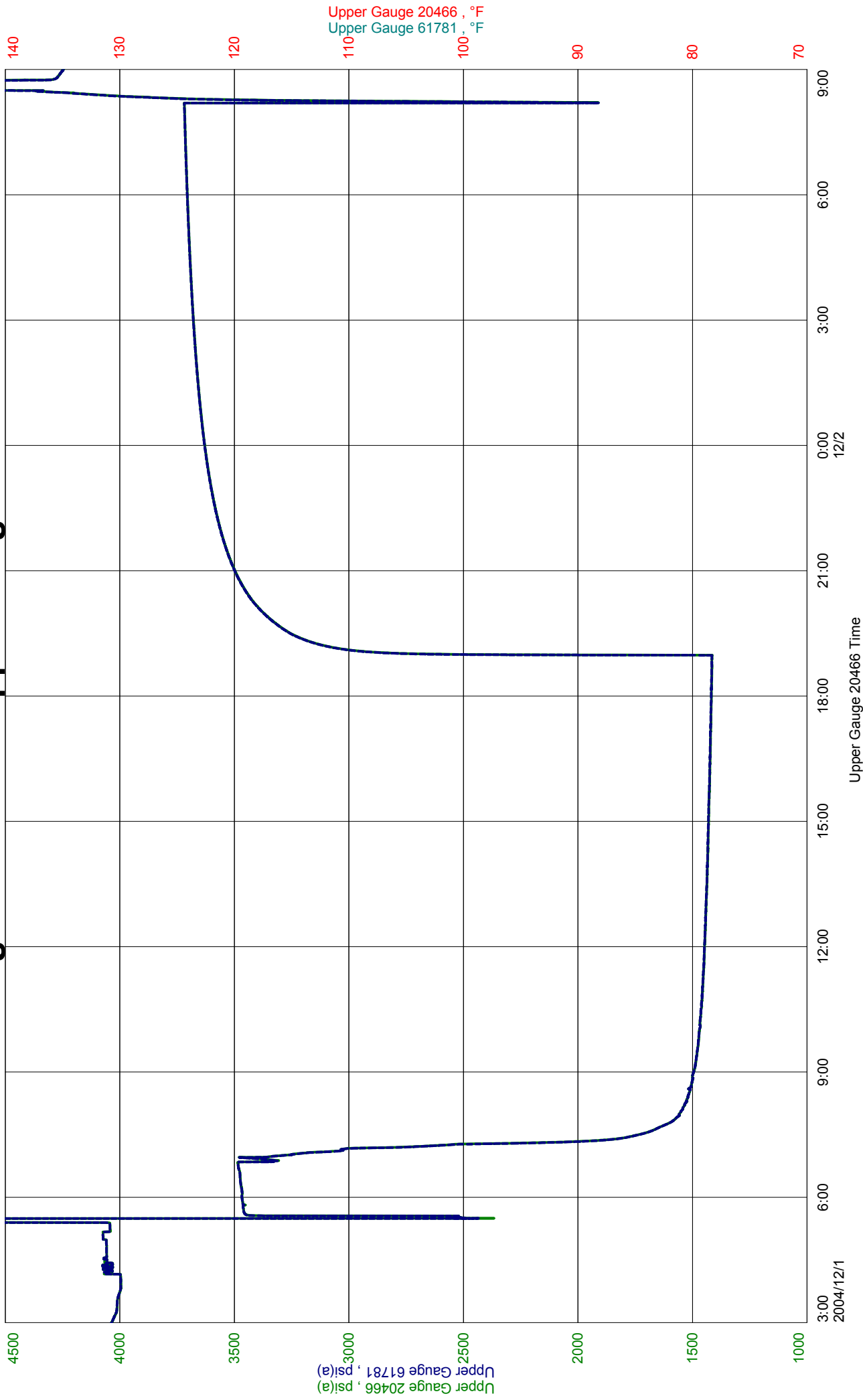


FIGURE 7

AOF AND DELIVERABILITY

Sandface Deliverability Simplified Analysis

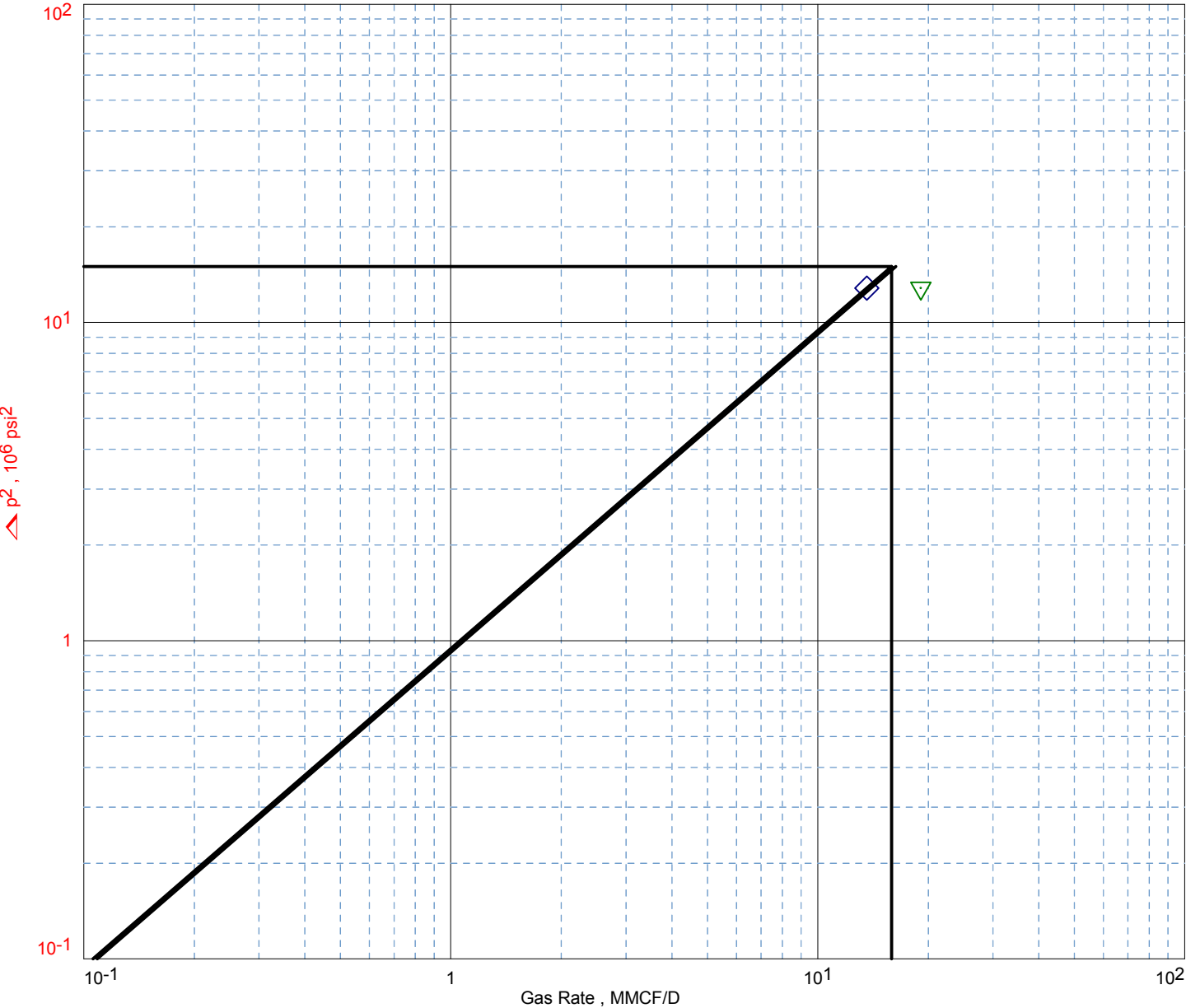
(Pressure Squared)

Longtom 2
Lower Admiral Formation

2184-2243.5 mdbrt
December 1-2, 2004

	Time	Sandface Pressure	Pressure Squared	△ Pres. Squared	Gas Rate
	hr	psi	10 ⁶ psi ²	10 ⁶ psi ²	MMCF/D
Extended Flow	12.0000	1472.00	2.17	12.83	19.100
Stab. Shut-in		3873.00	15.00		
Stab. Flow		1472.00	2.17	12.83	13.600

	Stabilized	Extended	Transient
AOF	15.896	22.325	MMCF/D
n	1.000	1.000	
C	1.060e-6	1.488e-6	MMcfd/(psi ²) ⁿ



Wellhead Deliverability Simplified Analysis

(Pressure Squared)

Longtom 2
Lower Admiral Formation

2184-2243.5 mdbrt
December 1-2, 2004

	Time	Wellhead Pressure	Pressure Squared	△ Pres. Squared	Gas Rate
	hr	psi	10 ⁶ psi ²	10 ⁶ psi ²	MMCF/D
Extended Flow	12.0000	979.00	0.96	9.93	19.100
Stab. Shut-in		3300.00	10.89		
Stab. Flow		979.00	0.96	9.93	13.600

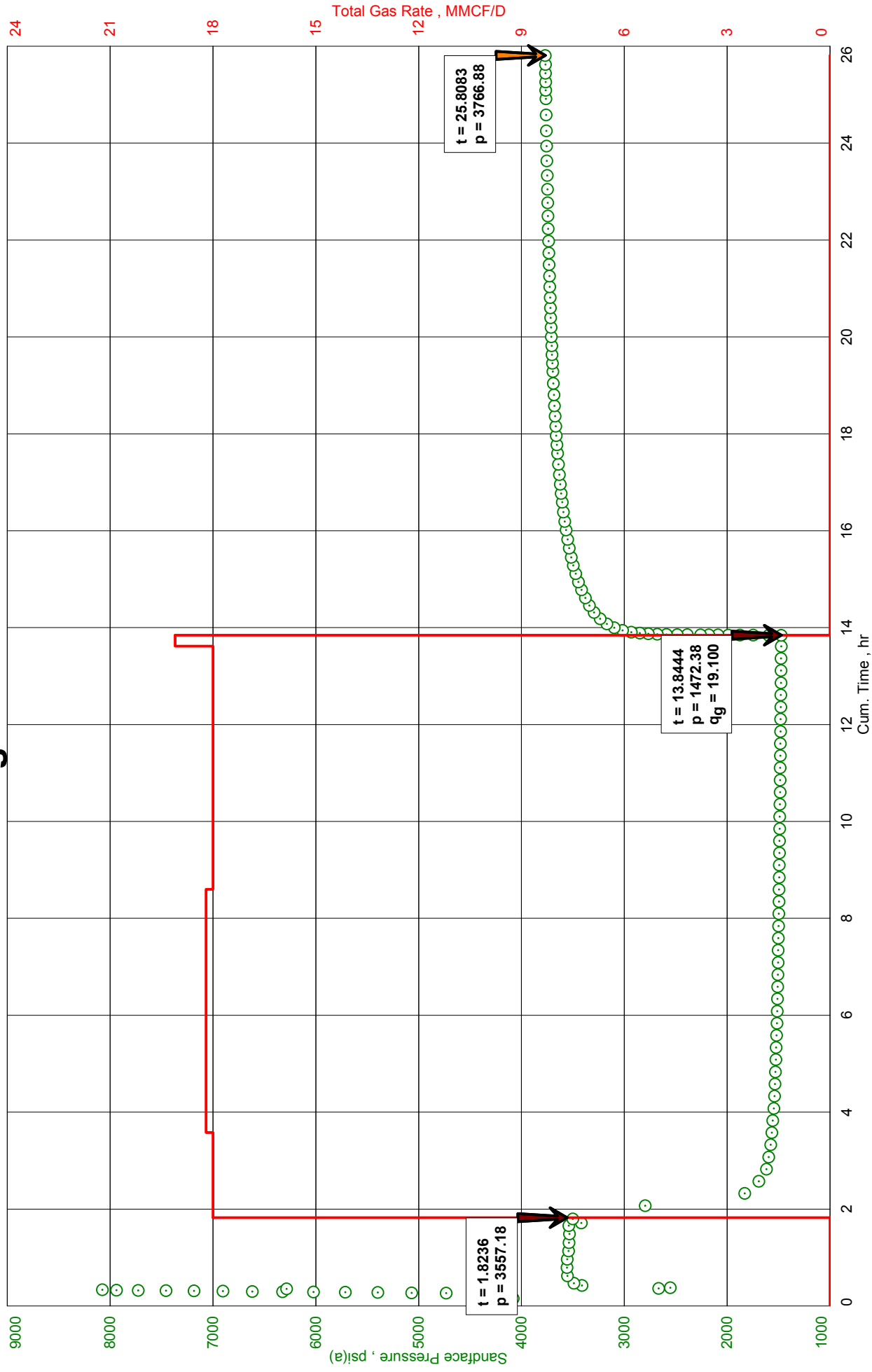
	Stabilized	Extended	Transient
AOF	14.912	20.943	MMCF/D
n	1.000	1.000	
C	1.369e-6	1.923e-6	MMcfd/(psi ²) ⁿ



PRESSURE BUILD UP ANALYSIS

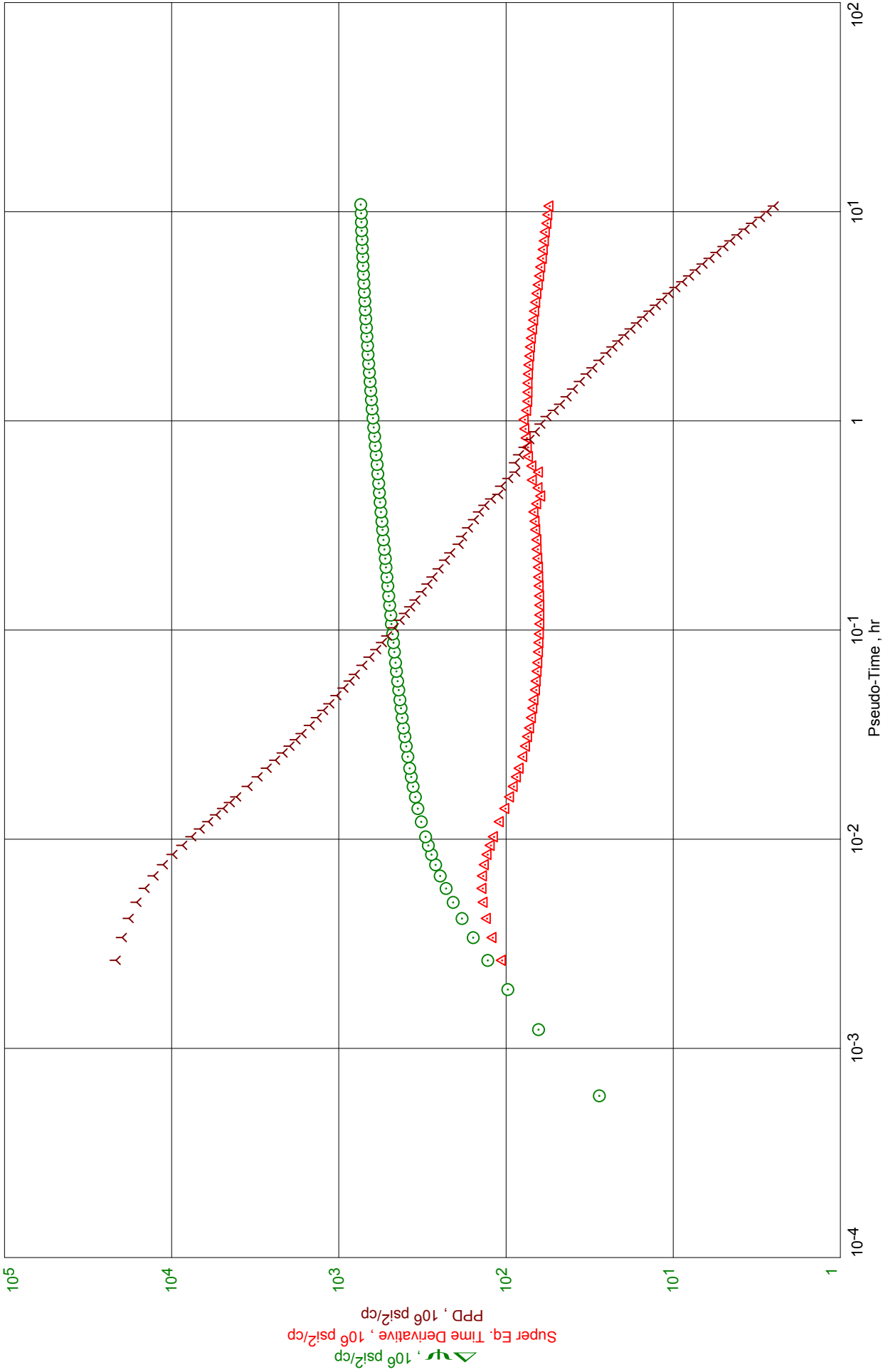
Longtom 2
Lower Admiral Formation
2184-2243.5 mdbrt
December 1-2, 2004

Longtom 2 DST 1



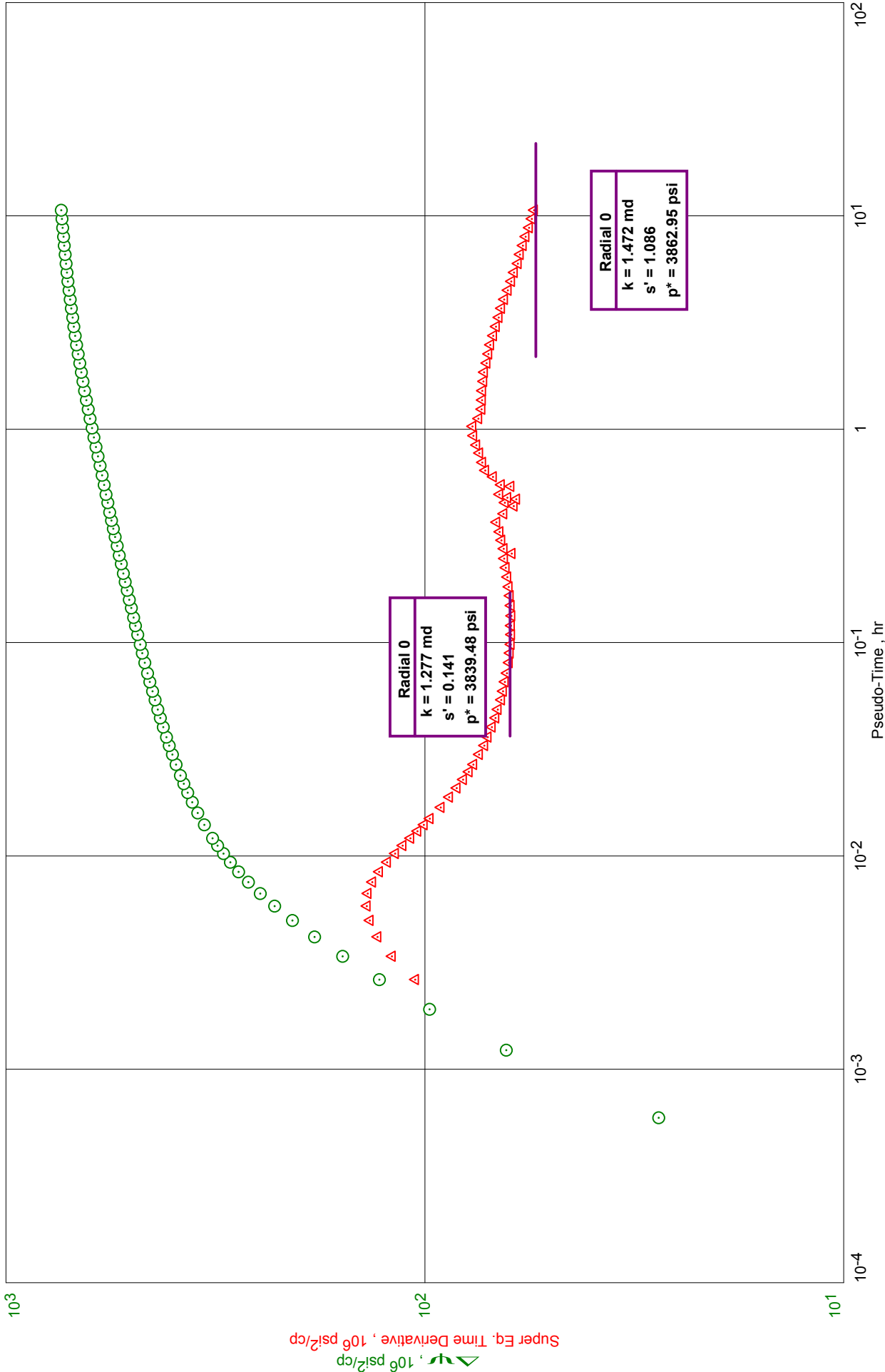
Longtom 2
Lower Admiral Formation
2184-2243.5 mdbrt
December 1-2, 2004

DERIVATIVE



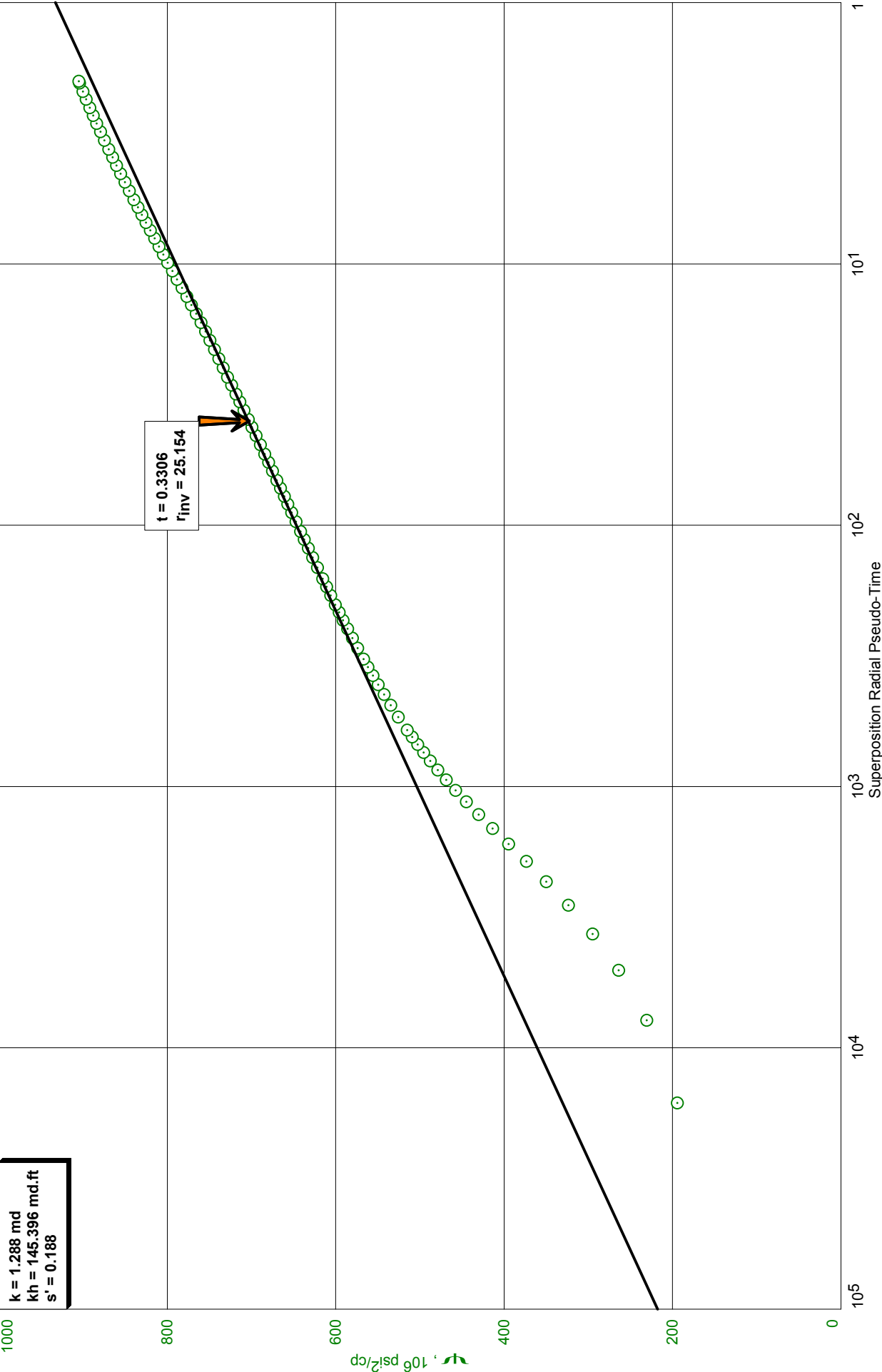
Longtom 2
Lower Admiral Formation
2184-2243.5 mdbrt
December 1-2, 2004

DERIVATIVE



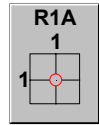
Longtom 2
Lower Admiral Formation
2184-2243.5 mdbrt
December 1-2, 2004

RADIAL



Gas Well Test - Buildup

Radial Flow Analysis



Longtom 2

2184-2243.5 mdbrt

Lower Admiral Formation

December 1-2, 2004

Analysis Results

Total Sandface Rate (q_{tBt})	15400.654 bbl/d	Apparent Skin (s')	0.188
Semilog Slope (m)	142.989	Skin - Damage	0.188
Gas Permeability (k_g)	1.288 md	Skin - Inclination	0.000
Oil Permeability (k_o)	md	Skin - Partial Penetration	
Water Permeability (k_w)	md	Pressure Drop Due to Skin (Δp_s)	104.01 psi
Flow Capacity (kh)	145.396 md.ft	Damage Ratio (DR)	1.030
Total Mobility (k/μ_t)	60.23 md/cp	Flow Efficiency (FE)	0.970
Total Transmissivity(kh/μ_t)	6797.28 md.ft/cp		

Reservoir Parameters

Net Pay (h)	112.861 ft
Total Porosity (ϕ_t)	19.00 %
Water Saturation (S_w)	39.00 %
Oil Saturation (S_o)	0.00 %
Gas Saturation (S_g)	61.00 %
Wellbore Radius (r_w)	0.30 ft
Formation Temperature (T)	207.0 °F
Formation Compressibility (c_f)	3.725e-6 psi ⁻¹
Total Compressibility (c_t)	1.274e-4 psi ⁻¹

Pressures

Initial Pressure (p_i)	3900.00 psi
Extrapolated Pressure (p^*)	3838.98 psi
Ave. Reservoir Press	3838.44 psi
Final Flowing Pressure (p_{wfo})	1472.38 psi

Production and Times

Corrected Flow Time (t_c)	11.3941 hr
Cumulative Gas Production	9.068 MMCF
Final Gas Rate	19.100 MMCF/D

Fluid Properties

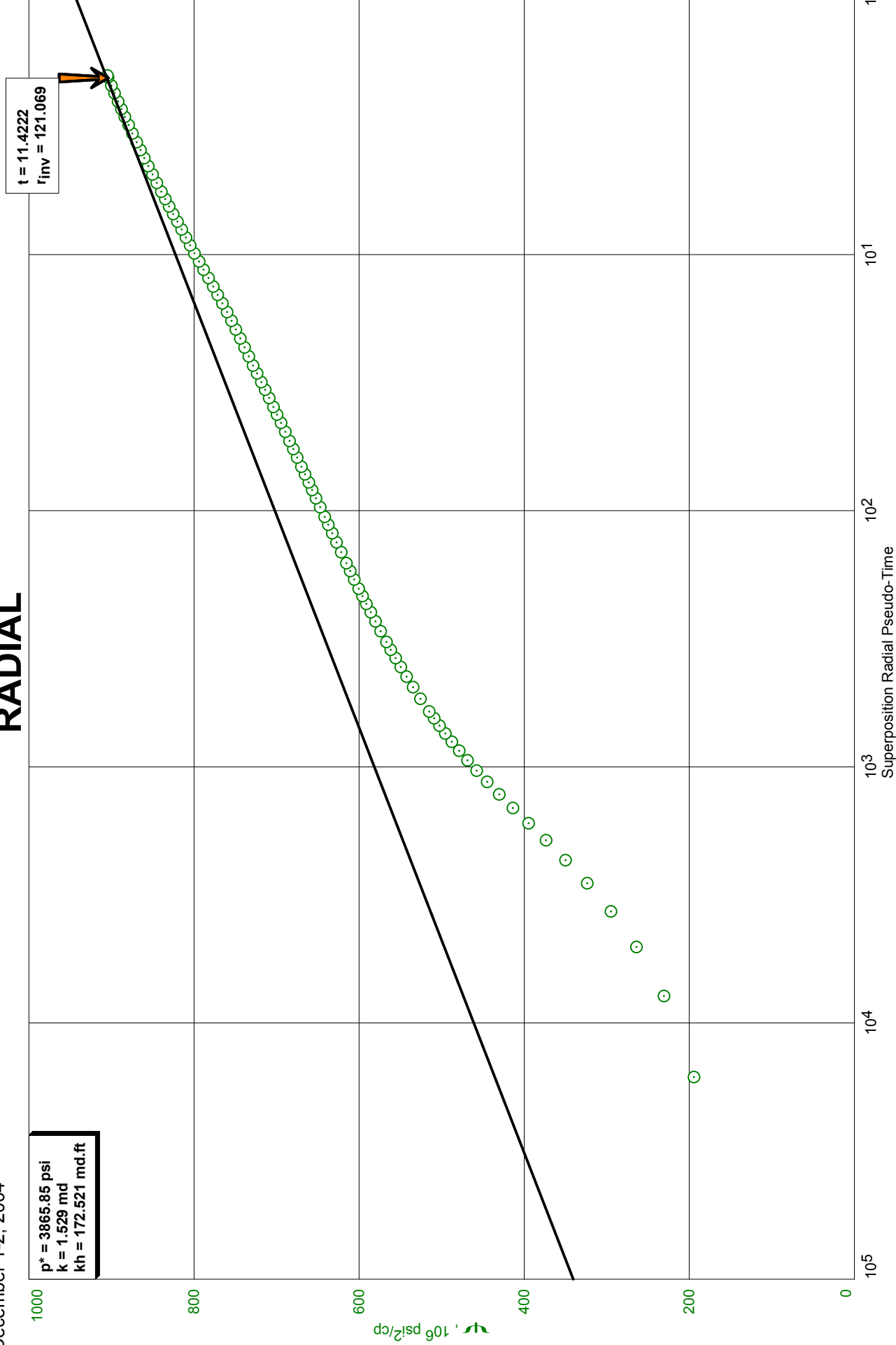
Gas Gravity (G)	0.653
N ₂	0.00 %
CO ₂	1.00 %
H ₂ S	0.00 %
Critical Pressure (P_c)	675.10 psi
Critical Temperature (T_c)	373.95 R
PVT Reference Pressure (p_{pVT})	3900.00 psi
Gas Compressibility (c_g)	2.00831e-4 psi ⁻¹
Gas Compressibility Factor (z)	0.939
Gas Viscosity (μ_g)	0.0214 cp
Gas Formation Volume Factor (B_g)	0.000806 bbl/scf

Extended Rates Calculations

Drainage Area	640.0 acres
Specified Flowing Pressure	1472.38 psi
Specified Reservoir Pressure	3838.44 psi
3 - Month Constant Rate	13.255 MMCF/D
6 - Month Constant Rate	MMCF/D
Stabilized Rate @ Current Skin	12.712 MMCF/D
Stabilized Rate @ Skin of 0	12.975 MMCF/D
Stabilized Rate @ Skin of -4	23.189 MMCF/D

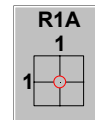
Longtom 2
Lower Admiral Formation
2184-2243.5 mdbrt
December 1-2, 2004

RADIAL



Gas Well Test - Buildup

Radial Flow Analysis



Longtom 2

2184-2243.5 mdbrt

Lower Admiral Formation

December 1-2, 2004

Analysis Results

Total Sandface Rate (q_{tBt})	15400.654 bbl/d	Apparent Skin (s')	1.352
Semilog Slope (m)	120.507	Skin - Damage	1.352
Gas Permeability (k_g)	1.529 md	Skin - Inclination	0.000
Oil Permeability (k_o)	md	Skin - Partial Penetration	
Water Permeability (k_w)	md	Pressure Drop Due to Skin (Δp_s)	562.10 psi
Flow Capacity (kh)	172.521 md.ft	Damage Ratio (DR)	1.218
Total Mobility (k/μ_t)	71.46 md/cp	Flow Efficiency (FE)	0.821
Total Transmissivity(kh/μ_t)	8065.38 md.ft/cp		

Reservoir Parameters

Net Pay (h)	112.861 ft
Total Porosity (ϕ_t)	19.00 %
Water Saturation (S_w)	39.00 %
Oil Saturation (S_o)	0.00 %
Gas Saturation (S_g)	61.00 %
Wellbore Radius (r_w)	0.30 ft
Formation Temperature (T)	207.0 °F
Formation Compressibility (c_f)	3.725e-6 psi ⁻¹
Total Compressibility (c_t)	1.274e-4 psi ⁻¹

Pressures

Initial Pressure (p_i)	3900.00 psi
Extrapolated Pressure (p^*)	3865.85 psi
Ave. Reservoir Press	3865.31 psi
Final Flowing Pressure (p_{wfo})	1472.38 psi

Production and Times

Corrected Flow Time (t_c)	11.3941 hr
Cumulative Gas Production	9.068 MMCF
Final Gas Rate	19.100 MMCF/D

Fluid Properties

Gas Gravity (G)	0.653
N ₂	0.00 %
CO ₂	1.00 %
H ₂ S	0.00 %
Critical Pressure (P_c)	675.10 psi
Critical Temperature (T_c)	373.95 R
PVT Reference Pressure (p_{pVT})	3900.00 psi
Gas Compressibility (c_g)	2.00831e-4 psi ⁻¹
Gas Compressibility Factor (z)	0.939
Gas Viscosity (μ_g)	0.0214 cp
Gas Formation Volume Factor (B_g)	0.000806 bbl/scf

Extended Rates Calculations

Drainage Area	640.0 acres
Specified Flowing Pressure	1472.38 psi
Specified Reservoir Pressure	3865.31 psi
3 - Month Constant Rate	13.970 MMCF/D
6 - Month Constant Rate	MMCF/D
Stabilized Rate @ Current Skin	13.582 MMCF/D
Stabilized Rate @ Skin of 0	15.605 MMCF/D
Stabilized Rate @ Skin of -4	27.889 MMCF/D

