

WELL COMPLETION REPORT

MARLIN A-22A

GIPPSLAND BASIN, VICTORIA

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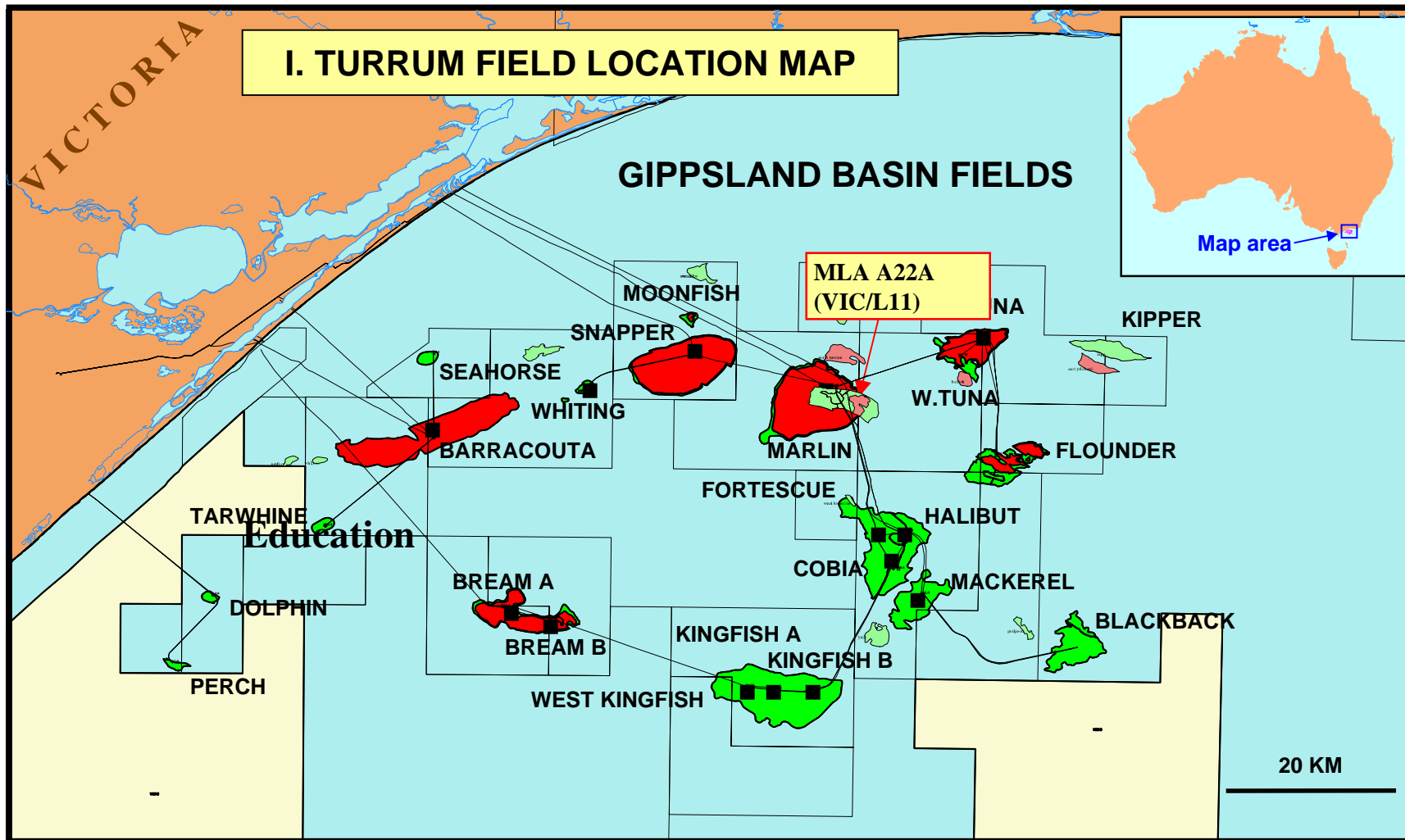
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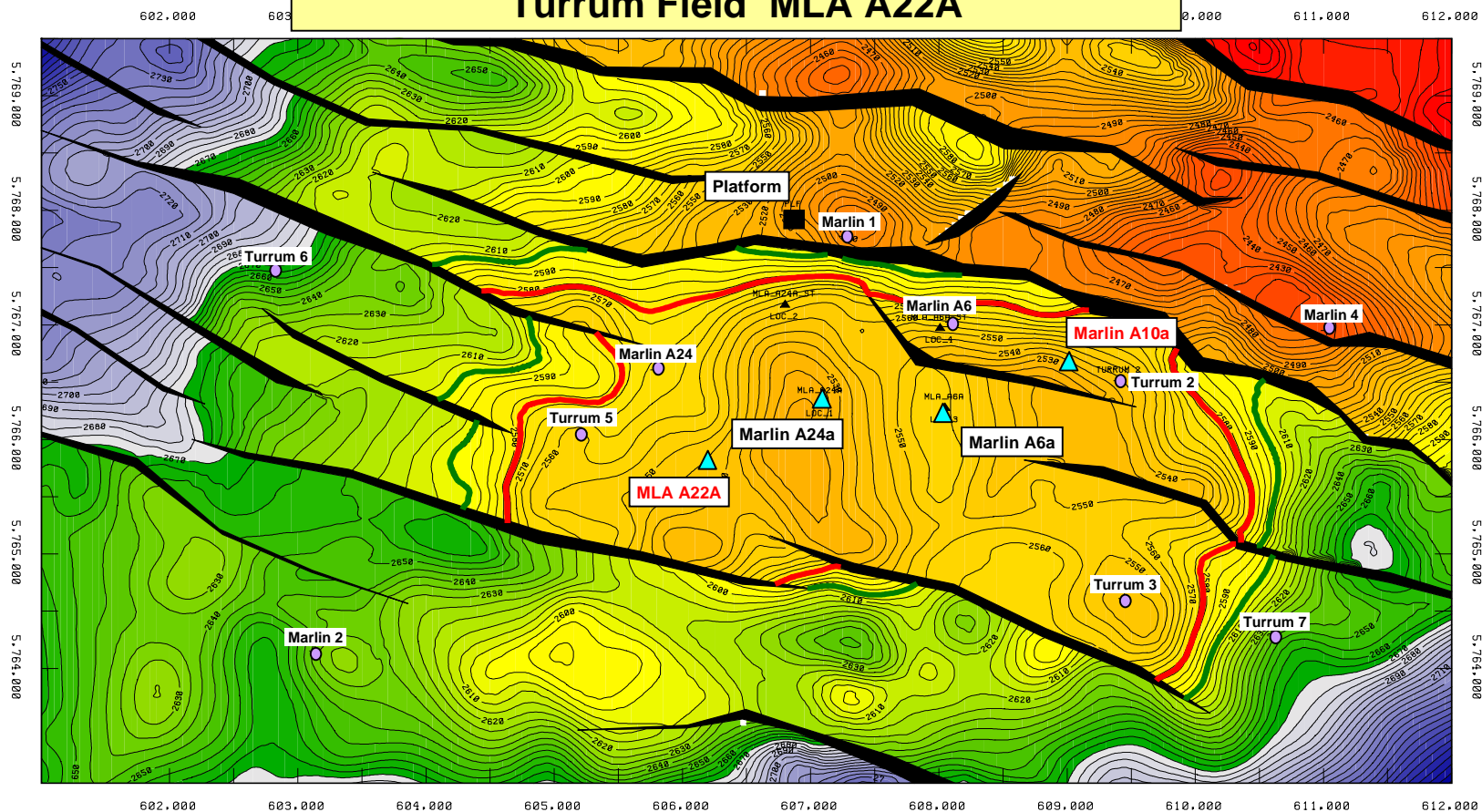
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- Commercial Gas Fields
- Commercial Oil Fields
- Static Gas Fields
- Static Oil Fields

Top L500 Anticline Depth Structure Map

II. WELL DATA RECORD: Location Map Turrum Field MLA A22A



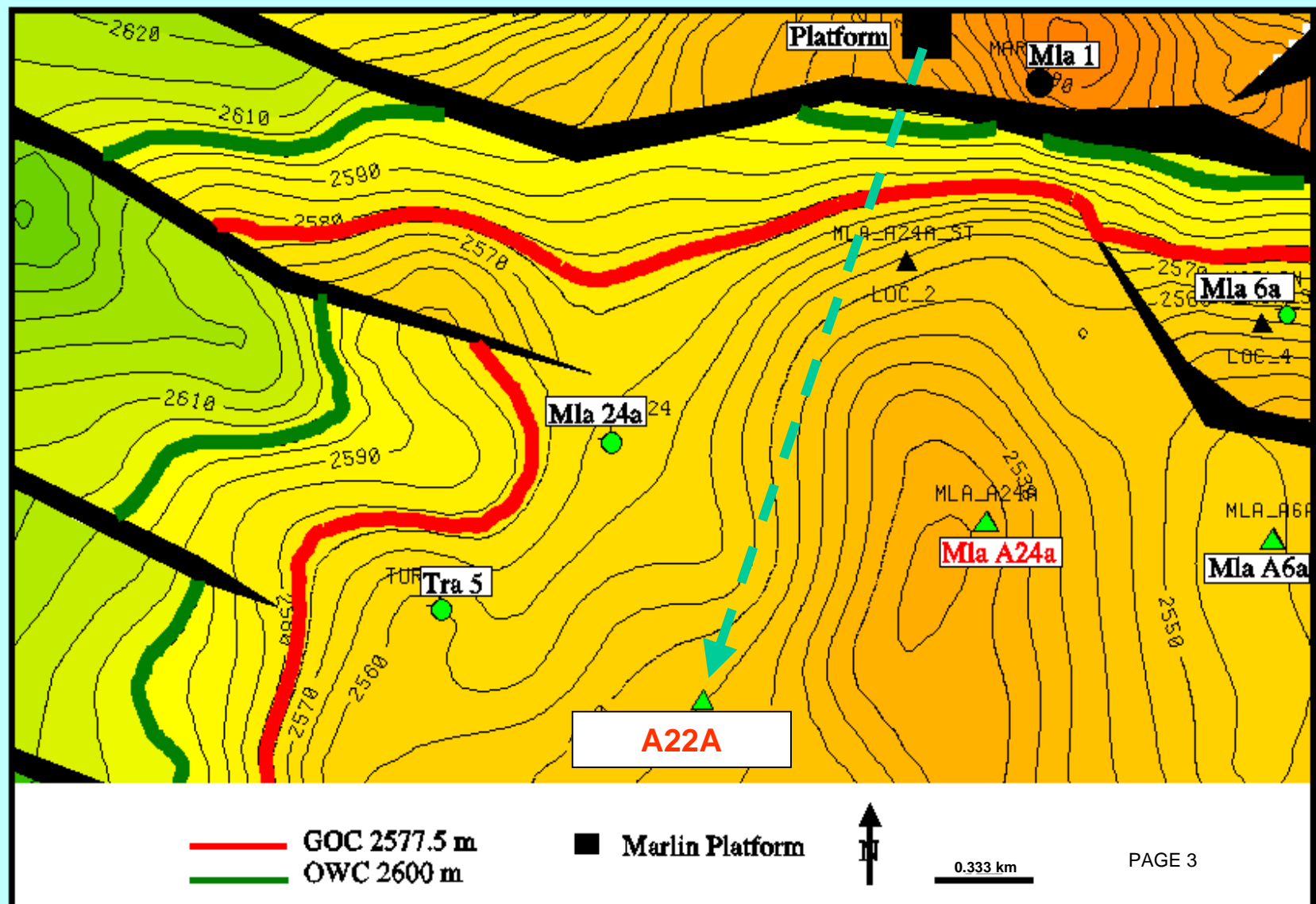
1 km

— GOC 2577.5 m
— OWC 2600 m

■ Marlin Platform
▲ well locations (Rig 453)

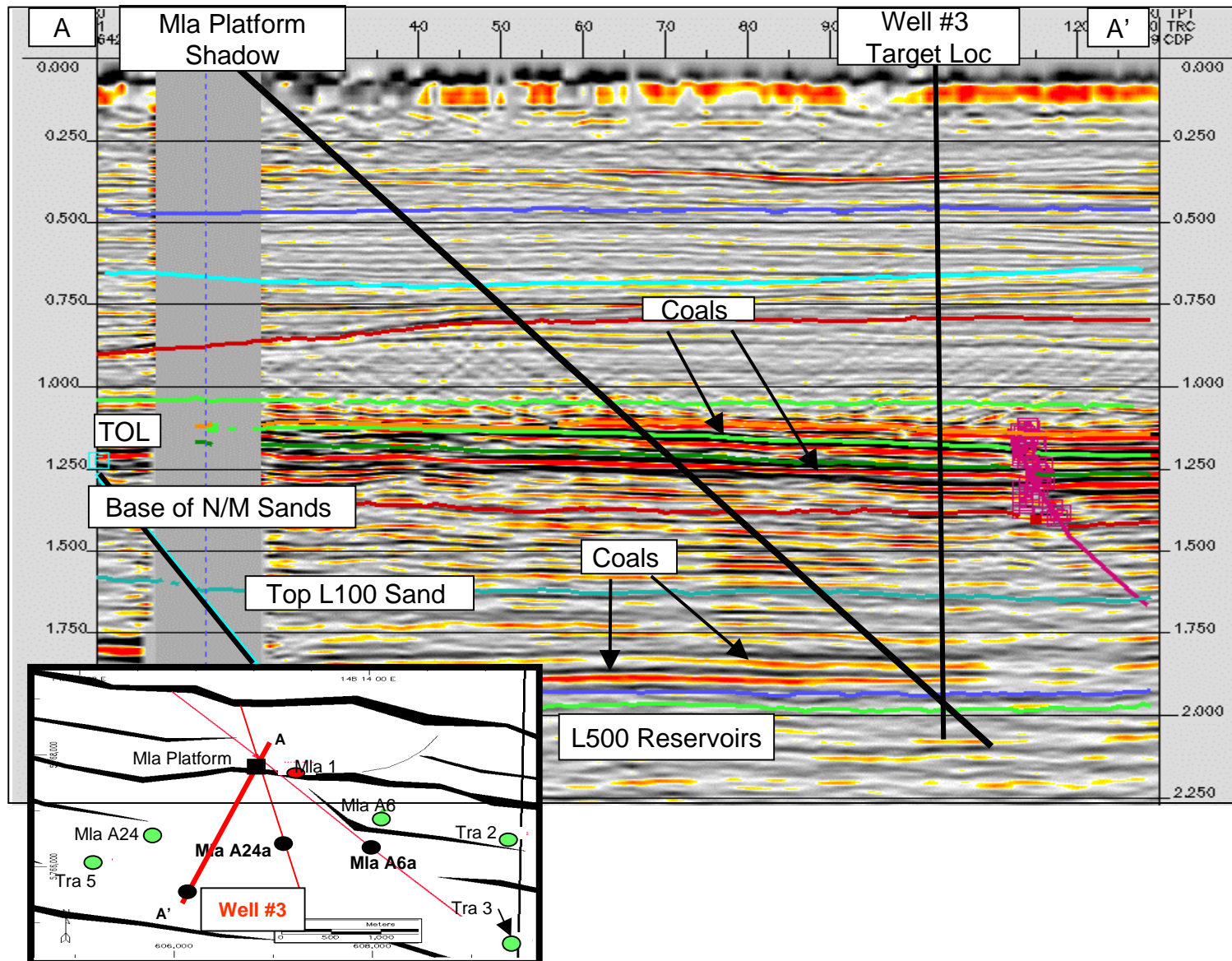
Map not updated after MLA A6A

Top L500 Anticline Depth Structure Map



A22A (L500 Depth Map Zoom-in with seismic well path)

Seismic Traverse along Wellpath



Seismic Line (MLA Platform - MLA A22A well path)

II. WELL DATA RECORD (cont.)

LOCATION

Field	Turrum/Marlin	Conductor #12 Surface Coordinates	
Well Name	A22a (Loc 7)	(GDA94) X	606,871.49mE
Conductor Number	Slot 12	(MGA94) Y	5,767,922.76mN
State	Victoria	Latitude	38°13'49.232"S
Permit/Licence	Vic/L11	Longitude	148°13'15.815"E
Geological Basin	Gippsland	Perforations (driller)	N/A
Top of Latrobe	1971.7 m MDRT		
	1373.3m TVDRT	Datum	GDA94 (GRS80)
MGA94 X	606512.41 m E	Projection	MGA94/UTM Zone 55 (S)
MGA94 Y	5766777.42 m N		
Top of L500	3485.4m MDRT		
	2589.7m TVDRT		
MGA94 X	605777.46 m E		
MGA94 Y	5766292.89 m N		

ELEVATIONS & DEPTHS

Water Depth	59.0m
Top Wellhead to MSL	16.33 m
Main Deck Rel to MSL	14.48 m
RT Relative to MSL	27.91m
Average Well Angle	42.4°
Total Depth	3617.0m MDRT
	2714.0m TVDRT
Plug Back Depth	3596.7m MDRT

DATES

Skid Rig	24/05/2004
Kicked Off	27/05/2004
Development Rig	34.54
Days	
NPT Days	12.09
Rig Released	27/06/04
I.P. Established	Not completed

MISCELLANEOUS

Operator	Esso Australia Pty Ltd	Contractor	International Sea Drilling Ltd
Esso Interest	50%	Rig Name	Nabors Rig 453
Permittee/Licensee	Esso/BHPP	Equipment Type	Platform
Other Interest	50% J.V. Interest	Completion Type	Not completed
Overriding Royalty	2.5%	Completion Size	Not completed
Drilling AFE No.	L0531E204		

WELL CLASSIFICATION

Before Drilling	Oil Development	After Drilling	Cased and Abandoned
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II. WELL DATA RECORD (cont.)

CASING RECORD

Type	Size (Inches)	Weight (lb/ft)	Grade	Thread	Depth (mMDRT)
Surface	13 ³ / ₈	54.5	J-55	LTC	673.1
Intermediate	9 ⁵ / ₈	47	L-80	LTC	1900.0
Production	7	26	L-80	LTC	2100.0
Liner	4 ¹ / ₂	12.6	CR-80	VAM ACE	3615.5

CEMENTING RECORD

Casing Details	Cement Type	Dry Cement Volume (sx)	Cement Additives	Mix Water (bbls)	Slurry Volume (bbls)	Slurry Density (ppg)	Cement To / From (mMDRT)	Casing Pressure Test (psi)
7"	HTB	224	HALAD 413L 20 gal / 10 bbl CFR-3L 5 gal / 10 bbl NF-6 0.25 gal / 10 bbl	25	45	L:13.0 T:15.8	2077.18 m 2101.37 m	2500 psi
4 1/2" Liner	HTB	490 Lead slurry 632 Tail slurry	HALAD 413L 30 gal / 10 bbl CFR-3L 2 gal / 10 bbl SCR-100L 7gal/10bbl NF-5 0.25 gal / 10bbl HALAD 413L 30 gal / 10 bbl CFR-3L 5 gal / 10 bbl SCR-100L 2gal/10bbl NF-6 0.25 gal / 10 bbl	118 88	162 144	L:13.0 T:15.0	Liner Lap Top 1946.3m	2500 psi

II. WELL DATA RECORD (cont.)

DRILLING PERFORMANCE

MLA A22A - Final Well Report

GENERAL

Platform:	Marlin	Rig:	453	Reservoir:	L500 Sands
Well:	A22A	Well Slot:	#12	RT-MSL (Rig453)	27.91m
Drilling Complexity Index	4.2	Completion Complexity Index	NA		

DEPTH		PERFORMANCE		MUD	
m MDRT	3,617.00	20" Cond. Hole	N/A	Max Wt (ppg)	10.15
m TVDRT	2,713.96	12-1/4" Surf. Hole	N/A	Type (Surf. Hole)	N/A
Vert. Section (m)	2,000.70	8-1/2" Prod. Hole	123.2 m/day	Type (Inter. Hole)	N/A
INCLINATION		6" Liner Hole	N/A	Type (Prod. Hole)	KCI/PHPA/Poly/Glycol
Max (deg) / Ave (deg)	60.5(KO) / 39.2 (Tang)	* time to drill interval, incl's Connections & NPT.		Type (Liner Hole)	N/A

Comments: New hole drilled: 1900m to 3,617mMDRT (1,717m MDRT drilled).

TIME ANALYSIS

Start Date:	24/05/2004, 0130hrs	Finish Date:	27/06/2004, 1800hrs		
Target Days (P10):	28.1	Total Days:	34.54	% Under Target:	23% (over)
AFE Days (P50):	31.2	NPT Days:	12.09	% of Total Days:	35%
Supplementary AFE Days (P50):	N/A				

COSTS (based on projected)

AFE No.:	L0531E204	Revisions:	--	\$ per m	A \$4.26 k / metre (new hole)
\$ per day:	A\$ 212 k/day	\$ per day (excl. T + L) * Equipment, LWD & Reeves	A\$ 153 k/day		A\$ 2.02k / metre* * based on TD not new hole

	Equipment	Materials	Contracts	Allocations	Contingency	Total
AFE (Original)	330,000	806,000	3,860,000	1,192,000	312,000	A\$6,500,000
AFE (Supplement)	330,000	816,100	4,954,700	1,267,200	332,000	A\$7,700,000
Projected	653,300	770,200	4,394,400	1,157,100	345,000	A\$7,320,000

CASING (all depths herein are based on Rig453 elevations: RT-MSL=27.91m)

	<u>Size / Weight / Grade / Thread</u>	m MDRT	m TVDRT	PIT (ppg)
Conductor Casing *	20"	163	163	N/A
Surface Casing *	13-3/8", 54.5 ppf, J55, BTC	673.1	636	N/A
Intermediate Casing *	9-5/8", 36.0-47.0 ppf, K55/N80, LTC	1,900	1,331	14.0 PIT
Prod Casing	7", 26.0ppf, L80, LTC	2,100	1,459	N/A
Prod Liner	4-1/2", 12.6ppf, 13Cr80, Vam Ace	3,615.5	2,714	N/A

Comments: * Pre-existing casing strings. 4-1/2" liner was run due to problems running 7" casing to TD. Top of liner top packer at 1,946m MDRT.

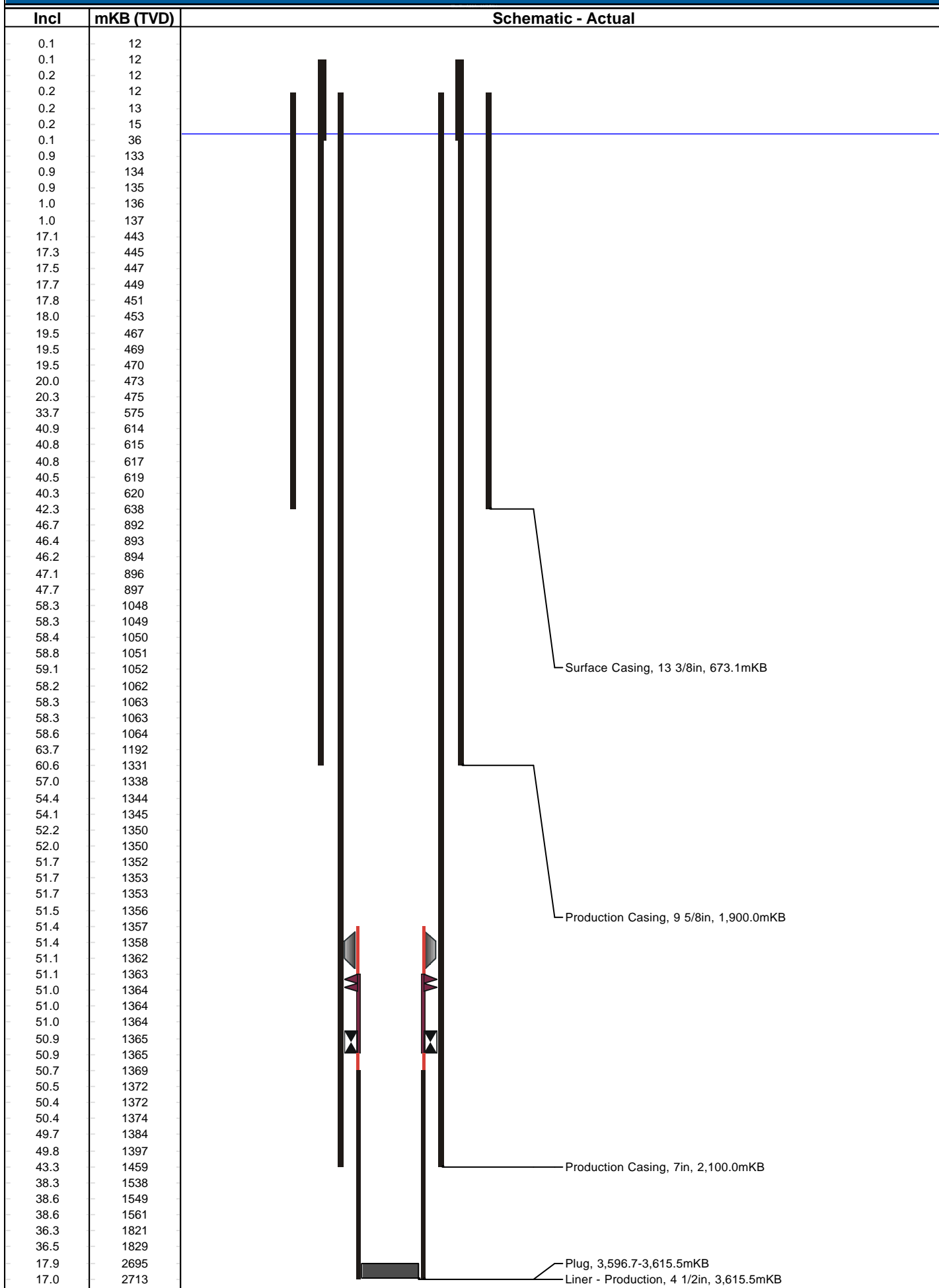
COMPLETION

	<u>Size / Weight / Grade / Thread</u>	MMDRT	MTVDRT	Type
Completion	NA	NA	NA	NA

	Upper Interval [m MDRT]	Upper Interval [m TVDRT]	Lower Interval [mMDRT]	Lower Interval [mTVDRT]	Gun Type
Perforation Interval:	NA	NA	NA	NA	NA

Comments: Well to be completed in January 2005 with Rig 22.

Marlin A22A: Existing Schematic



III. SAMPLES

CUTTINGS

The cuttings sampling programme for Marlin A22A are detailed in the following table:

Interval	Formation	Sampling Details
Casing window to Top of Latrobe (TOL) 1900 m - 1970 m	Lakes Entrance Formation	10 m sampling interval Three sets of washed and dried cuttings.
TOL to Total Depth (TD) 1974.5 m – 3617 m (TD)	Latrobe Group	5 m sampling interval Three sets of washed and dried cuttings.

Detailed cuttings descriptions for the interval 2610mMDRT to 3617 mMDRT (TD) are contained in Appendix 3a.

CONVENTIONAL CORING

No conventional cores were cut in Marlin A22A.

SIDEWALL CORING

No sidewall core samples were shot in Marlin A22A.

MDT's

Open Hole MDT data is contained in Appendix 5a.

IV. LOGS AND SURVEYS

Survey/Log	Company	Top (m MDRT)	Bottom (m MDRT)
MWD Run 1, Powerpulse (Directional & GR)	Schlumberger/Anadrill	1900.0	2418.7
MWD Run 2, Powerpulse (Directional & GR)	Schlumberger/Anadrill	2418.7	3480.12
MWD Run 3, Powerpulse (Directional & GR)	Schlumberger/Anadrill	3480.12	3480.12
MWD Run 4, Powerpulse (Directional & GR)	Schlumberger/Anadrill	3480.12	3593.49
Run 1: Compact Logging on well shuttle system			
MDL-MCG-MDN-MPD- MSS-MAI (dual lateral log- GR-neutron-photo density- sonic-tool sub)	Reeves	1870.0	3606.5
Run 2: Open hole MDT-GR (on drillpipe)	Schlumberger Wireline	3006.0	3574.0

V. FORMATION RESERVOIR TOPS

Zone	m TVDSS			m MDRT	m TVT Gross HC Column	
	Predicted	Actual	Diff.		Predicted	Actual
Top Lakes Entrance	-1290.1	NA	NA	Above kick-off point	32.72m HC column	31.02 m HC column
Top Latrobe Group (TOL)	-1342.8	-1345.6	2.8m low	1971.8		
Base N/M Sands	-1703.7	-1707.1	3.4m low	2452.3		
Top L100 Sand	-2106.0	-2106.3	0.3m low	2956.7		
Top L500 Sand	-2567.3	-2561.8	5.5m high	3485.4		
Current GOC	-2577.5	-2577.5	-	3502.1	Increased vertical angle led to increased TD	
Current OWC	-2600.0	-2600.0	-	3526.1		
Near Top Cretaceous Shale	-2649.1	-2649.3	0.2m high	3578.4		
Total Depth (TD)	-2672.8	-2686.0	13.2m low	3617.0		

VI. GEOLOGICAL ANALYSIS - MARLIN A-22A

Objectives

Marlin A22A (pre-drill Location 4) is the third well in a series of 5 wells to be drilled on the Turrum field during 2004 using rig "Rig 453". This well was designed to test two targets, the primary L-500 reservoir target and the secondary target of the higher L100 to L400 reservoirs. (The well drilled out of casing into the Lakes Entrance Formation - hence the prognosed Top of Lakes Entrance Formation was not encountered.)

Within the L500 reservoir there were several objectives:

- a) To confirm the expected field-wide GOC of -2577.5m TVDSS & OWC of -2600m TVDSS; and,
- b) To confirm the number of hydraulic systems within the L500 reservoir.

In the shallower L100 to L400 reservoirs the objective was:

- a) To confirm the number and continuity of the previously identified L100 to L400 reservoirs.

One additional objective was identified for the Marlin field: If no clear GWC was observed within the Marlin reservoirs then additional pressure data would be taken as Marlin A22A was crestally located for the overlying Marlin Gas field.

Results

Marlin A22A was drilled below surface casing (of the original Marlin A22 conductor). .

At the completion of drilling the A22A well, logging was conducted via Reeves Shuttle on drillpipe in 6" hole and a total of 62 MDT pressure points collected.

As a clear GWC was seen in the Marlin N1.4 Reservoir no additional pressure data were taken over the Marlin Gas field.

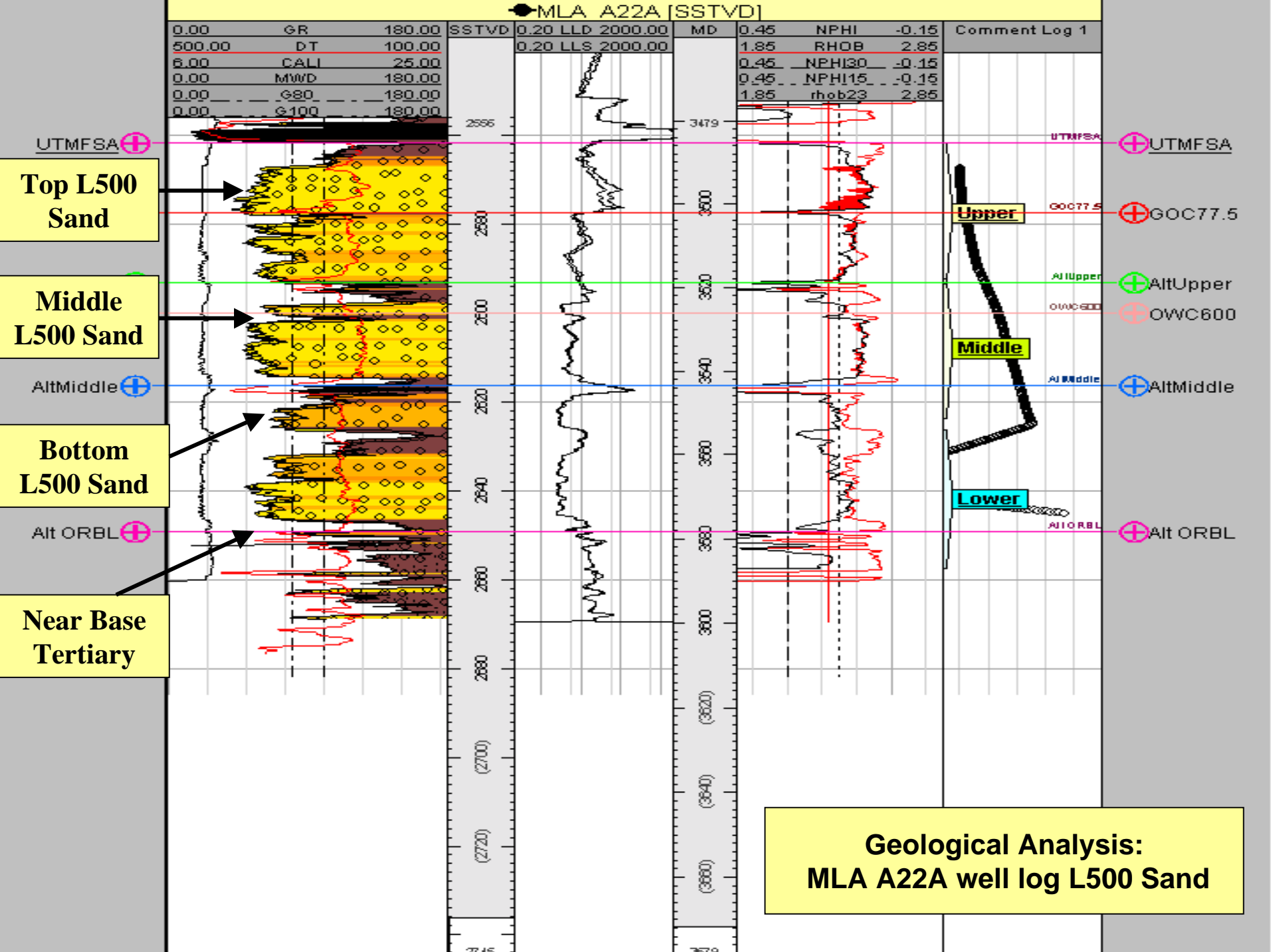
The A22A well intersected the top of L500 at 3485.44m MDRT (-2561.82m TVDSS), 5.46m TVD high to prognosis, as shown on the attached L500 well data and well log section.

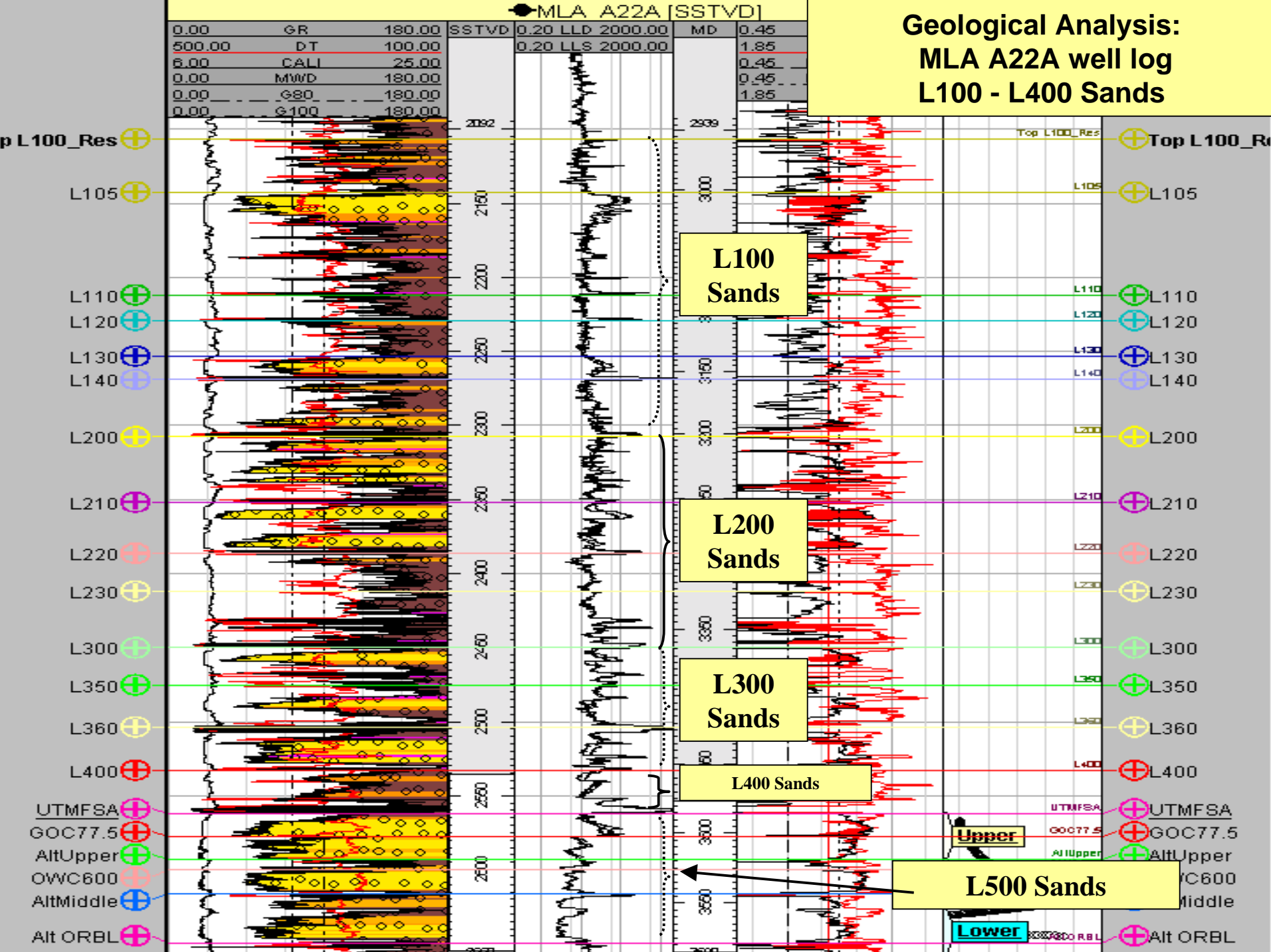
Log character indicated that hydrocarbons were present over the entire L100 to L500 column plus identified the current GWC's of the overlying Marlin reservoirs. While casing was being set for the Cased Hole Dynamic Tester (CHDT) tool operational difficulties were encountered and the CHDT program was abandoned. Consequently, the well was completed with a 4 1/2" liner in anticipation of future production.

A total of 31m TVT gross gas and oil column was encountered in the L500 sands.

VI. GEOLOGICAL ANALYSIS - MARLIN A-22A

In the secondary target a total of 124 metres TVT gross gas column was encountered in the upper reservoirs of the L100 group (42m TVT), L200 group (41m TVT), L300 group (33m TVT) & L400 group (8m TVT) sands.





APPENDIX 1a

MARLIN A-22A

Survey Data

A22A Final Surveys

Report Date: June 10, 2004 Client: Esso Australia Pty Ltd Field: Marlin GDA 94 Structure / Slot: Marlin / 12 Well: A-22 Borehole: MLA A-22A UWI/API#: Survey Name / Date: A22A Actual Surveys / May 29, 2004 Tort / AHD / DDI / ERD ratio: 267.913° / 2135.71 m / 5.882 / 0.787 Grid Coordinate System: GDA94/MGA94 Zone 55 Location Lat/Long: S 38 13 49.232, E 148 13 15.814 Location Grid N/E Y/X: N 5767922.760 m, E 606871.490 m Grid Convergence Angle: -0.75569303° Grid Scale Factor: 0.99974066	Survey / DLS Computation Method: Minimum Curvature / Lubinski Vertical Section Azimuth: 215.930° Vertical Section Origin: S 4.140 m, E 30.900 m TVD Reference Datum: Drillsite Elevation TVD Reference Elevation: 27.9 m relative to MSL Sea Bed / Ground Level Elevation: 0.000 m relative to MSL Magnetic Declination: 13.134° Total Field Strength: 59984.969 nT Magnetic Dip: -68.732° Declination Date: May 29, 2004 Magnetic Declination Model: BGGM 2003 North Reference: Grid North Total Corr Mag North -> Grid North: +13.890° Local Coordinates Referenced To: Structure Reference Point
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Comments	Measured Depth (m)	Inclination (deg)	Azimuth (deg)	TVD (m)	Vertical Section (m)	NS (m)	EW (m)	DLS (deg/30 m)
Projected-Up	0.00	0.00	0.00	0.00	0.00	-4.14	30.90	0.00
Tie-In	0.51	0.00	0.00	0.51	0.00	-4.14	30.90	0.00
	15.75	0.20	306.00	15.75	0.00	-4.13	30.88	0.39
	30.99	0.00	0.00	30.99	0.00	-4.11	30.85	0.39
	46.23	0.25	284.00	46.23	0.01	-4.10	30.82	0.49
	61.47	0.25	225.00	61.47	0.06	-4.12	30.77	0.48
	76.71	0.25	297.00	76.71	0.10	-4.13	30.71	0.58
	91.95	0.20	230.00	91.95	0.13	-4.13	30.66	0.50
	107.19	0.80	246.00	107.19	0.25	-4.19	30.55	1.20
	122.43	0.60	299.00	122.43	0.35	-4.19	30.38	1.28
	137.67	1.00	255.00	137.67	0.46	-4.19	30.18	1.39
	152.91	0.83	259.00	152.90	0.64	-4.24	29.94	0.36
	168.25	1.75	215.00	168.24	0.96	-4.46	29.70	2.52
	185.51	2.67	181.10	185.49	1.55	-5.08	29.54	2.72
	190.51	3.01	176.10	190.48	1.75	-5.32	29.55	2.50
	195.51	2.99	175.60	195.48	1.95	-5.58	29.57	0.19
	200.51	3.12	176.08	200.47	2.15	-5.85	29.59	0.78
	205.51	3.19	175.74	205.46	2.37	-6.12	29.61	0.43
	210.51	3.23	175.20	210.45	2.58	-6.40	29.63	0.31
	215.51	3.18	173.44	215.45	2.79	-6.68	29.66	0.66
	220.51	3.32	173.54	220.44	3.00	-6.96	29.69	0.83
	225.51	3.49	174.57	225.43	3.22	-7.26	29.72	1.08
	230.51	3.67	176.30	230.42	3.45	-7.57	29.74	1.24
	235.51	3.74	175.30	235.41	3.70	-7.89	29.77	0.58
	240.51	3.84	175.41	240.40	3.95	-8.22	29.79	0.61
	245.51	3.95	174.99	245.39	4.21	-8.56	29.82	0.67
	250.51	4.17	175.63	250.37	4.48	-8.91	29.85	1.33
	255.51	4.41	177.25	255.36	4.77	-9.28	29.87	1.64
	260.51	4.62	178.33	260.34	5.08	-9.68	29.89	1.36
	265.51	4.68	177.49	265.33	5.40	-10.08	29.90	0.54
	270.51	5.15	178.92	270.31	5.74	-10.51	29.92	2.91
	275.51	5.32	178.62	275.29	6.10	-10.97	29.93	1.03
	280.51	5.46	179.91	280.27	6.48	-11.44	29.93	1.11
	285.51	5.80	181.02	285.24	6.87	-11.93	29.93	2.14
	290.51	5.81	180.83	290.22	7.29	-12.43	29.92	0.13
	295.51	6.19	182.00	295.19	7.72	-12.96	29.91	2.41
	300.51	6.43	182.92	300.16	8.18	-13.50	29.88	1.53
	305.51	6.74	183.05	305.13	8.66	-14.08	29.85	1.89
	310.51	6.87	183.08	310.09	9.16	-14.67	29.82	0.77
	315.51	7.24	183.87	315.05	9.68	-15.28	29.79	2.32

320.51	7.53	184.76	320.01	10.22	-15.92	29.74	1.88
325.51	8.00	184.58	324.96	10.80	-16.60	29.68	2.80
330.51	8.37	185.18	329.91	11.41	-17.30	29.62	2.29
335.51	8.76	185.81	334.86	12.05	-18.05	29.55	2.39
340.51	9.02	186.38	339.80	12.72	-18.81	29.47	1.65
345.51	9.56	186.70	344.73	13.43	-19.62	29.38	3.25
350.51	9.94	186.91	349.66	14.17	-20.46	29.28	2.29
355.51	10.44	187.30	354.58	14.94	-21.33	29.17	3.03
360.51	10.77	187.80	359.50	15.75	-22.25	29.04	2.06
365.51	10.89	187.89	364.41	16.58	-23.18	28.92	0.71
370.51	11.24	188.17	369.31	17.43	-24.13	28.78	2.14
375.51	11.60	188.63	374.21	18.31	-25.11	28.64	2.23
380.51	11.93	188.88	379.11	19.21	-26.11	28.48	2.02
385.51	12.30	189.41	384.00	20.15	-27.15	28.32	2.30
390.51	12.52	189.67	388.88	21.11	-28.21	28.14	1.36
395.51	12.91	190.06	393.76	22.10	-29.29	27.95	2.40
400.51	13.29	190.55	398.63	23.12	-30.41	27.75	2.39
405.51	13.62	190.71	403.49	24.17	-31.55	27.53	1.98
410.51	13.35	190.14	408.35	25.23	-32.70	27.32	1.81
415.51	14.10	191.31	413.21	26.30	-33.87	27.10	4.80
420.51	14.54	191.91	418.06	27.43	-35.08	26.85	2.79
425.51	14.86	191.85	422.89	28.59	-36.32	26.59	1.92
430.51	15.53	192.37	427.72	29.78	-37.60	26.31	4.10
435.51	15.69	192.72	432.53	31.02	-38.91	26.02	1.11
440.51	16.45	192.81	437.34	32.29	-40.26	25.72	4.56
445.51	16.98	193.73	442.13	33.62	-41.66	25.39	3.55
450.51	17.48	193.48	446.90	34.99	-43.10	25.04	3.03
455.51	17.84	193.68	451.67	36.39	-44.58	24.68	2.19
460.51	18.60	194.35	456.42	37.84	-46.09	24.30	4.73
465.51	19.04	194.65	461.15	39.34	-47.65	23.90	2.71
470.51	19.45	194.62	465.87	40.88	-49.25	23.48	2.46
475.51	19.50	194.71	470.58	42.43	-50.86	23.06	0.33
480.51	20.42	195.03	475.28	44.03	-52.51	22.62	5.57
485.51	20.91	195.13	479.96	45.67	-54.22	22.16	2.94
490.51	21.43	195.14	484.62	47.36	-55.96	21.69	3.12
495.51	22.01	195.39	489.27	49.09	-57.74	21.20	3.52
500.51	22.62	195.44	493.89	50.87	-59.57	20.70	3.65
505.51	23.33	195.34	498.50	52.70	-61.45	20.18	4.27
510.51	23.81	195.04	503.08	54.57	-63.38	19.66	3.00
515.51	24.56	195.05	507.64	56.48	-65.36	19.13	4.47
520.51	25.01	194.66	512.18	58.44	-67.39	18.59	2.90
525.51	25.81	194.69	516.70	60.44	-69.46	18.05	4.80
530.51	26.51	194.66	521.18	62.49	-71.60	17.49	4.20
535.51	27.22	194.50	525.65	64.60	-73.78	16.92	4.26
540.51	27.45	194.06	530.09	66.73	-76.01	16.35	1.86
545.51	28.52	194.56	534.50	68.91	-78.28	15.77	6.56
550.51	29.40	194.51	538.88	71.17	-80.62	15.16	5.29
555.51	28.75	193.90	543.25	73.42	-82.98	14.57	4.29
560.51	30.93	194.01	547.58	75.73	-85.39	13.97	13.08
565.51	30.43	193.69	551.88	78.09	-87.87	13.36	3.16
570.51	31.57	193.84	556.17	80.48	-90.37	12.74	6.86
575.51	32.19	193.87	560.42	82.93	-92.94	12.11	3.72
580.51	32.32	193.49	564.64	85.40	-95.53	11.48	1.45
585.51	32.99	193.36	568.85	87.89	-98.15	10.85	4.02
590.51	33.45	193.21	573.04	90.42	-100.82	10.23	2.82
595.51	34.04	193.14	577.19	92.98	-103.52	9.59	3.54
600.51	35.96	193.63	581.29	95.63	-106.31	8.93	11.66
605.51	36.44	193.33	585.32	98.35	-109.18	8.24	3.09
610.51	37.08	193.29	589.33	101.12	-112.10	7.55	3.84
615.51	37.28	193.13	593.31	103.90	-115.04	6.86	1.33

620.51	37.57	193.09	597.28	106.71	-118.00	6.17	1.76
625.51	38.60	193.12	601.22	109.55	-121.00	5.47	6.16
630.51	39.57	193.04	605.10	112.45	-124.07	4.76	5.84
635.51	40.22	193.02	608.94	115.41	-127.20	4.03	3.89
640.51	40.88	192.85	612.74	118.40	-130.36	3.31	3.99
645.51	40.83	192.71	616.52	121.41	-133.55	2.58	0.62
650.51	40.27	192.62	620.32	124.39	-136.73	1.87	3.39
655.51	40.38	192.50	624.13	127.36	-139.88	1.17	0.78
660.51	39.39	192.41	627.97	130.30	-143.01	0.48	5.91
665.51	40.03	192.21	631.81	133.23	-146.14	-0.21	3.88
670.51	41.16	192.02	635.61	136.21	-149.32	-0.89	6.83
675.51	43.33	192.17	639.31	139.28	-152.60	-1.59	13.08
680.51	43.96	192.13	642.93	142.44	-155.98	-2.32	3.76
685.51	41.81	191.99	646.59	145.55	-159.30	-3.03	12.94
690.51	41.33	192.04	650.33	148.58	-162.55	-3.72	2.87
695.51	41.97	192.00	654.07	151.62	-165.80	-4.41	3.84
700.51	42.50	191.97	657.77	154.69	-169.09	-5.11	3.19
705.51	41.35	191.94	661.49	157.75	-172.35	-5.80	6.86
710.51	41.23	191.85	665.25	160.76	-175.58	-6.48	0.82
715.51	41.12	191.77	669.01	163.76	-178.81	-7.16	0.75
720.51	41.30	191.79	672.77	166.77	-182.03	-7.83	1.07
725.51	41.47	191.80	676.52	169.79	-185.27	-8.50	1.07
730.51	41.63	191.85	680.27	172.81	-188.51	-9.18	0.97
735.51	41.79	191.89	684.00	175.85	-191.77	-9.87	0.97
740.51	42.38	191.84	687.71	178.91	-195.05	-10.56	3.54
745.51	42.97	191.79	691.38	182.00	-198.36	-11.25	3.54
750.51	43.56	191.62	695.03	185.13	-201.72	-11.95	3.60
755.51	45.17	191.59	698.60	188.31	-205.14	-12.65	9.70
760.51	44.40	191.77	702.15	191.53	-208.59	-13.36	4.74
765.51	43.52	191.97	705.75	194.69	-211.99	-14.08	5.34
770.51	43.45	191.96	709.38	197.84	-215.36	-14.79	0.39
775.51	43.42	191.93	713.01	200.98	-218.72	-15.50	0.20
780.51	42.89	191.65	716.65	204.10	-222.07	-16.20	3.41
785.51	42.78	191.65	720.32	207.20	-225.40	-16.89	0.63
790.51	42.72	191.68	723.99	210.29	-228.72	-17.57	0.40
795.51	43.66	191.58	727.64	213.41	-232.07	-18.26	5.70
800.51	43.14	191.66	731.27	216.54	-235.44	-18.95	3.18
805.51	42.43	191.76	734.94	219.64	-238.76	-19.64	4.24
810.51	43.03	191.75	738.61	222.74	-242.08	-20.33	3.57
815.51	43.80	191.72	742.24	225.87	-245.45	-21.03	4.63
820.51	42.64	191.81	745.89	228.99	-248.80	-21.73	7.00
825.51	43.94	191.84	749.53	232.12	-252.16	-22.43	7.81
830.51	46.25	191.90	753.06	235.36	-255.62	-23.16	13.88
835.51	46.10	191.95	756.52	238.65	-259.15	-23.91	0.93
840.51	44.08	192.19	760.05	241.89	-262.61	-24.65	12.15
845.51	42.96	192.32	763.67	245.04	-265.98	-25.38	6.74
850.51	44.30	192.35	767.29	248.21	-269.35	-26.12	8.03
855.51	44.39	192.46	770.87	251.41	-272.76	-26.87	0.72
860.51	43.24	192.48	774.48	254.59	-276.14	-27.61	6.90
865.51	44.00	192.56	778.10	257.75	-279.51	-28.36	4.59
870.51	45.27	192.60	781.65	260.98	-282.94	-29.13	7.62
875.51	46.60	192.58	785.13	264.28	-286.45	-29.91	7.94
880.51	47.03	192.67	788.55	267.62	-290.00	-30.71	2.64
885.51	46.65	192.72	791.97	270.98	-293.56	-31.51	2.30
890.51	46.79	192.74	795.40	274.32	-297.11	-32.31	0.84
895.51	46.49	192.81	798.83	277.66	-300.66	-33.11	1.79
900.51	44.92	192.98	802.33	280.96	-304.15	-33.91	9.47
905.51	44.52	193.01	805.88	284.20	-307.57	-34.70	2.42
910.51	43.77	192.99	809.47	287.40	-310.97	-35.49	4.50
915.51	43.16	193.07	813.10	290.57	-314.32	-36.26	3.62

920.51	44.20	193.15	816.71	293.75	-317.68	-37.05	6.24
925.51	45.58	193.16	820.25	297.01	-321.12	-37.85	8.24
930.51	45.53	193.20	823.75	300.30	-324.59	-38.66	0.34
935.51	45.44	193.28	827.26	303.59	-328.06	-39.48	0.64
940.51	45.34	193.25	830.77	306.87	-331.53	-40.30	0.62
945.51	44.61	193.32	834.31	310.14	-334.97	-41.11	4.40
950.51	43.76	193.39	837.89	313.35	-338.36	-41.91	5.11
955.51	43.42	193.51	841.52	316.54	-341.71	-42.71	2.13
960.51	43.60	193.59	845.14	319.72	-345.06	-43.52	1.14
965.51	44.16	193.55	848.75	322.93	-348.43	-44.33	3.36
970.51	44.02	193.55	852.34	326.14	-351.81	-45.15	0.79
975.51	43.65	193.60	855.94	329.35	-355.17	-45.96	2.27
980.51	43.71	193.61	859.56	332.54	-358.53	-46.77	0.36
985.51	44.46	193.61	863.15	335.76	-361.91	-47.59	4.55
990.51	46.26	193.72	866.67	339.05	-365.37	-48.43	10.78
995.51	47.82	193.79	870.07	342.44	-368.92	-49.30	9.38
1000.51	47.41	193.78	873.44	345.86	-372.51	-50.18	2.43
1005.51	45.39	193.87	876.89	349.21	-376.02	-51.05	12.15
1010.51	45.00	194.05	880.41	352.50	-379.47	-51.90	2.47
1015.51	46.96	194.17	883.89	355.84	-382.95	-52.78	11.78
1020.51	47.66	194.24	887.28	359.26	-386.52	-53.68	4.19
1025.51	47.02	194.30	890.67	362.67	-390.08	-54.59	3.84
1030.51	46.13	194.41	894.10	366.05	-393.60	-55.49	5.35
1035.51	47.80	194.51	897.52	369.45	-397.14	-56.40	10.01
1040.51	49.23	194.62	900.83	372.94	-400.76	-57.34	8.64
1045.51	48.94	194.76	904.10	376.46	-404.42	-58.30	1.89
1050.51	47.57	194.83	907.43	379.94	-408.02	-59.25	8.18
1055.51	46.63	194.98	910.84	383.36	-411.56	-60.20	5.69
1060.51	47.48	195.15	914.24	386.78	-415.10	-61.15	5.12
1065.51	48.72	195.19	917.58	390.26	-418.69	-62.12	7.44
1070.51	50.40	195.26	920.82	393.82	-422.36	-63.12	10.09
1075.51	49.88	195.37	924.03	397.41	-426.06	-64.14	3.12
1080.51	48.37	195.46	927.30	400.95	-429.71	-65.14	9.09
1085.51	48.59	195.55	930.62	404.46	-433.31	-66.14	1.39
1090.51	48.69	195.68	933.92	407.98	-436.93	-67.15	0.84
1095.51	48.54	195.78	937.22	411.50	-440.54	-68.17	0.99
1100.51	48.28	195.79	940.54	415.01	-444.14	-69.19	1.57
1105.51	49.58	195.82	943.83	418.55	-447.77	-70.21	7.82
1110.51	51.25	195.88	947.01	422.17	-451.47	-71.26	10.01
1115.51	50.39	195.98	950.17	425.81	-455.20	-72.33	5.22
1120.51	50.54	196.07	953.36	429.44	-458.91	-73.39	1.03
1125.51	51.51	196.13	956.50	433.09	-462.64	-74.47	5.79
1130.51	50.79	196.24	959.64	436.76	-466.38	-75.56	4.35
1135.51	51.17	196.28	962.78	440.42	-470.11	-76.64	2.29
1140.51	51.71	196.32	965.90	444.10	-473.86	-77.74	3.30
1145.51	51.97	196.41	968.99	447.80	-477.63	-78.85	1.56
1150.51	51.93	196.47	972.07	451.52	-481.41	-79.96	0.37
1155.51	52.26	196.56	975.14	455.24	-485.19	-81.09	2.01
1160.51	52.84	196.60	978.18	458.98	-489.00	-82.22	3.47
1165.51	52.88	196.61	981.20	462.74	-492.82	-83.36	0.23
1170.51	53.05	196.66	984.21	466.51	-496.64	-84.50	1.08
1175.51	53.37	196.74	987.21	470.29	-500.48	-85.65	1.94
1180.51	53.39	196.81	990.19	474.08	-504.32	-86.81	0.36
1185.51	53.13	196.90	993.18	477.87	-508.15	-87.97	1.59
1190.51	53.99	197.02	996.15	481.67	-512.00	-89.14	5.16
1195.51	53.49	196.97	999.11	485.49	-515.86	-90.32	2.98
1200.51	55.25	197.05	1002.02	489.33	-519.74	-91.51	10.56
1205.51	54.58	197.14	1004.90	493.20	-523.65	-92.71	4.06
1210.51	54.44	197.20	1007.80	497.06	-527.54	-93.92	0.87
1215.51	55.70	197.29	1010.66	500.94	-531.46	-95.13	7.52

1220.51	54.77	197.42	1013.51	504.83	-535.38	-96.36	5.59
1225.51	55.43	197.49	1016.37	508.72	-539.29	-97.59	3.98
1230.51	56.05	197.59	1019.19	512.65	-543.23	-98.83	3.72
1235.51	55.37	197.62	1022.01	516.57	-547.17	-100.08	4.03
1240.51	55.55	197.64	1024.84	520.48	-551.09	-101.33	1.07
1245.51	56.65	197.75	1027.63	524.42	-555.05	-102.59	6.63
1250.51	56.97	197.87	1030.37	528.40	-559.03	-103.87	1.97
1255.51	57.11	197.89	1033.09	532.38	-563.02	-105.16	0.86
1260.51	56.94	197.89	1035.81	536.37	-567.01	-106.45	1.00
1265.51	56.71	197.95	1038.54	540.35	-571.00	-107.73	1.44
1270.51	57.25	198.04	1041.27	544.34	-574.98	-109.03	3.26
1275.51	57.64	198.20	1043.96	548.35	-578.99	-110.34	2.50
1280.51	58.25	198.36	1046.61	552.39	-583.01	-111.67	3.74
1285.51	58.26	198.30	1049.24	556.45	-587.05	-113.01	0.30
1290.51	59.12	198.36	1051.84	560.52	-591.10	-114.35	5.14
1295.51	59.37	198.40	1054.40	564.61	-595.18	-115.70	1.52
1300.51	58.95	198.35	1056.96	568.71	-599.26	-117.06	2.50
1305.51	58.68	198.44	1059.55	572.79	-603.31	-118.41	1.71
1310.51	58.13	198.50	1062.17	576.85	-607.35	-119.76	3.32
1315.51	58.74	198.55	1064.79	580.91	-611.39	-121.11	3.67
1320.51	59.64	198.56	1067.35	585.01	-615.46	-122.48	5.41
1325.51	60.79	198.66	1069.83	589.15	-619.58	-123.86	6.91
1330.51	60.91	198.71	1072.27	593.32	-623.71	-125.26	0.76
1335.51	61.28	198.77	1074.69	597.51	-627.86	-126.67	2.28
1340.51	60.74	198.88	1077.11	601.69	-632.00	-128.08	3.31
1345.51	61.04	198.96	1079.54	605.86	-636.13	-129.49	1.85
1350.51	60.87	198.98	1081.97	610.04	-640.26	-130.92	1.02
1355.51	60.89	199.09	1084.40	614.22	-644.39	-132.34	0.57
1360.51	61.40	199.12	1086.81	618.42	-648.53	-133.77	3.08
1365.51	61.57	199.13	1089.20	622.62	-652.68	-135.21	1.00
1370.51	61.46	199.14	1091.59	626.83	-656.83	-136.65	0.66
1375.51	60.89	199.12	1094.00	631.02	-660.97	-138.09	3.42
1380.51	61.49	199.19	1096.41	635.22	-665.11	-139.53	3.61
1385.51	61.62	199.26	1098.79	639.43	-669.26	-140.97	0.86
1390.51	61.47	199.21	1101.17	643.64	-673.41	-142.42	0.94
1395.51	61.58	199.29	1103.55	647.85	-677.56	-143.87	0.81
1400.51	61.43	199.34	1105.94	652.06	-681.71	-145.32	0.99
1405.51	61.89	199.36	1108.31	656.28	-685.86	-146.78	2.78
1410.51	61.10	199.44	1110.70	660.49	-690.01	-148.24	4.75
1415.51	61.11	199.53	1113.12	664.69	-694.13	-149.70	0.46
1420.51	60.87	199.50	1115.54	668.88	-698.25	-151.16	1.42
1425.51	63.30	199.53	1117.88	673.12	-702.42	-152.64	14.60
1430.51	62.67	199.60	1120.15	677.39	-706.62	-154.13	3.82
1435.51	62.49	199.58	1122.45	681.65	-710.80	-155.62	1.09
1440.51	62.31	199.53	1124.77	685.90	-714.97	-157.10	1.10
1445.51	62.42	199.48	1127.09	690.15	-719.15	-158.58	0.69
1450.51	62.04	199.49	1129.42	694.40	-723.32	-160.06	2.32
1455.51	62.92	199.59	1131.73	698.65	-727.50	-161.54	5.34
1460.51	62.62	199.65	1134.02	702.92	-731.68	-163.03	1.81
1465.51	62.74	199.73	1136.31	707.18	-735.87	-164.53	0.81
1470.51	62.29	199.70	1138.62	711.44	-740.04	-166.03	2.70
1475.51	62.78	199.80	1140.93	715.70	-744.22	-167.53	2.99
1480.51	62.95	199.82	1143.21	719.98	-748.40	-169.03	1.01
1485.51	62.01	199.84	1145.52	724.24	-752.58	-170.54	5.63
1490.51	62.55	199.82	1147.84	728.49	-756.74	-172.04	3.23
1495.51	63.03	199.87	1150.13	732.76	-760.92	-173.55	2.88
1500.51	62.65	199.90	1152.41	737.04	-765.11	-175.06	2.25
1505.51	62.63	199.91	1154.71	741.31	-769.28	-176.57	0.13
1510.51	62.77	199.89	1157.00	745.58	-773.46	-178.09	0.84
1515.51	63.24	199.92	1159.27	749.86	-777.65	-179.60	2.81