RadialBU 1

Item	Δt	Δt_a	Superposition Radial Pseudo-Time	P	ψ
	hr	hr	hr	psi	$10^6 \text{ psi}^2/\text{cp}$
1	0.0014	0.0006	18177.5812	1594.7360	194.1597
2	0.0028	0.0012	8767.4409	1744.2360	230.4048
3	0.0042	0.0019	5640.3669	1873.3200	263.8227
4	0.0056	0.0026	4095.2989	1987.1410	294.8532
5	0.0069	0.0034	3182.1266	2088.0540	323.5210
6	0.0083	0.0042	2583.2175	2177.6200	349.7660
7	0.0097	0.0050	2162.7290	2256.4190	373.4518
8	0.0111	0.0058	1852.8195	2325.5530	394.6724
9	0.0125	0.0067	1615.7676	2385.8940	413.5177
10	0.0139	0.0076	1429.0521	2438.4180	430.1581
11	0.0153	0.0084	1278.5955	2483.8720	444.7360
12	0.0167	0.0094	1155.1087	2523.2390	457.4879
13	0.0181	0.0103	1052.1664	2557.5100	468.6833
14	0.0194	0.0112	965.1910	2587.6590	478.6055
15	0.0208	0.0121	890.8419	2614.3520	487.4430
16	0.0222	0.0131	826.6319	2638.1260	495.3555
17	0.0236	0.0140	770.6736	2659.4870	502.4993
18	0.0250	0.0150	721.5119	2678.8280	508.9959
19	0.0264	0.0159	677.9991	2696.4270	514.9306
20	0.0278	0.0169	639.2254	2712.5400	520.3820
21	0.0292	0.0179	604.4724	2727.3910	525.4198
22	0.0306	0.0189	573.1604	2741.1780	530.1067
23	0.0319	0.0199	544.8135	2754.0030	534.4809
24	0.0333	0.0208	519.0384	2765.9610	538.5666
25	0.0347	0.0218	495.5075	2777.1890	542.4097
26	0.0361	0.0228	473.9455	2787.7470	546.0327
27	0.0375	0.0238	454.1200	2797.6890	549.4474
28	0.0389	0.0248	435.8333	2807.0890	552.6843
29	0.0403	0.0259	418.9161	2816.0000	555.7554
30	0.0417	0.0269	403.2228	2824.4820	558.6839
31	0.0431	0.0279	388.6274	2832.5600	561.4773
32	0.0444	0.0289	375.0206	2840.2700	564.1438
33	0.0458	0.0299	362.3067	2847.6540	566.7056
34	0.0472	0.0309	350.4022	2854.7110	569.1540
35	0.0486	0.0320	339.2332	2861.5030	571.5121
36	0.0500	0.0330	328.7348	2868.0110	573.7774
37	0.0514	0.0340	318.8492	2874.2700	575.9560
38	0.0528	0.0350	309.5250	2880.2980	578.0545
39	0.0542	0.0361	300.7165	2886.1290	580.0907
40	0.0556	0.0371	292.3827	2891.7710	582.0608
41	0.0569	0.0381	284.4866	2897.2160	583.9621
42	0.0583	0.0392	276.9951	2902.4970	585.8089
43	0.0597	0.0402	269.8784	2907.6070	587.5989
44	0.0611	0.0413	263.1094	2912.5890	589.3440
45	0.0625	0.0423	256.6635	2917.4070	591.0317
46	0.0639	0.0433	250.5184	2922.0970	592.6769
47	0.0653	0.0444	244.6539	2926.6490	594.2763
48	0.0667	0.0454	239.0515	2931.0740	595.8311
49	0.0681	0.0465	233.6940	2935.3860	597.3462
50	0.0694	0.0475	228.5661	2939.5960	598.8255
51	0.0708	0.0486	223.6535	2943.7020	600.2722
52	0.0722	0.0497	218.9430	2947.7060	601.6834
53	0.0736	0.0507	214.4226	2951.6060	603.0579
54	0.0750	0.0518	210.0812	2955.4130	604.3997
55	0.0764	0.0528	205.9084	2959.1330	605.7108
56	0.0778	0.0539	201.8947	2962.7690	606.9952
57	0.0792	0.0549	198.0314	2966.3270	608.2529
58	0.0806	0.0560	194.3102	2969.7990	609.4802
59	0.0819	0.0571	190.7235	2973.2110	610.6864
60	0.0833	0.0581	187.2642	2976.5540	611.8681
61	0.0847	0.0592	183.9258	2979.8280	613.0255
62	0.0861	0.0603	180.7020	2983.0520	614.1683
63	0.0875	0.0613	177.5872	2986.2160	615.2901
64	0.0889	0.0624	174.5759	2989.3100	616.3870
65	0.0903	0.0635	171.6632	2992.3540	617.4662
66	0.0917	0.0646	168.8488	2995.3480	618.5289
67	0.0931	0.0656	166.1148	2998.2920	619.5761
68	0.0945	0.0667	163.4712	3001.1860	620.6089
69	0.0959	0.0677	160.9079	3004.0300	621.6274
70	0.0973	0.0689	158.4258	3006.8240	622.6317
71	0.0987	0.0700	156.0120	3009.5680	623.6219
72	0.1001	0.0712	153.6784	3012.2620	624.5981
73	0.1015	0.0724	151.4005	3014.9060	625.5604
74	0.1029	0.0736	149.1732	3017.5000	626.5089
75	0.1043	0.0748	147.0000	3020.0440	627.4437
76	0.1057	0.0760	144.8768	3022.5380	628.3649
77	0.1071	0.0772	142.8000	3025.0820	629.2724
78	0.1085	0.0784	140.7768	3027.5760	630.1663
79	0.1099	0.0796	138.8000	3030.0200	631.0467
80	0.1113	0.0807	136.8768	3032.4140	631.9137
81	0.1127	0.0819	135.0000	3034.7580	632.7674
82	0.1141	0.0831	133.1732	3037.0520	633.6079
83	0.1155	0.0843	131.4000	3039.2960	634.4354
84	0.1169	0.0855	129.6768	3041.4900	635.2499
85	0.1183	0.0867	128.0000	3043.6340	636.0514
86	0.1197	0.0879	126.3768	3045.7280	636.8399
87	0.1211	0.0891	124.8000	3047.7720	637.6154
88	0.1225	0.0903	123.2768	3049.7660	638.3779
89	0.1239	0.0915	121.8000	3051.7100	639.1264
90	0.1253	0.0927	120.3768	3053.6040	639.8609
91	0.1267	0.0939	118.9000	3055.4480	640.5814
92	0.1281	0.0951	117.4768	3057.2420	641.2879
93	0.1295	0.0963	116.1000	3059.0860	641.9804
94	0.1309	0.0975	114.7768	3060.8800	642.6599
95	0.1323	0.0987	113.5000	3062.6240	643.3264
96	0.1337	0.0999	112.2768	3064.3180	643.9799
97	0.1351	0.1011	111.1000	3065.9620	644.6204
98	0.1365	0.1023	110.0000	3067.5560	645.2479
99	0.1379	0.1035	108.9768	3069.1000	645.8624
100	0.1393	0.1047	108.0000	3070.5940	646.4649

RadialBU 1

Item	Δt	Δt_a	Superposition Radial Pseudo-Time	P	ψ
	hr	hr	hr	psi	$10^6 \text{ psi}^2/\text{cp}$
80	0.1319	0.0959	114.1082	3064.2180	643.0835
81	0.1347	0.0981	111.5991	3068.0330	644.4514
82	0.1375	0.1003	109.1966	3071.7800	645.7949
83	0.1403	0.1025	106.8943	3075.4310	647.1040
84	0.1431	0.1047	104.6861	3079.0240	648.3923
85	0.1458	0.1069	102.5663	3082.5210	649.6486
86	0.1486	0.1091	100.5297	3085.9420	650.8785
87	0.1514	0.1113	98.5717	3089.3110	652.0898
88	0.1542	0.1135	96.6878	3092.5950	653.2704
89	0.1569	0.1157	94.8738	3095.8260	654.4321
90	0.1597	0.1179	93.1261	3098.9900	655.5696
91	0.1625	0.1202	91.4411	3102.1020	656.6904
92	0.1653	0.1224	89.8155	3105.1620	657.7935
93	0.1681	0.1246	88.2461	3108.1540	658.8720
94	0.1708	0.1268	86.7303	3111.0950	659.9322
95	0.1736	0.1290	85.2653	3113.9930	660.9769
96	0.1764	0.1312	83.8486	3116.8390	662.0028
97	0.1792	0.1335	82.4779	3119.6430	663.0136
98	0.1819	0.1357	81.1510	3122.3940	664.0075
99	0.1861	0.1390	79.2384	3126.4330	665.4673
100	0.1903	0.1424	77.4133	3130.4030	666.9021
101	0.1944	0.1457	75.6700	3134.2600	668.2961
102	0.1986	0.1491	74.0031	3138.0500	669.6658
103	0.2028	0.1524	72.4077	3141.7450	671.0029
104	0.2069	0.1558	70.8794	3145.3630	672.3139
105	0.2111	0.1592	69.4141	3148.9120	673.5999
106	0.2153	0.1625	68.0079	3152.3940	674.8615
107	0.2194	0.1659	66.6574	3155.8150	676.1011
108	0.2236	0.1693	65.3594	3159.1580	677.3125
109	0.2278	0.1727	64.1109	3162.4510	678.5079
110	0.2319	0.1761	62.9091	3165.6740	679.6787
111	0.2361	0.1794	61.7514	3168.8380	680.8281
112	0.2403	0.1828	60.6356	3171.9590	681.9618
113	0.2444	0.1862	59.5594	3175.0120	683.0708
114	0.2486	0.1896	58.5207	3178.0220	684.1643
115	0.2528	0.1930	57.5176	3180.9700	685.2360
116	0.2569	0.1964	56.5483	3183.8950	686.3012
117	0.2611	0.1998	55.6112	3186.7420	687.3379
118	0.2653	0.2032	54.7048	3189.5540	688.3620
119	0.2694	0.2066	53.8274	3192.3400	689.3765
120	0.2750	0.2112	52.7006	3195.9770	690.7010
121	0.2806	0.2157	51.6201	3199.5350	691.9966
122	0.2861	0.2203	50.5831	3203.0160	693.2669
123	0.2917	0.2249	49.5872	3206.4360	694.5154
124	0.2972	0.2294	48.6298	3209.8150	695.7489
125	0.3028	0.2340	47.7090	3213.1170	696.9543
126	0.3083	0.2386	46.8225	3216.3590	698.1378
127	0.3139	0.2432	45.9685	3219.5400	699.2990
128	0.3194	0.2477	45.1453	3222.6780	700.4469
129	0.3250	0.2523	44.3513	3225.7560	701.5732
130	0.3306	0.2569	43.5850	3228.7830	702.6808
131	0.3361	0.2615	42.8448	3231.5630	703.6981
132	0.3417	0.2661	42.1297	3234.4340	704.7486
133	0.3472	0.2707	41.4382	3237.2990	705.7970
134	0.3528	0.2753	40.7693	3240.1210	706.8297
135	0.3583	0.2799	40.1218	3242.9070	707.8516
136	0.3639	0.2846	39.4947	3245.6520	708.8584
137	0.3708	0.2903	38.7383	3249.0480	710.1040
138	0.3778	0.2961	38.0106	3252.3750	711.3243
139	0.3847	0.3019	37.3100	3255.6420	712.5225
140	0.3917	0.3077	36.6351	3258.8490	713.6988
141	0.3986	0.3135	35.9845	3262.0050	714.8581
142	0.4056	0.3193	35.3569	3265.1180	716.0025
143	0.4125	0.3251	34.7511	3268.1620	717.1215
144	0.4194	0.3309	34.1660	3271.1720	718.2281
145	0.4264	0.3367	33.6006	3274.1220	719.3126
146	0.4333	0.3425	33.0538	3277.0290	720.3813
147	0.4403	0.3484	32.5249	3279.8940	721.4345
148	0.4472	0.3542	32.0129	3282.7330	722.4805
149	0.4542	0.3600	31.5171	3285.5280	723.5104
150	0.4625	0.3670	30.9423	3288.8300	724.7271
151	0.4708	0.3741	30.3885	3292.0730	725.9220
152	0.4792	0.3811	29.8546	3295.2540	727.0941
153	0.4875	0.3881	29.3395	3298.4010	728.2536
154	0.4958	0.3951	28.8422	3301.4810	729.3897
155	0.5042	0.4022	28.3618	3304.4570	730.4887
156	0.5125	0.4092	27.8975	3307.2180	731.5083
157	0.5208	0.4163	27.4485	3310.0490	732.5537
158	0.5292	0.4233	27.0141	3312.8270	733.5796

RadialBU 1

Item	Δt	Δt_a	Superposition Radial Pseudo-Time	P	ψ
	hr	hr	hr	psi	$10^6 \text{ psi}^2/\text{cp}$
159	0.5375	0.4304	26.5936	3315.5800	734.5963
160	0.5458	0.4375	26.1863	3318.1710	735.5531
161	0.5556	0.4457	25.7270	3320.9760	736.5897
162	0.5653	0.4540	25.2840	3323.9940	737.7066
163	0.5750	0.4622	24.8565	3326.8510	738.7640
164	0.5847	0.4705	24.4435	3329.5090	739.7477
165	0.5944	0.4788	24.0445	3332.1690	740.7321
166	0.6042	0.4871	23.6587	3334.9990	741.7795
167	0.6139	0.4953	23.2855	3337.7690	742.8047
168	0.6236	0.5036	22.9242	3340.5400	743.8306
169	0.6333	0.5119	22.5743	3343.2330	744.8294
170	0.6444	0.5214	22.1877	3346.3730	745.9940
171	0.6556	0.5309	21.8145	3349.4600	747.1390
172	0.6667	0.5404	21.4542	3352.1470	748.1355
173	0.6778	0.5500	21.1059	3354.9000	749.1566
174	0.6889	0.5595	20.7692	3357.7810	750.2251
175	0.7000	0.5690	20.4435	3360.4320	751.2087
176	0.7111	0.5786	20.1282	3363.0140	752.1683
177	0.7222	0.5881	19.8228	3365.6650	753.1536
178	0.7347	0.5989	19.4906	3368.7350	754.2946
179	0.7472	0.6096	19.1697	3371.7300	755.4077
180	0.7597	0.6204	18.8595	3374.7400	756.5264
181	0.7722	0.6312	18.5597	3377.7170	757.6328
182	0.7847	0.6420	18.2696	3380.6600	758.7271
183	0.7972	0.6528	17.9887	3383.6110	759.8261
184	0.8097	0.6636	17.7167	3386.4750	760.8926
185	0.8236	0.6756	17.4244	3389.6330	762.0687
186	0.8375	0.6876	17.1420	3392.7640	763.2346
187	0.8514	0.6997	16.8689	3395.8360	764.3787
188	0.8653	0.7117	16.6048	3398.8650	765.5066
189	0.8792	0.7238	16.3493	3401.8490	766.6192
190	0.8931	0.7359	16.1018	3404.7930	767.7177
191	0.9069	0.7480	15.8620	3407.6840	768.7965
192	0.9222	0.7613	15.6068	3410.8320	769.9711
193	0.9375	0.7746	15.3601	3413.9210	771.1237
194	0.9528	0.7879	15.1214	3416.9750	772.2632
195	0.9681	0.8013	14.8904	3419.9700	773.3808
196	0.9833	0.8147	14.6668	3422.9390	774.4907
197	0.9986	0.8280	14.4501	3425.8560	775.5813
198	1.0153	0.8426	14.2213	3428.9950	776.7548
199	1.0319	0.8572	14.0000	3432.0930	777.9130
200	1.0486	0.8719	13.7859	3435.1380	779.0514
201	1.0653	0.8865	13.5786	3438.1420	780.1745
202	1.0819	0.9012	13.3778	3441.0940	781.2789
203	1.1000	0.9171	13.1673	3444.2420	782.4580
204	1.1181	0.9330	12.9638	3447.3570	783.6248
205	1.1361	0.9489	12.7668	3450.4210	784.7725
206	1.1542	0.9648	12.5761	3453.4340	785.9011
207	1.1722	0.9808	12.3914	3456.4030	787.0132
208	1.1917	0.9980	12.1988	3459.5510	788.1924
209	1.2111	1.0152	12.0126	3462.6490	789.3547
210	1.2306	1.0324	11.8323	3465.6860	790.4944
211	1.2500	1.0497	11.6578	3468.6660	791.6128
212	1.2694	1.0669	11.4887	3471.5830	792.7075
213	1.2903	1.0854	11.3133	3474.6290	793.8506
214	1.3111	1.1040	11.1436	3477.5990	794.9652
215	1.3319	1.1225	10.9793	3480.4830	796.0478
216	1.3528	1.1411	10.8201	3483.3140	797.1122
217	1.3750	1.1609	10.6558	3486.2510	798.2165
218	1.3972	1.1807	10.4968	3489.1340	799.3004
219	1.4194	1.2005	10.3429	3491.9580	800.3622
220	1.4417	1.2204	10.1938	3494.7380	801.4075
221	1.4653	1.2415	10.0404	3497.6220	802.4918
222	1.4889	1.2627	9.8921	3500.4560	803.5577
223	1.5125	1.2838	9.7484	3503.2450	804.6082
224	1.5361	1.3050	9.6092	3505.9750	805.6365
225	1.5611	1.3274	9.4666	3508.8240	806.7097
226	1.5861	1.3499	9.3285	3511.6150	807.7610
227	1.6111	1.3723	9.1948	3514.3530	808.7924
228	1.6361	1.3948	9.0652	3517.0400	809.8045
229	1.6625	1.4186	8.9328	3519.8390	810.8588
230	1.6889	1.4424	8.8046	3522.5770	811.8919
231	1.7153	1.4662	8.6804	3525.2730	812.9093
232	1.7431	1.4912	8.5538	3528.0470	813.9561
233	1.7708	1.5163	8.4313	3530.7840	814.9890
234	1.7986	1.5415	8.3126	3533.4540	815.9965
235	1.8278	1.5678	8.1920	3536.2200	817.0403
236	1.8569	1.5943	8.0752	3538.9320	818.0637
237	1.8861	1.6207	7.9621	3541.5770	819.0629

RadialBU 1

Item	Δt	Δt_a	Superposition Radial Pseudo-Time	P	ψ
	hr	hr	hr	psi	$10^6 \text{ psi}^2/\text{cp}$
238	1.9167	1.6484	7.8474	3544.3160	820.0984
239	1.9472	1.6761	7.7363	3546.9870	821.1082
240	1.9778	1.7039	7.6287	3549.6130	822.1009
241	2.0097	1.7329	7.5199	3552.3010	823.1171
242	2.0417	1.7620	7.4144	3554.9460	824.1170
243	2.0736	1.7911	7.3123	3557.5320	825.0946
244	2.1069	1.8214	7.2092	3560.1750	826.0939
245	2.1403	1.8518	7.1093	3562.7690	827.0763
246	2.1736	1.8822	7.0125	3565.3290	828.0458
247	2.2083	1.9139	6.9148	3567.9230	829.0282
248	2.2431	1.9457	6.8203	3570.4810	829.9970
249	2.2778	1.9774	6.7286	3572.9730	830.9407
250	2.3139	2.0105	6.6363	3575.5310	831.9095
251	2.3500	2.0435	6.5469	3578.0210	832.8525
252	2.3875	2.0779	6.4569	3580.5650	833.8163
253	2.4250	2.1123	6.3698	3583.0630	834.7640
254	2.4639	2.1480	6.2823	3585.5880	835.7220
255	2.5028	2.1837	6.1976	3588.0720	836.6644
256	2.5417	2.2195	6.1155	3590.5010	837.5859
257	2.5819	2.2565	6.0331	3592.9670	838.5214
258	2.6222	2.2936	5.9534	3595.3820	839.4376
259	2.6639	2.3320	5.8734	3597.8300	840.3664
260	2.7056	2.3704	5.7960	3600.2270	841.2759
261	2.7486	2.4101	5.7185	3602.6580	842.1998
262	2.7917	2.4498	5.6434	3605.0370	843.1039
263	2.8361	2.4909	5.5683	3607.4430	844.0182
264	2.8806	2.5319	5.4956	3609.7960	844.9125
265	2.9264	2.5743	5.4230	3612.1680	845.8139
266	2.9722	2.6167	5.3527	3614.5040	846.7017
267	3.0194	2.6605	5.2825	3616.8510	847.5937
268	3.0667	2.7042	5.2145	3619.1450	848.4655
269	3.1153	2.7493	5.1467	3621.4560	849.3447
270	3.1639	2.7944	5.0810	3623.7160	850.2050
271	3.2139	2.8408	5.0156	3625.9940	851.0723
272	3.2639	2.8873	4.9522	3628.2180	851.9189
273	3.3153	2.9351	4.8890	3630.4610	852.7728
274	3.3667	2.9829	4.8279	3632.6460	853.6046
275	3.4194	3.0320	4.7670	3634.8530	854.4448
276	3.4736	3.0825	4.7065	3637.0630	855.2861
277	3.5278	3.1329	4.6478	3639.2290	856.1107
278	3.5833	3.1847	4.5896	3641.4030	856.9392
279	3.6389	3.2366	4.5331	3643.5330	857.7515
280	3.6958	3.2898	4.4770	3645.6660	858.5648
281	3.7542	3.3443	4.4214	3647.8050	859.3805
282	3.8125	3.3988	4.3675	3649.8940	860.1771
283	3.8722	3.4546	4.3140	3651.9910	860.9768
284	3.9333	3.5118	4.2610	3654.0810	861.7738
285	3.9944	3.5691	4.2097	3656.1360	862.5574
286	4.0569	3.6276	4.1588	3658.1820	863.3376
287	4.1208	3.6875	4.1084	3660.2360	864.1210
288	4.1847	3.7475	4.0595	3662.2390	864.8861
289	4.2500	3.8087	4.0112	3664.2430	865.6516
290	4.3167	3.8713	3.9633	3666.2450	866.4163
291	4.3847	3.9353	3.9160	3668.2400	867.1783
292	4.4528	3.9993	3.8701	3670.1830	867.9205
293	4.5222	4.0646	3.8248	3672.1350	868.6661
294	4.5931	4.1312	3.7800	3674.0770	869.4079
295	4.6653	4.1993	3.7357	3676.0040	870.1439
296	4.7375	4.2673	3.6928	3677.8870	870.8632
297	4.8111	4.3367	3.6505	3679.7700	871.5825
298	4.8861	4.4074	3.6086	3681.6450	872.2997
299	4.9625	4.4795	3.5674	3683.5120	873.0140
300	5.0403	4.5529	3.5266	3685.3600	873.7210
301	5.1194	4.6277	3.4865	3687.2010	874.4254
302	5.2000	4.7039	3.4469	3689.0330	875.1263
303	5.2806	4.7800	3.4085	3690.8220	875.8107
304	5.3625	4.8575	3.3707	3692.6020	876.4917
305	5.4458	4.9364	3.3334	3694.3660	877.1666
306	5.5306	5.0166	3.2967	3696.1200	877.8377
307	5.6167	5.0982	3.2606	3697.8580	878.5026
308	5.7042	5.1812	3.2249	3699.5870	879.1641
309	5.7931	5.2655	3.1899	3701.3060	879.8226
310	5.8833	5.3511	3.1554	3703.0020	880.4725
311	5.9750	5.4381	3.1214	3704.6880	881.1185
312	6.0681	5.5265	3.0880	3706.3650	881.7611
313	6.1625	5.6162	3.0552	3708.0170	882.3941
314	6.2583	5.7073	3.0229	3709.6610	883.0240
315	6.3556	5.7998	2.9911	3711.2860	883.6467
316	6.4542	5.8936	2.9599	3712.9030	884.2663

RadialBU 1

Item	Δt	Δt_a	Superposition Radial Pseudo-Time	P	ψ
	hr	hr	hr	psi	$10^6 \text{ psi}^2/\text{cp}$
317	6.5542	5.9887	2.9292	3714.4960	884.8767
318	6.6556	6.0853	2.8990	3716.0710	885.4802
319	6.7597	6.1845	2.8690	3717.6630	886.0902
320	6.8653	6.2851	2.8395	3719.2290	886.6902
321	6.9722	6.3871	2.8106	3720.7780	887.2842
322	7.0806	6.4904	2.7822	3722.3100	887.8721
323	7.1903	6.5951	2.7543	3723.8240	888.4531
324	7.3028	6.7025	2.7266	3725.3480	889.0379
325	7.4167	6.8113	2.6994	3726.8440	889.6119
326	7.5319	6.9214	2.6727	3728.3250	890.1802
327	7.6486	7.0329	2.6466	3729.7880	890.7416
328	7.7681	7.1471	2.6206	3731.2510	891.3030
329	7.8889	7.2627	2.5952	3732.6980	891.8583
330	8.0111	7.3796	2.5702	3734.1250	892.4058
331	8.1361	7.4993	2.5455	3735.5380	892.9480
332	8.2625	7.6203	2.5213	3736.9480	893.4891
333	8.3917	7.7441	2.4973	3738.3510	894.0275
334	8.5222	7.8692	2.4738	3739.7290	894.5563
335	8.6542	7.9957	2.4508	3741.0890	895.0787
336	8.7889	8.1249	2.4280	3742.4500	895.6017
337	8.9250	8.2555	2.4057	3743.7760	896.1113
338	9.0639	8.3888	2.3837	3745.1100	896.6239
339	9.2042	8.5235	2.3621	3746.4180	897.1265
340	9.3472	8.6609	2.3407	3747.7270	897.6295
341	9.4931	8.8010	2.3197	3749.0190	898.1260
342	9.6403	8.9425	2.2990	3750.2930	898.6156
343	9.7903	9.0867	2.2787	3751.5670	899.1051
344	9.9431	9.2337	2.2586	3752.8240	899.5882
345	10.0972	9.3820	2.2389	3754.0560	900.0616
346	10.2542	9.5330	2.2195	3755.2610	900.5246
347	10.4139	9.6868	2.2004	3756.4840	900.9946
348	10.5750	9.8420	2.1817	3757.6800	901.4542
349	10.7389	9.9999	2.1632	3758.8600	901.9077
350	10.9056	10.1605	2.1450	3760.0390	902.3607
351	11.0750	10.3238	2.1271	3761.2120	902.8121
352	11.2472	10.4899	2.1095	3762.3650	903.2558
353	11.4222	10.6587	2.0921	3763.5190	903.6999
354	11.6000	10.8302	2.0750	3764.6480	904.1343
355	11.7806	11.0045	2.0582	3765.7850	904.5719
356	11.9639	11.1815	2.0416	3766.8790	904.9929
357	12.1500	11.3612	2.0253	3767.9900	905.4204
358	12.3389	11.5437	2.0093	3769.0840	905.8414
359	12.5306	11.7289	1.9935	3770.1620	906.2562
360	12.7250	11.9169	1.9780	3771.2290	906.6668
361	12.9222	12.1076	1.9627	3772.2710	907.0678
362	13.1222	12.3010	1.9477	3773.3230	907.4726
363	13.2125	12.3883	1.9411	3773.7790	907.6481
364	13.2139	12.3897	1.9410	3773.7970	907.6550
365	0.0000	0.0000		1472.3800	

Item	Date/Clock Time	Time	Cum. Time	Sandface Pressure	Gas Rate	Oil Rate	Water Rate
	MM/DD/YYYY	hr	hr	psi(a)	MMCF/D	bbl/d	bbl/d
1	12/01/2004 05:08:10	0.0000	0.0000	4109.68			
2	12/01/2004 05:08:15	0.0014	0.0014	4109.69			
3	12/01/2004 05:08:20	0.0028	0.0028	4109.70			
4	12/01/2004 05:08:25	0.0042	0.0042	4109.70			
5	12/01/2004 05:08:30	0.0056	0.0056	4109.71			
6	12/01/2004 05:08:35	0.0069	0.0069	4109.71			
7	12/01/2004 05:08:40	0.0083	0.0083	4109.71			
8	12/01/2004 05:08:45	0.0097	0.0097	4109.72			
9	12/01/2004 05:08:50	0.0111	0.0111	4109.72			
10	12/01/2004 05:08:55	0.0125	0.0125	4109.84			
11	12/01/2004 05:09:00	0.0139	0.0139	4109.88			
12	12/01/2004 05:09:05	0.0153	0.0153	4109.89			
13	12/01/2004 05:09:10	0.0167	0.0167	4109.93			
14	12/01/2004 05:09:15	0.0181	0.0181	4110.15			
15	12/01/2004 05:09:20	0.0194	0.0194	4110.16			
16	12/01/2004 05:09:25	0.0208	0.0208	4110.16			
17	12/01/2004 05:09:30	0.0222	0.0222	4110.16			
18	12/01/2004 05:09:35	0.0236	0.0236	4110.16			
19	12/01/2004 05:09:40	0.0250	0.0250	4110.16			
20	12/01/2004 05:09:45	0.0264	0.0264	4110.16			
21	12/01/2004 05:09:50	0.0278	0.0278	4110.16			
22	12/01/2004 05:09:55	0.0292	0.0292	4110.16			
23	12/01/2004 05:10:00	0.0306	0.0306	4110.17			
24	12/01/2004 05:10:05	0.0319	0.0319	4110.17			
25	12/01/2004 05:10:10	0.0333	0.0333	4111.61			
26	12/01/2004 05:10:15	0.0347	0.0347	4111.38			
27	12/01/2004 05:10:20	0.0361	0.0361	4110.69			
28	12/01/2004 05:10:25	0.0375	0.0375	4107.60			
29	12/01/2004 05:10:30	0.0389	0.0389	4100.66			
30	12/01/2004 05:10:35	0.0403	0.0403	4092.76			
31	12/01/2004 05:10:40	0.0417	0.0417	4087.18			
32	12/01/2004 05:10:45	0.0431	0.0431	4084.37			
33	12/01/2004 05:10:50	0.0444	0.0444	4082.37			
34	12/01/2004 05:10:55	0.0458	0.0458	4080.15			
35	12/01/2004 05:11:00	0.0472	0.0472	4076.98			
36	12/01/2004 05:11:05	0.0486	0.0486	4077.12			
37	12/01/2004 05:11:10	0.0500	0.0500	4077.16			
38	12/01/2004 05:11:15	0.0514	0.0514	4077.42			
39	12/01/2004 05:11:20	0.0528	0.0528	4077.70			
40	12/01/2004 05:11:25	0.0542	0.0542	4077.72			
41	12/01/2004 05:11:30	0.0556	0.0556	4077.74			
42	12/01/2004 05:11:35	0.0569	0.0569	4077.78			
43	12/01/2004 05:11:40	0.0583	0.0583	4077.81			
44	12/01/2004 05:11:45	0.0597	0.0597	4077.84			
45	12/01/2004 05:11:50	0.0611	0.0611	4077.88			
46	12/01/2004 05:11:55	0.0625	0.0625	4077.91			
47	12/01/2004 05:12:00	0.0639	0.0639	4077.94			
48	12/01/2004 05:12:05	0.0653	0.0653	4077.97			
49	12/01/2004 05:12:10	0.0667	0.0667	4078.01			
50	12/01/2004 05:12:15	0.0681	0.0681	4078.03			
51	12/01/2004 05:12:20	0.0694	0.0694	4078.06			
52	12/01/2004 05:12:25	0.0708	0.0708	4078.09			
53	12/01/2004 05:12:30	0.0722	0.0722	4078.11			
54	12/01/2004 05:12:35	0.0736	0.0736	4078.14			
55	12/01/2004 05:12:40	0.0750	0.0750	4078.16			
56	12/01/2004 05:12:45	0.0764	0.0764	4078.18			
57	12/01/2004 05:12:50	0.0778	0.0778	4078.21			
58	12/01/2004 05:12:55	0.0792	0.0792	4078.22			

Item	Date/Clock Time	Time	Cum. Time	Sandface Pressure	Gas Rate	Oil Rate	Water Rate
	MM/DD/YYYY	hr	hr	psi(a)	MMCF/D	bbl/d	bbl/d
59	12/01/2004 05:13:00	0.0806	0.0806	4078.24			
60	12/01/2004 05:13:05	0.0819	0.0819	4078.27			
61	12/01/2004 05:13:10	0.0833	0.0833	4078.28			
62	12/01/2004 05:13:15	0.0847	0.0847	4078.30			
63	12/01/2004 05:13:20	0.0861	0.0861	4078.32			
64	12/01/2004 05:13:25	0.0875	0.0875	4078.34			
65	12/01/2004 05:13:30	0.0889	0.0889	4078.36			
66	12/01/2004 05:13:35	0.0903	0.0903	4078.39			
67	12/01/2004 05:13:45	0.0931	0.0931	4078.42			
68	12/01/2004 05:13:55	0.0958	0.0958	4078.45			
69	12/01/2004 05:14:05	0.0986	0.0986	4078.49			
70	12/01/2004 05:14:15	0.1014	0.1014	4078.52			
71	12/01/2004 05:14:25	0.1042	0.1042	4078.55			
72	12/01/2004 05:14:35	0.1069	0.1069	4078.58			
73	12/01/2004 05:14:45	0.1097	0.1097	4078.61			
74	12/01/2004 05:14:55	0.1125	0.1125	4078.64			
75	12/01/2004 05:15:05	0.1153	0.1153	4078.66			
76	12/01/2004 05:15:15	0.1181	0.1181	4078.70			
77	12/01/2004 05:15:25	0.1208	0.1208	4078.73			
78	12/01/2004 05:15:35	0.1236	0.1236	4078.75			
79	12/01/2004 05:15:45	0.1264	0.1264	4078.77			
80	12/01/2004 05:15:55	0.1292	0.1292	4078.80			
81	12/01/2004 05:16:05	0.1319	0.1319	4078.82			
82	12/01/2004 05:16:15	0.1347	0.1347	4078.84			
83	12/01/2004 05:16:25	0.1375	0.1375	4078.87			
84	12/01/2004 05:16:35	0.1403	0.1403	4078.88			
85	12/01/2004 05:16:45	0.1431	0.1431	4078.91			
86	12/01/2004 05:16:55	0.1458	0.1458	4078.93			
87	12/01/2004 05:17:05	0.1486	0.1486	4078.94			
88	12/01/2004 05:17:15	0.1514	0.1514	4078.96			
89	12/01/2004 05:17:25	0.1542	0.1542	4078.99			
90	12/01/2004 05:17:35	0.1569	0.1569	4079.00			
91	12/01/2004 05:17:45	0.1597	0.1597	4079.01			
92	12/01/2004 05:17:55	0.1625	0.1625	4079.04			
93	12/01/2004 05:18:05	0.1653	0.1653	4079.06			
94	12/01/2004 05:18:15	0.1681	0.1681	4079.07			
95	12/01/2004 05:18:25	0.1708	0.1708	4079.09			
96	12/01/2004 05:18:35	0.1736	0.1736	4079.11			
97	12/01/2004 05:18:45	0.1764	0.1764	4079.13			
98	12/01/2004 05:18:55	0.1792	0.1792	4079.15			
99	12/01/2004 05:19:05	0.1819	0.1819	4079.17			
100	12/01/2004 05:19:20	0.1861	0.1861	4079.19			
101	12/01/2004 05:19:35	0.1903	0.1903	4079.22			
102	12/01/2004 05:19:50	0.1944	0.1944	4079.24			
103	12/01/2004 05:20:05	0.1986	0.1986	4079.27			
104	12/01/2004 05:20:20	0.2028	0.2028	4079.30			
105	12/01/2004 05:20:35	0.2069	0.2069	4079.33			
106	12/01/2004 05:20:50	0.2111	0.2111	4079.35			
107	12/01/2004 05:21:05	0.2153	0.2153	4079.37			
108	12/01/2004 05:21:20	0.2194	0.2194	4079.39			
109	12/01/2004 05:21:35	0.2236	0.2236	4079.42			
110	12/01/2004 05:21:50	0.2278	0.2278	4079.43			
111	12/01/2004 05:22:05	0.2319	0.2319	4079.45			
112	12/01/2004 05:22:20	0.2361	0.2361	4079.51			
113	12/01/2004 05:22:35	0.2403	0.2403	4079.60			
114	12/01/2004 05:22:50	0.2444	0.2444	4079.70			
115	12/01/2004 05:23:05	0.2486	0.2486	4080.01			
116	12/01/2004 05:23:20	0.2528	0.2528	4080.81			