1520.51	63.04	199.94	1161.53	754.15	-781.84	-181.12	1.17
1525.51	63.20	200.08	1163.79	758.43	-786.03	-182.65	1.20
1530.51	63.13	200.09	1166.05	762.73	-790.22	-184.18	0.38
1535.51	63.61	200.09	1168.29	767.03	-794.42	-185.72	2.85
1540.51	63.40	200.09	1170.52	771.33	-798.62	-187.25	1.26
1545.51	63.88	200.08	1172.74	775.64	-802.83	-188.79	2.85
1550.51	63.89	200.09	1174.94	779.96	-807.05	-190.33	0.09
1555.51	64.06	200.15	1177.14	784.28	-811.26	-191.88	1.11
1560.51	64.27	200.23	1179.31	788.61	-815.49	-193.43	1.32
1565.51	64.44	200.23	1181.48	792.95	-819.72	-194.99	0.97
1570.51	64.62	200.30	1183.63	797.30	-823.95	-196.56	1.15
1575.51	65.03	200.35	1185.76	801.66	-828.20	-198.13	2.51
1580.51	64.71	200.31	1187.88	806.02	-832.44	-199.70	1.95
1585.51	63.87	200.37	1190.05	810.36	-836.66	-201.27	5.03
1590.51	63.66	200.41	1192.26	814.68	-840.87	-202.83	1.30
1595.51	64.26	200.44	1194.45	819.01	-845.08	-204.40	3.60
1600.51	64.86	200.44	1196.60	823.36	-849.31	-205.97	3.63
1605.51	65.18	200.47	1198.71	827.73	-853.56	-207.56	1.94
1610.51	65.27	200.41	1200.81	832.10	-857.81	-209.14	0.57
1615.51	65.33	200.43	1202.90	836.48	-862.07	-210.73	0.41
1620.51	65.28	200.48	1204.99	840.86	-866.32	-212.32	0.46
1625.51	64.76	200.50	1207.10	845.23	-870.57	-213.90	3.12
1630.51	64.63	200.57	1209.24	849.58	-874.80	-215.49	0.85
1635.51	65.01	200.55	1211.36	853.95	-879.04	-217.08	2.25
1640.51	65.29	200.45	1213.46	858.32	-883.29	-218.67	1.78
1645.51	65.37	200.47	1215.55	862.70	-887.54	-220.25	0.51
1650.51	64.77	200.47	1217.66	867.07	-891.79	-221.84	3.61
1655.51	64.34	200.42	1219.81	871.42	-896.02	-223.42	2.60
1660.51	64.67	200.42	1221.96	875.77	-900.25	-224.99	1.94
1665.51	65.29	200.42	1224.07	880.14	-904.50	-226.57	3.76
1670.51	65.80	200.40	1226.14	884.52	-908.76	-228.16	3.03
1675.51	65.35	200.40	1228.21	888.91	-913.03	-229.74	2.66
1680.51	65.04	200.40	1230.31	893.28	-917.29	-231.33	1.88
1685.51	65.11	200.40	1232.42	897.65	-921.54	-232.91	0.45
1690.51	64.86	200.46	1234.53	902.01	-925.78	-234.49	1.55
1695.51	64.74	200.55	1236.66	906.38	-930.02	-236.07	0.87
1700.51	64.43	200.57	1238.80	910.73	-934.25	-237.66	1.86
1705.51	64.32	200.52	1240.97	915.08	-938.47	-239.24	0.71
1710.51	64.04	200.44	1243.14	919.42	-942.69	-240.82	1.72
1715.51	63.07	200.38	1245.37	923.73	-946.88	-242.38	5.84
1720.51	63.52	200.38	1247.62	928.03	-951.07	-243.93	2.70
1725.51	64.63	200.39	1249.80	932.36	-955.28	-245.50	6.67
1730.51	63.51	200.47	1251.99	936.70	-959.50	-247.07	6.76
1735.51	62.61	200.51	1254.26	940.99	-963.67	-248.63	5.36
1740.51	63.46	200.46	1256.52	945.29	-967.85	-250.19	5.09
1745.51	64.01	200.30	1258.74	949.61	-972.05	-251.75	3.42
1750.51	63.69	200.19	1260.94	953.93	-976.26	-253.30	2.04
1755.51	63.33	200.13	1263.17	958.24	-980.46	-254.85	2.20
1760.51	63.04	200.15	1265.42	962.53	-984.65	-256.38	1.72
1765.51	63.23	200.25	1267.68	966.82	-988.84	-257.92	1.25
1770.51	62.96	200.28	1269.95	971.12	-993.02	-259.47	1.62
1775.51	63.01	200.24	1272.22	975.41	-997.20	-261.01	0.36
1780.51	63.56	200.19	1274.46	979.71	-1001.39	-262.55	3.34
1785.51	62.49	200.19	1276.73	983.99	-1005.57	-264.09	6.46
1790.51	62.11	200.25	1279.06	988.26	-1009.73	-265.62	2.26
1795.51	63.39	200.26	1281.35	992.54	-1013.90	-267.16	7.63
1800.51	62.73	200.27	1283.61	996.83	-1018.08	-268.70	3.95
1805.51	62.49	200.25	1285.91	1001.10	-1022.24	-270.24	1.45
1810.51	63.09	200.25	1288.20	1005.38	-1026.42	-271.78	3.64
1815.51	63.31	200.26	1290.45	1009.68	-1030.60	-273.32	1.30

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1820.51	63.19	200.26	1292.70	1013.98	-1034.79	-274.87	0.72
1825.51	62.39	200.19	1294.99	1018.26	-1038.96	-276.41	4.79
1830.51	61.77	200.24	1297.33	1022.51	-1043.11	-277.93	3.76
1835.51	61.47	200.31	1299.71	1026.75	-1047.24	-279.46	1.87
1840.51	61.49	200.28	1302.09	1030.98	-1051.36	-280.98	0.23
1845.51	61.54	200.15	1304.48	1035.21	-1055.48	-282.50	0.73
1850.51	61.84	200.12	1306.85	1039.44	-1059.61	-284.02	1.86
1855.51	62.23	200.18	1309.19	1043.69	-1063.76	-285.54	2.37
1860.51	61.14	200.26	1311.57	1047.93	-1067.89	-287.06	6.57
1865.51	62.03	200.35	1313.95	1052.17	-1072.01	-288.58	5.38
1870.51	60.62	200.45	1316.34	1056.39	-1076.13	-290.11	8.48
1875.51	60.25	200.48	1318.81	1060.59	-1080.20	-291.63	2.26
1880.51	61.24	200.52	1321.25	1064.79	-1084.29	-293.16	5.93
1885.51	60.50	200.48	1323.69	1069.00	-1088.38	-294.69	4.43
1890.51	61.66	200.49	1326.11	1073.22	-1092.48	-296.22	6.94
1895.51	60.20	200.41	1328.54	1077.43	-1096.57	-297.75	8.73
1900.00	60.55	200.38	1330.76	1081.19	-1100.23	-299.11	2.32
1930.20	52.83	211.29	1347.36	1105.94	-1122.92	-309.98	11.85
1936.70	51.80	212.54	1351.34	1111.07	-1127.29	-312.70	6.59
1987.88	49.70	217.36	1383.73	1150.68	-1159.77	-335.37	2.51
2015.71	49.85	217.11	1401.70	1171.92	-1176.68	-348.22	0.26
2044.93	48.19	217.99	1420.86	1193.97	-1194.17	-361.67	1.84
2073.54	45.40	220.16	1440.45	1214.79	-1210.37	-374.80	3.36
2102.09	43.17	222.26	1460.89	1234.63	-1225.36	-387.93	2.80
2130.99	40.83	227.28	1482.37	1253.73	-1239.10	-401.52	4.25
2159.23	38.43	231.39	1504.12	1271.25	-1250.84	-415.17	3.77
2187.94	37.96	233.27	1526.68	1288.28	-1261.69	-429.22	1.31
2216.45	38.64	237.67	1549.06	1304.92	-1271.70	-443.77	2.96
2245.23	38.52	238.91	1571.56	1321.51	-1281.13	-459.04	0.82
2273.85	38.39	239.69	1593.97	1337.85	-1290.22	-474.34	0.53
2302.70	37.97	240.56	1616.65	1354.12	-1299.10	-489.80	0.71
2331.40	38.06	241.27	1639.26	1370.14	-1307.69	-505.25	0.47
2360.15	37.90	239.82	1661.93	1386.22	-1316.39	-520.65	0.95
2388.95	37.46	239.88	1684.72	1402.32	-1325.23	-535.88	0.46
2416.70	36.76	240.80	1706.85	1417.56	-1333.52	-550.42	0.97
2445.36	37.82	239.61	1729.65	1433.39	-1342.15	-565.49	1.34
2474.22	37.64	239.58	1752.48	1449.57	-1351.09	-580.72	0.19
2503.13	37.64	239.13	1775.37	1465.77	-1360.08	-595.91	0.29
2531.94	37.11	238.98	1798.26	1481.85	-1369.08	-610.91	0.56
2560.43	36.27	238.97	1821.11	1497.51	-1377.85	-625.50	0.88
2589.08	36.85	239.20	1844.12	1513.20	-1386.62	-640.14	0.62
2617.52	37.93	239.18	1866.72	1529.07	-1395.46	-654.97	1.14
2646.36	37.60	238.86	1889.52	1545.32	-1404.55	-670.11	0.40
2675.08	38.76	239.63	1912.09	1561.62	-1413.63	-685.37	1.31
2703.94	39.21	239.87	1934.52	1578.23	-1422.78	-701.05	0.49
2732.51	38.62	239.80	1956.75	1594.64	-1431.80	-716.57	0.62
2761.23	38.26	239.86	1979.25	1610.96	-1440.77	-732.01	0.38
2789.70	37.87	240.21	2001.66	1626.98	-1449.54	-747.21	0.47
2818.26	37.74	240.45	2024.23	1642.93	-1458.20	-762.43	0.21
2847.05	37.96	240.04	2046.96	1659.02	-1466.97	-777.76	0.35
2875.73	37.60	240.22	2069.63	1675.05	-1475.72	-793.00	0.39
2904.44	37.24	240.17	2092.43	1690.95	-1484.39	-808.14	0.38
2932.71	36.78	239.90	2115.01	1706.49	-1492.89	-822.88	0.52
2961.62	36.54	239.37	2138.20	1722.29	-1501.62	-837.77	0.41
2990.25	36.70	239.34	2161.18	1737.96	-1510.32	-852.46	0.17
3019.50	36.24	239.56	2184.70	1753.90	-1519.16	-867.44	0.49
3048.05	35.87	239.87	2207.78	1769.28	-1527.63	-881.95	0.43
3076.53	34.95	239.44	2230.99	1784.39	-1535.97	-896.19	1.00
3105.29	34.28	239.94	2254.66	1799.34	-1544.21	-910.29	0.76
3133.80	33.47	240.12	2278.33	1813.85	-1552.15	-924.06	0.86

	3162.74	33.21	239.82	2302.51	1828.37	-1560.11	-937.83	0.32
	3191.46	31.81	239.57	2326.73	1842.50	-1567.90	-951.16	1.47
	3219.71	30.67	238.89	2350.88	1855.95	-1575.39	-963.74	1.27
	3248.22	29.49	238.69	2375.55	1869.12	-1582.80	-975.97	1.25
	3277.07	28.75	238.21	2400.75	1882.09	-1590.14	-987.93	0.81
	3306.00	28.14	238.44	2426.19	1894.83	-1597.38	-999.66	0.64
	3334.70	26.79	238.86	2451.66	1907.04	-1604.27	-1010.96	1.43
	3363.41	25.74	239.37	2477.40	1918.72	-1610.79	-1021.86	1.12
	3392.17	24.49	240.28	2503.44	1929.88	-1616.93	-1032.41	1.36
	3420.72	22.92	240.55	2529.58	1940.32	-1622.59	-1042.39	1.65
	3449.22	21.66	241.28	2555.95	1950.12	-1627.85	-1051.84	1.36
	3477.72	20.41	241.48	2582.55	1959.36	-1632.75	-1060.82	1.32
	3507.52	19.99	241.52	2610.52	1968.64	-1637.66	-1069.86	0.42
	3535.90	20.01	241.39	2637.19	1977.40	-1642.30	-1078.39	0.05
	3564.39	19.41	242.05	2664.01	1986.05	-1646.85	-1086.85	0.67
	3593.49	18.05	242.73	2691.57	1994.42	-1651.18	-1095.13	1.42
Projection to TD.	3617.00	16.95	243.31	2713.99	2000.71	-1654.39	-1101.43	1.42

Survey Type: Raw Survey

Survey Error Model: SLB ISCWSA version 16 *** 3-D 95.00% Confidence 2.7955 sigma

Surveying Prog:

<u>MD From (m)</u>	<u>MD To (m)</u>	<u>EOU Freq</u>	<u>Survey Tool Type</u>
0.00	168.25	Act-Stns	SLB_PHOTO-MMS
168.25	1900.00	Act-Stns	SLB_CNSG+CASING
1900.00	1930.20	Act-Stns	SLB_NSJ+SSHOT
1930.20	3617.00	Act-Stns	SLB_MWD-STD

APPENDIX 1b

MARLIN A-22A

MD-TVD Survey Data Listing

Report Date:	25 October 2004
Well:	MARLIN A22A
Structure / Slot:	Marlin Rig 453 / 12
TVD Reference Datum:	Drillsite Elevation
TVD Reference Elevation:	27.91 m relative to MSL
Sea Bed / Ground Level Elevation:	-59.00 m relative to MSL
Grid Coordinate System:	GDA94/MGA94 Zone 55
Location Lat/Long:	S 38 13 49.232, E 148 13 15.815
Location Grid N/E:	N 5767922.76 m, E 606871.49 m
Survey Azimuth Reference:	Grid North

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
0	0.00	0.00	0.00	27.91	0.00	0.00	5767922.76	606871.49
5	0.06	344.09	5.00	22.91	0.00	-0.01	5767922.77	606871.49
10	0.12	326.37	10.00	17.91	0.01	-0.01	5767922.77	606871.48
15	0.19	308.66	15.00	12.91	0.01	-0.02	5767922.78	606871.47
20	0.14	321.06	20.00	7.91	0.02	-0.03	5767922.78	606871.46
25	0.08	338.78	25.00	2.91	0.03	-0.03	5767922.79	606871.46
30	0.01	356.49	30.00	-2.09	0.03	-0.04	5767922.79	606871.45
35	0.07	340.00	35.00	-7.09	0.03	-0.05	5767922.79	606871.44
40	0.15	315.07	40.00	-12.09	0.04	-0.06	5767922.80	606871.43
45	0.23	290.13	45.00	-17.09	0.04	-0.07	5767922.80	606871.42
50	0.25	269.40	50.00	-22.09	0.04	-0.09	5767922.80	606871.40
55	0.25	250.05	55.00	-27.09	0.03	-0.11	5767922.79	606871.38
60	0.25	230.69	60.00	-32.09	0.03	-0.13	5767922.79	606871.37
65	0.25	241.68	65.00	-37.09	0.02	-0.14	5767922.78	606871.35
70	0.25	265.30	70.00	-42.09	0.02	-0.16	5767922.78	606871.33
75	0.25	288.92	75.00	-47.09	0.02	-0.18	5767922.78	606871.31
80	0.24	282.54	80.00	-52.09	0.01	-0.19	5767922.78	606871.30
85	0.22	260.55	85.00	-57.09	0.01	-0.21	5767922.78	606871.28
90	0.21	238.57	90.00	-62.09	0.01	-0.23	5767922.77	606871.26
95	0.32	233.20	95.00	-67.09	0.00	-0.26	5767922.76	606871.23
100	0.52	238.45	100.00	-72.09	-0.02	-0.30	5767922.74	606871.20
105	0.71	243.70	105.00	-77.09	-0.04	-0.33	5767922.72	606871.16
110	0.76	255.77	110.00	-82.09	-0.05	-0.38	5767922.71	606871.11
115	0.70	273.16	115.00	-87.09	-0.05	-0.44	5767922.71	606871.05
120	0.63	290.55	120.00	-92.09	-0.05	-0.49	5767922.71	606871.00
125	0.67	291.58	125.00	-97.09	-0.05	-0.55	5767922.71	606870.94
130	0.80	277.14	130.00	-102.09	-0.05	-0.62	5767922.71	606870.87
135	0.93	262.71	135.00	-107.09	-0.05	-0.68	5767922.71	606870.81
140	0.97	255.61	140.00	-112.09	-0.06	-0.75	5767922.71	606870.74
145	0.92	256.92	145.00	-117.09	-0.07	-0.83	5767922.69	606870.66
150	0.86	258.24	150.00	-122.09	-0.09	-0.91	5767922.67	606870.58
155	0.96	253.01	154.99	-127.08	-0.13	-0.99	5767922.63	606870.51
160	1.26	238.66	159.99	-132.08	-0.20	-1.07	5767922.56	606870.43
165	1.56	224.32	164.99	-137.08	-0.27	-1.15	5767922.49	606870.35
170	1.84	211.56	169.99	-142.08	-0.38	-1.21	5767922.38	606870.28
175	2.11	201.74	174.99	-147.08	-0.56	-1.26	5767922.20	606870.23
180	2.38	191.92	179.98	-152.07	-0.74	-1.31	5767922.03	606870.19
185	2.64	182.10	184.98	-157.07	-0.91	-1.35	5767921.85	606870.14
190	2.98	176.61	189.97	-162.06	-1.16	-1.35	5767921.61	606870.14
195	2.99	175.65	194.97	-167.06	-1.42	-1.33	5767921.35	606870.16
200	3.11	176.03	199.96	-172.05	-1.68	-1.31	5767921.08	606870.18
205	3.18	175.77	204.95	-177.04	-1.95	-1.29	5767920.81	606870.20
210	3.23	175.26	209.94	-182.03	-2.23	-1.27	5767920.53	606870.22
215	3.19	173.62	214.94	-187.03	-2.51	-1.24	5767920.25	606870.25
220	3.31	173.53	219.93	-192.02	-2.79	-1.21	5767919.97	606870.28
225	3.47	174.46	224.92	-197.01	-3.09	-1.18	5767919.67	606870.31
230	3.65	176.12	229.91	-202.00	-3.40	-1.16	5767919.37	606870.33
235	3.73	175.40	234.90	-206.99	-3.72	-1.13	5767919.04	606870.36
240	3.83	175.40	239.89	-211.98	-4.05	-1.11	5767918.72	606870.39
245	3.94	175.03	244.88	-216.97	-4.38	-1.08	5767918.38	606870.41
250	4.15	175.56	249.86	-221.95	-4.73	-1.05	5767918.03	606870.44
255	4.39	177.08	254.85	-226.94	-5.11	-1.03	5767917.66	606870.47
260	4.60	178.22	259.84	-231.93	-5.50	-1.01	5767917.26	606870.48

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
265	4.67	177.58	264.82	-236.91	-5.90	-0.99	5767916.86	606870.50
270	5.10	178.77	269.80	-241.89	-6.33	-0.98	5767916.43	606870.51
275	5.30	178.65	274.78	-246.87	-6.78	-0.97	5767915.98	606870.52
280	5.45	179.78	279.76	-251.85	-7.25	-0.96	5767915.51	606870.53
285	5.77	180.91	284.73	-256.82	-7.74	-0.97	5767915.02	606870.52
290	5.81	180.85	289.71	-261.80	-8.24	-0.98	5767914.52	606870.52
295	6.15	181.88	294.68	-266.77	-8.76	-0.99	5767914.00	606870.50
300	6.41	182.83	299.65	-271.74	-9.31	-1.01	5767913.45	606870.48
305	6.71	183.04	304.62	-276.71	-9.88	-1.04	5767912.88	606870.45
310	6.86	183.08	309.58	-281.67	-10.47	-1.07	5767912.29	606870.42
315	7.20	183.79	314.55	-286.64	-11.08	-1.11	5767911.68	606870.38
320	7.50	184.67	319.51	-291.60	-11.72	-1.16	5767911.05	606870.34
325	7.95	184.60	324.46	-296.55	-12.39	-1.21	5767910.38	606870.28
330	8.33	185.12	329.41	-301.50	-13.09	-1.27	5767909.67	606870.22
335	8.72	185.75	334.35	-306.44	-13.83	-1.34	5767908.93	606870.15
340	8.99	186.32	339.29	-311.38	-14.60	-1.42	5767908.17	606870.07
345	9.50	186.67	344.23	-316.32	-15.39	-1.51	5767907.37	606869.98
350	9.90	186.89	349.16	-321.25	-16.23	-1.61	5767906.53	606869.88
355	10.39	187.26	354.08	-326.17	-17.11	-1.72	5767905.66	606869.77
360	10.74	187.75	358.99	-331.08	-18.01	-1.84	5767904.75	606869.65
365	10.88	187.88	363.91	-336.00	-18.94	-1.97	5767903.82	606869.52
370	11.20	188.14	368.81	-340.90	-19.89	-2.10	5767902.87	606869.39
375	11.56	188.58	373.72	-345.81	-20.87	-2.24	5767901.89	606869.25
380	11.90	188.85	378.61	-350.70	-21.87	-2.40	5767900.89	606869.09
385	12.26	189.36	383.50	-355.59	-22.90	-2.56	5767899.86	606868.93
390	12.50	189.64	388.38	-360.47	-23.96	-2.74	5767898.80	606868.75
395	12.87	190.02	393.26	-365.35	-25.04	-2.93	5767897.72	606868.56
400	13.25	190.50	398.13	-370.22	-26.16	-3.13	5767896.61	606868.36
405	13.59	190.69	403.00	-375.09	-27.30	-3.34	5767895.47	606868.15
410	13.38	190.20	407.86	-379.95	-28.44	-3.56	5767894.32	606867.94
415	14.02	191.19	412.72	-384.81	-29.61	-3.78	5767893.16	606867.72
420	14.50	191.85	417.56	-389.65	-30.81	-4.02	5767891.95	606867.47
425	14.83	191.86	422.40	-394.49	-32.05	-4.28	5767890.71	606867.21
430	15.46	192.32	427.22	-399.31	-33.33	-4.56	5767889.43	606866.94
435	15.67	192.68	432.04	-404.13	-34.64	-4.85	5767888.12	606866.65
440	16.37	192.80	436.85	-408.94	-35.98	-5.15	5767886.78	606866.34
445	16.93	193.64	441.64	-413.73	-37.38	-5.48	5767885.38	606866.01
450	17.43	193.51	446.41	-418.50	-38.81	-5.82	5767883.95	606865.67
455	17.80	193.66	451.18	-423.27	-40.29	-6.18	5767882.48	606865.31
460	18.52	194.28	455.93	-428.02	-41.80	-6.56	5767880.96	606864.94
465	19.00	194.62	460.67	-432.76	-43.35	-6.96	5767879.41	606864.53
470	19.41	194.62	465.39	-437.48	-44.95	-7.37	5767877.82	606864.12
475	19.49	194.70	470.10	-442.19	-46.56	-7.79	5767876.21	606863.70
480	20.33	195.00	474.80	-446.89	-48.20	-8.23	5767874.56	606863.26
485	20.86	195.12	479.48	-451.57	-49.90	-8.69	5767872.86	606862.80
490	21.38	195.14	484.15	-456.24	-51.64	-9.16	5767871.12	606862.33
495	21.95	195.36	488.79	-460.88	-53.42	-9.64	5767869.34	606861.85
500	22.56	195.43	493.42	-465.51	-55.25	-10.15	5767867.52	606861.35
505	23.26	195.35	498.03	-470.12	-57.12	-10.66	5767865.64	606860.83
510	23.76	195.07	502.61	-474.70	-59.05	-11.19	5767863.71	606860.31
515	24.48	195.05	507.18	-479.27	-61.02	-11.72	5767861.74	606859.77
520	24.96	194.70	511.72	-483.81	-63.04	-12.25	5767859.72	606859.24
525	25.73	194.69	516.24	-488.33	-65.11	-12.80	5767857.65	606858.69
530	26.44	194.66	520.73	-492.82	-67.24	-13.35	5767855.52	606858.14
535	27.15	194.52	525.19	-497.28	-69.42	-13.92	5767853.34	606857.57
540	27.43	194.10	529.63	-501.72	-71.64	-14.49	5767851.12	606857.00
545	28.41	194.51	534.05	-506.14	-73.91	-15.07	5767848.85	606856.42
550	29.31	194.52	538.43	-510.52	-76.25	-15.67	5767846.52	606855.82
555	28.82	193.96	542.80	-514.89	-78.60	-16.27	5767844.16	606855.22
560	30.71	194.00	547.14	-519.23	-81.01	-16.87	5767841.75	606854.62
565	30.48	193.72	551.44	-523.53	-83.48	-17.48	5767839.28	606854.01
570	31.45	193.82	555.73	-527.82	-85.98	-18.09	5767836.78	606853.40
575	32.13	193.87	559.98	-532.07	-88.53	-18.72	5767834.23	606852.77
580	32.31	193.53	564.21	-536.30	-91.12	-19.35	5767831.64	606852.14
585	32.92	193.37	568.42	-540.51	-93.75	-19.98	5767829.02	606851.51
590	33.40	193.23	572.61	-544.70	-96.41	-20.61	5767826.35	606850.88

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
595	33.98	193.15	576.77	-548.86	-99.11	-21.24	5767823.65	606850.25
600	35.76	193.58	580.87	-552.96	-101.89	-21.90	5767820.87	606849.59
605	36.39	193.36	584.91	-557.00	-104.75	-22.59	5767818.01	606848.90
610	37.01	193.29	588.92	-561.01	-107.66	-23.28	5767815.10	606848.22
615	37.26	193.15	592.91	-565.00	-110.60	-23.97	5767812.16	606847.52
620	37.54	193.09	596.88	-568.97	-113.56	-24.66	5767809.21	606846.84
625	38.49	193.12	600.82	-572.91	-116.56	-25.35	5767806.21	606846.14
630	39.47	193.05	604.70	-576.79	-119.62	-26.07	5767803.14	606845.43
635	40.15	193.02	608.54	-580.63	-122.74	-26.79	5767800.02	606844.70
640	40.81	192.87	612.35	-584.44	-125.90	-27.52	5767796.86	606843.98
645	40.84	192.72	616.13	-588.22	-129.09	-28.24	5767793.67	606843.25
650	40.33	192.63	619.93	-592.02	-132.26	-28.95	5767790.50	606842.54
655	40.37	192.51	623.74	-595.83	-135.42	-29.66	5767787.34	606841.83
660	39.49	192.42	627.57	-599.66	-138.56	-30.35	5767784.21	606841.14
665	39.96	192.23	631.42	-603.51	-141.68	-31.03	5767781.08	606840.46
670	41.04	192.04	635.22	-607.31	-144.85	-31.72	5767777.91	606839.78
675	43.11	192.15	638.93	-611.02	-148.13	-32.42	5767774.63	606839.07
680	43.90	192.13	642.56	-614.65	-151.49	-33.14	5767771.27	606838.35
685	42.03	192.00	646.22	-618.31	-154.82	-33.85	5767767.94	606837.64
690	41.38	192.03	649.95	-622.04	-158.08	-34.55	5767764.68	606836.95
695	41.90	192.00	653.69	-625.78	-161.33	-35.24	5767761.43	606836.25
700	42.45	191.97	657.39	-629.48	-164.61	-35.94	5767758.15	606835.56
705	41.47	191.94	661.11	-633.20	-167.88	-36.63	5767754.88	606834.86
710	41.24	191.86	664.86	-636.95	-171.11	-37.31	5767751.65	606834.18
715	41.13	191.78	668.63	-640.72	-174.34	-37.98	5767748.42	606833.51
720	41.28	191.79	672.39	-644.48	-177.56	-38.66	5767745.20	606832.84
725	41.45	191.80	676.14	-648.23	-180.80	-39.33	5767741.97	606832.16
730	41.61	191.84	679.88	-651.97	-184.04	-40.01	5767738.72	606831.48
735	41.77	191.89	683.62	-655.71	-187.30	-40.70	5767735.47	606830.80
740	42.32	191.85	687.33	-659.42	-190.57	-41.38	5767732.19	606830.11
745	42.91	191.80	691.01	-663.10	-193.89	-42.08	5767728.87	606829.41
750	43.50	191.64	694.65	-666.74	-197.24	-42.77	5767725.52	606828.72
755	45.01	191.59	698.23	-670.32	-200.66	-43.47	5767722.11	606828.02
760	44.48	191.75	701.79	-673.88	-204.10	-44.19	5767718.66	606827.31
765	43.61	191.95	705.38	-677.47	-207.50	-44.90	5767715.26	606826.59
770	43.46	191.96	709.00	-681.09	-210.87	-45.61	5767711.89	606825.88
775	43.42	191.93	712.64	-684.73	-214.24	-46.33	5767708.52	606825.17
780	42.94	191.68	716.28	-688.37	-217.59	-47.03	5767705.17	606824.47
785	42.79	191.65	719.95	-692.04	-220.92	-47.71	5767701.84	606823.78
790	42.73	191.68	723.62	-695.71	-224.24	-48.40	5767698.52	606823.09
795	43.56	191.59	727.27	-699.36	-227.59	-49.09	5767695.17	606822.40
800	43.19	191.65	730.90	-702.99	-230.95	-49.78	5767691.81	606821.71
805	42.50	191.75	734.56	-706.65	-234.28	-50.47	5767688.48	606821.02
810	42.97	191.75	738.24	-710.33	-237.61	-51.16	5767685.16	606820.33
815	43.72	191.72	741.87	-713.96	-240.97	-51.86	5767681.79	606819.63
820	42.76	191.80	745.52	-717.61	-244.32	-52.56	5767678.44	606818.93
825	43.81	191.84	749.16	-721.25	-247.68	-53.26	5767675.09	606818.23
830	46.01	191.89	752.70	-724.79	-251.13	-53.99	5767671.63	606817.51
835	46.12	191.94	756.17	-728.26	-254.65	-54.73	5767668.11	606816.76
840	44.29	192.17	759.69	-731.78	-258.12	-55.47	5767664.64	606816.02
845	43.07	192.31	763.30	-735.39	-261.50	-56.20	5767661.26	606815.29
850	44.16	192.35	766.92	-739.01	-264.87	-56.94	5767657.89	606814.55
855	44.38	192.45	770.50	-742.59	-268.27	-57.69	5767654.49	606813.80
860	43.36	192.48	774.11	-746.20	-271.66	-58.43	5767651.10	606813.06
865	43.92	192.55	777.73	-749.82	-275.03	-59.18	5767647.73	606812.31
870	45.14	192.60	781.29	-753.38	-278.45	-59.95	5767644.31	606811.55
875	46.46	192.58	784.78	-756.87	-281.95	-60.73	5767640.81	606810.76
880	46.99	192.66	788.20	-760.29	-285.50	-61.52	5767637.26	606809.97
885	46.69	192.71	791.62	-763.71	-289.06	-62.32	5767633.70	606809.17
890	46.78	192.74	795.05	-767.14	-292.61	-63.13	5767630.15	606808.37
895	46.52	192.80	798.48	-770.57	-296.15	-63.93	5767626.61	606807.56
900	45.08	192.96	801.97	-774.06	-299.65	-64.73	5767623.11	606806.76
905	44.56	193.01	805.52	-777.61	-303.08	-65.52	5767619.68	606805.97
910	43.85	192.99	809.10	-781.19	-306.48	-66.30	5767616.28	606805.19
915	43.22	193.06	812.72	-784.81	-309.84	-67.08	5767612.93	606804.41
920	44.09	193.14	816.34	-788.43	-313.20	-67.86	5767609.56	606803.63

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
925	45.44	193.16	819.89	-791.98	-316.63	-68.67	5767606.14	606802.83
930	45.54	193.20	823.40	-795.49	-320.10	-69.48	5767602.66	606802.01
935	45.45	193.27	826.90	-798.99	-323.57	-70.29	5767599.19	606801.20
940	45.35	193.25	830.41	-802.50	-327.03	-71.11	5767595.73	606800.38
945	44.68	193.31	833.95	-806.04	-330.48	-71.92	5767592.29	606799.57
950	43.85	193.38	837.53	-809.62	-333.87	-72.73	5767588.89	606798.76
955	43.45	193.50	841.15	-813.24	-337.23	-73.53	5767585.53	606797.96
960	43.58	193.58	844.77	-816.86	-340.57	-74.34	5767582.19	606797.15
965	44.10	193.55	848.38	-820.47	-343.94	-75.15	5767578.82	606796.34
970	44.03	193.55	851.97	-824.06	-347.32	-75.96	5767575.44	606795.53
975	43.69	193.59	855.58	-827.67	-350.69	-76.78	5767572.07	606794.71
980	43.70	193.61	859.19	-831.28	-354.05	-77.59	5767568.71	606793.90
985	44.38	193.61	862.78	-834.87	-357.43	-78.41	5767565.34	606793.08
990	46.08	193.71	866.31	-838.40	-360.88	-79.25	5767561.89	606792.25
995	47.66	193.78	869.72	-841.81	-364.42	-80.11	5767558.34	606791.38
1000	47.45	193.78	873.10	-845.19	-368.00	-80.99	5767554.76	606790.50
1005	45.60	193.86	876.54	-848.63	-371.53	-81.86	5767551.24	606789.63
1010	45.04	194.03	880.05	-852.14	-374.98	-82.72	5767547.78	606788.78
1015	46.76	194.16	883.53	-855.62	-378.46	-83.59	5767544.30	606787.90
1020	47.59	194.23	886.93	-859.02	-382.01	-84.49	5767540.75	606787.00
1025	47.09	194.29	890.32	-862.41	-385.58	-85.39	5767537.18	606786.10
1030	46.22	194.40	893.75	-865.84	-389.10	-86.30	5767533.66	606785.20
1035	47.63	194.50	897.17	-869.26	-392.64	-87.21	5767530.13	606784.28
1040	49.08	194.61	900.49	-872.58	-396.25	-88.15	5767526.51	606783.35
1045	48.97	194.75	903.77	-875.86	-399.90	-89.10	5767522.86	606782.39
1050	47.71	194.82	907.09	-879.18	-403.52	-90.06	5767519.25	606781.44
1055	46.73	194.96	910.49	-882.58	-407.06	-91.00	5767515.70	606780.49
1060	47.39	195.13	913.89	-885.98	-410.60	-91.95	5767512.16	606779.54
1065	48.59	195.19	917.24	-889.33	-414.18	-92.92	5767508.58	606778.57
1070	50.23	195.25	920.49	-892.58	-417.85	-93.92	5767504.91	606777.57
1075	49.93	195.36	923.70	-895.79	-421.54	-94.93	5767501.22	606776.56
1080	48.52	195.45	926.97	-899.06	-425.20	-95.94	5767497.57	606775.56
1085	48.57	195.54	930.28	-902.37	-428.81	-96.94	5767493.95	606774.55
1090	48.68	195.67	933.58	-905.67	-432.42	-97.95	5767490.34	606773.55
1095	48.56	195.77	936.89	-908.98	-436.03	-98.96	5767486.73	606772.53
1100	48.31	195.79	940.20	-912.29	-439.63	-99.98	5767483.13	606771.51
1105	49.45	195.82	943.49	-915.58	-443.26	-101.01	5767479.51	606770.49
1110	51.08	195.87	946.69	-918.78	-446.95	-102.06	5767475.81	606769.44
1115	50.48	195.97	949.85	-921.94	-450.68	-103.12	5767472.08	606768.37
1120	50.52	196.06	953.03	-925.12	-454.39	-104.18	5767468.37	606767.31
1125	51.41	196.12	956.18	-928.27	-458.12	-105.26	5767464.64	606766.23
1130	50.86	196.23	959.32	-931.41	-461.86	-106.34	5767460.90	606765.15
1135	51.13	196.28	962.46	-934.55	-465.59	-107.43	5767457.17	606764.06
1140	51.65	196.32	965.58	-937.67	-469.34	-108.53	5767453.42	606762.96
1145	51.94	196.40	968.67	-940.76	-473.11	-109.63	5767449.65	606761.86
1150	51.93	196.46	971.76	-943.85	-476.89	-110.75	5767445.88	606760.74
1155	52.23	196.55	974.83	-946.92	-480.67	-111.87	5767442.09	606759.62
1160	52.78	196.60	977.87	-949.96	-484.47	-113.00	5767438.29	606758.49
1165	52.88	196.61	980.90	-952.99	-488.29	-114.14	5767434.47	606757.35
1170	53.03	196.65	983.91	-956.00	-492.11	-115.28	5767430.65	606756.21
1175	53.34	196.73	986.90	-958.99	-495.95	-116.43	5767426.82	606755.06
1180	53.39	196.80	989.89	-961.98	-499.79	-117.59	5767422.97	606753.90
1185	53.16	196.89	992.88	-964.97	-503.62	-118.75	5767419.14	606752.74
1190	53.90	197.01	995.85	-967.94	-507.47	-119.92	5767415.29	606751.57
1195	53.54	196.98	998.81	-970.90	-511.32	-121.10	5767411.44	606750.39
1200	55.07	197.04	1001.72	-973.81	-515.21	-122.29	5767407.56	606749.20
1205	54.65	197.13	1004.60	-976.69	-519.11	-123.49	5767403.65	606748.00
1210	54.45	197.19	1007.50	-979.59	-523.01	-124.69	5767399.76	606746.80
1215	55.57	197.28	1010.37	-982.46	-526.92	-125.90	5767395.84	606745.59
1220	54.86	197.41	1013.22	-985.31	-530.84	-127.13	5767391.92	606744.36
1225	55.36	197.48	1016.08	-988.17	-534.75	-128.36	5767388.01	606743.13
1230	55.99	197.58	1018.90	-990.99	-538.69	-129.60	5767384.07	606741.89
1235	55.44	197.62	1021.72	-993.81	-542.63	-130.85	5767380.14	606740.64
1240	55.53	197.64	1024.55	-996.64	-546.55	-132.10	5767376.21	606739.39
1245	56.54	197.74	1027.34	-999.43	-550.50	-133.36	5767372.26	606738.13
1250	56.94	197.86	1030.09	-1002.18	-554.48	-134.64	5767368.28	606736.86

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
1255	57.10	197.89	1032.81	-1004.90	-558.48	-135.92	5767364.29	606735.57
1260	56.96	197.89	1035.53	-1007.62	-562.47	-137.21	5767360.29	606734.28
1265	56.73	197.94	1038.26	-1010.35	-566.45	-138.50	5767356.31	606732.99
1270	57.19	198.03	1040.99	-1013.08	-570.44	-139.79	5767352.32	606731.70
1275	57.60	198.18	1043.68	-1015.77	-574.44	-141.10	5767348.32	606730.39
1280	58.19	198.34	1046.34	-1018.43	-578.46	-142.43	5767344.30	606729.06
1285	58.26	198.31	1048.97	-1021.06	-582.50	-143.77	5767340.26	606727.72
1290	59.03	198.35	1051.58	-1023.67	-586.55	-145.11	5767336.21	606726.38
1295	59.34	198.40	1054.14	-1026.23	-590.63	-146.46	5767332.14	606725.03
1300	58.99	198.36	1056.70	-1028.79	-594.70	-147.82	5767328.06	606723.68
1305	58.71	198.43	1059.29	-1031.38	-598.76	-149.17	5767324.00	606722.33
1310	58.19	198.49	1061.90	-1033.99	-602.80	-150.52	5767319.96	606720.98
1315	58.68	198.54	1064.52	-1036.61	-606.84	-151.87	5767315.92	606719.62
1320	59.55	198.56	1067.09	-1039.18	-610.91	-153.23	5767311.85	606718.26
1325	60.67	198.65	1069.58	-1041.67	-615.02	-154.62	5767307.74	606716.87
1330	60.90	198.70	1072.02	-1044.11	-619.15	-156.02	5767303.61	606715.48
1335	61.24	198.76	1074.44	-1046.53	-623.30	-157.42	5767299.46	606714.07
1340	60.80	198.87	1076.86	-1048.95	-627.44	-158.83	5767295.32	606712.66
1345	61.01	198.95	1079.29	-1051.38	-631.57	-160.25	5767291.19	606711.24
1350	60.89	198.98	1081.72	-1053.81	-635.70	-161.67	5767287.06	606709.82
1355	60.89	199.08	1084.15	-1056.24	-639.83	-163.09	5767282.93	606708.40
1360	61.35	199.12	1086.57	-1058.66	-643.97	-164.52	5767278.79	606706.97
1365	61.55	199.13	1088.96	-1061.05	-648.12	-165.96	5767274.64	606705.53
1370	61.47	199.14	1091.34	-1063.43	-652.27	-167.40	5767270.49	606704.09
1375	60.95	199.12	1093.75	-1065.84	-656.41	-168.84	5767266.35	606702.65
1380	61.43	199.18	1096.16	-1068.25	-660.55	-170.28	5767262.21	606701.22
1385	61.61	199.25	1098.54	-1070.63	-664.70	-171.72	5767258.06	606699.77
1390	61.49	199.22	1100.93	-1073.02	-668.85	-173.17	5767253.91	606698.32
1395	61.57	199.28	1103.31	-1075.40	-673.00	-174.62	5767249.76	606696.87
1400	61.45	199.33	1105.69	-1077.78	-677.15	-176.07	5767245.61	606695.42
1405	61.84	199.36	1108.07	-1080.16	-681.30	-177.53	5767241.46	606693.96
1410	61.18	199.43	1110.45	-1082.54	-685.44	-178.99	5767237.32	606692.50
1415	61.11	199.52	1112.87	-1084.96	-689.57	-180.45	5767233.19	606691.04
1420	60.89	199.50	1115.29	-1087.38	-693.70	-181.91	5767229.07	606689.58
1425	63.05	199.53	1117.64	-1089.73	-697.85	-183.39	5767224.91	606688.11
1430	62.73	199.59	1119.92	-1092.01	-702.05	-184.88	5767220.71	606686.62
1435	62.51	199.58	1122.22	-1094.31	-706.23	-186.36	5767216.53	606685.13
1440	62.33	199.54	1124.53	-1096.62	-710.41	-187.85	5767212.35	606683.64
1445	62.41	199.49	1126.85	-1098.94	-714.58	-189.33	5767208.18	606682.16
1450	62.08	199.49	1129.18	-1101.27	-718.75	-190.80	5767204.01	606680.69
1455	62.83	199.58	1131.49	-1103.58	-722.93	-192.29	5767199.83	606679.21
1460	62.65	199.64	1133.78	-1105.87	-727.12	-193.78	5767195.64	606677.71
1465	62.73	199.72	1136.08	-1108.17	-731.30	-195.27	5767191.46	606676.22
1470	62.34	199.70	1138.38	-1110.47	-735.48	-196.77	5767187.28	606674.72
1475	62.73	199.79	1140.69	-1112.78	-739.65	-198.27	5767183.11	606673.22
1480	62.93	199.82	1142.97	-1115.06	-743.84	-199.78	5767178.92	606671.72
1485	62.11	199.84	1145.28	-1117.37	-748.01	-201.28	5767174.75	606670.21
1490	62.49	199.82	1147.60	-1119.69	-752.18	-202.78	5767170.58	606668.71
1495	62.98	199.86	1149.89	-1121.98	-756.36	-204.29	5767166.40	606667.20
1500	62.69	199.90	1152.18	-1124.27	-760.54	-205.80	5767162.22	606665.69
1505	62.63	199.91	1154.47	-1126.56	-764.72	-207.32	5767158.04	606664.18
1510	62.76	199.89	1156.77	-1128.86	-768.89	-208.83	5767153.87	606662.66
1515	63.19	199.92	1159.04	-1131.13	-773.08	-210.34	5767149.68	606661.15
1520	63.06	199.94	1161.30	-1133.39	-777.27	-211.86	5767145.49	606659.63
1525	63.18	200.07	1163.56	-1135.65	-781.47	-213.39	5767141.30	606658.10
1530	63.14	200.09	1165.82	-1137.91	-785.66	-214.92	5767137.11	606656.57
1535	63.56	200.09	1168.06	-1140.15	-789.85	-216.46	5767132.91	606655.04
1540	63.42	200.09	1170.29	-1142.38	-794.05	-217.99	5767128.71	606653.50
1545	63.83	200.08	1172.51	-1144.60	-798.26	-219.53	5767124.50	606651.96
1550	63.89	200.09	1174.72	-1146.81	-802.48	-221.07	5767120.28	606650.42
1555	64.04	200.14	1176.91	-1149.00	-806.70	-222.62	5767116.07	606648.87
1560	64.25	200.22	1179.09	-1151.18	-810.92	-224.17	5767111.84	606647.32
1565	64.42	200.23	1181.26	-1153.35	-815.15	-225.73	5767107.61	606645.76
1570	64.60	200.29	1183.41	-1155.50	-819.38	-227.29	5767103.38	606644.20
1575	64.99	200.34	1185.54	-1157.63	-823.62	-228.86	5767099.14	606642.63
1580	64.74	200.31	1187.66	-1159.75	-827.87	-230.44	5767094.89	606641.06

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
1585	63.96	200.36	1189.82	-1161.91	-832.10	-232.00	5767090.67	606639.49
1590	63.68	200.41	1192.03	-1164.12	-836.30	-233.56	5767086.46	606637.93
1595	64.20	200.44	1194.23	-1166.32	-840.51	-235.13	5767082.25	606636.36
1600	64.80	200.44	1196.38	-1168.47	-844.74	-236.71	5767078.02	606634.78
1605	65.15	200.47	1198.50	-1170.59	-848.98	-238.29	5767073.78	606633.20
1610	65.26	200.42	1200.59	-1172.68	-853.24	-239.88	5767069.52	606631.62
1615	65.32	200.43	1202.68	-1174.77	-857.49	-241.46	5767065.27	606630.03
1620	65.29	200.47	1204.77	-1176.86	-861.75	-243.05	5767061.01	606628.44
1625	64.81	200.50	1206.88	-1178.97	-866.00	-244.64	5767056.76	606626.86
1630	64.64	200.56	1209.02	-1181.11	-870.23	-246.22	5767052.53	606625.27
1635	64.97	200.55	1211.14	-1183.23	-874.47	-247.81	5767048.29	606623.68
1640	65.26	200.46	1213.25	-1185.34	-878.72	-249.40	5767044.05	606622.09
1645	65.36	200.47	1215.34	-1187.43	-882.97	-250.99	5767039.79	606620.50
1650	64.83	200.47	1217.44	-1189.53	-887.22	-252.57	5767035.54	606618.92
1655	64.38	200.43	1219.59	-1191.68	-891.45	-254.15	5767031.31	606617.34
1660	64.64	200.42	1221.74	-1193.83	-895.68	-255.73	5767027.08	606615.77
1665	65.23	200.42	1223.86	-1195.95	-899.93	-257.31	5767022.83	606614.19
1670	65.75	200.40	1225.93	-1198.02	-904.19	-258.89	5767018.57	606612.60
1675	65.40	200.40	1228.00	-1200.09	-908.46	-260.48	5767014.30	606611.01
1680	65.07	200.40	1230.09	-1202.18	-912.71	-262.06	5767010.05	606609.43
1685	65.10	200.40	1232.20	-1204.29	-916.96	-263.64	5767005.80	606607.85
1690	64.89	200.45	1234.31	-1206.40	-921.21	-265.22	5767001.55	606606.27
1695	64.75	200.54	1236.44	-1208.53	-925.45	-266.81	5766997.31	606604.68
1700	64.46	200.57	1238.58	-1210.67	-929.68	-268.39	5766993.08	606603.10
1705	64.33	200.53	1240.74	-1212.83	-933.90	-269.98	5766988.86	606601.51
1710	64.07	200.45	1242.92	-1215.01	-938.12	-271.55	5766984.64	606599.94
1715	63.17	200.39	1245.14	-1217.23	-942.32	-273.12	5766980.45	606598.38
1720	63.47	200.38	1247.39	-1219.48	-946.50	-274.67	5766976.26	606596.82
1725	64.52	200.39	1249.58	-1221.67	-950.71	-276.24	5766972.05	606595.26
1730	63.62	200.46	1251.77	-1223.86	-954.93	-277.81	5766967.83	606593.69
1735	62.70	200.51	1254.02	-1226.11	-959.11	-279.37	5766963.65	606592.13
1740	63.37	200.47	1256.29	-1228.38	-963.28	-280.93	5766959.48	606590.56
1745	63.95	200.32	1258.51	-1230.60	-967.48	-282.49	5766955.28	606589.00
1750	63.72	200.20	1260.71	-1232.80	-971.69	-284.04	5766951.07	606587.45
1755	63.37	200.14	1262.94	-1235.03	-975.90	-285.59	5766946.87	606585.91
1760	63.07	200.15	1265.19	-1237.28	-980.09	-287.12	5766942.68	606584.37
1765	63.21	200.24	1267.45	-1239.54	-984.27	-288.66	5766938.49	606582.83
1770	62.99	200.28	1269.71	-1241.80	-988.46	-290.21	5766934.31	606581.29
1775	63.00	200.24	1271.98	-1244.07	-992.63	-291.75	5766930.13	606579.74
1780	63.50	200.20	1274.23	-1246.32	-996.82	-293.29	5766925.94	606578.20
1785	62.60	200.19	1276.50	-1248.59	-1001.01	-294.83	5766921.75	606576.66
1790	62.15	200.24	1278.82	-1250.91	-1005.16	-296.36	5766917.60	606575.13
1795	63.26	200.26	1281.11	-1253.20	-1009.33	-297.90	5766913.43	606573.59
1800	62.80	200.27	1283.38	-1255.47	-1013.51	-299.44	5766909.25	606572.05
1805	62.51	200.25	1285.68	-1257.77	-1017.68	-300.98	5766905.08	606570.51
1810	63.03	200.25	1287.96	-1260.05	-1021.85	-302.52	5766900.91	606568.97
1815	63.29	200.26	1290.22	-1262.31	-1026.04	-304.06	5766896.73	606567.43
1820	63.20	200.26	1292.47	-1264.56	-1030.23	-305.61	5766892.54	606565.88
1825	62.47	200.20	1294.75	-1266.84	-1034.40	-307.15	5766888.36	606564.34
1830	61.83	200.23	1297.09	-1269.18	-1038.55	-308.68	5766884.21	606562.82
1835	61.50	200.30	1299.46	-1271.55	-1042.68	-310.20	5766880.09	606561.29
1840	61.49	200.28	1301.85	-1273.94	-1046.80	-311.72	5766875.96	606559.77
1845	61.53	200.16	1304.23	-1276.32	-1050.92	-313.24	5766871.84	606558.25
1850	61.81	200.12	1306.61	-1278.70	-1055.05	-314.76	5766867.71	606556.73
1855	62.19	200.17	1308.95	-1281.04	-1059.20	-316.28	5766863.56	606555.21
1860	61.25	200.25	1311.32	-1283.41	-1063.33	-317.80	5766859.43	606553.69
1865	61.94	200.34	1313.70	-1285.79	-1067.45	-319.33	5766855.31	606552.17
1870	60.76	200.44	1316.10	-1288.19	-1071.57	-320.86	5766851.19	606550.64
1875	60.29	200.48	1318.56	-1290.65	-1075.65	-322.38	5766847.12	606549.11
1880	61.14	200.52	1321.00	-1293.09	-1079.73	-323.90	5766843.03	606547.59
1885	60.58	200.48	1323.44	-1295.53	-1083.82	-325.43	5766838.94	606546.06
1890	61.54	200.49	1325.86	-1297.95	-1087.92	-326.96	5766834.84	606544.53
1895	60.35	200.42	1328.29	-1300.38	-1092.01	-328.49	5766830.75	606543.00
1900	60.55	200.38	1330.76	-1302.85	-1096.09	-330.01	5766826.67	606541.48
1905	59.27	202.19	1333.50	-1305.59	-1099.85	-331.81	5766822.91	606539.68
1910	57.99	203.99	1336.25	-1308.34	-1103.60	-333.61	5766819.16	606537.89

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
1915	56.72	205.80	1339.00	-1311.09	-1107.36	-335.41	5766815.40	606536.09
1920	55.44	207.61	1341.75	-1313.84	-1111.12	-337.20	5766811.64	606534.29
1925	54.16	209.41	1344.50	-1316.59	-1114.87	-339.00	5766807.89	606532.49
1930	52.88	211.22	1347.25	-1319.34	-1118.63	-340.80	5766804.13	606530.69
1935	52.07	212.21	1350.30	-1322.39	-1122.00	-342.88	5766800.76	606528.61
1940	51.66	212.85	1353.42	-1325.51	-1125.24	-345.06	5766797.52	606526.44
1945	51.46	213.32	1356.59	-1328.68	-1128.41	-347.27	5766794.35	606524.22
1950	51.25	213.79	1359.75	-1331.84	-1131.59	-349.49	5766791.17	606522.01
1955	51.05	214.26	1362.92	-1335.01	-1134.76	-351.70	5766788.00	606519.79
1960	50.84	214.73	1366.08	-1338.17	-1137.93	-353.91	5766784.83	606517.58
1965	50.64	215.21	1369.25	-1341.34	-1141.11	-356.13	5766781.65	606515.36
1970	50.43	215.68	1372.41	-1344.50	-1144.28	-358.34	5766778.48	606513.15
1971	50.39	215.77	1373.04	-1345.13	-1144.91	-358.79	5766777.85	606512.70
1972	50.35	215.86	1373.68	-1345.77	-1145.55	-359.23	5766777.21	606512.26
1973	50.31	215.96	1374.31	-1346.40	-1146.18	-359.67	5766776.58	606511.82
1974	50.27	216.05	1374.94	-1347.03	-1146.82	-360.12	5766775.94	606511.38
1975	50.23	216.15	1375.58	-1347.67	-1147.45	-360.56	5766775.31	606510.93
1976	50.19	216.24	1376.21	-1348.30	-1148.09	-361.00	5766774.67	606510.49
1977	50.15	216.34	1376.84	-1348.93	-1148.72	-361.44	5766774.04	606510.05
1978	50.11	216.43	1377.47	-1349.56	-1149.36	-361.89	5766773.40	606509.60
1979	50.06	216.52	1378.11	-1350.20	-1149.99	-362.33	5766772.77	606509.16
1980	50.02	216.62	1378.74	-1350.83	-1150.63	-362.77	5766772.13	606508.72
1981	49.98	216.71	1379.37	-1351.46	-1151.26	-363.22	5766771.50	606508.28
1982	49.94	216.81	1380.01	-1352.10	-1151.90	-363.66	5766770.87	606507.83
1983	49.90	216.90	1380.64	-1352.73	-1152.53	-364.10	5766770.23	606507.39
1984	49.86	216.99	1381.27	-1353.36	-1153.17	-364.55	5766769.60	606506.95
1985	49.82	217.09	1381.90	-1353.99	-1153.80	-364.99	5766768.96	606506.50
1986	49.78	217.18	1382.54	-1354.63	-1154.43	-365.43	5766768.33	606506.06
1987	49.74	217.28	1383.17	-1355.26	-1155.07	-365.87	5766767.69	606505.62
1988	49.70	217.36	1383.80	-1355.89	-1155.70	-366.32	5766767.06	606505.17
1989	49.71	217.35	1384.45	-1356.54	-1156.31	-366.78	5766766.45	606504.71
1990	49.71	217.34	1385.10	-1357.19	-1156.92	-367.24	5766765.85	606504.25
1991	49.72	217.33	1385.74	-1357.83	-1157.52	-367.71	5766765.24	606503.79
1992	49.72	217.32	1386.39	-1358.48	-1158.13	-368.17	5766764.63	606503.32
1993	49.73	217.31	1387.03	-1359.12	-1158.74	-368.63	5766764.02	606502.86
1994	49.73	217.31	1387.68	-1359.77	-1159.35	-369.09	5766763.41	606502.40
1995	49.74	217.30	1388.33	-1360.42	-1159.96	-369.55	5766762.81	606501.94
1996	49.74	217.29	1388.97	-1361.06	-1160.56	-370.02	5766762.20	606501.48
1997	49.75	217.28	1389.62	-1361.71	-1161.17	-370.48	5766761.59	606501.01
1998	49.75	217.27	1390.26	-1362.35	-1161.78	-370.94	5766760.98	606500.55
1999	49.76	217.26	1390.91	-1363.00	-1162.39	-371.40	5766760.37	606500.09
2000	49.77	217.25	1391.55	-1363.64	-1163.00	-371.86	5766759.77	606499.63
2001	49.77	217.24	1392.20	-1364.29	-1163.60	-372.33	5766759.16	606499.17
2002	49.78	217.23	1392.85	-1364.94	-1164.21	-372.79	5766758.55	606498.70
2003	49.78	217.22	1393.49	-1365.58	-1164.82	-373.25	5766757.94	606498.24
2004	49.79	217.22	1394.14	-1366.23	-1165.43	-373.71	5766757.33	606497.78
2005	49.79	217.21	1394.78	-1366.87	-1166.03	-374.17	5766756.73	606497.32
2006	49.80	217.20	1395.43	-1367.52	-1166.64	-374.64	5766756.12	606496.86
2007	49.80	217.19	1396.07	-1368.16	-1167.25	-375.10	5766755.51	606496.39
2008	49.81	217.18	1396.72	-1368.81	-1167.86	-375.56	5766754.90	606495.93
2009	49.81	217.17	1397.37	-1369.46	-1168.47	-376.02	5766754.29	606495.47
2010	49.82	217.16	1398.01	-1370.10	-1169.07	-376.48	5766753.69	606495.01
2011	49.82	217.15	1398.66	-1370.75	-1169.68	-376.95	5766753.08	606494.55
2012	49.83	217.14	1399.30	-1371.39	-1170.29	-377.41	5766752.47	606494.08
2013	49.84	217.13	1399.95	-1372.04	-1170.90	-377.87	5766751.86	606493.62
2014	49.84	217.13	1400.60	-1372.69	-1171.51	-378.33	5766751.26	606493.16
2015	49.85	217.12	1401.24	-1373.33	-1172.11	-378.79	5766750.65	606492.70
2016	49.83	217.12	1401.89	-1373.98	-1172.72	-379.25	5766750.04	606492.24
2017	49.78	217.15	1402.55	-1374.64	-1173.32	-379.71	5766749.44	606491.78
2018	49.72	217.18	1403.20	-1375.29	-1173.92	-380.17	5766748.85	606491.32
2019	49.66	217.21	1403.86	-1375.95	-1174.51	-380.63	5766748.25	606490.86
2020	49.61	217.24	1404.51	-1376.60	-1175.11	-381.09	5766747.65	606490.40
2021	49.55	217.27	1405.17	-1377.26	-1175.71	-381.55	5766747.05	606489.94
2022	49.49	217.30	1405.82	-1377.91	-1176.31	-382.01	5766746.45	606489.48
2023	49.44	217.33	1406.48	-1378.57	-1176.91	-382.47	5766745.85	606489.02
2024	49.38	217.36	1407.14	-1379.23	-1177.51	-382.93	5766745.25	606488.56

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
2025	49.32	217.39	1407.79	-1379.88	-1178.11	-383.39	5766744.66	606488.10
2026	49.27	217.42	1408.45	-1380.54	-1178.70	-383.85	5766744.06	606487.64
2027	49.21	217.45	1409.10	-1381.19	-1179.30	-384.32	5766743.46	606487.18
2028	49.15	217.48	1409.76	-1381.85	-1179.90	-384.78	5766742.86	606486.72
2029	49.09	217.51	1410.42	-1382.51	-1180.50	-385.24	5766742.26	606486.26
2030	49.04	217.54	1411.07	-1383.16	-1181.10	-385.70	5766741.66	606485.80
2031	48.98	217.57	1411.73	-1383.82	-1181.70	-386.16	5766741.06	606485.34
2032	48.92	217.60	1412.38	-1384.47	-1182.30	-386.62	5766740.47	606484.88
2033	48.87	217.63	1413.04	-1385.13	-1182.89	-387.08	5766739.87	606484.42
2034	48.81	217.66	1413.69	-1385.78	-1183.49	-387.54	5766739.27	606483.96
2035	48.75	217.69	1414.35	-1386.44	-1184.09	-388.00	5766738.67	606483.50
2036	48.70	217.72	1415.01	-1387.10	-1184.69	-388.46	5766738.07	606483.04
2037	48.64	217.75	1415.66	-1387.75	-1185.29	-388.92	5766737.47	606482.58
2038	48.58	217.78	1416.32	-1388.41	-1185.89	-389.38	5766736.87	606482.12
2039	48.53	217.81	1416.97	-1389.06	-1186.49	-389.84	5766736.28	606481.66
2040	48.47	217.84	1417.63	-1389.72	-1187.08	-390.30	5766735.68	606481.20
2041	48.41	217.87	1418.28	-1390.37	-1187.68	-390.76	5766735.08	606480.74
2042	48.36	217.90	1418.94	-1391.03	-1188.28	-391.22	5766734.48	606480.28
2043	48.30	217.93	1419.60	-1391.69	-1188.88	-391.68	5766733.88	606479.82
2044	48.24	217.96	1420.25	-1392.34	-1189.48	-392.14	5766733.28	606479.36
2045	48.18	218.00	1420.91	-1393.00	-1190.07	-392.60	5766732.69	606478.90
2046	48.09	218.07	1421.59	-1393.68	-1190.64	-393.05	5766732.12	606478.44
2047	47.99	218.15	1422.28	-1394.37	-1191.21	-393.51	5766731.56	606477.98
2048	47.89	218.22	1422.96	-1395.05	-1191.77	-393.97	5766730.99	606477.52
2049	47.79	218.30	1423.65	-1395.74	-1192.34	-394.43	5766730.42	606477.06
2050	47.70	218.37	1424.33	-1396.42	-1192.90	-394.89	5766729.86	606476.60
2051	47.60	218.45	1425.02	-1397.11	-1193.47	-395.35	5766729.29	606476.14
2052	47.50	218.53	1425.70	-1397.79	-1194.04	-395.81	5766728.73	606475.68
2053	47.40	218.60	1426.39	-1398.48	-1194.60	-396.27	5766728.16	606475.22
2054	47.31	218.68	1427.07	-1399.16	-1195.17	-396.73	5766727.59	606474.76
2055	47.21	218.75	1427.76	-1399.85	-1195.73	-397.19	5766727.03	606474.31
2056	47.11	218.83	1428.44	-1400.53	-1196.30	-397.65	5766726.46	606473.85
2057	47.01	218.91	1429.12	-1401.21	-1196.87	-398.10	5766725.90	606473.39
2058	46.92	218.98	1429.81	-1401.90	-1197.43	-398.56	5766725.33	606472.93
2059	46.82	219.06	1430.49	-1402.58	-1198.00	-399.02	5766724.76	606472.47
2060	46.72	219.13	1431.18	-1403.27	-1198.56	-399.48	5766724.20	606472.01
2061	46.62	219.21	1431.86	-1403.95	-1199.13	-399.94	5766723.63	606471.55
2062	46.53	219.28	1432.55	-1404.64	-1199.70	-400.40	5766723.07	606471.09
2063	46.43	219.36	1433.23	-1405.32	-1200.26	-400.86	5766722.50	606470.63
2064	46.33	219.44	1433.92	-1406.01	-1200.83	-401.32	5766721.93	606470.17
2065	46.23	219.51	1434.60	-1406.69	-1201.39	-401.78	5766721.37	606469.71
2066	46.14	219.59	1435.29	-1407.38	-1201.96	-402.24	5766720.80	606469.25
2067	46.04	219.66	1435.97	-1408.06	-1202.53	-402.70	5766720.24	606468.80
2068	45.94	219.74	1436.66	-1408.75	-1203.09	-403.16	5766719.67	606468.34
2069	45.84	219.82	1437.34	-1409.43	-1203.66	-403.61	5766719.10	606467.88
2070	45.75	219.89	1438.02	-1410.11	-1204.22	-404.07	5766718.54	606467.42
2071	45.65	219.97	1438.71	-1410.80	-1204.79	-404.53	5766717.97	606466.96
2072	45.55	220.04	1439.39	-1411.48	-1205.36	-404.99	5766717.41	606466.50
2073	45.45	220.12	1440.08	-1412.17	-1205.92	-405.45	5766716.84	606466.04
2074	45.36	220.19	1440.78	-1412.87	-1206.47	-405.91	5766716.29	606465.58
2075	45.29	220.27	1441.49	-1413.58	-1206.99	-406.37	5766715.77	606465.12
2076	45.21	220.34	1442.21	-1414.30	-1207.52	-406.83	5766715.24	606464.66
2077	45.13	220.41	1442.92	-1415.01	-1208.04	-407.29	5766714.72	606464.20
2078	45.05	220.49	1443.64	-1415.73	-1208.57	-407.75	5766714.19	606463.74
2079	44.97	220.56	1444.36	-1416.45	-1209.10	-408.21	5766713.67	606463.28
2080	44.90	220.64	1445.07	-1417.16	-1209.62	-408.67	5766713.14	606462.82
2081	44.82	220.71	1445.79	-1417.88	-1210.15	-409.13	5766712.62	606462.36
2082	44.74	220.78	1446.50	-1418.59	-1210.67	-409.59	5766712.09	606461.90
2083	44.66	220.86	1447.22	-1419.31	-1211.20	-410.05	5766711.56	606461.44
2084	44.58	220.93	1447.94	-1420.03	-1211.72	-410.51	5766711.04	606460.98
2085	44.50	221.00	1448.65	-1420.74	-1212.25	-410.97	5766710.51	606460.52
2086	44.43	221.08	1449.37	-1421.46	-1212.77	-411.43	5766709.99	606460.06
2087	44.35	221.15	1450.08	-1422.17	-1213.30	-411.89	5766709.46	606459.61
2088	44.27	221.22	1450.80	-1422.89	-1213.82	-412.35	5766708.94	606459.15
2089	44.19	221.30	1451.52	-1423.61	-1214.35	-412.81	5766708.41	606458.69
2090	44.11	221.37	1452.23	-1424.32	-1214.87	-413.27	5766707.89	606458.23

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
2091	44.04	221.44	1452.95	-1425.04	-1215.40	-413.73	5766707.36	606457.77
2092	43.96	221.52	1453.66	-1425.75	-1215.92	-414.19	5766706.84	606457.31
2093	43.88	221.59	1454.38	-1426.47	-1216.45	-414.64	5766706.31	606456.85
2094	43.80	221.66	1455.09	-1427.18	-1216.98	-415.10	5766705.79	606456.39
2095	43.72	221.74	1455.81	-1427.90	-1217.50	-415.56	5766705.26	606455.93
2096	43.65	221.81	1456.53	-1428.62	-1218.03	-416.02	5766704.74	606455.47
2097	43.57	221.89	1457.24	-1429.33	-1218.55	-416.48	5766704.21	606455.01
2098	43.49	221.96	1457.96	-1430.05	-1219.08	-416.94	5766703.68	606454.55
2099	43.41	222.03	1458.67	-1430.76	-1219.60	-417.40	5766703.16	606454.09
2100	43.33	222.11	1459.39	-1431.48	-1220.13	-417.86	5766702.63	606453.63
2101	43.26	222.18	1460.11	-1432.20	-1220.65	-418.32	5766702.11	606453.17
2102	43.18	222.25	1460.82	-1432.91	-1221.18	-418.78	5766701.58	606452.71
2103	43.10	222.42	1461.56	-1433.65	-1221.66	-419.25	5766701.10	606452.24
2104	43.02	222.59	1462.31	-1434.40	-1222.13	-419.72	5766700.63	606451.77
2105	42.93	222.77	1463.05	-1435.14	-1222.61	-420.19	5766700.15	606451.30
2106	42.85	222.94	1463.79	-1435.88	-1223.08	-420.66	5766699.68	606450.83
2107	42.77	223.11	1464.54	-1436.63	-1223.56	-421.13	5766699.20	606450.36
2108	42.69	223.29	1465.28	-1437.37	-1224.03	-421.60	5766698.73	606449.89
2109	42.61	223.46	1466.02	-1438.11	-1224.51	-422.07	5766698.25	606449.42
2110	42.53	223.63	1466.77	-1438.86	-1224.98	-422.54	5766697.78	606448.95
2111	42.45	223.81	1467.51	-1439.60	-1225.46	-423.02	5766697.30	606448.48
2112	42.37	223.98	1468.25	-1440.34	-1225.93	-423.49	5766696.83	606448.01
2113	42.29	224.16	1469.00	-1441.09	-1226.41	-423.96	5766696.35	606447.54
2114	42.21	224.33	1469.74	-1441.83	-1226.88	-424.43	5766695.88	606447.07
2115	42.12	224.50	1470.48	-1442.57	-1227.36	-424.90	5766695.40	606446.59
2116	42.04	224.68	1471.23	-1443.32	-1227.83	-425.37	5766694.93	606446.12
2117	41.96	224.85	1471.97	-1444.06	-1228.31	-425.84	5766694.45	606445.65
2118	41.88	225.02	1472.71	-1444.80	-1228.78	-426.31	5766693.98	606445.18
2119	41.80	225.20	1473.45	-1445.54	-1229.26	-426.78	5766693.50	606444.71
2120	41.72	225.37	1474.20	-1446.29	-1229.74	-427.25	5766693.03	606444.24
2121	41.64	225.54	1474.94	-1447.03	-1230.21	-427.72	5766692.55	606443.77
2122	41.56	225.72	1475.68	-1447.77	-1230.69	-428.19	5766692.08	606443.30
2123	41.48	225.89	1476.43	-1448.52	-1231.16	-428.66	5766691.60	606442.83
2124	41.40	226.07	1477.17	-1449.26	-1231.64	-429.13	5766691.13	606442.36
2125	41.32	226.24	1477.91	-1450.00	-1232.11	-429.60	5766690.65	606441.89
2126	41.23	226.41	1478.66	-1450.75	-1232.59	-430.07	5766690.18	606441.42
2127	41.15	226.59	1479.40	-1451.49	-1233.06	-430.54	5766689.70	606440.95
2128	41.07	226.76	1480.14	-1452.23	-1233.54	-431.01	5766689.23	606440.48
2129	40.99	226.93	1480.89	-1452.98	-1234.01	-431.48	5766688.75	606440.01
2130	40.91	227.11	1481.63	-1453.72	-1234.49	-431.95	5766688.27	606439.54
2131	40.83	227.28	1482.37	-1454.46	-1234.96	-432.42	5766687.80	606439.07
2132	40.74	227.43	1483.14	-1455.23	-1235.38	-432.91	5766687.38	606438.58
2133	40.66	227.57	1483.92	-1456.01	-1235.79	-433.39	5766686.97	606438.10
2134	40.57	227.72	1484.69	-1456.78	-1236.21	-433.87	5766686.55	606437.62
2135	40.49	227.86	1485.46	-1457.55	-1236.62	-434.36	5766686.14	606437.14
2136	40.40	228.01	1486.23	-1458.32	-1237.04	-434.84	5766685.72	606436.65
2137	40.32	228.15	1487.00	-1459.09	-1237.46	-435.32	5766685.30	606436.17
2138	40.23	228.30	1487.77	-1459.86	-1237.87	-435.81	5766684.89	606435.69
2139	40.15	228.45	1488.54	-1460.63	-1238.29	-436.29	5766684.47	606435.20
2140	40.06	228.59	1489.31	-1461.40	-1238.70	-436.77	5766684.06	606434.72
2141	39.98	228.74	1490.08	-1462.17	-1239.12	-437.26	5766683.64	606434.24
2142	39.89	228.88	1490.85	-1462.94	-1239.54	-437.74	5766683.23	606433.75
2143	39.81	229.03	1491.62	-1463.71	-1239.95	-438.22	5766682.81	606433.27
2144	39.72	229.17	1492.39	-1464.48	-1240.37	-438.71	5766682.39	606432.79
2145	39.64	229.32	1493.16	-1465.25	-1240.78	-439.19	5766681.98	606432.30
2146	39.55	229.46	1493.93	-1466.02	-1241.20	-439.67	5766681.56	606431.82
2147	39.47	229.61	1494.70	-1466.79	-1241.62	-440.15	5766681.15	606431.34
2148	39.38	229.76	1495.47	-1467.56	-1242.03	-440.64	5766680.73	606430.85
2149	39.30	229.90	1496.24	-1468.33	-1242.45	-441.12	5766680.31	606430.37
2150	39.21	230.05	1497.01	-1469.10	-1242.86	-441.60	5766679.90	606429.89
2151	39.13	230.19	1497.78	-1469.87	-1243.28	-442.09	5766679.48	606429.40
2152	39.04	230.34	1498.55	-1470.64	-1243.69	-442.57	5766679.07	606428.92
2153	38.96	230.48	1499.32	-1471.41	-1244.11	-443.05	5766678.65	606428.44
2154	38.87	230.63	1500.09	-1472.18	-1244.53	-443.54	5766678.24	606427.95
2155	38.79	230.77	1500.86	-1472.95	-1244.94	-444.02	5766677.82	606427.47
2156	38.70	230.92	1501.63	-1473.72	-1245.36	-444.50	5766677.40	606426.99

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
2157	38.62	231.07	1502.40	-1474.49	-1245.77	-444.99	5766676.99	606426.51
2158	38.53	231.21	1503.17	-1475.26	-1246.19	-445.47	5766676.57	606426.02
2159	38.45	231.36	1503.94	-1476.03	-1246.61	-445.95	5766676.16	606425.54
2160	38.42	231.44	1504.72	-1476.81	-1246.99	-446.44	5766675.77	606425.05
2161	38.40	231.51	1505.51	-1477.60	-1247.37	-446.93	5766675.39	606424.56
2162	38.38	231.57	1506.30	-1478.39	-1247.75	-447.42	5766675.01	606424.07
2163	38.37	231.64	1507.08	-1479.17	-1248.13	-447.91	5766674.64	606423.58
2164	38.35	231.70	1507.87	-1479.96	-1248.50	-448.40	5766674.26	606423.09
2165	38.34	231.77	1508.65	-1480.74	-1248.88	-448.89	5766673.88	606422.60
2166	38.32	231.83	1509.44	-1481.53	-1249.26	-449.38	5766673.50	606422.11
2167	38.30	231.90	1510.23	-1482.32	-1249.64	-449.87	5766673.12	606421.63
2168	38.29	231.96	1511.01	-1483.10	-1250.02	-450.36	5766672.75	606421.14
2169	38.27	232.03	1511.80	-1483.89	-1250.39	-450.85	5766672.37	606420.65
2170	38.25	232.10	1512.58	-1484.67	-1250.77	-451.33	5766671.99	606420.16
2171	38.24	232.16	1513.37	-1485.46	-1251.15	-451.82	5766671.61	606419.67
2172	38.22	232.23	1514.16	-1486.25	-1251.53	-452.31	5766671.23	606419.18
2173	38.20	232.29	1514.94	-1487.03	-1251.90	-452.80	5766670.86	606418.69
2174	38.19	232.36	1515.73	-1487.82	-1252.28	-453.29	5766670.48	606418.20
2175	38.17	232.42	1516.51	-1488.60	-1252.66	-453.78	5766670.10	606417.71
2176	38.16	232.49	1517.30	-1489.39	-1253.04	-454.27	5766669.72	606417.22
2177	38.14	232.55	1518.09	-1490.18	-1253.42	-454.76	5766669.35	606416.73
2178	38.12	232.62	1518.87	-1490.96	-1253.79	-455.25	5766668.97	606416.24
2179	38.11	232.68	1519.66	-1491.75	-1254.17	-455.74	5766668.59	606415.75
2180	38.09	232.75	1520.44	-1492.53	-1254.55	-456.23	5766668.21	606415.26
2181	38.07	232.82	1521.23	-1493.32	-1254.93	-456.72	5766667.83	606414.77
2182	38.06	232.88	1522.02	-1494.11	-1255.31	-457.21	5766667.46	606414.29
2183	38.04	232.95	1522.80	-1494.89	-1255.68	-457.70	5766667.08	606413.80
2184	38.02	233.01	1523.59	-1495.68	-1256.06	-458.19	5766666.70	606413.31
2185	38.01	233.08	1524.37	-1496.46	-1256.44	-458.67	5766666.32	606412.82
2186	37.99	233.14	1525.16	-1497.25	-1256.82	-459.16	5766665.94	606412.33
2187	37.98	233.21	1525.95	-1498.04	-1257.19	-459.65	5766665.57	606411.84
2188	37.96	233.28	1526.73	-1498.82	-1257.57	-460.14	5766665.19	606411.35
2189	37.99	233.43	1527.52	-1499.61	-1257.92	-460.65	5766664.84	606410.84
2190	38.01	233.59	1528.30	-1500.39	-1258.27	-461.16	5766664.49	606410.33
2191	38.03	233.74	1529.09	-1501.18	-1258.62	-461.68	5766664.14	606409.82
2192	38.06	233.90	1529.87	-1501.96	-1258.97	-462.19	5766663.79	606409.31
2193	38.08	234.05	1530.66	-1502.75	-1259.33	-462.70	5766663.44	606408.80
2194	38.10	234.21	1531.44	-1503.53	-1259.68	-463.21	5766663.08	606408.29
2195	38.13	234.36	1532.23	-1504.32	-1260.03	-463.72	5766662.73	606407.77
2196	38.15	234.51	1533.01	-1505.10	-1260.38	-464.23	5766662.38	606407.26
2197	38.18	234.67	1533.80	-1505.89	-1260.73	-464.74	5766662.03	606406.75
2198	38.20	234.82	1534.58	-1506.67	-1261.08	-465.25	5766661.68	606406.24
2199	38.22	234.98	1535.37	-1507.46	-1261.43	-465.76	5766661.33	606405.73
2200	38.25	235.13	1536.15	-1508.24	-1261.78	-466.27	5766660.98	606405.22
2201	38.27	235.29	1536.94	-1509.03	-1262.13	-466.78	5766660.63	606404.71
2202	38.30	235.44	1537.72	-1509.81	-1262.48	-467.29	5766660.28	606404.20
2203	38.32	235.59	1538.50	-1510.59	-1262.84	-467.80	5766659.93	606403.69
2204	38.34	235.75	1539.29	-1511.38	-1263.19	-468.31	5766659.58	606403.18
2205	38.37	235.90	1540.07	-1512.16	-1263.54	-468.82	5766659.22	606402.67
2206	38.39	236.06	1540.86	-1512.95	-1263.89	-469.33	5766658.87	606402.16
2207	38.41	236.21	1541.64	-1513.73	-1264.24	-469.84	5766658.52	606401.65
2208	38.44	236.37	1542.43	-1514.52	-1264.59	-470.35	5766658.17	606401.14
2209	38.46	236.52	1543.21	-1515.30	-1264.94	-470.86	5766657.82	606400.63
2210	38.49	236.67	1544.00	-1516.09	-1265.29	-471.37	5766657.47	606400.12
2211	38.51	236.83	1544.78	-1516.87	-1265.64	-471.88	5766657.12	606399.61
2212	38.53	236.98	1545.57	-1517.66	-1265.99	-472.39	5766656.77	606399.10
2213	38.56	237.14	1546.35	-1518.44	-1266.34	-472.90	5766656.42	606398.59
2214	38.58	237.29	1547.14	-1519.23	-1266.70	-473.42	5766656.07	606398.08
2215	38.61	237.45	1547.92	-1520.01	-1267.05	-473.93	5766655.71	606397.57
2216	38.63	237.60	1548.71	-1520.80	-1267.40	-474.44	5766655.36	606397.06
2217	38.64	237.69	1549.49	-1521.58	-1267.74	-474.96	5766655.03	606396.53
2218	38.63	237.74	1550.27	-1522.36	-1268.06	-475.49	5766654.70	606396.00
2219	38.63	237.78	1551.06	-1523.15	-1268.39	-476.02	5766654.37	606395.47
2220	38.63	237.82	1551.84	-1523.93	-1268.72	-476.55	5766654.04	606394.94
2221	38.62	237.87	1552.62	-1524.71	-1269.05	-477.08	5766653.71	606394.41
2222	38.62	237.91	1553.40	-1525.49	-1269.37	-477.61	5766653.39	606393.88

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
2223	38.61	237.95	1554.18	-1526.27	-1269.70	-478.14	5766653.06	606393.35
2224	38.61	238.00	1554.96	-1527.05	-1270.03	-478.67	5766652.73	606392.82
2225	38.60	238.04	1555.75	-1527.84	-1270.36	-479.20	5766652.40	606392.29
2226	38.60	238.08	1556.53	-1528.62	-1270.69	-479.73	5766652.08	606391.76
2227	38.60	238.12	1557.31	-1529.40	-1271.01	-480.26	5766651.75	606391.23
2228	38.59	238.17	1558.09	-1530.18	-1271.34	-480.79	5766651.42	606390.70
2229	38.59	238.21	1558.87	-1530.96	-1271.67	-481.32	5766651.09	606390.17
2230	38.58	238.25	1559.65	-1531.74	-1272.00	-481.85	5766650.76	606389.64
2231	38.58	238.30	1560.44	-1532.53	-1272.32	-482.38	5766650.44	606389.11
2232	38.58	238.34	1561.22	-1533.31	-1272.65	-482.91	5766650.11	606388.58
2233	38.57	238.38	1562.00	-1534.09	-1272.98	-483.45	5766649.78	606388.05
2234	38.57	238.43	1562.78	-1534.87	-1273.31	-483.98	5766649.45	606387.52
2235	38.56	238.47	1563.56	-1535.65	-1273.64	-484.51	5766649.13	606386.99
2236	38.56	238.51	1564.34	-1536.43	-1273.96	-485.04	5766648.80	606386.45
2237	38.55	238.56	1565.13	-1537.22	-1274.29	-485.57	5766648.47	606385.92
2238	38.55	238.60	1565.91	-1538.00	-1274.62	-486.10	5766648.14	606385.39
2239	38.55	238.64	1566.69	-1538.78	-1274.95	-486.63	5766647.81	606384.86
2240	38.54	238.68	1567.47	-1539.56	-1275.27	-487.16	5766647.49	606384.33
2241	38.54	238.73	1568.25	-1540.34	-1275.60	-487.69	5766647.16	606383.80
2242	38.53	238.77	1569.04	-1541.13	-1275.93	-488.22	5766646.83	606383.27
2243	38.53	238.81	1569.82	-1541.91	-1276.26	-488.75	5766646.50	606382.74
2244	38.53	238.86	1570.60	-1542.69	-1276.59	-489.28	5766646.18	606382.21
2245	38.52	238.90	1571.38	-1543.47	-1276.91	-489.81	5766645.85	606381.68
2246	38.52	238.93	1572.16	-1544.25	-1277.23	-490.35	5766645.53	606381.15
2247	38.51	238.96	1572.95	-1545.04	-1277.55	-490.88	5766645.21	606380.61
2248	38.51	238.99	1573.73	-1545.82	-1277.87	-491.41	5766644.89	606380.08
2249	38.50	239.01	1574.51	-1546.60	-1278.19	-491.95	5766644.58	606379.54
2250	38.50	239.04	1575.30	-1547.39	-1278.50	-492.48	5766644.26	606379.01
2251	38.49	239.07	1576.08	-1548.17	-1278.82	-493.02	5766643.94	606378.47
2252	38.49	239.09	1576.86	-1548.95	-1279.14	-493.55	5766643.62	606377.94
2253	38.48	239.12	1577.64	-1549.73	-1279.46	-494.09	5766643.31	606377.40
2254	38.48	239.15	1578.43	-1550.52	-1279.77	-494.62	5766642.99	606376.87
2255	38.48	239.18	1579.21	-1551.30	-1280.09	-495.16	5766642.67	606376.33
2256	38.47	239.20	1579.99	-1552.08	-1280.41	-495.69	5766642.35	606375.80
2257	38.47	239.23	1580.78	-1552.87	-1280.73	-496.23	5766642.04	606375.26
2258	38.46	239.26	1581.56	-1553.65	-1281.04	-496.76	5766641.72	606374.73
2259	38.46	239.29	1582.34	-1554.43	-1281.36	-497.30	5766641.40	606374.20
2260	38.45	239.31	1583.13	-1555.22	-1281.68	-497.83	5766641.08	606373.66
2261	38.45	239.34	1583.91	-1556.00	-1282.00	-498.37	5766640.77	606373.13
2262	38.44	239.37	1584.69	-1556.78	-1282.31	-498.90	5766640.45	606372.59
2263	38.44	239.39	1585.48	-1557.57	-1282.63	-499.43	5766640.13	606372.06
2264	38.43	239.42	1586.26	-1558.35	-1282.95	-499.97	5766639.81	606371.52
2265	38.43	239.45	1587.04	-1559.13	-1283.27	-500.50	5766639.50	606370.99
2266	38.43	239.48	1587.83	-1559.92	-1283.58	-501.04	5766639.18	606370.45
2267	38.42	239.50	1588.61	-1560.70	-1283.90	-501.57	5766638.86	606369.92
2268	38.42	239.53	1589.39	-1561.48	-1284.22	-502.11	5766638.54	606369.38
2269	38.41	239.56	1590.17	-1562.26	-1284.54	-502.64	5766638.23	606368.85
2270	38.41	239.59	1590.96	-1563.05	-1284.85	-503.18	5766637.91	606368.31
2271	38.40	239.61	1591.74	-1563.83	-1285.17	-503.71	5766637.59	606367.78
2272	38.40	239.64	1592.52	-1564.61	-1285.49	-504.25	5766637.27	606367.24
2273	38.39	239.67	1593.31	-1565.40	-1285.81	-504.78	5766636.96	606366.71
2274	38.39	239.69	1594.09	-1566.18	-1286.12	-505.32	5766636.64	606366.17
2275	38.37	239.72	1594.88	-1566.97	-1286.43	-505.85	5766636.33	606365.64
2276	38.36	239.75	1595.66	-1567.75	-1286.74	-506.39	5766636.02	606365.10
2277	38.34	239.78	1596.45	-1568.54	-1287.05	-506.92	5766635.72	606364.57
2278	38.33	239.82	1597.24	-1569.33	-1287.35	-507.46	5766635.41	606364.03
2279	38.32	239.85	1598.02	-1570.11	-1287.66	-508.00	5766635.10	606363.49
2280	38.30	239.88	1598.81	-1570.90	-1287.97	-508.53	5766634.79	606362.96
2281	38.29	239.91	1599.59	-1571.68	-1288.28	-509.07	5766634.48	606362.42
2282	38.27	239.94	1600.38	-1572.47	-1288.59	-509.60	5766634.18	606361.89
2283	38.26	239.97	1601.17	-1573.26	-1288.89	-510.14	5766633.87	606361.35
2284	38.24	240.00	1601.95	-1574.04	-1289.20	-510.68	5766633.56	606360.81
2285	38.23	240.03	1602.74	-1574.83	-1289.51	-511.21	5766633.25	606360.28
2286	38.21	240.06	1603.52	-1575.61	-1289.82	-511.75	5766632.94	606359.74
2287	38.20	240.09	1604.31	-1576.40	-1290.13	-512.28	5766632.64	606359.21
2288	38.18	240.12	1605.10	-1577.19	-1290.43	-512.82	5766632.33	606358.67

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
2289	38.17	240.15	1605.88	-1577.97	-1290.74	-513.36	5766632.02	606358.13
2290	38.15	240.18	1606.67	-1578.76	-1291.05	-513.89	5766631.71	606357.60
2291	38.14	240.21	1607.45	-1579.54	-1291.36	-514.43	5766631.40	606357.06
2292	38.13	240.24	1608.24	-1580.33	-1291.66	-514.96	5766631.10	606356.53
2293	38.11	240.27	1609.03	-1581.12	-1291.97	-515.50	5766630.79	606355.99
2294	38.10	240.30	1609.81	-1581.90	-1292.28	-516.04	5766630.48	606355.45
2295	38.08	240.33	1610.60	-1582.69	-1292.59	-516.57	5766630.17	606354.92
2296	38.07	240.36	1611.38	-1583.47	-1292.90	-517.11	5766629.87	606354.38
2297	38.05	240.39	1612.17	-1584.26	-1293.20	-517.64	5766629.56	606353.85
2298	38.04	240.42	1612.96	-1585.05	-1293.51	-518.18	5766629.25	606353.31
2299	38.02	240.45	1613.74	-1585.83	-1293.82	-518.72	5766628.94	606352.77
2300	38.01	240.48	1614.53	-1586.62	-1294.13	-519.25	5766628.63	606352.24
2301	37.99	240.51	1615.31	-1587.40	-1294.44	-519.79	5766628.33	606351.70
2302	37.98	240.54	1616.10	-1588.19	-1294.74	-520.32	5766628.02	606351.17
2303	37.97	240.57	1616.89	-1588.98	-1295.05	-520.86	5766627.71	606350.63
2304	37.97	240.59	1617.68	-1589.77	-1295.35	-521.40	5766627.41	606350.09
2305	37.98	240.62	1618.46	-1590.55	-1295.65	-521.94	5766627.11	606349.55
2306	37.98	240.64	1619.25	-1591.34	-1295.95	-522.48	5766626.81	606349.02
2307	37.98	240.67	1620.04	-1592.13	-1296.25	-523.01	5766626.51	606348.48
2308	37.99	240.69	1620.83	-1592.92	-1296.55	-523.55	5766626.22	606347.94
2309	37.99	240.72	1621.61	-1593.70	-1296.85	-524.09	5766625.92	606347.40
2310	37.99	240.74	1622.40	-1594.49	-1297.14	-524.63	5766625.62	606346.86
2311	38.00	240.77	1623.19	-1595.28	-1297.44	-525.17	5766625.32	606346.32
2312	38.00	240.79	1623.98	-1596.07	-1297.74	-525.70	5766625.02	606345.79
2313	38.00	240.81	1624.77	-1596.86	-1298.04	-526.24	5766624.72	606345.25
2314	38.01	240.84	1625.55	-1597.64	-1298.34	-526.78	5766624.42	606344.71
2315	38.01	240.86	1626.34	-1598.43	-1298.64	-527.32	5766624.12	606344.17
2316	38.01	240.89	1627.13	-1599.22	-1298.94	-527.86	5766623.82	606343.63
2317	38.01	240.91	1627.92	-1600.01	-1299.24	-528.40	5766623.52	606343.10
2318	38.02	240.94	1628.71	-1600.80	-1299.54	-528.93	5766623.22	606342.56
2319	38.02	240.96	1629.49	-1601.58	-1299.84	-529.47	5766622.92	606342.02
2320	38.02	240.99	1630.28	-1602.37	-1300.14	-530.01	5766622.62	606341.48
2321	38.03	241.01	1631.07	-1603.16	-1300.44	-530.55	5766622.32	606340.94
2322	38.03	241.04	1631.86	-1603.95	-1300.74	-531.09	5766622.02	606340.40
2323	38.03	241.06	1632.64	-1604.73	-1301.04	-531.62	5766621.72	606339.87
2324	38.04	241.09	1633.43	-1605.52	-1301.34	-532.16	5766621.43	606339.33
2325	38.04	241.11	1634.22	-1606.31	-1301.64	-532.70	5766621.13	606338.79
2326	38.04	241.14	1635.01	-1607.10	-1301.93	-533.24	5766620.83	606338.25
2327	38.05	241.16	1635.80	-1607.89	-1302.23	-533.78	5766620.53	606337.71
2328	38.05	241.19	1636.58	-1608.67	-1302.53	-534.32	5766620.23	606337.18
2329	38.05	241.21	1637.37	-1609.46	-1302.83	-534.85	5766619.93	606336.64
2330	38.06	241.24	1638.16	-1610.25	-1303.13	-535.39	5766619.63	606336.10
2331	38.06	241.26	1638.95	-1611.04	-1303.43	-535.93	5766619.33	606335.56
2332	38.06	241.24	1639.74	-1611.83	-1303.73	-536.47	5766619.03	606335.02
2333	38.05	241.19	1640.52	-1612.61	-1304.04	-537.00	5766618.73	606334.49
2334	38.05	241.14	1641.31	-1613.40	-1304.34	-537.54	5766618.42	606333.95
2335	38.04	241.09	1642.10	-1614.19	-1304.64	-538.07	5766618.12	606333.42
2336	38.03	241.04	1642.89	-1614.98	-1304.94	-538.61	5766617.82	606332.88
2337	38.03	240.99	1643.68	-1615.77	-1305.25	-539.15	5766617.52	606332.35
2338	38.02	240.94	1644.47	-1616.56	-1305.55	-539.68	5766617.21	606331.81
2339	38.02	240.89	1645.25	-1617.34	-1305.85	-540.22	5766616.91	606331.27
2340	38.01	240.84	1646.04	-1618.13	-1306.15	-540.75	5766616.61	606330.74
2341	38.01	240.79	1646.83	-1618.92	-1306.46	-541.29	5766616.31	606330.20
2342	38.00	240.74	1647.62	-1619.71	-1306.76	-541.83	5766616.00	606329.67
2343	38.00	240.68	1648.41	-1620.50	-1307.06	-542.36	5766615.70	606329.13
2344	37.99	240.63	1649.19	-1621.28	-1307.36	-542.90	5766615.40	606328.59
2345	37.98	240.58	1649.98	-1622.07	-1307.67	-543.43	5766615.09	606328.06
2346	37.98	240.53	1650.77	-1622.86	-1307.97	-543.97	5766614.79	606327.52
2347	37.97	240.48	1651.56	-1623.65	-1308.27	-544.50	5766614.49	606326.99
2348	37.97	240.43	1652.35	-1624.44	-1308.57	-545.04	5766614.19	606326.45
2349	37.96	240.38	1653.14	-1625.23	-1308.88	-545.58	5766613.88	606325.92
2350	37.96	240.33	1653.92	-1626.01	-1309.18	-546.11	5766613.58	606325.38
2351	37.95	240.28	1654.71	-1626.80	-1309.48	-546.65	5766613.28	606324.84
2352	37.95	240.23	1655.50	-1627.59	-1309.78	-547.18	5766612.98	606324.31
2353	37.94	240.18	1656.29	-1628.38	-1310.09	-547.72	5766612.67	606323.77
2354	37.93	240.13	1657.08	-1629.17	-1310.39	-548.26	5766612.37	606323.24

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
2355	37.93	240.08	1657.86	-1629.95	-1310.69	-548.79	5766612.07	606322.70
2356	37.92	240.03	1658.65	-1630.74	-1311.00	-549.33	5766611.77	606322.16
2357	37.92	239.98	1659.44	-1631.53	-1311.30	-549.86	5766611.46	606321.63
2358	37.91	239.93	1660.23	-1632.32	-1311.60	-550.40	5766611.16	606321.09
2359	37.91	239.88	1661.02	-1633.11	-1311.90	-550.93	5766610.86	606320.56
2360	37.90	239.83	1661.81	-1633.90	-1312.21	-551.47	5766610.56	606320.02
2361	37.89	239.82	1662.60	-1634.69	-1312.51	-552.00	5766610.25	606319.49
2362	37.87	239.82	1663.39	-1635.48	-1312.82	-552.53	5766609.94	606318.96
2363	37.86	239.83	1664.18	-1636.27	-1313.13	-553.06	5766609.64	606318.43
2364	37.84	239.83	1664.97	-1637.06	-1313.43	-553.59	5766609.33	606317.91
2365	37.83	239.83	1665.76	-1637.85	-1313.74	-554.11	5766609.02	606317.38
2366	37.81	239.83	1666.55	-1638.64	-1314.05	-554.64	5766608.71	606316.85
2367	37.80	239.83	1667.35	-1639.44	-1314.35	-555.17	5766608.41	606316.32
2368	37.78	239.84	1668.14	-1640.23	-1314.66	-555.70	5766608.10	606315.79
2369	37.76	239.84	1668.93	-1641.02	-1314.97	-556.23	5766607.79	606315.26
2370	37.75	239.84	1669.72	-1641.81	-1315.27	-556.76	5766607.49	606314.73
2371	37.73	239.84	1670.51	-1642.60	-1315.58	-557.29	5766607.18	606314.21
2372	37.72	239.84	1671.30	-1643.39	-1315.89	-557.81	5766606.87	606313.68
2373	37.70	239.85	1672.09	-1644.18	-1316.20	-558.34	5766606.57	606313.15
2374	37.69	239.85	1672.89	-1644.98	-1316.50	-558.87	5766606.26	606312.62
2375	37.67	239.85	1673.68	-1645.77	-1316.81	-559.40	5766605.95	606312.09
2376	37.66	239.85	1674.47	-1646.56	-1317.12	-559.93	5766605.64	606311.56
2377	37.64	239.86	1675.26	-1647.35	-1317.42	-560.46	5766605.34	606311.04
2378	37.63	239.86	1676.05	-1648.14	-1317.73	-560.99	5766605.03	606310.51
2379	37.61	239.86	1676.84	-1648.93	-1318.04	-561.51	5766604.72	606309.98
2380	37.60	239.86	1677.63	-1649.72	-1318.35	-562.04	5766604.42	606309.45
2381	37.58	239.86	1678.43	-1650.52	-1318.65	-562.57	5766604.11	606308.92
2382	37.57	239.87	1679.22	-1651.31	-1318.96	-563.10	5766603.80	606308.39
2383	37.55	239.87	1680.01	-1652.10	-1319.27	-563.63	5766603.50	606307.86
2384	37.54	239.87	1680.80	-1652.89	-1319.57	-564.16	5766603.19	606307.34
2385	37.52	239.87	1681.59	-1653.68	-1319.88	-564.68	5766602.88	606306.81
2386	37.51	239.87	1682.38	-1654.47	-1320.19	-565.21	5766602.57	606306.28
2387	37.49	239.88	1683.17	-1655.26	-1320.49	-565.74	5766602.27	606305.75
2388	37.47	239.88	1683.97	-1656.06	-1320.80	-566.27	5766601.96	606305.22
2389	37.46	239.88	1684.76	-1656.85	-1321.11	-566.80	5766601.65	606304.69
2390	37.43	239.91	1685.56	-1657.65	-1321.41	-567.32	5766601.36	606304.17
2391	37.41	239.95	1686.35	-1658.44	-1321.70	-567.85	5766601.06	606303.64
2392	37.38	239.98	1687.15	-1659.24	-1322.00	-568.37	5766600.76	606303.12
2393	37.36	240.01	1687.95	-1660.04	-1322.30	-568.90	5766600.46	606302.60
2394	37.33	240.05	1688.75	-1660.84	-1322.60	-569.42	5766600.16	606302.07
2395	37.31	240.08	1689.54	-1661.63	-1322.90	-569.94	5766599.86	606301.55
2396	37.28	240.11	1690.34	-1662.43	-1323.20	-570.47	5766599.56	606301.02
2397	37.26	240.15	1691.14	-1663.23	-1323.50	-570.99	5766599.26	606300.50
2398	37.23	240.18	1691.94	-1664.03	-1323.80	-571.52	5766598.97	606299.97
2399	37.21	240.21	1692.73	-1664.82	-1324.09	-572.04	5766598.67	606299.45
2400	37.18	240.25	1693.53	-1665.62	-1324.39	-572.57	5766598.37	606298.93
2401	37.16	240.28	1694.33	-1666.42	-1324.69	-573.09	5766598.07	606298.40
2402	37.13	240.31	1695.13	-1667.22	-1324.99	-573.61	5766597.77	606297.88
2403	37.11	240.35	1695.92	-1668.01	-1325.29	-574.14	5766597.47	606297.35
2404	37.08	240.38	1696.72	-1668.81	-1325.59	-574.66	5766597.17	606296.83
2405	37.06	240.41	1697.52	-1669.61	-1325.89	-575.19	5766596.88	606296.30
2406	37.03	240.45	1698.31	-1670.40	-1326.18	-575.71	5766596.58	606295.78
2407	37.00	240.48	1699.11	-1671.20	-1326.48	-576.24	5766596.28	606295.26
2408	36.98	240.51	1699.91	-1672.00	-1326.78	-576.76	5766595.98	606294.73
2409	36.95	240.54	1700.71	-1672.80	-1327.08	-577.28	5766595.68	606294.21
2410	36.93	240.58	1701.50	-1673.59	-1327.38	-577.81	5766595.38	606293.68
2411	36.90	240.61	1702.30	-1674.39	-1327.68	-578.33	5766595.08	606293.16
2412	36.88	240.64	1703.10	-1675.19	-1327.98	-578.86	5766594.79	606292.63
2413	36.85	240.68	1703.90	-1675.99	-1328.27	-579.38	5766594.49	606292.11
2414	36.83	240.71	1704.69	-1676.78	-1328.57	-579.91	5766594.19	606291.59
2415	36.80	240.74	1705.49	-1677.58	-1328.87	-580.43	5766593.89	606291.06
2416	36.78	240.78	1706.29	-1678.38	-1329.17	-580.95	5766593.59	606290.54
2417	36.77	240.79	1707.09	-1679.18	-1329.47	-581.48	5766593.29	606290.01
2418	36.81	240.75	1707.88	-1679.97	-1329.77	-582.00	5766592.99	606289.49
2419	36.85	240.70	1708.68	-1680.77	-1330.07	-582.53	5766592.69	606288.96
2420	36.88	240.66	1709.47	-1681.56	-1330.37	-583.06	5766592.39	606288.44

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
2421	36.92	240.62	1710.27	-1682.36	-1330.67	-583.58	5766592.09	606287.91
2422	36.96	240.58	1711.06	-1683.15	-1330.97	-584.11	5766591.79	606287.38
2423	36.99	240.54	1711.86	-1683.95	-1331.28	-584.63	5766591.49	606286.86
2424	37.03	240.50	1712.66	-1684.75	-1331.58	-585.16	5766591.18	606286.33
2425	37.07	240.46	1713.45	-1685.54	-1331.88	-585.68	5766590.88	606285.81
2426	37.10	240.41	1714.25	-1686.34	-1332.18	-586.21	5766590.58	606285.28
2427	37.14	240.37	1715.04	-1687.13	-1332.48	-586.74	5766590.28	606284.76
2428	37.18	240.33	1715.84	-1687.93	-1332.78	-587.26	5766589.98	606284.23
2429	37.21	240.29	1716.63	-1688.72	-1333.08	-587.79	5766589.68	606283.70
2430	37.25	240.25	1717.43	-1689.52	-1333.38	-588.31	5766589.38	606283.18
2431	37.29	240.21	1718.22	-1690.31	-1333.68	-588.84	5766589.08	606282.65
2432	37.33	240.16	1719.02	-1691.11	-1333.99	-589.36	5766588.78	606282.13
2433	37.36	240.12	1719.82	-1691.91	-1334.29	-589.89	5766588.48	606281.60
2434	37.40	240.08	1720.61	-1692.70	-1334.59	-590.42	5766588.17	606281.08
2435	37.44	240.04	1721.41	-1693.50	-1334.89	-590.94	5766587.87	606280.55
2436	37.47	240.00	1722.20	-1694.29	-1335.19	-591.47	5766587.57	606280.02
2437	37.51	239.96	1723.00	-1695.09	-1335.49	-591.99	5766587.27	606279.50
2438	37.55	239.92	1723.79	-1695.88	-1335.79	-592.52	5766586.97	606278.97
2439	37.58	239.87	1724.59	-1696.68	-1336.09	-593.04	5766586.67	606278.45
2440	37.62	239.83	1725.38	-1697.47	-1336.39	-593.57	5766586.37	606277.92
2441	37.66	239.79	1726.18	-1698.27	-1336.70	-594.10	5766586.07	606277.40
2442	37.70	239.75	1726.98	-1699.07	-1337.00	-594.62	5766585.77	606276.87
2443	37.73	239.71	1727.77	-1699.86	-1337.30	-595.15	5766585.46	606276.35
2444	37.77	239.67	1728.57	-1700.66	-1337.60	-595.67	5766585.16	606275.82
2445	37.81	239.62	1729.36	-1701.45	-1337.90	-596.20	5766584.86	606275.29
2446	37.82	239.61	1730.16	-1702.25	-1338.21	-596.73	5766584.56	606274.77
2447	37.81	239.61	1730.95	-1703.04	-1338.52	-597.25	5766584.25	606274.24
2448	37.80	239.61	1731.74	-1703.83	-1338.83	-597.78	5766583.94	606273.71
2449	37.80	239.61	1732.53	-1704.62	-1339.14	-598.31	5766583.63	606273.18
2450	37.79	239.61	1733.32	-1705.41	-1339.44	-598.84	5766583.32	606272.66
2451	37.78	239.60	1734.11	-1706.20	-1339.75	-599.36	5766583.01	606272.13
2452	37.78	239.60	1734.90	-1706.99	-1340.06	-599.89	5766582.70	606271.60
2453	37.77	239.60	1735.69	-1707.78	-1340.37	-600.42	5766582.39	606271.07
2454	37.77	239.60	1736.48	-1708.57	-1340.68	-600.95	5766582.08	606270.54
2455	37.76	239.60	1737.27	-1709.36	-1340.99	-601.48	5766581.77	606270.02
2456	37.75	239.60	1738.06	-1710.15	-1341.30	-602.00	5766581.46	606269.49
2457	37.75	239.60	1738.86	-1710.95	-1341.61	-602.53	5766581.15	606268.96
2458	37.74	239.60	1739.65	-1711.74	-1341.92	-603.06	5766580.84	606268.43
2459	37.73	239.60	1740.44	-1712.53	-1342.23	-603.59	5766580.53	606267.91
2460	37.73	239.59	1741.23	-1713.32	-1342.54	-604.11	5766580.22	606267.38
2461	37.72	239.59	1742.02	-1714.11	-1342.85	-604.64	5766579.91	606266.85
2462	37.72	239.59	1742.81	-1714.90	-1343.16	-605.17	5766579.60	606266.32
2463	37.71	239.59	1743.60	-1715.69	-1343.47	-605.70	5766579.29	606265.79
2464	37.70	239.59	1744.39	-1716.48	-1343.78	-606.23	5766578.98	606265.27
2465	37.70	239.59	1745.18	-1717.27	-1344.09	-606.75	5766578.67	606264.74
2466	37.69	239.59	1745.97	-1718.06	-1344.40	-607.28	5766578.36	606264.21
2467	37.69	239.59	1746.76	-1718.85	-1344.71	-607.81	5766578.05	606263.68
2468	37.68	239.59	1747.56	-1719.65	-1345.02	-608.34	5766577.74	606263.16
2469	37.67	239.59	1748.35	-1720.44	-1345.33	-608.86	5766577.43	606262.63
2470	37.67	239.58	1749.14	-1721.23	-1345.64	-609.39	5766577.12	606262.10
2471	37.66	239.58	1749.93	-1722.02	-1345.95	-609.92	5766576.81	606261.57
2472	37.65	239.58	1750.72	-1722.81	-1346.26	-610.45	5766576.50	606261.04
2473	37.65	239.58	1751.51	-1723.60	-1346.57	-610.98	5766576.19	606260.52
2474	37.64	239.58	1752.30	-1724.39	-1346.88	-611.50	5766575.88	606259.99
2475	37.64	239.57	1753.09	-1725.18	-1347.19	-612.03	5766575.57	606259.46
2476	37.64	239.55	1753.88	-1725.97	-1347.50	-612.55	5766575.26	606258.94
2477	37.64	239.54	1754.68	-1726.77	-1347.81	-613.08	5766574.95	606258.41
2478	37.64	239.52	1755.47	-1727.56	-1348.12	-613.61	5766574.64	606257.89
2479	37.64	239.51	1756.26	-1728.35	-1348.43	-614.13	5766574.33	606257.36
2480	37.64	239.49	1757.05	-1729.14	-1348.74	-614.66	5766574.02	606256.84
2481	37.64	239.47	1757.84	-1729.93	-1349.06	-615.18	5766573.71	606256.31
2482	37.64	239.46	1758.64	-1730.73	-1349.37	-615.71	5766573.39	606255.78
2483	37.64	239.44	1759.43	-1731.52	-1349.68	-616.23	5766573.08	606255.26
2484	37.64	239.43	1760.22	-1732.31	-1349.99	-616.76	5766572.77	606254.73
2485	37.64	239.41	1761.01	-1733.10	-1350.30	-617.28	5766572.46	606254.21
2486	37.64	239.40	1761.80	-1733.89	-1350.61	-617.81	5766572.15	606253.68

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
2487	37.64	239.38	1762.59	-1734.68	-1350.92	-618.33	5766571.84	606253.16
2488	37.64	239.37	1763.39	-1735.48	-1351.24	-618.86	5766571.53	606252.63
2489	37.64	239.35	1764.18	-1736.27	-1351.55	-619.38	5766571.21	606252.11
2490	37.64	239.33	1764.97	-1737.06	-1351.86	-619.91	5766570.90	606251.58
2491	37.64	239.32	1765.76	-1737.85	-1352.17	-620.44	5766570.59	606251.06
2492	37.64	239.30	1766.55	-1738.64	-1352.48	-620.96	5766570.28	606250.53
2493	37.64	239.29	1767.35	-1739.44	-1352.79	-621.49	5766569.97	606250.01
2494	37.64	239.27	1768.14	-1740.23	-1353.10	-622.01	5766569.66	606249.48
2495	37.64	239.26	1768.93	-1741.02	-1353.41	-622.54	5766569.35	606248.95
2496	37.64	239.24	1769.72	-1741.81	-1353.73	-623.06	5766569.04	606248.43
2497	37.64	239.23	1770.51	-1742.60	-1354.04	-623.59	5766568.72	606247.90
2498	37.64	239.21	1771.30	-1743.39	-1354.35	-624.11	5766568.41	606247.38
2499	37.64	239.19	1772.10	-1744.19	-1354.66	-624.64	5766568.10	606246.85
2500	37.64	239.18	1772.89	-1744.98	-1354.97	-625.16	5766567.79	606246.33
2501	37.64	239.16	1773.68	-1745.77	-1355.28	-625.69	5766567.48	606245.80
2502	37.64	239.15	1774.47	-1746.56	-1355.59	-626.21	5766567.17	606245.28
2503	37.64	239.13	1775.26	-1747.35	-1355.90	-626.74	5766566.86	606244.75
2504	37.62	239.13	1776.06	-1748.15	-1356.22	-627.26	5766566.54	606244.23
2505	37.61	239.12	1776.85	-1748.94	-1356.53	-627.78	5766566.23	606243.71
2506	37.59	239.12	1777.65	-1749.74	-1356.84	-628.30	5766565.92	606243.19
2507	37.57	239.11	1778.44	-1750.53	-1357.15	-628.82	5766565.61	606242.67
2508	37.55	239.10	1779.24	-1751.33	-1357.47	-629.34	5766565.30	606242.15
2509	37.53	239.10	1780.03	-1752.12	-1357.78	-629.86	5766564.98	606241.63
2510	37.51	239.09	1780.83	-1752.92	-1358.09	-630.39	5766564.67	606241.11
2511	37.50	239.09	1781.62	-1753.71	-1358.40	-630.91	5766564.36	606240.59
2512	37.48	239.08	1782.42	-1754.51	-1358.71	-631.43	5766564.05	606240.07
2513	37.46	239.08	1783.21	-1755.30	-1359.03	-631.95	5766563.74	606239.54
2514	37.44	239.07	1784.01	-1756.10	-1359.34	-632.47	5766563.42	606239.02
2515	37.42	239.07	1784.80	-1756.89	-1359.65	-632.99	5766563.11	606238.50
2516	37.40	239.06	1785.59	-1757.68	-1359.96	-633.51	5766562.80	606237.98
2517	37.38	239.06	1786.39	-1758.48	-1360.27	-634.03	5766562.49	606237.46
2518	37.37	239.05	1787.18	-1759.27	-1360.59	-634.55	5766562.17	606236.94
2519	37.35	239.05	1787.98	-1760.07	-1360.90	-635.07	5766561.86	606236.42
2520	37.33	239.04	1788.77	-1760.86	-1361.21	-635.59	5766561.55	606235.90
2521	37.31	239.04	1789.57	-1761.66	-1361.52	-636.11	5766561.24	606235.38
2522	37.29	239.03	1790.36	-1762.45	-1361.84	-636.63	5766560.93	606234.86
2523	37.27	239.03	1791.16	-1763.25	-1362.15	-637.15	5766560.61	606234.34
2524	37.26	239.02	1791.95	-1764.04	-1362.46	-637.67	5766560.30	606233.82
2525	37.24	239.02	1792.75	-1764.84	-1362.77	-638.20	5766559.99	606233.30
2526	37.22	239.01	1793.54	-1765.63	-1363.08	-638.72	5766559.68	606232.78
2527	37.20	239.01	1794.34	-1766.43	-1363.40	-639.24	5766559.37	606232.26
2528	37.18	239.00	1795.13	-1767.22	-1363.71	-639.76	5766559.05	606231.73
2529	37.16	239.00	1795.93	-1768.02	-1364.02	-640.28	5766558.74	606231.21
2530	37.15	238.99	1796.72	-1768.81	-1364.33	-640.80	5766558.43	606230.69
2531	37.13	238.98	1797.51	-1769.60	-1364.64	-641.32	5766558.12	606230.17
2532	37.11	238.98	1798.31	-1770.40	-1364.96	-641.84	5766557.80	606229.65
2533	37.08	238.98	1799.11	-1771.20	-1365.26	-642.35	5766557.50	606229.14
2534	37.05	238.98	1799.91	-1772.00	-1365.57	-642.86	5766557.19	606228.63
2535	37.02	238.98	1800.72	-1772.81	-1365.88	-643.38	5766556.88	606228.12
2536	36.99	238.98	1801.52	-1773.61	-1366.19	-643.89	5766556.57	606227.60
2537	36.96	238.98	1802.32	-1774.41	-1366.50	-644.40	5766556.27	606227.09
2538	36.93	238.98	1803.12	-1775.21	-1366.80	-644.91	5766555.96	606226.58
2539	36.90	238.98	1803.92	-1776.01	-1367.11	-645.42	5766555.65	606226.07
2540	36.87	238.98	1804.72	-1776.81	-1367.42	-645.94	5766555.34	606225.56
2541	36.84	238.98	1805.53	-1777.62	-1367.73	-646.45	5766555.03	606225.04
2542	36.81	238.98	1806.33	-1778.42	-1368.04	-646.96	5766554.73	606224.53
2543	36.78	238.98	1807.13	-1779.22	-1368.34	-647.47	5766554.42	606224.02
2544	36.75	238.98	1807.93	-1780.02	-1368.65	-647.98	5766554.11	606223.51
2545	36.72	238.98	1808.73	-1780.82	-1368.96	-648.50	5766553.80	606223.00
2546	36.70	238.98	1809.54	-1781.63	-1369.27	-649.01	5766553.49	606222.48
2547	36.67	238.97	1810.34	-1782.43	-1369.58	-649.52	5766553.19	606221.97
2548	36.64	238.97	1811.14	-1783.23	-1369.88	-650.03	5766552.88	606221.46
2549	36.61	238.97	1811.94	-1784.03	-1370.19	-650.54	5766552.57	606220.95
2550	36.58	238.97	1812.74	-1784.83	-1370.50	-651.06	5766552.26	606220.44
2551	36.55	238.97	1813.55	-1785.64	-1370.81	-651.57	5766551.95	606219.92
2552	36.52	238.97	1814.35	-1786.44	-1371.12	-652.08	5766551.65	606219.41

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
2553	36.49	238.97	1815.15	-1787.24	-1371.42	-652.59	5766551.34	606218.90
2554	36.46	238.97	1815.95	-1788.04	-1371.73	-653.10	5766551.03	606218.39
2555	36.43	238.97	1816.75	-1788.84	-1372.04	-653.62	5766550.72	606217.88
2556	36.40	238.97	1817.55	-1789.64	-1372.35	-654.13	5766550.41	606217.36
2557	36.37	238.97	1818.36	-1790.45	-1372.66	-654.64	5766550.11	606216.85
2558	36.34	238.97	1819.16	-1791.25	-1372.96	-655.15	5766549.80	606216.34
2559	36.31	238.97	1819.96	-1792.05	-1373.27	-655.66	5766549.49	606215.83
2560	36.28	238.97	1820.76	-1792.85	-1373.58	-656.18	5766549.18	606215.32
2561	36.28	238.97	1821.56	-1793.65	-1373.89	-656.69	5766548.88	606214.81
2562	36.30	238.98	1822.37	-1794.46	-1374.19	-657.20	5766548.57	606214.29
2563	36.32	238.99	1823.17	-1795.26	-1374.50	-657.71	5766548.26	606213.78
2564	36.34	239.00	1823.97	-1796.06	-1374.80	-658.22	5766547.96	606213.27
2565	36.36	239.01	1824.78	-1796.87	-1375.11	-658.73	5766547.65	606212.76
2566	36.38	239.01	1825.58	-1797.67	-1375.42	-659.24	5766547.35	606212.25
2567	36.40	239.02	1826.38	-1798.47	-1375.72	-659.75	5766547.04	606211.74
2568	36.42	239.03	1827.19	-1799.28	-1376.03	-660.26	5766546.73	606211.23
2569	36.44	239.04	1827.99	-1800.08	-1376.33	-660.77	5766546.43	606210.72
2570	36.46	239.05	1828.79	-1800.88	-1376.64	-661.29	5766546.12	606210.21
2571	36.48	239.05	1829.60	-1801.69	-1376.95	-661.80	5766545.82	606209.69
2572	36.50	239.06	1830.40	-1802.49	-1377.25	-662.31	5766545.51	606209.18
2573	36.52	239.07	1831.20	-1803.29	-1377.56	-662.82	5766545.20	606208.67
2574	36.54	239.08	1832.01	-1804.10	-1377.86	-663.33	5766544.90	606208.16
2575	36.56	239.09	1832.81	-1804.90	-1378.17	-663.84	5766544.59	606207.65
2576	36.59	239.09	1833.61	-1805.70	-1378.48	-664.35	5766544.29	606207.14
2577	36.61	239.10	1834.42	-1806.51	-1378.78	-664.86	5766543.98	606206.63
2578	36.63	239.11	1835.22	-1807.31	-1379.09	-665.37	5766543.67	606206.12
2579	36.65	239.12	1836.02	-1808.11	-1379.39	-665.89	5766543.37	606205.61
2580	36.67	239.13	1836.83	-1808.92	-1379.70	-666.40	5766543.06	606205.10
2581	36.69	239.14	1837.63	-1809.72	-1380.01	-666.91	5766542.75	606204.58
2582	36.71	239.14	1838.43	-1810.52	-1380.31	-667.42	5766542.45	606204.07
2583	36.73	239.15	1839.24	-1811.33	-1380.62	-667.93	5766542.14	606203.56
2584	36.75	239.16	1840.04	-1812.13	-1380.92	-668.44	5766541.84	606203.05
2585	36.77	239.17	1840.84	-1812.93	-1381.23	-668.95	5766541.53	606202.54
2586	36.79	239.18	1841.65	-1813.74	-1381.54	-669.46	5766541.22	606202.03
2587	36.81	239.18	1842.45	-1814.54	-1381.84	-669.97	5766540.92	606201.52
2588	36.83	239.19	1843.25	-1815.34	-1382.15	-670.48	5766540.61	606201.01
2589	36.85	239.20	1844.06	-1816.15	-1382.45	-671.00	5766540.31	606200.50
2590	36.88	239.20	1844.85	-1816.94	-1382.77	-671.52	5766540.00	606199.98
2591	36.92	239.20	1845.65	-1817.74	-1383.08	-672.04	5766539.69	606199.45
2592	36.96	239.20	1846.44	-1818.53	-1383.39	-672.56	5766539.37	606198.93
2593	37.00	239.20	1847.23	-1819.32	-1383.70	-673.08	5766539.06	606198.41
2594	37.04	239.20	1848.03	-1820.12	-1384.01	-673.60	5766538.75	606197.89
2595	37.07	239.20	1848.82	-1820.91	-1384.32	-674.12	5766538.44	606197.37
2596	37.11	239.20	1849.62	-1821.71	-1384.63	-674.65	5766538.13	606196.85
2597	37.15	239.19	1850.41	-1822.50	-1384.94	-675.17	5766537.82	606196.32
2598	37.19	239.19	1851.21	-1823.30	-1385.25	-675.69	5766537.51	606195.80
2599	37.23	239.19	1852.00	-1824.09	-1385.56	-676.21	5766537.20	606195.28
2600	37.26	239.19	1852.80	-1824.89	-1385.88	-676.73	5766536.89	606194.76
2601	37.30	239.19	1853.59	-1825.68	-1386.19	-677.25	5766536.57	606194.24
2602	37.34	239.19	1854.39	-1826.48	-1386.50	-677.77	5766536.26	606193.72
2603	37.38	239.19	1855.18	-1827.27	-1386.81	-678.30	5766535.95	606193.20
2604	37.42	239.19	1855.97	-1828.06	-1387.12	-678.82	5766535.64	606192.67
2605	37.45	239.19	1856.77	-1828.86	-1387.43	-679.34	5766535.33	606192.15
2606	37.49	239.19	1857.56	-1829.65	-1387.74	-679.86	5766535.02	606191.63
2607	37.53	239.19	1858.36	-1830.45	-1388.05	-680.38	5766534.71	606191.11
2608	37.57	239.19	1859.15	-1831.24	-1388.36	-680.90	5766534.40	606190.59
2609	37.61	239.19	1859.95	-1832.04	-1388.67	-681.43	5766534.09	606190.07
2610	37.64	239.19	1860.74	-1832.83	-1388.99	-681.95	5766533.78	606189.54
2611	37.68	239.18	1861.54	-1833.63	-1389.30	-682.47	5766533.46	606189.02
2612	37.72	239.18	1862.33	-1834.42	-1389.61	-682.99	5766533.15	606188.50
2613	37.76	239.18	1863.12	-1835.21	-1389.92	-683.51	5766532.84	606187.98
2614	37.80	239.18	1863.92	-1836.01	-1390.23	-684.03	5766532.53	606187.46
2615	37.83	239.18	1864.71	-1836.80	-1390.54	-684.55	5766532.22	606186.94
2616	37.87	239.18	1865.51	-1837.60	-1390.85	-685.08	5766531.91	606186.42
2617	37.91	239.18	1866.30	-1838.39	-1391.16	-685.60	5766531.60	606185.89
2618	37.92	239.17	1867.10	-1839.19	-1391.48	-686.12	5766531.29	606185.37