Item	Date/Clock Time	Time	Cum. Time	Sandface Pressure	Gas Rate	Oil Rate	Water Rate
	MM/DD/YYYY	hr	hr	psi(a)	MMCF/D	bbl/d	bbl/d
117	12/01/2004 05:23:35	0.2569	0.2569	4085.14			
118	12/01/2004 05:23:50	0.2611	0.2611	4091.95			
119	12/01/2004 05:24:05	0.2653	0.2653	4398.86			
120	12/01/2004 05:24:20	0.2694	0.2694	4731.65			
121	12/01/2004 05:24:40	0.2750	0.2750	5065.78			
122	12/01/2004 05:25:00	0.2806	0.2806	5395.51			
123	12/01/2004 05:25:20	0.2861	0.2861	5711.73			
124	12/01/2004 05:25:40	0.2917	0.2917	6020.64			
125	12/01/2004 05:26:00	0.2972	0.2972	6321.86			
126	12/01/2004 05:26:20	0.3028	0.3028	6615.46			
127	12/01/2004 05:26:40	0.3083	0.3083	6902.18			
128	12/01/2004 05:27:00	0.3139	0.3139	7181.96			
129	12/01/2004 05:27:20	0.3194	0.3194	7455.89			
130	12/01/2004 05:27:40	0.3250	0.3250	7725.03			
131	12/01/2004 05:28:00	0.3306	0.3306	7937.30			
132	12/01/2004 05:28:20	0.3361	0.3361	8072.89			
133	12/01/2004 05:28:40	0.3417	0.3417	8060.40			
134	12/01/2004 05:29:00	0.3472	0.3472	8048.68			
135	12/01/2004 05:29:20	0.3528	0.3528	8039.01			
136	12/01/2004 05:29:40	0.3583	0.3583	6282.55			
137	12/01/2004 05:30:00	0.3639	0.3639	2665.12			
138	12/01/2004 05:30:25	0.3708	0.3708	2588.07			
139	12/01/2004 05:30:50	0.3778	0.3778	2550.92			
140	12/01/2004 05:31:15	0.3847	0.3847	2548.25			
141	12/01/2004 05:31:40	0.3917	0.3917	2553.66			
142	12/01/2004 05:32:05	0.3986	0.3986	2555.43			
143	12/01/2004 05:32:30	0.4056	0.4056	2555.60			
144	12/01/2004 05:32:55	0.4125	0.4125	2556.05			
145	12/01/2004 05:33:20	0.4194	0.4194	2556.65			
146	12/01/2004 05:33:45	0.4264	0.4264	3409.90			
147	12/01/2004 05:34:10	0.4333	0.4333	3464.80			
148	12/01/2004 05:34:35	0.4403	0.4403	3475.76			
149	12/01/2004 05:35:00	0.4472	0.4472	3480.65			
150	12/01/2004 05:35:25	0.4542	0.4542	3483.66			
151	12/01/2004 05:35:55	0.4625	0.4625	3485.88			
152	12/01/2004 05:36:25	0.4708	0.4708	3487.63			
153	12/01/2004 05:36:55	0.4792	0.4792	3488.83			
154	12/01/2004 05:37:25	0.4875	0.4875	3489.68			
155	12/01/2004 05:37:55	0.4958	0.4958	3490.49			
156	12/01/2004 05:38:25	0.5042	0.5042	3491.16			
157	12/01/2004 05:38:55	0.5125	0.5125	3491.86			
158	12/01/2004 05:39:25	0.5208	0.5208	3492.25			
159	12/01/2004 05:39:55	0.5292	0.5292	3492.51			
160	12/01/2004 05:40:25	0.5375	0.5375	3492.85			
161	12/01/2004 05:40:55	0.5458	0.5458	3493.22			
162	12/01/2004 05:41:30	0.5556	0.5556	3493.39			
163	12/01/2004 05:42:05	0.5653	0.5653	3493.68			
164	12/01/2004 05:42:40	0.5750	0.5750	3493.82			
165	12/01/2004 05:43:15	0.5847	0.5847	3494.22			
166	12/01/2004 05:43:50	0.5944	0.5944	3494.53			
167	12/01/2004 05:44:25	0.6042	0.6042	3494.53			
168	12/01/2004 05:45:00	0.6139	0.6139	3494.89			
169	12/01/2004 05:45:35	0.6236	0.6236	3552.02			
170	12/01/2004 05:46:10	0.6333	0.6333	3552.13			
171	12/01/2004 05:46:50	0.6444	0.6444	3552.25			
172	12/01/2004 05:47:30	0.6556	0.6556	3552.51			
173	12/01/2004 05:48:10	0.6667	0.6667	3552.61			
174	12/01/2004 05:48:50	0.6778	0.6778	3552.76			

Item	Date/Clock Time	Time	Cum. Time	Sandface Pressure	Gas Rate	Oil Rate	Water Rate
	MM/DD/YYYY	hr	hr	psi(a)	MMCF/D	bbl/d	bbl/d
175	12/01/2004 05:49:30	0.6889	0.6889	3552.27			
176	12/01/2004 05:50:10	0.7000	0.7000	3553.30			
177	12/01/2004 05:50:50	0.7111	0.7111	3553.59			
178	12/01/2004 05:51:30	0.7222	0.7222	3553.76			
179	12/01/2004 05:52:15	0.7347	0.7347	3554.06			
180	12/01/2004 05:53:00	0.7472	0.7472	3554.21			
181	12/01/2004 05:53:45	0.7597	0.7597	3554.65			
182	12/01/2004 05:54:30	0.7722	0.7722	3555.11			
183	12/01/2004 05:55:15	0.7847	0.7847	3555.40			
184	12/01/2004 05:56:00	0.7972	0.7972	3555.44			
185	12/01/2004 05:56:45	0.8097	0.8097	3555.71			
186	12/01/2004 05:57:35	0.8236	0.8236	3555.93			
187	12/01/2004 05:58:25	0.8375	0.8375	3555.99			
188	12/01/2004 05:59:15	0.8514	0.8514	3556.22			
189	12/01/2004 06:00:05	0.8653	0.8653	3556.44			
190	12/01/2004 06:00:55	0.8792	0.8792	3556.41			
191	12/01/2004 06:01:45	0.8931	0.8931	3556.28			
192	12/01/2004 06:02:35	0.9069	0.9069	3556.19			
193	12/01/2004 06:03:30	0.9222	0.9222	3555.89			
194	12/01/2004 06:04:25	0.9375	0.9375	3555.41			
195	12/01/2004 06:05:20	0.9528	0.9528	3554.99			
196	12/01/2004 06:06:15	0.9681	0.9681	3554.63			
197	12/01/2004 06:07:10	0.9833	0.9833	3540.78			
198	12/01/2004 06:08:05	0.9986	0.9986	3541.08			
199	12/01/2004 06:09:05	1.0153	1.0153	3541.47			
200	12/01/2004 06:10:05	1.0319	1.0319	3541.86			
201	12/01/2004 06:11:05	1.0486	1.0486	3541.84			
202	12/01/2004 06:12:05	1.0653	1.0653	3541.80			
203	12/01/2004 06:13:05	1.0819	1.0819	3541.57			
204	12/01/2004 06:14:10	1.1000	1.1000	3540.65			
205	12/01/2004 06:15:15	1.1181	1.1181	3541.00			
206	12/01/2004 06:16:20	1.1361	1.1361	3540.96			
207	12/01/2004 06:17:25	1.1542	1.1542	3540.74			
208	12/01/2004 06:18:30	1.1722	1.1722	3540.38			
209	12/01/2004 06:19:40	1.1917	1.1917	3540.01			
210	12/01/2004 06:20:50	1.2111	1.2111	3539.58			
211	12/01/2004 06:22:00	1.2306	1.2306	3539.17			
212	12/01/2004 06:23:10	1.2500	1.2500	3538.73			
213	12/01/2004 06:24:20	1.2694	1.2694	3537.97			
214	12/01/2004 06:25:35	1.2903	1.2903	3537.58			
215	12/01/2004 06:26:50	1.3111	1.3111	3537.18			
216	12/01/2004 06:28:05	1.3319	1.3319	3536.71			
217	12/01/2004 06:29:20	1.3528	1.3528	3536.24			
218	12/01/2004 06:30:40	1.3750	1.3750	3535.65			
219	12/01/2004 06:32:00	1.3972	1.3972	3535.11			
220	12/01/2004 06:33:20	1.4194	1.4194	3534.42			
221	12/01/2004 06:34:40	1.4417	1.4417	3533.63			
222	12/01/2004 06:36:05	1.4653	1.4653	3533.10			
223	12/01/2004 06:37:30	1.4889	1.4889	3532.88			
224	12/01/2004 06:38:55	1.5125	1.5125	3533.94			
225	12/01/2004 06:40:20	1.5361	1.5361	3535.41			
226	12/01/2004 06:41:50	1.5611	1.5611	3536.69			
227	12/01/2004 06:43:20	1.5861	1.5861	3537.59			
228	12/01/2004 06:44:50	1.6111	1.6111	3538.28			
229	12/01/2004 06:46:20	1.6361	1.6361	3538.80			
230	12/01/2004 06:47:55	1.6625	1.6625	3539.50			
231	12/01/2004 06:49:30	1.6889	1.6889	3539.97			
232	12/01/2004 06:51:05	1.7153	1.7153	3416.79			

Item	Date/Clock Time	Time	Cum. Time	Sandface Pressure	Gas Rate	Oil Rate	Water Rate
	MM/DD/YYYY	hr	hr	psi(a)	MMCF/D	bbl/d	bbl/d
233	12/01/2004 06:52:45	1.7431	1.7431	3383.63			
234	12/01/2004 06:54:25	1.7708	1.7708	3437.33			
235	12/01/2004 06:56:05	1.7986	1.7986	3499.14			
236	12/01/2004 06:57:30	1.8222	1.8222	3551.00			
237	12/01/2004 06:57:35	1.8236	1.8236	3557.18	0.000		
238	12/01/2004 07:12:35	2.0736	2.0736	2795.30	18.000		
239	12/01/2004 07:27:40	2.3250	2.3250	1829.11			
240	12/01/2004 07:42:45	2.5764	2.5764	1690.87			
241	12/01/2004 07:57:45	2.8264	2.8264	1616.04			
242	12/01/2004 08:12:50	3.0778	3.0778	1594.32			
243	12/01/2004 08:27:55	3.3292	3.3292	1576.28			
244	12/01/2004 08:42:55	3.5792	3.5792	1563.84			
245	12/01/2004 08:58:00	3.8306	3.8306	1556.39	18.200		
246	12/01/2004 09:13:05	4.0819	4.0819	1545.03			
247	12/01/2004 09:28:10	4.3333	4.3333	1538.86			
248	12/01/2004 09:43:10	4.5833	4.5833	1533.05			
249	12/01/2004 09:58:15	4.8347	4.8347	1529.42			
250	12/01/2004 10:13:20	5.0861	5.0861	1525.73			
251	12/01/2004 10:28:20	5.3361	5.3361	1522.15			
252	12/01/2004 10:43:25	5.5875	5.5875	1517.58			
253	12/01/2004 10:58:30	5.8389	5.8389	1515.07			
254	12/01/2004 11:13:30	6.0889	6.0889	1512.26			
255	12/01/2004 11:28:35	6.3403	6.3403	1509.65			
256	12/01/2004 11:43:40	6.5917	6.5917	1507.96			
257	12/01/2004 11:58:40	6.8417	6.8417	1506.34			
258	12/01/2004 12:13:45	7.0931	7.0931	1504.34			
259	12/01/2004 12:28:50	7.3444	7.3444	1502.56			
260	12/01/2004 12:43:50	7.5944	7.5944	1501.08			
261	12/01/2004 12:58:55	7.8458	7.8458	1499.45			
262	12/01/2004 13:14:00	8.0972	8.0972	1497.64			
263	12/01/2004 13:29:00	8.3472	8.3472	1495.66			
264	12/01/2004 13:44:05	8.5986	8.5986	1494.38			
265	12/01/2004 13:59:10	8.8500	8.8500	1493.18	18.000		
266	12/01/2004 14:14:15	9.1014	9.1014	1491.59			
267	12/01/2004 14:29:15	9.3514	9.3514	1490.96			
268	12/01/2004 14:44:20	9.6028	9.6028	1489.81			
269	12/01/2004 14:59:25	9.8542	9.8542	1488.70			
270	12/01/2004 15:14:25	10.1042	10.1042	1487.53			
271	12/01/2004 15:29:30	10.3556	10.3556	1486.39			
272	12/01/2004 15:44:35	10.6069	10.6069	1484.82			
273	12/01/2004 15:59:35	10.8569	10.8569	1483.78			
274	12/01/2004 16:14:40	11.1083	11.1083	1482.90			
275	12/01/2004 16:29:45	11.3597	11.3597	1481.59			
276	12/01/2004 16:44:45	11.6097	11.6097	1480.78			
277	12/01/2004 16:59:50	11.8611	11.8611	1479.88			
278	12/01/2004 17:14:55	12.1125	12.1125	1478.61			
279	12/01/2004 17:29:55	12.3625	12.3625	1477.98			
280	12/01/2004 17:45:00	12.6139	12.6139	1476.86			
281	12/01/2004 18:00:05	12.8653	12.8653	1475.90			
282	12/01/2004 18:15:10	13.1167	13.1167	1475.34			
283	12/01/2004 18:30:10	13.3667	13.3667	1474.29			
284	12/01/2004 18:45:15	13.6181	13.6181	1473.68			
285	12/01/2004 18:58:45	13.8431	13.8431	1472.63	19.100		
286	12/01/2004 18:58:50	13.8444	13.8444	1472.38			
287	12/01/2004 18:58:55	13.8458	13.8458	1594.74	0.000		
288	12/01/2004 18:59:00	13.8472	13.8472	1744.24	0.000		
289	12/01/2004 18:59:05	13.8486	13.8486	1873.32			
290	12/01/2004 18:59:10	13.8500	13.8500	1987.14			

Item	Date/Clock Time	Time	Cum. Time	Sandface Pressure	Gas Rate	Oil Rate	Water Rate
	MM/DD/YYYY	hr	hr	psi(a)	MMCF/D	bbl/d	bbl/d
291	12/01/2004 18:59:15	13.8514	13.8514	2088.05			
292	12/01/2004 18:59:20	13.8528	13.8528	2177.62			
293	12/01/2004 18:59:25	13.8542	13.8542	2256.42			
294	12/01/2004 18:59:30	13.8556	13.8556	2325.55			
295	12/01/2004 18:59:35	13.8569	13.8569	2385.89			
296	12/01/2004 18:59:40	13.8583	13.8583	2438.42			
297	12/01/2004 18:59:45	13.8597	13.8597	2483.87			
298	12/01/2004 18:59:50	13.8611	13.8611	2523.24			
299	12/01/2004 18:59:55	13.8625	13.8625	2557.51			
300	12/01/2004 19:00:00	13.8639	13.8639	2587.66			
301	12/01/2004 19:00:05	13.8653	13.8653	2614.35			
302	12/01/2004 19:00:10	13.8667	13.8667	2638.13			
303	12/01/2004 19:00:15	13.8681	13.8681	2659.49			
304	12/01/2004 19:00:20	13.8694	13.8694	2678.83			
305	12/01/2004 19:00:25	13.8708	13.8708	2696.43			
306	12/01/2004 19:00:30	13.8722	13.8722	2712.54			
307	12/01/2004 19:00:35	13.8736	13.8736	2727.39			
308	12/01/2004 19:00:40	13.8750	13.8750	2741.18			
309	12/01/2004 19:00:45	13.8764	13.8764	2754.00			
310	12/01/2004 19:00:50	13.8778	13.8778	2765.96			
311	12/01/2004 19:00:55	13.8792	13.8792	2777.19			
312	12/01/2004 19:01:00	13.8806	13.8806	2787.75			
313	12/01/2004 19:01:05	13.8819	13.8819	2797.69			
314	12/01/2004 19:01:10	13.8833	13.8833	2807.09			
315	12/01/2004 19:01:15	13.8847	13.8847	2816.00			
316	12/01/2004 19:01:20	13.8861	13.8861	2824.48			
317	12/01/2004 19:01:25	13.8875	13.8875	2832.56			
318	12/01/2004 19:01:30	13.8889	13.8889	2840.27			
319	12/01/2004 19:01:35	13.8903	13.8903	2847.65			
320	12/01/2004 19:01:40	13.8917	13.8917	2854.71			
321	12/01/2004 19:01:45	13.8931	13.8931	2861.50			
322	12/01/2004 19:01:50	13.8944	13.8944	2868.01			
323	12/01/2004 19:01:55	13.8958	13.8958	2874.27			
324	12/01/2004 19:02:00	13.8972	13.8972	2880.30			
325	12/01/2004 19:02:05	13.8986	13.8986	2886.13			
326	12/01/2004 19:02:10	13.9000	13.9000	2891.77			
327	12/01/2004 19:02:15	13.9014	13.9014	2897.22			
328	12/01/2004 19:02:20	13.9028	13.9028	2902.50			
329	12/01/2004 19:02:25	13.9042	13.9042	2907.61			
330	12/01/2004 19:02:30	13.9056	13.9056	2912.59			
331	12/01/2004 19:02:35	13.9069	13.9069	2917.41			
332	12/01/2004 19:02:40	13.9083	13.9083	2922.10			
333	12/01/2004 19:02:45	13.9097	13.9097	2926.65			
334	12/01/2004 19:02:50	13.9111	13.9111	2931.07			
335	12/01/2004 19:02:55	13.9125	13.9125	2935.39			
336	12/01/2004 19:03:00	13.9139	13.9139	2939.60			
337	12/01/2004 19:03:05	13.9153	13.9153	2943.70			
338	12/01/2004 19:03:10	13.9167	13.9167	2947.71			
339	12/01/2004 19:03:15	13.9181	13.9181	2951.61			
340	12/01/2004 19:03:20	13.9194	13.9194	2955.41			
341	12/01/2004 19:03:25	13.9208	13.9208	2959.13			
342	12/01/2004 19:03:30	13.9222	13.9222	2962.77			
343	12/01/2004 19:03:35	13.9236	13.9236	2966.33			
344	12/01/2004 19:03:40	13.9250	13.9250	2969.80			
345	12/01/2004 19:03:45	13.9264	13.9264	2973.21			
346	12/01/2004 19:03:50	13.9278	13.9278	2976.55			
347	12/01/2004 19:03:55	13.9292	13.9292	2979.83			
348	12/01/2004 19:04:00	13.9306	13.9306	2983.05			

Item	Date/Clock Time	Time	Cum. Time	Sandface Pressure	Gas Rate	Oil Rate	Water Rate
	MM/DD/YYYY	hr	hr	psi(a)	MMCF/D	bbl/d	bbl/d
349	12/01/2004 19:04:05	13.9319	13.9319	2986.22			
350	12/01/2004 19:04:10	13.9333	13.9333	2989.31			
351	12/01/2004 19:04:15	13.9347	13.9347	2992.35			
352	12/01/2004 19:04:25	13.9375	13.9375	2998.26			
353	12/01/2004 19:04:35	13.9403	13.9403	3003.99			
354	12/01/2004 19:04:45	13.9431	13.9431	3009.51			
355	12/01/2004 19:04:55	13.9458	13.9458	3014.83			
356	12/01/2004 19:05:05	13.9486	13.9486	3020.00			
357	12/01/2004 19:05:15	13.9514	13.9514	3025.01			
358	12/01/2004 19:05:25	13.9542	13.9542	3029.87			
359	12/01/2004 19:05:35	13.9569	13.9569	3034.57			
360	12/01/2004 19:05:45	13.9597	13.9597	3039.15			
361	12/01/2004 19:05:55	13.9625	13.9625	3043.61			
362	12/01/2004 19:06:05	13.9653	13.9653	3047.94			
363	12/01/2004 19:06:15	13.9681	13.9681	3052.17			
364	12/01/2004 19:06:25	13.9708	13.9708	3056.28			
365	12/01/2004 19:06:35	13.9736	13.9736	3060.30			
366	12/01/2004 19:06:45	13.9764	13.9764	3064.22			
367	12/01/2004 19:06:55	13.9792	13.9792	3068.03			
368	12/01/2004 19:07:05	13.9819	13.9819	3071.78			
369	12/01/2004 19:07:15	13.9847	13.9847	3075.43			
370	12/01/2004 19:07:25	13.9875	13.9875	3079.02			
371	12/01/2004 19:07:35	13.9903	13.9903	3082.52			
372	12/01/2004 19:07:45	13.9931	13.9931	3085.94			
373	12/01/2004 19:07:55	13.9958	13.9958	3089.31			
374	12/01/2004 19:08:05	13.9986	13.9986	3092.59			
375	12/01/2004 19:08:15	14.0014	14.0014	3095.83			
376	12/01/2004 19:08:25	14.0042	14.0042	3098.99			
377	12/01/2004 19:08:35	14.0069	14.0069	3102.10			
378	12/01/2004 19:08:45	14.0097	14.0097	3105.16			
379	12/01/2004 19:08:55	14.0125	14.0125	3108.15			
380	12/01/2004 19:09:05	14.0153	14.0153	3111.09			
381	12/01/2004 19:09:15	14.0181	14.0181	3113.99			
382	12/01/2004 19:09:25	14.0208	14.0208	3116.84			
383	12/01/2004 19:09:35	14.0236	14.0236	3119.64			
384	12/01/2004 19:09:45	14.0264	14.0264	3122.39			
385	12/01/2004 19:10:00	14.0306	14.0306	3126.43			
386	12/01/2004 19:10:15	14.0347	14.0347	3130.40			
387	12/01/2004 19:10:30	14.0389	14.0389	3134.26			
388	12/01/2004 19:10:45	14.0431	14.0431	3138.05			
389	12/01/2004 19:11:00	14.0472	14.0472	3141.74			
390	12/01/2004 19:11:15	14.0514	14.0514	3145.36			
391	12/01/2004 19:11:30	14.0556	14.0556	3148.91			
392	12/01/2004 19:11:45	14.0597	14.0597	3152.39			
393	12/01/2004 19:12:00	14.0639	14.0639	3155.82			
394	12/01/2004 19:12:15	14.0681	14.0681	3159.16			
395	12/01/2004 19:12:30	14.0722	14.0722	3162.45			
396	12/01/2004 19:12:45	14.0764	14.0764	3165.67			
397	12/01/2004 19:13:00	14.0806	14.0806	3168.84			
398	12/01/2004 19:13:15	14.0847	14.0847	3171.96			
399	12/01/2004 19:13:30	14.0889	14.0889	3175.01			
400	12/01/2004 19:13:45	14.0931	14.0931	3178.02			
401	12/01/2004 19:14:00	14.0972	14.0972	3180.97			
402	12/01/2004 19:14:15	14.1014	14.1014	3183.90			
403	12/01/2004 19:14:30	14.1056	14.1056	3186.74			
404	12/01/2004 19:14:45	14.1097	14.1097	3189.55			
405	12/01/2004 19:15:00	14.1139	14.1139	3192.34			
406	12/01/2004 19:15:20	14.1194	14.1194	3195.98			

Item	Date/Clock Time	Time	Cum. Time	Sandface Pressure	Gas Rate	Oil Rate	Water Rate
	MM/DD/YYYY	hr	hr	psi(a)	MMCF/D	bbl/d	bbl/d
407	12/01/2004 19:15:40	14.1250	14.1250	3199.53			
408	12/01/2004 19:16:00	14.1306	14.1306	3203.02			
409	12/01/2004 19:16:20	14.1361	14.1361	3206.44			
410	12/01/2004 19:16:40	14.1417	14.1417	3209.82			
411	12/01/2004 19:17:00	14.1472	14.1472	3213.12			
412	12/01/2004 19:17:20	14.1528	14.1528	3216.36			
413	12/01/2004 19:17:40	14.1583	14.1583	3219.54			
414	12/01/2004 19:18:00	14.1639	14.1639	3222.68			
415	12/01/2004 19:18:20	14.1694	14.1694	3225.76			
416	12/01/2004 19:18:40	14.1750	14.1750	3228.78			
417	12/01/2004 19:19:00	14.1806	14.1806	3231.56			
418	12/01/2004 19:19:20	14.1861	14.1861	3234.43			
419	12/01/2004 19:19:40	14.1917	14.1917	3237.30			
420	12/01/2004 19:20:00	14.1972	14.1972	3240.12			
421	12/01/2004 19:20:20	14.2028	14.2028	3242.91			
422	12/01/2004 19:20:40	14.2083	14.2083	3245.65			
423	12/01/2004 19:21:05	14.2153	14.2153	3249.05			
424	12/01/2004 19:21:30	14.2222	14.2222	3252.38			
425	12/01/2004 19:21:55	14.2292	14.2292	3255.64			
426	12/01/2004 19:22:20	14.2361	14.2361	3258.85			
427	12/01/2004 19:22:45	14.2431	14.2431	3262.01			
428	12/01/2004 19:23:10	14.2500	14.2500	3265.12			
429	12/01/2004 19:23:35	14.2569	14.2569	3268.16			
430	12/01/2004 19:24:00	14.2639	14.2639	3271.17			
431	12/01/2004 19:24:25	14.2708	14.2708	3274.12			
432	12/01/2004 19:24:50	14.2778	14.2778	3277.03			
433	12/01/2004 19:25:15	14.2847	14.2847	3279.89			
434	12/01/2004 19:25:40	14.2917	14.2917	3282.73			
435	12/01/2004 19:26:05	14.2986	14.2986	3285.53			
436	12/01/2004 19:26:35	14.3069	14.3069	3288.83			
437	12/01/2004 19:27:05	14.3153	14.3153	3292.07			
438	12/01/2004 19:27:35	14.3236	14.3236	3295.25			
439	12/01/2004 19:28:05	14.3319	14.3319	3298.40			
440	12/01/2004 19:28:35	14.3403	14.3403	3301.48			
441	12/01/2004 19:29:05	14.3486	14.3486	3304.46			
442	12/01/2004 19:29:35	14.3569	14.3569	3307.22			
443	12/01/2004 19:30:05	14.3653	14.3653	3310.05			
444	12/01/2004 19:30:35	14.3736	14.3736	3312.83			
445	12/01/2004 19:31:05	14.3819	14.3819	3315.58			
446	12/01/2004 19:31:35	14.3903	14.3903	3318.17			
447	12/01/2004 19:32:10	14.4000	14.4000	3320.98			
448	12/01/2004 19:32:45	14.4097	14.4097	3323.99			
449	12/01/2004 19:33:20	14.4194	14.4194	3326.85			
450	12/01/2004 19:33:55	14.4292	14.4292	3329.51			
451	12/01/2004 19:34:30	14.4389	14.4389	3332.17			
452	12/01/2004 19:35:05	14.4486	14.4486	3335.00			
453	12/01/2004 19:35:40	14.4583	14.4583	3337.77			
454	12/01/2004 19:36:15	14.4681	14.4681	3340.54			
455	12/01/2004 19:36:50	14.4778	14.4778	3343.23			
456	12/01/2004 19:37:30	14.4889	14.4889	3346.37			
457	12/01/2004 19:38:10	14.5000	14.5000	3349.46			
458	12/01/2004 19:38:50	14.5111	14.5111	3352.15			
459	12/01/2004 19:39:30	14.5222	14.5222	3354.90			
460	12/01/2004 19:40:10	14.5333	14.5333	3357.78			
461	12/01/2004 19:40:50	14.5444	14.5444	3360.43			
462	12/01/2004 19:41:30	14.5556	14.5556	3363.01			
463	12/01/2004 19:42:10	14.5667	14.5667	3365.67			
464	12/01/2004 19:42:55	14.5792	14.5792	3368.74			

Item	Date/Clock Time	Time	Cum. Time	Sandface Pressure	Gas Rate	Oil Rate	Water Rate
	MM/DD/YYYY	hr	hr	psi(a)	MMCF/D	bbl/d	bbl/d
465	12/01/2004 19:43:40	14.5917	14.5917	3371.73			
466	12/01/2004 19:44:25	14.6042	14.6042	3374.74			
467	12/01/2004 19:45:10	14.6167	14.6167	3377.72			
468	12/01/2004 19:45:55	14.6292	14.6292	3380.66			
469	12/01/2004 19:46:40	14.6417	14.6417	3383.61			
470	12/01/2004 19:47:25	14.6542	14.6542	3386.47			
471	12/01/2004 19:48:15	14.6681	14.6681	3389.63			
472	12/01/2004 19:49:05	14.6819	14.6819	3392.76			
473	12/01/2004 19:49:55	14.6958	14.6958	3395.84			
474	12/01/2004 19:50:45	14.7097	14.7097	3398.86			
475	12/01/2004 19:51:35	14.7236	14.7236	3401.85			
476	12/01/2004 19:52:25	14.7375	14.7375	3404.79			
477	12/01/2004 19:53:15	14.7514	14.7514	3407.68			
478	12/01/2004 19:54:10	14.7667	14.7667	3410.83			
479	12/01/2004 19:55:05	14.7819	14.7819	3413.92			
480	12/01/2004 19:56:00	14.7972	14.7972	3416.97			
481	12/01/2004 19:56:55	14.8125	14.8125	3419.97			
482	12/01/2004 19:57:50	14.8278	14.8278	3422.94			
483	12/01/2004 19:58:45	14.8431	14.8431	3425.86			
484	12/01/2004 19:59:45	14.8597	14.8597	3428.99			
485	12/01/2004 20:00:45	14.8764	14.8764	3432.09			
486	12/01/2004 20:01:45	14.8931	14.8931	3435.14			
487	12/01/2004 20:02:45	14.9097	14.9097	3438.14			
488	12/01/2004 20:03:45	14.9264	14.9264	3441.09			
489	12/01/2004 20:04:50	14.9444	14.9444	3444.24			
490	12/01/2004 20:05:55	14.9625	14.9625	3447.36			
491	12/01/2004 20:07:00	14.9806	14.9806	3450.42			
492	12/01/2004 20:08:05	14.9986	14.9986	3453.43			
493	12/01/2004 20:09:10	15.0167	15.0167	3456.40			
494	12/01/2004 20:10:20	15.0361	15.0361	3459.55			
495	12/01/2004 20:11:30	15.0556	15.0556	3462.65			
496	12/01/2004 20:12:40	15.0750	15.0750	3465.69			
497	12/01/2004 20:13:50	15.0944	15.0944	3468.67			
498	12/01/2004 20:15:00	15.1139	15.1139	3471.58			
499	12/01/2004 20:16:15	15.1347	15.1347	3474.63			
500	12/01/2004 20:17:30	15.1556	15.1556	3477.60			
501	12/01/2004 20:18:45	15.1764	15.1764	3480.48			
502	12/01/2004 20:20:00	15.1972	15.1972	3483.31			
503	12/01/2004 20:21:20	15.2194	15.2194	3486.25			
504	12/01/2004 20:22:40	15.2417	15.2417	3489.13			
505	12/01/2004 20:24:00	15.2639	15.2639	3491.96			
506	12/01/2004 20:25:20	15.2861	15.2861	3494.74			
507	12/01/2004 20:26:45	15.3097	15.3097	3497.62			
508	12/01/2004 20:28:10	15.3333	15.3333	3500.46			
509	12/01/2004 20:29:35	15.3569	15.3569	3503.24			
510	12/01/2004 20:31:00	15.3806	15.3806	3505.97			
511	12/01/2004 20:32:30	15.4056	15.4056	3508.82			
512	12/01/2004 20:34:00	15.4306	15.4306	3511.61			
513	12/01/2004 20:35:30	15.4556	15.4556	3514.35			
514	12/01/2004 20:37:00	15.4806	15.4806	3517.04			
515	12/01/2004 20:38:35	15.5069	15.5069	3519.84			
516	12/01/2004 20:40:10	15.5333	15.5333	3522.58			
517	12/01/2004 20:41:45	15.5597	15.5597	3525.27			
518	12/01/2004 20:43:25	15.5875	15.5875	3528.05			
519	12/01/2004 20:45:05	15.6153	15.6153	3530.78			
520	12/01/2004 20:46:45	15.6431	15.6431	3533.45			
521	12/01/2004 20:48:30	15.6722	15.6722	3536.22			
522	12/01/2004 20:50:15	15.7014	15.7014	3538.93			