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
2619	37.91	239.16	1867.89	-1839.98	-1391.79	-686.65	5766530.97	606184.85
2620	37.90	239.15	1868.68	-1840.77	-1392.11	-687.17	5766530.66	606184.32
2621	37.89	239.14	1869.47	-1841.56	-1392.42	-687.70	5766530.34	606183.80
2622	37.88	239.13	1870.26	-1842.35	-1392.74	-688.22	5766530.02	606183.27
2623	37.87	239.12	1871.05	-1843.14	-1393.05	-688.75	5766529.71	606182.75
2624	37.86	239.11	1871.84	-1843.93	-1393.37	-689.27	5766529.39	606182.22
2625	37.84	239.10	1872.63	-1844.72	-1393.68	-689.80	5766529.08	606181.70
2626	37.83	239.09	1873.42	-1845.51	-1394.00	-690.32	5766528.76	606181.17
2627	37.82	239.07	1874.21	-1846.30	-1394.31	-690.85	5766528.45	606180.65
2628	37.81	239.06	1875.00	-1847.09	-1394.63	-691.37	5766528.13	606180.12
2629	37.80	239.05	1875.79	-1847.88	-1394.94	-691.90	5766527.82	606179.60
2630	37.79	239.04	1876.58	-1848.67	-1395.26	-692.42	5766527.50	606179.07
2631	37.78	239.03	1877.37	-1849.46	-1395.57	-692.95	5766527.19	606178.55
2632	37.76	239.02	1878.16	-1850.25	-1395.89	-693.47	5766526.87	606178.02
2633	37.75	239.01	1878.95	-1851.04	-1396.20	-694.00	5766526.56	606177.49
2634	37.74	239.00	1879.74	-1851.83	-1396.52	-694.52	5766526.24	606176.97
2635	37.73	238.99	1880.53	-1852.62	-1396.83	-695.05	5766525.93	606176.44
2636	37.72	238.97	1881.33	-1853.42	-1397.15	-695.57	5766525.61	606175.92
2637	37.71	238.96	1882.12	-1854.21	-1397.46	-696.10	5766525.30	606175.39
2638	37.70	238.95	1882.91	-1855.00	-1397.78	-696.62	5766524.98	606174.87
2639	37.68	238.94	1883.70	-1855.79	-1398.10	-697.15	5766524.67	606174.34
2640	37.67	238.93	1884.49	-1856.58	-1398.41	-697.67	5766524.35	606173.82
2641	37.66	238.92	1885.28	-1857.37	-1398.73	-698.20	5766524.04	606173.29
2642	37.65	238.91	1886.07	-1858.16	-1399.04	-698.72	5766523.72	606172.77
2643	37.64	238.90	1886.86	-1858.95	-1399.36	-699.25	5766523.41	606172.24
2644	37.63	238.89	1887.65	-1859.74	-1399.67	-699.77	5766523.09	606171.72
2645	37.62	238.88	1888.44	-1860.53	-1399.99	-700.30	5766522.77	606171.19
2646	37.60	238.86	1889.23	-1861.32	-1400.30	-700.82	5766522.46	606170.67
2647	37.63	238.88	1890.02	-1862.11	-1400.62	-701.35	5766522.14	606170.14
2648	37.67	238.90	1890.80	-1862.89	-1400.93	-701.88	5766521.83	606169.61
2649	37.71	238.93	1891.59	-1863.68	-1401.25	-702.41	5766521.51	606169.08
2650	37.75	238.96	1892.38	-1864.47	-1401.57	-702.94	5766521.20	606168.55
2651	37.79	238.98	1893.16	-1865.25	-1401.88	-703.48	5766520.88	606168.02
2652	37.83	239.01	1893.95	-1866.04	-1402.20	-704.01	5766520.56	606167.48
2653	37.87	239.04	1894.73	-1866.82	-1402.51	-704.54	5766520.25	606166.95
2654	37.91	239.06	1895.52	-1867.61	-1402.83	-705.07	5766519.93	606166.42
2655	37.95	239.09	1896.31	-1868.40	-1403.15	-705.60	5766519.62	606165.89
2656	37.99	239.12	1897.09	-1869.18	-1403.46	-706.13	5766519.30	606165.36
2657	38.03	239.15	1897.88	-1869.97	-1403.78	-706.66	5766518.98	606164.83
2658	38.07	239.17	1898.66	-1870.75	-1404.09	-707.19	5766518.67	606164.30
2659	38.11	239.20	1899.45	-1871.54	-1404.41	-707.73	5766518.35	606163.77
2660	38.15	239.23	1900.24	-1872.33	-1404.73	-708.26	5766518.04	606163.23
2661	38.19	239.25	1901.02	-1873.11	-1405.04	-708.79	5766517.72	606162.70
2662	38.23	239.28	1901.81	-1873.90	-1405.36	-709.32	5766517.40	606162.17
2663	38.27	239.31	1902.59	-1874.68	-1405.67	-709.85	5766517.09	606161.64
2664	38.31	239.33	1903.38	-1875.47	-1405.99	-710.38	5766516.77	606161.11
2665	38.35	239.36	1904.17	-1876.26	-1406.31	-710.91	5766516.45	606160.58
2666	38.39	239.39	1904.95	-1877.04	-1406.62	-711.44	5766516.14	606160.05
2667	38.43	239.41	1905.74	-1877.83	-1406.94	-711.98	5766515.82	606159.52
2668	38.47	239.44	1906.52	-1878.61	-1407.25	-712.51	5766515.51	606158.98
2669	38.51	239.47	1907.31	-1879.40	-1407.57	-713.04	5766515.19	606158.45
2670	38.55	239.49	1908.10	-1880.19	-1407.89	-713.57	5766514.87	606157.92
2671	38.60	239.52	1908.88	-1880.97	-1408.20	-714.10	5766514.56	606157.39
2672	38.64	239.55	1909.67	-1881.76	-1408.52	-714.63	5766514.24	606156.86
2673	38.68	239.57	1910.46	-1882.55	-1408.83	-715.16	5766513.93	606156.33
2674	38.72	239.60	1911.24	-1883.33	-1409.15	-715.69	5766513.61	606155.80
2675	38.76	239.63	1912.03	-1884.12	-1409.47	-716.23	5766513.29	606155.27
2676	38.77	239.64	1912.81	-1884.90	-1409.78	-716.77	5766512.98	606154.72
2677	38.79	239.65	1913.58	-1885.67	-1410.10	-717.31	5766512.66	606154.18
2678	38.81	239.65	1914.36	-1886.45	-1410.42	-717.86	5766512.34	606153.64
2679	38.82	239.66	1915.14	-1887.23	-1410.73	-718.40	5766512.03	606153.09
2680	38.84	239.67	1915.91	-1888.00	-1411.05	-718.94	5766511.71	606152.55
2681	38.85	239.68	1916.69	-1888.78	-1411.37	-719.49	5766511.39	606152.01
2682	38.87	239.69	1917.47	-1889.56	-1411.69	-720.03	5766511.08	606151.46
2683	38.88	239.70	1918.25	-1890.34	-1412.00	-720.57	5766510.76	606150.92
2684	38.90	239.70	1919.02	-1891.11	-1412.32	-721.12	5766510.44	606150.38

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
2685	38.91	239.71	1919.80	-1891.89	-1412.64	-721.66	5766510.13	606149.83
2686	38.93	239.72	1920.58	-1892.67	-1412.95	-722.20	5766509.81	606149.29
2687	38.95	239.73	1921.36	-1893.45	-1413.27	-722.75	5766509.49	606148.75
2688	38.96	239.74	1922.13	-1894.22	-1413.59	-723.29	5766509.17	606148.20
2689	38.98	239.75	1922.91	-1895.00	-1413.90	-723.83	5766508.86	606147.66
2690	38.99	239.75	1923.69	-1895.78	-1414.22	-724.38	5766508.54	606147.12
2691	39.01	239.76	1924.47	-1896.56	-1414.54	-724.92	5766508.22	606146.57
2692	39.02	239.77	1925.24	-1897.33	-1414.85	-725.46	5766507.91	606146.03
2693	39.04	239.78	1926.02	-1898.11	-1415.17	-726.01	5766507.59	606145.48
2694	39.06	239.79	1926.80	-1898.89	-1415.49	-726.55	5766507.27	606144.94
2695	39.07	239.80	1927.57	-1899.66	-1415.81	-727.09	5766506.96	606144.40
2696	39.09	239.80	1928.35	-1900.44	-1416.12	-727.64	5766506.64	606143.85
2697	39.10	239.81	1929.13	-1901.22	-1416.44	-728.18	5766506.32	606143.31
2698	39.12	239.82	1929.91	-1902.00	-1416.76	-728.72	5766506.00	606142.77
2699	39.13	239.83	1930.68	-1902.77	-1417.07	-729.27	5766505.69	606142.22
2700	39.15	239.84	1931.46	-1903.55	-1417.39	-729.81	5766505.37	606141.68
2701	39.16	239.85	1932.24	-1904.33	-1417.71	-730.35	5766505.05	606141.14
2702	39.18	239.85	1933.02	-1905.11	-1418.02	-730.90	5766504.74	606140.59
2703	39.20	239.86	1933.79	-1905.88	-1418.34	-731.44	5766504.42	606140.05
2704	39.21	239.87	1934.57	-1906.66	-1418.66	-731.98	5766504.10	606139.51
2705	39.19	239.87	1935.35	-1907.44	-1418.97	-732.53	5766503.79	606138.96
2706	39.17	239.86	1936.13	-1908.22	-1419.29	-733.07	5766503.47	606138.42
2707	39.15	239.86	1936.90	-1908.99	-1419.60	-733.61	5766503.16	606137.88
2708	39.13	239.86	1937.68	-1909.77	-1419.92	-734.16	5766502.84	606137.33
2709	39.11	239.86	1938.46	-1910.55	-1420.24	-734.70	5766502.53	606136.79
2710	39.08	239.86	1939.24	-1911.33	-1420.55	-735.24	5766502.21	606136.25
2711	39.06	239.85	1940.02	-1912.11	-1420.87	-735.79	5766501.89	606135.71
2712	39.04	239.85	1940.80	-1912.89	-1421.18	-736.33	5766501.58	606135.16
2713	39.02	239.85	1941.57	-1913.66	-1421.50	-736.87	5766501.26	606134.62
2714	39.00	239.85	1942.35	-1914.44	-1421.81	-737.42	5766500.95	606134.08
2715	38.98	239.84	1943.13	-1915.22	-1422.13	-737.96	5766500.63	606133.53
2716	38.96	239.84	1943.91	-1916.00	-1422.45	-738.50	5766500.32	606132.99
2717	38.94	239.84	1944.69	-1916.78	-1422.76	-739.05	5766500.00	606132.45
2718	38.92	239.84	1945.46	-1917.55	-1423.08	-739.59	5766499.68	606131.90
2719	38.90	239.83	1946.24	-1918.33	-1423.39	-740.13	5766499.37	606131.36
2720	38.88	239.83	1947.02	-1919.11	-1423.71	-740.67	5766499.05	606130.82
2721	38.86	239.83	1947.80	-1919.89	-1424.02	-741.22	5766498.74	606130.27
2722	38.84	239.83	1948.58	-1920.67	-1424.34	-741.76	5766498.42	606129.73
2723	38.82	239.82	1949.35	-1921.44	-1424.65	-742.30	5766498.11	606129.19
2724	38.80	239.82	1950.13	-1922.22	-1424.97	-742.85	5766497.79	606128.64
2725	38.78	239.82	1950.91	-1923.00	-1425.29	-743.39	5766497.48	606128.10
2726	38.75	239.82	1951.69	-1923.78	-1425.60	-743.93	5766497.16	606127.56
2727	38.73	239.81	1952.47	-1924.56	-1425.92	-744.48	5766496.84	606127.02
2728	38.71	239.81	1953.24	-1925.33	-1426.23	-745.02	5766496.53	606126.47
2729	38.69	239.81	1954.02	-1926.11	-1426.55	-745.56	5766496.21	606125.93
2730	38.67	239.81	1954.80	-1926.89	-1426.86	-746.11	5766495.90	606125.39
2731	38.65	239.80	1955.58	-1927.67	-1427.18	-746.65	5766495.58	606124.84
2732	38.63	239.80	1956.36	-1928.45	-1427.50	-747.19	5766495.27	606124.30
2733	38.61	239.80	1957.14	-1929.23	-1427.81	-747.73	5766494.95	606123.76
2734	38.60	239.80	1957.92	-1930.01	-1428.12	-748.27	5766494.64	606123.22
2735	38.59	239.81	1958.70	-1930.79	-1428.43	-748.81	5766494.33	606122.68
2736	38.58	239.81	1959.49	-1931.58	-1428.75	-749.34	5766494.01	606122.15
2737	38.56	239.81	1960.27	-1932.36	-1429.06	-749.88	5766493.70	606121.61
2738	38.55	239.81	1961.05	-1933.14	-1429.37	-750.42	5766493.39	606121.07
2739	38.54	239.81	1961.84	-1933.93	-1429.68	-750.96	5766493.08	606120.54
2740	38.53	239.82	1962.62	-1934.71	-1430.00	-751.49	5766492.76	606120.00
2741	38.51	239.82	1963.40	-1935.49	-1430.31	-752.03	5766492.45	606119.46
2742	38.50	239.82	1964.19	-1936.28	-1430.62	-752.57	5766492.14	606118.92
2743	38.49	239.82	1964.97	-1937.06	-1430.93	-753.11	5766491.83	606118.39
2744	38.48	239.82	1965.75	-1937.84	-1431.25	-753.64	5766491.51	606117.85
2745	38.46	239.83	1966.54	-1938.63	-1431.56	-754.18	5766491.20	606117.31
2746	38.45	239.83	1967.32	-1939.41	-1431.87	-754.72	5766490.89	606116.77
2747	38.44	239.83	1968.10	-1940.19	-1432.18	-755.26	5766490.58	606116.24
2748	38.43	239.83	1968.89	-1940.98	-1432.50	-755.79	5766490.26	606115.70
2749	38.41	239.83	1969.67	-1941.76	-1432.81	-756.33	5766489.95	606115.16
2750	38.40	239.84	1970.45	-1942.54	-1433.12	-756.87	5766489.64	606114.62

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
2751	38.39	239.84	1971.24	-1943.33	-1433.43	-757.41	5766489.33	606114.09
2752	38.38	239.84	1972.02	-1944.11	-1433.75	-757.94	5766489.02	606113.55
2753	38.36	239.84	1972.80	-1944.89	-1434.06	-758.48	5766488.70	606113.01
2754	38.35	239.84	1973.59	-1945.68	-1434.37	-759.02	5766488.39	606112.47
2755	38.34	239.85	1974.37	-1946.46	-1434.68	-759.56	5766488.08	606111.94
2756	38.33	239.85	1975.15	-1947.24	-1435.00	-760.09	5766487.77	606111.40
2757	38.31	239.85	1975.93	-1948.02	-1435.31	-760.63	5766487.45	606110.86
2758	38.30	239.85	1976.72	-1948.81	-1435.62	-761.17	5766487.14	606110.32
2759	38.29	239.86	1977.50	-1949.59	-1435.93	-761.71	5766486.83	606109.79
2760	38.28	239.86	1978.28	-1950.37	-1436.25	-762.24	5766486.52	606109.25
2761	38.26	239.86	1979.07	-1951.16	-1436.56	-762.78	5766486.20	606108.71
2762	38.25	239.87	1979.85	-1951.94	-1436.87	-763.32	5766485.89	606108.18
2763	38.24	239.88	1980.64	-1952.73	-1437.18	-763.85	5766485.59	606107.64
2764	38.22	239.89	1981.43	-1953.52	-1437.48	-764.38	5766485.28	606107.11
2765	38.21	239.91	1982.22	-1954.31	-1437.79	-764.92	5766484.97	606106.57
2766	38.19	239.92	1983.00	-1955.09	-1438.10	-765.45	5766484.66	606106.04
2767	38.18	239.93	1983.79	-1955.88	-1438.41	-765.99	5766484.35	606105.51
2768	38.17	239.94	1984.58	-1956.67	-1438.72	-766.52	5766484.05	606104.97
2769	38.15	239.96	1985.37	-1957.46	-1439.02	-767.05	5766483.74	606104.44
2770	38.14	239.97	1986.15	-1958.24	-1439.33	-767.59	5766483.43	606103.90
2771	38.13	239.98	1986.94	-1959.03	-1439.64	-768.12	5766483.12	606103.37
2772	38.11	239.99	1987.73	-1959.82	-1439.95	-768.66	5766482.81	606102.83
2773	38.10	240.00	1988.51	-1960.60	-1440.25	-769.19	5766482.51	606102.30
2774	38.09	240.02	1989.30	-1961.39	-1440.56	-769.73	5766482.20	606101.77
2775	38.07	240.03	1990.09	-1962.18	-1440.87	-770.26	5766481.89	606101.23
2776	38.06	240.04	1990.88	-1962.97	-1441.18	-770.79	5766481.58	606100.70
2777	38.04	240.05	1991.66	-1963.75	-1441.49	-771.33	5766481.27	606100.16
2778	38.03	240.07	1992.45	-1964.54	-1441.79	-771.86	5766480.97	606099.63
2779	38.02	240.08	1993.24	-1965.33	-1442.10	-772.40	5766480.66	606099.10
2780	38.00	240.09	1994.03	-1966.12	-1442.41	-772.93	5766480.35	606098.56
2781	37.99	240.10	1994.81	-1966.90	-1442.72	-773.46	5766480.04	606098.03
2782	37.98	240.12	1995.60	-1967.69	-1443.03	-774.00	5766479.73	606097.49
2783	37.96	240.13	1996.39	-1968.48	-1443.33	-774.53	5766479.43	606096.96
2784	37.95	240.14	1997.18	-1969.27	-1443.64	-775.07	5766479.12	606096.43
2785	37.93	240.15	1997.96	-1970.05	-1443.95	-775.60	5766478.81	606095.89
2786	37.92	240.16	1998.75	-1970.84	-1444.26	-776.13	5766478.50	606095.36
2787	37.91	240.18	1999.54	-1971.63	-1444.57	-776.67	5766478.20	606094.82
2788	37.89	240.19	2000.32	-1972.41	-1444.87	-777.20	5766477.89	606094.29
2789	37.88	240.20	2001.11	-1973.20	-1445.18	-777.74	5766477.58	606093.75
2790	37.87	240.21	2001.90	-1973.99	-1445.49	-778.27	5766477.27	606093.22
2791	37.86	240.22	2002.69	-1974.78	-1445.79	-778.80	5766476.97	606092.69
2792	37.86	240.23	2003.48	-1975.57	-1446.10	-779.34	5766476.67	606092.16
2793	37.85	240.24	2004.27	-1976.36	-1446.40	-779.87	5766476.36	606091.62
2794	37.85	240.25	2005.06	-1977.15	-1446.70	-780.40	5766476.06	606091.09
2795	37.85	240.25	2005.85	-1977.94	-1447.01	-780.93	5766475.76	606090.56
2796	37.84	240.26	2006.64	-1978.73	-1447.31	-781.47	5766475.45	606090.03
2797	37.84	240.27	2007.43	-1979.52	-1447.61	-782.00	5766475.15	606089.49
2798	37.83	240.28	2008.22	-1980.31	-1447.92	-782.53	5766474.85	606088.96
2799	37.83	240.29	2009.01	-1981.10	-1448.22	-783.06	5766474.54	606088.43
2800	37.82	240.30	2009.80	-1981.89	-1448.52	-783.60	5766474.24	606087.89
2801	37.82	240.30	2010.59	-1982.68	-1448.83	-784.13	5766473.93	606087.36
2802	37.81	240.31	2011.38	-1983.47	-1449.13	-784.66	5766473.63	606086.83
2803	37.81	240.32	2012.17	-1984.26	-1449.43	-785.20	5766473.33	606086.30
2804	37.80	240.33	2012.96	-1985.05	-1449.74	-785.73	5766473.02	606085.76
2805	37.80	240.34	2013.75	-1985.84	-1450.04	-786.26	5766472.72	606085.23
2806	37.80	240.35	2014.54	-1986.63	-1450.34	-786.79	5766472.42	606084.70
2807	37.79	240.36	2015.33	-1987.42	-1450.65	-787.33	5766472.11	606084.17
2808	37.79	240.36	2016.12	-1988.21	-1450.95	-787.86	5766471.81	606083.63
2809	37.78	240.37	2016.91	-1989.00	-1451.25	-788.39	5766471.51	606083.10
2810	37.78	240.38	2017.70	-1989.79	-1451.56	-788.92	5766471.20	606082.57
2811	37.77	240.39	2018.49	-1990.58	-1451.86	-789.46	5766470.90	606082.04
2812	37.77	240.40	2019.28	-1991.37	-1452.16	-789.99	5766470.60	606081.50
2813	37.76	240.41	2020.07	-1992.16	-1452.47	-790.52	5766470.29	606080.97
2814	37.76	240.41	2020.86	-1992.95	-1452.77	-791.05	5766469.99	606080.44
2815	37.75	240.42	2021.65	-1993.74	-1453.07	-791.59	5766469.69	606079.91
2816	37.75	240.43	2022.44	-1994.53	-1453.38	-792.12	5766469.38	606079.37

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
2817	37.75	240.44	2023.23	-1995.32	-1453.68	-792.65	5766469.08	606078.84
2818	37.74	240.45	2024.02	-1996.11	-1453.98	-793.18	5766468.78	606078.31
2819	37.75	240.44	2024.81	-1996.90	-1454.29	-793.72	5766468.47	606077.77
2820	37.75	240.43	2025.60	-1997.69	-1454.59	-794.25	5766468.17	606077.24
2821	37.76	240.41	2026.39	-1998.48	-1454.90	-794.78	5766467.86	606076.71
2822	37.77	240.40	2027.18	-1999.27	-1455.20	-795.32	5766467.56	606076.18
2823	37.78	240.38	2027.97	-2000.06	-1455.51	-795.85	5766467.25	606075.64
2824	37.78	240.37	2028.76	-2000.85	-1455.81	-796.38	5766466.95	606075.11
2825	37.79	240.35	2029.55	-2001.64	-1456.12	-796.91	5766466.65	606074.58
2826	37.80	240.34	2030.34	-2002.43	-1456.42	-797.45	5766466.34	606074.05
2827	37.81	240.33	2031.13	-2003.22	-1456.73	-797.98	5766466.04	606073.51
2828	37.81	240.31	2031.92	-2004.01	-1457.03	-798.51	5766465.73	606072.98
2829	37.82	240.30	2032.71	-2004.80	-1457.33	-799.04	5766465.43	606072.45
2830	37.83	240.28	2033.50	-2005.59	-1457.64	-799.58	5766465.12	606071.92
2831	37.84	240.27	2034.29	-2006.38	-1457.94	-800.11	5766464.82	606071.38
2832	37.84	240.25	2035.08	-2007.17	-1458.25	-800.64	5766464.51	606070.85
2833	37.85	240.24	2035.87	-2007.96	-1458.55	-801.17	5766464.21	606070.32
2834	37.86	240.23	2036.66	-2008.75	-1458.86	-801.71	5766463.90	606069.78
2835	37.87	240.21	2037.45	-2009.54	-1459.16	-802.24	5766463.60	606069.25
2836	37.88	240.20	2038.24	-2010.33	-1459.47	-802.77	5766463.30	606068.72
2837	37.88	240.18	2039.03	-2011.12	-1459.77	-803.31	5766462.99	606068.19
2838	37.89	240.17	2039.82	-2011.91	-1460.07	-803.84	5766462.69	606067.65
2839	37.90	240.15	2040.61	-2012.70	-1460.38	-804.37	5766462.38	606067.12
2840	37.91	240.14	2041.39	-2013.48	-1460.68	-804.90	5766462.08	606066.59
2841	37.91	240.13	2042.18	-2014.27	-1460.99	-805.44	5766461.77	606066.06
2842	37.92	240.11	2042.97	-2015.06	-1461.29	-805.97	5766461.47	606065.52
2843	37.93	240.10	2043.76	-2015.85	-1461.60	-806.50	5766461.16	606064.99
2844	37.94	240.08	2044.55	-2016.64	-1461.90	-807.03	5766460.86	606064.46
2845	37.94	240.07	2045.34	-2017.43	-1462.21	-807.57	5766460.56	606063.92
2846	37.95	240.05	2046.13	-2018.22	-1462.51	-808.10	5766460.25	606063.39
2847	37.96	240.04	2046.92	-2019.01	-1462.82	-808.63	5766459.95	606062.86
2848	37.95	240.05	2047.71	-2019.80	-1463.12	-809.16	5766459.64	606062.33
2849	37.94	240.05	2048.50	-2020.59	-1463.43	-809.69	5766459.34	606061.80
2850	37.92	240.06	2049.29	-2021.38	-1463.73	-810.23	5766459.03	606061.27
2851	37.91	240.06	2050.08	-2022.17	-1464.04	-810.76	5766458.73	606060.73
2852	37.90	240.07	2050.87	-2022.96	-1464.34	-811.29	5766458.42	606060.20
2853	37.89	240.08	2051.66	-2023.75	-1464.65	-811.82	5766458.12	606059.67
2854	37.87	240.08	2052.45	-2024.54	-1464.95	-812.35	5766457.81	606059.14
2855	37.86	240.09	2053.25	-2025.34	-1465.26	-812.88	5766457.51	606058.61
2856	37.85	240.10	2054.04	-2026.13	-1465.56	-813.41	5766457.20	606058.08
2857	37.84	240.10	2054.83	-2026.92	-1465.87	-813.94	5766456.90	606057.55
2858	37.82	240.11	2055.62	-2027.71	-1466.17	-814.48	5766456.59	606057.02
2859	37.81	240.11	2056.41	-2028.50	-1466.48	-815.01	5766456.28	606056.48
2860	37.80	240.12	2057.20	-2029.29	-1466.78	-815.54	5766455.98	606055.95
2861	37.78	240.13	2057.99	-2030.08	-1467.09	-816.07	5766455.67	606055.42
2862	37.77	240.13	2058.78	-2030.87	-1467.39	-816.60	5766455.37	606054.89
2863	37.76	240.14	2059.57	-2031.66	-1467.70	-817.13	5766455.06	606054.36
2864	37.75	240.15	2060.36	-2032.45	-1468.00	-817.66	5766454.76	606053.83
2865	37.73	240.15	2061.15	-2033.24	-1468.31	-818.19	5766454.45	606053.30
2866	37.72	240.16	2061.94	-2034.03	-1468.61	-818.73	5766454.15	606052.77
2867	37.71	240.17	2062.73	-2034.82	-1468.92	-819.26	5766453.84	606052.23
2868	37.70	240.17	2063.52	-2035.61	-1469.22	-819.79	5766453.54	606051.70
2869	37.68	240.18	2064.31	-2036.40	-1469.53	-820.32	5766453.23	606051.17
2870	37.67	240.18	2065.10	-2037.19	-1469.83	-820.85	5766452.93	606050.64
2871	37.66	240.19	2065.89	-2037.98	-1470.14	-821.38	5766452.62	606050.11
2872	37.65	240.20	2066.68	-2038.77	-1470.44	-821.91	5766452.32	606049.58
2873	37.63	240.20	2067.47	-2039.56	-1470.75	-822.45	5766452.01	606049.05
2874	37.62	240.21	2068.26	-2040.35	-1471.05	-822.98	5766451.71	606048.52
2875	37.61	240.22	2069.05	-2041.14	-1471.36	-823.51	5766451.40	606047.98
2876	37.60	240.22	2069.84	-2041.93	-1471.66	-824.04	5766451.10	606047.45
2877	37.58	240.22	2070.64	-2042.73	-1471.96	-824.57	5766450.80	606046.93
2878	37.57	240.22	2071.43	-2043.52	-1472.27	-825.09	5766450.49	606046.40
2879	37.56	240.21	2072.23	-2044.32	-1472.57	-825.62	5766450.19	606045.87
2880	37.55	240.21	2073.02	-2045.11	-1472.87	-826.15	5766449.89	606045.34
2881	37.53	240.21	2073.81	-2045.90	-1473.17	-826.67	5766449.59	606044.82
2882	37.52	240.21	2074.61	-2046.70	-1473.47	-827.20	5766449.29	606044.29

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
2883	37.51	240.21	2075.40	-2047.49	-1473.78	-827.73	5766448.98	606043.76
2884	37.50	240.21	2076.20	-2048.29	-1474.08	-828.26	5766448.68	606043.24
2885	37.48	240.20	2076.99	-2049.08	-1474.38	-828.78	5766448.38	606042.71
2886	37.47	240.20	2077.79	-2049.88	-1474.68	-829.31	5766448.08	606042.18
2887	37.46	240.20	2078.58	-2050.67	-1474.99	-829.84	5766447.78	606041.65
2888	37.45	240.20	2079.37	-2051.46	-1475.29	-830.36	5766447.47	606041.13
2889	37.43	240.20	2080.17	-2052.26	-1475.59	-830.89	5766447.17	606040.60
2890	37.42	240.20	2080.96	-2053.05	-1475.89	-831.42	5766446.87	606040.07
2891	37.41	240.19	2081.76	-2053.85	-1476.19	-831.95	5766446.57	606039.54
2892	37.40	240.19	2082.55	-2054.64	-1476.50	-832.47	5766446.27	606039.02
2893	37.38	240.19	2083.35	-2055.44	-1476.80	-833.00	5766445.96	606038.49
2894	37.37	240.19	2084.14	-2056.23	-1477.10	-833.53	5766445.66	606037.96
2895	37.36	240.19	2084.93	-2057.02	-1477.40	-834.06	5766445.36	606037.44
2896	37.35	240.18	2085.73	-2057.82	-1477.70	-834.58	5766445.06	606036.91
2897	37.33	240.18	2086.52	-2058.61	-1478.01	-835.11	5766444.76	606036.38
2898	37.32	240.18	2087.32	-2059.41	-1478.31	-835.64	5766444.45	606035.85
2899	37.31	240.18	2088.11	-2060.20	-1478.61	-836.16	5766444.15	606035.33
2900	37.30	240.18	2088.90	-2060.99	-1478.91	-836.69	5766443.85	606034.80
2901	37.28	240.18	2089.70	-2061.79	-1479.21	-837.22	5766443.55	606034.27
2902	37.27	240.17	2090.49	-2062.58	-1479.52	-837.75	5766443.25	606033.75
2903	37.26	240.17	2091.29	-2063.38	-1479.82	-838.27	5766442.94	606033.22
2904	37.25	240.17	2092.08	-2064.17	-1480.12	-838.80	5766442.64	606032.69
2905	37.23	240.16	2092.88	-2064.97	-1480.42	-839.33	5766442.34	606032.17
2906	37.21	240.16	2093.68	-2065.77	-1480.72	-839.85	5766442.04	606031.65
2907	37.20	240.15	2094.48	-2066.57	-1481.02	-840.37	5766441.74	606031.12
2908	37.18	240.14	2095.27	-2067.36	-1481.32	-840.89	5766441.44	606030.60
2909	37.17	240.13	2096.07	-2068.16	-1481.62	-841.41	5766441.14	606030.08
2910	37.15	240.12	2096.87	-2068.96	-1481.92	-841.93	5766440.84	606029.56
2911	37.13	240.11	2097.67	-2069.76	-1482.22	-842.45	5766440.54	606029.04
2912	37.12	240.10	2098.47	-2070.56	-1482.53	-842.98	5766440.24	606028.52
2913	37.10	240.09	2099.27	-2071.36	-1482.83	-843.50	5766439.94	606027.99
2914	37.08	240.08	2100.06	-2072.15	-1483.13	-844.02	5766439.63	606027.47
2915	37.07	240.07	2100.86	-2072.95	-1483.43	-844.54	5766439.33	606026.95
2916	37.05	240.06	2101.66	-2073.75	-1483.73	-845.06	5766439.03	606026.43
2917	37.04	240.05	2102.46	-2074.55	-1484.03	-845.58	5766438.73	606025.91
2918	37.02	240.04	2103.26	-2075.35	-1484.33	-846.10	5766438.43	606025.39
2919	37.00	240.03	2104.06	-2076.15	-1484.63	-846.63	5766438.13	606024.87
2920	36.99	240.02	2104.86	-2076.95	-1484.93	-847.15	5766437.83	606024.34
2921	36.97	240.01	2105.65	-2077.74	-1485.23	-847.67	5766437.53	606023.82
2922	36.95	240.00	2106.45	-2078.54	-1485.53	-848.19	5766437.23	606023.30
2923	36.94	239.99	2107.25	-2079.34	-1485.83	-848.71	5766436.93	606022.78
2924	36.92	239.98	2108.05	-2080.14	-1486.13	-849.23	5766436.63	606022.26
2925	36.91	239.97	2108.85	-2080.94	-1486.43	-849.75	5766436.33	606021.74
2926	36.89	239.96	2109.65	-2081.74	-1486.73	-850.28	5766436.03	606021.22
2927	36.87	239.95	2110.45	-2082.54	-1487.03	-850.80	5766435.73	606020.69
2928	36.86	239.94	2111.24	-2083.33	-1487.34	-851.32	5766435.43	606020.17
2929	36.84	239.94	2112.04	-2084.13	-1487.64	-851.84	5766435.13	606019.65
2930	36.82	239.93	2112.84	-2084.93	-1487.94	-852.36	5766434.82	606019.13
2931	36.81	239.92	2113.64	-2085.73	-1488.24	-852.88	5766434.52	606018.61
2932	36.79	239.91	2114.44	-2086.53	-1488.54	-853.41	5766434.22	606018.09
2933	36.78	239.89	2115.24	-2087.33	-1488.84	-853.92	5766433.92	606017.57
2934	36.77	239.88	2116.04	-2088.13	-1489.14	-854.44	5766433.62	606017.05
2935	36.76	239.86	2116.84	-2088.93	-1489.44	-854.96	5766433.32	606016.54
2936	36.75	239.84	2117.64	-2089.73	-1489.74	-855.47	5766433.02	606016.02
2937	36.74	239.82	2118.45	-2090.54	-1490.05	-855.99	5766432.71	606015.51
2938	36.74	239.80	2119.25	-2091.34	-1490.35	-856.50	5766432.41	606014.99
2939	36.73	239.78	2120.05	-2092.14	-1490.65	-857.02	5766432.11	606014.48
2940	36.72	239.77	2120.85	-2092.94	-1490.95	-857.53	5766431.81	606013.96
2941	36.71	239.75	2121.66	-2093.75	-1491.25	-858.05	5766431.51	606013.45
2942	36.70	239.73	2122.46	-2094.55	-1491.56	-858.56	5766431.21	606012.93
2943	36.69	239.71	2123.26	-2095.35	-1491.86	-859.08	5766430.90	606012.42
2944	36.69	239.69	2124.06	-2096.15	-1492.16	-859.59	5766430.60	606011.90
2945	36.68	239.67	2124.86	-2096.95	-1492.46	-860.11	5766430.30	606011.38
2946	36.67	239.66	2125.67	-2097.76	-1492.76	-860.62	5766430.00	606010.87
2947	36.66	239.64	2126.47	-2098.56	-1493.06	-861.14	5766429.70	606010.35
2948	36.65	239.62	2127.27	-2099.36	-1493.37	-861.65	5766429.40	606009.84

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
2949	36.64	239.60	2128.07	-2100.16	-1493.67	-862.17	5766429.09	606009.32
2950	36.64	239.58	2128.88	-2100.97	-1493.97	-862.68	5766428.79	606008.81
2951	36.63	239.56	2129.68	-2101.77	-1494.27	-863.20	5766428.49	606008.29
2952	36.62	239.55	2130.48	-2102.57	-1494.57	-863.71	5766428.19	606007.78
2953	36.61	239.53	2131.28	-2103.37	-1494.88	-864.23	5766427.89	606007.26
2954	36.60	239.51	2132.08	-2104.17	-1495.18	-864.74	5766427.58	606006.75
2955	36.59	239.49	2132.89	-2104.98	-1495.48	-865.26	5766427.28	606006.23
2956	36.59	239.47	2133.69	-2105.78	-1495.78	-865.77	5766426.98	606005.72
2957	36.58	239.45	2134.49	-2106.58	-1496.08	-866.29	5766426.68	606005.20
2958	36.57	239.44	2135.29	-2107.38	-1496.38	-866.80	5766426.38	606004.69
2959	36.56	239.42	2136.10	-2108.19	-1496.69	-867.32	5766426.08	606004.17
2960	36.55	239.40	2136.90	-2108.99	-1496.99	-867.83	5766425.77	606003.66
2961	36.55	239.38	2137.70	-2109.79	-1497.29	-868.35	5766425.47	606003.14
2962	36.54	239.37	2138.50	-2110.59	-1497.59	-868.86	5766425.17	606002.63
2963	36.55	239.37	2139.30	-2111.39	-1497.90	-869.38	5766424.86	606002.11
2964	36.55	239.37	2140.11	-2112.20	-1498.20	-869.89	5766424.56	606001.60
2965	36.56	239.37	2140.91	-2113.00	-1498.50	-870.40	5766424.26	606001.09
2966	36.56	239.37	2141.71	-2113.80	-1498.81	-870.92	5766423.95	606000.58
2967	36.57	239.36	2142.51	-2114.60	-1499.11	-871.43	5766423.65	606000.06
2968	36.58	239.36	2143.32	-2115.41	-1499.42	-871.94	5766423.34	605999.55
2969	36.58	239.36	2144.12	-2116.21	-1499.72	-872.46	5766423.04	605999.04
2970	36.59	239.36	2144.92	-2117.01	-1500.02	-872.97	5766422.74	605998.52
2971	36.59	239.36	2145.73	-2117.82	-1500.33	-873.48	5766422.43	605998.01
2972	36.60	239.36	2146.53	-2118.62	-1500.63	-874.00	5766422.13	605997.50
2973	36.60	239.36	2147.33	-2119.42	-1500.94	-874.51	5766421.82	605996.98
2974	36.61	239.36	2148.13	-2120.22	-1501.24	-875.02	5766421.52	605996.47
2975	36.61	239.36	2148.94	-2121.03	-1501.55	-875.54	5766421.22	605995.96
2976	36.62	239.35	2149.74	-2121.83	-1501.85	-876.05	5766420.91	605995.44
2977	36.63	239.35	2150.54	-2122.63	-1502.15	-876.56	5766420.61	605994.93
2978	36.63	239.35	2151.34	-2123.43	-1502.46	-877.08	5766420.30	605994.42
2979	36.64	239.35	2152.15	-2124.24	-1502.76	-877.59	5766420.00	605993.90
2980	36.64	239.35	2152.95	-2125.04	-1503.07	-878.10	5766419.70	605993.39
2981	36.65	239.35	2153.75	-2125.84	-1503.37	-878.61	5766419.39	605992.88
2982	36.65	239.35	2154.55	-2126.64	-1503.67	-879.13	5766419.09	605992.36
2983	36.66	239.35	2155.36	-2127.45	-1503.98	-879.64	5766418.78	605991.85
2984	36.67	239.35	2156.16	-2128.25	-1504.28	-880.15	5766418.48	605991.34
2985	36.67	239.35	2156.96	-2129.05	-1504.59	-880.67	5766418.18	605990.82
2986	36.68	239.34	2157.76	-2129.85	-1504.89	-881.18	5766417.87	605990.31
2987	36.68	239.34	2158.57	-2130.66	-1505.19	-881.69	5766417.57	605989.80
2988	36.69	239.34	2159.37	-2131.46	-1505.50	-882.21	5766417.26	605989.28
2989	36.69	239.34	2160.17	-2132.26	-1505.80	-882.72	5766416.96	605988.77
2990	36.70	239.34	2160.97	-2133.06	-1506.11	-883.23	5766416.66	605988.26
2991	36.69	239.35	2161.78	-2133.87	-1506.41	-883.75	5766416.35	605987.75
2992	36.67	239.35	2162.58	-2134.67	-1506.71	-884.26	5766416.05	605987.23
2993	36.66	239.36	2163.39	-2135.48	-1507.01	-884.77	5766415.75	605986.72
2994	36.64	239.37	2164.19	-2136.28	-1507.32	-885.28	5766415.45	605986.21
2995	36.63	239.38	2164.99	-2137.08	-1507.62	-885.79	5766415.14	605985.70
2996	36.61	239.38	2165.80	-2137.89	-1507.92	-886.31	5766414.84	605985.19
2997	36.59	239.39	2166.60	-2138.69	-1508.22	-886.82	5766414.54	605984.67
2998	36.58	239.40	2167.41	-2139.50	-1508.52	-887.33	5766414.24	605984.16
2999	36.56	239.41	2168.21	-2140.30	-1508.83	-887.84	5766413.94	605983.65
3000	36.55	239.41	2169.02	-2141.11	-1509.13	-888.35	5766413.63	605983.14
3001	36.53	239.42	2169.82	-2141.91	-1509.43	-888.86	5766413.33	605982.63
3002	36.52	239.43	2170.62	-2142.71	-1509.73	-889.38	5766413.03	605982.12
3003	36.50	239.44	2171.43	-2143.52	-1510.03	-889.89	5766412.73	605981.60
3004	36.48	239.44	2172.23	-2144.32	-1510.34	-890.40	5766412.43	605981.09
3005	36.47	239.45	2173.04	-2145.13	-1510.64	-890.91	5766412.12	605980.58
3006	36.45	239.46	2173.84	-2145.93	-1510.94	-891.42	5766411.82	605980.07
3007	36.44	239.47	2174.64	-2146.73	-1511.24	-891.94	5766411.52	605979.56
3008	36.42	239.47	2175.45	-2147.54	-1511.54	-892.45	5766411.22	605979.04
3009	36.41	239.48	2176.25	-2148.34	-1511.85	-892.96	5766410.91	605978.53
3010	36.39	239.49	2177.06	-2149.15	-1512.15	-893.47	5766410.61	605978.02
3011	36.37	239.50	2177.86	-2149.95	-1512.45	-893.98	5766410.31	605977.51
3012	36.36	239.50	2178.67	-2150.76	-1512.75	-894.50	5766410.01	605977.00
3013	36.34	239.51	2179.47	-2151.56	-1513.06	-895.01	5766409.71	605976.48
3014	36.33	239.52	2180.27	-2152.36	-1513.36	-895.52	5766409.40	605975.97

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
3015	36.31	239.53	2181.08	-2153.17	-1513.66	-896.03	5766409.10	605975.46
3016	36.30	239.53	2181.88	-2153.97	-1513.96	-896.54	5766408.80	605974.95
3017	36.28	239.54	2182.69	-2154.78	-1514.26	-897.06	5766408.50	605974.44
3018	36.26	239.55	2183.49	-2155.58	-1514.57	-897.57	5766408.20	605973.92
3019	36.25	239.56	2184.29	-2156.38	-1514.87	-898.08	5766407.89	605973.41
3020	36.23	239.57	2185.10	-2157.19	-1515.17	-898.59	5766407.59	605972.90
3021	36.22	239.58	2185.91	-2158.00	-1515.46	-899.10	5766407.30	605972.39
3022	36.21	239.59	2186.72	-2158.81	-1515.76	-899.61	5766407.00	605971.89
3023	36.19	239.60	2187.53	-2159.62	-1516.06	-900.11	5766406.70	605971.38
3024	36.18	239.61	2188.34	-2160.43	-1516.36	-900.62	5766406.41	605970.87
3025	36.17	239.62	2189.14	-2161.23	-1516.65	-901.13	5766406.11	605970.36
3026	36.16	239.63	2189.95	-2162.04	-1516.95	-901.64	5766405.81	605969.85
3027	36.14	239.64	2190.76	-2162.85	-1517.25	-902.15	5766405.52	605969.35
3028	36.13	239.65	2191.57	-2163.66	-1517.54	-902.65	5766405.22	605968.84
3029	36.12	239.66	2192.38	-2164.47	-1517.84	-903.16	5766404.92	605968.33
3030	36.10	239.67	2193.19	-2165.28	-1518.14	-903.67	5766404.63	605967.82
3031	36.09	239.68	2193.99	-2166.08	-1518.43	-904.18	5766404.33	605967.31
3032	36.08	239.70	2194.80	-2166.89	-1518.73	-904.69	5766404.03	605966.80
3033	36.07	239.71	2195.61	-2167.70	-1519.03	-905.20	5766403.73	605966.30
3034	36.05	239.72	2196.42	-2168.51	-1519.32	-905.70	5766403.44	605965.79
3035	36.04	239.73	2197.23	-2169.32	-1519.62	-906.21	5766403.14	605965.28
3036	36.03	239.74	2198.04	-2170.13	-1519.92	-906.72	5766402.84	605964.77
3037	36.01	239.75	2198.85	-2170.94	-1520.21	-907.23	5766402.55	605964.26
3038	36.00	239.76	2199.65	-2171.74	-1520.51	-907.74	5766402.25	605963.75
3039	35.99	239.77	2200.46	-2172.55	-1520.81	-908.25	5766401.95	605963.25
3040	35.97	239.78	2201.27	-2173.36	-1521.10	-908.75	5766401.66	605962.74
3041	35.96	239.79	2202.08	-2174.17	-1521.40	-909.26	5766401.36	605962.23
3042	35.95	239.80	2202.89	-2174.98	-1521.70	-909.77	5766401.06	605961.72
3043	35.94	239.82	2203.70	-2175.79	-1521.99	-910.28	5766400.77	605961.21
3044	35.92	239.83	2204.50	-2176.59	-1522.29	-910.79	5766400.47	605960.71
3045	35.91	239.84	2205.31	-2177.40	-1522.59	-911.29	5766400.17	605960.20
3046	35.90	239.85	2206.12	-2178.21	-1522.89	-911.80	5766399.88	605959.69
3047	35.88	239.86	2206.93	-2179.02	-1523.18	-912.31	5766399.58	605959.18
3048	35.87	239.87	2207.74	-2179.83	-1523.48	-912.82	5766399.28	605958.67
3049	35.84	239.86	2208.55	-2180.64	-1523.77	-913.32	5766398.99	605958.17
3050	35.81	239.84	2209.37	-2181.46	-1524.06	-913.82	5766398.70	605957.67
3051	35.77	239.83	2210.18	-2182.27	-1524.36	-914.32	5766398.40	605957.17
3052	35.74	239.81	2211.00	-2183.09	-1524.65	-914.82	5766398.11	605956.67
3053	35.71	239.80	2211.81	-2183.90	-1524.94	-915.32	5766397.82	605956.17
3054	35.68	239.78	2212.63	-2184.72	-1525.24	-915.82	5766397.53	605955.67
3055	35.65	239.77	2213.44	-2185.53	-1525.53	-916.32	5766397.23	605955.17
3056	35.61	239.75	2214.26	-2186.35	-1525.82	-916.82	5766396.94	605954.67
3057	35.58	239.73	2215.07	-2187.16	-1526.11	-917.32	5766396.65	605954.17
3058	35.55	239.72	2215.89	-2187.98	-1526.41	-917.82	5766396.36	605953.67
3059	35.52	239.70	2216.70	-2188.79	-1526.70	-918.32	5766396.06	605953.17
3060	35.48	239.69	2217.52	-2189.61	-1526.99	-918.82	5766395.77	605952.67
3061	35.45	239.67	2218.33	-2190.42	-1527.28	-919.32	5766395.48	605952.17
3062	35.42	239.66	2219.15	-2191.24	-1527.58	-919.82	5766395.18	605951.67
3063	35.39	239.64	2219.96	-2192.05	-1527.87	-920.32	5766394.89	605951.17
3064	35.35	239.63	2220.78	-2192.87	-1528.16	-920.82	5766394.60	605950.67
3065	35.32	239.61	2221.59	-2193.68	-1528.45	-921.32	5766394.31	605950.17
3066	35.29	239.60	2222.41	-2194.50	-1528.75	-921.82	5766394.01	605949.67
3067	35.26	239.58	2223.22	-2195.31	-1529.04	-922.32	5766393.72	605949.17
3068	35.23	239.57	2224.04	-2196.13	-1529.33	-922.82	5766393.43	605948.67
3069	35.19	239.55	2224.85	-2196.94	-1529.63	-923.32	5766393.14	605948.17
3070	35.16	239.54	2225.67	-2197.76	-1529.92	-923.82	5766392.84	605947.67
3071	35.13	239.52	2226.48	-2198.57	-1530.21	-924.32	5766392.55	605947.17
3072	35.10	239.51	2227.30	-2199.39	-1530.50	-924.82	5766392.26	605946.67
3073	35.06	239.49	2228.11	-2200.20	-1530.80	-925.32	5766391.96	605946.17
3074	35.03	239.48	2228.93	-2201.02	-1531.09	-925.82	5766391.67	605945.67
3075	35.00	239.46	2229.74	-2201.83	-1531.38	-926.32	5766391.38	605945.17
3076	34.97	239.45	2230.56	-2202.65	-1531.67	-926.82	5766391.09	605944.67
3077	34.94	239.45	2231.38	-2203.47	-1531.96	-927.32	5766390.80	605944.18
3078	34.92	239.47	2232.20	-2204.29	-1532.25	-927.81	5766390.51	605943.68
3079	34.89	239.48	2233.02	-2205.11	-1532.54	-928.30	5766390.22	605943.19
3080	34.87	239.50	2233.85	-2205.94	-1532.82	-928.79	5766389.94	605942.70

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
3081	34.85	239.52	2234.67	-2206.76	-1533.11	-929.28	5766389.65	605942.21
3082	34.82	239.54	2235.49	-2207.58	-1533.40	-929.77	5766389.36	605941.72
3083	34.80	239.55	2236.31	-2208.40	-1533.68	-930.26	5766389.08	605941.23
3084	34.78	239.57	2237.14	-2209.23	-1533.97	-930.75	5766388.79	605940.74
3085	34.75	239.59	2237.96	-2210.05	-1534.26	-931.24	5766388.50	605940.25
3086	34.73	239.60	2238.78	-2210.87	-1534.54	-931.73	5766388.22	605939.76
3087	34.71	239.62	2239.61	-2211.70	-1534.83	-932.22	5766387.93	605939.27
3088	34.68	239.64	2240.43	-2212.52	-1535.12	-932.71	5766387.64	605938.78
3089	34.66	239.66	2241.25	-2213.34	-1535.40	-933.20	5766387.36	605938.29
3090	34.64	239.67	2242.08	-2214.17	-1535.69	-933.69	5766387.07	605937.80
3091	34.61	239.69	2242.90	-2214.99	-1535.98	-934.18	5766386.78	605937.31
3092	34.59	239.71	2243.72	-2215.81	-1536.27	-934.67	5766386.50	605936.82
3093	34.57	239.73	2244.54	-2216.63	-1536.55	-935.16	5766386.21	605936.33
3094	34.54	239.74	2245.37	-2217.46	-1536.84	-935.65	5766385.92	605935.84
3095	34.52	239.76	2246.19	-2218.28	-1537.13	-936.14	5766385.64	605935.35
3096	34.50	239.78	2247.01	-2219.10	-1537.41	-936.63	5766385.35	605934.86
3097	34.47	239.80	2247.84	-2219.93	-1537.70	-937.12	5766385.06	605934.37
3098	34.45	239.81	2248.66	-2220.75	-1537.99	-937.61	5766384.78	605933.88
3099	34.43	239.83	2249.48	-2221.57	-1538.27	-938.11	5766384.49	605933.39
3100	34.40	239.85	2250.31	-2222.40	-1538.56	-938.60	5766384.20	605932.90
3101	34.38	239.87	2251.13	-2223.22	-1538.85	-939.09	5766383.92	605932.41
3102	34.36	239.88	2251.95	-2224.04	-1539.13	-939.58	5766383.63	605931.92
3103	34.33	239.90	2252.77	-2224.86	-1539.42	-940.07	5766383.34	605931.42
3104	34.31	239.92	2253.60	-2225.69	-1539.71	-940.56	5766383.06	605930.93
3105	34.29	239.93	2254.42	-2226.51	-1539.99	-941.05	5766382.77	605930.44
3106	34.26	239.94	2255.25	-2227.34	-1540.27	-941.53	5766382.49	605929.96
3107	34.23	239.95	2256.08	-2228.17	-1540.55	-942.02	5766382.21	605929.48
3108	34.20	239.96	2256.91	-2229.00	-1540.83	-942.50	5766381.93	605928.99
3109	34.17	239.96	2257.74	-2229.83	-1541.11	-942.98	5766381.65	605928.51
3110	34.15	239.97	2258.57	-2230.66	-1541.39	-943.46	5766381.37	605928.03
3111	34.12	239.98	2259.40	-2231.49	-1541.67	-943.95	5766381.10	605927.54
3112	34.09	239.98	2260.23	-2232.32	-1541.94	-944.43	5766380.82	605927.06
3113	34.06	239.99	2261.06	-2233.15	-1542.22	-944.91	5766380.54	605926.58
3114	34.03	239.99	2261.89	-2233.98	-1542.50	-945.40	5766380.26	605926.10
3115	34.00	240.00	2262.72	-2234.81	-1542.78	-945.88	5766379.98	605925.61
3116	33.98	240.01	2263.55	-2235.64	-1543.06	-946.36	5766379.70	605925.13
3117	33.95	240.01	2264.38	-2236.47	-1543.34	-946.84	5766379.43	605924.65
3118	33.92	240.02	2265.21	-2237.30	-1543.61	-947.33	5766379.15	605924.16
3119	33.89	240.03	2266.04	-2238.13	-1543.89	-947.81	5766378.87	605923.68
3120	33.86	240.03	2266.87	-2238.96	-1544.17	-948.29	5766378.59	605923.20
3121	33.83	240.04	2267.70	-2239.79	-1544.45	-948.78	5766378.31	605922.72
3122	33.81	240.05	2268.53	-2240.62	-1544.73	-949.26	5766378.03	605922.23
3123	33.78	240.05	2269.36	-2241.45	-1545.01	-949.74	5766377.75	605921.75
3124	33.75	240.06	2270.19	-2242.28	-1545.29	-950.22	5766377.48	605921.27
3125	33.72	240.06	2271.02	-2243.11	-1545.56	-950.71	5766377.20	605920.78
3126	33.69	240.07	2271.85	-2243.94	-1545.84	-951.19	5766376.92	605920.30
3127	33.66	240.08	2272.68	-2244.77	-1546.12	-951.67	5766376.64	605919.82
3128	33.63	240.08	2273.51	-2245.60	-1546.40	-952.16	5766376.36	605919.34
3129	33.61	240.09	2274.34	-2246.43	-1546.68	-952.64	5766376.08	605918.85
3130	33.58	240.10	2275.17	-2247.26	-1546.96	-953.12	5766375.81	605918.37
3131	33.55	240.10	2276.01	-2248.10	-1547.23	-953.60	5766375.53	605917.89
3132	33.52	240.11	2276.84	-2248.93	-1547.51	-954.09	5766375.25	605917.41
3133	33.49	240.11	2277.67	-2249.76	-1547.79	-954.57	5766374.97	605916.92
3134	33.47	240.12	2278.50	-2250.59	-1548.07	-955.05	5766374.69	605916.44
3135	33.46	240.11	2279.33	-2251.42	-1548.34	-955.53	5766374.42	605915.96
3136	33.45	240.10	2280.17	-2252.26	-1548.62	-956.00	5766374.14	605915.49
3137	33.44	240.09	2281.00	-2253.09	-1548.89	-956.48	5766373.87	605915.01
3138	33.43	240.08	2281.84	-2253.93	-1549.17	-956.95	5766373.59	605914.54
3139	33.42	240.07	2282.67	-2254.76	-1549.44	-957.43	5766373.32	605914.06
3140	33.41	240.06	2283.51	-2255.60	-1549.72	-957.91	5766373.04	605913.59
3141	33.41	240.05	2284.35	-2256.44	-1549.99	-958.38	5766372.77	605913.11
3142	33.40	240.03	2285.18	-2257.27	-1550.27	-958.86	5766372.49	605912.63
3143	33.39	240.02	2286.02	-2258.11	-1550.54	-959.33	5766372.22	605912.16
3144	33.38	240.01	2286.85	-2258.94	-1550.82	-959.81	5766371.94	605911.68
3145	33.37	240.00	2287.69	-2259.78	-1551.09	-960.28	5766371.67	605911.21
3146	33.36	239.99	2288.52	-2260.61	-1551.37	-960.76	5766371.39	605910.73

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
3147	33.35	239.98	2289.36	-2261.45	-1551.64	-961.24	5766371.12	605910.26
3148	33.34	239.97	2290.19	-2262.28	-1551.92	-961.71	5766370.84	605909.78
3149	33.33	239.96	2291.03	-2263.12	-1552.19	-962.19	5766370.57	605909.30
3150	33.32	239.95	2291.86	-2263.95	-1552.47	-962.66	5766370.29	605908.83
3151	33.32	239.94	2292.70	-2264.79	-1552.74	-963.14	5766370.02	605908.35
3152	33.31	239.93	2293.53	-2265.62	-1553.02	-963.62	5766369.74	605907.88
3153	33.30	239.92	2294.37	-2266.46	-1553.29	-964.09	5766369.47	605907.40
3154	33.29	239.91	2295.21	-2267.30	-1553.57	-964.57	5766369.19	605906.92
3155	33.28	239.90	2296.04	-2268.13	-1553.84	-965.04	5766368.92	605906.45
3156	33.27	239.89	2296.88	-2268.97	-1554.12	-965.52	5766368.64	605905.97
3157	33.26	239.88	2297.71	-2269.80	-1554.40	-965.99	5766368.37	605905.50
3158	33.25	239.87	2298.55	-2270.64	-1554.67	-966.47	5766368.09	605905.02
3159	33.24	239.86	2299.38	-2271.47	-1554.95	-966.95	5766367.82	605904.55
3160	33.23	239.85	2300.22	-2272.31	-1555.22	-967.42	5766367.54	605904.07
3161	33.23	239.84	2301.05	-2273.14	-1555.50	-967.90	5766367.27	605903.59
3162	33.22	239.83	2301.89	-2273.98	-1555.77	-968.37	5766366.99	605903.12
3163	33.20	239.82	2302.73	-2274.82	-1556.04	-968.85	5766366.72	605902.65
3164	33.15	239.81	2303.57	-2275.66	-1556.32	-969.31	5766366.45	605902.18
3165	33.10	239.80	2304.41	-2276.50	-1556.59	-969.77	5766366.17	605901.72
3166	33.05	239.79	2305.26	-2277.35	-1556.86	-970.24	5766365.90	605901.25
3167	33.00	239.78	2306.10	-2278.19	-1557.13	-970.70	5766365.63	605900.79
3168	32.95	239.77	2306.94	-2279.03	-1557.40	-971.17	5766365.36	605900.33
3169	32.90	239.77	2307.79	-2279.88	-1557.67	-971.63	5766365.09	605899.86
3170	32.86	239.76	2308.63	-2280.72	-1557.94	-972.09	5766364.82	605899.40
3171	32.81	239.75	2309.47	-2281.56	-1558.21	-972.56	5766364.55	605898.93
3172	32.76	239.74	2310.32	-2282.41	-1558.48	-973.02	5766364.28	605898.47
3173	32.71	239.73	2311.16	-2283.25	-1558.76	-973.49	5766364.01	605898.01
3174	32.66	239.72	2312.00	-2284.09	-1559.03	-973.95	5766363.73	605897.54
3175	32.61	239.71	2312.85	-2284.94	-1559.30	-974.41	5766363.46	605897.08
3176	32.56	239.70	2313.69	-2285.78	-1559.57	-974.88	5766363.19	605896.61
3177	32.51	239.70	2314.53	-2286.62	-1559.84	-975.34	5766362.92	605896.15
3178	32.47	239.69	2315.38	-2287.47	-1560.11	-975.81	5766362.65	605895.69
3179	32.42	239.68	2316.22	-2288.31	-1560.38	-976.27	5766362.38	605895.22
3180	32.37	239.67	2317.06	-2289.15	-1560.65	-976.73	5766362.11	605894.76
3181	32.32	239.66	2317.91	-2290.00	-1560.93	-977.20	5766361.84	605894.29
3182	32.27	239.65	2318.75	-2290.84	-1561.20	-977.66	5766361.57	605893.83
3183	32.22	239.64	2319.59	-2291.68	-1561.47	-978.13	5766361.29	605893.37
3184	32.17	239.63	2320.44	-2292.53	-1561.74	-978.59	5766361.02	605892.90
3185	32.12	239.63	2321.28	-2293.37	-1562.01	-979.05	5766360.75	605892.44
3186	32.08	239.62	2322.12	-2294.21	-1562.28	-979.52	5766360.48	605891.97
3187	32.03	239.61	2322.96	-2295.05	-1562.55	-979.98	5766360.21	605891.51
3188	31.98	239.60	2323.81	-2295.90	-1562.82	-980.45	5766359.94	605891.05
3189	31.93	239.59	2324.65	-2296.74	-1563.09	-980.91	5766359.67	605890.58
3190	31.88	239.58	2325.49	-2297.58	-1563.37	-981.37	5766359.40	605890.12
3191	31.83	239.57	2326.34	-2298.43	-1563.64	-981.84	5766359.12	605889.65
3192	31.79	239.56	2327.19	-2299.28	-1563.90	-982.29	5766358.86	605889.20
3193	31.75	239.53	2328.04	-2300.13	-1564.17	-982.74	5766358.59	605888.75
3194	31.71	239.51	2328.90	-2300.99	-1564.44	-983.18	5766358.33	605888.31
3195	31.67	239.48	2329.75	-2301.84	-1564.70	-983.63	5766358.06	605887.86
3196	31.63	239.46	2330.61	-2302.70	-1564.97	-984.07	5766357.80	605887.42
3197	31.59	239.44	2331.46	-2303.55	-1565.23	-984.52	5766357.53	605886.97
3198	31.55	239.41	2332.32	-2304.41	-1565.50	-984.97	5766357.26	605886.53
3199	31.51	239.39	2333.17	-2305.26	-1565.76	-985.41	5766357.00	605886.08
3200	31.47	239.36	2334.03	-2306.12	-1566.03	-985.86	5766356.73	605885.63
3201	31.43	239.34	2334.88	-2306.97	-1566.29	-986.30	5766356.47	605885.19
3202	31.38	239.32	2335.74	-2307.83	-1566.56	-986.75	5766356.20	605884.74
3203	31.34	239.29	2336.59	-2308.68	-1566.82	-987.19	5766355.94	605884.30
3204	31.30	239.27	2337.45	-2309.54	-1567.09	-987.64	5766355.67	605883.85
3205	31.26	239.24	2338.30	-2310.39	-1567.35	-988.09	5766355.41	605883.41
3206	31.22	239.22	2339.16	-2311.25	-1567.62	-988.53	5766355.14	605882.96
3207	31.18	239.20	2340.01	-2312.10	-1567.88	-988.98	5766354.88	605882.51
3208	31.14	239.17	2340.87	-2312.96	-1568.15	-989.42	5766354.61	605882.07
3209	31.10	239.15	2341.72	-2313.81	-1568.41	-989.87	5766354.35	605881.62
3210	31.06	239.12	2342.58	-2314.67	-1568.68	-990.31	5766354.08	605881.18
3211	31.02	239.10	2343.43	-2315.52	-1568.95	-990.76	5766353.82	605880.73
3212	30.98	239.08	2344.29	-2316.38	-1569.21	-991.20	5766353.55	605880.29