Item	Date/Clock Time	Time	Cum. Time	Sandface Pressure	Gas Rate	Oil Rate	Water Rate
	MM/DD/YYYY	hr	hr	psi(a)	MMCF/D	bbl/d	bbl/d
523	12/01/2004 20:52:00	15.7306	15.7306	3541.58			
524	12/01/2004 20:53:50	15.7611	15.7611	3544.32			
525	12/01/2004 20:55:40	15.7917	15.7917	3546.99			
526	12/01/2004 20:57:30	15.8222	15.8222	3549.61			
527	12/01/2004 20:59:25	15.8542	15.8542	3552.30			
528	12/01/2004 21:01:20	15.8861	15.8861	3554.95			
529	12/01/2004 21:03:15	15.9181	15.9181	3557.53			
530	12/01/2004 21:05:15	15.9514	15.9514	3560.18			
531	12/01/2004 21:07:15	15.9847	15.9847	3562.77			
532	12/01/2004 21:09:15	16.0181	16.0181	3565.33			
533	12/01/2004 21:11:20	16.0528	16.0528	3567.92			
534	12/01/2004 21:13:25	16.0875	16.0875	3570.48			
535	12/01/2004 21:15:30	16.1222	16.1222	3572.97			
536	12/01/2004 21:17:40	16.1583	16.1583	3575.53			
537	12/01/2004 21:19:50	16.1944	16.1944	3578.02			
538	12/01/2004 21:22:05	16.2319	16.2319	3580.57			
539	12/01/2004 21:24:20	16.2694	16.2694	3583.06			
540	12/01/2004 21:26:40	16.3083	16.3083	3585.59			
541	12/01/2004 21:29:00	16.3472	16.3472	3588.07			
542	12/01/2004 21:31:20	16.3861	16.3861	3590.50			
543	12/01/2004 21:33:45	16.4264	16.4264	3592.97			
544	12/01/2004 21:36:10	16.4667	16.4667	3595.38			
545	12/01/2004 21:38:40	16.5083	16.5083	3597.83			
546	12/01/2004 21:41:10	16.5500	16.5500	3600.23			
547	12/01/2004 21:43:45	16.5931	16.5931	3602.66			
548	12/01/2004 21:46:20	16.6361	16.6361	3605.04			
549	12/01/2004 21:49:00	16.6806	16.6806	3607.44			
550	12/01/2004 21:51:40	16.7250	16.7250	3609.80			
551	12/01/2004 21:54:25	16.7708	16.7708	3612.17			
552	12/01/2004 21:57:10	16.8167	16.8167	3614.50			
553	12/01/2004 22:00:00	16.8639	16.8639	3616.85			
554	12/01/2004 22:02:50	16.9111	16.9111	3619.15			
555	12/01/2004 22:05:45	16.9597	16.9597	3621.46			
556	12/01/2004 22:08:40	17.0083	17.0083	3623.72			
557	12/01/2004 22:11:40	17.0583	17.0583	3625.99			
558	12/01/2004 22:14:40	17.1083	17.1083	3628.22			
559	12/01/2004 22:17:45	17.1597	17.1597	3630.46			
560	12/01/2004 22:20:50	17.2111	17.2111	3632.65			
561	12/01/2004 22:24:00	17.2639	17.2639	3634.85			
562	12/01/2004 22:27:15	17.3181	17.3181	3637.06			
563	12/01/2004 22:30:30	17.3722	17.3722	3639.23			
564	12/01/2004 22:33:50	17.4278	17.4278	3641.40			
565	12/01/2004 22:37:10	17.4833	17.4833	3643.53			
566	12/01/2004 22:40:35	17.5403	17.5403	3645.67			
567	12/01/2004 22:44:05	17.5986	17.5986	3647.80			
568	12/01/2004 22:47:35	17.6569	17.6569	3649.89			
569	12/01/2004 22:51:10	17.7167	17.7167	3651.99			
570	12/01/2004 22:54:50	17.7778	17.7778	3654.08			
571	12/01/2004 22:58:30	17.8389	17.8389	3656.14			
572	12/01/2004 23:02:15	17.9014	17.9014	3658.18			
573	12/01/2004 23:06:05	17.9653	17.9653	3660.24			
574	12/01/2004 23:09:55	18.0292	18.0292	3662.24			
575	12/01/2004 23:13:50	18.0944	18.0944	3664.24			
576	12/01/2004 23:17:50	18.1611	18.1611	3666.24			
577	12/01/2004 23:21:55	18.2292	18.2292	3668.24			
578	12/01/2004 23:26:00	18.2972	18.2972	3670.18			
579	12/01/2004 23:30:10	18.3667	18.3667	3672.14			
580	12/01/2004 23:34:25	18.4375	18.4375	3674.08			

Item	Date/Clock Time	Time	Cum. Time	Sandface Pressure	Gas Rate	Oil Rate	Water Rate
	MM/DD/YYYY	hr	hr	psi(a)	MMCF/D	bbl/d	bbl/d
581	12/01/2004 23:38:45	18.5097	18.5097	3676.00			
582	12/01/2004 23:43:05	18.5819	18.5819	3677.89			
583	12/01/2004 23:47:30	18.6556	18.6556	3679.77			
584	12/01/2004 23:52:00	18.7306	18.7306	3681.65			
585	12/01/2004 23:56:35	18.8069	18.8069	3683.51			
586	12/02/2004 00:01:15	18.8847	18.8847	3685.36			
587	12/02/2004 00:06:00	18.9639	18.9639	3687.20			
588	12/02/2004 00:10:50	19.0444	19.0444	3689.03			
589	12/02/2004 00:15:40	19.1250	19.1250	3690.82			
590	12/02/2004 00:20:35	19.2069	19.2069	3692.60			
591	12/02/2004 00:25:35	19.2903	19.2903	3694.37			
592	12/02/2004 00:30:40	19.3750	19.3750	3696.12			
593	12/02/2004 00:35:50	19.4611	19.4611	3697.86			
594	12/02/2004 00:41:05	19.5486	19.5486	3699.59			
595	12/02/2004 00:46:25	19.6375	19.6375	3701.31			
596	12/02/2004 00:51:50	19.7278	19.7278	3703.00			
597	12/02/2004 00:57:20	19.8194	19.8194	3704.69			
598	12/02/2004 01:02:55	19.9125	19.9125	3706.36			
599	12/02/2004 01:08:35	20.0069	20.0069	3708.02			
600	12/02/2004 01:14:20	20.1028	20.1028	3709.66			
601	12/02/2004 01:20:10	20.2000	20.2000	3711.29			
602	12/02/2004 01:26:05	20.2986	20.2986	3712.90			
603	12/02/2004 01:32:05	20.3986	20.3986	3714.50			
604	12/02/2004 01:38:10	20.5000	20.5000	3716.07			
605	12/02/2004 01:44:25	20.6042	20.6042	3717.66			
606	12/02/2004 01:50:45	20.7097	20.7097	3719.23			
607	12/02/2004 01:57:10	20.8167	20.8167	3720.78			
608	12/02/2004 02:03:40	20.9250	20.9250	3722.31			
609	12/02/2004 02:10:15	21.0347	21.0347	3723.82			
610	12/02/2004 02:17:00	21.1472	21.1472	3725.35			
611	12/02/2004 02:23:50	21.2611	21.2611	3726.84			
612	12/02/2004 02:30:45	21.3764	21.3764	3728.32			
613	12/02/2004 02:37:45	21.4931	21.4931	3729.79			
614	12/02/2004 02:44:55	21.6125	21.6125	3731.25			
615	12/02/2004 02:52:10	21.7333	21.7333	3732.70			
616	12/02/2004 02:59:30	21.8556	21.8556	3734.13			
617	12/02/2004 03:07:00	21.9806	21.9806	3735.54			
618	12/02/2004 03:14:35	22.1069	22.1069	3736.95			
619	12/02/2004 03:22:20	22.2361	22.2361	3738.35			
620	12/02/2004 03:30:10	22.3667	22.3667	3739.73			
621	12/02/2004 03:38:05	22.4986	22.4986	3741.09			
622	12/02/2004 03:46:10	22.6333	22.6333	3742.45			
623	12/02/2004 03:54:20	22.7694	22.7694	3743.78			
624	12/02/2004 04:02:40	22.9083	22.9083	3745.11			
625	12/02/2004 04:11:05	23.0486	23.0486	3746.42			
626	12/02/2004 04:19:40	23.1917	23.1917	3747.73			
627	12/02/2004 04:28:25	23.3375	23.3375	3749.02			
628	12/02/2004 04:37:15	23.4847	23.4847	3750.29			
629	12/02/2004 04:46:15	23.6347	23.6347	3751.57			
630	12/02/2004 04:55:25	23.7875	23.7875	3752.82			
631	12/02/2004 05:04:40	23.9417	23.9417	3754.06			
632	12/02/2004 05:14:05	24.0986	24.0986	3755.26			
633	12/02/2004 05:23:40	24.2583	24.2583	3756.48			
634	12/02/2004 05:33:20	24.4194	24.4194	3757.68			
635	12/02/2004 05:43:10	24.5833	24.5833	3758.86			
636	12/02/2004 05:53:10	24.7500	24.7500	3760.04			
637	12/02/2004 06:03:20	24.9194	24.9194	3761.21			
638	12/02/2004 06:13:40	25.0917	25.0917	3762.36			

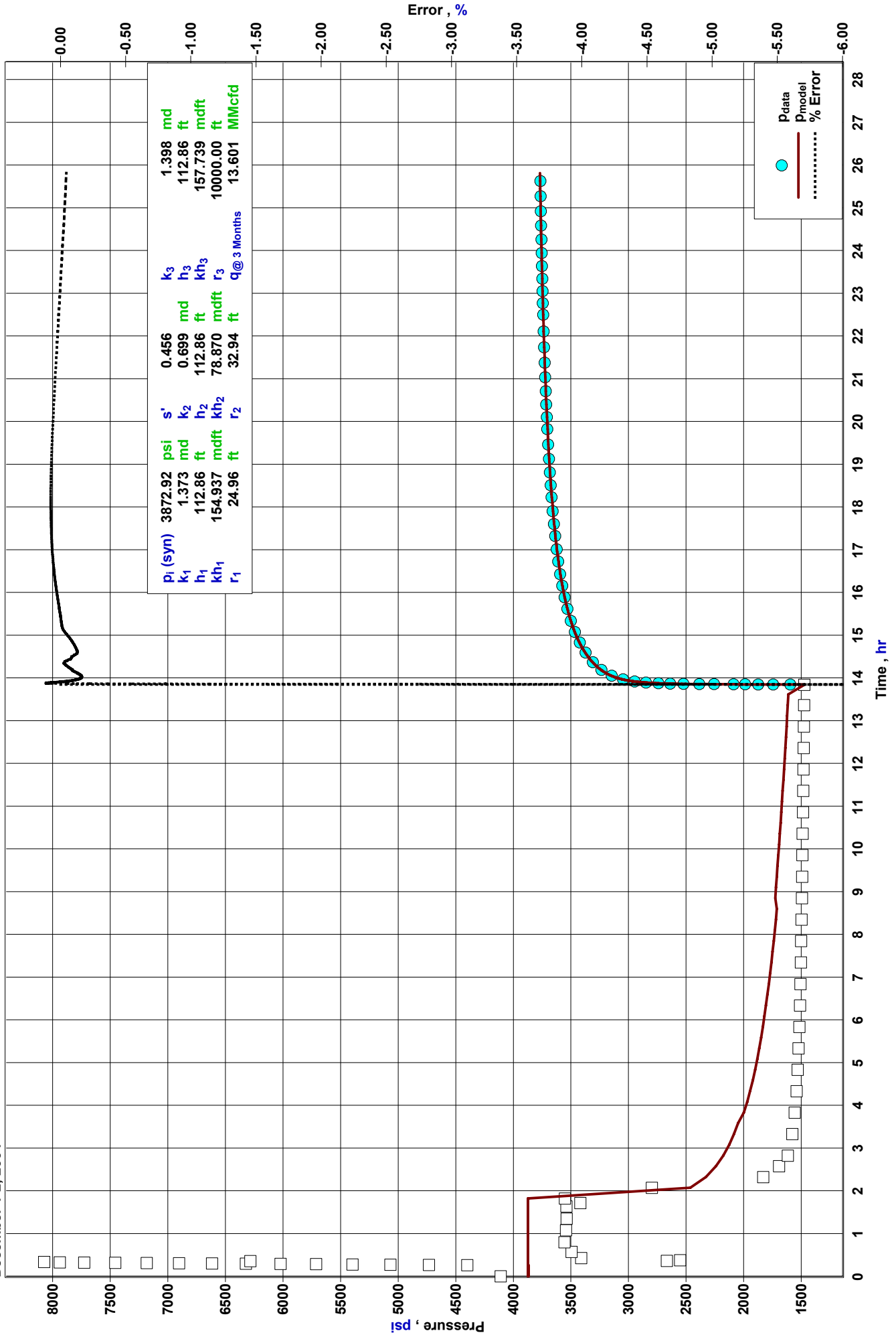
Longtom 2
Lower Admiral Formation
2184-2243.5 mdbrt
December 1-2, 2004

Item	Date/Clock Time	Time	Cum. Time	Sandface Pressure	Gas Rate	Oil Rate	Water Rate
	MM/DD/YYYY	hr	hr	psi(a)	MMCF/D	bbl/d	bbl/d
639	12/02/2004 06:24:10	25.2667	25.2667	3763.52			
640	12/02/2004 06:34:50	25.4444	25.4444	3764.65			
641	12/02/2004 06:45:40	25.6250	25.6250	3765.78			
642	12/02/2004 06:56:40	25.8083	25.8083	3766.88			

Longtom 2
Lower Admiral Formation
2184-2243.5 mdbrt
December 1-2, 2004

Composite Model

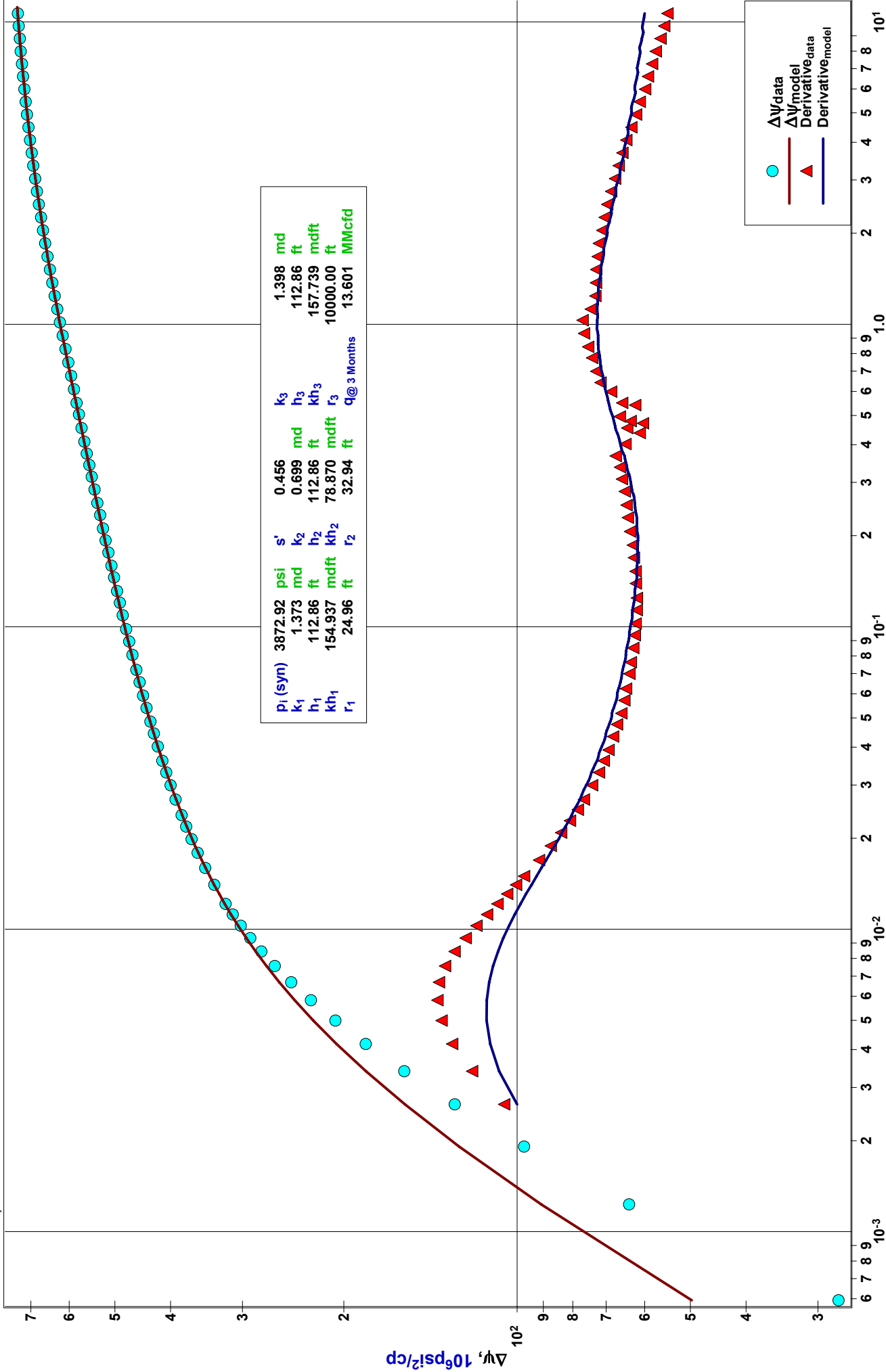
Total Test



Longtom 2
Lower Admiral Formation
2184-2243.5 mdbrt
December 1-2, 2004

Composite Model

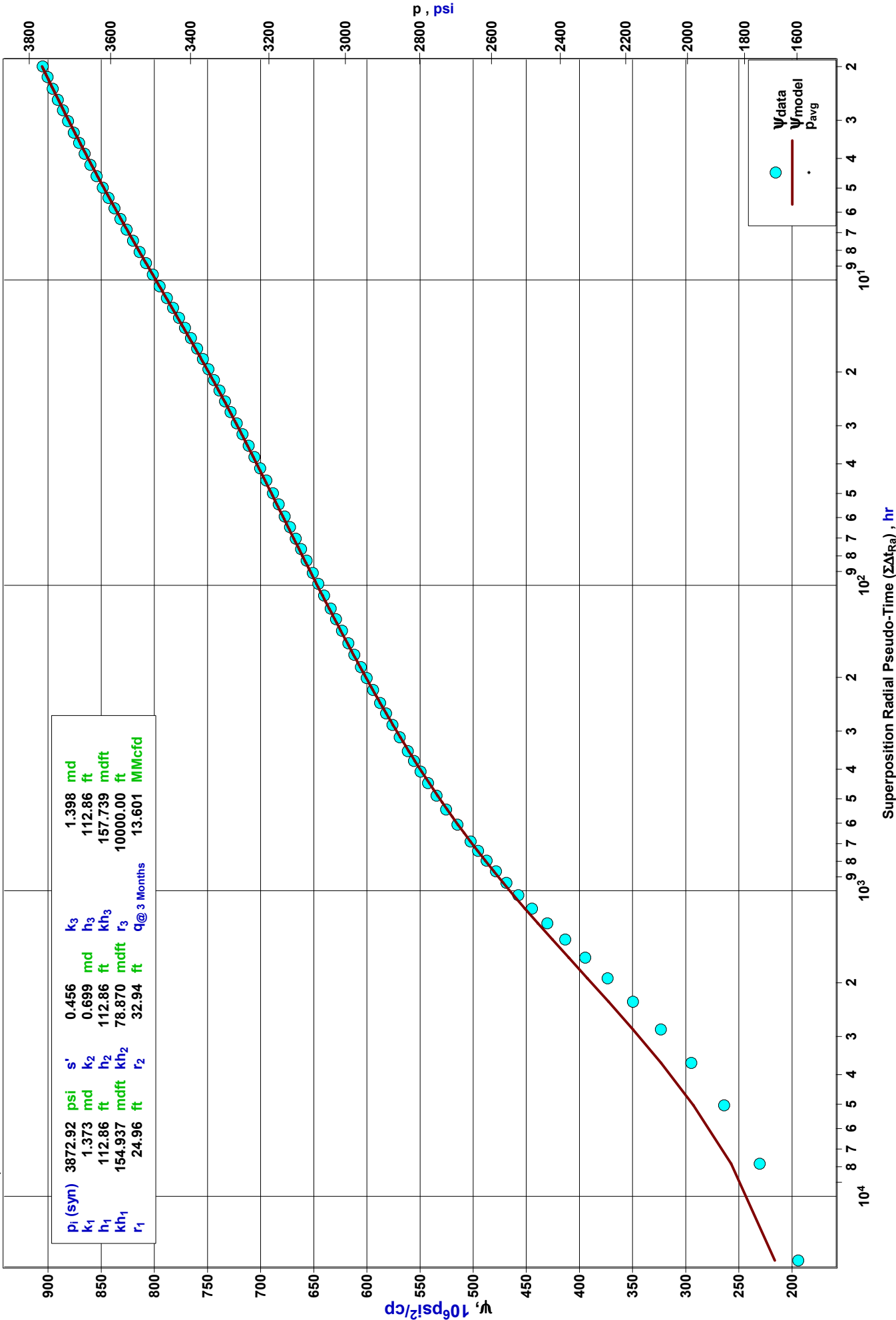
Typecurve



Pseudo-Time , hr

Longtom 2
Lower Admiral Formation
2184-2243.5 mdbrt
December 1-2, 2004

Composite Model
Radial



Composite Gas Well Model

Case Name : Composite 4

Longtom 2

2184-2243.5 mdbrt

Lower Admiral Formation

December 1-2, 2004

Model Parameters

	Region 1	Region 2	Region 3	Region 4
Permeability (k)	1.373	0.699	1.398	md
Viscosity (μ)	0.021	0.021	0.021	cp
Net Pay (h)	112.86	112.86	112.86	ft
Total Porosity (ϕ)	19.00	19.00	19.00	%
Total Compressibility (c_t)	1.274e-4	1.274e-4	1.274e-4	psi ⁻¹
Region Radius (r)	24.958	32.944	10000.000	ft
Skin (s)	0.456			
Turbulence Factor (D)	0.00 (MMCF/D) ⁻¹			
Apparent Wellbore Storage Dim. (C_{aD})				
Wellbore Storage Constant Dim. (C_D)	9.00			
Storage Pressure Param. Dim. (C_{pD})				

Production and Pressure

Final Gas Rate	19.100 MMCF/D
Cumulative Gas Production	9.068 MMCF
Final Measured Pressure	3766.88 psi

Formation Parameters

Gas Saturation (S_g)	61.00 %
Water Saturation (S_w)	39.00 %
Oil Saturation (S_o)	0.00 %
Wellbore Radius (r_w)	0.30 ft
Formation Temperature (T)	207.0 °F

Synthesis Results

Average Error	-0.14 %
Synthetic Initial Pressure (p_i)	3872.92 psi
Average Reservoir Pressure	3872.87 psi
Pressure Drop Due To Skin (Δp_s)	228.86 psi
Flow Efficiency (FE)	0.905
Damage Ratio (DR)	1.105

Fluid Properties

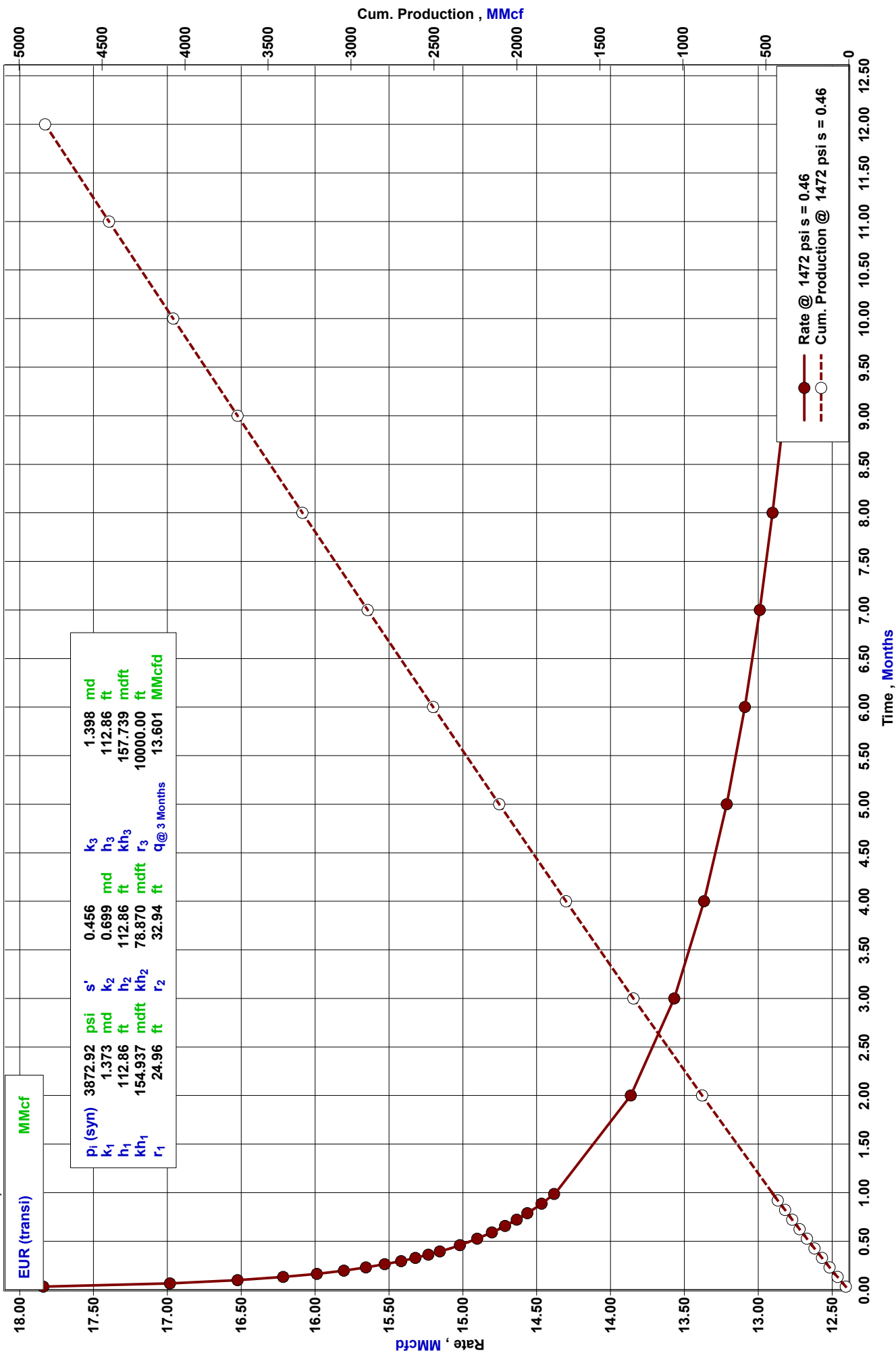
Gas Gravity (G)	0.653
N ₂	0.00 %
H ₂ S	0.00 %
CO ₂	1.00 %
Critical Pressure (P_c)	675.10 psi
Critical Temperature (T_c)	373.95 R
PVT Reference Pressure (p_{pVT})	3900.00 psi
Gas Compressibility (c_g)	2.00831e-4 psi ⁻¹
Gas Compressibility Factor (z)	0.939
Gas Viscosity (μ_g)	0.0214 cp
Gas Formation Volume Factor (B_g)	0.000806 bbl/scf

Forecasts

Forecast Flowing Pressuer (P_{flow})	1472.38 psi
3 - Month Constant Rate Forecast @ Curr. Skin	13.601 MMCF/D
6 - Month Constant Rate Forecast @ Curr. Skin	13.126 MMCF/D
Forecast Flow Duration (t_{flow})	12.00 month
Constant Rate Forecast @ Curr. Skin	12.683 MMCF/D
Constant Rate Forecast @ Skin=0	13.285 MMCF/D
Constant Rate Forecast @ Skin=-4	23.012 MMCF/D

Longtom 2
Lower Admiral Formation
2184-2243.5 mdbrt
December 1-2, 2004

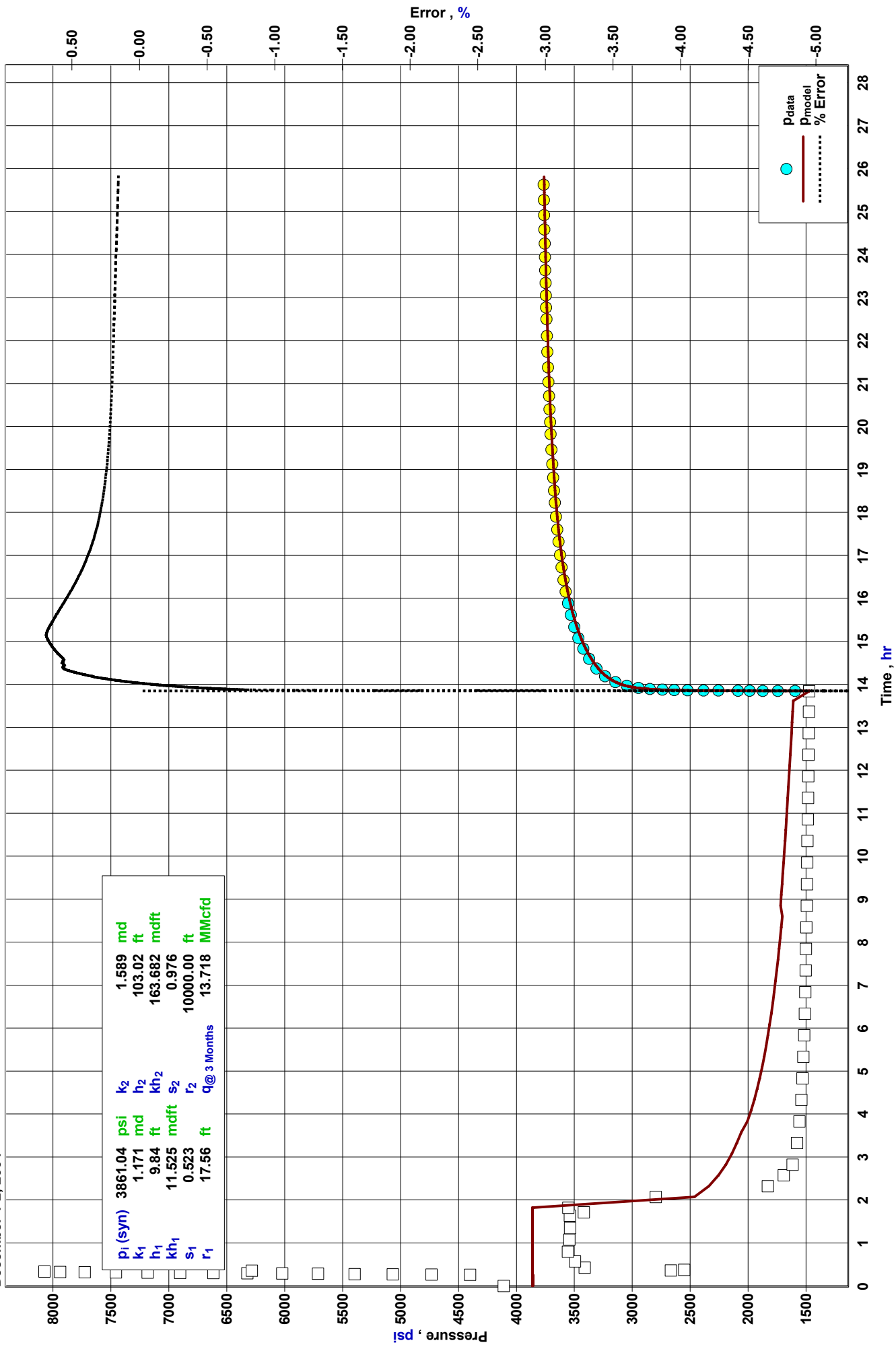
Composite Model Transient Forecast



Longtom 2
Lower Admiral Formation
2184-2243.5 mdbrt
December 1-2, 2004

Multi Layer Model

Total Test

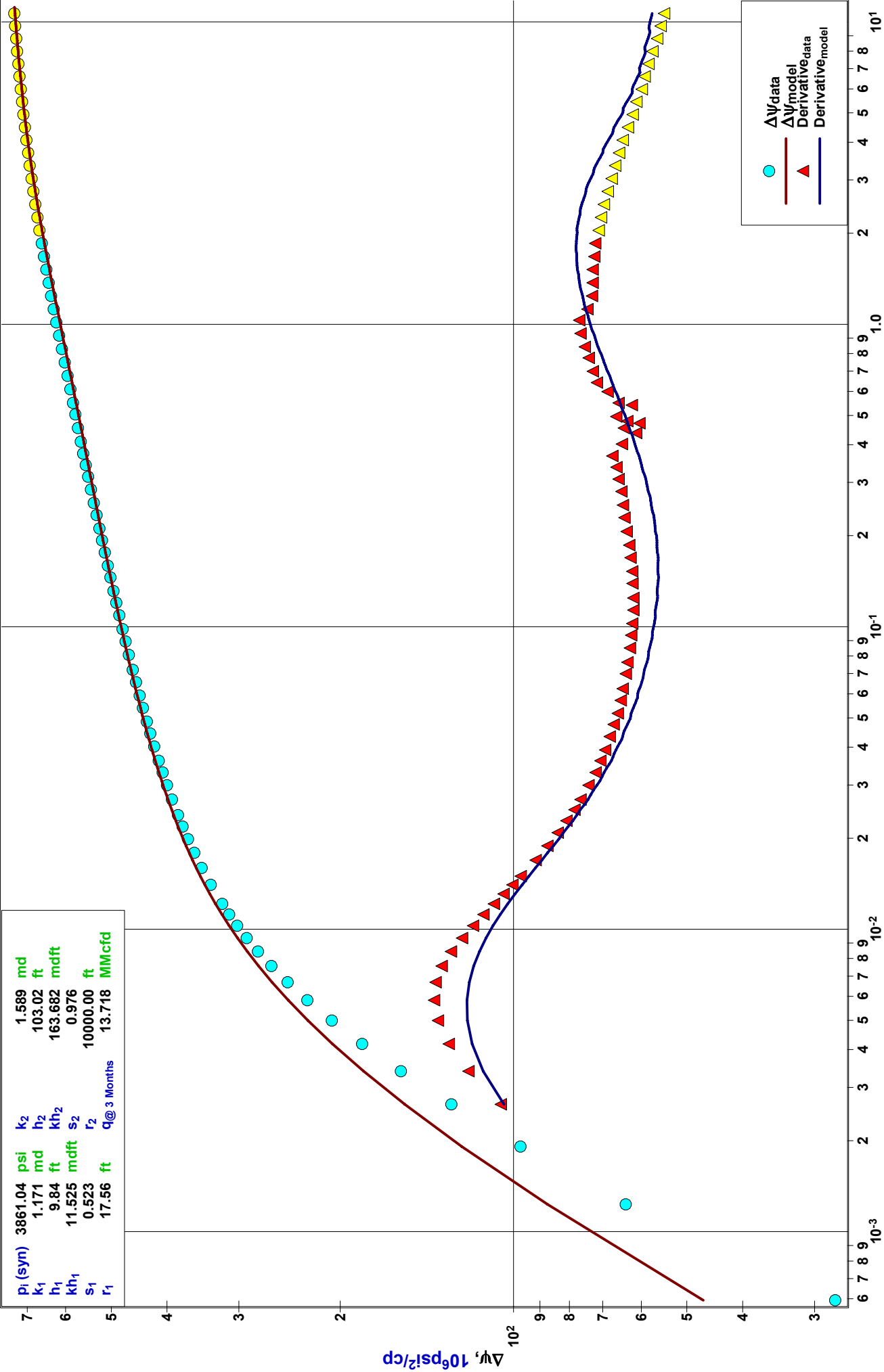


Longtom 2
Lower Admiral Formation
2184-2243.5 mdbrt
December 1-2, 2004

Multi Layer Model

Typecurve

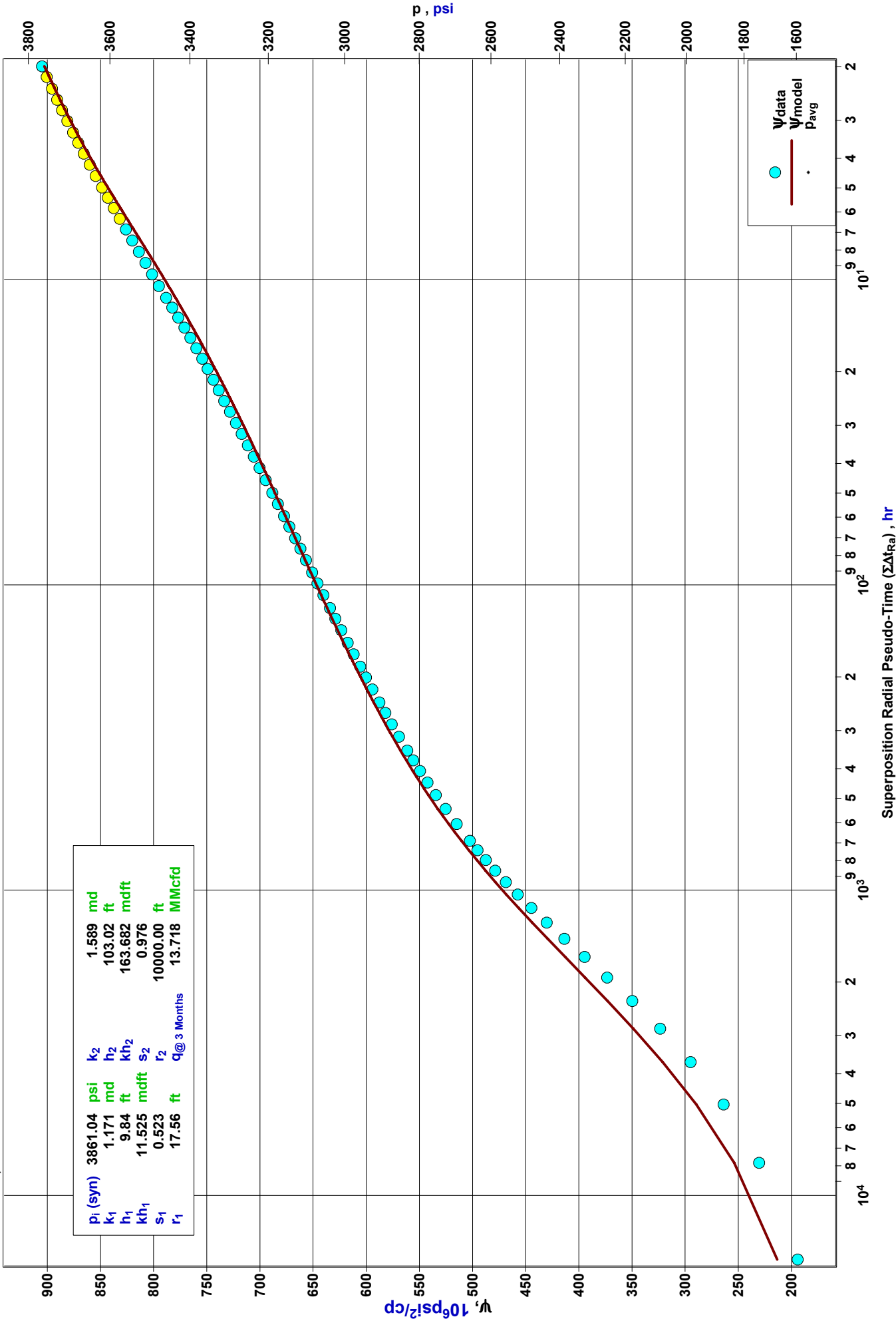
p_i (syn)	3861.04	psi	k_2	1.589	md
k_1	1.171	md	h_2	103.02	ft
h_1	9.84	ft	kh_2	163.682	mdft
kh_1	11.525	mdft	s_2	0.976	
s_1	0.523		r_2	10000.00	ft
r_1	17.56	ft	$q@3\text{ Months}$	13.718	MMcfd



Pseudo-Time , hr

Longtom 2
Lower Admiral Formation
2184-2243.5 mdbrt
December 1-2, 2004

Multi Layer Model
Radial



Multi-Layer Gas Well Model

Case Name : Multi 5

Longtom 2

2184-2243.5 mdbrt

Lower Admiral Formation

December 1-2, 2004

Model Parameters

Layer 1

Permeability	k_1 =	1.171 md
Net Pay	h_1 =	9.84 ft
Skin	s_1 =	0.523
Outer Radius	r_{e1} =	17.564 ft
Total Porosity	ϕ_{t1} =	19.00 %
Total Compressibility	c_{t1} =	1.27432e-4 psi ⁻¹
Viscosity	μ_1 =	0.021 cp

Layer 2

	k_2 =	1.589 md
	h_2 =	103.02 ft
	s_2 =	0.976
	r_{e2} =	10000.000 ft
	ϕ_{t2} =	19.00 %
	c_{t2} =	1.27432e-4 psi ⁻¹
	μ_2 =	0.021 cp

Apparent Wellbore Storage Dim. (C_{aD})

Wellbore Storage Constant Dim. (C_D) 10.00

Storage Pressure Param. Dim. (C_{pD})

Production and Pressure

Formation Parameters

Water Saturation (S_w)	39.00 %
Oil Saturation (S_o)	0.00 %
Gas Saturation (S_g)	61.00 %
Wellbore Radius (r_w)	0.30 ft
Formation Temperature (T)	207.0 °F

Final Gas Rate	19.100 MMCF/D
Cumulative Gas Production	9.068 MMCF
Final Measured Pressure	3766.88 psi

Fluid Properties

Gas Gravity (G)	0.653
N ₂	0.00 %
H ₂ S	0.00 %
CO ₂	1.00 %
Critical Pressure (P_c)	675.10 psi
Critical Temperature (T_c)	373.95 R
PVT Reference Pressure (p_{pVT})	3900.00 psi
Gas Compressibility (c_g)	2.00831e-4 psi ⁻¹
Gas Compressibility Factor (z)	0.939
Gas Viscosity (μ_g)	0.0214 cp
Gas Formation Volume Factor (B_g)	0.000806 bbl/scf

Synthesis Results

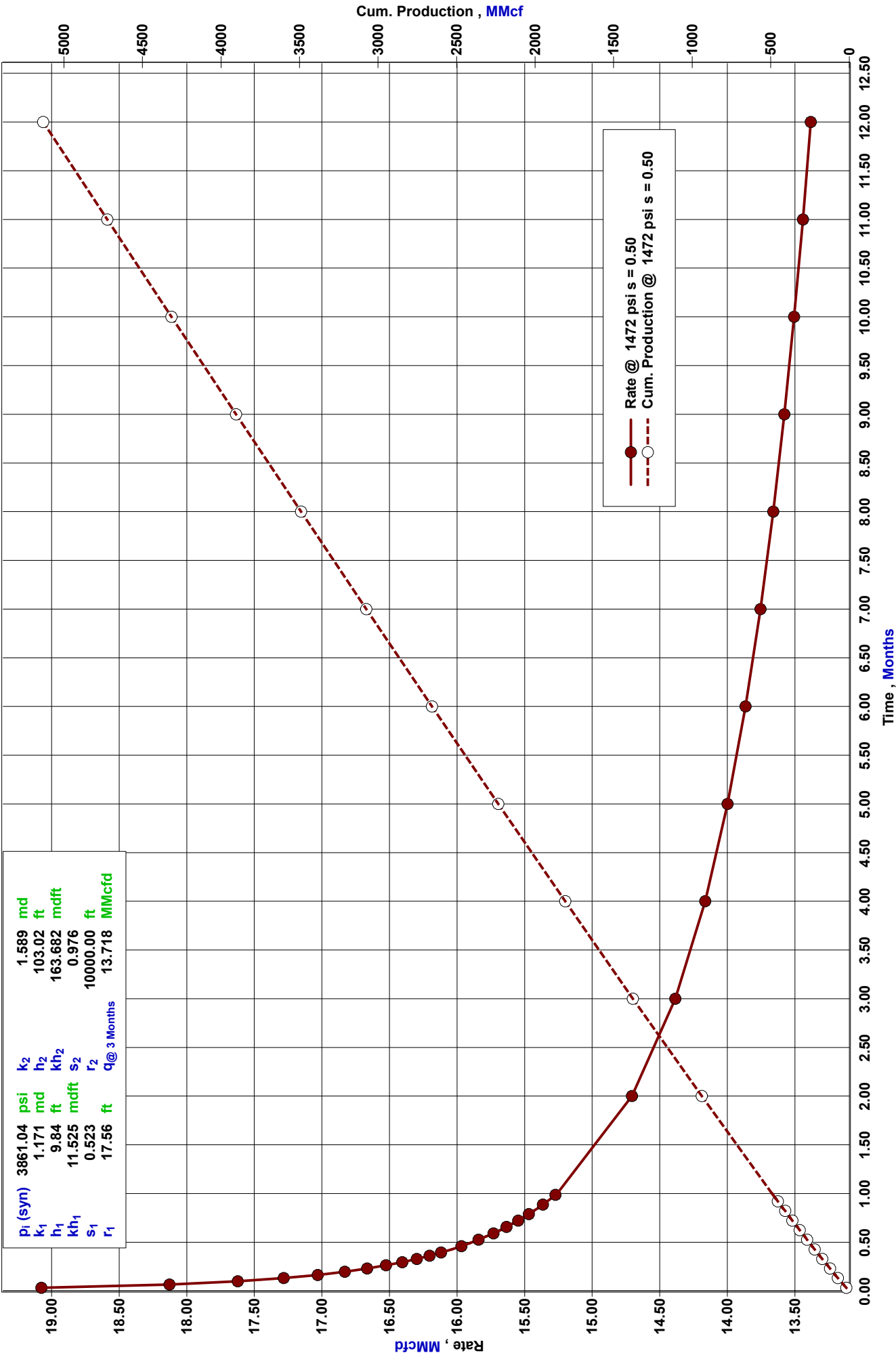
Average Error	0.08 %
Synthetic Initial Pressure (p_i)	3861.04 psi
Pressure Drop Due To Skin (Δp_s)	436.40 psi
Average Reservoir Pressure	3860.99 psi
Flow Efficiency (FE)	0.817
Damage Ratio (DR)	1.224

Forecasts

Forecast Flowing Pressure (P_{flow})	1472.38 psi
3 - Month Constant Rate Forecast @ Curr. Skin	13.718 MMCF/D
6 - Month Constant Rate Forecast @ Curr. Skin	13.249 MMCF/D
Forecast Flow Duration (t_{flow})	12.00 month
Constant Rate Forecast @ Curr. Skin	12.812 MMCF/D
Constant Rate Forecast @ Skin=0	14.128 MMCF/D
Constant Rate Forecast @ Skin=-4	24.410 MMCF/D

Longtom 2
Lower Admiral Formation
2184-2243.5 mdbrt
December 1-2, 2004

Multi Layer Model Transient Forecast



FLUID ANALYSIS

PVT SAMPLING SHEET

Client	Apache Energy Ltd.
Location	Ocean Patriot
Well	Longtom-2
Formation	Lower Admiral
DST	#1
Flow period	Main

SAMPLING DATA

Sample number	1.06a
PVT number	1
Sample point	Test Separator
Sample nature	Gas
Date	01.12.04
Sampled by	MA
Sampling commenced	15:40
Sampling completed	16:05
Cylinder number	5642 A
Cylinder coupled with	C-18705

TEST SEPARATOR CONDITIONS

Time	15:55	
Pressure	355.9	psi-g
Temperature	36.3	°C
Oil rate (std cond)	40.56	bbl/day
Gas rate (std cond)	18.76	MMscf/day
Shrinkage factor		
CGR (std cond)	2.16	bbl/MMscf
Gas gravity	0.653	
Oil gravity (@15°C)	54.4	°API

SAMPLING CONDITIONS

Transfer fluid	Vacuum	
Cylinder volume	20000	cc
Sample volume	20000	cc
Transfer fluid remaining	N/A	cc
Transfer pressure	356	Psig
Shipping pressure	356	Psig
Ambient temperature	16.0	°C

BOTTOM HOLE CONDITIONS

Time	N/A	
Flowing pressure	N/A	Psig
Flowing temperature	N/A	°C
Perforated Interval	2184.0-2192.2, 2212.5-2243.5	mMD

PRODUCTION CONDITIONS

Time	15:55	
Wellhead pressure	970.7	psi-g
Wellhead temperature	53.9	°C
Choke size	64/64	inch

COMMENTS

Please confirm recombination GOR with Apache reservoir engineers before commencing with physical recombination.

PVT SAMPLING SHEET

Client	Apache Energy Ltd.
Location	Ocean Patriot
Well	Longtom-2
Formation	Lower Admiral
DST	#1
Flow period	Main

SAMPLING DATA

Sample number	1.06b
PVT number	1
Sample point	Test Separator
Sample nature	Condensate
Date	01.12.04
Sampled by	DR
Sampling commenced	15:40
Sampling completed	16:05
Cylinder number	C-18705
Cylinder coupled with	5642 A

TEST SEPARATOR CONDITIONS

Time	15:55	
Pressure	355.9	psi-g
Temperature	36.3	°C
Oil rate (std cond)	40.56	bbl/day
Gas rate (std cond)	18.76	MMscf/day
Shrinkage factor		
GOR (std cond)	2.16	bbl/MMscf
Gas gravity	0.653	
Oil gravity (@15°C)	54.4	°API

SAMPLING CONDITIONS

Transfer fluid	Glycol	
Cylinder volume	629	cc
Sample volume	550	cc
Transfer fluid remaining	39	cc
Transfer pressure	356	Psig
Shipping pressure	290	Psig
Ambient temperature	16.0	°C

BOTTOM HOLE CONDITIONS

Time	N/A	
Flowing pressure	N/A	Psig
Flowing temperature	N/A	°C
Perforated Interval	2184.0-2192.2, 2212.5-2243.5	mMD

PRODUCTION CONDITIONS

Time	15:55	
Wellhead pressure	970.7	psi-g
Wellhead temperature	53.9	°C
Choke size	64/64	inch

COMMENTS

Please confirm recombination GOR with Apache reservoir engineers before commencing with physical recombination.

PVT SAMPLING SHEET

Client	Apache Energy Ltd.
Location	Ocean Patriot
Well	Longtom-2
Formation	Lower Admiral
DST	#1
Flow period	Main

SAMPLING DATA

Sample number	1.07a
PVT number	2
Sample point	Test Separator
Sample nature	Gas
Date	01.12.04
Sampled by	MA
Sampling commenced	16:25
Sampling completed	16:50
Cylinder number	5383 A
Cylinder coupled with	TS-4510

TEST SEPARATOR CONDITIONS

Time	16:40	
Pressure	355.3	psi-g
Temperature	36.5	°C
Oil rate (std cond)	90.72	bbl/day
Gas rate (std cond)	18.71	MMscf/day
Shrinkage factor		
GOR (std cond)	5.01	bbl/MMscf
Gas gravity	0.653	
Oil gravity (@15°C)	54.4	°API

SAMPLING CONDITIONS

Transfer fluid	Vacuum	
Cylinder volume	20000	cc
Sample volume	20000	cc
Transfer fluid remaining	N/A	cc
Transfer pressure	355	Psig
Shipping pressure	355	Psig
Ambient temperature	16.0	°C

BOTTOM HOLE CONDITIONS

Time	N/A	
Flowing pressure	N/A	Psig
Flowing temperature	N/A	°C
Perforated Interval	2184.0-2192.2, 2212.5-2243.5	mMD

PRODUCTION CONDITIONS

Time	16:40	
Wellhead pressure	968.4	psi-g
Wellhead temperature	54.2	°C
Choke size	64/64	inch

COMMENTS

Please confirm recombination GOR with Apache reservoir engineers before commencing with physical recombination.

PVT SAMPLING SHEET

Client	Apache Energy Ltd.
Location	Ocean Patriot
Well	Longtom-2
Formation	Lower Admiral
DST	#1
Flow period	Main

SAMPLING DATA

Sample number	1.07b
PVT number	2
Sample point	Test Separator
Sample nature	Condensate
Date	01.12.04
Sampled by	DR
Sampling commenced	16:25
Sampling completed	16:50
Cylinder number	TS-4510
Cylinder coupled with	5383 A

TEST SEPARATOR CONDITIONS

Time	16:40	
Pressure	355.3	psi-g
Temperature	36.5	°C
Oil rate (std cond)	90.72	bbl/day
Gas rate (std cond)	18.71	MMscf/day
Shrinkage factor		
GOR (std cond)	5.01	bbl/MMscf
Gas gravity	0.653	
Oil gravity (@15°C)	54.4	°API

SAMPLING CONDITIONS

Transfer fluid	Glycol	
Cylinder volume	629	cc
Sample volume	550	cc
Transfer fluid remaining	39	cc
Transfer pressure	355	Psig
Shipping pressure	290	Psig
Ambient temperature	16.0	°C

BOTTOM HOLE CONDITIONS

Time	N/A	
Flowing pressure	N/A	Psig
Flowing temperature	N/A	°C
Perforated Interval	2184.0-2192.2, 2212.5-2243.5	mMD

PRODUCTION CONDITIONS

Time	16:40	
Wellhead pressure	968.4	psi-g
Wellhead temperature	54.2	°C
Choke size	64/64	inch

COMMENTS

Please confirm recombination GOR with Apache reservoir engineers before commencing with physical recombination.

PVT SAMPLING SHEET

Client	Apache Energy Ltd.
Location	Ocean Patriot
Well	Longtom-2
Formation	Lower Admiral
DST	#1
Flow period	Main

SAMPLING DATA

Sample number	1.07b
PVT number	2
Sample point	Test Separator
Sample nature	Condensate
Date	01.12.04
Sampled by	DR
Sampling commenced	16:25
Sampling completed	16:50
Cylinder number	TS-4510
Cylinder coupled with	5383 A

TEST SEPARATOR CONDITIONS

Time	16:40	
Pressure	355.3	psi-g
Temperature	36.5	°C
Oil rate (std cond)	90.72	bbl/day
Gas rate (std cond)	18.71	MMscf/day
Shrinkage factor		
GOR (std cond)	5.01	bbl/MMscf
Gas gravity	0.653	
Oil gravity (@15°C)	54.4	°API

SAMPLING CONDITIONS

Transfer fluid	Glycol	
Cylinder volume	629	cc
Sample volume	550	cc
Transfer fluid remaining	39	cc
Transfer pressure	355	Psig
Shipping pressure	290	Psig
Ambient temperature	16.0	°C

BOTTOM HOLE CONDITIONS

Time	N/A	
Flowing pressure	N/A	Psig
Flowing temperature	N/A	°C
Perforated Interval	2184.0-2192.2, 2212.5-2243.5	mMD

PRODUCTION CONDITIONS

Time	16:40	
Wellhead pressure	968.4	psi-g
Wellhead temperature	54.2	°C
Choke size	64/64	inch

COMMENTS

Please confirm recombination GOR with Apache reservoir engineers before commencing with physical recombination.

PVT SAMPLING SHEET

Client	Apache Energy Ltd.
Location	Ocean Patriot
Well	Longtom-2
Formation	Lower Admiral
DST	#1
Flow period	Main

SAMPLING DATA

Sample number	1.08a
PVT number	3
Sample point	Test Separator
Sample nature	Gas
Date	01.12.04
Sampled by	MA
Sampling commenced	17:15
Sampling completed	17:40
Cylinder number	257 A
Cylinder coupled with	TS-12417

TEST SEPARATOR CONDITIONS

Time	17:30	
Pressure	354.8	psi-g
Temperature	36.7	°C
Oil rate (std cond)	60.48	bbl/day
Gas rate (std cond)	19.15	MMscf/day
Shrinkage factor		
GOR (std cond)	3.15	bbl/MMscf
Gas gravity	0.653	
Oil gravity (@15°C)	54.4	°API

SAMPLING CONDITIONS

Transfer fluid	Vacuum	
Cylinder volume	20000	cc
Sample volume	20000	cc
Transfer fluid remaining	N/A	cc
Transfer pressure	355	Psig
Shipping pressure	355	Psig
Ambient temperature	16.0	°C

BOTTOM HOLE CONDITIONS

Time	N/A	
Flowing pressure	N/A	Psig
Flowing temperature	N/A	°C
Perforated Interval	2184.0-2192.2, 2212.5-2243.5	mMD

PRODUCTION CONDITIONS

Time	17:30	
Wellhead pressure	966.4	psi-g
Wellhead temperature	54.4	°C
Choke size	64/64	inch

COMMENTS

Please confirm recombination GOR with Apache reservoir engineers before commencing with physical recombination.

PVT SAMPLING SHEET

Client	Apache Energy Ltd.
Location	Ocean Patriot
Well	Longtom-2
Formation	Lower Admiral
DST	#1
Flow period	Main

SAMPLING DATA

Sample number	1.08b
PVT number	3
Sample point	Test Separator
Sample nature	Condensate
Date	01.12.04
Sampled by	DR
Sampling commenced	17:15
Sampling completed	17:40
Cylinder number	TS-12417
Cylinder coupled with	257 A

TEST SEPARATOR CONDITIONS

Time	17:30	
Pressure	354.8	psi-g
Temperature	36.7	°C
Oil rate (std cond)	60.48	bbl/day
Gas rate (std cond)	19.15	MMscf/day
Shrinkage factor		
GOR (std cond)	3.15	bbl/MMscf
Gas gravity	0.653	
Oil gravity (@15°C)	54.4	°API

SAMPLING CONDITIONS

Transfer fluid	Glycol	
Cylinder volume	629	cc
Sample volume	550	cc
Transfer fluid remaining	39	cc
Transfer pressure	355	Psig
Shipping pressure	290	Psig
Ambient temperature	16.0	°C

BOTTOM HOLE CONDITIONS

Time	N/A	
Flowing pressure	N/A	Psig
Flowing temperature	N/A	°C
Perforated Interval	2184.0-2192.2, 2212.5-2243.5	mMD

PRODUCTION CONDITIONS

Time	17:30	
Wellhead pressure	966.4	psi-g
Wellhead temperature	54.4	°C
Choke size	64/64	inch

COMMENTS

Please confirm recombination GOR with Apache reservoir engineers before commencing with physical recombination.

**ON-SITE MEASUREMENTS OF TRACE ELEMENTS
IN GAS FROM DST#1**

Client	Apache Energy Ltd.
Well	Longtom-2
Interval	2184.0-2192.5, 2212.5-2243.5mMD
Sample point	See Sample Location

Date	Time	Sample Location	H ₂ S (ppmv)	CO ₂ (mol %)	R-SH (ppmv)	²²² Rn (Bq/m ³)	Mercury (µg/m ³)
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Clean up & Main Flow

01.12.04	7:55	Choke Manifold	0.2	1.0			
	8:25	Choke Manifold	0.2	1.0			
	9:00	Test Separator	0.3	1.0			
	9:30	Test Separator	0.3	1.0	<0.5		
	10:00	Test Separator	0.2	1.0			
	10:20	Test Separator					15.54
	10:30	Test Separator				237	
	11:00	Test Separator	0.5	1.0			
	11:20	Test Separator					16.27
	11:30	Test Separator	0.5	1.0	<0.5		
	12:00	Test Separator	0.5	1.0			
	13:00	Test Separator	0.5	1.0			
	13:15	Test Separator					20.29
	13:20	Test Separator				245	
	14:00	Test Separator	0.5	1.0			
	14:20	Test Separator					19.16
	14:30	Test Separator				211	
	15:00	Test Separator	0.5	1.0			
	17:15	Test Separator	0.5	1.0			
	18:30	Test Separator					31.90

Apache Energy Limited

Longtom-2

AFL 2005-003

COMPOSITION OF PRIMARY STAGE SEPARATOR GAS

(by Programmed-Temperature, Capillary Chromatography)

Component	Mol %	Plant Products (GPM)	Liquid Density (gm/cc)	MW
Hydrogen Sulfide	0.00			
Carbon Dioxide	1.13		0.8172	44.010
Nitrogen	1.10		0.8086	28.013
Methane	91.47		0.2997	16.043
Ethane	3.87	1.032	0.3562	30.070
Propane	1.37	0.376	0.5070	44.097
iso-Butane	0.25	0.082	0.5629	58.123
n-Butane	0.31	0.097	0.5840	58.123
iso-Pentane	0.10	0.036	0.6244	72.150
n-Pentane	0.09	0.032	0.6311	72.150
Hexanes	0.10	0.039	0.6850	84.0
Heptanes	0.12	0.050	0.7220	96.0
Octanes	0.08	0.036	0.7450	107
Nonanes	0.01	0.005	0.7640	121
Decanes	0.00			
Totals	100.00	1.785		

SAMPLING CONDITIONS

356 psig

97 °F

Gas Cylinder

5642 A

Average Sample Properties

Critical Pressure, psia 668.1

Critical Temperature, °R 361.5

Average Molecular Weight 18.01

Calculated Gas Gravity (air = 1.000) 0.622

at 14.696 psia and 60 °F

Heating Value, Btu/scf dry gas*

Gross 1069

Properties of Plus Fractions

Component	Mol %	Liquid Density (gm/cc)	Liquid API Gravity	MW
Heptanes plus	0.21	0.7334	61.2	101.4

Note: Component properties assigned from literature.

* ref: Gas Producers & Suppliers Association (GPSA) Engineering Data Book

Apache Energy Limited

Longtom-2

AFL 2005-003

COMPOSITION OF PRIMARY STAGE SEPARATOR LIQUID

(by Flash/Extended Chromatography)

Component	Mol %	Wt %	Liquid Density (gm/cc)	MW
Hydrogen Sulfide	0.00	0.00		
Carbon Dioxide	0.25	0.09	0.8172	44.010
Nitrogen	0.03	0.01	0.8086	28.013
Methane	9.89	1.36	0.2997	16.043
Ethane	2.10	0.54	0.3562	30.070
Propane	2.27	0.86	0.5070	44.097
iso-Butane	0.91	0.45	0.5629	58.123
n-Butane	1.67	0.83	0.5840	58.123
iso-Pentane	1.17	0.72	0.6244	72.150
n-Pentane	1.40	0.86	0.6311	72.150
Hexanes	3.94	2.83	0.6850	84.0
Heptanes	11.04	9.06	0.7220	96.0
Octanes	19.97	18.27	0.7450	107
Nonanes	12.59	13.03	0.7640	121
Decanes	1.15	1.32	0.7780	134
Undecanes	8.11	10.20	0.7890	147
Dodecanes	5.86	8.07	0.8000	161
Tridecanes	5.03	7.53	0.8110	175
Tetradecanes	3.63	5.90	0.8220	190
Pentadecanes	2.75	4.84	0.8320	206
Hexadecanes	1.78	3.38	0.8390	222
Heptadecanes	1.38	2.80	0.8470	237
Octadecanes	1.28	2.75	0.8520	251
Nonadecanes	0.77	1.73	0.8570	263
Eicosanes	0.45	1.06	0.8620	275
Heneicosanes	0.27	0.67	0.8670	291
Docosanes	0.16	0.42	0.8720	305
Tricosanes	0.08	0.22	0.8770	318
Tetracosanes	0.04	0.11	0.8810	331
Pentacosanes	0.02	0.06	0.8850	345
Hexacosanes	0.01	0.03	0.8890	359
Heptacosanes	0.00	0.00		
Octacosanes	0.00	0.00		
Nonacosanes	0.00	0.00		
Triacotanes plus	0.00	0.00		
Totals	100.00	100.00		

SAMPLING CONDITIONS

356 psig

97 °F

Liquid Cylinder

C-18705

Average Sample Properties

Average Molecular Weight 116.93

Calculated Density at 0 psig and 60 °F 0.7496

Properties of Plus Fractions

Plus Fraction	Mol%	Wt%	Liquid Density (gm/cc)	Liquid API Gravity	MW
Heptanes plus	76.37	91.45	0.7839	48.8	140
Dodecanes plus	23.51	39.57	0.8259	39.7	197
Eicosanes plus	1.03	2.57	0.8678	31.4	292

Apache Energy Limited
Longtom-2
AFL 2005-003

WELLSTREAM RECOMBINATION CALCULATION

(based on field production data)

Conditions for Recombination Calculations

Primary Stage at 356 psig and 97 °F

Field Gas Rate Correction Factors -

Gas Gravity (air=1.000)	0.653
Gas Gravity Factor, Fg	1.2375
Gas Deviation Factor, Z	**
Super Compressibility Factor, Fpv	**
Pressure Base, psia	14.696

Laboratory Gas Rate Correction Factors -

Gas Gravity (air=1.000)	0.622
Gas Gravity Factor, Fg	1.2682
Gas Deviation Factor*, Z	0.955
Supercompressibility Factor, Fpv (not applied).....	1.0231
Pressure Base, psia	14.696

Laboratory Liquid Rate Correction Factors -

Liquid Volume Factor, S'bbl/bbl @ 60 °F	na
Bitumen, Sediment & Water (BS&W) Factor	1.000

Field Measured Rates and Ratios -

Primary Stage Gas Flow Rate, Mscf/D	18760
Primary Stage Liquid Flow Rate, bbl/D	40.56
Primary Stage Gas / Oil Ratio, scf/S'bbl	462525

Recombination Rates and Ratios -

Primary Stage Gas Flow Rate, Mscf/D	18760
Primary Stage Liquid Flow Rate, bbl/D	40.56
Primary Stage Gas / Oil Ratio, scf/bbl	462525

Wellstream Recombination Ratio
mol/mol

553.4558

* From: Standing, M.B., "Volumetric and Phase Behavior of Oil Field Hydrocarbon Systems", SPE (Dallas), 1977, 8th Edition, Appendix II

** Data not supplied to Core Laboratories

Apache Energy Limited

Longtom-2

AFL 2005-003

COMPOSITION OF RECOMBINED WELLSTREAM

(from calculated recombination of separator products)

Component	Mol %	Plant Products (GPM)	Liquid Density (gm/cc)	MW
Hydrogen Sulfide	0.00			
Carbon Dioxide	1.13		0.8172	44.010
Nitrogen	1.10		0.8086	28.013
Methane	91.34		0.2997	16.043
Ethane	3.87	1.031	0.3562	30.070
Propane	1.37	0.377	0.5070	44.097
iso-Butane	0.25	0.082	0.5629	58.123
n-Butane	0.31	0.098	0.5840	58.123
iso-Pentane	0.10	0.037	0.6244	72.150
n-Pentane	0.09	0.033	0.6311	72.150
Hexanes	0.11	0.041	0.6850	84.0
Heptanes	0.14	0.059	0.7220	96.0
Octanes	0.12	0.053	0.7450	107
Nonanes	0.03	0.016	0.7640	121
Decanes	0.00	0.001		
Undecanes	0.01	0.009	0.7890	147
Dodecanes	0.01	0.007	0.8000	161
Tridecanes	0.01	0.006	0.8110	175
Tetradecanes	0.01	0.005	0.8220	190
Pentadecanes	0.00	0.004		
Hexadecanes	0.00	0.003		
Heptadecanes	0.00	0.002		
Octadecanes	0.00	0.002		
Nonadecanes	0.00	0.001		
Eicosanes	0.00	0.001		
Heneicosanes	0.00	0.001		
Docosanes	0.00	0.000		
Tricosanes	0.00	0.000		
Tetracosanes	0.00	0.000		
Pentacosanes	0.00	0.000		
Hexacosanes	0.00	0.000		
Heptacosanes	0.00	0.000		
Octacosanes	0.00	0.000		
Nonacosanes	0.00	0.000		
Triacosanes plus	0.00	0.000		
Totals	100.00	1.869		

RECOMBINATION CONDITIONS

356 psig
97 °F

Recombination Parameters

Primary Stage Gas / Oil Ratio, scf/bbl
at recombination conditions 462525
Wellstream Recombination Ratio
moles gas / mole liquid 553.4558

Average Wellstream Properties

Average Molecular Weight 18.1
Gas Gravity (air = 1.000) 0.625

Properties of Plus Fractions

Plus Fraction	Mol%	Plant Products (GPM)	Liquid Density (gm/cc)	Liquid API Gravity	MW
Heptanes plus	0.33	0.169	0.7486	57.3	111
Dodecanes plus	0.03	0.032	0.8259	39.7	197
Eicosanes plus	0.00	0.002	0.8678	31.4	292

Apache Energy Limited

Longtom-2

AFL 2005-003

COMPOSITION OF PRIMARY STAGE SEPARATOR GAS

(by Programmed-Temperature, Capillary Chromatography)

Component	Mol %	Plant Products (GPM)	Liquid Density (gm/cc)	MW
Hydrogen Sulfide	0.00			
Carbon Dioxide	1.13		0.8172	44.010
Nitrogen	1.10		0.8086	28.013
Methane	91.50		0.2997	16.043
Ethane	3.87	1.032	0.3562	30.070
Propane	1.37	0.376	0.5070	44.097
iso-Butane	0.25	0.082	0.5629	58.123
n-Butane	0.31	0.097	0.5840	58.123
iso-Pentane	0.10	0.036	0.6244	72.150
n-Pentane	0.08	0.029	0.6311	72.150
Hexanes	0.10	0.039	0.6850	84.0
Heptanes	0.11	0.046	0.7220	96.0
Octanes	0.07	0.032	0.7450	107
Nonanes	0.01	0.005	0.7640	121
Decanes	0.00			
Totals	100.00	1.774		

SAMPLING CONDITIONS

355 psig
98 °F

Gas Cylinder
5383 A

Average Sample Properties

Critical Pressure, psia 668.2

Critical Temperature, °R 361.3

Average Molecular Weight 17.98

Calculated Gas Gravity (air = 1.000) 0.621

at 14.696 psia and 60 °F

Heating Value, Btu/scf dry gas*

Gross 1068

Properties of Plus Fractions

Component	Mol %	Liquid Density (gm/cc)	Liquid API Gravity	MW
Heptanes plus	0.19	0.7333	61.3	101.4

Note: Component properties assigned from literature.