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
3213	30.94	239.05	2345.14	-2317.23	-1569.48	-991.65	5766353.29	605879.84
3214	30.90	239.03	2346.00	-2318.09	-1569.74	-992.10	5766353.02	605879.40
3215	30.86	239.00	2346.85	-2318.94	-1570.01	-992.54	5766352.75	605878.95
3216	30.82	238.98	2347.71	-2319.80	-1570.27	-992.99	5766352.49	605878.50
3217	30.78	238.96	2348.56	-2320.65	-1570.54	-993.43	5766352.22	605878.06
3218	30.74	238.93	2349.42	-2321.51	-1570.80	-993.88	5766351.96	605877.61
3219	30.70	238.91	2350.27	-2322.36	-1571.07	-994.32	5766351.69	605877.17
3220	30.66	238.89	2351.13	-2323.22	-1571.33	-994.77	5766351.43	605876.73
3221	30.62	238.88	2352.00	-2324.09	-1571.59	-995.19	5766351.17	605876.30
3222	30.58	238.87	2352.86	-2324.95	-1571.85	-995.62	5766350.91	605875.87
3223	30.53	238.87	2353.73	-2325.82	-1572.11	-996.05	5766350.65	605875.44
3224	30.49	238.86	2354.59	-2326.68	-1572.37	-996.48	5766350.39	605875.01
3225	30.45	238.85	2355.46	-2327.55	-1572.63	-996.91	5766350.13	605874.58
3226	30.41	238.85	2356.32	-2328.41	-1572.89	-997.34	5766349.87	605874.15
3227	30.37	238.84	2357.19	-2329.28	-1573.15	-997.77	5766349.61	605873.73
3228	30.33	238.83	2358.05	-2330.14	-1573.41	-998.19	5766349.35	605873.30
3229	30.29	238.82	2358.92	-2331.01	-1573.67	-998.62	5766349.09	605872.87
3230	30.24	238.82	2359.78	-2331.87	-1573.93	-999.05	5766348.83	605872.44
3231	30.20	238.81	2360.65	-2332.74	-1574.19	-999.48	5766348.57	605872.01
3232	30.16	238.80	2361.51	-2333.60	-1574.45	-999.91	5766348.31	605871.58
3233	30.12	238.80	2362.38	-2334.47	-1574.71	-1000.34	5766348.05	605871.15
3234	30.08	238.79	2363.24	-2335.33	-1574.97	-1000.77	5766347.79	605870.73
3235	30.04	238.78	2364.11	-2336.20	-1575.23	-1001.20	5766347.53	605870.30
3236	30.00	238.78	2364.97	-2337.06	-1575.49	-1001.62	5766347.27	605869.87
3237	29.95	238.77	2365.84	-2337.93	-1575.75	-1002.05	5766347.02	605869.44
3238	29.91	238.76	2366.71	-2338.80	-1576.01	-1002.48	5766346.76	605869.01
3239	29.87	238.75	2367.57	-2339.66	-1576.27	-1002.91	5766346.50	605868.58
3240	29.83	238.75	2368.44	-2340.53	-1576.53	-1003.34	5766346.24	605868.15
3241	29.79	238.74	2369.30	-2341.39	-1576.78	-1003.77	5766345.98	605867.72
3242	29.75	238.73	2370.17	-2342.26	-1577.04	-1004.20	5766345.72	605867.30
3243	29.71	238.73	2371.03	-2343.12	-1577.30	-1004.62	5766345.46	605866.87
3244	29.66	238.72	2371.90	-2343.99	-1577.56	-1005.05	5766345.20	605866.44
3245	29.62	238.71	2372.76	-2344.85	-1577.82	-1005.48	5766344.94	605866.01
3246	29.58	238.71	2373.63	-2345.72	-1578.08	-1005.91	5766344.68	605865.58
3247	29.54	238.70	2374.49	-2346.58	-1578.34	-1006.34	5766344.42	605865.15
3248	29.50	238.69	2375.36	-2347.45	-1578.60	-1006.77	5766344.16	605864.72
3249	29.47	238.68	2376.23	-2348.32	-1578.86	-1007.19	5766343.90	605864.31
3250	29.44	238.66	2377.10	-2349.19	-1579.11	-1007.60	5766343.65	605863.89
3251	29.42	238.64	2377.98	-2350.07	-1579.37	-1008.02	5766343.39	605863.48
3252	29.39	238.63	2378.85	-2350.94	-1579.62	-1008.43	5766343.14	605863.06
3253	29.37	238.61	2379.72	-2351.81	-1579.88	-1008.84	5766342.88	605862.65
3254	29.34	238.59	2380.60	-2352.69	-1580.13	-1009.26	5766342.63	605862.23
3255	29.32	238.58	2381.47	-2353.56	-1580.39	-1009.67	5766342.38	605861.82
3256	29.29	238.56	2382.35	-2354.44	-1580.64	-1010.09	5766342.12	605861.40
3257	29.26	238.54	2383.22	-2355.31	-1580.90	-1010.50	5766341.87	605860.99
3258	29.24	238.53	2384.09	-2356.18	-1581.15	-1010.92	5766341.61	605860.57
3259	29.21	238.51	2384.97	-2357.06	-1581.40	-1011.33	5766341.36	605860.16
3260	29.19	238.49	2385.84	-2357.93	-1581.66	-1011.75	5766341.10	605859.74
3261	29.16	238.48	2386.71	-2358.80	-1581.91	-1012.16	5766340.85	605859.33
3262	29.14	238.46	2387.59	-2359.68	-1582.17	-1012.58	5766340.59	605858.91
3263	29.11	238.44	2388.46	-2360.55	-1582.42	-1012.99	5766340.34	605858.50
3264	29.09	238.43	2389.33	-2361.42	-1582.68	-1013.41	5766340.08	605858.08
3265	29.06	238.41	2390.21	-2362.30	-1582.93	-1013.82	5766339.83	605857.67
3266	29.03	238.39	2391.08	-2363.17	-1583.19	-1014.24	5766339.57	605857.26
3267	29.01	238.38	2391.96	-2364.05	-1583.44	-1014.65	5766339.32	605856.84
3268	28.98	238.36	2392.83	-2364.92	-1583.70	-1015.07	5766339.07	605856.43
3269	28.96	238.34	2393.70	-2365.79	-1583.95	-1015.48	5766338.81	605856.01
3270	28.93	238.33	2394.58	-2366.67	-1584.21	-1015.90	5766338.56	605855.60
3271	28.91	238.31	2395.45	-2367.54	-1584.46	-1016.31	5766338.30	605855.18
3272	28.88	238.29	2396.32	-2368.41	-1584.71	-1016.72	5766338.05	605854.77
3273	28.85	238.28	2397.20	-2369.29	-1584.97	-1017.14	5766337.79	605854.35
3274	28.83	238.26	2398.07	-2370.16	-1585.22	-1017.55	5766337.54	605853.94
3275	28.80	238.24	2398.94	-2371.03	-1585.48	-1017.97	5766337.28	605853.52
3276	28.78	238.23	2399.82	-2371.91	-1585.73	-1018.38	5766337.03	605853.11
3277	28.75	238.21	2400.69	-2372.78	-1585.99	-1018.80	5766336.77	605852.69
3278	28.73	238.22	2401.57	-2373.66	-1586.24	-1019.20	5766336.52	605852.29

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
3279	28.71	238.23	2402.45	-2374.54	-1586.49	-1019.61	5766336.27	605851.88
3280	28.69	238.23	2403.33	-2375.42	-1586.74	-1020.01	5766336.02	605851.48
3281	28.67	238.24	2404.21	-2376.30	-1586.99	-1020.42	5766335.77	605851.07
3282	28.65	238.25	2405.09	-2377.18	-1587.24	-1020.83	5766335.52	605850.67
3283	28.62	238.26	2405.97	-2378.06	-1587.49	-1021.23	5766335.27	605850.26
3284	28.60	238.27	2406.85	-2378.94	-1587.74	-1021.64	5766335.02	605849.86
3285	28.58	238.27	2407.73	-2379.82	-1587.99	-1022.04	5766334.77	605849.45
3286	28.56	238.28	2408.60	-2380.69	-1588.24	-1022.45	5766334.52	605849.04
3287	28.54	238.29	2409.48	-2381.57	-1588.49	-1022.85	5766334.27	605848.64
3288	28.52	238.30	2410.36	-2382.45	-1588.74	-1023.26	5766334.02	605848.23
3289	28.50	238.30	2411.24	-2383.33	-1588.99	-1023.66	5766333.77	605847.83
3290	28.48	238.31	2412.12	-2384.21	-1589.24	-1024.07	5766333.52	605847.42
3291	28.46	238.32	2413.00	-2385.09	-1589.49	-1024.47	5766333.27	605847.02
3292	28.44	238.33	2413.88	-2385.97	-1589.74	-1024.88	5766333.02	605846.61
3293	28.41	238.34	2414.76	-2386.85	-1589.99	-1025.28	5766332.77	605846.21
3294	28.39	238.34	2415.64	-2387.73	-1590.24	-1025.69	5766332.52	605845.80
3295	28.37	238.35	2416.52	-2388.61	-1590.49	-1026.10	5766332.27	605845.40
3296	28.35	238.36	2417.40	-2389.49	-1590.74	-1026.50	5766332.02	605844.99
3297	28.33	238.37	2418.28	-2390.37	-1590.99	-1026.91	5766331.77	605844.59
3298	28.31	238.38	2419.16	-2391.25	-1591.24	-1027.31	5766331.52	605844.18
3299	28.29	238.38	2420.04	-2392.13	-1591.49	-1027.72	5766331.27	605843.78
3300	28.27	238.39	2420.91	-2393.00	-1591.74	-1028.12	5766331.02	605843.37
3301	28.25	238.40	2421.79	-2393.88	-1591.99	-1028.53	5766330.77	605842.96
3302	28.22	238.41	2422.67	-2394.76	-1592.24	-1028.93	5766330.52	605842.56
3303	28.20	238.42	2423.55	-2395.64	-1592.49	-1029.34	5766330.27	605842.15
3304	28.18	238.42	2424.43	-2396.52	-1592.74	-1029.74	5766330.02	605841.75
3305	28.16	238.43	2425.31	-2397.40	-1592.99	-1030.15	5766329.77	605841.34
3306	28.14	238.44	2426.19	-2398.28	-1593.24	-1030.55	5766329.52	605840.94
3307	28.09	238.45	2427.08	-2399.17	-1593.48	-1030.95	5766329.28	605840.54
3308	28.05	238.47	2427.96	-2400.05	-1593.72	-1031.34	5766329.04	605840.15
3309	28.00	238.48	2428.85	-2400.94	-1593.96	-1031.74	5766328.80	605839.76
3310	27.95	238.50	2429.74	-2401.83	-1594.20	-1032.13	5766328.56	605839.36
3311	27.90	238.51	2430.63	-2402.72	-1594.44	-1032.52	5766328.32	605838.97
3312	27.86	238.53	2431.51	-2403.60	-1594.68	-1032.92	5766328.08	605838.57
3313	27.81	238.54	2432.40	-2404.49	-1594.92	-1033.31	5766327.84	605838.18
3314	27.76	238.56	2433.29	-2405.38	-1595.16	-1033.70	5766327.60	605837.79
3315	27.72	238.57	2434.18	-2406.27	-1595.40	-1034.10	5766327.36	605837.39
3316	27.67	238.59	2435.06	-2407.15	-1595.64	-1034.49	5766327.12	605837.00
3317	27.62	238.60	2435.95	-2408.04	-1595.88	-1034.89	5766326.88	605836.61
3318	27.58	238.62	2436.84	-2408.93	-1596.12	-1035.28	5766326.64	605836.21
3319	27.53	238.63	2437.72	-2409.81	-1596.36	-1035.67	5766326.40	605835.82
3320	27.48	238.64	2438.61	-2410.70	-1596.60	-1036.07	5766326.16	605835.42
3321	27.43	238.66	2439.50	-2411.59	-1596.84	-1036.46	5766325.92	605835.03
3322	27.39	238.67	2440.39	-2412.48	-1597.08	-1036.86	5766325.68	605834.64
3323	27.34	238.69	2441.27	-2413.36	-1597.32	-1037.25	5766325.44	605834.24
3324	27.29	238.70	2442.16	-2414.25	-1597.56	-1037.64	5766325.20	605833.85
3325	27.25	238.72	2443.05	-2415.14	-1597.80	-1038.04	5766324.96	605833.45
3326	27.20	238.73	2443.94	-2416.03	-1598.04	-1038.43	5766324.72	605833.06
3327	27.15	238.75	2444.82	-2416.91	-1598.28	-1038.82	5766324.48	605832.67
3328	27.11	238.76	2445.71	-2417.80	-1598.52	-1039.22	5766324.24	605832.27
3329	27.06	238.78	2446.60	-2418.69	-1598.76	-1039.61	5766324.00	605831.88
3330	27.01	238.79	2447.48	-2419.57	-1599.00	-1040.01	5766323.76	605831.49
3331	26.96	238.81	2448.37	-2420.46	-1599.24	-1040.40	5766323.52	605831.09
3332	26.92	238.82	2449.26	-2421.35	-1599.48	-1040.79	5766323.28	605830.70
3333	26.87	238.84	2450.15	-2422.24	-1599.72	-1041.19	5766323.04	605830.30
3334	26.82	238.85	2451.03	-2423.12	-1599.96	-1041.58	5766322.80	605829.91
3335	26.78	238.87	2451.92	-2424.01	-1600.20	-1041.97	5766322.57	605829.52
3336	26.74	238.88	2452.82	-2424.91	-1600.42	-1042.35	5766322.34	605829.14
3337	26.71	238.90	2453.72	-2425.81	-1600.65	-1042.73	5766322.11	605828.76
3338	26.67	238.92	2454.61	-2426.70	-1600.88	-1043.11	5766321.88	605828.38
3339	26.63	238.94	2455.51	-2427.60	-1601.11	-1043.49	5766321.66	605828.00
3340	26.60	238.95	2456.41	-2428.50	-1601.33	-1043.87	5766321.43	605827.62
3341	26.56	238.97	2457.30	-2429.39	-1601.56	-1044.25	5766321.20	605827.24
3342	26.52	238.99	2458.20	-2430.29	-1601.79	-1044.63	5766320.97	605826.86
3343	26.49	239.01	2459.10	-2431.19	-1602.01	-1045.01	5766320.75	605826.48
3344	26.45	239.03	2459.99	-2432.08	-1602.24	-1045.39	5766320.52	605826.10

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
3345	26.41	239.04	2460.89	-2432.98	-1602.47	-1045.77	5766320.29	605825.72
3346	26.38	239.06	2461.79	-2433.88	-1602.70	-1046.15	5766320.07	605825.34
3347	26.34	239.08	2462.68	-2434.77	-1602.92	-1046.53	5766319.84	605824.96
3348	26.30	239.10	2463.58	-2435.67	-1603.15	-1046.91	5766319.61	605824.58
3349	26.27	239.11	2464.48	-2436.57	-1603.38	-1047.29	5766319.38	605824.20
3350	26.23	239.13	2465.37	-2437.46	-1603.60	-1047.67	5766319.16	605823.82
3351	26.19	239.15	2466.27	-2438.36	-1603.83	-1048.05	5766318.93	605823.44
3352	26.16	239.17	2467.17	-2439.26	-1604.06	-1048.43	5766318.70	605823.06
3353	26.12	239.19	2468.07	-2440.16	-1604.29	-1048.81	5766318.48	605822.69
3354	26.08	239.20	2468.96	-2441.05	-1604.51	-1049.19	5766318.25	605822.31
3355	26.05	239.22	2469.86	-2441.95	-1604.74	-1049.57	5766318.02	605821.93
3356	26.01	239.24	2470.76	-2442.85	-1604.97	-1049.95	5766317.79	605821.55
3357	25.97	239.26	2471.65	-2443.74	-1605.19	-1050.33	5766317.57	605821.17
3358	25.94	239.27	2472.55	-2444.64	-1605.42	-1050.71	5766317.34	605820.79
3359	25.90	239.29	2473.45	-2445.54	-1605.65	-1051.08	5766317.11	605820.41
3360	25.86	239.31	2474.34	-2446.43	-1605.88	-1051.46	5766316.89	605820.03
3361	25.83	239.33	2475.24	-2447.33	-1606.10	-1051.84	5766316.66	605819.65
3362	25.79	239.34	2476.14	-2448.23	-1606.33	-1052.22	5766316.43	605819.27
3363	25.75	239.36	2477.03	-2449.12	-1606.56	-1052.60	5766316.20	605818.89
3364	25.71	239.39	2477.93	-2450.02	-1606.78	-1052.98	5766315.98	605818.52
3365	25.67	239.42	2478.84	-2450.93	-1606.99	-1053.34	5766315.77	605818.15
3366	25.63	239.45	2479.75	-2451.84	-1607.20	-1053.71	5766315.56	605817.78
3367	25.58	239.48	2480.65	-2452.74	-1607.42	-1054.08	5766315.34	605817.42
3368	25.54	239.52	2481.56	-2453.65	-1607.63	-1054.44	5766315.13	605817.05
3369	25.50	239.55	2482.46	-2454.55	-1607.84	-1054.81	5766314.92	605816.68
3370	25.45	239.58	2483.37	-2455.46	-1608.06	-1055.18	5766314.70	605816.31
3371	25.41	239.61	2484.27	-2456.36	-1608.27	-1055.54	5766314.49	605815.95
3372	25.37	239.64	2485.18	-2457.27	-1608.48	-1055.91	5766314.28	605815.58
3373	25.32	239.67	2486.08	-2458.17	-1608.70	-1056.28	5766314.06	605815.21
3374	25.28	239.71	2486.99	-2459.08	-1608.91	-1056.64	5766313.85	605814.85
3375	25.24	239.74	2487.89	-2459.98	-1609.12	-1057.01	5766313.64	605814.48
3376	25.19	239.77	2488.80	-2460.89	-1609.34	-1057.38	5766313.42	605814.11
3377	25.15	239.80	2489.71	-2461.80	-1609.55	-1057.75	5766313.21	605813.75
3378	25.11	239.83	2490.61	-2462.70	-1609.76	-1058.11	5766313.00	605813.38
3379	25.06	239.86	2491.52	-2463.61	-1609.98	-1058.48	5766312.78	605813.01
3380	25.02	239.89	2492.42	-2464.51	-1610.19	-1058.85	5766312.57	605812.65
3381	24.98	239.93	2493.33	-2465.42	-1610.40	-1059.21	5766312.36	605812.28
3382	24.93	239.96	2494.23	-2466.32	-1610.62	-1059.58	5766312.14	605811.91
3383	24.89	239.99	2495.14	-2467.23	-1610.83	-1059.95	5766311.93	605811.55
3384	24.85	240.02	2496.04	-2468.13	-1611.04	-1060.31	5766311.72	605811.18
3385	24.80	240.05	2496.95	-2469.04	-1611.26	-1060.68	5766311.50	605810.81
3386	24.76	240.08	2497.85	-2469.94	-1611.47	-1061.05	5766311.29	605810.44
3387	24.71	240.12	2498.76	-2470.85	-1611.69	-1061.41	5766311.08	605810.08
3388	24.67	240.15	2499.67	-2471.76	-1611.90	-1061.78	5766310.86	605809.71
3389	24.63	240.18	2500.57	-2472.66	-1612.11	-1062.15	5766310.65	605809.34
3390	24.58	240.21	2501.48	-2473.57	-1612.33	-1062.51	5766310.44	605808.98
3391	24.54	240.24	2502.38	-2474.47	-1612.54	-1062.88	5766310.22	605808.61
3392	24.50	240.27	2503.29	-2475.38	-1612.75	-1063.25	5766310.01	605808.24
3393	24.44	240.29	2504.20	-2476.29	-1612.95	-1063.60	5766309.81	605807.89
3394	24.39	240.30	2505.12	-2477.21	-1613.15	-1063.95	5766309.61	605807.54
3395	24.33	240.31	2506.03	-2478.12	-1613.35	-1064.30	5766309.41	605807.19
3396	24.28	240.32	2506.95	-2479.04	-1613.55	-1064.65	5766309.21	605806.84
3397	24.22	240.33	2507.86	-2479.95	-1613.75	-1065.00	5766309.01	605806.49
3398	24.17	240.34	2508.78	-2480.87	-1613.95	-1065.35	5766308.82	605806.14
3399	24.11	240.34	2509.69	-2481.78	-1614.14	-1065.70	5766308.62	605805.79
3400	24.06	240.35	2510.61	-2482.70	-1614.34	-1066.05	5766308.42	605805.44
3401	24.00	240.36	2511.53	-2483.62	-1614.54	-1066.40	5766308.22	605805.09
3402	23.95	240.37	2512.44	-2484.53	-1614.74	-1066.75	5766308.02	605804.74
3403	23.89	240.38	2513.36	-2485.45	-1614.94	-1067.10	5766307.82	605804.40
3404	23.84	240.39	2514.27	-2486.36	-1615.14	-1067.45	5766307.62	605804.05
3405	23.78	240.40	2515.19	-2487.28	-1615.33	-1067.80	5766307.43	605803.70
3406	23.73	240.41	2516.10	-2488.19	-1615.53	-1068.15	5766307.23	605803.35
3407	23.67	240.42	2517.02	-2489.11	-1615.73	-1068.49	5766307.03	605803.00
3408	23.62	240.43	2517.93	-2490.02	-1615.93	-1068.84	5766306.83	605802.65
3409	23.56	240.44	2518.85	-2490.94	-1616.13	-1069.19	5766306.63	605802.30
3410	23.51	240.45	2519.77	-2491.86	-1616.33	-1069.54	5766306.43	605801.95

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
3411	23.45	240.46	2520.68	-2492.77	-1616.53	-1069.89	5766306.24	605801.60
3412	23.40	240.47	2521.60	-2493.69	-1616.72	-1070.24	5766306.04	605801.25
3413	23.34	240.48	2522.51	-2494.60	-1616.92	-1070.59	5766305.84	605800.90
3414	23.29	240.49	2523.43	-2495.52	-1617.12	-1070.94	5766305.64	605800.55
3415	23.23	240.50	2524.34	-2496.43	-1617.32	-1071.29	5766305.44	605800.20
3416	23.18	240.51	2525.26	-2497.35	-1617.52	-1071.64	5766305.24	605799.85
3417	23.12	240.51	2526.18	-2498.27	-1617.72	-1071.99	5766305.04	605799.50
3418	23.07	240.52	2527.09	-2499.18	-1617.92	-1072.34	5766304.85	605799.15
3419	23.01	240.53	2528.01	-2500.10	-1618.11	-1072.69	5766304.65	605798.80
3420	22.96	240.54	2528.92	-2501.01	-1618.31	-1073.04	5766304.45	605798.45
3421	22.91	240.56	2529.84	-2501.93	-1618.51	-1073.38	5766304.25	605798.11
3422	22.86	240.58	2530.77	-2502.86	-1618.69	-1073.72	5766304.07	605797.78
3423	22.82	240.61	2531.69	-2503.78	-1618.88	-1074.05	5766303.89	605797.45
3424	22.77	240.63	2532.62	-2504.71	-1619.06	-1074.38	5766303.70	605797.11
3425	22.73	240.66	2533.54	-2505.63	-1619.24	-1074.71	5766303.52	605796.78
3426	22.69	240.69	2534.47	-2506.56	-1619.43	-1075.04	5766303.33	605796.45
3427	22.64	240.71	2535.39	-2507.48	-1619.61	-1075.37	5766303.15	605796.12
3428	22.60	240.74	2536.32	-2508.41	-1619.80	-1075.70	5766302.96	605795.79
3429	22.55	240.76	2537.24	-2509.33	-1619.98	-1076.04	5766302.78	605795.46
3430	22.51	240.79	2538.17	-2510.26	-1620.17	-1076.37	5766302.59	605795.12
3431	22.47	240.81	2539.09	-2511.18	-1620.35	-1076.70	5766302.41	605794.79
3432	22.42	240.84	2540.02	-2512.11	-1620.54	-1077.03	5766302.23	605794.46
3433	22.38	240.86	2540.94	-2513.03	-1620.72	-1077.36	5766302.04	605794.13
3434	22.33	240.89	2541.87	-2513.96	-1620.90	-1077.69	5766301.86	605793.80
3435	22.29	240.92	2542.79	-2514.88	-1621.09	-1078.02	5766301.67	605793.47
3436	22.24	240.94	2543.72	-2515.81	-1621.27	-1078.36	5766301.49	605793.14
3437	22.20	240.97	2544.64	-2516.73	-1621.46	-1078.69	5766301.30	605792.80
3438	22.16	240.99	2545.57	-2517.66	-1621.64	-1079.02	5766301.12	605792.47
3439	22.11	241.02	2546.49	-2518.58	-1621.83	-1079.35	5766300.93	605792.14
3440	22.07	241.04	2547.42	-2519.51	-1622.01	-1079.68	5766300.75	605791.81
3441	22.02	241.07	2548.35	-2520.44	-1622.20	-1080.01	5766300.57	605791.48
3442	21.98	241.10	2549.27	-2521.36	-1622.38	-1080.34	5766300.38	605791.15
3443	21.93	241.12	2550.20	-2522.29	-1622.56	-1080.68	5766300.20	605790.82
3444	21.89	241.15	2551.12	-2523.21	-1622.75	-1081.01	5766300.01	605790.48
3445	21.85	241.17	2552.05	-2524.14	-1622.93	-1081.34	5766299.83	605790.15
3446	21.80	241.20	2552.97	-2525.06	-1623.12	-1081.67	5766299.64	605789.82
3447	21.76	241.22	2553.90	-2525.99	-1623.30	-1082.00	5766299.46	605789.49
3448	21.71	241.25	2554.82	-2526.91	-1623.49	-1082.33	5766299.27	605789.16
3449	21.67	241.27	2555.75	-2527.84	-1623.67	-1082.66	5766299.09	605788.83
3450	21.63	241.29	2556.68	-2528.77	-1623.85	-1082.98	5766298.92	605788.51
3451	21.58	241.29	2557.61	-2529.70	-1624.02	-1083.30	5766298.74	605788.19
3452	21.54	241.30	2558.55	-2530.64	-1624.19	-1083.61	5766298.57	605787.88
3453	21.49	241.31	2559.48	-2531.57	-1624.36	-1083.93	5766298.40	605787.56
3454	21.45	241.31	2560.41	-2532.50	-1624.53	-1084.24	5766298.23	605787.25
3455	21.41	241.32	2561.35	-2533.44	-1624.71	-1084.56	5766298.06	605786.93
3456	21.36	241.33	2562.28	-2534.37	-1624.88	-1084.87	5766297.88	605786.62
3457	21.32	241.33	2563.21	-2535.30	-1625.05	-1085.19	5766297.71	605786.30
3458	21.27	241.34	2564.15	-2536.24	-1625.22	-1085.50	5766297.54	605785.99
3459	21.23	241.35	2565.08	-2537.17	-1625.39	-1085.82	5766297.37	605785.67
3460	21.19	241.36	2566.01	-2538.10	-1625.57	-1086.13	5766297.20	605785.36
3461	21.14	241.36	2566.95	-2539.04	-1625.74	-1086.45	5766297.02	605785.04
3462	21.10	241.37	2567.88	-2539.97	-1625.91	-1086.76	5766296.85	605784.73
3463	21.06	241.38	2568.81	-2540.90	-1626.08	-1087.08	5766296.68	605784.41
3464	21.01	241.38	2569.75	-2541.84	-1626.25	-1087.39	5766296.51	605784.10
3465	20.97	241.39	2570.68	-2542.77	-1626.43	-1087.71	5766296.34	605783.78
3466	20.92	241.40	2571.61	-2543.70	-1626.60	-1088.02	5766296.16	605783.47
3467	20.88	241.40	2572.55	-2544.64	-1626.77	-1088.34	5766295.99	605783.15
3468	20.84	241.41	2573.48	-2545.57	-1626.94	-1088.65	5766295.82	605782.84
3469	20.79	241.42	2574.41	-2546.50	-1627.11	-1088.97	5766295.65	605782.52
3470	20.75	241.43	2575.35	-2547.44	-1627.28	-1089.28	5766295.48	605782.21
3471	20.70	241.43	2576.28	-2548.37	-1627.46	-1089.60	5766295.30	605781.89
3472	20.66	241.44	2577.21	-2549.30	-1627.63	-1089.91	5766295.13	605781.58
3473	20.62	241.45	2578.15	-2550.24	-1627.80	-1090.23	5766294.96	605781.26
3474	20.57	241.45	2579.08	-2551.17	-1627.97	-1090.54	5766294.79	605780.95
3475	20.53	241.46	2580.01	-2552.10	-1628.14	-1090.86	5766294.62	605780.63
3476	20.49	241.47	2580.95	-2553.04	-1628.32	-1091.17	5766294.45	605780.32

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
3477	20.44	241.47	2581.88	-2553.97	-1628.49	-1091.49	5766294.27	605780.00
3478	20.41	241.48	2582.81	-2554.90	-1628.66	-1091.80	5766294.10	605779.69
3479	20.39	241.48	2583.75	-2555.84	-1628.82	-1092.10	5766293.94	605779.39
3480	20.38	241.48	2584.69	-2556.78	-1628.99	-1092.41	5766293.77	605779.08
3481	20.36	241.48	2585.63	-2557.72	-1629.15	-1092.71	5766293.61	605778.78
3482	20.35	241.49	2586.57	-2558.66	-1629.32	-1093.02	5766293.44	605778.48
3483	20.34	241.49	2587.51	-2559.60	-1629.48	-1093.32	5766293.28	605778.17
3484	20.32	241.49	2588.44	-2560.53	-1629.65	-1093.62	5766293.11	605777.87
3485	20.31	241.49	2589.38	-2561.47	-1629.81	-1093.93	5766292.95	605777.57
3486	20.29	241.49	2590.32	-2562.41	-1629.98	-1094.23	5766292.78	605777.26
3487	20.28	241.49	2591.26	-2563.35	-1630.14	-1094.53	5766292.62	605776.96
3488	20.27	241.49	2592.20	-2564.29	-1630.31	-1094.84	5766292.46	605776.66
3489	20.25	241.50	2593.14	-2565.23	-1630.47	-1095.14	5766292.29	605776.35
3490	20.24	241.50	2594.08	-2566.17	-1630.64	-1095.44	5766292.13	605776.05
3491	20.22	241.50	2595.01	-2567.10	-1630.80	-1095.75	5766291.96	605775.75
3492	20.21	241.50	2595.95	-2568.04	-1630.97	-1096.05	5766291.80	605775.44
3493	20.19	241.50	2596.89	-2568.98	-1631.13	-1096.35	5766291.63	605775.14
3494	20.18	241.50	2597.83	-2569.92	-1631.29	-1096.66	5766291.47	605774.84
3495	20.17	241.50	2598.77	-2570.86	-1631.46	-1096.96	5766291.30	605774.53
3496	20.15	241.50	2599.71	-2571.80	-1631.62	-1097.26	5766291.14	605774.23
3497	20.14	241.51	2600.65	-2572.74	-1631.79	-1097.57	5766290.97	605773.92
3498	20.12	241.51	2601.58	-2573.67	-1631.95	-1097.87	5766290.81	605773.62
3499	20.11	241.51	2602.52	-2574.61	-1632.12	-1098.17	5766290.64	605773.32
3500	20.10	241.51	2603.46	-2575.55	-1632.28	-1098.48	5766290.48	605773.01
3501	20.08	241.51	2604.40	-2576.49	-1632.45	-1098.78	5766290.31	605772.71
3502	20.07	241.51	2605.34	-2577.43	-1632.61	-1099.08	5766290.15	605772.41
3503	20.05	241.51	2606.28	-2578.37	-1632.78	-1099.39	5766289.98	605772.10
3504	20.04	241.52	2607.21	-2579.30	-1632.94	-1099.69	5766289.82	605771.80
3505	20.03	241.52	2608.15	-2580.24	-1633.11	-1099.99	5766289.65	605771.50
3506	20.01	241.52	2609.09	-2581.18	-1633.27	-1100.30	5766289.49	605771.19
3507	20.00	241.52	2610.03	-2582.12	-1633.44	-1100.60	5766289.32	605770.89
3508	19.99	241.52	2610.97	-2583.06	-1633.60	-1100.90	5766289.16	605770.59
3509	19.99	241.51	2611.91	-2584.00	-1633.76	-1101.20	5766289.00	605770.29
3510	19.99	241.51	2612.85	-2584.94	-1633.93	-1101.50	5766288.83	605769.99
3511	19.99	241.50	2613.79	-2585.88	-1634.09	-1101.80	5766288.67	605769.69
3512	19.99	241.50	2614.73	-2586.82	-1634.25	-1102.11	5766288.51	605769.39
3513	19.99	241.49	2615.67	-2587.76	-1634.42	-1102.41	5766288.34	605769.09
3514	19.99	241.49	2616.61	-2588.70	-1634.58	-1102.71	5766288.18	605768.79
3515	20.00	241.49	2617.55	-2589.64	-1634.74	-1103.01	5766288.02	605768.49
3516	20.00	241.48	2618.49	-2590.58	-1634.91	-1103.31	5766287.85	605768.18
3517	20.00	241.48	2619.43	-2591.52	-1635.07	-1103.61	5766287.69	605767.88
3518	20.00	241.47	2620.37	-2592.46	-1635.23	-1103.91	5766287.53	605767.58
3519	20.00	241.47	2621.31	-2593.40	-1635.40	-1104.21	5766287.36	605767.28
3520	20.00	241.46	2622.25	-2594.34	-1635.56	-1104.51	5766287.20	605766.98
3521	20.00	241.46	2623.19	-2595.28	-1635.73	-1104.81	5766287.04	605766.68
3522	20.00	241.45	2624.13	-2596.22	-1635.89	-1105.11	5766286.87	605766.38
3523	20.00	241.45	2625.06	-2597.15	-1636.05	-1105.41	5766286.71	605766.08
3524	20.00	241.44	2626.00	-2598.09	-1636.22	-1105.71	5766286.55	605765.78
3525	20.00	241.44	2626.94	-2599.03	-1636.38	-1106.01	5766286.38	605765.48
3526	20.00	241.44	2627.88	-2599.97	-1636.54	-1106.31	5766286.22	605765.18
3527	20.00	241.43	2628.82	-2600.91	-1636.71	-1106.61	5766286.06	605764.88
3528	20.00	241.43	2629.76	-2601.85	-1636.87	-1106.91	5766285.89	605764.58
3529	20.01	241.42	2630.70	-2602.79	-1637.03	-1107.21	5766285.73	605764.28
3530	20.01	241.42	2631.64	-2603.73	-1637.20	-1107.51	5766285.57	605763.98
3531	20.01	241.41	2632.58	-2604.67	-1637.36	-1107.81	5766285.40	605763.68
3532	20.01	241.41	2633.52	-2605.61	-1637.52	-1108.11	5766285.24	605763.38
3533	20.01	241.40	2634.46	-2606.55	-1637.69	-1108.41	5766285.08	605763.08
3534	20.01	241.40	2635.40	-2607.49	-1637.85	-1108.72	5766284.91	605762.78
3535	20.01	241.39	2636.34	-2608.43	-1638.01	-1109.02	5766284.75	605762.48
3536	20.01	241.39	2637.28	-2609.37	-1638.18	-1109.32	5766284.59	605762.18
3537	19.99	241.42	2638.22	-2610.31	-1638.34	-1109.61	5766284.43	605761.88
3538	19.97	241.44	2639.16	-2611.25	-1638.50	-1109.91	5766284.27	605761.58
3539	19.94	241.46	2640.11	-2612.20	-1638.66	-1110.21	5766284.11	605761.29
3540	19.92	241.48	2641.05	-2613.14	-1638.82	-1110.50	5766283.95	605760.99
3541	19.90	241.51	2641.99	-2614.08	-1638.98	-1110.80	5766283.79	605760.69
3542	19.88	241.53	2642.93	-2615.02	-1639.14	-1111.10	5766283.63	605760.39

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
3543	19.86	241.55	2643.87	-2615.96	-1639.29	-1111.39	5766283.47	605760.10
3544	19.84	241.58	2644.81	-2616.90	-1639.45	-1111.69	5766283.31	605759.80
3545	19.82	241.60	2645.75	-2617.84	-1639.61	-1111.99	5766283.15	605759.50
3546	19.80	241.62	2646.70	-2618.79	-1639.77	-1112.29	5766282.99	605759.21
3547	19.78	241.65	2647.64	-2619.73	-1639.93	-1112.58	5766282.83	605758.91
3548	19.76	241.67	2648.58	-2620.67	-1640.09	-1112.88	5766282.67	605758.61
3549	19.73	241.69	2649.52	-2621.61	-1640.25	-1113.18	5766282.51	605758.32
3550	19.71	241.72	2650.46	-2622.55	-1640.41	-1113.47	5766282.35	605758.02
3551	19.69	241.74	2651.40	-2623.49	-1640.57	-1113.77	5766282.19	605757.72
3552	19.67	241.76	2652.34	-2624.43	-1640.73	-1114.07	5766282.03	605757.42
3553	19.65	241.79	2653.29	-2625.38	-1640.89	-1114.36	5766281.87	605757.13
3554	19.63	241.81	2654.23	-2626.32	-1641.05	-1114.66	5766281.71	605756.83
3555	19.61	241.83	2655.17	-2627.26	-1641.21	-1114.96	5766281.55	605756.53
3556	19.59	241.86	2656.11	-2628.20	-1641.37	-1115.26	5766281.39	605756.24
3557	19.57	241.88	2657.05	-2629.14	-1641.53	-1115.55	5766281.23	605755.94
3558	19.54	241.90	2657.99	-2630.08	-1641.69	-1115.85	5766281.07	605755.64
3559	19.52	241.93	2658.93	-2631.02	-1641.85	-1116.15	5766280.91	605755.35
3560	19.50	241.95	2659.88	-2631.97	-1642.01	-1116.44	5766280.75	605755.05
3561	19.48	241.97	2660.82	-2632.91	-1642.17	-1116.74	5766280.59	605754.75
3562	19.46	241.99	2661.76	-2633.85	-1642.33	-1117.04	5766280.43	605754.45
3563	19.44	242.02	2662.70	-2634.79	-1642.49	-1117.33	5766280.27	605754.16
3564	19.42	242.04	2663.64	-2635.73	-1642.65	-1117.63	5766280.11	605753.86
3565	19.38	242.06	2664.59	-2636.68	-1642.80	-1117.92	5766279.96	605753.57
3566	19.33	242.09	2665.53	-2637.62	-1642.95	-1118.20	5766279.81	605753.29
3567	19.29	242.11	2666.48	-2638.57	-1643.10	-1118.49	5766279.66	605753.00
3568	19.24	242.13	2667.43	-2639.52	-1643.25	-1118.77	5766279.51	605752.72
3569	19.19	242.16	2668.37	-2640.46	-1643.40	-1119.06	5766279.36	605752.43
3570	19.15	242.18	2669.32	-2641.41	-1643.55	-1119.34	5766279.21	605752.15
3571	19.10	242.20	2670.27	-2642.36	-1643.70	-1119.63	5766279.06	605751.86
3572	19.05	242.23	2671.21	-2643.30	-1643.85	-1119.91	5766278.92	605751.58
3573	19.01	242.25	2672.16	-2644.25	-1643.99	-1120.20	5766278.77	605751.30
3574	18.96	242.27	2673.11	-2645.20	-1644.14	-1120.48	5766278.62	605751.01
3575	18.91	242.30	2674.06	-2646.15	-1644.29	-1120.77	5766278.47	605750.73
3576	18.87	242.32	2675.00	-2647.09	-1644.44	-1121.05	5766278.32	605750.44
3577	18.82	242.34	2675.95	-2648.04	-1644.59	-1121.33	5766278.17	605750.16
3578	18.77	242.37	2676.90	-2648.99	-1644.74	-1121.62	5766278.02	605749.87
3579	18.73	242.39	2677.84	-2649.93	-1644.89	-1121.90	5766277.87	605749.59
3580	18.68	242.41	2678.79	-2650.88	-1645.04	-1122.19	5766277.72	605749.30
3581	18.63	242.44	2679.74	-2651.83	-1645.19	-1122.47	5766277.58	605749.02
3582	18.59	242.46	2680.68	-2652.77	-1645.33	-1122.76	5766277.43	605748.73
3583	18.54	242.48	2681.63	-2653.72	-1645.48	-1123.04	5766277.28	605748.45
3584	18.49	242.51	2682.58	-2654.67	-1645.63	-1123.33	5766277.13	605748.17
3585	18.45	242.53	2683.53	-2655.62	-1645.78	-1123.61	5766276.98	605747.88
3586	18.40	242.55	2684.47	-2656.56	-1645.93	-1123.89	5766276.83	605747.60
3587	18.35	242.58	2685.42	-2657.51	-1646.08	-1124.18	5766276.68	605747.31
3588	18.31	242.60	2686.37	-2658.46	-1646.23	-1124.46	5766276.53	605747.03
3589	18.26	242.63	2687.31	-2659.40	-1646.38	-1124.75	5766276.38	605746.74
3590	18.21	242.65	2688.26	-2660.35	-1646.53	-1125.03	5766276.24	605746.46
3591	18.17	242.67	2689.21	-2661.30	-1646.67	-1125.32	5766276.09	605746.17
3592	18.12	242.70	2690.15	-2662.24	-1646.82	-1125.60	5766275.94	605745.89
3593	18.07	242.72	2691.10	-2663.19	-1646.97	-1125.89	5766275.79	605745.61
3594	18.03	242.74	2692.05	-2664.14	-1647.11	-1126.16	5766275.65	605745.33
3595	17.98	242.77	2693.01	-2665.10	-1647.25	-1126.43	5766275.51	605745.06
3596	17.93	242.79	2693.96	-2666.05	-1647.39	-1126.70	5766275.37	605744.79
3597	17.89	242.82	2694.91	-2667.00	-1647.52	-1126.97	5766275.24	605744.53
3598	17.84	242.84	2695.87	-2667.96	-1647.66	-1127.23	5766275.10	605744.26
3599	17.79	242.87	2696.82	-2668.91	-1647.80	-1127.50	5766274.96	605743.99
3600	17.75	242.89	2697.77	-2669.86	-1647.93	-1127.77	5766274.83	605743.72
3601	17.70	242.92	2698.73	-2670.82	-1648.07	-1128.04	5766274.69	605743.45
3602	17.65	242.94	2699.68	-2671.77	-1648.21	-1128.31	5766274.55	605743.19
3603	17.61	242.96	2700.64	-2672.73	-1648.34	-1128.57	5766274.42	605742.92
3604	17.56	242.99	2701.59	-2673.68	-1648.48	-1128.84	5766274.28	605742.65
3605	17.51	243.01	2702.54	-2674.63	-1648.62	-1129.11	5766274.15	605742.38
3606	17.46	243.04	2703.50	-2675.59	-1648.75	-1129.38	5766274.01	605742.11
3607	17.42	243.06	2704.45	-2676.54	-1648.89	-1129.65	5766273.87	605741.85
3608	17.37	243.09	2705.40	-2677.49	-1649.03	-1129.91	5766273.74	605741.58

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
3609	17.32	243.11	2706.36	-2678.45	-1649.16	-1130.18	5766273.60	605741.31
3610	17.28	243.14	2707.31	-2679.40	-1649.30	-1130.45	5766273.46	605741.04
3611	17.23	243.16	2708.26	-2680.35	-1649.43	-1130.72	5766273.33	605740.77
3612	17.18	243.19	2709.22	-2681.31	-1649.57	-1130.99	5766273.19	605740.51
3613	17.14	243.21	2710.17	-2682.26	-1649.71	-1131.25	5766273.05	605740.24
3614	17.09	243.24	2711.13	-2683.22	-1649.84	-1131.52	5766272.92	605739.97
3615	17.04	243.26	2712.08	-2684.17	-1649.98	-1131.79	5766272.78	605739.70
3616	17.00	243.29	2713.03	-2685.12	-1650.12	-1132.06	5766272.64	605739.43
3617	16.95	243.31	2713.99	-2686.08	-1650.25	-1132.33	5766272.51	605739.17

APPENDIX 2a

MARLIN A-22A

Petrophysics Evaluation Summary

Esso Australia Pty Ltd.
Exploration Department

Marlin A22A
Formation Evaluation
Log Interpretation Report

Petrophysicist: J. Lawer

November 2004

Marlin A22A Log Interpretation

Marlin A22A was drilled as a directional well designed to develop the L500 reservoir in the Turrum Field.

The well spudded on the 27th of May 2004 through the Marlin A22 well after setting a 9⁵/₈" whipstock and milling a window in the existing 9⁵/₈" casing from 1888.9m to 1894.6m and exiting into the formation to 1900m. The well was drilled to a total depth of 3617 mMDRT (drillers depth) in 8¹/₂" hole.

The 8¹/₂" open-hole was logged with Reeves Shuttle Logging System (on drill-pipe) from 3606.5 - 1870.0 mMDRT, formation samples and pressures were taken using the Schlumberger Cased Hole MDT Tool at predefined intervals.

7" production casing was run to 2100 mMDRT where it hung up and was cemented into place. 4¹/₂" liner was then run to 3616.5 mMDRT (with the liner lap at 1946.3 mMDRT) and the well was suspended.

The Reeves data have been analysed for porosity, water saturation and net pay over the interval 1960.0 - 3580.0 mMDRT. Preliminary results from the Cased Hole MDT Program have been incorporated into the interpretation.

Note that all depths quoted in this report are logged mMDRT unless otherwise specified.

DATA

Data from the following logging surveys were used in this interpretation:

Survey/Log	Company	Top (m MDRT)	Bottom (m MDRT)
RUN 1: Compact Gamma Ray - Neutron -Density/Caliper - Laterolog - Compensated Sonic	Reeves	1870.0	3606.5

Deviation

The well angle over the target zones ranged from 45.5 ° at 2073.5m (Marlin Reservoir) to 20.1 ° at 3507.52m (Turrum Reservoir).

Mud Data

Run 1: Mud Type :	KCl/Glycol/PHPA
Mud Weight:	10.00 ppg
Rm:	0.121 ohm-m @ 25 °C
Rmf:	0.101 ohm-m @ 25 °C
Rmc:	0.135 ohm-m @ 25 °C
BHT:	113.5 °C

Hole Size

1900 - 3617 m	8.5 inches
---------------	------------

Data Acquisition & Log Quality

The deep and shallow resistivity (DDL and DSSL), Bulk Density (DEN), Thermal Neutron Porosity (NPRL) and the 3-5" Compensated Sonic (DT35) were depth aligned to the environmentally corrected Gamma Ray (GGCE).

Data Processing

No processing was undertaken in this analysis.

INTERPRETATION**Logs Used**

The primary logs used in the interpretation were GGCE (GR), DDL (RESDEEP), DEN (RHOB), NPRL (NPHI).

Formation Water Salinity

Formation water salinity of 30,000 ppm NaCl equivalent and electrical parameters of $a = 1$, $m = 2$ and $n = 2$ were used throughout the final analysis. The fresh-water wedge zone was interpreted to be 10,000 ppm NaCl equivalent.

Hydrocarbon Type

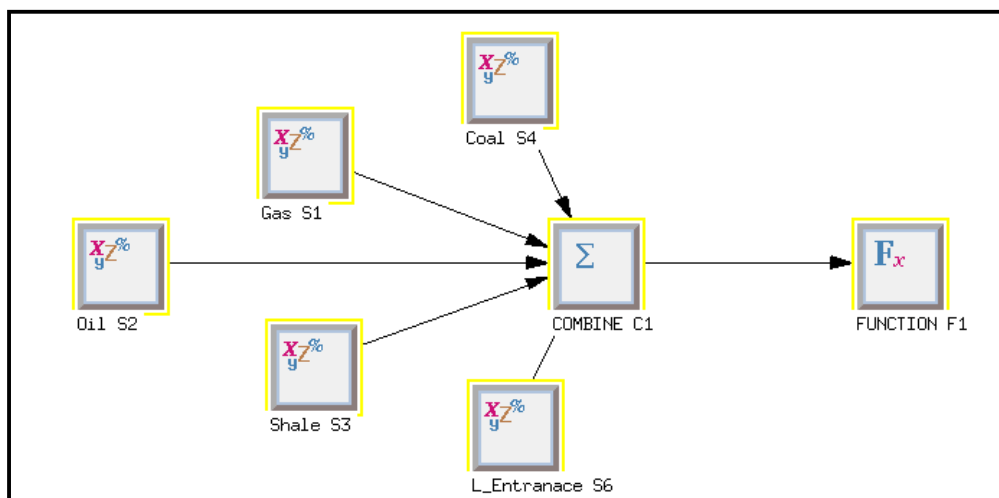
All of the reservoir units were solved for gas and water, except for the L500 sand at 3502.38 - 3518.23 m MDKB (2578.1 - 2593 m TVDSS) which is oil bearing.

Shale Volume, Porosity and Water Saturation

The Schlumberger Geoframe ELAN+ module was used to determine mineral and rock volumes of quartz, illite and feldspar; total porosity, effective porosity and effective water saturation. Details of the model are presented in the following figures and tables.

ELAN MODEL

Processes



ELAN Input Channels

	Compound Name Spec	MARLIN A22A
TEMP_CH	TEMP;*	TEMP @ ElanInput 1 .WELLEDIT jllawer (Nov 03
RHOB_IFAC_CH	IFRH;*	
NPHI_IFAC_CH	INPH;*	
RHOB_CH	RHOB:BPB;*	RHOB @ ElanInput 0 .MOPED_LOAD .RAW_FIN jll
NPHI_CH	NPHI:BPB;*	NPHI @ ElanInput 0 .MOPED_LOAD .RAW_FIN .WI
PHIT_CH	NPHI:BPB;*	NPHI @ ElanInput 0 .MOPED_LOAD .RAW_FIN .WI
CUDC_CH/RT_CH	LLD:BPB;*	LLD @ ElanInput 0 .MOPED_LOAD .RAW_FIN .WEI
GR_CH	GR:BPB;*	GR @ ElanInput 0 .MOPED_LOAD .RAW_FIN jllaw
M_CH	MXP;*	
N_CH	SXP;*	
PRB1_CH	FLAG_RHOH;*	FLAG_RHOH @ ElanInput 3 .WELLEDIT jllawer (N
PRB2_CH	PRB2;*	
PRB3_CH	PRB3;*	
PRB4_CH	FLAG_COAL;*	FLAG_COAL @ ElanInput 5 .WELLEDIT jllawer (N
PRB6_CH	PRB6;*	

ELAN Global Parameters

Reference Index	MD
Processing Interval	1960.0000 (m) To 3590.5999 (m)
Sampling Rate	0.1 (m)
Uncertainty Channel	FALSE
Clay Input	DRY
Special Fluids	IMMOVABLE_HYDROCARBON

ELAN Zone Definition

Name	Bottom To Top
Turrun	3599.9944 (m) To 3500.0000 (m)
Turrun_30kppm	3500.0000 (m) To 3240.0000 (m)
Turrun_10kppm	3240.0000 (m) To 3130.0002 (m)
Turrun_30kppm	3130.0002 (m) To 2850.0000 (m)
Turrun_20kppm	2850.0000 (m) To 2425.0000 (m)
10Kppm_3	2425.0000 (m) To 2246.6001 (m)
Gas30Kppm_2	2246.6001 (m) To 2244.8999 (m)
10Kppm_2	2244.8999 (m) To 2228.0000 (m)
Gas30Kppm_1	2228.0000 (m) To 2227.3000 (m)
10Kppm_1	2227.3000 (m) To 2135.0000 (m)
Marlin_30Kppm	2135.0000 (m) To 1960.0000 (m)

ELAN Process Definition

Process	SOLVE1 "Gas"						
Equations	RHOB	NPHI	CUDC_DWA	GR	CT1	CT3	
Volumes	QUAR	ORTH	ILLI	XWAT	UWAT	XGAS	UGAS
User Constraints	constraint(maxDolomite, DOLO<0)						
Constraint Zones	Bottom		Top				
UNDEFINED	3599.9944 (m)		1960.0000 (m)				
Constraints Applied							
UNDEFINED	- IrreducibleXWater						
UNDEFINED	- IrreducibleUWater						
UNDEFINED	- WaterBaseMud_SXO_gt_SW						
Process	SOLVE2 "Oil"						
Equations	RHOB	NPHI	CUDC_DWA	GR	CT2	CT3	
Volumes	QUAR	ORTH	ILLI	XWAT	UWAT	XOIL	UOIL
User Constraints	constraint(maxDolomite, DOLO<0)						
Constraint Zones	Bottom		Top				
UNDEFINED	3599.9944 (m)		1960.0000 (m)				
Constraints Applied							
UNDEFINED	- IrreducibleXWater						
UNDEFINED	- IrreducibleUWater						
UNDEFINED	- WaterBaseMud_SXO_gt_SW						
Process	SOLVE3 "Shale"						
Equations	RHOB		CUDC_DWA	GR	CT3		
Volumes	QUAR		ILLI	XWAT	UWAT		
Constraint Zones	Bottom			Top			
UNDEFINED	3599.9944 (m)			1960.0000 (m)			

Process	SOLVE4 "Coal"		
Equations	RHOB		
Volumes	COAL		
Constraint Zones	Bottom		Top
UNDEFINED	3599.9944 (m)		1960.0000 (m)
Process	SOLVE6 "L_Entranace"		
Equations	RHOB		
Volumes	CALC		
Constraint Zones	Bottom		Top
UNDEFINED	3599.9944 (m)		1960.0000 (m)
Process	COMBINE 1 "COMBINE"		
Order	SOL.2 SOL.1 SOL.3 SOL.4 SOL.6		
Combine Method	"UNDEFINED " 11811.0049 (m) Internal Average "Lakes Entran" 6486.2207 (m) Sol.6		
Probability Functions	probability(SOL.6, 0) probability(SOL.4, PRB4_CH) prob3 = linear(ILLI_VOL.SOL.3, 0.3, 0, 0.5, 1) probability(SOL.3, prob3) prob1 = if (PRB1_CH <=0.25, 1, 0)		
Process	FUNCTION 1 "FUNCTION"		
Outputs	VCL	SXWI	SWT SUWI PIGN PHIT
User-defined Function/n	swt_cmp=if((PRB4_CH > 0),1,(UWAT_VOL + XBWA_VOL)/(UWAT_VOL + XBWA_VOL + UOIL_VOL + UGAS_VOL))		
output(SWT, swt_cmp)			

ELAN Probability Expressions

```

probability(SOL.6, 0)

probability(SOL.4, PRB4_CH)

prob3 = linear(ILLI_VOL.SOL.3, 0.3, 0, 0.5, 1)
probability(SOL.3, prob3)

prob1 = if (PRB1_CH <=0.25, 1, 0)
probability(SOL.1, prob1)

```

ELAN Model Constraints

Model 1:	Constraint Zones
Name	Boundary Temperature
UNDEFINED	11811.0049 -999.25
constraints	
UNDEFINED	- IrreducibleXWater
UNDEFINED	- IrreducibleUWater
UNDEFINED	- WaterBaseMud_SXO_gt_SW
Model 2:	Constraint Zones
Name	Boundary Temperature
UNDEFINED	11811.0049 -999.25
constraints	
UNDEFINED	- IrreducibleXWater
UNDEFINED	- IrreducibleUWater
UNDEFINED	- WaterBaseMud_SXO_gt_SW

Model 3: Constraint Zones			
Name	Boundary	Temperature	
UNDEFINED	11811.0049	-999.25	
constraints			
Model 4: Constraint Zones			
Name	Boundary	Temperature	
UNDEFINED	11811.0049	-999.25	
constraints			
Model 6: Constraint Zones			
Name	Boundary	Temperature	
UNDEFINED	11811.0049	-999.25	
constraints			

ELAN Different Parameters

Parameters	Turrum	Turrum_30	Turrum_20	Turrum_30
n*****	*****	*****	*****	*****
RHOB_XWAT (g/cm3)	0.969	0.970	0.970	0.970
RHOB_UWAT (g/cm3)	0.969	0.970	0.970	0.970
CXDC_XWAT (mS/m)	22.569	22.154	20.630	20.038
CXDC_XBWA (mS/m)	12.874	12.641	11.780	11.445
CUDC_UWAT (mS/m)	14.630	14.321	5.060	13.195
CUDC_UBWA (mS/m)	5.123	5.030	4.687	4.554
RW (ohm.m)	0.388	0.388	1.063	0.388
CUDC_UNC_ZP (mS/m)	0.057	0.057	0.034	0.054
CT3_UNC_WM ()	0.300	0.100	0.100	0.100
Parameters	Turrum_20	10K_3	Gas_2	10K_2
n*****	*****	*****	*****	*****
RHOB_XWAT (g/cm3)	0.975	0.975	0.992	0.975
RHOB_UWAT (g/cm3)	0.975	0.975	0.992	0.975
CXDC_XWAT (mS/m)	21.949	23.082	21.757	21.744
CXDC_XBWA (mS/m)	12.525	12.632	11.895	11.888
CUDC_UWAT (mS/m)	10.490	4.060	10.405	3.835
CUDC_UBWA (mS/m)	4.700	3.701	3.485	3.483
RW (ohm.m)	0.458	1.064	0.388	1.065
CUDC_UNC_ZP (mS/m)	0.049	0.030	0.048	0.029
CT3_UNC_WM ()	0.100	0.100	0.100	0.100
Parameters	Gas_1	10K_1	Marlin	
n*****	*****	*****	*****	*****
RHOB_XWAT (g/cm3)	0.993	0.975	0.994	
RHOB_UWAT (g/cm3)	0.993	0.975	0.994	
CXDC_XWAT (mS/m)	21.619	21.615	16.917	
CXDC_XBWA (mS/m)	11.819	11.816	9.624	
CUDC_UWAT (mS/m)	10.345	3.780	10.045	
CUDC_UBWA (mS/m)	3.462	3.462	3.350	
RW (ohm.m)	0.388	1.074	0.388	
CUDC_UNC_ZP (mS/m)	0.048	0.029	0.048	
CT3_UNC_WM ()	0.100	0.100	0.100	

ELAN Same Parameters

Parameter	Value	Parameter	Value
RHOB_QUAR	2.650 (g/cm3)	RHOB_CALC	2.710 (g/cm3)
RHOB_DOLO	2.847 (g/cm3)	RHOB_ORTH	2.570 (g/cm3)
RHOB_ILLI	2.780 (g/cm3)	RHOB_KAOL	2.620 (g/cm3)
RHOB_COAL	1.200 (g/cm3)	RHOB_IGNE	3.000 (g/cm3)

RHOB_XOIL	0.700 (g/cm3)	RHOB_UOIL	0.700 (g/cm3)
RHOB_XGAS	0.011 (g/cm3)	RHOB_UGAS	0.011 (g/cm3)
RHOB_XBWA	1.000 (g/cm3)	NPFI_QUAR	-0.059 (m3/m3)
NPFI_CALC	0.000 (m3/m3)	NPFI_DOLO	0.032 (m3/m3)
NPFI_ORTH	-0.010 (m3/m3)	NPFI_ILLI	0.247 (m3/m3)
NPFI_KAOL	0.450 (m3/m3)	NPFI_COAL	0.450 (m3/m3)
NPFI_XWAT	1.000 (m3/m3)	NPFI_UWAT	1.000 (m3/m3)
NPFI_XOIL	1.000 (m3/m3)	NPFI_UOIL	1.000 (m3/m3)
NPFI_XGAS	0.143 (m3/m3)	NPFI_UGAS	0.143 (m3/m3)
NPFI_XBWA	1.000 (m3/m3)	DT_QUAR	55.500 (us/m)
DT_CALC	47.800 (us/m)	DT_DOLO	43.500 (us/m)
DT_ORTH	60.000 (us/m)	DT_ILLI	60.000 (us/m)
DT_KAOL	91.318 (us/m)	DT_COAL	121.920 (us/m)
DT_IGNE	16.916 (us/m)	DT_XWAT	0.000 (us/m)
DT_UWAT	220.000 (us/m)	DT_XOIL	0.000 (us/m)
DT_UOIL	240.000 (us/m)	DT_XGAS	0.000 (us/m)
DT_UGAS	289.865 (us/m)	DT_XBWA	189.000 (us/m)
U_QUAR	5.000 ()	U_CALC	14.100 ()
U_DOLO	9.100 ()	U_ILLI	9.900 ()
U_KAOL	5.100 ()	U_COAL	1.000 ()
U_XWAT	0.692 ()	U_UWAT	0.000 ()
U_XOIL	0.136 ()	U_UOIL	0.000 ()
U_XGAS	0.012 ()	U_UGAS	0.000 ()
U_XBWA	0.398 ()	CXDC_ILLI	-999.250 (mS/m)
CXDC_KAOL	-999.250 (mS/m)	CUDC_ILLI	-999.250 (mS/m)
CUDC_KAOL	-999.250 (mS/m)	GR_QUAR	50.000 (gAPI)
GR_CALC	11.000 (gAPI)	GR_DOLO	3.000 (gAPI)
GR_ORTH	200.000 (gAPI)	GR_ILLI	235.000 (gAPI)
GR_KAOL	98.000 (gAPI)	GR_COAL	40.000 (gAPI)
GR_IGNE	40.000 (gAPI)	GR_XWAT	0.000 (gAPI)
GR_UWAT	0.000 (gAPI)	GR_XOIL	0.000 (gAPI)
GR_UOIL	0.000 (gAPI)	GR_XGAS	0.000 (gAPI)
GR_UGAS	0.000 (gAPI)	GR_XBWA	0.000 (gAPI)
CT1_QUAR	0.000 ()	CT1_CALC	0.000 ()
CT1_DOLO	0.000 ()	CT1_ORTH	0.000 ()
CT1_ILLI	0.000 ()	CT1_KAOL	0.000 ()
CT1_COAL	0.000 ()	CT1_IGNE	0.000 ()
CT1_XWAT	0.000 ()	CT1_UWAT	0.000 ()
CT1_XOIL	0.000 ()	CT1_UOIL	0.000 ()
CT1_XGAS	1.000 ()	CT1_UGAS	-0.200 ()
CT1_XBWA	0.000 ()	CT2_QUAR	0.000 ()
CT2_CALC	0.000 ()	CT2_DOLO	0.000 ()
CT2_ORTH	0.000 ()	CT2_ILLI	0.000 ()
CT2_KAOL	0.000 ()	CT2_COAL	0.000 ()
CT2_IGNE	0.000 ()	CT2_XWAT	0.000 ()
CT2_UWAT	0.000 ()	CT2_XOIL	1.000 ()
CT2_UOIL	-0.200 ()	CT2_XGAS	0.000 ()
CT2_UGAS	0.000 ()	CT2_XBWA	0.000 ()
CT3_QUAR	-0.050 ()	CT3_CALC	0.000 ()
CT3_ORTH	1.000 ()	CT3_ILLI	0.000 ()
CT3_KAOL	0.000 ()	CT3_COAL	0.000 ()
CT3_XWAT	0.000 ()	CT3_UWAT	0.000 ()
CT3_XOIL	0.000 ()	CT3_UOIL	0.000 ()
CT3_XGAS	0.000 ()	CT3_UGAS	0.000 ()

CT3_XBWA	0.000 ()	ARHOB_ILLI	2.780 (g/cm3)
ARHOB_KAOL	2.620 (g/cm3)	WCLP_ILLI	0.154 (m3/m3)
WCLP_KAOL	0.058 (m3/m3)	CBWA_ILLI	-999.250 (mS/m)
CBWA_KAOL	-999.250 (mS/m)	CECA_ILLI	0.200 (meq/g)
CECA_KAOL	0.090 (meq/g)	RMF	0.160 (ohm.m)
MST	61.880 (degC)	RWT	-999.250 (degC)
SALIN_ISOL	-999.250 (ppk)	SALIN_PARA	-999.250 (ppk)
SALIN_XWAT	12.924 (ppk)	SALIN_UWAT	30.000 (ppk)
SALIN_XIWA	-999.250 (ppk)	SALIN_UIWA	-999.250 (ppk)
SALIN_XOIL	0.000 (ppk)	SALIN_UOIL	0.000 (ppk)
SALIN_XGAS	0.000 (ppk)	SALIN_UGAS	0.000 (ppk)
SALIN_XSFL	-999.250 (ppk)	SALIN_USFL	-999.250 (ppk)
CT1_ZP	0.000 ()	CT2_ZP	0.000 ()
CT3_ZP	0.000 ()	RHOB_UNC_ZP	0.027 (g/cm3)
NPHI_UNC_ZP	0.015 (m3/m3)	DT_UNC_ZP	2.250 (us/m)
U_UNC_ZP	0.225 ()	CXDC_UNC_ZP	0.072 (mS/m)
GR_UNC_ZP	2.250 (gAPI)	CT1_UNC_ZP	0.015 ()
CT2_UNC_ZP	0.015 ()	CT3_UNC_ZP	0.015 ()
VOLS_UNC_ZP	0.015 (m3/m3)	RHOB_UNC_WM	1.000 ()
NPHI_UNC_WM	1.000 ()	DT_UNC_WM	0.300 ()
U_UNC_WM	0.400 ()	CXDC_UNC_WM	0.500 ()
CUDC_UNC_WM	0.700 ()	GR_UNC_WM	0.300 ()
CT1_UNC_WM	0.200 ()	CT2_UNC_WM	0.200 ()
VOLS_UNC_WM	1.000 ()	RHOB_IFAC_ZP	0.500 ()
NPHI_IFAC_ZP	0.500 ()	A_ZP	1.000 ()
N_ZP	2.000 ()	C_DWA	0.000 ()
M_DWA	2.000 ()	BVIRR	0.002 (m3/m3)

Results and Discussion

Graphical displays of the interpretation results across the main intervals of interest are presented in Figures 1 and 2 below.

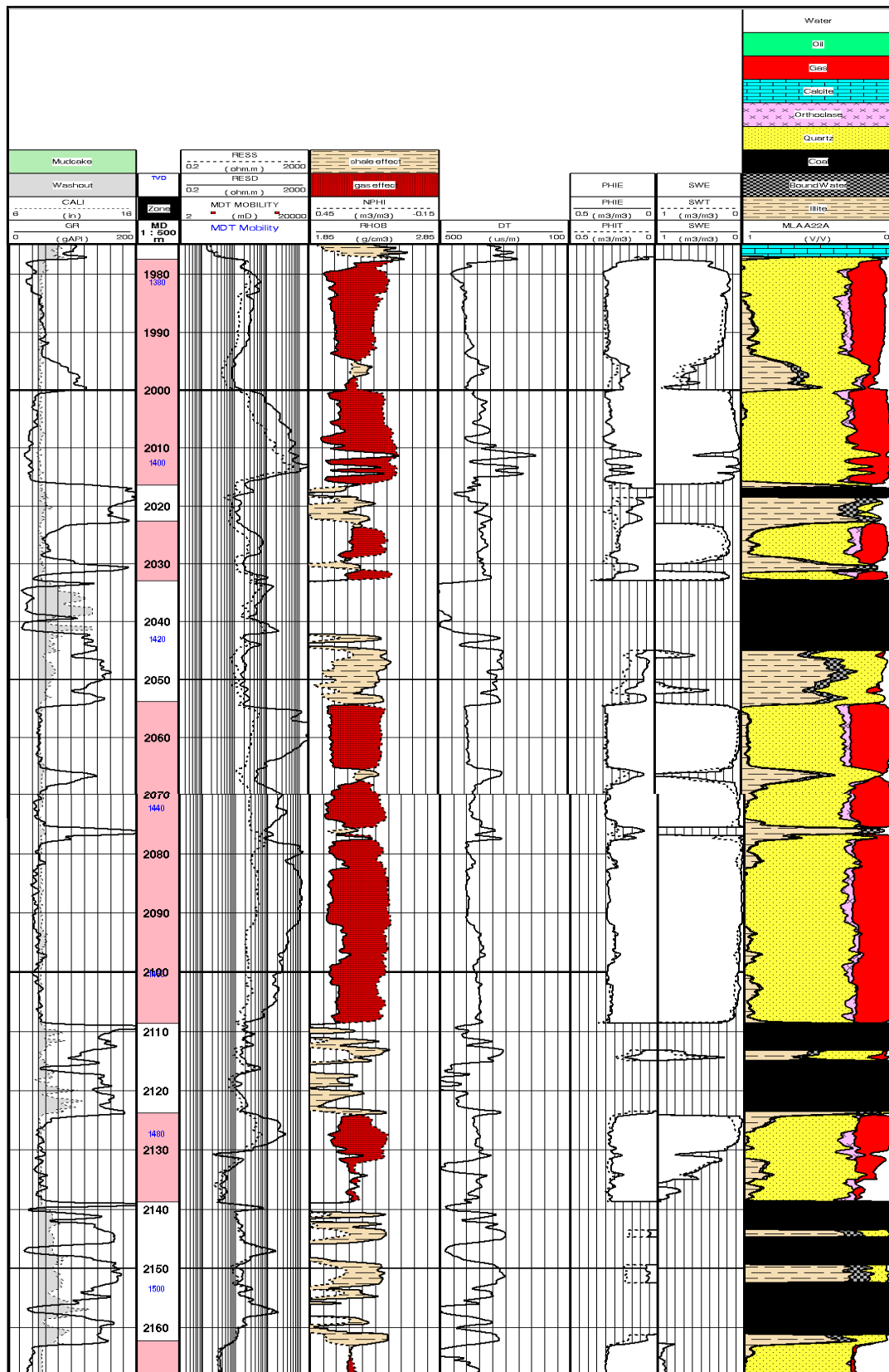


Figure 1.

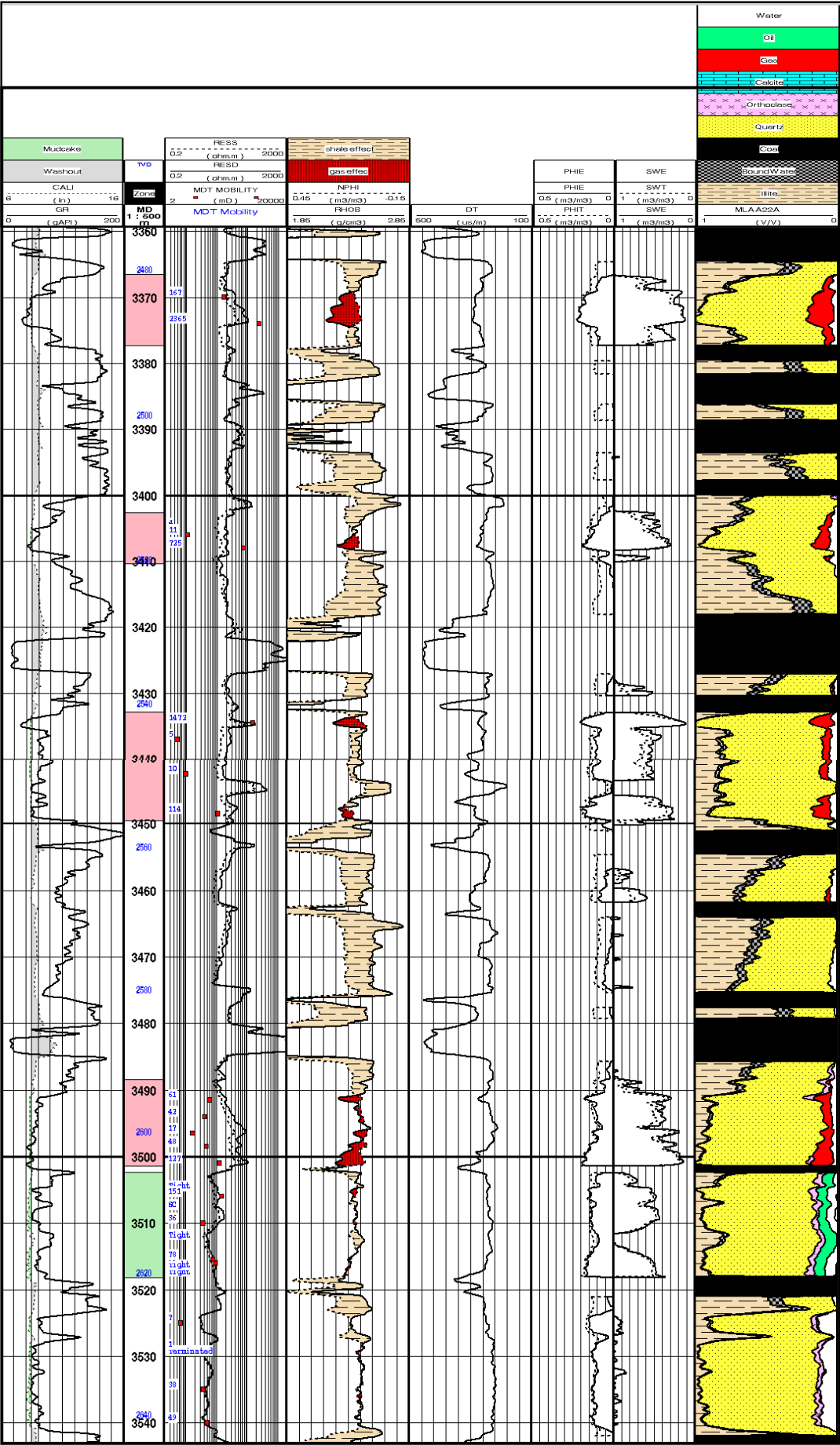


Figure 2.

Reservoir Statistics

The quantitative summary of the interpreted reservoir parameters as presented in Table 1 below was based on PHIE cut-off of 8% for gas and 10% for oil (from MDT results).

Net Pay was determined using a SWE cutoff of <65%.

Net Reservoir Thickness is based on a PHIE Cut-off:

0.08 volume per volume for GAS

0.10 volume per volume for OIL

Depth Reference

MDKB

Mean PHIE, Mean VCL, Mean SWE is of Net Reservoir Thickness Interval
Curves - PIGN, VCL, SUWI (2003 ELAN Model)

Net Pay Y= yes = SWE<0.650
 N= no = SWE>0.650

Top Depth MD (m)	Bottom Depth MD (m)	Gross Thickness MD (m)	Net Res. Thickness (m)	Net Pay Thickness (m)	Net Reservoir/ Gross Thickness Ratio	Net Res. VCL (m3/m3)	Net Res. PHIE (m3/m3)	Net Res. SWE (m3/m3)	HPV	Comments	Net Pay
1977.49	2016.46	38.97	38.72	38.72	0.99	0.09	0.24	0.19	7.64	Gas bearing	Y
2022.68	2030.27	7.59	7.59	7.59	1.00	0.23	0.20	0.25	1.15	Gas bearing	Y
2031.16	2032.99	1.83	1.83	1.83	1.00	0.16	0.22	0.25	0.30	Gas bearing	Y
2044.90	2046.45	1.55	0.60	0.60	0.39	0.46	0.10	0.59	0.02	Gas bearing	Y
2050.24	2052.73	2.49	2.19	2.19	0.88	0.55	0.13	0.69	0.09	Possibly gas	N
2053.89	2065.99	12.10	11.95	11.95	0.99	0.08	0.26	0.05	2.99	Gas bearing	Y
2066.87	2075.97	9.10	9.10	9.10	1.00	0.15	0.25	0.09	2.07	Gas bearing	Y
2076.53	2108.68	32.15	32.15	32.15	1.00	0.06	0.26	0.06	7.94	Gas bearing	Y
2113.23	2114.93	1.70	1.49	1.49	0.88	0.47	0.13	0.49	0.10	Gas bearing	Y
2123.85	2138.83	14.98	14.80	14.80	0.99	0.10	0.25	0.43	2.15	Gas bearing	Y
2162.28	2184.53	22.25	22.10	22.10	0.99	0.05	0.29	0.92	0.51	Residual gas	N
2207.84	2211.17	3.33	3.33	3.33	1.00	0.48	0.18	0.70	0.17	Water bearing	N
2212.24	2213.97	1.73	1.63	1.63	0.94	0.55	0.15	0.83	0.04	Water bearing	N
2226.36	2228.32	1.96	1.50	1.50	0.77	0.39	0.18	0.62	0.10	Gas bearing	Y
2243.73	2246.45	2.72	2.40	2.40	0.88	0.40	0.17	0.61	0.16	Gas bearing	Y
2248.43	2252.32	3.89	2.50	2.50	0.64	0.47	0.13	0.99	0.00	Water bearing	N
2254.86	2257.30	2.44	2.44	2.44	1.00	0.43	0.15	0.94	0.02	Water bearing	N
2271.57	2291.51	19.94	17.70	17.70	0.89	0.18	0.24	1.00	0.02	Water bearing	N
2294.97	2296.62	1.65	1.28	1.28	0.78	0.60	0.14	1.00	0.00	Water bearing	N
2297.96	2302.33	4.37	2.20	2.20	0.50	0.51	0.11	1.00	0.00	Water bearing	N
2319.12	2337.10	17.98	17.70	17.70	0.98	0.13	0.27	1.00	0.00	Water bearing	N
2342.69	2344.75	2.06	2.01	2.01	0.98	0.29	0.17	0.98	0.01	Water bearing	N
2347.62	2349.02	1.40	0.90	0.90	0.64	0.45	0.10	1.00	0.00	Water bearing	N
2353.01	2356.28	3.27	1.83	1.83	0.56	0.48	0.13	1.00	0.00	Water bearing	N
2357.65	2377.57	19.92	19.52	19.52	0.98	0.30	0.20	1.00	0.00	Water bearing	N
2389.48	2396.97	7.49	6.00	6.00	0.80	0.47	0.15	0.98	0.02	Water bearing	N
2398.98	2401.14	2.16	1.96	1.96	0.91	0.47	0.14	1.00	0.00	Water bearing	N
2405.66	2406.90	1.24	1.16	1.16	0.94	0.27	0.22	1.00	0.00	Water bearing	N
2412.21	2416.05	3.84	3.53	3.53	0.92	0.43	0.14	1.00	0.00	Water bearing	N

2431.52	2439.95	8.43	8.31	8.31	0.99	0.23	0.23	0.97	0.05	Water bearing	N
2443.10	2451.76	8.66	8.54	8.54	0.99	0.26	0.21	0.99	0.02	Water bearing	N
2471.27	2479.47	8.20	5.00	5.00	0.61	0.34	0.15	0.97	0.02	Water bearing	N
2481.91	2483.81	1.90	1.77	1.77	0.93	0.34	0.14	1.00	0.00	Water bearing	N
2487.04	2491.44	4.40	3.70	3.70	0.84	0.44	0.11	1.00	0.00	Water bearing	N
2494.00	2496.34	2.34	1.80	1.80	0.77	0.45	0.14	0.98	0.01	Water bearing	N
2499.36	2509.67	10.31	8.10	8.10	0.79	0.43	0.13	1.00	0.00	Water bearing	N
2511.86	2516.45	4.59	3.00	3.00	0.65	0.52	0.10	1.00	0.00	Water bearing	N
2524.81	2525.83	1.02	0.89	0.89	0.87	0.35	0.14	1.00	0.00	Water bearing	N
2527.53	2530.86	3.33	2.51	2.51	0.75	0.38	0.13	1.00	0.00	Water bearing	N
2549.85	2551.99	2.14	1.95	1.95	0.91	0.36	0.17	1.00	0.00	Water bearing	N
2554.86	2557.42	2.56	1.10	1.10	0.43	0.46	0.12	0.98	0.00	Water bearing	N
2558.97	2563.57	4.60	1.90	1.90	0.41	0.37	0.14	1.00	0.00	Water bearing	N
2569.01	2571.29	2.28	1.10	1.10	0.48	0.52	0.11	0.99	0.00	Water bearing	N
2581.88	2586.58	4.70	3.50	3.50	0.74	0.44	0.15	1.00	0.00	Water bearing	N
2587.37	2592.07	4.70	3.70	3.70	0.79	0.46	0.11	1.00	0.00	Water bearing	N
2598.95	2603.73	4.78	3.10	3.10	0.65	0.45	0.12	1.00	0.00	Water bearing	N
2605.38	2612.80	7.42	5.40	5.40	0.73	0.45	0.11	1.00	0.00	Water bearing	N
2620.95	2624.94	3.99	1.09	1.09	0.27	0.49	0.09	1.00	0.00	Water bearing	N
2676.02	2678.61	2.59	2.02	2.02	0.78	0.36	0.13	0.77	0.06	Water bearing	N
2680.28	2683.66	3.38	2.20	2.20	0.65	0.32	0.13	0.92	0.02	Water bearing	N
2712.92	2720.21	7.29	4.12	4.12	0.57	0.44	0.11	0.93	0.03	Water bearing	N
2721.43	2724.02	2.59	1.50	1.50	0.58	0.38	0.12	1.00	0.00	Water bearing	N
2725.47	2729.33	3.86	3.20	3.20	0.83	0.40	0.12	1.00	0.00	Water bearing	N
2731.24	2733.93	2.69	2.49	2.49	0.93	0.35	0.15	1.00	0.00	Water bearing	N
2739.82	2743.73	3.91	2.90	2.90	0.74	0.37	0.13	1.00	0.00	Water bearing	N
2747.37	2752.67	5.30	4.80	4.80	0.91	0.32	0.15	1.00	0.00	Water bearing	N
2771.65	2775.13	3.48	2.99	2.99	0.86	0.34	0.11	0.92	0.03	Water bearing	N
2805.30	2807.74	2.44	1.90	1.90	0.78	0.46	0.12	0.74	0.06	Possible Gas	N
2808.50	2811.63	3.13	2.00	2.00	0.64	0.31	0.15	0.61	0.11	Gas bearing	Y
2816.07	2817.85	1.78	1.30	1.30	0.73	0.40	0.11	0.95	0.01	Water bearing	N
2821.30	2825.14	3.84	3.30	3.30	0.86	0.34	0.12	0.83	0.07	Water bearing	N
2832.96	2835.91	2.95	1.50	1.50	0.51	0.40	0.11	0.81	0.03	Water bearing	N
2837.18	2838.78	1.60	0.80	0.80	0.50	0.37	0.11	0.78	0.02	Water bearing	N
2844.83	2846.93	2.10	1.20	1.20	0.57	0.48	0.12	0.59	0.06	Gas bearing	Y
2847.82	2851.15	3.33	2.40	2.40	0.72	0.18	0.17	0.29	0.28	Gas bearing	Y
2856.99	2860.29	3.30	2.90	2.90	0.88	0.27	0.16	0.39	0.28	Gas bearing	Y
2867.46	2872.84	5.38	2.80	2.80	0.52	0.37	0.12	0.72	0.09	Possible gas	N
2877.64	2891.28	13.64	6.50	6.50	0.48	0.37	0.11	0.78	0.16	Water bearing	N
2893.24	2900.04	6.80	4.30	4.30	0.63	0.34	0.12	0.68	0.16	Possible gas	N
2900.45	2902.89	2.44	1.70	1.70	0.70	0.28	0.13	0.71	0.06	Possible gas	N
2908.20	2911.04	2.84	2.00	2.00	0.70	0.24	0.13	0.58	0.11	Gas bearing	Y
2914.70	2919.30	4.60	3.50	3.50	0.76	0.29	0.14	0.44	0.27	Gas bearing	Y
2924.00	2931.26	7.26	3.60	3.60	0.50	0.29	0.12	0.70	0.13	Possible gas	N
2934.16	2936.82	2.66	1.70	1.70	0.64	0.32	0.12	0.55	0.09	Gas bearing	Y
2941.29	2944.70	3.41	2.00	2.00	0.59	0.30	0.11	0.81	0.04	Water bearing	N
2959.71	2962.10	2.39	1.40	1.40	0.59	0.36	0.11	0.48	0.08	Gas bearing	Y
2964.76	2967.30	2.54	0.90	0.90	0.35	0.41	0.09	0.79	0.02	Water bearing	N

2968.09	2969.97	1.88	0.60	0.60	0.32	0.44	0.09	0.85	0.01	Water bearing	N
2971.95	2974.85	2.90	2.60	2.60	0.90	0.27	0.15	0.52	0.19	Gas bearing	Y
2975.97	2979.27	3.30	1.90	1.90	0.58	0.24	0.11	0.83	0.03	Water bearing	N
2991.64	2994.25	2.61	1.90	1.90	0.73	0.23	0.16	0.71	0.08	Possible gas	N
3004.44	3027.20	22.76	22.66	22.66	1.00	0.15	0.19	0.13	3.75	Gas bearing	Y
3028.57	3030.35	1.78	1.40	1.40	0.79	0.33	0.12	0.44	0.09	Gas bearing	Y
3038.73	3040.81	2.08	0.50	0.50	0.24	0.29	0.12	0.53	0.03	Gas bearing	Y
3049.63	3052.80	3.17	2.30	2.30	0.73	0.30	0.12	0.48	0.14	Gas bearing	Y
3057.40	3059.07	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Water bearing	N
3073.53	3076.09	2.56	1.30	1.30	0.51	0.32	0.11	0.71	0.04	Water bearing	N
3108.45	3113.35	4.90	3.10	3.10	0.63	0.36	0.11	0.52	0.16	Gas bearing	Y
3137.31	3152.83	15.52	11.30	11.30	0.73	0.28	0.12	0.48	0.73	Gas bearing	Y
3159.81	3166.24	6.43	3.60	3.60	0.56	0.29	0.10	0.91	0.03	Water bearing	N
3178.56	3183.69	5.13	3.10	3.10	0.60	0.38	0.09	0.75	0.07	Possible gas	N
3185.85	3193.62	7.77	7.40	7.40	0.95	0.25	0.14	0.46	0.58	Gas bearing	Y
3205.61	3212.59	6.98	6.60	6.60	0.95	0.19	0.14	0.47	0.50	Gas bearing	Y
3217.34	3221.35	4.01	2.00	2.00	0.50	0.27	0.11	0.74	0.05	Possible gas	N
3221.84	3231.06	9.22	8.30	8.30	0.90	0.15	0.17	0.42	0.81	Gas bearing	Y
3233.72	3237.26	3.54	3.10	3.10	0.88	0.09	0.19	0.35	0.37	Gas bearing	Y
3256.25	3266.26	10.01	8.50	8.50	0.85	0.07	0.20	0.14	1.49	Gas bearing	Y
3275.96	3288.16	12.20	9.10	9.10	0.75	0.12	0.17	0.34	1.05	Gas bearing	Y
3296.08	3300.45	4.37	2.70	2.70	0.62	0.34	0.13	0.62	0.13	Gas bearing	Y
3366.64	3377.36	10.72	10.12	10.12	0.94	0.17	0.15	0.27	1.07	Gas bearing	Y
3402.69	3410.46	7.77	5.50	5.50	0.71	0.17	0.13	0.44	0.39	Gas bearing	Y
3432.86	3443.73	10.87	9.40	9.40	0.86	0.17	0.12	0.45	0.61	Gas bearing	Y
3445.33	3449.57	4.24	3.40	3.40	0.80	0.18	0.14	0.34	0.32	Gas bearing	Y
3459.48	3461.84	2.36	0.90	0.90	0.38	0.32	0.08	0.62	0.03	Gas bearing	Y
3488.46	3501.44	12.98	10.00	10.00	0.77	0.09	0.13	0.30	0.88	Gas bearing	Y
3502.38	3518.23	15.85	12.80*	12.80*	0.81*	0.10*	0.13*	0.56*	0.73	Oil bearing	Y
3523.01	3526.79	3.78	3.00	3.00	0.79	0.15	0.13	0.92	0.03	Water bearing	N
3527.53	3541.47	13.94	12.80	12.80	0.92	0.06	0.11	0.97	0.04	Water bearing	N
3545.46	3554.27	8.81	8.10	8.10	0.92	0.23	0.13	0.92	0.08	Water bearing	N
3559.38	3575.79	16.41	15.70	15.70	0.96	0.15	0.13	0.98	0.05	Water bearing	N

Table 1. MLA A22A reservoir statistics

APPENDIX 3a

MARLIN A-22A

Lithology/Show Descriptions

Interval (m)		%	Lithology / Show Description
From	To		
2610	2615	90	Geologist on board (31/05/04) from 2615m to TD 8.5" Hole section. CLAYSTONE: dark yellowish brown to brownish grey, minor white (Rock flour?), weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace very fine quartz, minor carbonaceous specks and fragments, commonly micromicaceous, nil to trace disseminated pyrite, very soft to moderately firm (Predominantly bit generated texture, dispersive, amorphous to rarely sub blocky.
		10	SANDSTONE: very light grey, light brownish grey, clear to translucent grains, very fine to fine grained, trace medium, well sorted, angular to sub rounded, minor quartz cement, nil to trace argillaceous matrix, common friable to brittle aggregates, trace hard aggregates, poor inferred porosity, no hydrocarbon fluor.
2615	2620	95	CLAYSTONE: as above.
		Tr	SANDSTONE: as above.
		5	COAL: brownish black to black, earthy lustre, friable to firm, sub fissile in part, sub blocky to blocky, hackly to angular fracture, lignitic.
2620	2625	95	CLAYSTONE: generally as above, trace nodular pyrite.
		5	SANDSTONE: as above.
		Tr	COAL: as above.
2625	2630	95	CLAYSTONE: generally as above, trace nodular pyrite.
		5	SANDSTONE: as above.
		Tr	COAL: as above.
2630	2635	100	CLAYSTONE: generally as above, trace coaly laminae.
		Tr	SANDSTONE: as above.
		Tr	COAL: as above.
2635	2640	100	CLAYSTONE: dark yellowish brown to brownish grey, minor white (Rock flour?), weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace very fine quartz, minor carbonaceous specks and fragments, commonly micromicaceous, nil to trace disseminated pyrite, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky.
		Tr	SANDSTONE: as above.
2640	2645	100	CLAYSTONE: as above.
2645	2650	100	CLAYSTONE: as above.
2650	2655	100	CLAYSTONE: as above.
2655	2660	100	CLAYSTONE: as above.
		Tr	SANDSTONE: very light grey, light brownish grey, clear to translucent grains, very fine to fine grained, trace medium and coarse, well sorted, angular to sub rounded, minor quartz cement, trace dolomite cement in part, nil to trace argillaceous matrix, common friable to brittle aggregates, trace hard aggregates, poor inferred porosity, no hydrocarbon fluor.
2660	2665	100	CLAYSTONE: dark yellowish brown to brownish grey, minor white (Rock flour?), weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace very fine quartz, minor carbonaceous specks and fragments, commonly micromicaceous, trace nodular pyrite, nil to trace disseminated pyrite, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky.
		Tr	SANDSTONE: as above.
2665	2670	100	CLAYSTONE: as above.
		Tr	SANDSTONE: as above.

Interval (m)		%	Lithology / Show Description
From	To		
2670	2675	90	CLAYSTONE: generally as above, dark yellowish brown to brownish grey, weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace very fine quartz, minor carbonaceous specks and fragments, commonly micromicaceous, nil to trace nodular pyrite, minor disseminated pyrite, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky.
		Tr	SANDSTONE: generally as above, very light grey, light brownish grey, clear to translucent grains, very fine to fine grained, trace medium and coarse, well sorted, angular to sub rounded, minor quartz cement, trace dolomite cement in part, nil to trace argillaceous matrix, common friable to brittle aggregates, trace hard aggregates, poor inferred porosity, no hydrocarbon fluor.
		10	COAL: brownish black to black, earthy lustre, friable to firm, sub fissile in part, sub blocky to blocky, hackly to angular fracture, lignitic.
2675	2680	95	CLAYSTONE: as above.
		Tr	SANDSTONE: as above.
		5	COAL: as above.
2680	2685	100	CLAYSTONE: as above.
		Tr	SANDSTONE: as above.
		Tr	COAL: as above.
2685	2690	100	CLAYSTONE: as above.
		Tr	SANDSTONE: generally as above, increasing loose medium to coarse (Cavings?).
		Tr	COAL: as above.
2690	2695	100	CLAYSTONE: as above.
		Tr	SANDSTONE: generally as above, trace hard aggregates, minor local argillaceous matrix.
		Tr	COAL: as above.
2695	2700	100	CLAYSTONE: as above.
		Tr	SANDSTONE: as above.
		Tr	COAL: as above.
2700	2705	100	CLAYSTONE: generally as above, dark yellowish brown to brownish grey, weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace very fine quartz, minor carbonaceous specks and fragments, trace micromicaceous, minor disseminated pyrite, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky.
		Tr	SANDSTONE: generally as above, very light grey, light brownish grey, clear to translucent grains, very fine to fine grained, trace medium and coarse, well sorted, angular to sub rounded, minor quartz cement, trace dolomite cement in part, nil to trace argillaceous matrix, common friable to brittle aggregates, trace hard to very hard aggregates, poor inferred porosity, no hydrocarbon fluor.
		Tr	COAL: brownish black to black, earthy lustre, friable to firm, sub fissile in part, sub blocky to blocky, hackly to angular fracture, lignitic.
2705	2710	100	CLAYSTONE: as above.
		Tr	SANDSTONE: as above.
		Tr	COAL: as above.
2710	2715	100	CLAYSTONE: as above.
		Tr	SANDSTONE: as above.
		100	CLAYSTONE: as above.
2715	2720	100	CLAYSTONE: as above.
		Tr	SANDSTONE: as above.
		100	CLAYSTONE: as above.
2720	2725	100	CLAYSTONE: as above.
2725	2730	100	CLAYSTONE: as above.
2730	2735	100	CLAYSTONE: as above.
2735	2740	100	CLAYSTONE: as above.
2740	2745	100	CLAYSTONE: generally as above, dark yellowish brown to brownish grey, dusky brown, weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace very fine quartz, minor carbonaceous specks and fragments, trace micromicaceous, minor disseminated pyrite, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky.
		Tr	COAL: generally as above, brownish black to black, earthy lustre, friable to firm, sub fissile to fissile in part, sub blocky to blocky, hackly to angular fracture, lignitic.

Interval (m)		%	Lithology / Show Description
From	To		
2745	2750	100	CLAYSTONE: as above.
		Tr	COAL: as above.
2750	2755	100	CLAYSTONE: as above.
2755	2760	100	CLAYSTONE: as above.
2760	2765	100	CLAYSTONE: as above.
2765	2770	100	CLAYSTONE: as above.
2770	2775	100	CLAYSTONE: as above.
2775	2780	100	CLAYSTONE: as above.
2780	2785	100	CLAYSTONE: generally as above, dark yellowish brown to brownish grey, dusky brown, weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace very fine quartz, minor carbonaceous specks and fragments, trace micromicaceous, trace disseminated pyrite, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky.
		Tr	COAL: generally as above, brownish black to black, earthy lustre, friable to firm, sub fissile to fissile in part, sub blocky to blocky, hackly to angular fracture, lignitic.
2785	2790	100	CLAYSTONE: as above.
		Tr	COAL: as above.
2790	2795	100	CLAYSTONE: as above.
		Tr	COAL: as above.
2795	2800	100	CLAYSTONE: as above.
		Tr	COAL: as above.
2800	2805	100	CLAYSTONE: as above.
		Tr	COAL: as above.
2805	2810	100	CLAYSTONE: as above.
2810	2815	100	CLAYSTONE: as above.
2815	2820	100	CLAYSTONE: as above.
2820	2825	95	CLAYSTONE: generally as above, dark yellowish brown to predominantly brownish grey, weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace very fine quartz, minor carbonaceous specks and fragments, trace micromicaceous, trace disseminated pyrite, trace nodular pyrite, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky.
		5	SANDSTONE: very light grey, minor light brownish grey, clear to translucent grains, fine to medium grained, trace very fine and coarse, well sorted, angular to sub rounded, minor quartz cement, trace dolomite cement in part, nil to trace argillaceous matrix, returned predominantly loose, trace friable to brittle aggregates, poor to fair inferred porosity, no hydrocarbon fluor.
2825	2830	95	CLAYSTONE: as above.
		5	SANDSTONE: as above.
2830	2835	95	CLAYSTONE: as above.
		5	SANDSTONE: as above.
2835	2840	95	CLAYSTONE: as above.
		5	SANDSTONE: generally as above, becoming predominantly fine grained.
2840	2845	95	CLAYSTONE: as above.
		5	SANDSTONE: as above.
2845	2850	90	CLAYSTONE: generally as above, dark yellowish brown to predominantly brownish grey, weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace very fine quartz, minor carbonaceous specks and fragments, trace micromicaceous, trace disseminated pyrite, trace nodular pyrite, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky.
		10	SANDSTONE: very light grey, minor light brownish grey, clear to translucent grains, fine to predominantly medium grained, trace very fine and coarse, moderately sorted, angular to sub rounded, minor quartz cement, trace dolomite cement in part, nil to trace argillaceous matrix, returned predominantly loose, trace friable fine grained aggregates, fair inferred porosity, no hydrocarbon fluor.
2850	2855	95	CLAYSTONE: as above.
		5	SANDSTONE: generally as above, trace very coarse.

Interval (m)		%	Lithology / Show Description
From	To		
2855	2860	90	CLAYSTONE: as above.
		10	SANDSTONE: as above.
2860	2865	95	CLAYSTONE: as above.
		5	SANDSTONE: as above.
2865	2870	95	CLAYSTONE: as above.
		5	SANDSTONE: as above.
2870	2875	90	CLAYSTONE: as above.
		10	SANDSTONE: as above.
2875	2880	80	CLAYSTONE: as above.
		20	SANDSTONE: as above.
2880	2885	80	CLAYSTONE: generally as above, dark yellowish brown to predominantly brownish grey, weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace very fine quartz, minor carbonaceous specks and fragments, trace micromicaceous, trace disseminated pyrite, trace nodular pyrite, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky.
		20	SANDSTONE: generally as above, very light grey, minor light brownish grey, clear to translucent grains, predominantly fine to medium grained, trace very fine and coarse, moderately to well sorted, angular to sub rounded, minor quartz cement, trace dolomite cement in part, nil to trace argillaceous matrix, returned predominantly loose, trace friable fine grained aggregates, fair inferred porosity, no hydrocarbon fluor.
2885	2890	80	CLAYSTONE: as above.
		20	SANDSTONE: as above.
2890	2895	60	CLAYSTONE: as above.
		40	SANDSTONE: as above.
2895	2900	70	CLAYSTONE: as above.
		30	SANDSTONE: as above.
2900	2905	70	CLAYSTONE: as above.
		30	SANDSTONE: as above.
2905	2910	90	CLAYSTONE: as above.
		10	SANDSTONE: as above.
2910	2915	60	CLAYSTONE: generally as above, dark yellowish brown to predominantly brownish grey, weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace very fine quartz, minor carbonaceous specks and fragments, trace micromicaceous, trace disseminated pyrite, trace nodular pyrite, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky, occasionally sub fissile.
		40	SANDSTONE: generally as above, very light grey, minor light brownish grey, clear to translucent grains, predominantly fine to medium grained, trace very fine, well sorted, angular to sub rounded, minor quartz cement, trace dolomite cement in part, trace white argillaceous matrix, returned predominantly loose, trace friable fine grained aggregates, fair inferred porosity, no hydrocarbon fluor.
2915	2920	60	CLAYSTONE: generally as above, dark yellowish brown to predominantly brownish grey, weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace very fine quartz, minor carbonaceous specks and fragments, trace micromicaceous, trace disseminated pyrite, trace nodular pyrite, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky, occasionally sub fissile.
		40	SANDSTONE: generally as above, very light grey, minor light brownish grey, clear to translucent grains, predominantly fine to medium grained, trace very fine, well sorted, angular to sub rounded, minor quartz cement, trace dolomite cement in part, trace white argillaceous matrix, returned predominantly loose, trace friable fine grained aggregates, fair inferred porosity, no hydrocarbon fluor.
2920	2925	50	CLAYSTONE: as above.
		50	SANDSTONE: as above.
2925	2930	70	CLAYSTONE: as above.
		30	SANDSTONE: as above.
2930	2935	60	CLAYSTONE: as above.
		40	SANDSTONE: generally as above, predominantly very fine to fine grained.

Interval (m)		%	Lithology / Show Description
From	To		
2935	2940	80	CLAYSTONE: as above.
		20	SANDSTONE: as above.
2940	2945	80	CLAYSTONE: as above.
		20	SANDSTONE: as above.
2945	2950	90	CLAYSTONE: as above.
		10	SANDSTONE: as above.
2950	2955	90	CLAYSTONE: as above.
		10	SANDSTONE: as above.
2955	2960	90	CLAYSTONE: generally as above, dark yellowish brown to predominantly brownish grey, weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace to locally common very fine quartz, becoming very fine grained argillaceous sandstone in part, minor carbonaceous specks and fragments, minor micromica, trace disseminated pyrite, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky, occasionally sub fissile.
		10	SANDSTONE: generally as above, very light grey, minor light brownish grey, clear to translucent grains, very fine to predominantly fine grained, trace medium, well sorted, angular to sub rounded, minor quartz cement, trace white argillaceous matrix, common rock flour, returned predominantly loose, trace friable aggregates, fair inferred porosity, no hydrocarbon fluor.
2960	2965	70	CLAYSTONE: as above.
		30	SANDSTONE: as above.
2965	2970	60	CLAYSTONE: as above.
		40	SANDSTONE: as above.
2970	2975	70	CLAYSTONE: as above.
		30	SANDSTONE: as above.
2975	2980	70	CLAYSTONE: as above.
		30	SANDSTONE: generally as above, increasing medium grains.
2980	2985	90	CLAYSTONE: as above.
		10	SANDSTONE: as above.
2985	2990	90	CLAYSTONE: as above.
		10	SANDSTONE: as above.
		Tr	COAL: brownish black to black, earthy to sub vitreous lustre, brittle to firm, sub blocky to blocky, hackly to angular fracture, pyritic in part.
2990	2995	80	CLAYSTONE: as above.
		20	SANDSTONE: as above.
2995	3000	90	CLAYSTONE: generally as above, dark yellowish brown to predominantly brownish grey, weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace to locally common very fine quartz, becoming very fine grained argillaceous sandstone in part, minor carbonaceous specks and fragments, minor micromica, trace disseminated pyrite, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky, occasionally sub fissile.
		10	SANDSTONE: generally as above, very light grey, minor light brownish grey, clear to translucent grains, very fine to predominantly fine grained, trace medium, well sorted, angular to sub rounded, minor quartz cement, trace white argillaceous matrix, common rock flour, returned predominantly loose, trace friable aggregates, fair inferred porosity, no hydrocarbon fluor.
3000	3005	90	CLAYSTONE: as above.
		10	SANDSTONE: as above.
3005	3010	80	CLAYSTONE: as above.
		20	SANDSTONE: as above.

Interval (m)		%	Lithology / Show Description
From	To		
3010	3015	80	SANDSTONE: white to very light grey, clear to translucent grains, fine to predominantly medium grained, trace coarse, well sorted, angular to sub rounded, trace rounded, nil to trace quartz cement, common rock flour, returned loose, fair inferred porosity, no hydrocarbon fluor.
		20	CLAYSTONE: generally as above, dark yellowish brown to predominantly brownish grey, weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace to locally common very fine quartz, becoming very fine grained argillaceous sandstone in part, minor carbonaceous specks and fragments, minor micromica, trace disseminated pyrite, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky, occasionally sub fissile.
3015	3020	70	SANDSTONE: as above.
		30	CLAYSTONE: as above.
		Tr	COAL: brownish black to black, earthy to sub vitreous lustre, brittle to firm, sub blocky to blocky, hackly to angular fracture, trace sub conchoidal.
3020	3025	70	SANDSTONE: as above.
		25	CLAYSTONE: as above.
		5	COAL: as above.
3025	3030	60	SANDSTONE: as above.
		30	CLAYSTONE: as above.
		10	COAL: as above.
3030	3035	40	SANDSTONE: as above.
		60	CLAYSTONE: as above.
		Tr	COAL: as above.
3035	3040	80	CLAYSTONE: generally as above, dark yellowish brown to predominantly brownish grey, weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace to locally common very fine quartz, becoming very fine grained argillaceous sandstone in part, minor carbonaceous specks and fragments, minor micromica, trace disseminated pyrite, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky, occasionally sub fissile.
		20	SANDSTONE: white to very light grey, clear to translucent grains, light brownish grey, very fine to medium grained, trace coarse, well sorted, angular to sub angular, minor sub rounded, nil to trace quartz cement, common rock flour, predominantly returned loose, minor friable aggregates, fair inferred porosity, no hydrocarbon fluor.
3040	3045	80	CLAYSTONE: as above.
		20	SANDSTONE: as above.
3045	3050	80	CLAYSTONE: as above.
		20	SANDSTONE: as above.
3050	3055	60	CLAYSTONE: generally as above, dark yellowish brown to predominantly brownish grey, weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace to locally common very fine quartz, becoming very fine grained argillaceous sandstone in part, minor carbonaceous specks and fragments, minor micromica, trace disseminated pyrite, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky, occasionally sub fissile.
		40	SANDSTONE: generally as above, white to very light grey, clear to translucent grains, very fine to medium grained, trace coarse, well sorted, angular to sub angular, minor sub rounded, nil to trace quartz cement, common rock flour, predominantly returned loose, minor friable aggregates, fair inferred porosity, no hydrocarbon fluor.
3055	3060	60	CLAYSTONE: generally as above, increasing nodular pyrite.
		40	SANDSTONE: as above.
3060	3065	90	CLAYSTONE: as above.
		10	SANDSTONE: as above.
3065	3070	90	CLAYSTONE: as above.
		10	SANDSTONE: as above.
		Tr	COAL: brownish black to black, earthy to sub vitreous lustre, brittle to firm, sub blocky to blocky, hackly to angular fracture, trace sub conchoidal.
3070	3075	60	CLAYSTONE: as above.
		40	SANDSTONE: as above.

Interval (m)		%	Lithology / Show Description
From	To		
3075	3080	80	CLAYSTONE: as above.
		20	SANDSTONE: as above.
		Tr	COAL: brownish black to black, earthy to sub vitreous lustre, brittle to firm, sub blocky to blocky, hackly to angular fracture, trace sub conchoidal, pyritic in part.
3080	3085	70	CLAYSTONE: as above.
		20	SANDSTONE: as above.
		10	COAL: as above.
3085	3090	70	CLAYSTONE: as above.
		25	SANDSTONE: as above.
		5	COAL: as above.
3090	3095	90	CLAYSTONE: as above.
		10	SANDSTONE: as above.
		Tr	COAL: as above.
3095	3100	80	CLAYSTONE: as above.
		20	SANDSTONE: as above.
		Tr	COAL: as above.
3100	3105	70	CLAYSTONE: as above.
		10	SANDSTONE: as above.
		20	COAL: brownish black to black, earthy to sub vitreous lustre, brittle to firm, sub blocky to blocky, hackly to angular fracture, trace sub conchoidal, lignitic.
3105	3110	70	CLAYSTONE: as above.
		10	SANDSTONE: as above.
		20	COAL: as above.
3110	3115	90	CLAYSTONE: as above.
		10	SANDSTONE: as above.
		Tr	COAL: as above.
3115	3120	90	CLAYSTONE: as above.
		10	SANDSTONE: as above.
		Tr	COAL: as above.
3120	3125	80	CLAYSTONE: as above.
		20	SANDSTONE: as above.
3125	3130	70	CLAYSTONE: generally as above, dark yellowish brown to predominantly brownish grey, weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace to locally common very fine quartz, becoming very fine grained argillaceous sandstone in part, minor carbonaceous specks and fragments, minor micromica, trace disseminated pyrite, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky, occasionally sub fissile.
		30	SANDSTONE: generally as above, white to very light grey, clear to translucent grains, very fine to medium grained, trace coarse, well sorted, angular to sub angular, minor sub rounded, nil to trace quartz cement, common rock flour, predominantly returned loose, minor friable aggregates, fair inferred porosity, no hydrocarbon fluor.
3130	3135	80	CLAYSTONE: as above.
		20	SANDSTONE: as above.
3135	3140	80	CLAYSTONE: as above.
		20	SANDSTONE: as above.
3140	3145	20	CLAYSTONE: as above.
		80	SANDSTONE: as above.
3145	3150	20	CLAYSTONE: as above.
		80	SANDSTONE: as above.
3150	3155	Tr	COAL: brownish black to black, earthy to sub vitreous lustre, brittle to firm, sub blocky to blocky, hackly to angular fracture, trace sub conchoidal, lignitic.
		50	CLAYSTONE: as above.
		40	SANDSTONE: as above.
3155	3160	10	COAL: as above.
		80	CLAYSTONE: as above.
		10	SANDSTONE: as above.
		10	COAL: as above.

Interval (m)		%	Lithology / Show Description
From	To		
3160	3165	30	CLAYSTONE: generally as above, minor nodular pyrite.
		70	SANDSTONE: generally as above, trace hard aggregates.
3165	3170	70	CLAYSTONE: as above.
		30	SANDSTONE: as above.
3170	3175	60	CLAYSTONE: as above.
		40	SANDSTONE: as above.
3175	3180	70	CLAYSTONE: as above.
		30	SANDSTONE: as above.
3180	3185	80	CLAYSTONE: as above.
		20	SANDSTONE: as above.
3185	3190	70	CLAYSTONE: generally as above, dark yellowish brown to predominantly brownish grey, weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace to locally common very fine quartz, becoming very fine grained argillaceous sandstone in part, minor carbonaceous specks and fragments, minor micromica, trace disseminated pyrite, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky, occasionally sub fissile.
		25	SANDSTONE: white to very light grey, clear to translucent grains, very fine to medium grained, trace coarse, moderately sorted, angular to sub angular, minor sub rounded, nil to trace quartz cement, trace pyrite cement on coarser grains, common rock flour, predominantly returned loose, minor friable finer grained aggregates, fair inferred porosity, no hydrocarbon flour.
		5	COAL: brownish black to black, earthy to sub vitreous lustre, brittle to firm, sub blocky to blocky, hackly to angular fracture, trace sub conchoidal, lignitic.
3190	3195	80	CLAYSTONE: as above.
		10	SANDSTONE: as above.
		10	COAL: as above.
3195	3200	20	CLAYSTONE: generally as above, dark yellowish brown to predominantly brownish grey, weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace to locally common very fine quartz, becoming very fine grained argillaceous sandstone in part, minor carbonaceous specks and fragments, minor micromica, trace disseminated pyrite, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky, occasionally sub fissile.
		10	SANDSTONE: generally as above, white to very light grey, clear to translucent grains, very fine to medium grained, trace coarse, moderately sorted, angular to sub angular, minor sub rounded, nil to trace quartz cement, trace pyrite cement on coarser grains, common rock flour, predominantly returned loose, minor friable finer grained aggregates, fair inferred porosity, no hydrocarbon flour.
		70	COAL: brownish black to black, earthy to sub vitreous lustre, brittle to firm, sub blocky to blocky, hackly to angular fracture, trace sub conchoidal, lignitic.
3200	3205	40	CLAYSTONE: as above.
		10	SANDSTONE: as above.
		50	COAL: as above.
3205	3210	35	CLAYSTONE: as above.
		60	SANDSTONE: white to very light grey, clear to translucent grains, fine to predominantly medium grained, trace coarse, moderately well sorted, angular to sub angular, minor sub rounded, nil to trace quartz cement, minor to common rock flour, predominantly returned loose, minor friable finer grained aggregates, fair inferred porosity, no hydrocarbon flour.
		5	COAL: as above.
3210	3215	10	CLAYSTONE: as above.
		90	SANDSTONE: as above.
		Tr	COAL: as above.
3215	3220	60	CLAYSTONE: as above.
		40	SANDSTONE: white to very light grey, clear to translucent grains, fine to medium grained, trace coarse, moderately sorted, angular to sub angular, minor sub rounded, nil to trace quartz cement, trace pyrite cement, common rock flour, predominantly returned loose, trace friable finer grained aggregates, fair inferred porosity, no hydrocarbon flour.
		Tr	COAL: as above.

Interval (m)		%	Lithology / Show Description
From	To		
3220	3225	10	CLAYSTONE: as above.
		90	SANDSTONE: as above.
		Tr	COAL: as above.
3225	3230	10	CLAYSTONE: as above.
		90	SANDSTONE: as above.
		Tr	COAL: as above.
3230	3235	30	CLAYSTONE: as above.
		70	SANDSTONE: as above.
		Tr	COAL: as above.
3235	3240	40	CLAYSTONE: as above.
		50	SANDSTONE: as above.
		10	COAL: as above.
3240	3245	70	CLAYSTONE: as above.
		25	SANDSTONE: as above.
		5	COAL: as above.
3245	3250	60	CLAYSTONE: as above.
		10	SANDSTONE: as above.
		30	COAL: as above.
3250	3255	70	CLAYSTONE: as above.
		20	SANDSTONE: as above.
		10	COAL: as above.
3255	3260	20	CLAYSTONE: generally as above, dark yellowish brown to predominantly brownish grey, weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace to locally common very fine quartz, minor carbonaceous specks and fragments, minor micromica, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky, occasionally sub fissile.
		55	SANDSTONE: generally as above, white to very light grey, clear to translucent grains, predominantly fine to medium grained, trace very fine, moderately to well sorted, angular to sub angular, minor sub rounded, nil to trace quartz cement, common rock flour, predominantly returned loose, trace friable aggregates, poor to fair inferred porosity, no hydrocarbon flour.
		5	COAL: brownish black to black, earthy to sub vitreous lustre, brittle to firm, sub blocky to blocky, hackly to angular fracture, trace sub conchoidal, lignitic.
3260	3265	10	CLAYSTONE: as above.
		90	SANDSTONE: generally as above, fine to medium grained.
		Tr	COAL: as above.
3265	3270	75	CLAYSTONE: as above.
		20	SANDSTONE: as above.
		5	COAL: as above.
3270	3275	80	CLAYSTONE: as above.
		20	SANDSTONE: as above.
		Tr	COAL: as above.
3275	3280	30	CLAYSTONE: as above.
		70	SANDSTONE: as above.
		Tr	COAL: as above.
3280	3285	10	CLAYSTONE: as above.
		90	SANDSTONE: generally as above, white to very light grey, clear to translucent grains, predominantly medium grained, minor coarse, trace fine, moderately sorted, angular to sub angular, rare sub rounded, nil to trace quartz cement, common rock flour, returned loose, fair inferred porosity, no hydrocarbon flour.
		Tr	COAL: as above.
3285	3290	10	CLAYSTONE: as above.
		90	SANDSTONE: generally as above, white to very light grey, clear to translucent grains, predominantly medium to coarse grained, trace fine, moderately well sorted, angular to sub angular, rare sub rounded, nil to trace quartz cement, common rock flour, returned loose, fair to good inferred porosity, no hydrocarbon flour.
		Tr	COAL: as above.

Interval (m)		%	Lithology / Show Description
From	To		
3290	3295	40	CLAYSTONE: as above.
		50	SANDSTONE: as above.
		10	COAL: as above.
3295	3300	30	CLAYSTONE: as above.
		65	SANDSTONE: as above.
		5	COAL: as above.
3300	3305	90	CLAYSTONE: as above.
		10	SANDSTONE: as above.
		Tr	COAL: as above.
3305	3310	80	CLAYSTONE: as above.
		20	SANDSTONE: as above.
		Tr	COAL: as above.
3310	3315	90	CLAYSTONE: as above.
		10	SANDSTONE: as above.
		Tr	COAL: as above.
3315	3320	90	CLAYSTONE: medium dark grey, dark yellowish brown to brownish grey, weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace to locally common very fine quartz, minor carbonaceous specks and fragments, minor micromica, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky, occasionally sub fissile.
		10	SANDSTONE: generally as above, white to very light grey, clear to translucent grains, predominantly medium to fine grained, trace coarse, moderately well sorted, angular to sub angular, rare sub rounded, nil to trace quartz cement, common rock flour, returned loose, fair to good inferred porosity, no hydrocarbon fluor.
3320	3325	90	CLAYSTONE: as above.
		10	SANDSTONE: as above.
3325	3330	90	CLAYSTONE: as above.
		10	SANDSTONE: as above.
3330	3335	90	CLAYSTONE: as above.
		10	SANDSTONE: as above.
3335	3340	90	CLAYSTONE: as above.
		10	SANDSTONE: as above.
3340	3345	70	CLAYSTONE: medium dark grey, dark yellowish brown to brownish grey, weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace to locally common very fine quartz, minor carbonaceous specks and fragments, minor micromica, nil to trace nodular pyrite, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky, occasionally sub fissile.
		10	SANDSTONE: generally as above, white to very light grey, clear to translucent grains, predominantly fine to medium grained, nil to trace coarse, well sorted, angular to sub angular, rare sub rounded, nil to trace quartz cement, common rock flour, returned loose, trace fine grained aggregates, fair inferred porosity, no hydrocarbon fluor.
		20	COAL: brownish black to black, earthy to sub vitreous lustre, brittle to firm, sub blocky to blocky, predominantly hackly to angular fracture, minor sub conchoidal, lignitic.
3345	3350	70	CLAYSTONE: as above.
		10	SANDSTONE: as above.
		20	COAL: as above.
3350	3355	95	CLAYSTONE: as above.
		5	SANDSTONE: as above.
		Tr	COAL: as above.
3355	3360	80	CLAYSTONE: as above.
		20	SANDSTONE: as above.
		Tr	COAL: as above.

Interval (m)		%	Lithology / Show Description
From	To		
3360	3365	70	CLAYSTONE: medium dark grey, dark yellowish brown to brownish grey, weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace to locally common very fine quartz, minor carbonaceous specks and fragments, minor micromica, trace nodular pyrite, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky, occasionally sub fissile.
		20	SANDSTONE: generally as above, white to very light grey, clear to translucent grains, predominantly fine to medium grained, trace coarse, moderately well sorted, angular to sub angular, occasionally very angular, rare sub rounded, nil to trace quartz cement, common rock flour, returned loose, trace fine grained aggregates, fair inferred porosity, no hydrocarbon fluor.
		10	COAL: brownish black to black, earthy to sub vitreous lustre, brittle to firm, sub blocky to blocky, predominantly hackly to angular fracture, minor sub conchoidal, lignitic.
3365	3370	40	CLAYSTONE: generally as above, medium dark grey, dark yellowish brown to brownish grey, weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace to locally common very fine quartz, minor carbonaceous specks and fragments, minor micromica, trace nodular pyrite, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky, occasionally sub fissile.
		60	SANDSTONE: generally as above, white to very light grey, clear to translucent grains, fine to predominantly medium grained, minor coarse, moderately sorted, angular to sub angular, occasionally very angular, rare sub rounded, nil to trace quartz cement, common rock flour, returned loose, trace fine grained aggregates, fair inferred porosity, no hydrocarbon fluor.
		Tr	COAL: as above, brownish black to black, earthy to sub vitreous lustre, brittle to firm, sub blocky to blocky, predominantly hackly to angular fracture, minor sub conchoidal, lignitic.
3370	3375	20	CLAYSTONE: as above.
		80	SANDSTONE: as above.
		Tr	COAL: as above.
3375	3380	30	CLAYSTONE: as above.
		70	SANDSTONE: as above.
		Tr	COAL: as above.
3380	3385	30	CLAYSTONE: as above.
		65	SANDSTONE: as above.
		5	COAL: as above.
3385	3390	20	CLAYSTONE: as above.
		20	SANDSTONE: as above.
		60	COAL: as above.
3390	3395	80	CLAYSTONE: as above.
		20	SANDSTONE: as above.
		Tr	COAL: as above.
3395	3400	90	CLAYSTONE: as above.
		10	SANDSTONE: as above.
		Tr	COAL: as above.
3400	3405	10	CLAYSTONE: as above.
		90	SANDSTONE: generally as above, white to very light grey, clear to translucent grains, fine to predominantly medium grained, minor coarse, moderately well sorted, angular to sub angular, occasionally very angular, rare sub rounded, nil to trace quartz cement, common rock flour, returned loose, fair inferred porosity, no hydrocarbon fluor.
3405	3410	10	CLAYSTONE: as above.
		90	SANDSTONE: as above.
3410	3415	40	CLAYSTONE: generally as above, medium dark grey, dark yellowish brown to brownish grey, weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace to locally common very fine quartz, minor carbonaceous specks and fragments, minor micromica, trace nodular pyrite, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky, occasionally sub fissile.
		60	SANDSTONE: as above.

Interval (m)		%	Lithology / Show Description
From	To		
3415	3420	10	CLAYSTONE: as above.
		70	SANDSTONE: as above.
		20	COAL: as above, brownish black to black, earthy to sub vitreous lustre, brittle to firm, sub blocky to blocky, predominantly hackly to angular fracture, minor sub conchoidal, lignitic.
3420	3425	50	CLAYSTONE: as above.
		10	SANDSTONE: as above.
		40	COAL: as above.
3425	3430	40	CLAYSTONE: as above.
		40	SANDSTONE: as above.
		20	COAL: as above.
3430	3435	10	CLAYSTONE: generally as above, medium dark grey, dark yellowish brown to brownish grey, weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace to locally common very fine quartz, minor carbonaceous specks and fragments, minor micromica, trace nodular pyrite, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky, occasionally sub fissile.
		85	SANDSTONE: generally as above, white to very light grey, clear to translucent grains, fine to predominantly medium grained, minor coarse, moderately well sorted, angular to sub angular, occasionally very angular, rare sub rounded, nil to trace quartz cement, common rock flour, returned loose, fair inferred porosity, no hydrocarbon fluor.
		5	COAL: as above, brownish black to black, earthy to sub vitreous lustre, brittle to firm, sub blocky to blocky, predominantly hackly to angular fracture, minor sub conchoidal, lignitic.
3435	3440	5	CLAYSTONE: as above.
		95	SANDSTONE: as above.
		Tr	COAL: as above.
3440	3445	5	CLAYSTONE: as above.
		95	SANDSTONE: as above.
		Tr	COAL: as above.
3445	3450	40	CLAYSTONE: as above.
		60	SANDSTONE: generally as above, minor coarse grains.
3450	3455	70	CLAYSTONE: as above.
		20	SANDSTONE: as above.
		5	COAL: as above.
3455	3460	50	CLAYSTONE: as above.
		20	SANDSTONE: as above.
		30	COAL: generally as above, common silty interlamination.
3460	3465	40	CLAYSTONE: as above.
		60	SANDSTONE: as above.
		Tr	COAL: as above.
3465	3470	40	CLAYSTONE: as above.
		60	SANDSTONE: as above.
		Tr	COAL: as above.
3470	3475	30	CLAYSTONE: generally as above, medium dark grey, dark yellowish brown to brownish grey, weakly to moderately calcareous, common silt, grading to argillaceous siltstone, trace to locally common very fine quartz, minor carbonaceous specks and fragments, minor micromica, trace nodular pyrite, very soft to moderately firm (Predominantly bit generated texture), dispersive, amorphous to rarely sub blocky, occasionally sub fissile.
		70	SANDSTONE: generally as above, white to very light grey, clear to translucent grains, predominantly fine to medium grained, well sorted, angular to sub angular, occasionally very angular, rare sub rounded, nil to trace quartz cement, common rock flour, returned loose, fair inferred porosity, no hydrocarbon fluor.
3475	3480	70	CLAYSTONE: as above.
		30	SANDSTONE: as above.
3480	3485	80	CLAYSTONE: as above.
		20	SANDSTONE: as above.
3485	3490	60	CLAYSTONE: as above.
		40	SANDSTONE: as above.