* ref: Gas Producers & Suppliers Association (GPSA) Engineering Data Book

Apache Energy Limited

Longtom-2

AFL 2005-003

COMPOSITION OF PRIMARY STAGE SEPARATOR LIQUID

(by Flash/Extended Chromatography)

Component	Mol %	Wt %	Liquid Density (gm/cc)	MW
Hydrogen Sulfide	0.00	0.00		
Carbon Dioxide	0.25	0.09	0.8172	44.010
Nitrogen	0.03	0.01	0.8086	28.013
Methane	9.81	1.34	0.2997	16.043
Ethane	2.09	0.54	0.3562	30.070
Propane	2.22	0.84	0.5070	44.097
iso-Butane	0.86	0.43	0.5629	58.123
n-Butane	1.56	0.77	0.5840	58.123
iso-Pentane	1.07	0.66	0.6244	72.150
n-Pentane	1.25	0.77	0.6311	72.150
Hexanes	3.50	2.51	0.6850	84.0
Heptanes	9.80	8.03	0.7220	96.0
Octanes	17.79	16.25	0.7450	107
Nonanes	11.22	11.59	0.7640	121
Decanes	10.16	11.62	0.7780	134
Undecanes	7.29	9.15	0.7890	147
Dodecanes	5.29	7.27	0.8000	161
Tridecanes	4.51	6.74	0.8110	175
Tetradecanes	3.27	5.30	0.8220	190
Pentadecanes	2.47	4.34	0.8320	206
Hexadecanes	1.59	3.01	0.8390	222
Heptadecanes	1.24	2.51	0.8470	237
Octadecanes	1.14	2.44	0.8520	251
Nonadecanes	0.67	1.50	0.8570	263
Eicosanes	0.41	0.96	0.8620	275
Heneicosanes	0.24	0.60	0.8670	291
Docosanes	0.14	0.36	0.8720	305
Tricosanes	0.07	0.19	0.8770	318
Tetracosanes	0.03	0.08	0.8810	331
Pentacosanes	0.02	0.06	0.8850	345
Hexacosanes	0.01	0.03	0.8890	359
Heptacosanes	0.00	0.00		
Octacosanes	0.00	0.00		
Nonacosanes	0.00	0.00		
Triacotanes plus	0.00	0.00		
Totals	100.00	100.00		

SAMPLING CONDITIONS

355 psig

98 °F

Liquid Cylinder

TS-4510

Average Sample Properties

Average Molecular Weight 117.15

Calculated Density at 0 psig and 60 °F 0.7502

Properties of Plus Fractions

Plus Fraction	Mol%	Wt%	Liquid Density (gm/cc)	Liquid API Gravity	MW
Heptanes plus	77.36	92.03	0.7833	49.0	139
Dodecanes plus	21.10	35.39	0.8258	39.7	197
Eicosanes plus	0.92	2.28	0.8678	31.4	291

Apache Energy Limited
Longtom-2
AFL 2005-003

WELLSTREAM RECOMBINATION CALCULATION

(based on field production data)

Conditions for Recombination Calculations

Primary Stage at 355 psig and 98 °F

Field Gas Rate Correction Factors -

Gas Gravity (air=1.000)	0.653
Gas Gravity Factor, Fg	1.2375
Gas Deviation Factor, Z	**
Super Compressibility Factor, Fpv	**
Pressure Base, psia	14.696

Laboratory Gas Rate Correction Factors -

Gas Gravity (air=1.000)	0.621
Gas Gravity Factor, Fg	1.2690
Gas Deviation Factor*, Z	0.956
Supercompressibility Factor, Fpv (not applied).....	1.0228
Pressure Base, psia	14.696

Laboratory Liquid Rate Correction Factors -

Liquid Volume Factor, S'bbl/bbl @ 60 °F	na
Bitumen, Sediment & Water (BS&W) Factor	1.000

Field Measured Rates and Ratios -

Primary Stage Gas Flow Rate, Mscf/D	18710
Primary Stage Liquid Flow Rate, bbl/D	90.72
Primary Stage Gas / Oil Ratio, scf/S'bbl	206239

Recombination Rates and Ratios -

Primary Stage Gas Flow Rate, Mscf/D	18710
Primary Stage Liquid Flow Rate, bbl/D	90.72
Primary Stage Gas / Oil Ratio, scf/bbl	206239

Wellstream Recombination Ratio
mol/mol

247.2159

* From: Standing, M.B., "Volumetric and Phase Behavior of Oil Field Hydrocarbon Systems", SPE (Dallas), 1977, 8th Edition, Appendix II

** Data not supplied to Core Laboratories

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Longtom-2

AFL 2005-003

COMPOSITION OF RECOMBINED WELLSTREAM

(from calculated recombination of separator products)

Component	Mol %	Plant Products (GPM)	Liquid Density (gm/cc)	MW
Hydrogen Sulfide	0.00			
Carbon Dioxide	1.13		0.8172	44.010
Nitrogen	1.10		0.8086	28.013
Methane	91.19		0.2997	16.043
Ethane	3.86	1.030	0.3562	30.070
Propane	1.37	0.377	0.5070	44.097
iso-Butane	0.25	0.082	0.5629	58.123
n-Butane	0.32	0.099	0.5840	58.123
iso-Pentane	0.10	0.038	0.6244	72.150
n-Pentane	0.08	0.031	0.6311	72.150
Hexanes	0.11	0.044	0.6850	84.0
Heptanes	0.15	0.063	0.7220	96.0
Octanes	0.14	0.064	0.7450	107
Nonanes	0.06	0.028	0.7640	121
Decanes	0.04	0.022	0.7780	134
Undecanes	0.03	0.017	0.7890	147
Dodecanes	0.02	0.014	0.8000	161
Tridecanes	0.02	0.012	0.8110	175
Tetradecanes	0.01	0.010	0.8220	190
Pentadecanes	0.01	0.008	0.8320	206
Hexadecanes	0.01	0.005	0.8390	222
Heptadecanes	0.00	0.004		
Octadecanes	0.00	0.004		
Nonadecanes	0.00	0.003		
Eicosanes	0.00	0.002		
Heneicosanes	0.00	0.001		
Docosanes	0.00	0.001		
Tricosanes	0.00	0.000		
Tetracosanes	0.00	0.000		
Pentacosanes	0.00	0.000		
Hexacosanes	0.00	0.000		
Heptacosanes	0.00	0.000		
Octacosanes	0.00	0.000		
Nonacosanes	0.00	0.000		
Triacosanes plus	0.00	0.000		
Totals	100.00	1.958		

RECOMBINATION CONDITIONS

355 psig
98 °F

Recombination Parameters

Primary Stage Gas / Oil Ratio, scf/bbl
at recombination conditions 206239
Wellstream Recombination Ratio
moles gas / mole liquid 247.2159

Average Wellstream Properties

Average Molecular Weight 18.3
Gas Gravity (air = 1.000) 0.632

Properties of Plus Fractions

Plus Fraction	Mol%	Plant Products (GPM)	Liquid Density (gm/cc)	Liquid API Gravity	MW
Heptanes plus	0.49	0.258	0.7623	53.9	121
Dodecanes plus	0.07	0.064	0.8258	39.7	197
Eicosanes plus	0.00	0.004	0.8678	31.4	291

Apache Energy Limited

Longtom-2

AFL 2005-003

COMPOSITION OF PRIMARY STAGE SEPARATOR GAS

(by Programmed-Temperature, Capillary Chromatography)

Component	Mol %	Plant Products (GPM)	Liquid Density (gm/cc)	MW
Hydrogen Sulfide	0.00			
Carbon Dioxide	1.14		0.8172	44.010
Nitrogen	1.11		0.8086	28.013
Methane	91.40		0.2997	16.043
Ethane	3.87	1.032	0.3562	30.070
Propane	1.38	0.379	0.5070	44.097
iso-Butane	0.25	0.082	0.5629	58.123
n-Butane	0.31	0.097	0.5840	58.123
iso-Pentane	0.10	0.036	0.6244	72.150
n-Pentane	0.09	0.032	0.6311	72.150
Hexanes	0.10	0.039	0.6850	84.0
Heptanes	0.12	0.050	0.7220	96.0
Octanes	0.09	0.041	0.7450	107
Nonanes	0.03	0.015	0.7640	121
Decanes	0.01	0.005	0.7780	134
Undecanes	0.00			
Totals	100.00	1.808		

SAMPLING CONDITIONS

356 psig
98 °F

Gas Cylinder
257 A

Average Sample Properties

Critical Pressure, psia 668.0
Critical Temperature, °R 361.8

Average Molecular Weight 18.06
Calculated Gas Gravity (air = 1.000) 0.623

at 14.696 psia and 60 °F

Heating Value, Btu/scf dry gas*
Gross 1071

Properties of Plus Fractions

Component	Mol %	Liquid Density (gm/cc)	Liquid API Gravity	MW
Heptanes plus	0.25	0.7388	59.8	104.5

Note: Component properties assigned from literature.

* ref: Gas Producers & Suppliers Association (GPSA) Engineering Data Book

Apache Energy Limited

Longtom-2

AFL 2005-003

COMPOSITION OF PRIMARY STAGE SEPARATOR LIQUID

(by Flash/Extended Chromatography)

Component	Mol %	Wt %	Liquid Density (gm/cc)	MW
Hydrogen Sulfide	0.00	0.00		
Carbon Dioxide	0.25	0.09	0.8172	44.010
Nitrogen	0.03	0.01	0.8086	28.013
Methane	9.73	1.33	0.2997	16.043
Ethane	2.06	0.53	0.3562	30.070
Propane	2.20	0.83	0.5070	44.097
iso-Butane	0.86	0.43	0.5629	58.123
n-Butane	1.57	0.78	0.5840	58.123
iso-Pentane	1.07	0.66	0.6244	72.150
n-Pentane	1.28	0.79	0.6311	72.150
Hexanes	3.49	2.50	0.6850	84.0
Heptanes	9.83	8.05	0.7220	96.0
Octanes	17.81	16.25	0.7450	107
Nonanes	11.19	11.55	0.7640	121
Decanes	10.20	11.66	0.7780	134
Undecanes	7.31	9.16	0.7890	147
Dodecanes	5.29	7.26	0.8000	161
Tridecanes	4.53	6.76	0.8110	175
Tetradecanes	3.27	5.30	0.8220	190
Pentadecanes	2.48	4.36	0.8320	206
Hexadecanes	1.59	3.01	0.8390	222
Heptadecanes	1.24	2.51	0.8470	237
Octadecanes	1.14	2.44	0.8520	251
Nonadecanes	0.68	1.53	0.8570	263
Eicosanes	0.40	0.94	0.8620	275
Heneicosanes	0.24	0.60	0.8670	291
Docosanes	0.13	0.34	0.8720	305
Tricosanes	0.07	0.19	0.8770	318
Tetracosanes	0.03	0.08	0.8810	331
Pentacosanes	0.02	0.06	0.8850	345
Hexacosanes	0.01	0.03	0.8890	359
Heptacosanes	0.00	0.00		
Octacosanes	0.00	0.00		
Nonacosanes	0.00	0.00		
Triacotanes plus	0.00	0.00		
Totals	100.00	100.00		

SAMPLING CONDITIONS

356 psig

98 °F

Liquid Cylinder

TS-12417

Average Sample Properties

Average Molecular Weight 117.26

Calculated Density at 0 psig and 60 °F 0.7504

Properties of Plus Fractions

Plus Fraction	Mol%	Wt%	Liquid Density (gm/cc)	Liquid API Gravity	MW
Heptanes plus	77.46	92.08	0.7833	49.0	139
Dodecanes plus	21.12	35.41	0.8258	39.7	197
Eicosanes plus	0.90	2.24	0.8678	31.4	291

Apache Energy Limited
Longtom-2
AFL 2005-003

WELLSTREAM RECOMBINATION CALCULATION

(based on field production data)

Conditions for Recombination Calculations

Primary Stage at 356 psig and 98 °F

Field Gas Rate Correction Factors -

Gas Gravity (air=1.000)	0.653
Gas Gravity Factor, Fg	1.2375
Gas Deviation Factor, Z	**
Super Compressibility Factor, Fpv	**
Pressure Base, psia	14.696

Laboratory Gas Rate Correction Factors -

Gas Gravity (air=1.000)	0.623
Gas Gravity Factor, Fg	1.2665
Gas Deviation Factor*, Z	0.956
Supercompressibility Factor, Fpv (not applied).....	1.0230
Pressure Base, psia	14.696

Laboratory Liquid Rate Correction Factors -

Liquid Volume Factor, S'bbl/bbl @ 60 °F	na
Bitumen, Sediment & Water (BS&W) Factor	1.000

Field Measured Rates and Ratios -

Primary Stage Gas Flow Rate, Mscf/D	19150
Primary Stage Liquid Flow Rate, bbl/D	60.48
Primary Stage Gas / Oil Ratio, scf/S'bbl	316634

Recombination Rates and Ratios -

Primary Stage Gas Flow Rate, Mscf/D	19150
Primary Stage Liquid Flow Rate, bbl/D	60.48
Primary Stage Gas / Oil Ratio, scf/bbl	316634

Wellstream Recombination Ratio
mol/mol

379.7942

* From: Standing, M.B., "Volumetric and Phase Behavior of Oil Field Hydrocarbon Systems", SPE (Dallas), 1977, 8th Edition, Appendix II

** Data not supplied to Core Laboratories

Apache Energy Limited

Longtom-2

AFL 2005-003

COMPOSITION OF RECOMBINED WELLSTREAM

(from calculated recombination of separator products)

Component	Mol %	Plant Products (GPM)	Liquid Density (gm/cc)	MW
Hydrogen Sulfide	0.00			
Carbon Dioxide	1.14		0.8172	44.010
Nitrogen	1.11		0.8086	28.013
Methane	91.19		0.2997	16.043
Ethane	3.87	1.030	0.3562	30.070
Propane	1.38	0.380	0.5070	44.097
iso-Butane	0.25	0.082	0.5629	58.123
n-Butane	0.31	0.098	0.5840	58.123
iso-Pentane	0.10	0.037	0.6244	72.150
n-Pentane	0.09	0.034	0.6311	72.150
Hexanes	0.11	0.042	0.6850	84.0
Heptanes	0.15	0.061	0.7220	96.0
Octanes	0.14	0.062	0.7450	107
Nonanes	0.06	0.030	0.7640	121
Decanes	0.04	0.020	0.7780	134
Undecanes	0.02	0.011	0.7890	147
Dodecanes	0.01	0.009	0.8000	161
Tridecanes	0.01	0.008	0.8110	175
Tetradecanes	0.01	0.006	0.8220	190
Pentadecanes	0.01	0.005	0.8320	206
Hexadecanes	0.00	0.003		
Heptadecanes	0.00	0.003		
Octadecanes	0.00	0.003		
Nonadecanes	0.00	0.002		
Eicosanes	0.00	0.001		
Heneicosanes	0.00	0.001		
Docosanes	0.00	0.000		
Tricosanes	0.00	0.000		
Tetracosanes	0.00	0.000		
Pentacosanes	0.00	0.000		
Hexacosanes	0.00	0.000		
Heptacosanes	0.00	0.000		
Octacosanes	0.00	0.000		
Nonacosanes	0.00	0.000		
Triacosanes plus	0.00	0.000		
Totals	100.00	1.929		

RECOMBINATION CONDITIONS

356 psig
98 °F

Recombination Parameters

Primary Stage Gas / Oil Ratio, scf/bbl
at recombination conditions 316634
Wellstream Recombination Ratio
moles gas / mole liquid 379.7942

Average Wellstream Properties

Average Molecular Weight 18.3
Gas Gravity (air = 1.000) 0.632

Properties of Plus Fractions

Plus Fraction	Mol%	Plant Products (GPM)	Liquid Density (gm/cc)	Liquid API Gravity	MW
Heptanes plus	0.45	0.226	0.7560	55.5	116
Dodecanes plus	0.04	0.042	0.8258	39.7	197
Eicosanes plus	0.00	0.003	0.8678	31.4	291

LONGTOM-2 DRILL STEM TEST 2

FINAL REPORT

UPPER ADMIRAL FORMATION

PERF INTERVAL: 2026.0-2045.5, 2112.5-2121.0

and 2124.5-2142.5 MDBRT

VIC/P54

Prepared for:

Apache Energy Limited

Prepared by:

Focal Petroleum Engineering Pty Ltd.

December, 2004





ABN No. 18 061 691 450

Reservoir Engineering & Simulation - Well Testing - Oil & Gas Property Evaluation

20th December, 2004

Apache Energy Limited
Level 3,
256 St George's Terrace
PERTH WA 6000

Attention: Mr Robert Benkovic

Dear Sir

Re: Longtom –2 Drill Stem Test 2 Final Report

Longtom–2 was drilled as an exploration well in order to evaluate the hydrocarbon potential of the Admiral Formation. A significant hydrocarbon-bearing interval was identified by MWD logs within the formation. Attempts to obtain wireline formation logs and pressure data were unsuccessful therefore a large test interval was required to be perforated to establish the productivity of the Admiral Formation. In order to minimise wellbore and cross flow effects, the sands were segmented into two test intervals identified as the Upper and Lower Admiral test intervals. Upon completion of the DST 1, the zone was isolated by cement to allow testing of the Upper Admiral Sandstone to proceed. This interim report is focused on the test conducted on the Upper Admiral Sandstone perforated over the intervals 2026.0-2045.5, 2112.5-2121.0 and 2124.5-2142.5 MDBRT.

Expro provided the surface welltest and subsea equipment. Halliburton was responsible for the TCP guns and the annular controlled downhole test tools. Petrotech provided onsite fluid analysis and PVT sampling. ICorr provided surface corrosion monitoring and AWT was responsible for the overall test coordination, design and supervision. Focal Petroleum assisted in the test design and provided offshore reservoir engineering support.

Two gauge carriers were utilised in the test string with four gauges included in each of the carriers. The upper gauge carrier had two gauges ported to the formation and two monitoring the annulus pressure. The lower gauge carrier contained four gauges ported to measure the formation pressure. Expro's 400 SQ gauge #40586 located in the lower carrier was utilised for the analysis. The pressure measurement port was located at 1993.8 MDBRT.



The #40586 gauge pressures were converted to the mid point of perforation depth of 2084.25 MDBRT using a mud gradient of 0.624 psi/ft. An additional adjustment was made to account for well deviation.

The test consisted of a 10-minute pre flow against a closed choke followed by a 40 minute subsurface pressure buildup. Immediately upon perforating a surface pressure of circa 350 psig was noted at surface. At the end of the preflow period, the surface pressure had increased to 390 psig or 3276 psia @ mpp. During the 40 minute subsurface pressure buildup period, the pressure declined from 3276 psia to 3268 psia.

The clean-up/main flow period was three hours and forty minutes followed by a subsurface pressure buildup of two hours. The well failed to flow hydrocarbons to surface.

During the flow period the surface pressures were negligible while the corresponding subsurface pressures increased from 3268 psia to 3277 psia.

During the two hour subsurface pressure buildup the pressure increased from 3277 psia to 3289 psia.

The overall pressure response is consistent with a reservoir demonstrating extremely low permeability to gas.

Plots of the subsurface gauge data have been included for perusal purposes.

If further clarification of the test interpretation is required, please contact the undersigned on (08) 9474 9622

Yours faithfully,

FOCAL PETROLEUM ENGINEERING PTY LTD

Terry Primeau

MANAGING DIRECTOR



Longtom 2 DST 2 - Lower Gauge Carrier

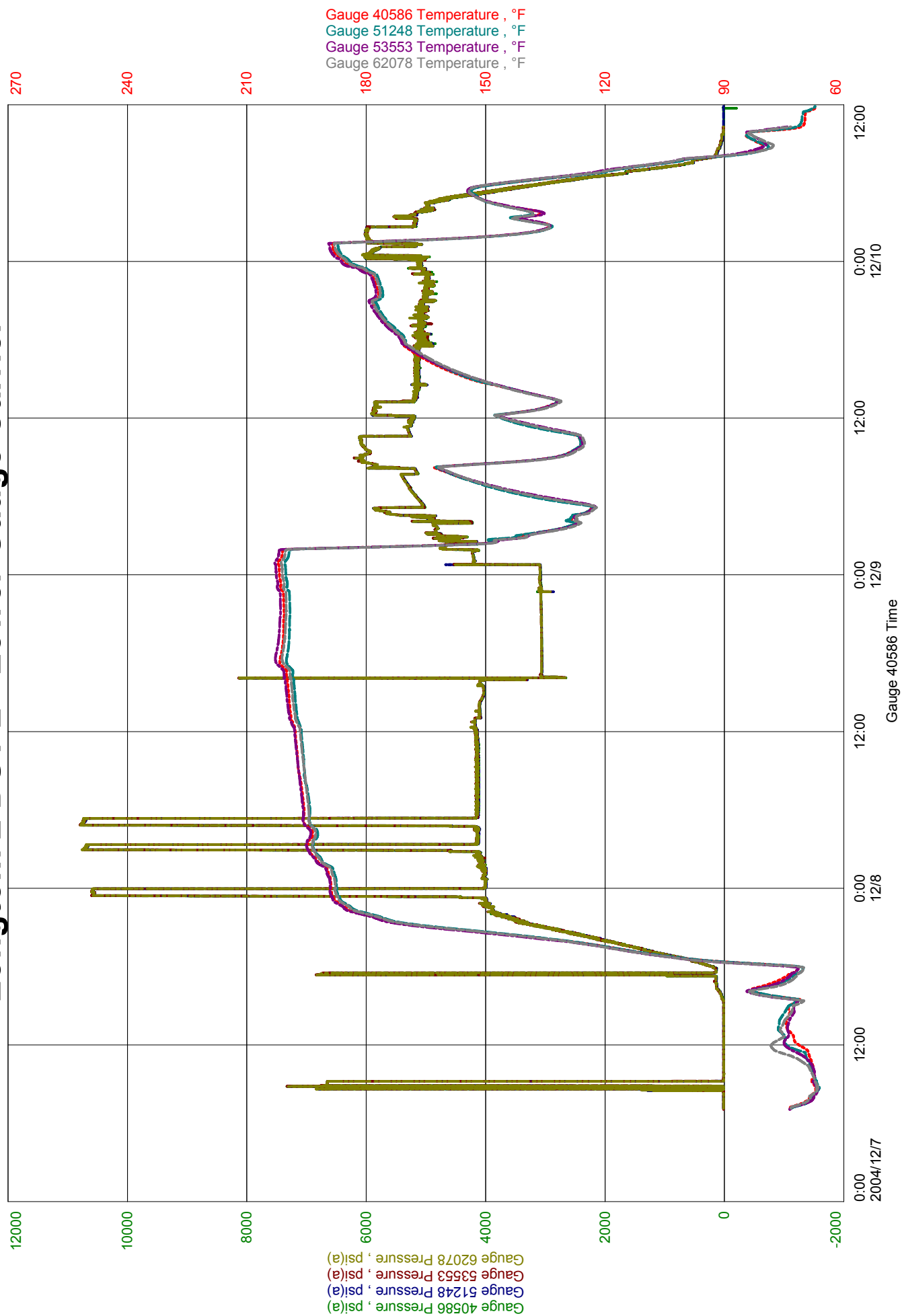
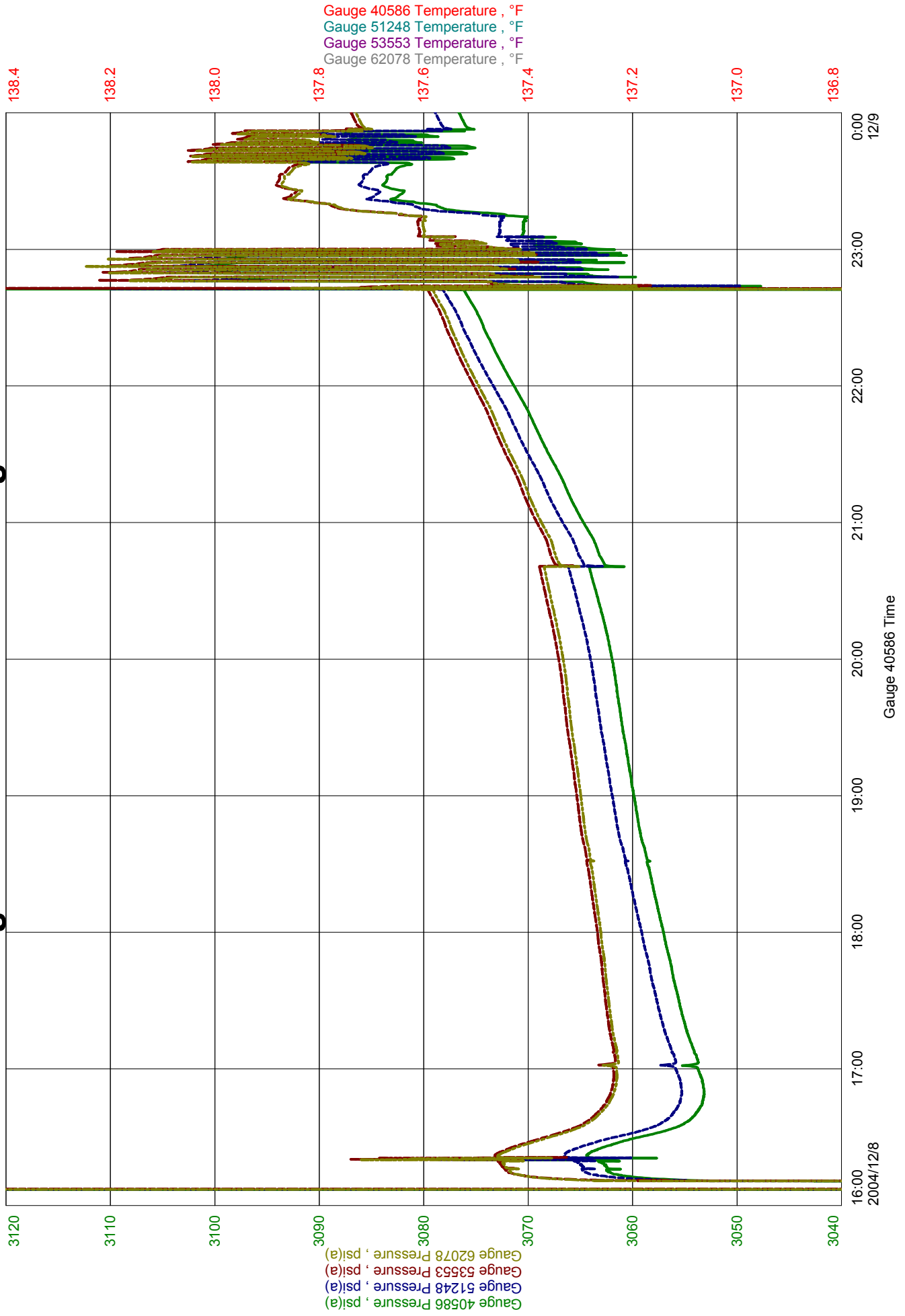