Interval (m)		%	Lithology / Show Description
From	To		
3490	3495	20	CLAYSTONE: as above.
		80	SANDSTONE: as above.
		10	CLAYSTONE: as above.
		90	SANDSTONE: as above.
3500	3505		Wiper trip to shoe from 3500mMDRT.
		90	SANDSTONE: translucent to off white, fine to medium grained, well sorted, subrounded, weak siliceous cement, common quartz overgrowths, sparse to abundant kaolinite matrix, trace pyrite nodules, friable to firm, poor visible porosity, fair inferred porosity where no matrix. 5% moderately bright, patchy yellow/white fluorescence, slow streaming cut, thick ring residue. Fluorescence associated with sandstone aggregates with kaolinite.
		10	SILTSTONE: medium brown, argillaceous, scattered carbonaceous fragments, moderately hard, subblocky.
		Trc	COAL: black, dull, silty, subblocky, brittle.
3505	3510	80	SANDSTONE: translucent to off white & pale brown, fine to medium grained, well sorted, subrounded, weak siliceous cement, common quartz overgrowths, sparse to abundant kaolinite matrix, friable to firm, poor visual porosity. 5% fluorescence as above.
		20	SILTSTONE: as above.
		80	SANDSTONE: translucent to off white & very pale brown, fine to medium grained, well sorted, subangular to subrounded, weak siliceous cement, common quartz overgrowths, sparse to abundant kaolinite matrix, friable, poor visual porosity. 10% fluorescence as per 3500 – 3505mMDRT.
		20	SILTSTONE: as per 3500 – 3505mMDRT.
3515	3520	60	SANDSTONE: as above. 5% fluorescence as per 3500 – 3505mMDRT.
		40	SILTSTONE: brown, arenaceous, grading to very fine grained silty sandstone, common carbonaceous laminations & fragments, subblocky, moderately hard.
		Trc	COAL: black, dull to subvitreous, silty, subblocky to subconchoidal fracture, brittle.
		70	SANDSTONE: off white & very pale brown, very fine to medium grained, predominantly fine grained, well sorted, subrounded, weak siliceous cement, common to abundant kaolinite & lithic matrix, trace chlorite & pyrite, friable, poor visual porosity. Trace fluorescence as per 3500 – 3505mMDRT.
3525	3530	30	SILTSTONE: brown, arenaceous & argillaceous, common very fine grained sandstone laminations, common carbonaceous laminations & fragments, firm, subblocky.
		80	SANDSTONE: as above, becoming fine to medium grained, with quartz overgrowths where medium. No fluorescence.
		20	SILTSTONE: as above.
		70	SANDSTONE: off white & very pale brown, very fine to medium grained, predominantly fine grained, moderately well sorted, subangular to subrounded, weak siliceous cement, abundant brown & white silty & kaolinite matrix, trace chlorite, firm, poor visual porosity. No fluorescence.
3535	3540	30	SILTSTONE: brown, mottled white, arenaceous & argillaceous, common very fine grained sandstone laminations, common carbonaceous fragments, firm, subblocky.
		Trc	COAL: black, dull to subvitreous, silty, subblocky, brittle.
		90	SANDSTONE: off white – translucent & very pale brown, fine to medium grained, well sorted, subangular to subrounded, weak siliceous cement, abundant quartz overgrowths, common brown silty & white kaolinite matrix, friable, poor visual porosity. No fluorescence.
		10	SILTSTONE: brown, mottled white, arenaceous & argillaceous, common very fine grained sandstone laminations, common carbonaceous fragments, firm, subblocky.
3540	3545	Trc	COAL: as above.
		30	COAL: black, dull, grading to carbonaceous siltstone, blocky, brittle.
			SILTSTONE: pale brown, argillaceous, common very fine grained sandstone laminations, common carbonaceous fragments, firm, subblocky.
			SANDSTONE: as above, becoming fine grained with poor visual porosity. No fluorescence.
3545	3550	90	SANDSTONE: pale brown to off white, fine to occasionally coarse grained, poor to moderate sorting, subangular to subrounded, weak siliceous cement, abundant quartz overgrowths, abundant brown & white silty matrix, friable, poor visual porosity. No fluorescence.
			SILTSTONE: as above.

Interval (m)		%	Lithology / Show Description
From	To		
3550	3555	80	SANDSTONE: as above.
		20	SILTSTONE: as per 3540 – 3545 mMDRT.
		Trc	COAL: as per 3540 – 3545 mMDRT.
3555	3560	60	SANDSTONE: pale grey/brown to off white, very fine to medium grained, predominantly fine grained, well sorted, subrounded, weak siliceous cement, common quartz overgrowths where medium grained, abundant kaolinite & silty matrix, friable, poor visual porosity. No fluorescence.
		40	SILTSTONE: mottled grey/brown & black, argillaceous in part, arenaceous in part, common very fine grained sandstone laminations, common carbonaceous flecks & fragments, firm, subblocky.
3560	3565	80	SANDSTONE: as above.
		20	SILTSTONE: as above.
3565	3570	80	SANDSTONE: as per 3555 – 3560 mMDRT.
		20	SILTSTONE: as per 3555 – 3560 mMDRT.
3570	3575	70	SANDSTONE: off white & pale brown, very fine to medium grained, predominantly fine grained, well sorted, subangular, weak siliceous cement, abundant kaolinite & brown silty matrix, friable, poor visual porosity. 5% dim, patchy, yellow fluorescence, slow streaming cut, thin ring residue.
		30	SILTSTONE: pale grey/brown, very argillaceous, common carbonaceous flecks & fragments, firm, subblocky.
		40	SANDSTONE: pale grey/brown, very fine to fine grained, well sorted, subrounded, no visual cement, matrix supported grains, abundant grey argillaceous matrix, friable, no visual porosity, no fluorescence.
3575	3580	40	SILTSTONE: pale grey, argillaceous, common carbonaceous flecks & laminations, common pyrite nodules, traces of very fine sandstone, subblocky, very dispersive.
		20	COAL: black, dull to subvitreous, silty, grading to carbonaceous siltstone, subconchoidal fracture, brittle.
		60	SANDSTONE: as above.
3580	3585	40	SILTSTONE: as above.
		Trc	COAL: as above.
		90	SILTSTONE: as per 3575 – 3580 mMDRT. SILTSTONE (2): grey/black, very carbonaceous, pyretic, subblocky, moderately hard.
3590	3595	10	SANDSTONE: as per 3575 – 3580 mMDRT.
		90	SILTSTONE: as per 3575 – 3580 mMDRT.
		10	SANDSTONE: as per 3575 – 3580 mMDRT.
3595	3600	100	SILTSTONE: as per 3575 – 3580 mMDRT.
3600	3617	100	SILTSTONE: as per 3575 – 3580 mMDRT.

3617mMDRT Total Depth @ 2115 hrs, 10-Jun-04

APPENDIX 4a

MARLIN A-22A

Mud Log



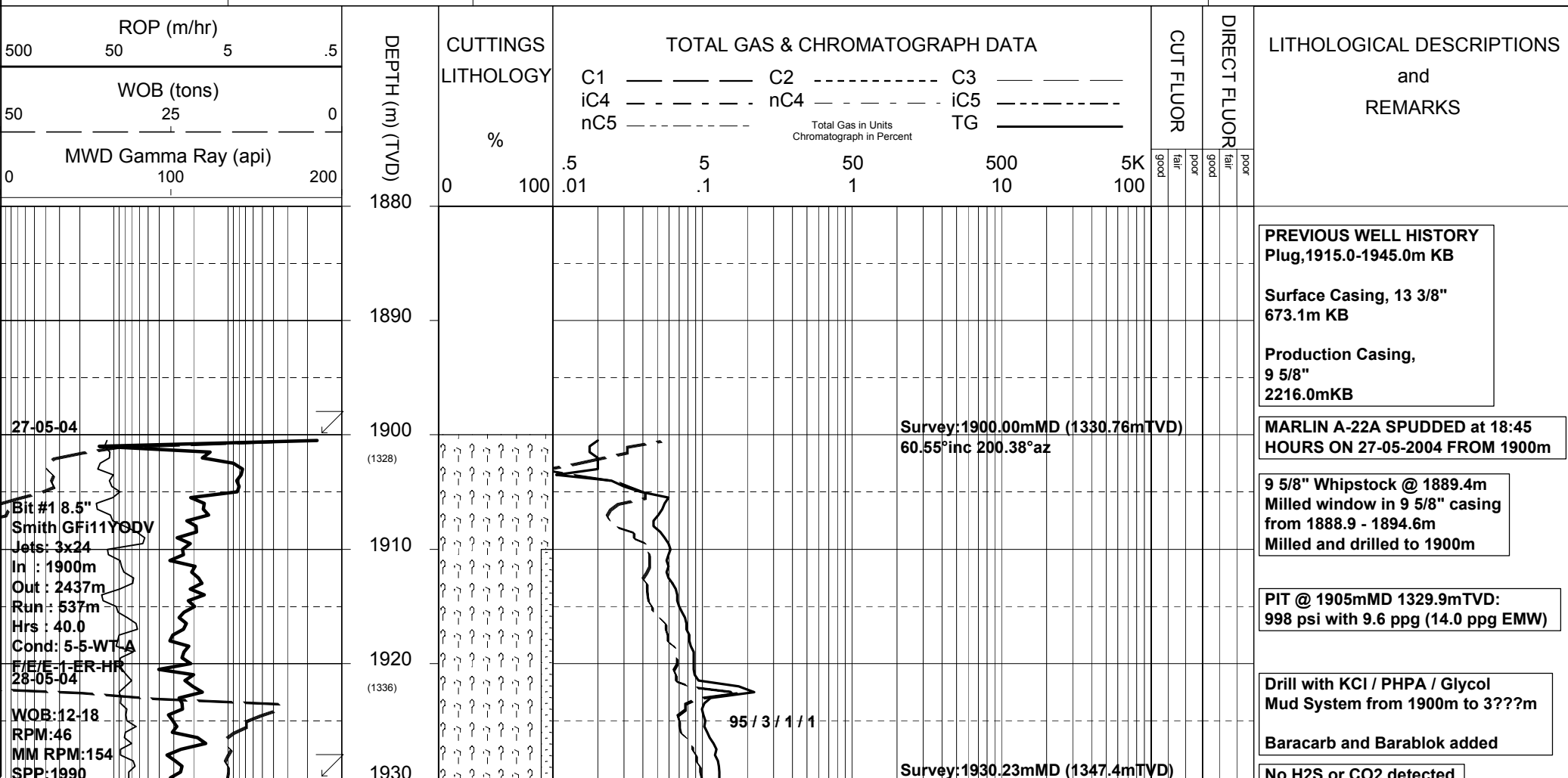
MASTERLOG

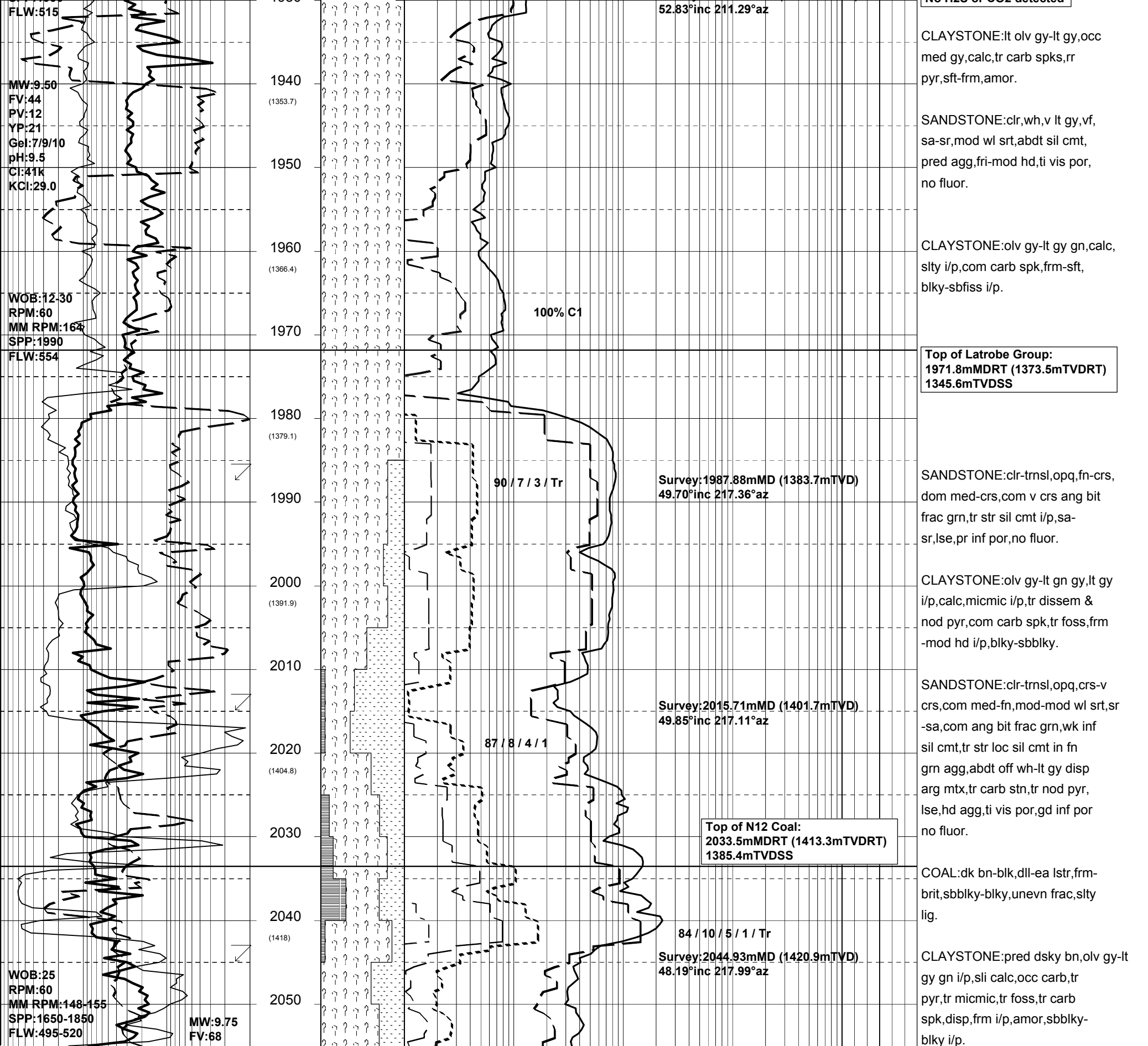
MLA A-22A



GENERAL	POSITION	HOLE / CASING INFO	DATE / DEPTH	ENGINEERS
Country : Australia Permit : VIC L3/L4 Field : Marlin Basin : Gippsland Well Type : Development Rig Name : Nabors 453	Local Co-ord X : -30.89 mE Local Co-ord Y : 4.14 mN AMG Co-ord X : 606 871.490 mE AMG Co-ord Y : 576 7922.760 mN RT to MSL : 27.91 m RT to Sea Bed : 86.91 m	8-1/2" Hole to 3617 m 20" Conductor Shoe @ 163.0 m 13-3/8" Surface Casing @ 673.0 m 9-5/8" Intermediate Csg @ 1894.6 m 7.0" Production Liner @ 2100.0 m 4-1/2" Liner Set @ 3615.5 m	Spud Date : 27-05-2004 Total Depth Date : 10-06-2004 Total Depth : 3617.0 m True Vertical Depth : 2713.99 m Log Scale : 1/ 500 Final Status : Cased & Suspended	Rohan Pereira Steve Oades Gedeon Doczy Greg Fawns

ABBREVIATIONS	LITHOLOGY LEGEND	ENGINEERING LEGEND
MW Mud Weight FV Funnel Viscosity PV Plastic Viscosity YP Yield Point Gel Gel Strength WL Water Loss KCl Potassium Chloride Cl Chlorides Inc Inclination Az Azimuth WOB Weight on Bit (klbs) RPM Rotations Per Min FLW Flow Rate (gpm) SPP Pump Pressure (psi) RR Re-Run Bit TG Trip Gas CG Connection Gas BG Background Gas DGP Drilled Gas Peak MM Mud Motor	CLAYSTONE SILTSTONE SST: F - V FINE SST: MEDIUM SST: COARSE SHALE MARL LIMESTONE DOLOMITE CHERT CONGLOMERATE COAL BRYOZOA RADIOLARITES ECHINOIDS CORALS FORAMINIFERA LITHIC FRAGMENT CARB FRAGMENT QUARTZITE INTRUSIVES GLAUCONITE PYRITE CEMENT	CASING SHOE LINER HANGER BIT CHANGE DEVIA. SURVEY SWC UNRECOV SIDEWALL CORE CORE WIRELINE LOGS MDT POINTS: PRESSURE ONLY SAMPLE SEAL FAILURE TIGHT





FLUOR:2060-2075m;Tr only dll yel
gn ptchy fluor. Nil cut, nil residue

SILTSTONE:pl yel bn-lt bn,arg
g/t CLYST i/p,micmic,tr pyr,
tr carb spks,sft-frn,amor,sbblky

COAL:dk bn-blk,dll-ea,frm-brit,
sbbiky-blky,unevn frac,slty.

SANDSTONE:clr-trnsl,opq,fn-crs.
mod srt,rnd-sa,pr srt,wk sil cmt
rr dissemin pyr,tr carb spks,gen
lase & cln,mnr agg,pr-fr vis por
no fluor.

COAL:dk bn-blk,dll-ea,frm-brit,
sbbiky-blky,unevn frac.

SILTSTONE:pl yel bn-lt bn,arg,
micmic,tr pyr,tr carb spks,
sft frm,amor.

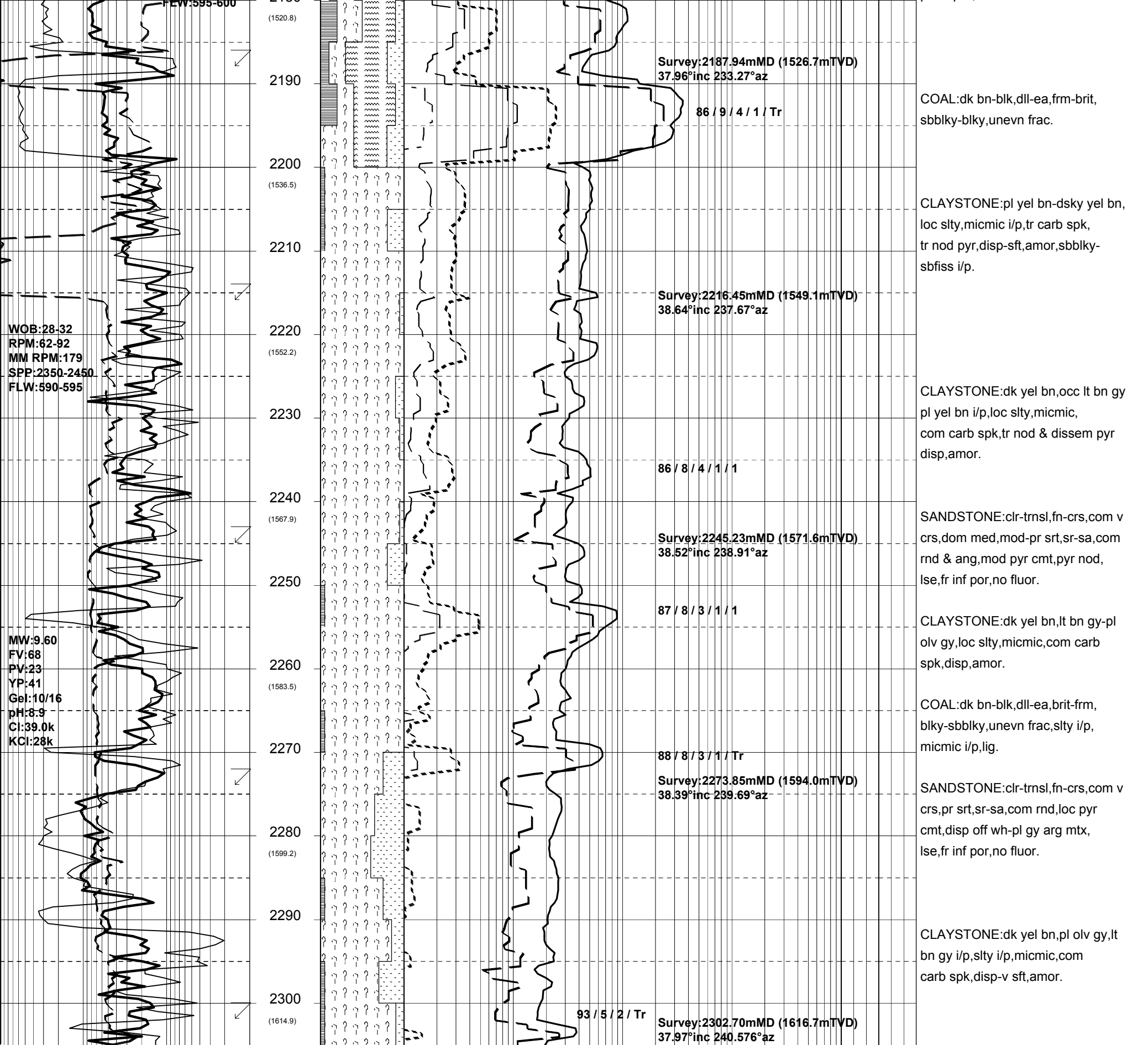
COAL:dk bn-blk,dll-ea,frm-brit,
sbbiky-blky,unevn frac.

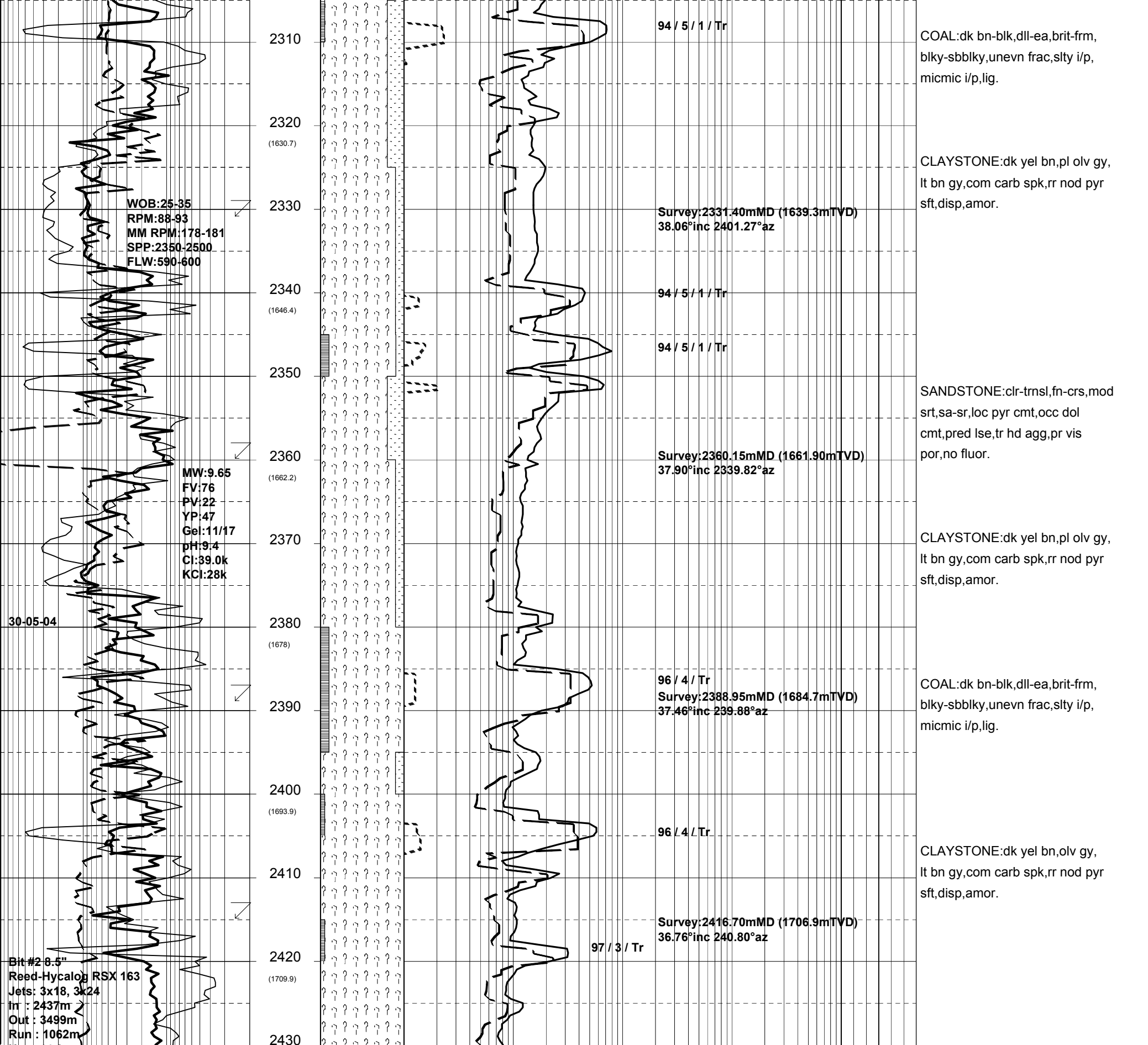
SANDSTONE:clr-trnsl,opq,vf-crs,
dom fn-med,com crs,mod srt,
sa-sr,tr rnd,wk sil cmt,str i/p,
loc pyr cmt,abdt off wh disp
arg mtx,gen lse qtz,pr vis por,
pr inf por,no fluor.

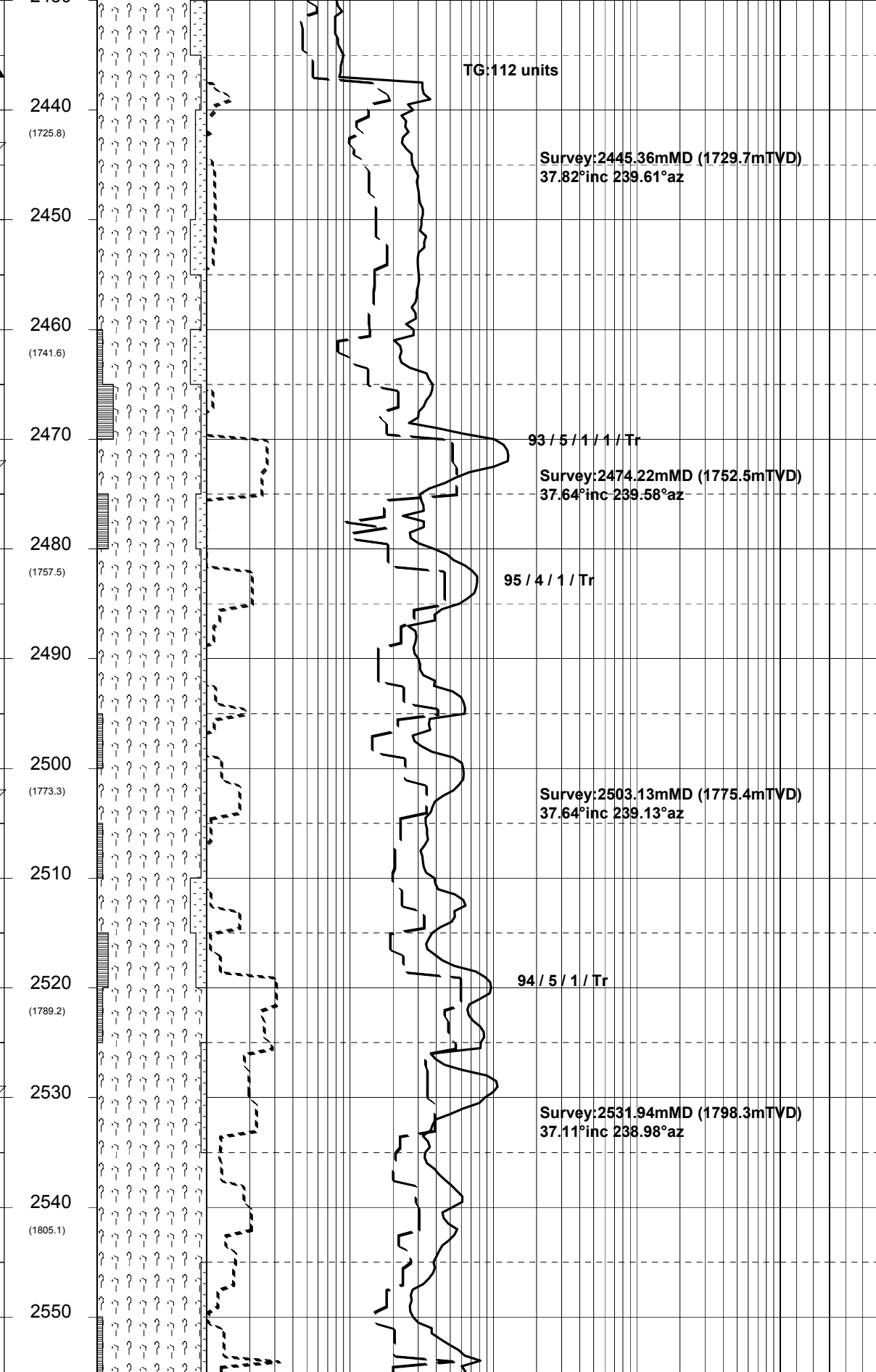
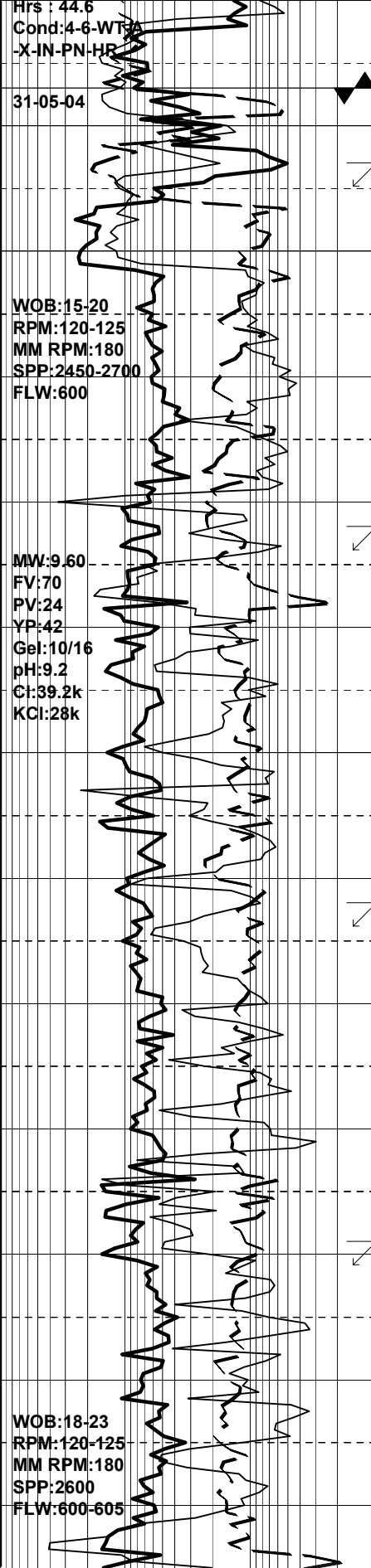
MW:9.75
FV:70
PV:21
YP:41
Gel:11/16
pH:8.9
Cl:39.6k
KCl:28.0

29-05-04

WOB:15-25
RPM:47-62 ---
MM RPM:179
SPP:2150-2350
PLW:505-522







SANDSTONE:clr-trnsl,opq,vf-crs,
dom med-fn,mod-pr srt,sa-sr,tr
wk calc/dol cmt,loc pyr cmt i/p,
abdt off wh-lt gy disp arg mtx,
dom lse,frm agg,pr inf & vis por
no fluor.

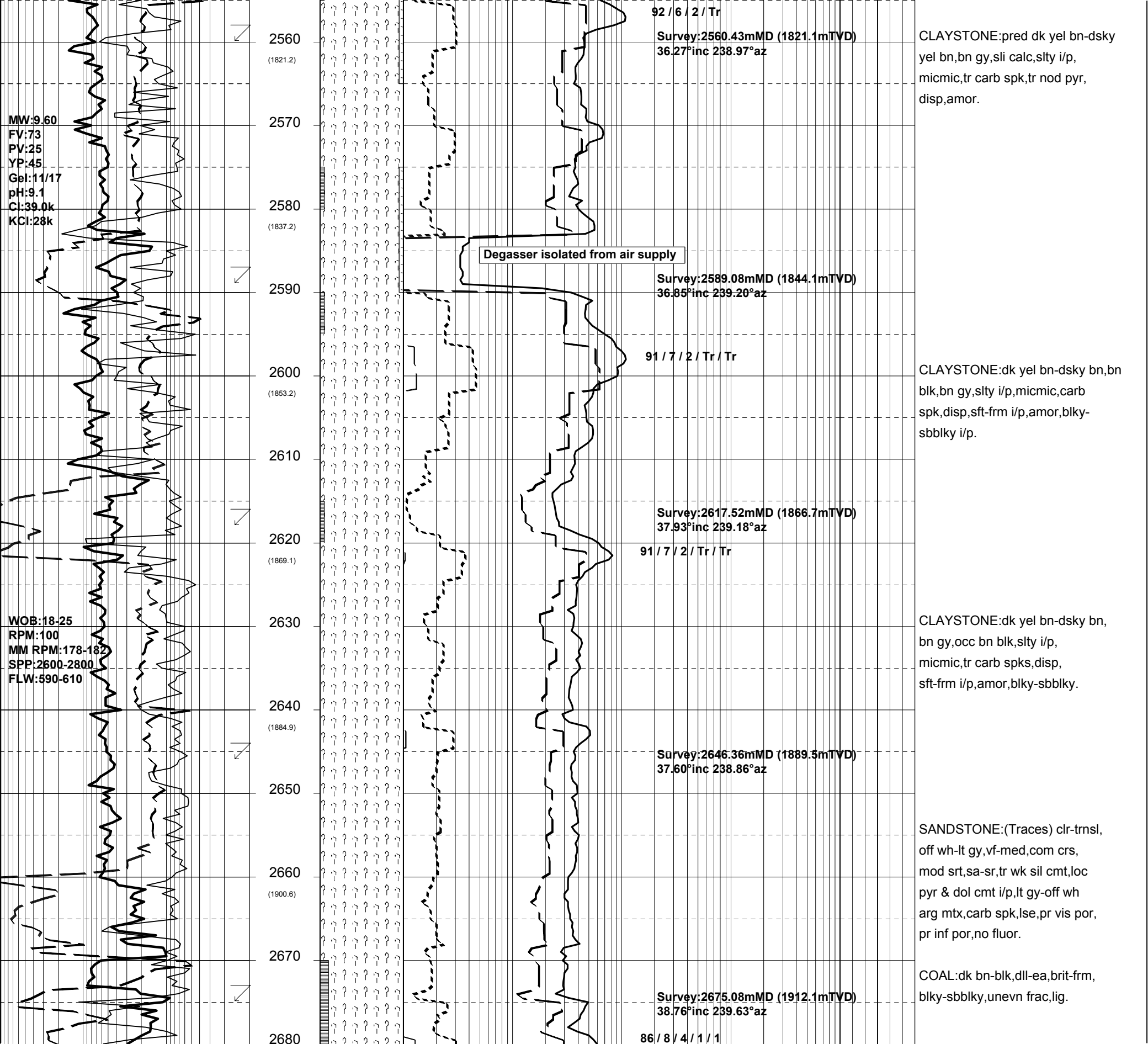
CLAYSTONE:dk yel bn,bn gy,lt gy,
tr carb spk,tr nod pyr,v sft-
disp,amor.

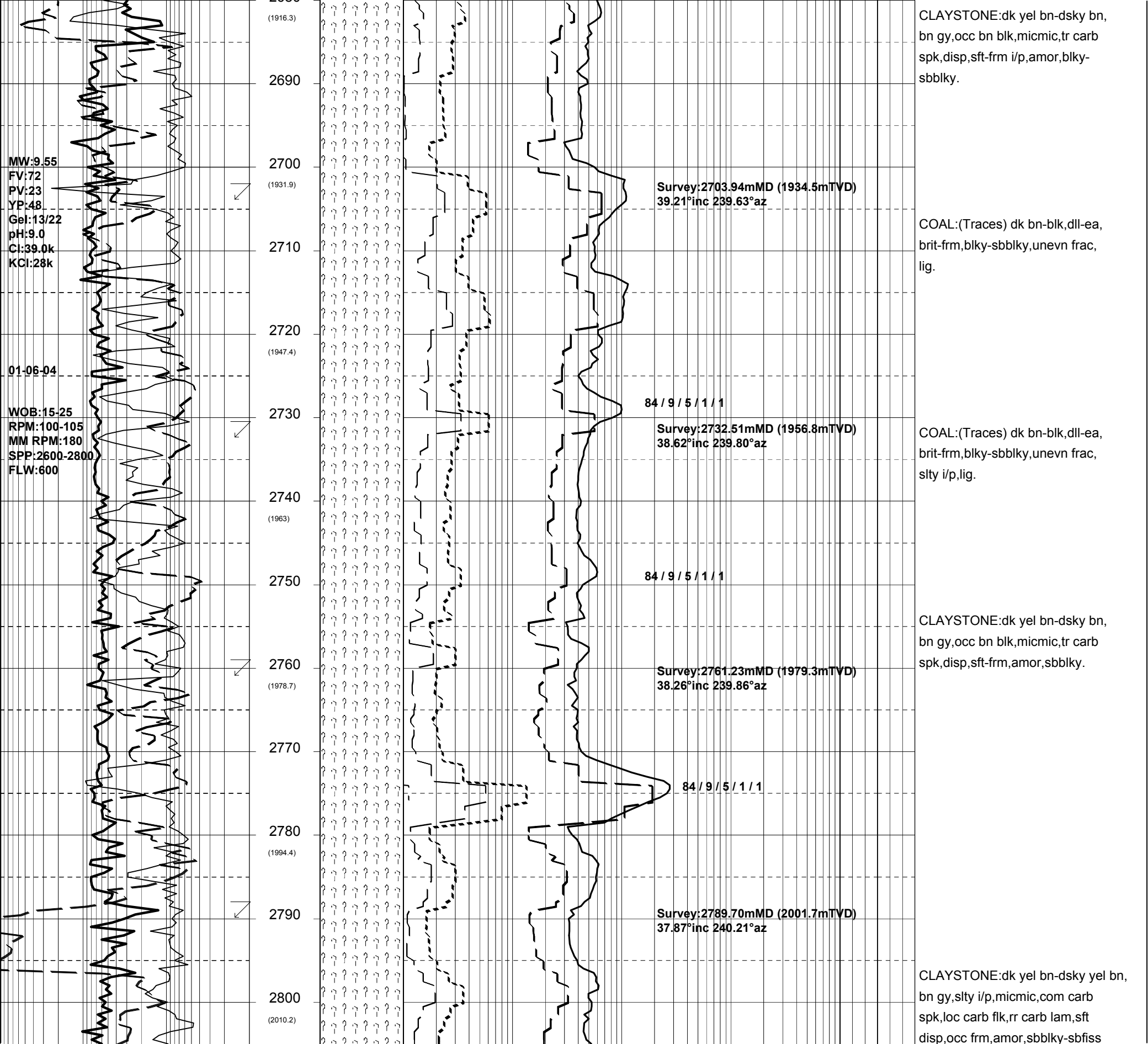
Abundant cavings in samples

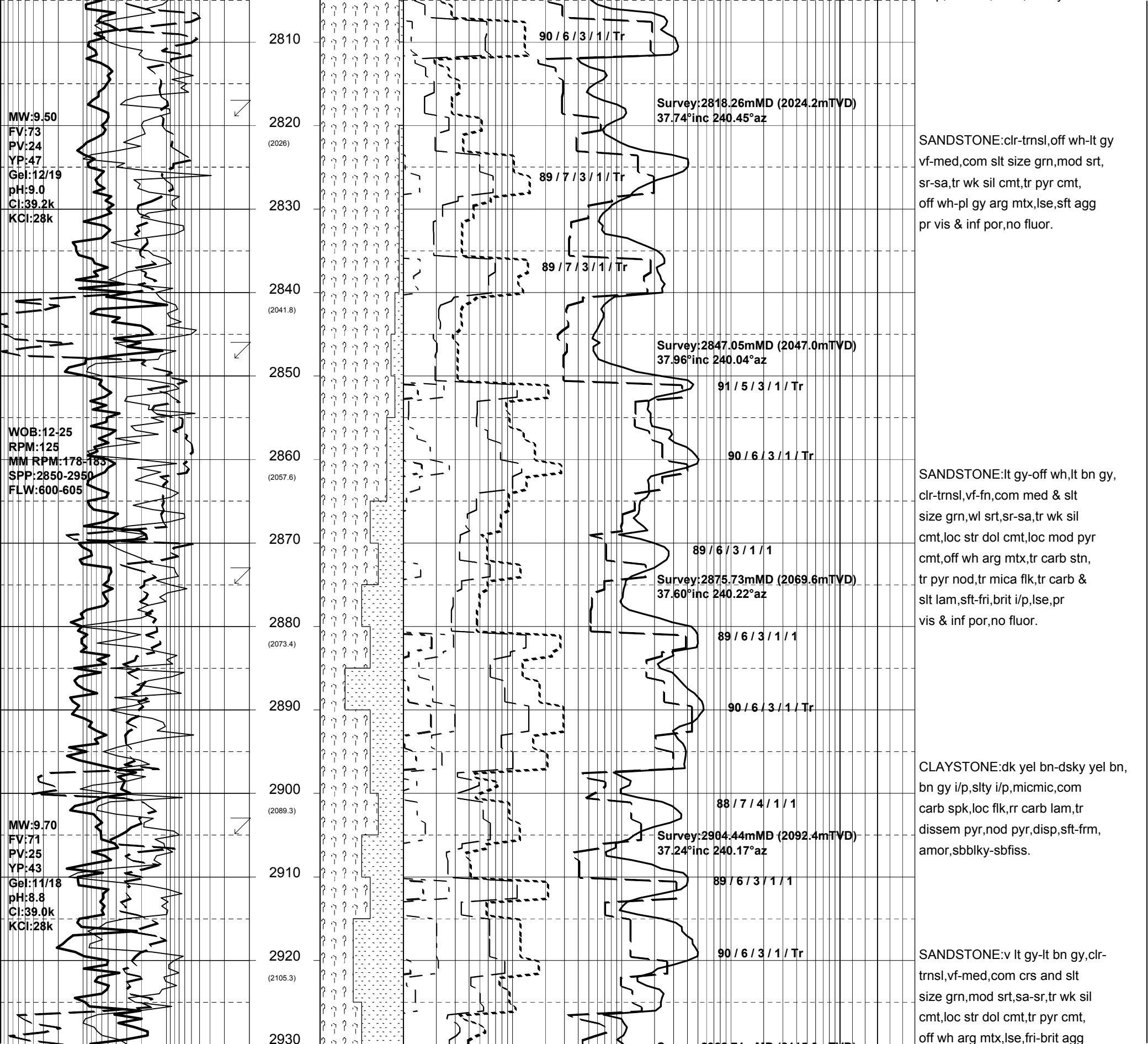
COAL:dk bn blk-blk,dll-ea lstr,
hd-mod hd i/p,blky-sbfiss i/p,
unevn-hkly frac,slty,micmic,slt
lam i/p,dissem pyr,lig.

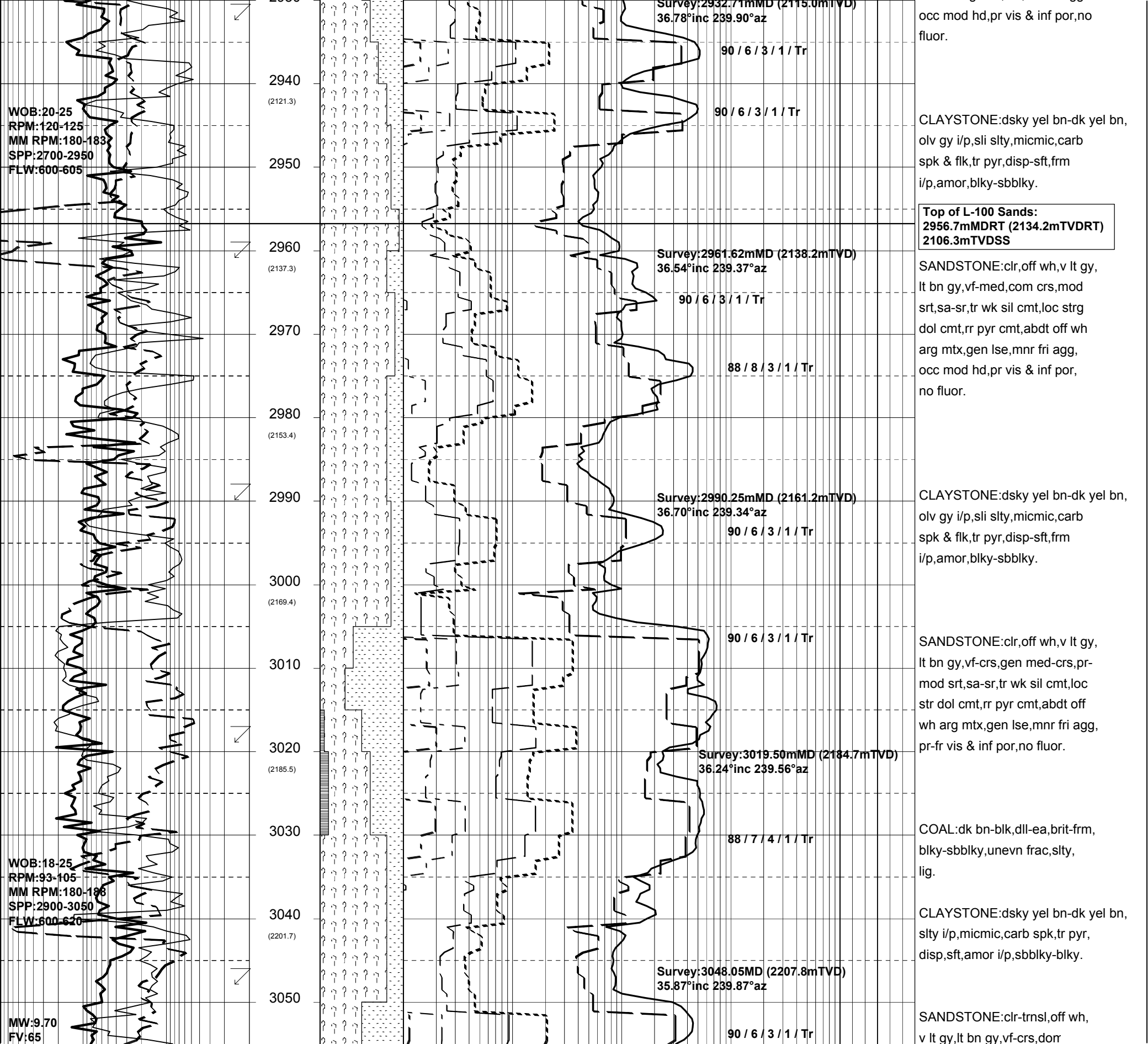
CLAYSTONE:dk yel bn-dsky yel bn,
pl gy,slty i/p,micmic,com carb
spk,disp-v sft,amor-blky i/p.

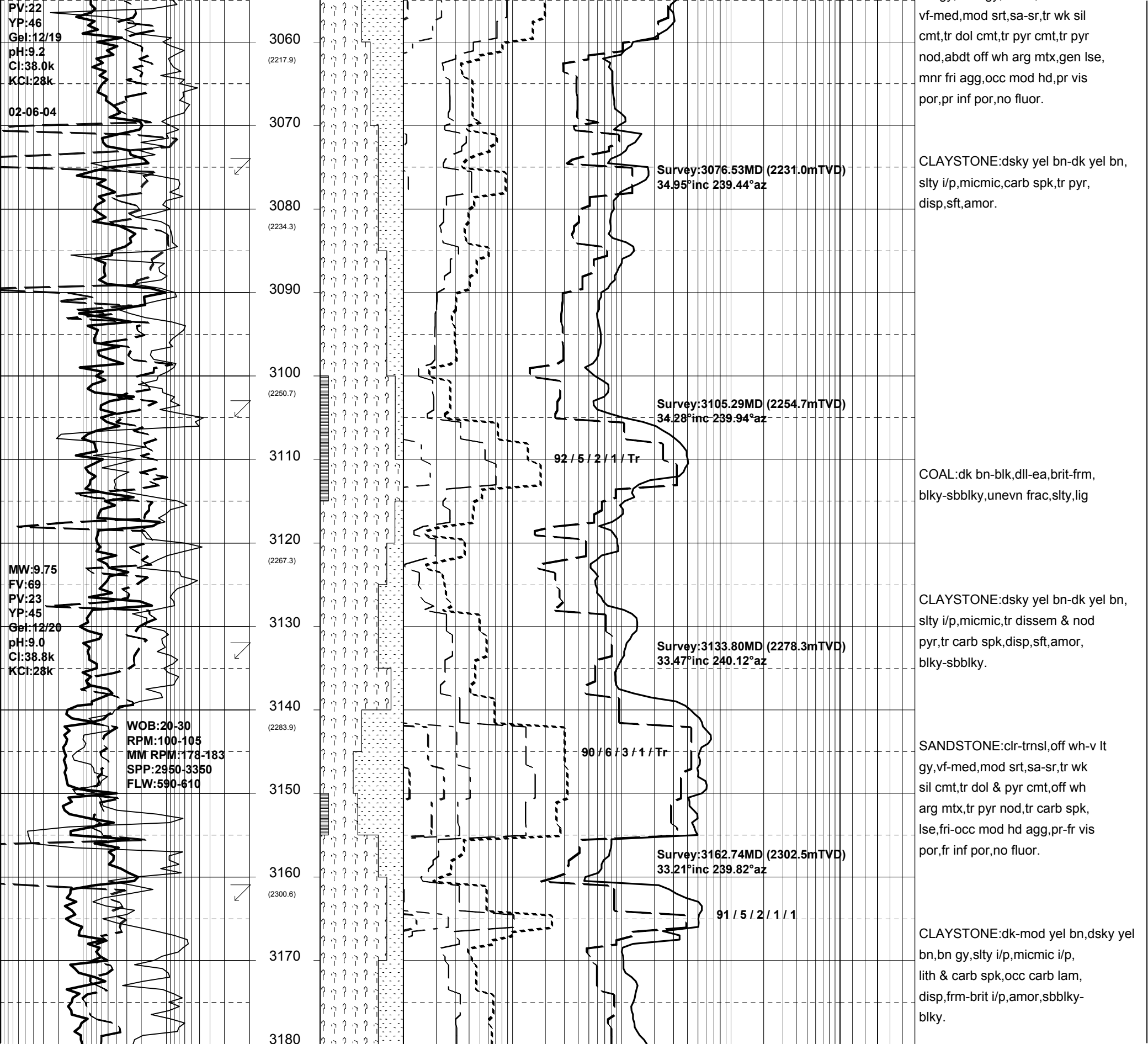
SANDSTONE:clr-trnsl,off wh-lt gy
vf-med,com crs,mod srt,sa-sr,tr
wk sil cmt,loc pyr & dol cmt i/p
lt gy-off wh arg mtx,carb spk,
sft,lse,pr vis & fr inf por,no
fluor.

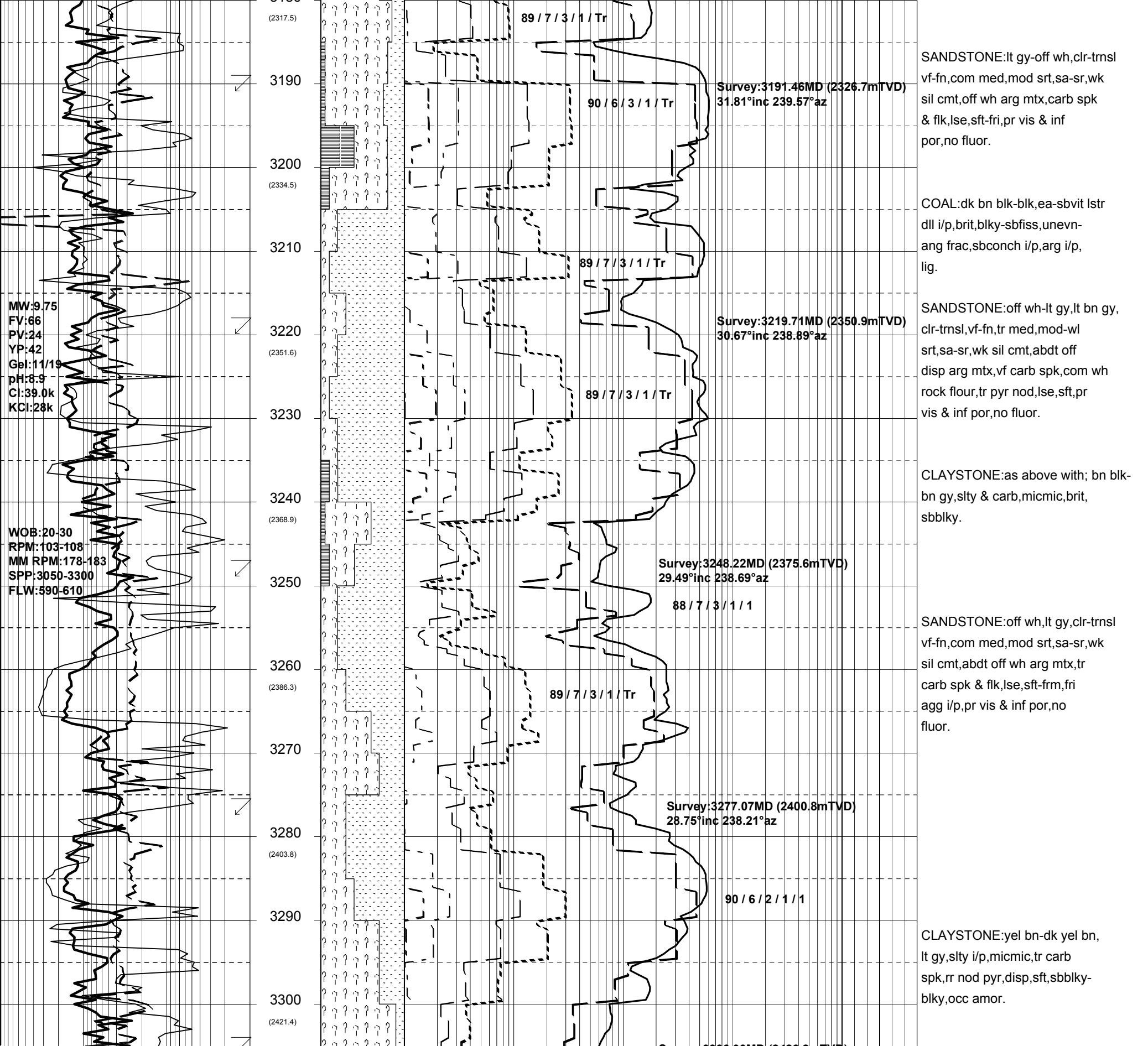


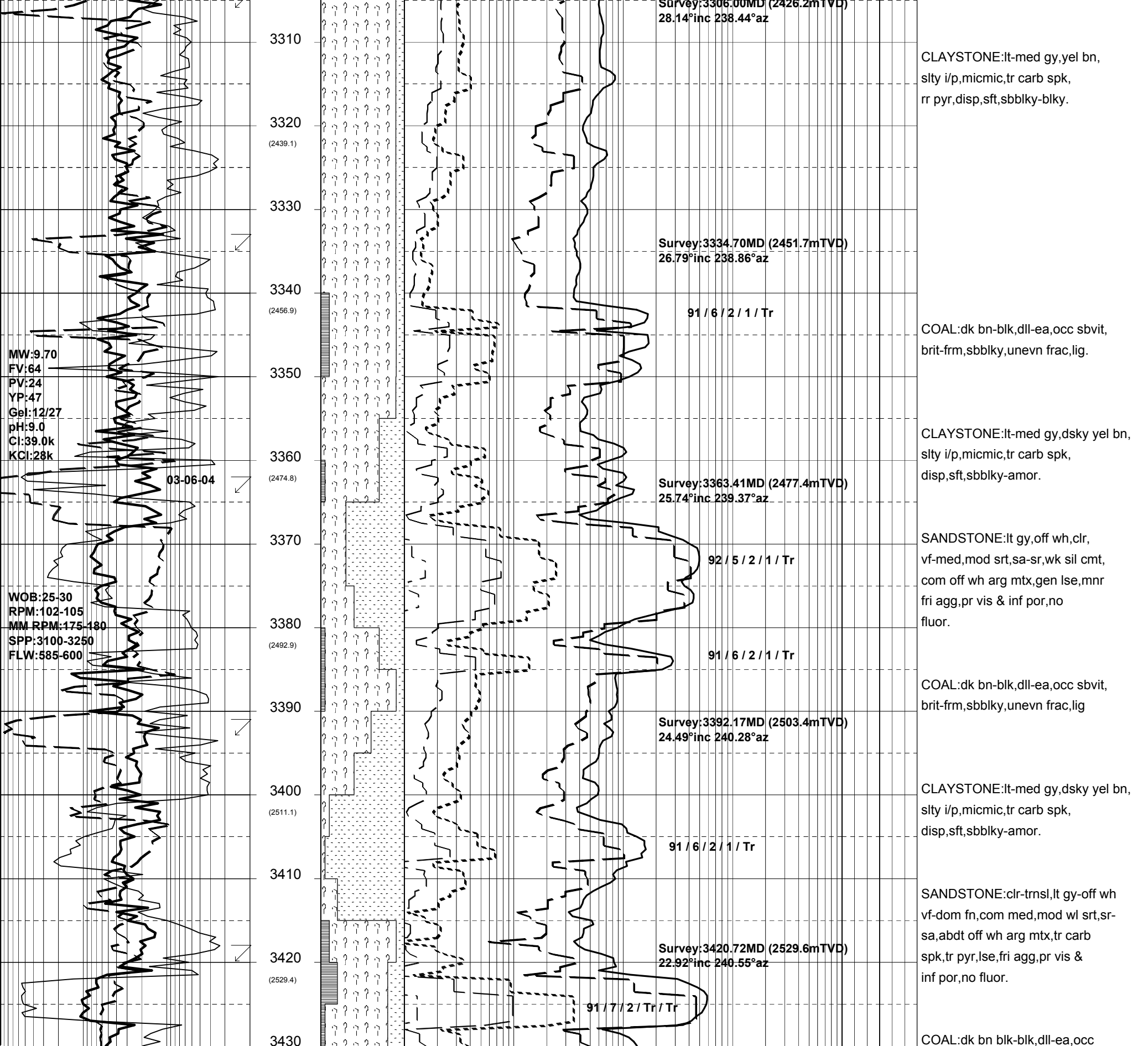


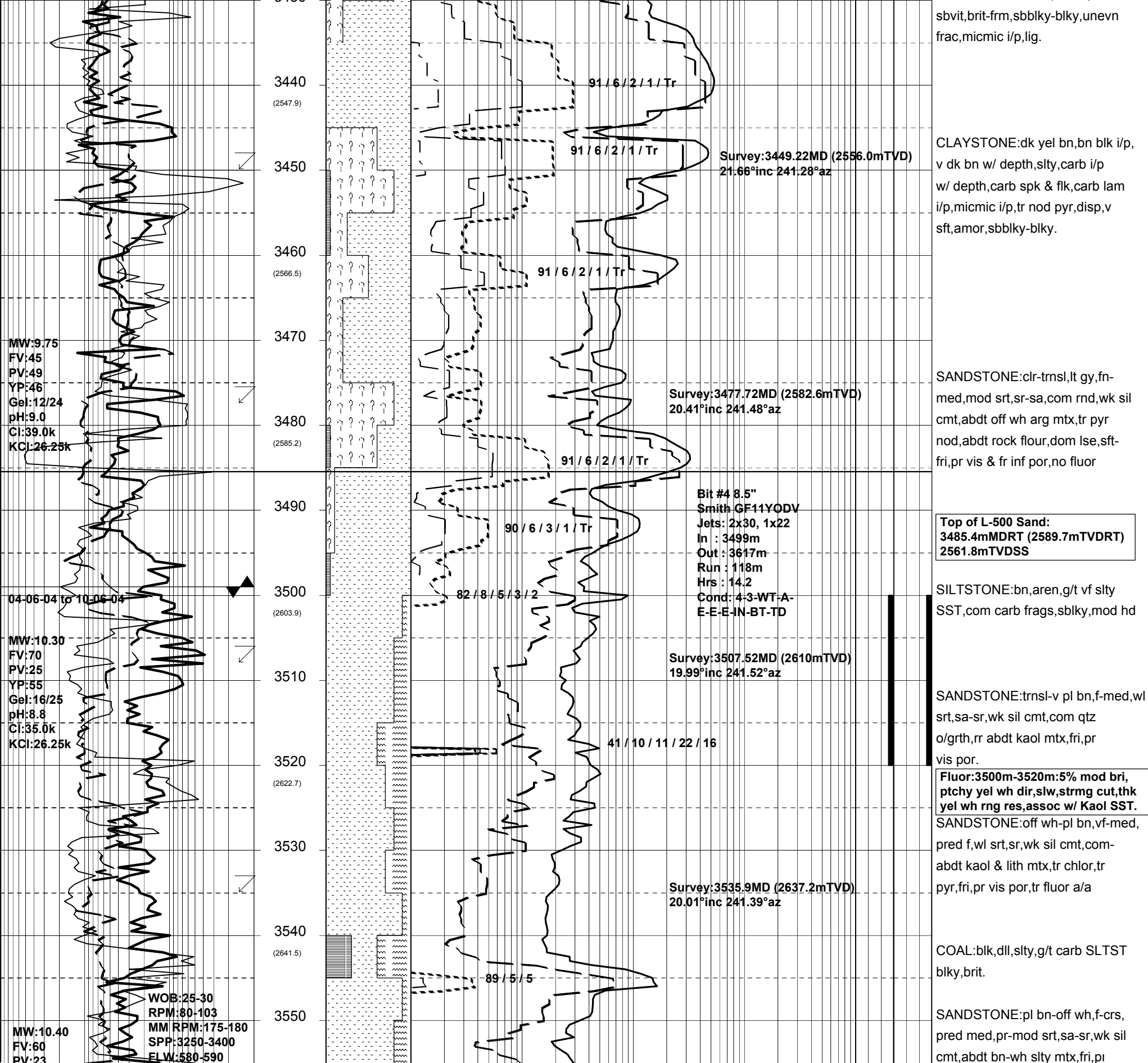












YP:50
Gel:15/24
pH:8.8
Cl:37.0k
KCl:27.20k

3560

(2660.3)

Survey:3564.39MD (2664.0mTVD)
19.41°inc 242.05°az

vis por,no fluor.