Figure 1

Longtom 2 DST 2 - Lower Gauge Carrier



Longtom 2 DST #2 Upper Gauge Carrier

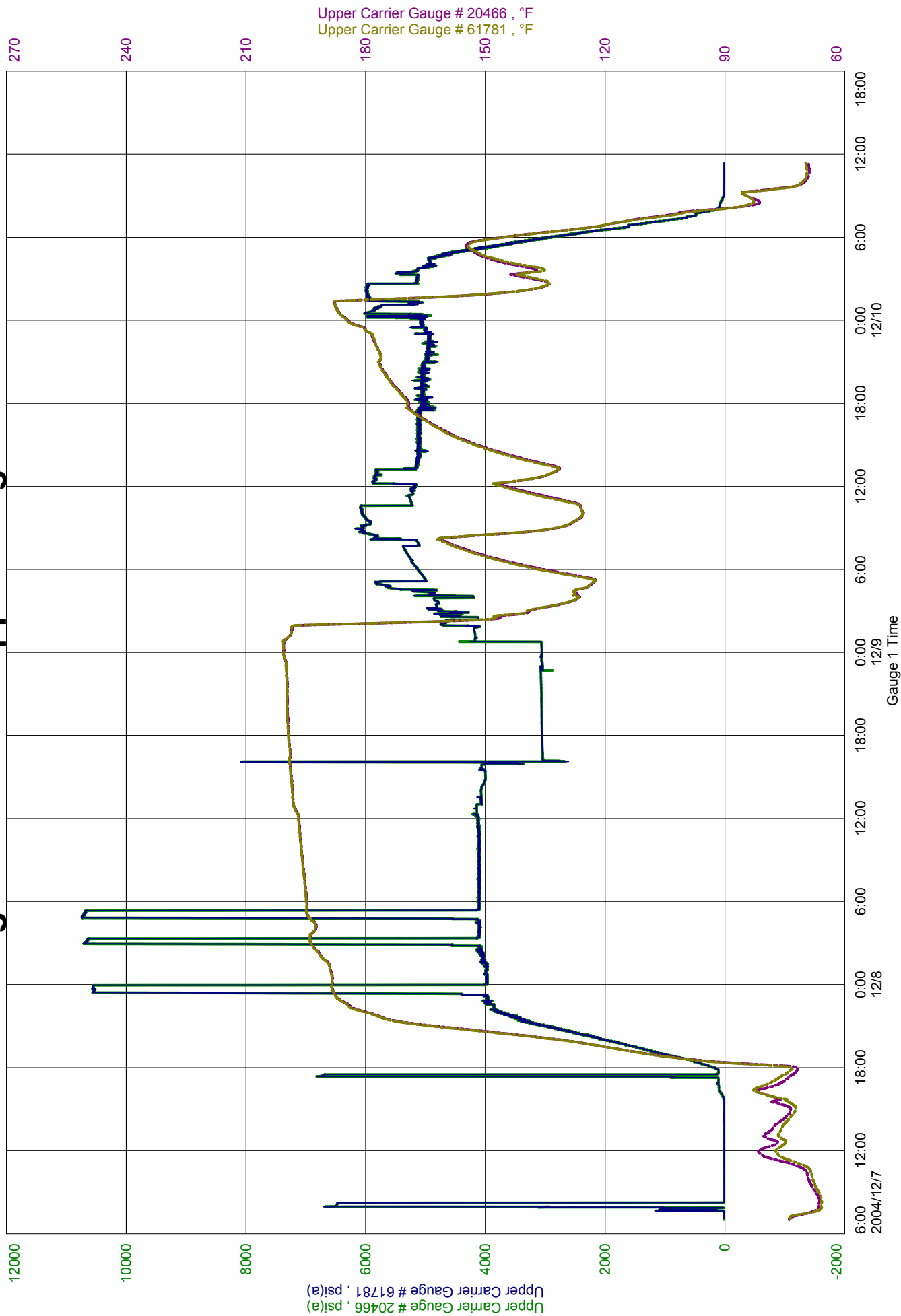


Figure 3

Longtom 2 DST #2 Upper Gauge Carrier

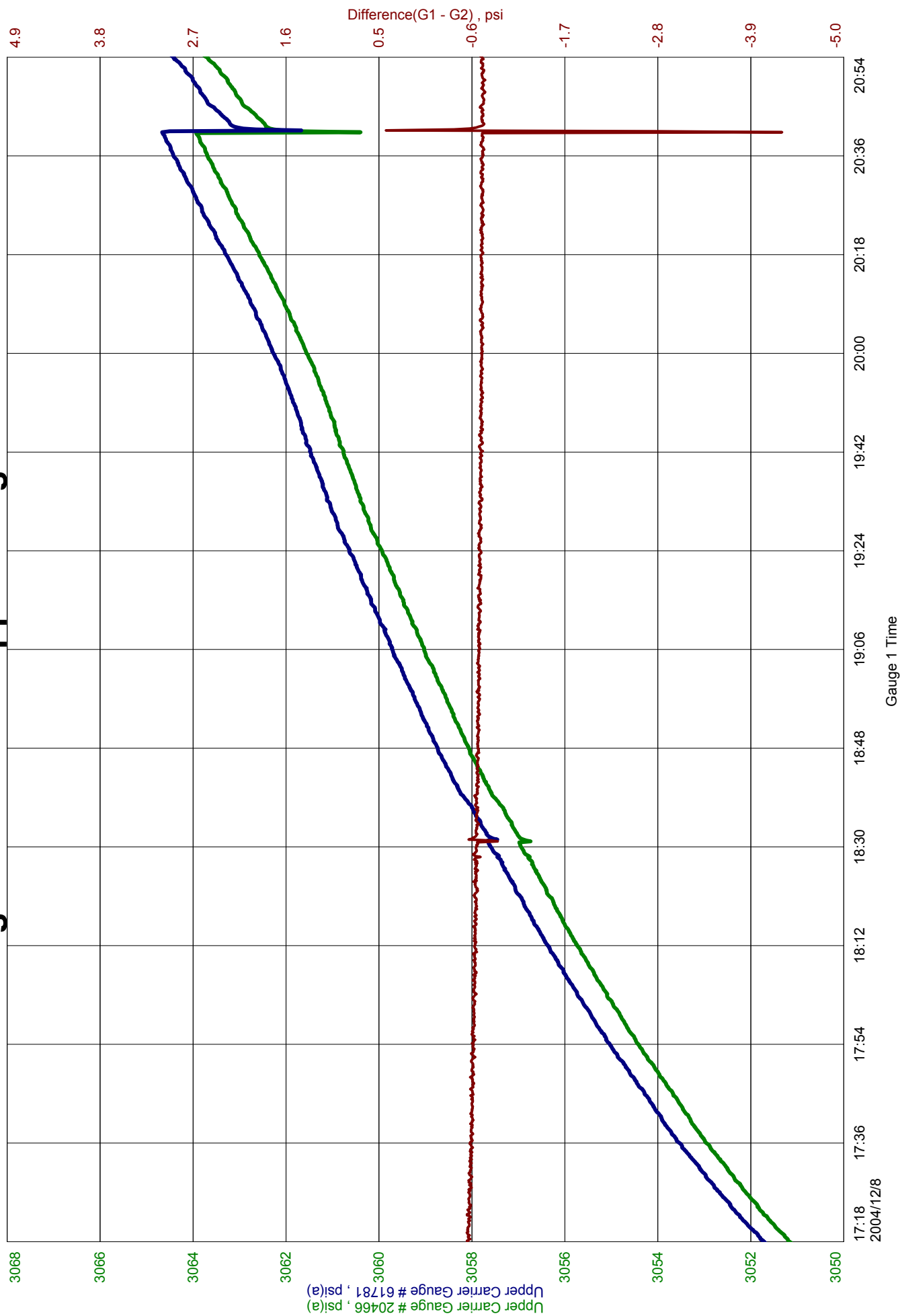


Figure 4

Longtom 2 DST 2 - Lower Gauge Carrier

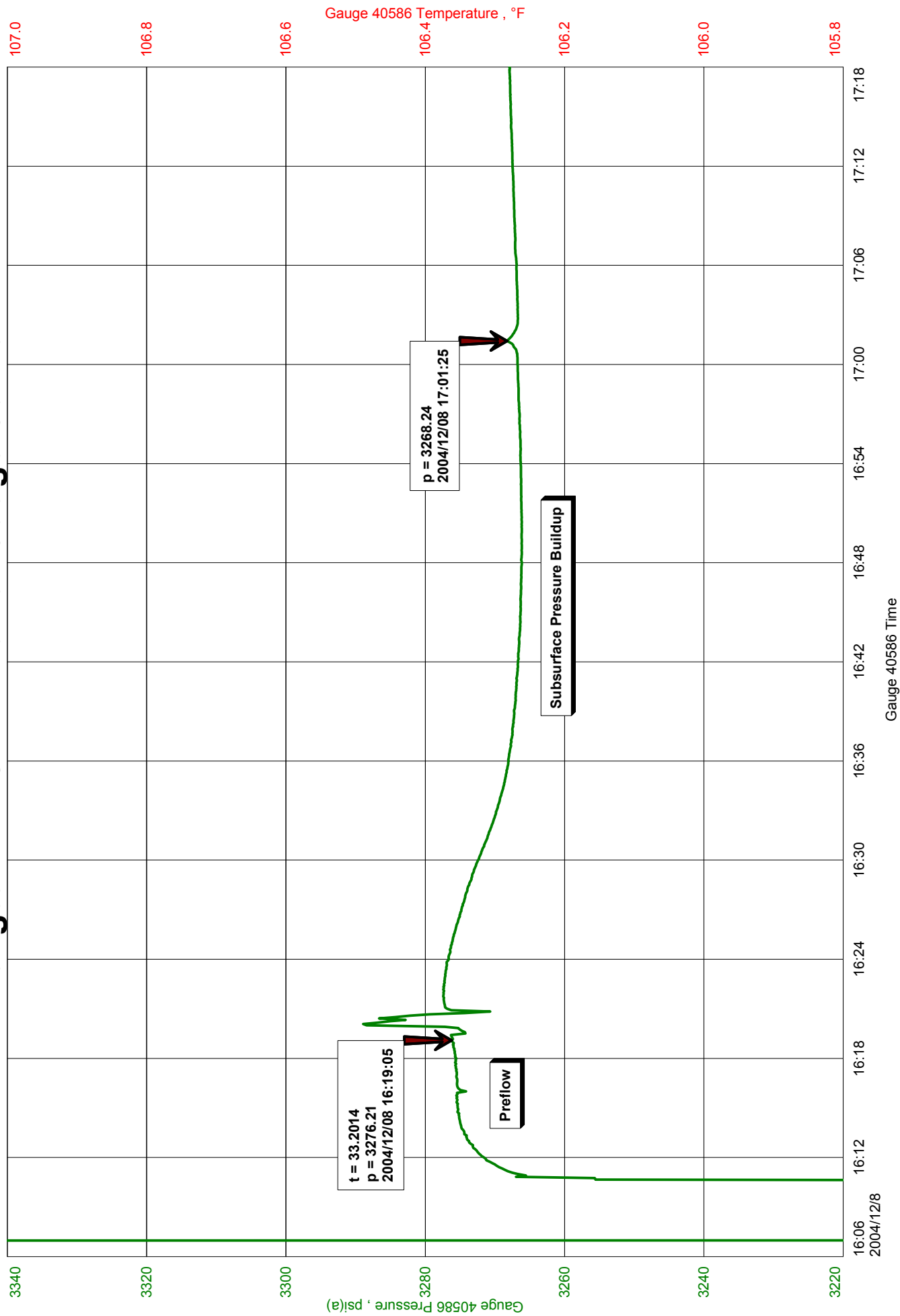


Figure 5

Longtom 2 DST 2 - Lower Gauge Carrier

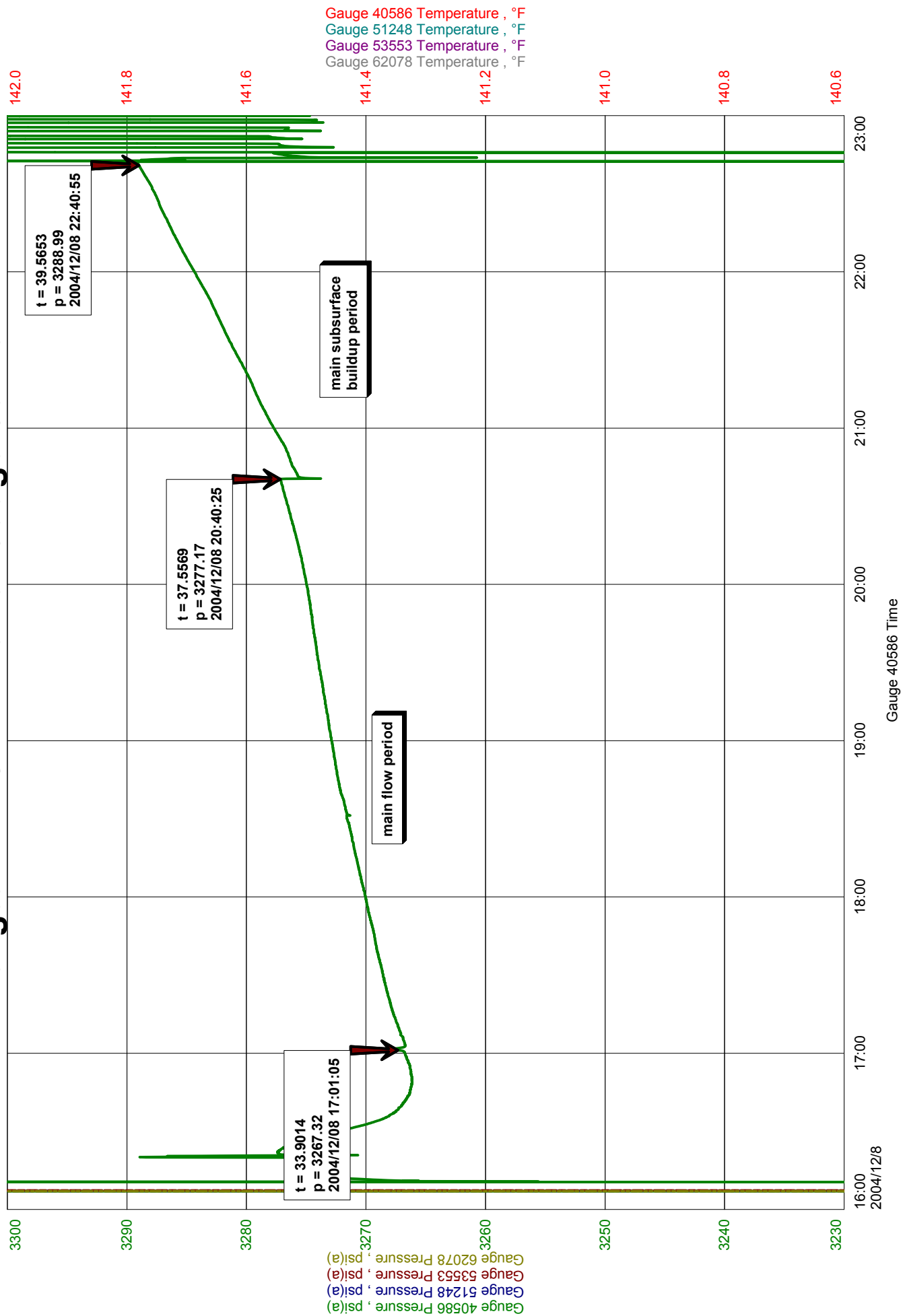


Figure 6

***Reservoir Fluid Analysis of
Surface Recombination Samples from
Longtom-2 Well
Victoria***

Prepared for
Apache Energy Limited

March 2005

File: AFL 2005-003

Reservoir Fluid Laboratory
Core Laboratories Australia Pty Ltd
Perth
Western Australia

31 March, 2005

Apache Energy Limited,
Level 3, 256 St Georges Terrace,
Perth,
Western Australia, 6000

Attention: Mr Robert Benkovic

Subject: Reservoir Fluid Analysis
Well: Longtom-2
Location: Victoria
File: AFL 2005-003

Dear Rob,

Three sets of surface recombination samples, and five atmospheric condensate samples, were collected during DST #1 and forwarded to our Perth laboratory for compositional analysis and a limited PVT analysis program. Presented in the following report are the results of the requested analyses.

Core Laboratories Australia Pty Ltd appreciates this opportunity to be of service to Apache Energy Limited. Should you have any questions regarding this report, or if we may be of any further assistance, please feel free to contact me at your convenience.

Yours Faithfully,
For **CORE LABORATORIES AUSTRALIA PTY LTD**

John R. Thompson
Project Coordinator

Kevin R. Daken
Laboratory Supervisor

Apache Energy Limited
Longtom-2
AFL 2005-003

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Basic Crude Analyses	18

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LABORATORY PROCEDURES

Sample Selection and Validation

Three sets of surface recombination samples were forwarded to our Perth laboratory. For these sets, the opening pressure, air content and hydrocarbon composition to dodecanes plus were measured for each separator gas sample. Additionally, the room temperature bubble-point of each separator liquid was determined. The results of these quality checks, summarised on page 3, indicated that all samples were consistent with reported sampling data and suitable for further analysis.

Compositional Analysis

The dodecanes plus composition of each separator gas was analysed by gas chromatography using the GPA 2286 method. The triacontanes plus composition of each separator liquid sample was determined by flash/separation techniques whereby a fluid sub-sample was isothermally flashed and separated into liquid and gas phases. The flashed gas was also analysed according to the GPA 2286 method and the flashed liquid using temperature-programmed capillary chromatography. These compositions were mathematically recombined at the measured flash gas-oil ratio and the resultant separator oil composition calculated.

As the producing condensate-gas ratio was reported in STbbl/MMscf, a separator liquid shrinkage test was required to adjust the stock tank liquid rate to separator barrels and determine the corrected laboratory recombination ratio. The separator liquid was flashed to atmospheric pressure and laboratory ambient temperature, then the stock tank liquid density corrected to 60°F. Using the corrected condensate-gas ratio, together with the measured compositions of the separator products, a producing wellstream composition was calculated. All volumetric and compositional data for each sample set are presented on pages 4 through 15 of this report.

The selected separator products (set 2 samples 5383 A and TS-4510) were physically recombined to the corrected laboratory recombination ratio in order to create a suitable fluid for further analysis. The composition of this recombined fluid sample was determined using the flash/separation techniques described above. The resulting composition is reported on page 16 and shows good consistency with the calculated wellstream, indicating the separator products were correctly recombined.

Constant Composition Expansion (Pressure-Volume Relations)

A known volume of recombined reservoir fluid was charged to a large volume, high pressure, Sloane-type visual cell and thermally expanded to the requested temperature of 207 °F. After equilibrating the sample in single phase, the fluid was subjected to a constant composition expansion procedure. During this experiment, a dew point was observed at 2600 psig. From this point, the retrograde condensation volume was measured until a maximum liquid build up was observed.

All volumetric data and pressure-volume relation measurements, including the full retrograde liquid accumulation data, are summarised on page 17. Graphical representations of the data are presented in figures A-1 through A-3.

Apache Energy Limited
Longtom-2
AFL 2005-003

LABORATORY PROCEDURES (cont/-)

Basic Crude Analysis

Three atmospheric condensate samples were selected for analysis. Each sample was subjected to a series of analysis including API gravity, molecular weight, cloud point, pour point, paraffin wax content and flash point. The results of all analyses are summarised on page 18.

Apache Energy Limited

Longtom-2

AFL 2005-003

General Well Information

Company.....	Apache Energy Limited
Well Name.....	Longtom-2
API Well Number.....	-
File Number.....	AFL 2005-003
Date Sample Collected.....	1-Dec-04
Sample Type.....	Separator
Geographical Location.....	Victoria
Field.....	Longtom

Well Description

Formation.....	Lower Admiral	
Pool (or Zone).....	*	
Date Completed.....	*	
Elevation.....	*	m
Producing Interval.....	2184.0 - 2192.2	m MD
	2212.5 - 2243.5	m MD
Total Depth.....	*	m
Tubing Size.....	*	in
Tubing Depth.....	*	m
Casing Size.....	*	in
Casing Depth.....	*	m

Pressure Survey Data

Data from Original Discovery Well

Date	*	
Reservoir Pressure	*	psig

Data at Sample Collection

Date.....	1-Dec-04	
Reservoir Pressure.....	3873	psia (@ 2183m TVD SS)
Reservoir Temperature.....	207	°F (@ 2183m TVD SS)
Pressure Tool.....	*	
Flowing Bottom-Hole Pressure.....	*	psig
Flowing Tubing Pressure.....	*	psig

* Data not forwarded to Core Laboratories.

Apache Energy Limited

Longtom-2

AFL 2005-003

Production Data

Data from Original Discovery Well

Location.....	*	
Date.....	*	
Oil Gravity @ STP.....	*	°API
Separator Pressure.....	*	psig
Separator Temperature.....	*	°F
Production Rates		
Gas.....	*	Mscf/D
Liquid.....	*	STbbl/D
Gas/Liquid Ratio.....	*	scf/bbl

Separator Conditions

(Set 2)

Primary Separator Pressure.....	355	psig
Primary Separator Temperature.....	36.5	°C
Secondary Separator Pressure.....	-	psig
Secondary Separator Temperature.....	-	°F
Primary Separator Gas Production Rate.....	18710	Mscf/D

Gas Factors -

Field Values:

Pressure Base.....	14.696	psia
Temperature Base.....	60	°F
Compressibility Factor (Fpv).....	*	
Gas Gravity Factor (Fg).....	*	

Laboratory Values:

Pressure Base.....	14.696	psia
Temperature Base.....	60	°F
Compressibility Factor (Fpv).....	1.0228	
Gas Gravity Factor (Fg).....	1.2690	

(Set 2)

Primary Separator Liquid Rate.....	98.39	bbl/D	at	36.5 °C
Stock Tank Liquid Rate.....	90.72	bbl/D	at	60 °F
Separator Gas / Separator Liquid Ratio.....	190.17	Mscf/bbl		
Separator Gas / Stock Tank Liquid Ratio.....	206.24	Mscf/bbl		
Stock Tank Liquid / Separator Gas Ratio.....	4.85	bbl/MMscf		
Separator Liquid / Stock Tank Liquid Ratio.....	1.0845	bbl/bbl	at	60 °F

* Data not forwarded to Core Laboratories.

Apache Energy Limited
Longtom-2
AFL 2005-003

**PRELIMINARY CHECKS OF SAMPLE QUALITY
AND SUMMARY OF SAMPLES RECEIVED**

Separator Gas					
Cylinder Number	Sampling Conditions		Laboratory Opening Conditions		
	psig	°C	psig	°C	Air Content (mol %)
5642 A	356	36.3	387	46.5	0.12
* 5383 A	355	36.5	386	46.5	0.05
257 A	355	36.7	380	46.5	0.98

Separator Liquid					
Cylinder Number	Sampling Conditions		Laboratory Bubble-point		Water Recovered (cc)
	psig	°C	psig	°C	
C-18705	356	36.3	315	18.6	0
* TS-4510	355	36.5	321	18.7	0
TS-12417	355	36.7	320	18.4	0

* These samples selected for recombination and further analysis.

Apache Energy Limited
Longtom-2
AFL 2005-003

COMPOSITION OF PRIMARY STAGE SEPARATOR GAS

(by Programmed-Temperature, Capillary Chromatography)

Component	Mol %	Plant Products (GPM)	Liquid Density (gm/cc)	MW
Hydrogen Sulfide	0.00			
Carbon Dioxide	1.13		0.8172	44.010
Nitrogen	1.10		0.8086	28.013
Methane	91.47		0.2997	16.043
Ethane	3.87	1.032	0.3562	30.070
Propane	1.37	0.376	0.5070	44.097
iso-Butane	0.25	0.082	0.5629	58.123
n-Butane	0.31	0.097	0.5840	58.123
iso-Pentane	0.10	0.036	0.6244	72.150
n-Pentane	0.09	0.032	0.6311	72.150
Hexanes	0.10	0.039	0.6850	84.0
Heptanes	0.12	0.050	0.7220	96.0
Octanes	0.08	0.036	0.7450	107
Nonanes	0.01	0.005	0.7640	121
Decanes	0.00			
Totals	100.00	1.785		

SAMPLING CONDITIONS

356 psig
36.3 °C

Gas Cylinder
5642 A

Average Sample Properties

Critical Pressure, psia 668.1
Critical Temperature, °R 361.5

Average Molecular Weight 18.01
Calculated Gas Gravity (air = 1.000) 0.622

at 14.696 psia and 60 °F

Heating Value, Btu/scf dry gas*
Gross 1069

Properties of Plus Fractions

Component	Mol %	Liquid Density (gm/cc)	Liquid API Gravity	MW
Heptanes plus	0.21	0.7334	61.2	101.4

Note: Component properties assigned from literature.

* ref: Gas Producers & Suppliers Association (GPSA) Engineering Data Book

Apache Energy Limited
Longtom-2
AFL 2005-003

COMPOSITION OF PRIMARY STAGE SEPARATOR LIQUID

(by Flash/Extended Chromatography)

Component	Mol %	Wt %	Liquid Density (gm/cc)	MW
Hydrogen Sulfide	0.00	0.00		
Carbon Dioxide	0.25	0.09	0.8172	44.010
Nitrogen	0.03	0.01	0.8086	28.013
Methane	9.89	1.36	0.2997	16.043
Ethane	2.10	0.54	0.3562	30.070
Propane	2.27	0.86	0.5070	44.097
iso-Butane	0.91	0.45	0.5629	58.123
n-Butane	1.67	0.83	0.5840	58.123
iso-Pentane	1.17	0.72	0.6244	72.150
n-Pentane	1.40	0.86	0.6311	72.150
Hexanes	3.94	2.83	0.6850	84.0
Heptanes	11.04	9.06	0.7220	96.0
Octanes	19.97	18.27	0.7450	107
Nonanes	12.59	13.03	0.7640	121
Decanes	1.15	1.32	0.7780	134
Undecanes	8.11	10.20	0.7890	147
Dodecanes	5.86	8.07	0.8000	161
Tridecanes	5.03	7.53	0.8110	175
Tetradecanes	3.63	5.90	0.8220	190
Pentadecanes	2.75	4.84	0.8320	206
Hexadecanes	1.78	3.38	0.8390	222
Heptadecanes	1.38	2.80	0.8470	237
Octadecanes	1.28	2.75	0.8520	251
Nonadecanes	0.77	1.73	0.8570	263
Eicosanes	0.45	1.06	0.8620	275
Heneicosanes	0.27	0.67	0.8670	291
Docosanes	0.16	0.42	0.8720	305
Tricosanes	0.08	0.22	0.8770	318
Tetracosanes	0.04	0.11	0.8810	331
Pentacosanes	0.02	0.06	0.8850	345
Hexacosanes	0.01	0.03	0.8890	359
Heptacosanes	0.00	0.00		
Octacosanes	0.00	0.00		
Nonacosanes	0.00	0.00		
Triacosanes plus	0.00	0.00		
Totals	100.00	100.00		

SAMPLING CONDITIONS

356 psig
36.3 °C

Liquid Cylinder
C-18705

Average Sample Properties

Average Molecular Weight 116.93
Calculated Density at 0 psig and 60 °F 0.7496

Properties of Plus Fractions

Plus Fraction	Mol%	Wt%	Liquid Density (gm/cc)	Liquid API Gravity	MW
Heptanes plus	76.37	91.45	0.7839	48.8	140
Dodecanes plus	23.51	39.57	0.8259	39.7	197
Eicosanes plus	1.03	2.57	0.8678	31.4	292

Apache Energy Limited
Longtom-2
AFL 2005-003

WELLSTREAM RECOMBINATION CALCULATION

(based on field production data)

Conditions for Recombination Calculations

Primary Stage at 356 psig and 36.3 °C

Stock Tank at 0 psig and 60 °F

Field Gas Rate Correction Factors -

Gas Gravity (air=1.000)	0.653
Gas Gravity Factor, Fg	1.2375
Gas Deviation Factor, Z	**
Super Compressibility Factor, Fpv	**
Pressure Base, psia	14.696

Field Measured Rates and Ratios -

Primary Stage Gas Flow Rate, Mscf/D	18760
Stock Tank Liquid Flow Rate, bbl/D	40.56
Field Gas / Oil Ratio, scf/STbbl	462525

Laboratory Gas Rate Correction Factors -

Gas Gravity (air=1.000)	0.622
Gas Gravity Factor, Fg	1.2682
Gas Deviation Factor*, Z	0.955
Supercompressibility Factor, Fpv (not applied).....	1.0231
Pressure Base, psia	14.696

Recombination Rates and Ratios -

Primary Stage Gas Flow Rate, Mscf/D	18760
Primary Stage Liquid Flow Rate, bbl/D	43.98
Primary Stage Gas / Oil Ratio, scf/S'bbl	426534
Stock Tank Liquid Flow Rate, bbl/D	40.56
Corrected Gas / Oil Ratio, scf/STbbl	462525

Laboratory Liquid Rate Correction Factors -

Liquid Volume Factor, S'bbl/STbbl @ 60 °F	1.0844
Bitumen, Sediment & Water (BS&W) Factor	1.000

Wellstream Recombination Ratio

mol/mol **510.0840**

* From: Standing, M.B., "Volumetric and Phase Behavior of Oil Field Hydrocarbon Systems", SPE (Dallas), 1977, 8th Edition, Appendix II

** Data not supplied to Core Laboratories

Apache Energy Limited
Longtom-2
AFL 2005-003

COMPOSITION OF RECOMBINED WELLSTREAM

(from calculated recombination of separator products)

Component	Mol %	Plant Products (GPM)	Liquid Density (gm/cc)	MW
Hydrogen Sulfide	0.00			
Carbon Dioxide	1.13		0.8172	44.010
Nitrogen	1.10		0.8086	28.013
Methane	91.33		0.2997	16.043
Ethane	3.87	1.031	0.3562	30.070
Propane	1.37	0.377	0.5070	44.097
iso-Butane	0.25	0.082	0.5629	58.123
n-Butane	0.31	0.098	0.5840	58.123
iso-Pentane	0.10	0.037	0.6244	72.150
n-Pentane	0.09	0.033	0.6311	72.150
Hexanes	0.11	0.041	0.6850	84.0
Heptanes	0.14	0.058	0.7220	96.0
Octanes	0.11	0.052	0.7450	107
Nonanes	0.03	0.016	0.7640	121
Decanes	0.02	0.011	0.7780	134
Undecanes	0.01	0.008	0.7890	147
Dodecanes	0.01	0.006	0.8000	161
Tridecanes	0.01	0.006	0.8110	175
Tetradecanes	0.01	0.005	0.8220	190
Pentadecanes	0.00	0.004		
Hexadecanes	0.00	0.003		
Heptadecanes	0.00	0.002		
Octadecanes	0.00	0.002		
Nonadecanes	0.00	0.001		
Eicosanes	0.00	0.001		
Heneicosanes	0.00	0.000		
Docosanes	0.00	0.000		
Tricosanes	0.00	0.000		
Tetracosanes	0.00	0.000		
Pentacosanes	0.00	0.000		
Hexacosanes	0.00	0.000		
Heptacosanes	0.00	0.000		
Octacosanes	0.00	0.000		
Nonacosanes	0.00	0.000		
Triacotanes plus	0.00	0.000		
Totals	100.00	1.876		

RECOMBINATION CONDITIONS

356 psig
36.3 °C

Recombination Parameters

Primary Stage Gas / Oil Ratio, scf/S'bbl
at recombination conditions 426534
Wellstream Recombination Ratio
moles gas / mole liquid 510.0840

Average Wellstream Properties

Average Molecular Weight 18.2
Gas Gravity (air = 1.000) 0.628

Properties of Plus Fractions

Plus Fraction	Mol%	Plant Products (GPM)	Liquid Density (gm/cc)	Liquid API Gravity	MW
Heptanes plus	0.34	0.176	0.7507	56.8	113
Dodecanes plus	0.03	0.031	0.8259	39.7	197
Eicosanes plus	0.00	0.002	0.8678	31.4	291

Apache Energy Limited
Longtom-2
AFL 2005-003

COMPOSITION OF PRIMARY STAGE SEPARATOR GAS

(by Programmed-Temperature, Capillary Chromatography)

Component	Mol %	Plant Products (GPM)	Liquid Density (gm/cc)	MW
Hydrogen Sulfide	0.00			
Carbon Dioxide	1.13		0.8172	44.010
Nitrogen	1.10		0.8086	28.013
Methane	91.50		0.2997	16.043
Ethane	3.87	1.032	0.3562	30.070
Propane	1.37	0.376	0.5070	44.097
iso-Butane	0.25	0.082	0.5629	58.123
n-Butane	0.31	0.097	0.5840	58.123
iso-Pentane	0.10	0.036	0.6244	72.150
n-Pentane	0.08	0.029	0.6311	72.150
Hexanes	0.10	0.039	0.6850	84.0
Heptanes	0.11	0.046	0.7220	96.0
Octanes	0.07	0.032	0.7450	107
Nonanes	0.01	0.005	0.7640	121
Decanes	0.00			
Totals	100.00	1.774		

SAMPLING CONDITIONS

355 psig
36.5 °C

Gas Cylinder
5383 A

Average Sample Properties

Critical Pressure, psia 668.2
Critical Temperature, °R 361.3

Average Molecular Weight 17.98
Calculated Gas Gravity (air = 1.000) 0.621

at 14.696 psia and 60 °F

Heating Value, Btu/scf dry gas*
Gross 1068

Properties of Plus Fractions

Component	Mol %	Liquid Density (gm/cc)	Liquid API Gravity	MW
Heptanes plus	0.19	0.7333	61.3	101.4

Note: Component properties assigned from literature.

* ref: Gas Producers & Suppliers Association (GPSA) Engineering Data Book

Apache Energy Limited
Longtom-2
AFL 2005-003

COMPOSITION OF PRIMARY STAGE SEPARATOR LIQUID

(by Flash/Extended Chromatography)

Component	Mol %	Wt %	Liquid Density (gm/cc)	MW
Hydrogen Sulfide	0.00	0.00		
Carbon Dioxide	0.25	0.09	0.8172	44.010
Nitrogen	0.03	0.01	0.8086	28.013
Methane	9.81	1.34	0.2997	16.043
Ethane	2.09	0.54	0.3562	30.070
Propane	2.22	0.84	0.5070	44.097
iso-Butane	0.86	0.43	0.5629	58.123
n-Butane	1.56	0.77	0.5840	58.123
iso-Pentane	1.07	0.66	0.6244	72.150
n-Pentane	1.25	0.77	0.6311	72.150
Hexanes	3.50	2.51	0.6850	84.0
Heptanes	9.80	8.03	0.7220	96.0
Octanes	17.79	16.25	0.7450	107
Nonanes	11.22	11.59	0.7640	121
Decanes	10.16	11.62	0.7780	134
Undecanes	7.29	9.15	0.7890	147
Dodecanes	5.29	7.27	0.8000	161
Tridecanes	4.51	6.74	0.8110	175
Tetradecanes	3.27	5.30	0.8220	190
Pentadecanes	2.47	4.34	0.8320	206
Hexadecanes	1.59	3.01	0.8390	222
Heptadecanes	1.24	2.51	0.8470	237
Octadecanes	1.14	2.44	0.8520	251
Nonadecanes	0.67	1.50	0.8570	263
Eicosanes	0.41	0.96	0.8620	275
Heneicosanes	0.24	0.60	0.8670	291
Docosanes	0.14	0.36	0.8720	305
Tricosanes	0.07	0.19	0.8770	318
Tetracosanes	0.03	0.08	0.8810	331
Pentacosanes	0.02	0.06	0.8850	345
Hexacosanes	0.01	0.03	0.8890	359
Heptacosanes	0.00	0.00		
Octacosanes	0.00	0.00		
Nonacosanes	0.00	0.00		
Triacosanes plus	0.00	0.00		
Totals	100.00	100.00		

SAMPLING CONDITIONS

355 psig
36.5 °C

Liquid Cylinder
TS-4510

Average Sample Properties

Average Molecular Weight 117.15
Calculated Density at 0 psig and 60 °F 0.7502

Properties of Plus Fractions

Plus Fraction	Mol%	Wt%	Liquid Density (gm/cc)	Liquid API Gravity	MW
Heptanes plus	77.36	92.03	0.7833	49.0	139
Dodecanes plus	21.10	35.39	0.8258	39.7	197
Eicosanes plus	0.92	2.28	0.8678	31.4	291

Apache Energy Limited
Longtom-2
AFL 2005-003

WELLSTREAM RECOMBINATION CALCULATION

(based on field production data)

Conditions for Recombination Calculations

Primary Stage at 355 psig and 36.5 °C
Stock Tank at 0 psig and 60 °F

Field Gas Rate Correction Factors -

Gas Gravity (air=1.000)	0.653
Gas Gravity Factor, Fg	1.2375
Gas Deviation Factor, Z	**
Super Compressibility Factor, Fpv	**
Pressure Base, psia	14.696

Field Measured Rates and Ratios -

Primary Stage Gas Flow Rate, Mscf/D	18710
Stock Tank Liquid Flow Rate, bbl/D	90.72
Field Gas / Oil Ratio, scf/STbbl	206239

Laboratory Gas Rate Correction Factors -

Gas Gravity (air=1.000)	0.621
Gas Gravity Factor, Fg	1.2690
Gas Deviation Factor*, Z	0.956
Supercompressibility Factor, Fpv (not applied).....	1.0228
Pressure Base, psia	14.696

Recombination Rates and Ratios -

Primary Stage Gas Flow Rate, Mscf/D	18710
Primary Stage Liquid Flow Rate, bbl/D	98.39
Primary Stage Gas / Oil Ratio, scf/S'bbl	190169
Stock Tank Liquid Flow Rate, bbl/D	90.72
Corrected Gas / Oil Ratio, scf/STbbl	206239

Laboratory Liquid Rate Correction Factors -

Liquid Volume Factor, S'bbl/STbbl @ 60 °F	1.0845
Bitumen, Sediment & Water (BS&W) Factor	1.000

Wellstream Recombination Ratio

mol/mol 227.9535

* From: Standing, M.B., "Volumetric and Phase Behavior of Oil Field Hydrocarbon Systems", SPE (Dallas), 1977, 8th Edition, Appendix II

** Data not supplied to Core Laboratories

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COMPOSITION OF RECOMBINED WELLSTREAM

(from calculated recombination of separator products)

Component	Mol %	Plant Products (GPM)	Liquid Density (gm/cc)	MW
Hydrogen Sulfide	0.00			
Carbon Dioxide	1.13		0.8172	44.010
Nitrogen	1.10		0.8086	28.013
Methane	91.16		0.2997	16.043
Ethane	3.86	1.029	0.3562	30.070
Propane	1.37	0.377	0.5070	44.097
iso-Butane	0.25	0.082	0.5629	58.123
n-Butane	0.32	0.099	0.5840	58.123
iso-Pentane	0.10	0.038	0.6244	72.150
n-Pentane	0.09	0.031	0.6311	72.150
Hexanes	0.11	0.044	0.6850	84.0
Heptanes	0.15	0.064	0.7220	96.0
Octanes	0.15	0.067	0.7450	107
Nonanes	0.06	0.029	0.7640	121
Decanes	0.04	0.024	0.7780	134
Undecanes	0.03	0.019	0.7890	147
Dodecanes	0.02	0.015	0.8000	161
Tridecanes	0.02	0.013	0.8110	175
Tetradecanes	0.01	0.010	0.8220	190
Pentadecanes	0.01	0.008	0.8320	206
Hexadecanes	0.01	0.006	0.8390	222
Heptadecanes	0.01	0.005	0.8470	237
Octadecanes	0.00	0.005		
Nonadecanes	0.00	0.003		
Eicosanes	0.00	0.002		
Heneicosanes	0.00	0.001		
Docosanes	0.00	0.001		
Tricosanes	0.00	0.000		
Tetracosanes	0.00	0.000		
Pentacosanes	0.00	0.000		
Hexacosanes	0.00	0.000		
Heptacosanes	0.00	0.000		
Octacosanes	0.00	0.000		
Nonacosanes	0.00	0.000		
Triacosanes plus	0.00	0.000		
Totals	100.00	1.974		

RECOMBINATION CONDITIONS

355 psig
36.5 °C

Recombination Parameters

Primary Stage Gas / Oil Ratio, scf/S'bbl
at recombination conditions 190169
Wellstream Recombination Ratio
moles gas / mole liquid 227.9535

Average Wellstream Properties

Average Molecular Weight 18.4
Gas Gravity (air = 1.000) 0.635

Properties of Plus Fractions

Plus Fraction	Mol%	Plant Products (GPM)	Liquid Density (gm/cc)	Liquid API Gravity	MW
Heptanes plus	0.51	0.272	0.7649	53.3	123
Dodecanes plus	0.08	0.069	0.8258	39.7	197
Eicosanes plus	0.00	0.004	0.8678	31.4	291

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COMPOSITION OF PRIMARY STAGE SEPARATOR GAS

(by Programmed-Temperature, Capillary Chromatography)

Component	Mol %	Plant Products (GPM)	Liquid Density (gm/cc)	MW
Hydrogen Sulfide	0.00			
Carbon Dioxide	1.14		0.8172	44.010
Nitrogen	1.11		0.8086	28.013
Methane	91.40		0.2997	16.043
Ethane	3.87	1.032	0.3562	30.070
Propane	1.38	0.379	0.5070	44.097
iso-Butane	0.25	0.082	0.5629	58.123
n-Butane	0.31	0.097	0.5840	58.123
iso-Pentane	0.10	0.036	0.6244	72.150
n-Pentane	0.09	0.032	0.6311	72.150
Hexanes	0.10	0.039	0.6850	84.0
Heptanes	0.12	0.050	0.7220	96.0
Octanes	0.09	0.041	0.7450	107
Nonanes	0.03	0.015	0.7640	121
Decanes	0.01	0.005	0.7780	134
Undecanes	0.00			
Totals	100.00	1.808		

SAMPLING CONDITIONS

355 psig
36.7 °C

Gas Cylinder
257 A

Average Sample Properties

Critical Pressure, psia 668.0
Critical Temperature, °R 361.8

Average Molecular Weight 18.06
Calculated Gas Gravity (air = 1.000) 0.623

at 14.696 psia and 60 °F

Heating Value, Btu/scf dry gas*
Gross 1071

Properties of Plus Fractions

Component	Mol %	Liquid Density (gm/cc)	Liquid API Gravity	MW
Heptanes plus	0.25	0.7388	59.8	104.5

Note: Component properties assigned from literature.

* ref: Gas Producers & Suppliers Association (GPSA) Engineering Data Book

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COMPOSITION OF PRIMARY STAGE SEPARATOR LIQUID

(by Flash/Extended Chromatography)

Component	Mol %	Wt %	Liquid Density (gm/cc)	MW
Hydrogen Sulfide	0.00	0.00		
Carbon Dioxide	0.25	0.09	0.8172	44.010
Nitrogen	0.03	0.01	0.8086	28.013
Methane	9.73	1.33	0.2997	16.043
Ethane	2.06	0.53	0.3562	30.070
Propane	2.20	0.83	0.5070	44.097
iso-Butane	0.86	0.43	0.5629	58.123
n-Butane	1.57	0.78	0.5840	58.123
iso-Pentane	1.07	0.66	0.6244	72.150
n-Pentane	1.28	0.79	0.6311	72.150
Hexanes	3.49	2.50	0.6850	84.0
Heptanes	9.83	8.05	0.7220	96.0
Octanes	17.81	16.25	0.7450	107
Nonanes	11.19	11.55	0.7640	121
Decanes	10.20	11.66	0.7780	134
Undecanes	7.31	9.16	0.7890	147
Dodecanes	5.29	7.26	0.8000	161
Tridecanes	4.53	6.76	0.8110	175
Tetradecanes	3.27	5.30	0.8220	190
Pentadecanes	2.48	4.36	0.8320	206
Hexadecanes	1.59	3.01	0.8390	222
Heptadecanes	1.24	2.51	0.8470	237
Octadecanes	1.14	2.44	0.8520	251
Nonadecanes	0.68	1.53	0.8570	263
Eicosanes	0.40	0.94	0.8620	275
Heneicosanes	0.24	0.60	0.8670	291
Docosanes	0.13	0.34	0.8720	305
Tricosanes	0.07	0.19	0.8770	318
Tetracosanes	0.03	0.08	0.8810	331
Pentacosanes	0.02	0.06	0.8850	345
Hexacosanes	0.01	0.03	0.8890	359
Heptacosanes	0.00	0.00		
Octacosanes	0.00	0.00		
Nonacosanes	0.00	0.00		
Triacotanes plus	0.00	0.00		
Totals	100.00	100.00		

SAMPLING CONDITIONS

355 psig
36.7 °C

Liquid Cylinder
TS-12417

Average Sample Properties

Average Molecular Weight 117.26
Calculated Density at 0 psig and 60 °F 0.7504

Properties of Plus Fractions

Plus Fraction	Mol%	Wt%	Liquid Density (gm/cc)	Liquid API Gravity	MW
Heptanes plus	77.46	92.08	0.7833	49.0	139
Dodecanes plus	21.12	35.41	0.8258	39.7	197
Eicosanes plus	0.90	2.24	0.8678	31.4	291

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WELLSTREAM RECOMBINATION CALCULATION

(based on field production data)

Conditions for Recombination Calculations

Primary Stage at 355 psig and 36.7 °C
Stock Tank at 0 psig and 60 °F

Field Gas Rate Correction Factors -

Gas Gravity (air=1.000)	0.653
Gas Gravity Factor, Fg	1.2375
Gas Deviation Factor, Z	**
Super Compressibility Factor, Fpv	**
Pressure Base, psia	14.696

Field Measured Rates and Ratios -

Primary Stage Gas Flow Rate, Mscf/D	19150
Stock Tank Liquid Flow Rate, bbl/D	60.48
Field Gas / Oil Ratio, scf/STbbl	316634

Laboratory Gas Rate Correction Factors -

Gas Gravity (air=1.000)	0.623
Gas Gravity Factor, Fg	1.2665
Gas Deviation Factor*, Z	0.956
Supercompressibility Factor, Fpv (not applied).....	1.0230
Pressure Base, psia	14.696

Recombination Rates and Ratios -

Primary Stage Gas Flow Rate, Mscf/D	19150
Primary Stage Liquid Flow Rate, bbl/D	65.64
Primary Stage Gas / Oil Ratio, scf/S'bbl	291732
Stock Tank Liquid Flow Rate, bbl/D	60.48
Corrected Gas / Oil Ratio, scf/STbbl	316634

Laboratory Liquid Rate Correction Factors -

Liquid Volume Factor, S'bbl/STbbl @ 60 °F	1.0854
Bitumen, Sediment & Water (BS&W) Factor	1.000

Wellstream Recombination Ratio

mol/mol 349.9318

* From: Standing, M.B., "Volumetric and Phase Behavior of Oil Field Hydrocarbon Systems", SPE (Dallas), 1977, 8th Edition, Appendix II

** Data not supplied to Core Laboratories

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COMPOSITION OF RECOMBINED WELLSTREAM

(from calculated recombination of separator products)

Component	Mol %	Plant Products (GPM)	Liquid Density (gm/cc)	MW
Hydrogen Sulfide	0.00			
Carbon Dioxide	1.14		0.8172	44.010
Nitrogen	1.11		0.8086	28.013
Methane	91.19		0.2997	16.043
Ethane	3.86	1.030	0.3562	30.070
Propane	1.38	0.380	0.5070	44.097
iso-Butane	0.25	0.082	0.5629	58.123
n-Butane	0.31	0.099	0.5840	58.123
iso-Pentane	0.10	0.037	0.6244	72.150
n-Pentane	0.09	0.034	0.6311	72.150
Hexanes	0.11	0.042	0.6850	84.0
Heptanes	0.15	0.062	0.7220	96.0
Octanes	0.14	0.064	0.7450	107
Nonanes	0.06	0.031	0.7640	121
Decanes	0.04	0.021	0.7780	134
Undecanes	0.02	0.012	0.7890	147
Dodecanes	0.02	0.010	0.8000	161
Tridecanes	0.01	0.009	0.8110	175
Tetradecanes	0.01	0.007	0.8220	190
Pentadecanes	0.01	0.006	0.8320	206
Hexadecanes	0.00	0.004		
Heptadecanes	0.00	0.003		
Octadecanes	0.00	0.003		
Nonadecanes	0.00	0.002		
Eicosanes	0.00	0.001		
Heneicosanes	0.00	0.001		
Docosanes	0.00	0.000		
Tricosanes	0.00	0.000		
Tetracosanes	0.00	0.000		
Pentacosanes	0.00	0.000		
Hexacosanes	0.00	0.000		
Heptacosanes	0.00	0.000		
Octacosanes	0.00	0.000		
Nonacosanes	0.00	0.000		
Triacotanes plus	0.00	0.000		
Totals	100.00	1.939		

RECOMBINATION CONDITIONS

355 psig

36.7 °C

Recombination Parameters

Primary Stage Gas / Oil Ratio, scf/S'bbl
at recombination conditions 291732
Wellstream Recombination Ratio
moles gas / mole liquid 349.9318

Average Wellstream Properties

Average Molecular Weight 18.3
Gas Gravity (air = 1.000) 0.632

Properties of Plus Fractions

Plus Fraction	Mol%	Plant Products (GPM)	Liquid Density (gm/cc)	Liquid API Gravity	MW
Heptanes plus	0.46	0.235	0.7572	55.2	117
Dodecanes plus	0.05	0.045	0.8258	39.7	197
Eicosanes plus	0.00	0.003	0.8678	31.4	291

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COMPOSITION OF RECOMBINED FLUID SAMPLE
(by Flash/Extended Chromatography)

Component Name	Mol %	Wt %	Liquid Density (gm/cc)	MW
Hydrogen Sulfide	0.00	0.00	0.8006	34.08
Carbon Dioxide	1.11	2.64	0.8172	44.01
Nitrogen	1.09	1.65	0.8086	28.013
Methane	90.89	78.92	0.2997	16.043
Ethane	3.98	6.47	0.3562	30.07
Propane	1.42	3.38	0.5070	44.097
iso-Butane	0.27	0.85	0.5629	58.123
n-Butane	0.34	1.07	0.5840	58.123
iso-Pentane	0.11	0.43	0.6244	72.15
n-Pentane	0.10	0.39	0.6311	72.15
Hexanes	0.13	0.59	0.6850	84
Heptanes	0.17	0.89	0.7220	96
Octanes	0.16	0.90	0.7450	107
Nonanes	0.06	0.38	0.7640	121
Decanes	0.05	0.33	0.7780	134
Undecanes	0.03	0.22	0.7890	147
Dodecanes	0.02	0.18	0.8000	161
Tridecanes	0.02	0.16	0.8110	175
Tetradecanes	0.01	0.13	0.8220	190
Pentadecanes	0.01	0.11	0.8320	206
Hexadecanes	0.01	0.08	0.8390	222
Heptadecanes	0.01	0.06	0.8470	237
Octadecanes	0.01	0.06	0.8520	251
Nonadecanes	0.00	0.04	0.8570	263
Eicosanes	0.00	0.02	0.8620	275
Heneicosanes	0.00	0.02	0.8670	291
Docosanes	0.00	0.01	0.8720	305
Tricosanes	0.00	0.01	0.8770	318
Tetracosanes	0.00	0.00	0.8810	331
Pentacosanes	0.00	0.00	0.8850	345
Hexacosanes	0.00	0.00	0.8890	359
Heptacosanes	0.00	0.00	0.8930	374
Octacosanes	0.00	0.00	0.8960	388
Nonacosanes	0.00	0.00	0.8990	402
Triacotanes plus	0.00	0.01	0.9270	543
Totals	100.00	100.00		

Total Sample Properties

Molecular Weight 18.48
Equivalent Liquid Density, gm/scc 0.3293

Plus Fractions	Mol %	Wt %	Density	MW
Heptanes plus	0.69	4.20	0.7651	123
Dodecanes plus	0.09	0.89	0.8266	198
Eicosanes plus	0.00	0.07	0.8659	287

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PRESSURE-VOLUME RELATIONS

(at 207 °F)

Pressure psig	Relative Volume (A)	Liquid Volume Percent (B)	Deviation Factor Z
6000	0.5165		1.055
5500	0.5449		1.020
5000	0.5797		0.987
4500	0.6240		0.956
4200	0.6569		0.940
4000	0.6824		0.930
3800	0.7111		0.921
3600	0.7437		0.913
3400	0.7811		0.906
3200	0.8239		0.899
3000	0.8735		0.894
2800	0.9313		0.890
2700	0.9639		0.888
d»2600	1.0000	0.00	0.888
2500	1.0391	0.00	
2400	1.0818	0.00	
2300	1.1285	0.01	
2200	1.1800	0.01	
2100	1.2367	0.02	
2000	1.2996	0.02	
1800	1.4478	0.03	
1600	1.6352	0.03	
1400	1.8786	0.03	
1200	2.2057	0.03	
1100	2.4149	0.03	
900	2.9741	0.03	
713	3.7809	0.02	
600	4.5099	0.02	
500	5.4245	0.01	

GAS EXPANSION FACTORS -

at Reservoir Pressure

(3858 psig) 1.249 Mscf/bbl

at Dew-point Pressure

(2600 psig) 0.877 Mscf/bbl

(A) Relative Volume: V/V_{sat} or volume at indicated pressure per volume at saturation pressure.

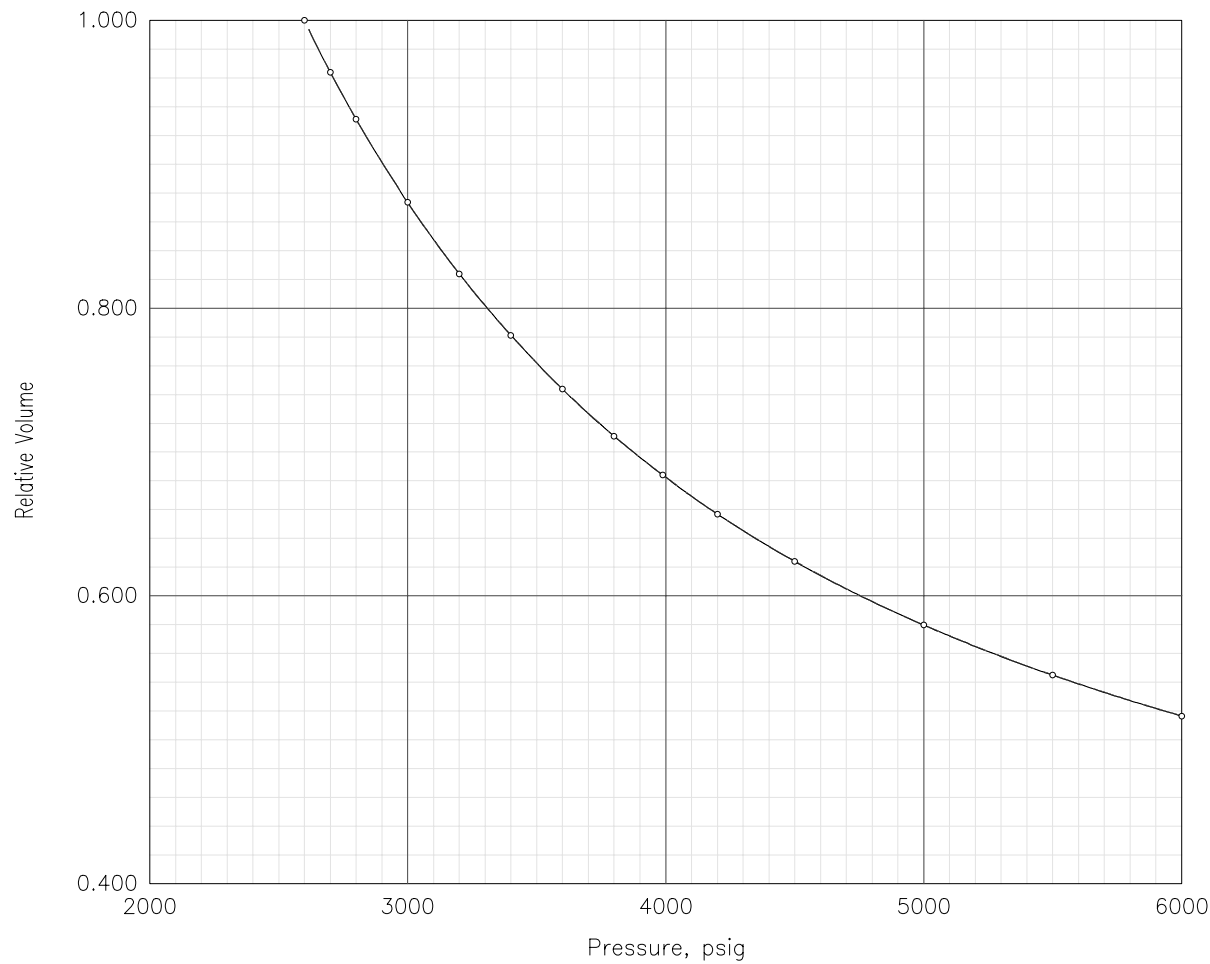
(B) Percent of the total volume of gas and liquid at the indicated pressure and 207 °F

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BASIC CRUDE OIL ANALYSES

Analysis	Sample	1.01	1.04	1.05
API Gravity at 60 °F		54.2	54.2	54.1
Wax Content, % wt		3.8	3.0	3.5
Molecular Weight		138.2	138.2	137.4
Cloud Point, °C		-15	-15	-15
Pour Point, °C		-24	-24	-24
Flash Point, °C (Pensky-Marten Closed Cup)		0	<-10	<-10

RELATIVE VOLUME
(at 207 °F)



<p>Relative Volume Expression:</p> $y = a + b (X_d)^i + c (X_d)^j + d (\log(X_d))^k$ <p>where:</p> <table><tr><td>a= -5.76316e+ 00</td><td>i= 0.722</td></tr><tr><td>b= 6.87285e+ 01</td><td>j= 0.750</td></tr><tr><td>c= -6.19653e+ 01</td><td>k= 0.996</td></tr><tr><td>d= -9.33815e+ 00</td><td></td></tr></table> <p>Note: X_d (dimensionless 'X') = P_i / P_{sat}, psig</p>	a= -5.76316e+ 00	i= 0.722	b= 6.87285e+ 01	j= 0.750	c= -6.19653e+ 01	k= 0.996	d= -9.33815e+ 00		<p>LEGEND</p> <table><tr><td>○</td><td>Laboratory Data</td></tr><tr><td>— —</td><td>Confidence Limits</td></tr><tr><td>— — —</td><td>Analytical Expression</td></tr></table> <p>Saturation Pressure: 2600 psig</p>	○	Laboratory Data	— —	Confidence Limits	— — —	Analytical Expression
a= -5.76316e+ 00	i= 0.722														
b= 6.87285e+ 01	j= 0.750														
c= -6.19653e+ 01	k= 0.996														
d= -9.33815e+ 00															
○	Laboratory Data														
— —	Confidence Limits														
— — —	Analytical Expression														
<p>Confidence level: 99 %</p> <p>Confidence interval: ± 0.00005</p> <p>'r squared': 1</p>	<p>Pressure-Volume Relations</p> <p>Figure A-1</p>														

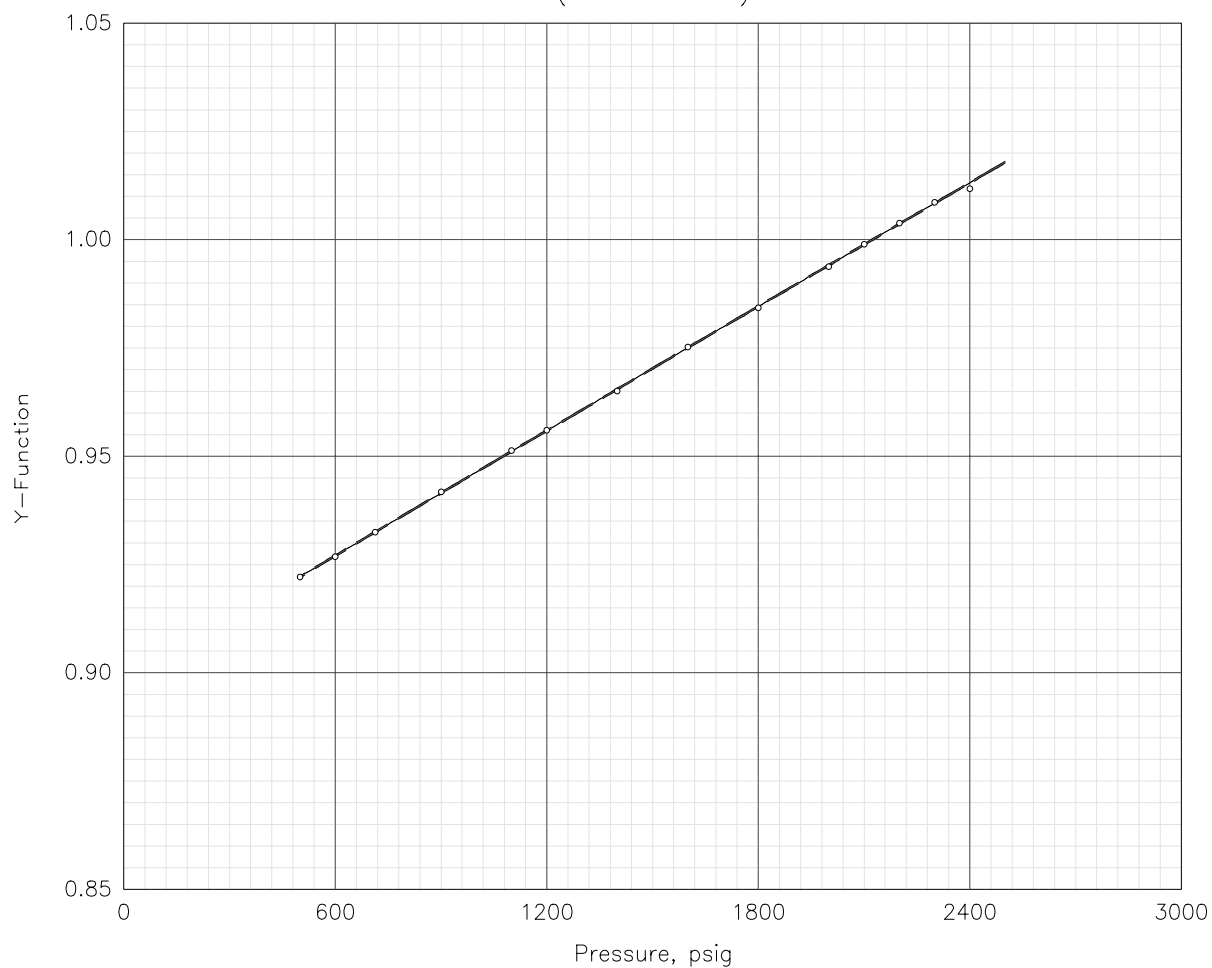
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Y-FUNCTION

(at 207 °F)

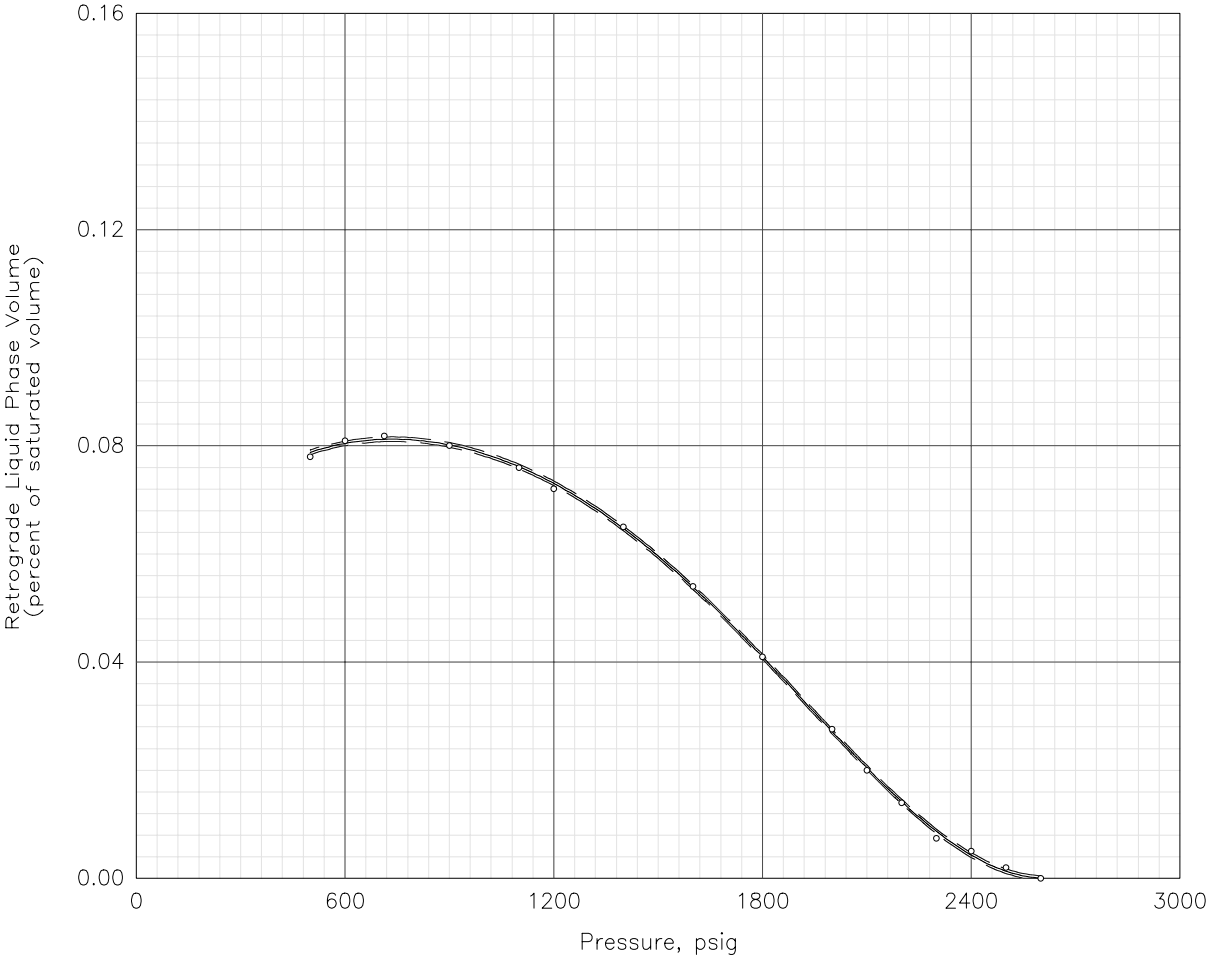


Y-Function Expression: $y = a + b (X_d)^i$	LEGEND
where: $a = 8.97540e-01$ $i = 0.986$ $b = 1.25056e-01$	\circ Laboratory Data — Confidence Limits — Analytical Expression Saturation Pressure: 2600 psig
Note: X_d (dimensionless 'X') = P_i / P_{sat} , psig	
Confidence level: 99 % Confidence interval: ± 0 'r squared': .999942	Pressure-Volume Relations Figure A-2

CORE LABORATORIES

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LIQUID PHASE VOLUME
(at 207 °F)



Retrograde Liquid Curve Expression: $\sqrt{y} = a + b (X_d)^i + c (X_d)^j + d (10^{-X_d})^k$	LEGEND
where: a= -1.55132e- 02 i= 0.125 b= 4.09583e- 01 j= 7.750 c= 7.74454e- 02 k= 1.360 d= -2.03313e- 02	<div><div>○</div>Laboratory Data</div> <div><div>— —</div>Confidence Limits</div> <div><div>—</div>Analytical Expression</div> <div>Saturation Pressure: 2600 psig</div>
Note: X_d (dimensionless 'X') = P_i / P_{sat} , psig	
Confidence level: 99 % Confidence interval: +/— 0 'r squared': .999708	Pressure-Volume Relations Figure A-3

SOLVENT EXTRACTION DATA

LONGTOM-2/ST1



DEPTH	Sample Type	Weight of Material Extd. (g)	Total Extract (mg)	Total Extract (ppm)
2340m	Mud	99.9	11.5	115

ANALYSIS OF ORGANIC MATTER BY ROCK-EVAL PYROLYSIS

LONGTOM-2 / ST1



Depth (m)		Tmax	S1	S2	S3	S1+S2	S2/S3	PI	TOC	HI	OI
2124.0	Core	434	0.06	0.62	0.11	0.68	5.64	0.09	0.70	89	16
2148.0	Core	439	0.05	0.62	0.15	0.67	4.13	0.07	0.91	68	16
2170.0	Ctgs	439	0.26	1.12	1.47	1.38	0.76	0.19	1.11	101	132
2200.0	Ctgs	436	0.25	1.12	1.17	1.37	0.96	0.18	1.13	99	104
2250.0	Ctgs	439	0.25	1.33	2.51	1.58	0.53	0.16	1.50	89	167
2290.0	Ctgs	442	0.19	0.93	0.81	1.12	1.15	0.17	0.72	129	113
2310.0	Ctgs	441	0.08	0.61	6.16	0.69	0.10	0.12	0.52	117	1185
2420.0	Ctgs	nd	nd	nd	nd	nd	nd	nd	0.22	nd	nd

A TMAX value is not reported if the S2 is <0.2mg/g

TMAX = Max. temperature S2 (°C)

S1+S2 = Potential yield (mg/g rock)

OI = Oxygen Index

S1 = Volatile hydrocarbons (HC) (mg/g rock)

S3 = Organic carbon dioxide (mg/g rock)

TOC = Total organic carbon (wt % of rock)

nd = no data

S2 = HC generating potential (mg/g rock)

PI = Production index

HI = Hydrogen index

GEOTECHNICAL SERVICES PTY LTD

VITRINITE REFLECTANCE MEASUREMENT

LONGTOM-2 / ST1

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Sample Details		Mean	Range	Std Dev	N ^o of Readings	Sample Description Including Liptinite Fluorescence, Maceral Abundances, Mineral Fluorescence
2124.0m Core	2 _v max 2 _l max	0.73 1.62	0.67-0.84 0.90-2.56	0.053 0.442	6 25	Abundant lamalginite and sparse liptodetrinite yellow to orange, rare cutinite orange. (Claystone. Dom abundant, L>I>V. Liptinite abundant, inertinite common, vitrinite rare. Mineral fluorescence weak orange. Pyrite rare.)
2148.0m Core	2 _v max 2 _l max	0.68 1.63	0.55-0.82 1.00-2.12	0.061 0.347	27 10	Sparse lamalginite and rare liptodetrinite yellow to orange, rare sporinite orange, rare cutinite orange to dull orange. (Argillaceous siltstone and claystone with traces of "coal". "Coal" rare, V>L, vitrite>clarite and may represent drifted wood and leaves. Dom abundant, I>V>L. Inertinite and vitrinite common, liptinite sparse. Rare coalified leaf tissue fragments. Mineral fluorescence moderate to weak orange. Iron oxides rare. Pyrite rare.)
2170.0m Ctgs	2 _v max 2 _l max	0.69 1.64	0.58-0.81 1.10-2.58	0.053 0.317	25 15	Rare lamalginite and liptodetrinite orange to dull orange, rare sporinite dull orange. (Argillaceous siltstone>sandstone>claystone. Dom common, I>V>L. Inertinite common, vitrinite rare to sparse, liptinite rare. Mineral fluorescence moderate orange Iron oxides rare. Pyrite rare.)
2200.0m Ctgs	2 _v max 2 _l max	0.71 1.64	0.59-0.91 1.20-2.22	0.069 0.287	25 10	Rare lamalginite and liptodetrinite orange to dull orange, rare sporinite orange, rare cutinite dull orange. (Argillaceous siltstone>claystone>sandstone. Dom common, I>V>L. Inertinite common, vitrinite rare to sparse, liptinite rare. Mineral fluorescence moderate orange. Iron oxides rare. Pyrite rare.)
2250.0m Ctgs	2 _v max 2 _l max	0.72 1.67	0.62-0.91 1.12-2.32	0.067 0.377	25 10	Rare sporinite and liptodetrinite greenish yellow and orange to dull orange, rare cutinite dull orange. (Argillaceous siltstone>claystone>sandstone>coal>carbonate. Coal abundant, V>I>L, vitrite>>duroclarite. Dom common, I>V>L. Inertinite common, vitrinite rare to sparse, liptinite rare. The mean reflectance of the coal population is 0.45%. The coals show desiccation cracks probably represent cavings and/or contaminants. Greenish yellow fluorescing liptinite is associated with coals. Mineral fluorescence moderate to strong orange. Glauconite rare. Iron oxides rare. Pyrite rare.)
2290.0m Ctgs	2 _v max 2 _l max	0.70 1.68	0.64-0.81 1.14-2.24	0.048 0.310	11 20	Rare sporinite and liptodetrinite orange to dull orange. (Argillaceous siltstone>sandstone>ferruginous claystone. Dom sparse to common, I>V>L. Inertinite sparse, vitrinite and liptinite rare. Mineral fluorescence weak orange to none. Iron oxides abundant. Pyrite rare.)

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LONGTOM-2 / ST1

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Sample Details		Mean	Range	Std Dev	N ^o of Readings	Sample Description Including Liptinite Fluorescence, Maceral Abundances, Mineral Fluorescence
2310.0m Ctgs	2 _v max 2 _l max	0.73 1.71	0.61-0.83 1.10-2.88	0.063 0.396	8 25	Rare lamalginite and liptodetrinite orange to dull orange, rare sporinite dull orange. (Argillaceous siltstone>claystone>sandstone> ferruginous claystone. Dom sparse, I>V>L. Inertinite sparse, vitrinite and liptinite rare. Inorganic mud additives abundant. Mineral fluorescence weak dull orange. Iron oxides sparse. Pyrite sparse, locally abundant.)
2422.0m Ctgs	2 _v max 2 _l max	?0.81 3.58	0.76-0.87 1.72-4.90	0.047 1.353	4 3	Fluorescing liptinite absent. (Sandstone>argillaceous siltstone>claystone>carbonate. Dom rare, V>I. Vitrinite and inertinite rare, liptinite absent. Measured vitrinite population may be cavings and inertinite population may also include cavings. Low rank coal cavings present. Mineral fluorescence mostly none, weak dull orange in fine grained sediments. Iron oxides sparse. Pyrite sparse, locally abundant.)

The upper part of the section has vitrinite reflectance values that indicate it lies in the middle of the main oil generation zone. Some of the deeper samples contain low rank coals, but these appear to be a contaminant, either cavings, or an additive. The deepest sample includes some fluorescing liptinite but many of the grains show very weak fluorescence. The fluorescing liptinite may be cavings, and the sample could be from a much more mature part of the section. In the absence of stratigraphic data, it is difficult to be more definitive about assigning the populations of vitrinite that were found.

Sample : LONGTOM-2/ST1, 2340m, Mud
File ID : 347010XB



Chromatogram obtained from analysis of the whole extract by GC-MS