SILTSTONE:mott gy bn-blk,arg
i/p,aren i/p,com carb flk & frag
vf SST lam,frm,sbblky.

SANDSTONE:off wh,pl bn,vf-med,
pred f,wl srt,sr,wk sil cmt,abdt
Kaol & slty bn mtx,fri,pr vis
por.

3570

3580

(2679.3)

97 / 3

Survey:3593.49MD (2691.6mTVD)
18.05°inc 242.73°az

Fluor:3570m-3575m:5%,dim ptchy yel
slw strrng cut,thn rng res.

Near Top Cretaceous Shale:
3578.4mMDRT (2677.2mTVDRT)
2649.3mTVDSS

SILTSTONE:pl gy bn,arg,carb flk,
frm,disp,sbblky.

3590

93 / 4 / 2

3600

(2698.3)

95 / 3 / 2

SILTSTONE:(1)pl gy bn,v arg,carb
spk & lam,v disp,sbblky-amor.
(2)gy blk,v carb,com mic,pyr,mod
hd,sbblky.

3610

3620

Marlin A-22A Total Depth at
3617.0 mMDRT 2613.99 mTVDRT
21:15 hours on 10-06-2004

3630

APPENDIX 4b

MARLIN A-22A

Well Completion Log

WELL COMPLETION LOG





















Scale – 1:200

MARLIN A-22A

Gippsland Basin, Victoria
Concession: VIC/L11

POST-DRILL LOCATION: (Top of Latrobe)	Latitude:	38° 14' 26.538" S	COMPILED BY:	Sheryl Sazenis
	Longitude:	148° 13' 01.667" E	DRAFTED BY:	Andrew Hodgson
(Top of L500 Sand)	MGA X:	606512.41 mE	DRILLED BY:	Nabors Rig 453
	MGA Y:	5766777.42 mN		
	Depth:	1971.7m MDRT (-1345.4m TVDSS)		
	Latitude:	38° 14' 40.650" S	G.L.:	-59.00 m
	Longitude:	148° 13' 25.031" E	R.T.:	27.91 m above MSL
	MGA X:	605777.46 m E	Water Depth:	59.00 m
	MGA Y:	5766292.89 mN		
	Depth:	3485.4m MDRT (-2561.8m TVDSS)	TOTAL DEPTH:	3617.0m MDRT
	Datum:	GDA94 (GRS80)	PLUGGED BACK T.D.:	3596.7m MDRT
	Projection:	MGA/ UTM Zone 55 (S)		
DATES:	Spudded:	27/05/2004	CLASSIFICATION:	Development
	Rig Released:	27/06/2004	STATUS:	Cased and Suspended
SERVICE COMPANIES:				
DRILLING CONTRACTOR:	ISDL Rig 453	PRODUCTION TESTING:	n/a	
MWD (GR and Direct):	Schlumberger Anadrill	DIVERS:	n/a	
GYRO SURVEYING:	SDI	MUD LOGGING:	Geoservices Overseas S.A.	
CORING:	n/a	PRESSURE RECORDING:	n/a	
LOGGING:	Reeves (Compact Shuttle Logging System)	WELL VELOCITY SURVEY:	n/a	
CEMENTING:	Halliburton	MUD ENGINEERING:	Baroid	
CASING:	Weatherford	LINER:	n/a	

LEGEND

2.7m NOS 		LOG ANALYSIS DATA		 SHOW OR STAIN	
Ø = 17%		NS - Net Sand		 HYDROCARBON CUT	
Sw = 32%		NOS - Net Oil Sand		 FLUORESCENCE	
		NGS - Net Gas Sand		 GAS SHOW	
		Sw - Water Saturation		 OIL PRODUCTIVE	
<hr/>				 GAS PRODUCTIVE	
	No Rec.	MUD DATA		 INTERPRETED OIL PRODUCTION	
	CORE	Ø - Porosity		 INTERPRETED GAS PRODUCTION	
	Rec.	Snd - Sand		 INTERPRETED WATER PRODUCTION	
	PERFORATED INTERVAL	MW - Mud Weight		 WATER PRODUCTIVE	
		FV - Funnel Velocity		 CONDENSATE PRODUCTION	
		PV - Plastic Velocity		 INTEPRETED CONDENSATE BEARING	
		YP - Yield Point		 DSTG	
		Gel - Gel Strength		DST WITH GAS RECOVERED	
		pH - Acidity/Alkalinity		 DSTO	
		WL - Water Loss		DST WITH OIL RECOVERED	
		Cl - Chloride		 SURVEY POINT	
		Ca - Calcium		 13-3/8" CASING SHOE	
		Sol - Solids		 MUD	
		H2O - Water			
		Oil -Oil			
<hr/>					
←SST	RECOVERED SIDE WALL CORE LITHOLOGY				
	SST - Sandstone	CLST - Claystone			
	SLST - Siltstone	LMST - Limestone			
	MST - Mudstone	ML - Marl			
	SH - Shale	COAL - Coal			
←	SIDE WALL CORE - NO RECOVERY				
←	FIT				
←P2/11	MDT/RFT PRETEST RUN/SEAT NUMBER				
←S11/2	MDT/RFT SAMPLE RUN/SAMPLE NUMBER				
←P2/40	MDT VERTICAL/HORIZONTAL PERMEABILITY TEST				
⊢	PACKER				
□	BRIDGE PLUG				

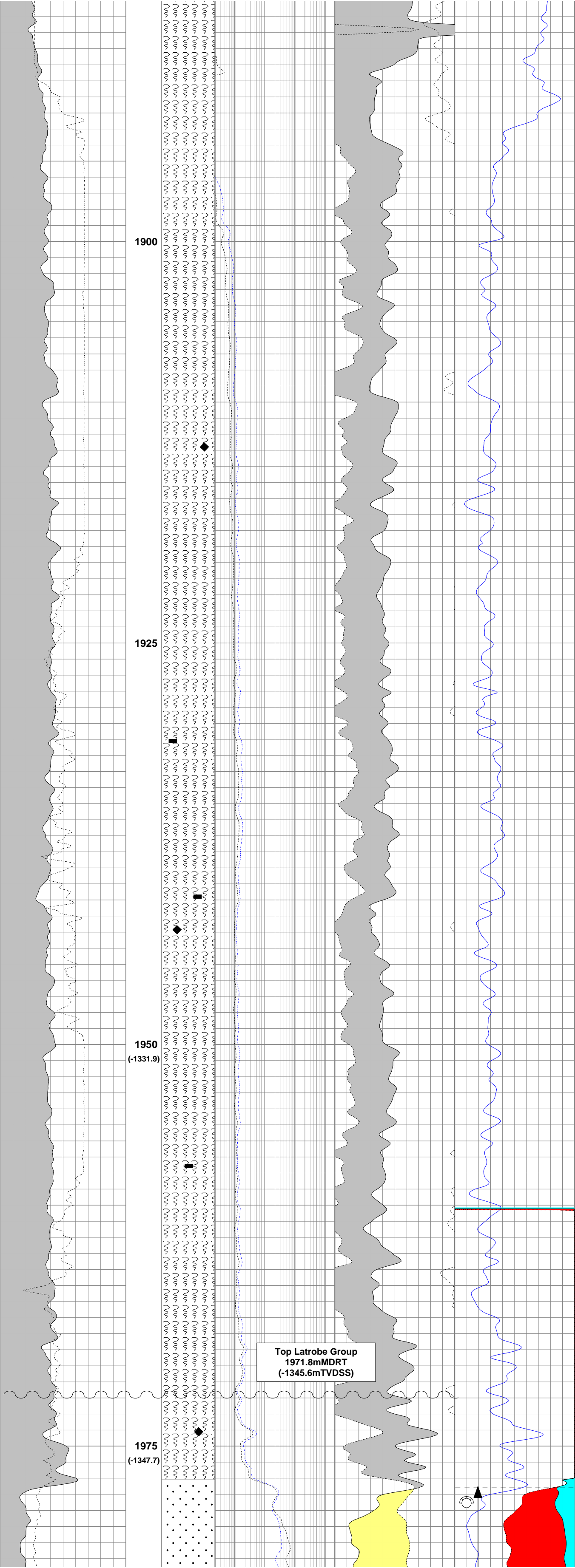
LITHOLOGICAL SYMBOLS

	Sandstone		Dolomite		Mica		Pelecypods
	Siltstone		Marl		Chert		Echinoids
	Mudstone		Anhydrite		Carbonaceous Matter		Fish Remains
	Claystone		Volcanics		Calcareous		Plant Remains
	Shale		Basement		Glauconite		Spores
	Coal		Granule		Corals		Leaves
	Limestone		Oolites		Bryozoans		Foram
	Micritic		Dolomitic		Brachiopods		Fossils

LOGGING AND SURVEYING				
Anadrill Schlumberger		Interval (mMDRT)	Reeves	Interval (mMDRT)
MWD (Directional & GR) – 4 Runs		1900.0 m - 3593.49 m	MCG-MDN-MPD-MSS-MDL	1870.0m – 3606.5m
Wireline MDT – open hole and cased hole		3006.0 m - 3574.0 m		
WELL DATA				
Date	27 May 2004 - 30 May 2004	31 May 2004 - 3 June 2004	3 June 2004 – 3 Jun 2004	10 June 2004 - 10 Jun 2004
Run	MWD #1	MWD #2	MWD #3	MWD #4
Log	Powerpulse Directional & GR	Powerpulse Directional & GR	Powerpulse Directional & GR	Powerpulse Directional & GR
Depth Driller	2437 m MDRT	3500 m MDRT	N/a	3617m MDRT
Depth Logger	2437 m MDRT	3500 m MDRT	N/a	3617m MDRT
Bottom Log Interval	2418.7 m MDRT	3480.12 m MDRT	N/a	3593.49m MDRT
Top Log Interval	1900 m MDRT	2418.72 m MDRT	N/a	3480.12 m MDRT
Casing Driller	1894.6 m MDRT (Window)	1894.6 m MDRT (Window)	1894.6 m MDRT (Window)	1894.6 m MDRT (Window)
Casing Logger	----	----	----	----
Casing Size	9 5/8"	9 5/8"	9 5/8"	9 5/8"
Casing Weight	47.0ppf	47.0ppf	47.0ppf	47.0ppf
Bit Size	8.5"	8.5"	8.5"	8.5"
Type of Fluid in Hole	KCI/PHPA/GLYCOL	KCI/PHPA/GLYCOL	KCI/PHPA/GLYCOL	KCI/PHPA/GLYCOL
Density	9.6 ppg	9.75 ppg	10.0 ppg	10.2 ppg
Rm @ Measured Temp.	N/A	N/A	N/A	N/A
Rmf @ Measured Temp.	N/A	N/A	N/A	N/A
Rmc @ Measured Temp.	N/A	N/A	N/A	N/A
Max. Recorded Temp.	67°C	89.4°C	N/a	91.76 °C
Equipment / Location	Sale	Sale	Sale	Sale
Recorded By	K. Handley/L. Muskett	K. Handley/L. Muskett	K. Handley/L. Muskett	K. Handley/L. Muskett
Witnessed By	R. Morris	C. Menhennitt	C. Menhennitt	G. O'Neill

CORES			PERFORATIONS		
From (mMDRT)	To (mMDRT)	Rec %	From (mMDRT)	To (mMDRT)	Shots/ft
----	----	---	----	----	---

Density Caliper 6 IN 16 Gamma Ray 0 API 200		DEPTH	LITHOLOGY	Deep Resistivity 0.2 OHMM 2000 Medium Resistivity 0.2 OHMM 2000	Neutron Porosity 0.45 V/V -0.15 Formation Density 1.85 G/C3 2.85	Compensated Sonic 500 US/M 100 Effective Porosity 0.5 V/V 0	TEST	COMPLETION	MUD / SURVEY DATA	PLUGS	FORMATION	PALYNOLOGY	AGE
		mMDRT (mTVDSS) 1875							13 3/8" 673.0m				



9 5/8"
1900.0m

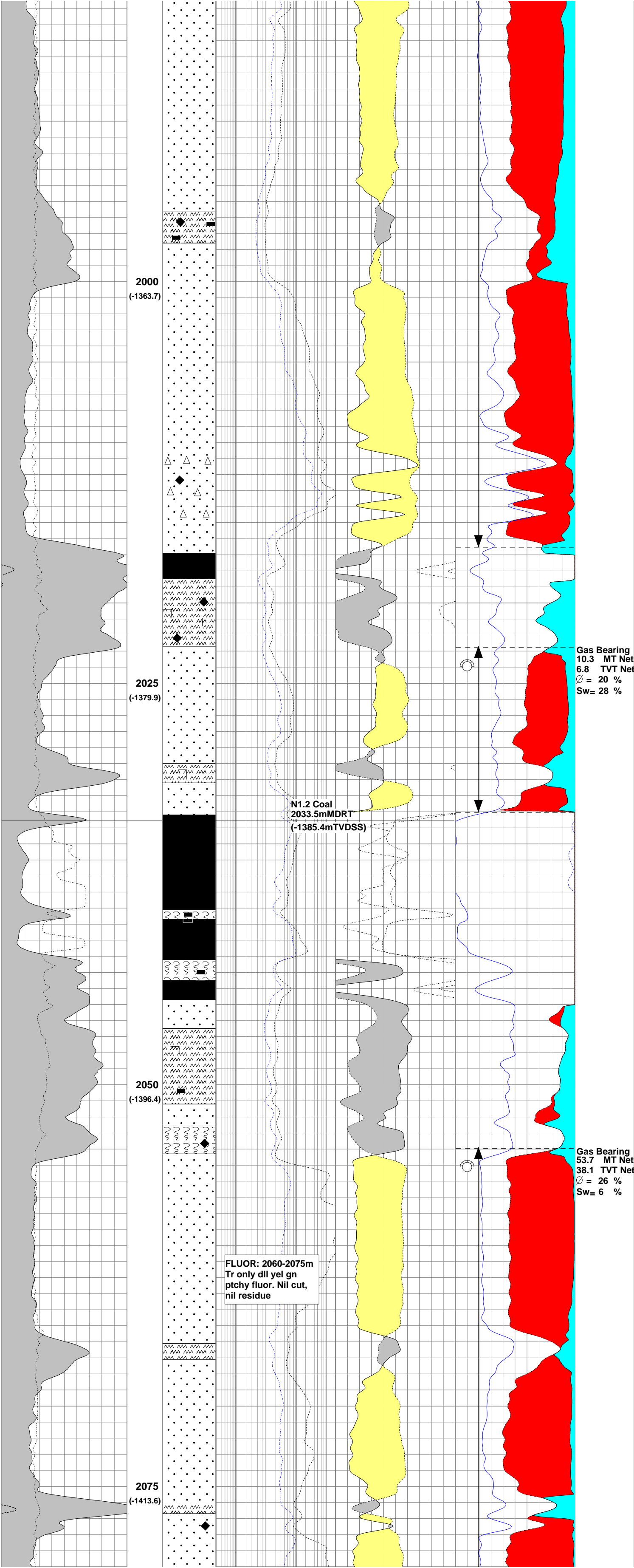
1940
MW 9.5ppg
FV 44sec/qt
PV 12cP
YP 21
pH 9.5

LAKES ENTRANCE FM

MIOCENE-RECENT



Gas Bearing
38.7 MT Net
24.9 TVT Net
Ø = 24 %
Sw= 19 %



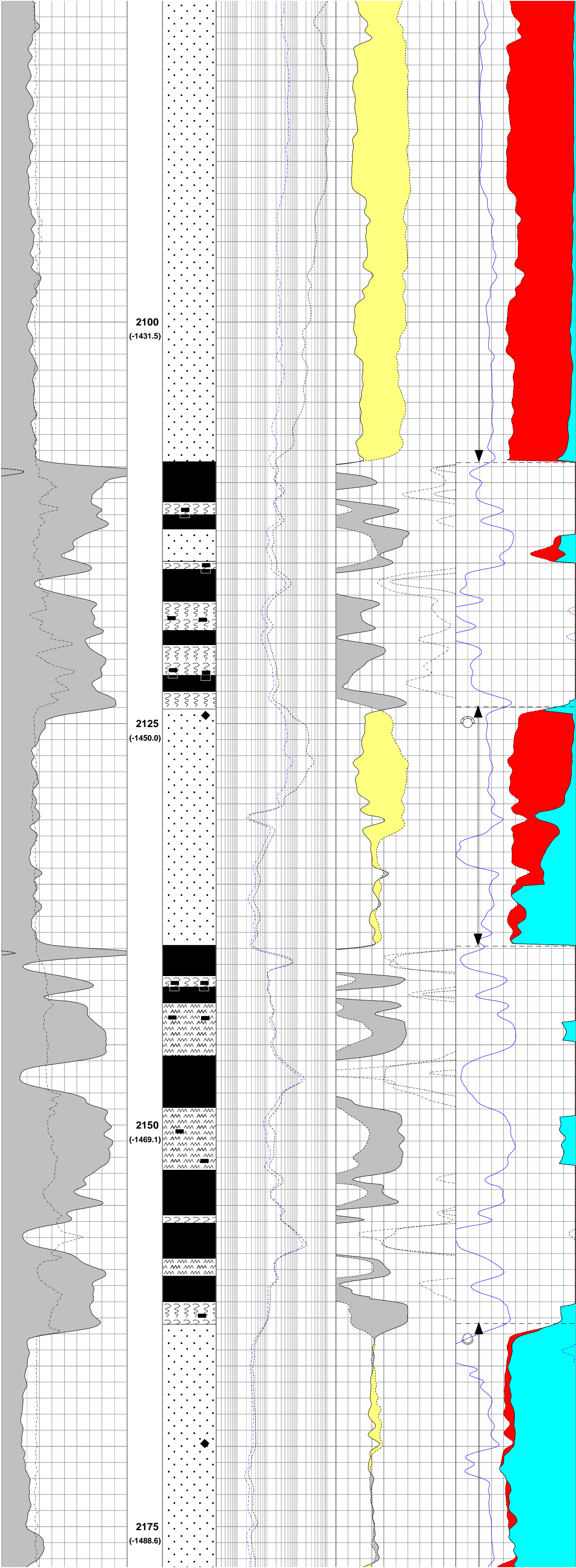
1987.9
ANG 49.7
DIR 217.4
(-1355.83)

2015.7
ANG 49.9
DIR 217.1
(-1373.80)

Gas Bearing
10.3 MT Net
6.8 TVT Net
Ø = 20 %
Sw= 28 %

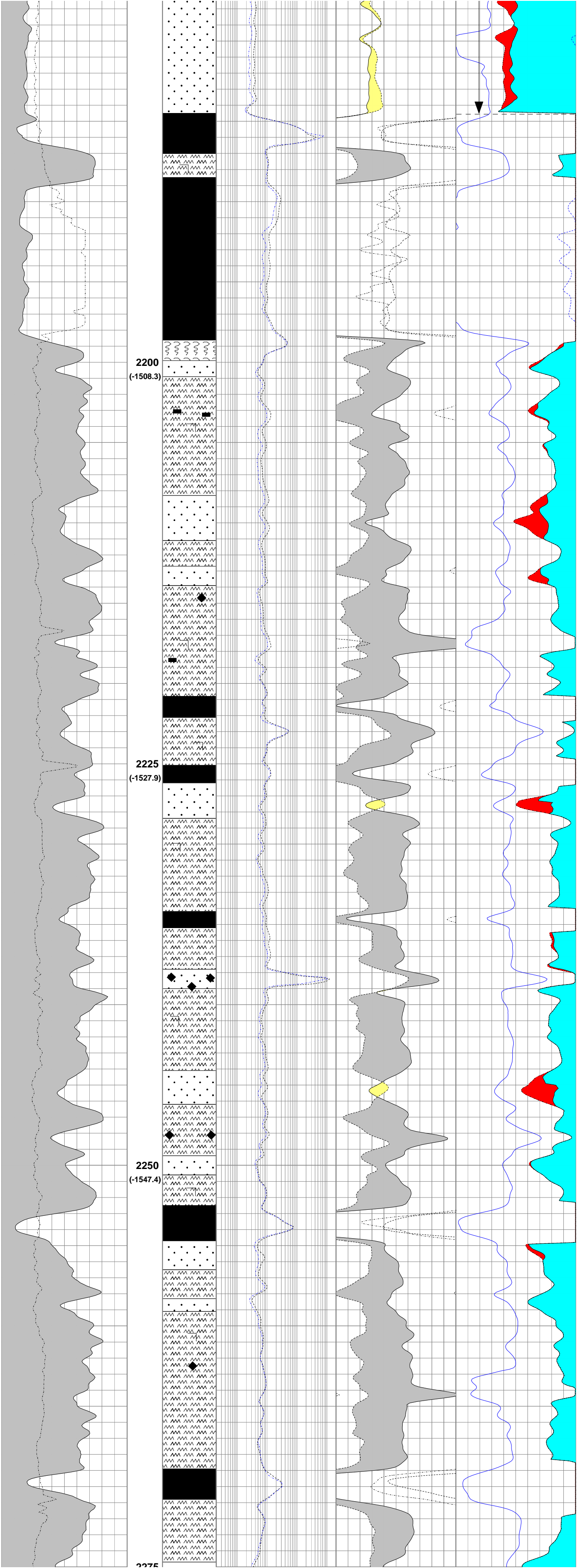
Gas Bearing
53.7 MT Net
38.1 TVT Net
Ø = 26 %
Sw= 6 %

2050
MW 9.7ppg
FV 68sec/qt
PV 22cP
YP 38
pH 9.5



2102.1
ANG 43.2
DIR 222.3
(-1432.99)

2125
MW 9.7ppq
FV 70sec/qt
PV 21cP
YP 41
pH 8.9

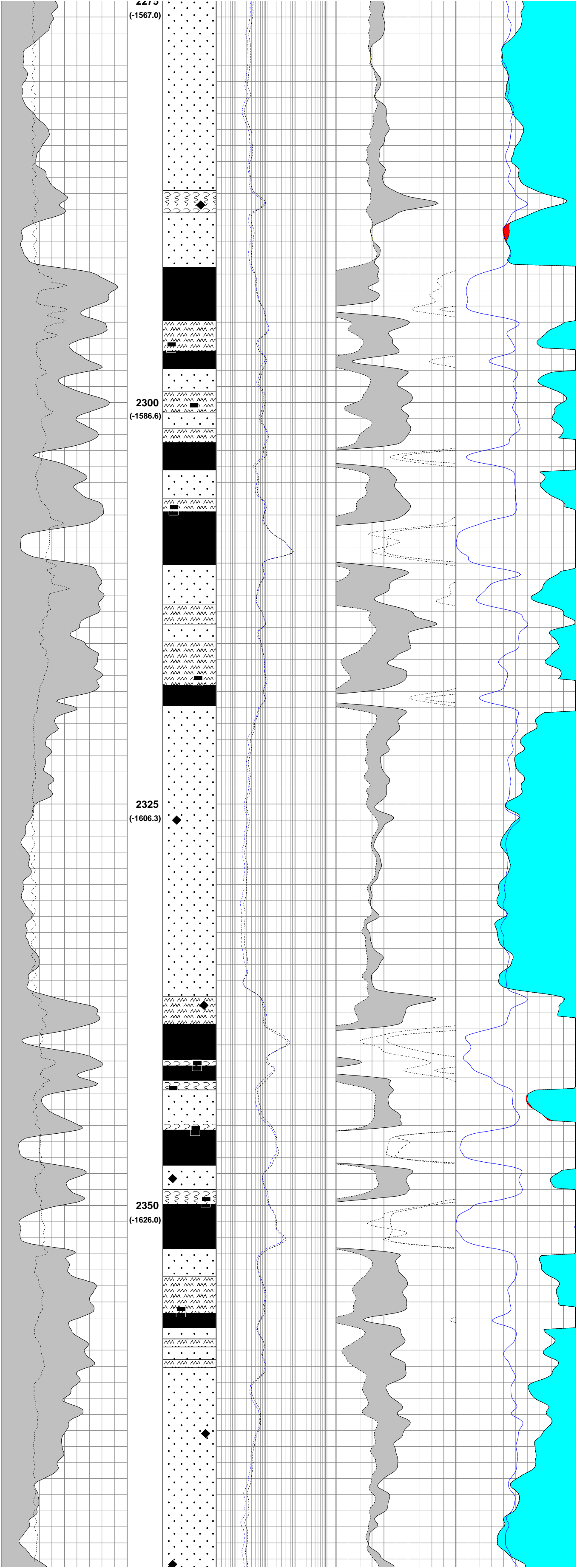


2187.9
ANG 38.0
DIR 233.3
(-1498.78)

2216.5
ANG 38.6
DIR 237.7
(-1521.16)

2255
MW 9.6ppg
FV 68sec/qt
PV 23cP
YP 41
pH 8.9

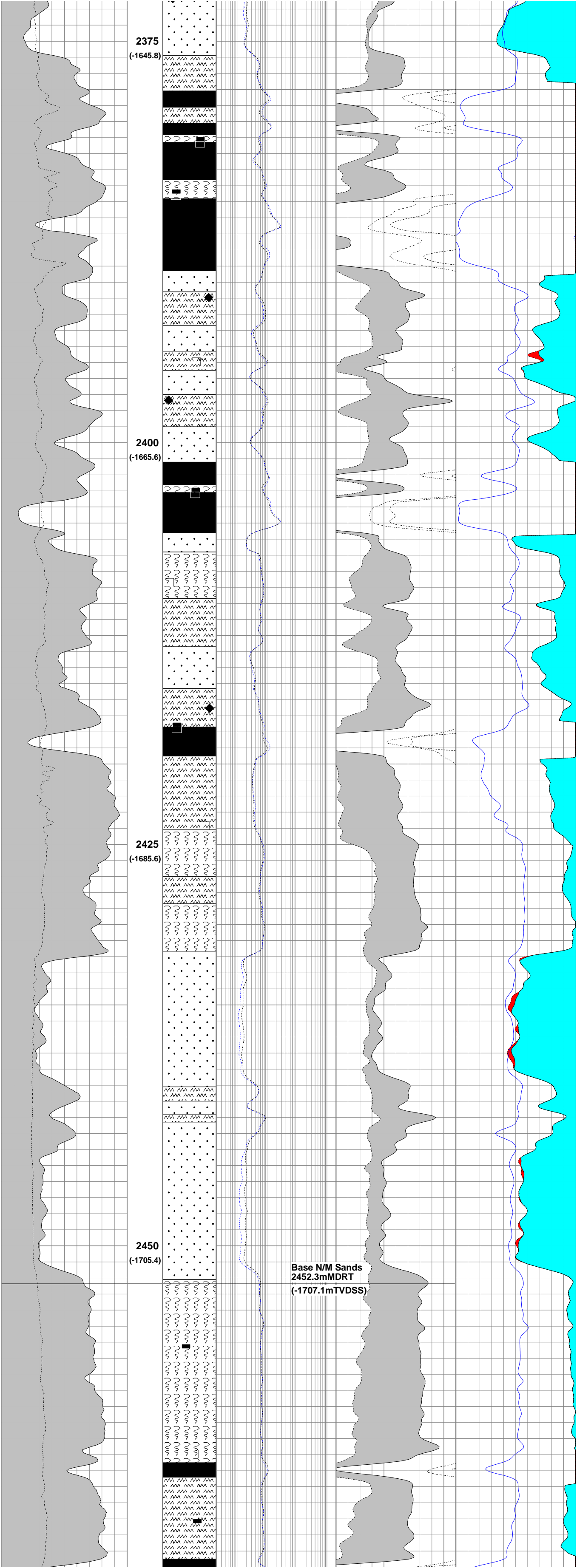
EOCENE



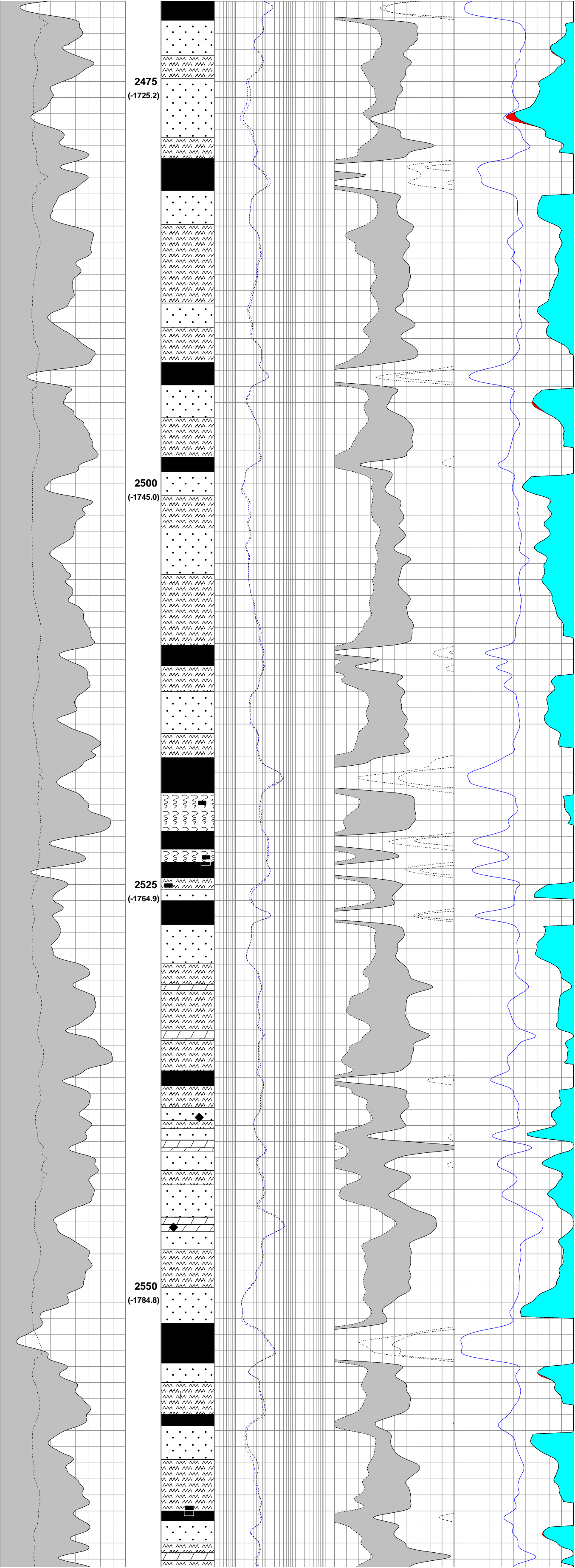
2273.9
ANG 38.4
DIR 239.7
(-1566.07)

2360
MW 9.6ppg
FV 76sec/qt
PV 22cP
YP 47
pH 9.4

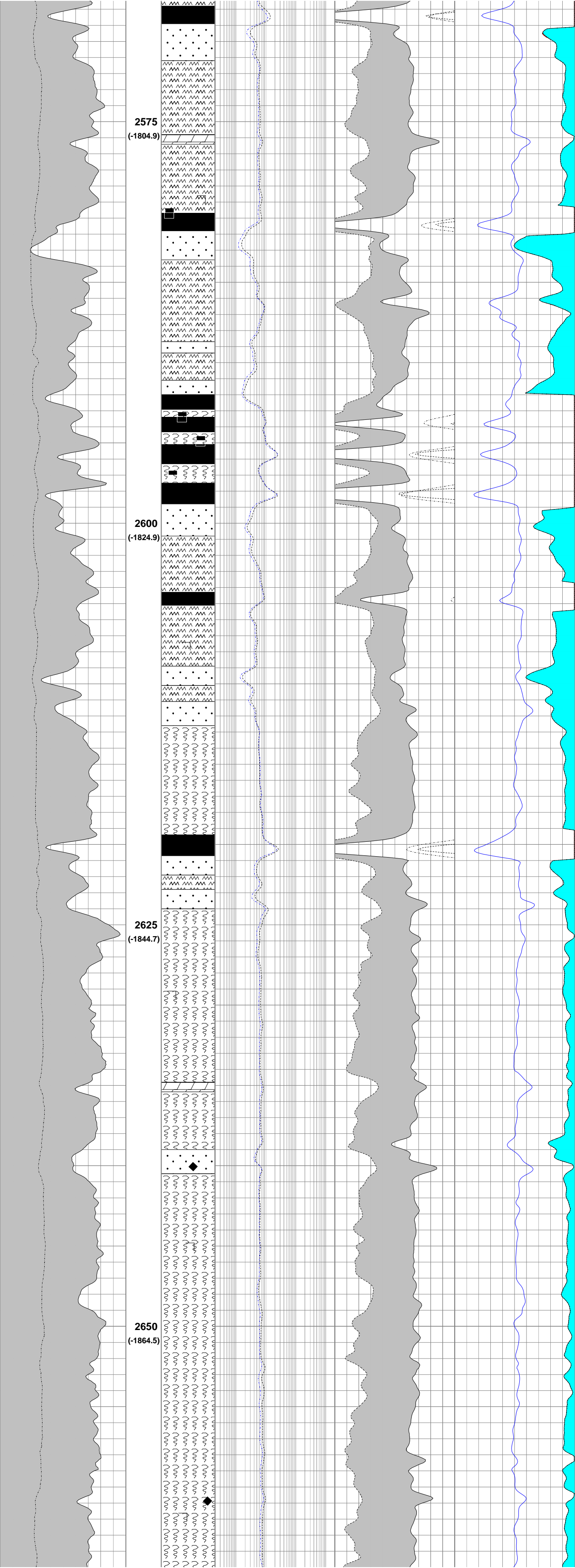
2360.2
ANG 37.9
DIR 239.8
(-1634.03)

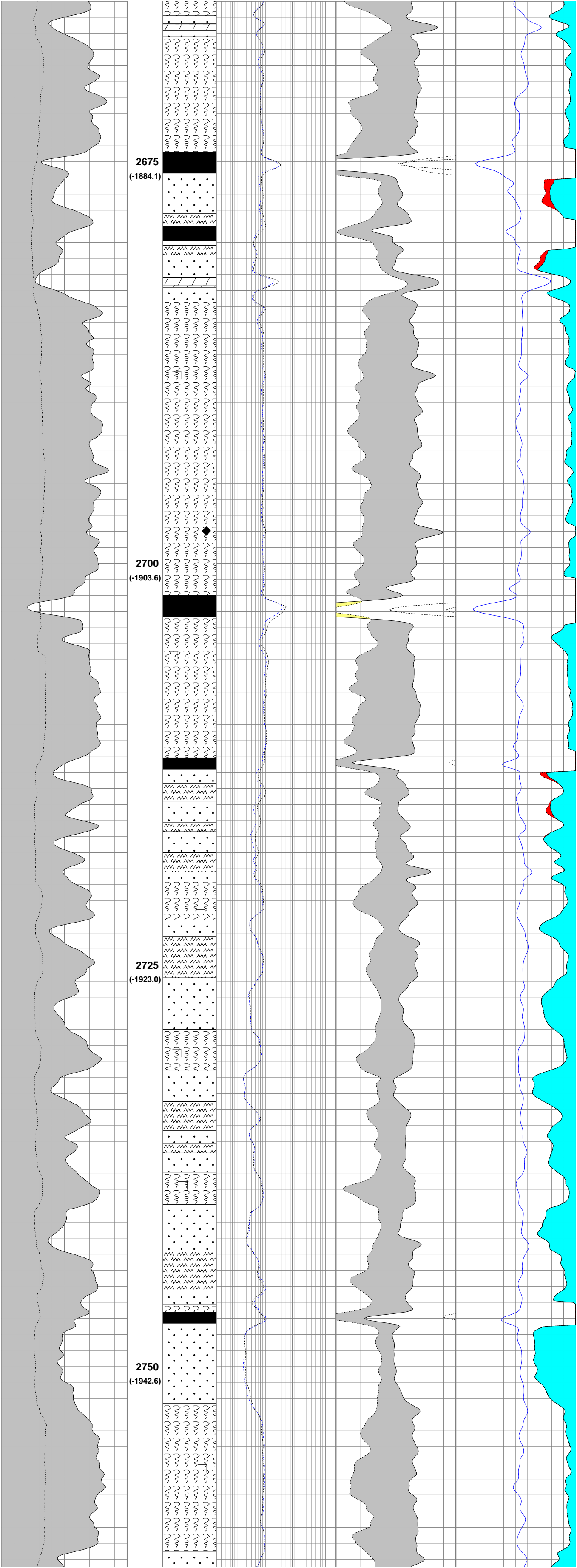


2445.4
ANG 37.8
DIR 239.6
(-1701.75)



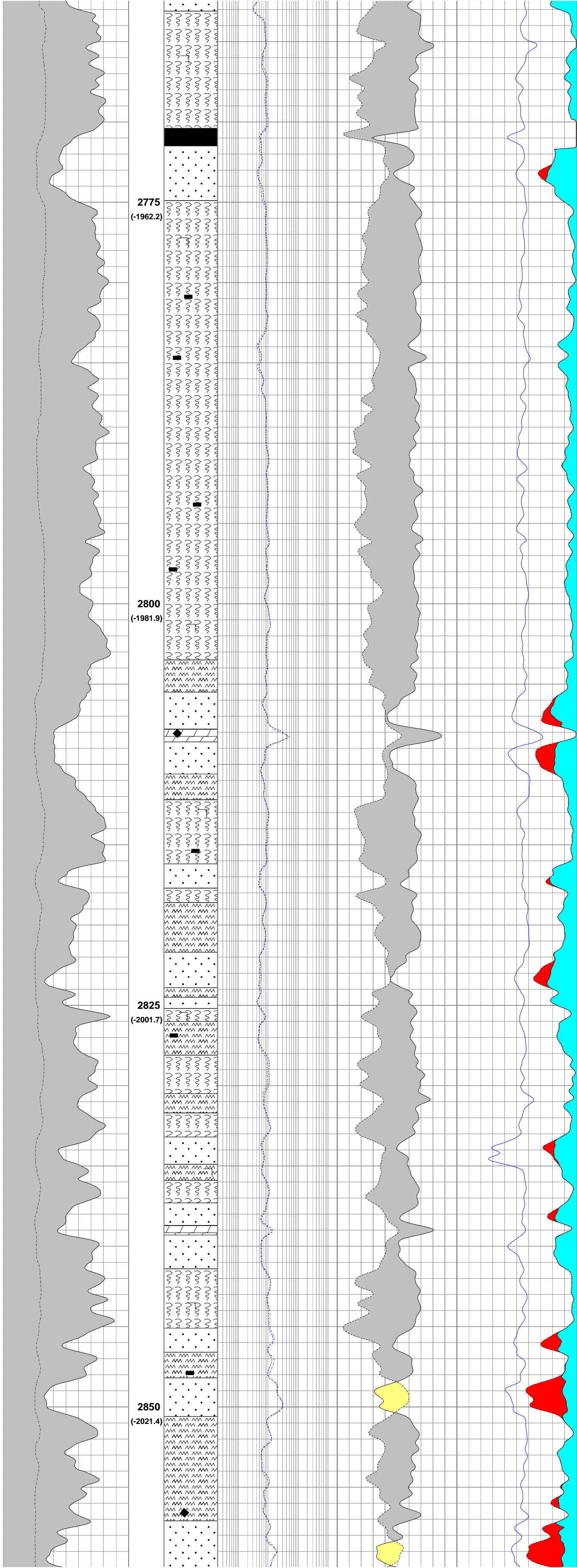
2531.9
ANG 37.1
DIR 239.0
(-1770.36)

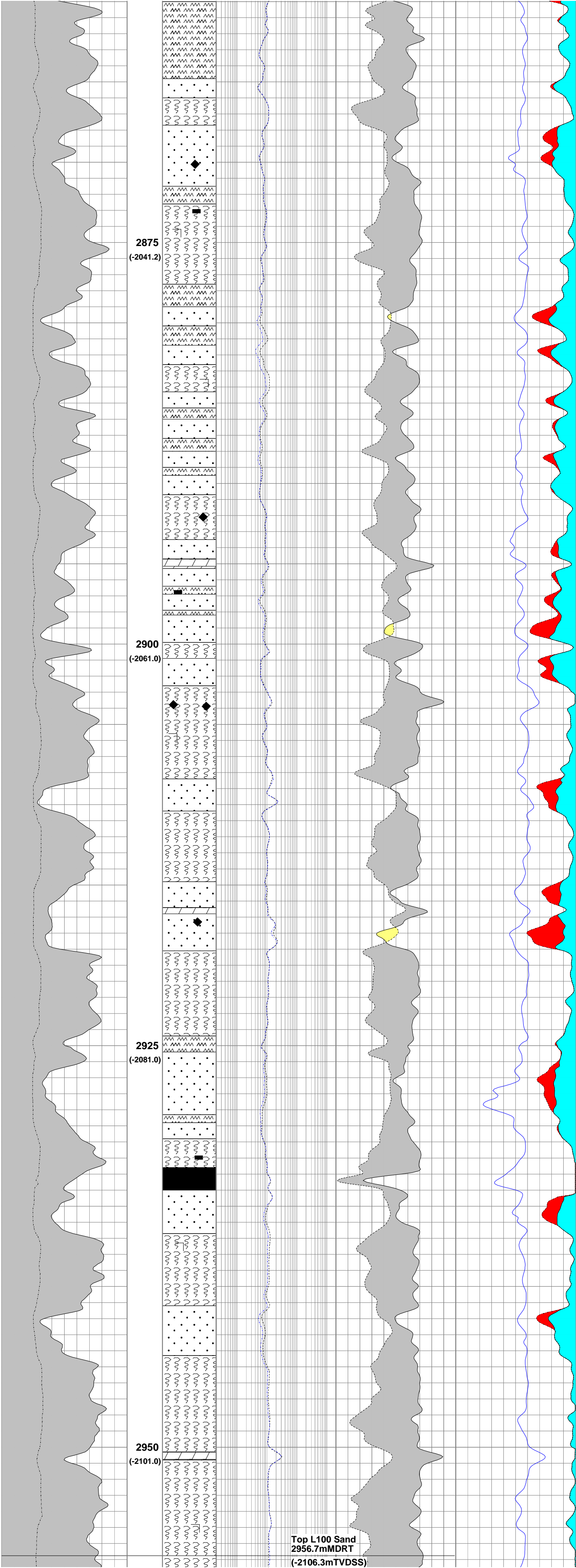




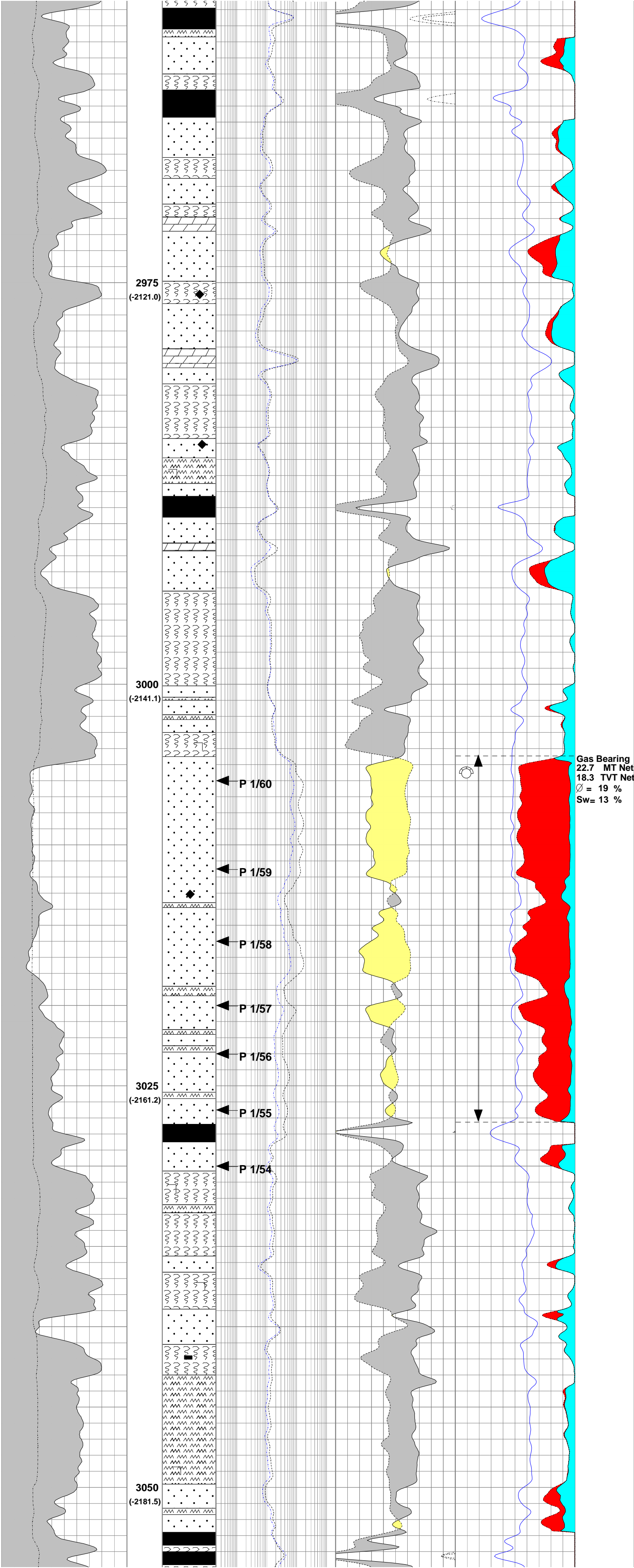
2732.5
ANG 38.6
DIR 239.8
(-1928.85)

2745
MW 9.5ppg
FV 72sec/qt
PV 23cP
YP 48
pH 9.0

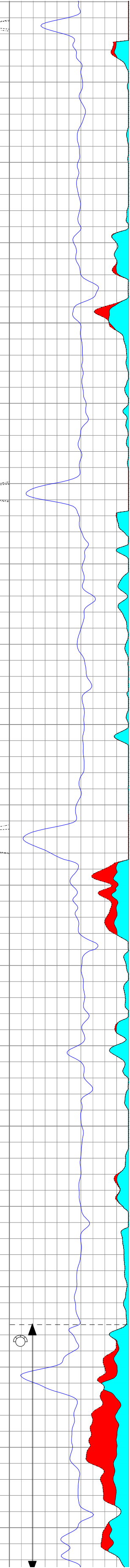
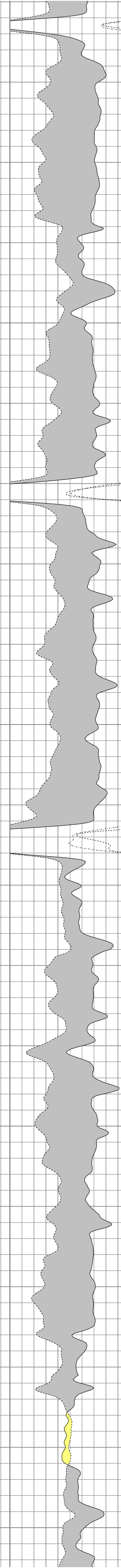
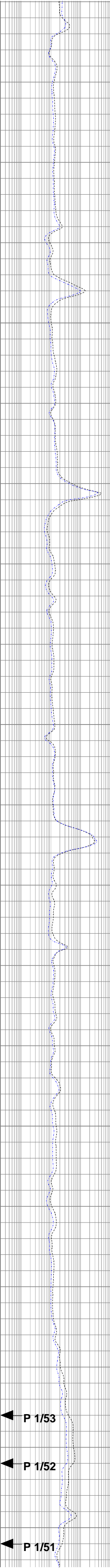
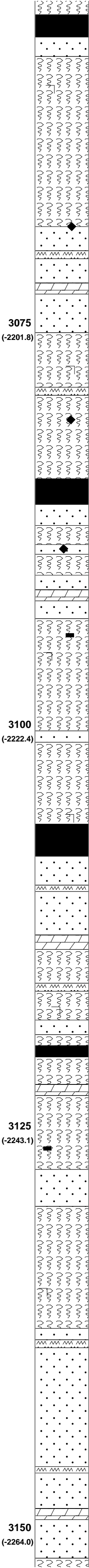
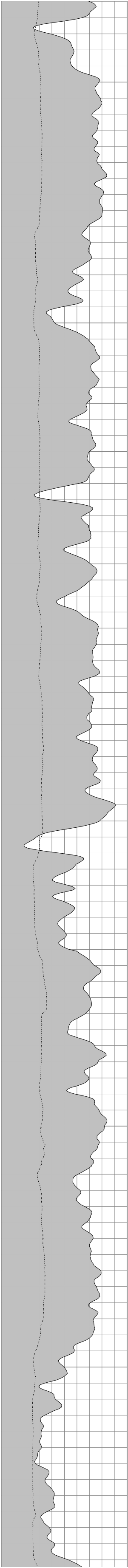




2904.4
ANG 37.2
DIR 240.2
(-2064.53)



3019.5
ANG 36.2
DIR 239.6
(-2156.80)

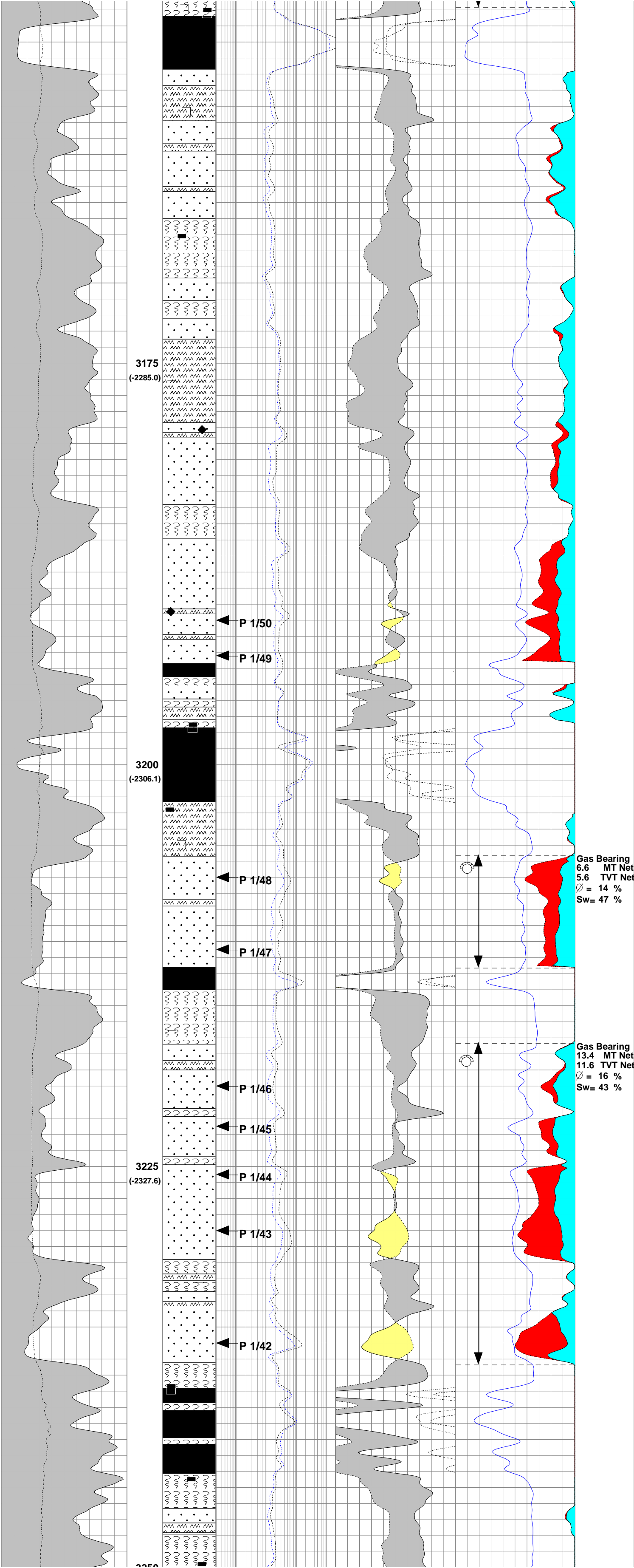


3080
MW 9.7ppg
FV 65sec/qt
PV 22cP
YP 46
pH 9.2

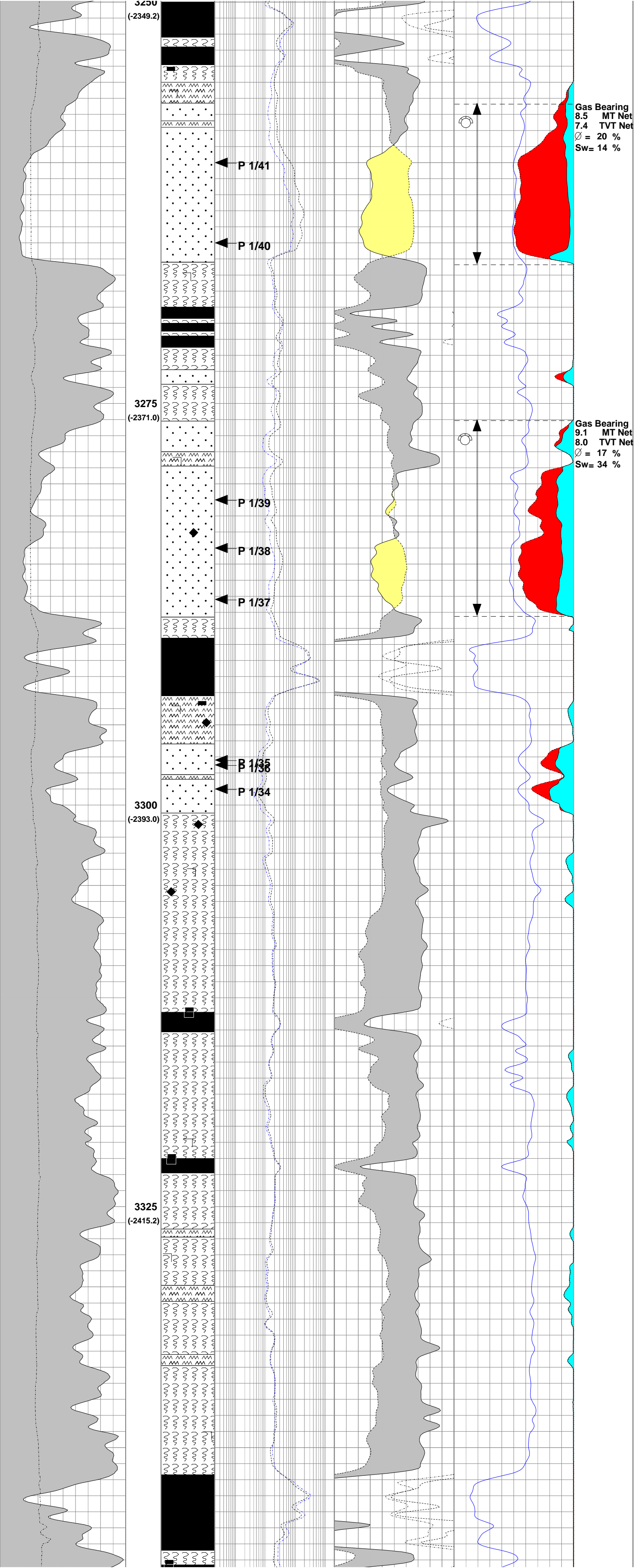
3105.3
ANG 34.3
DIR 239.9
(-2226.76)

Gas Bearing
11.3 MT Net
9.4 TVT Net
Ø = 12 %
Sw= 48 %

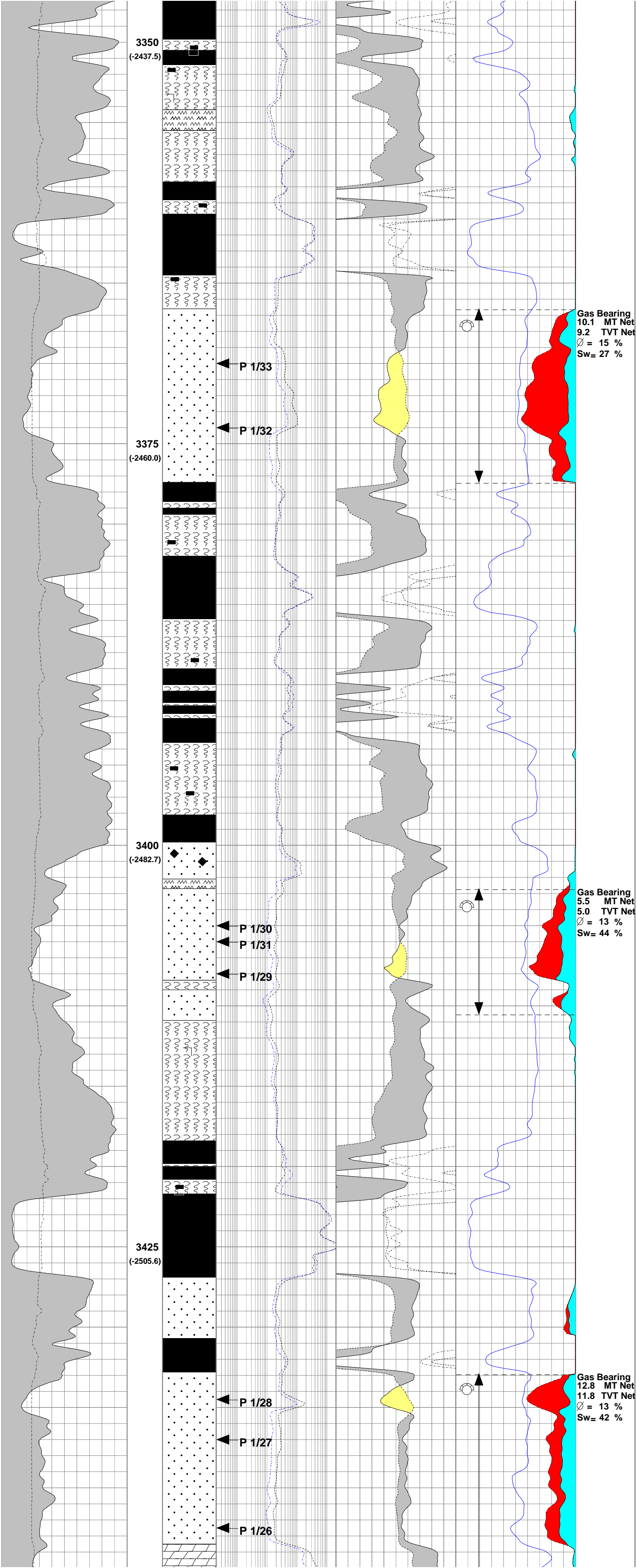
PALEOCENE



3219.7
ANG 30.7
DIR 238.9
(-2322.98)

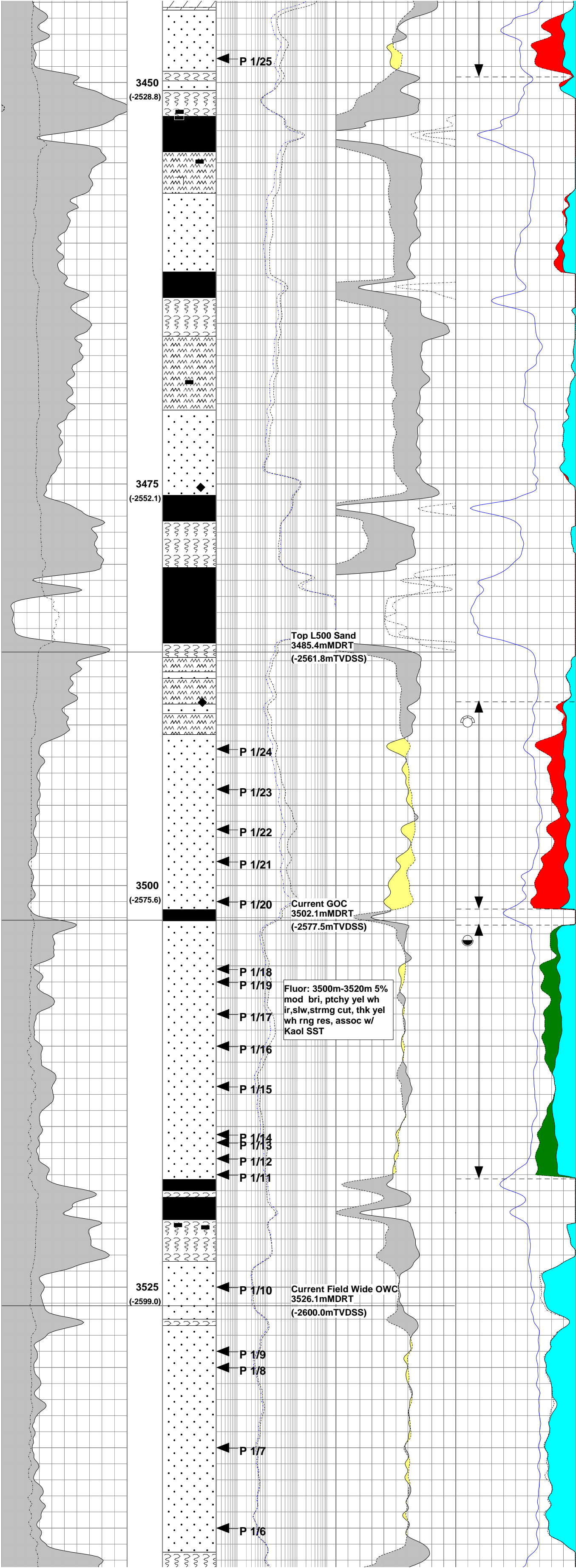


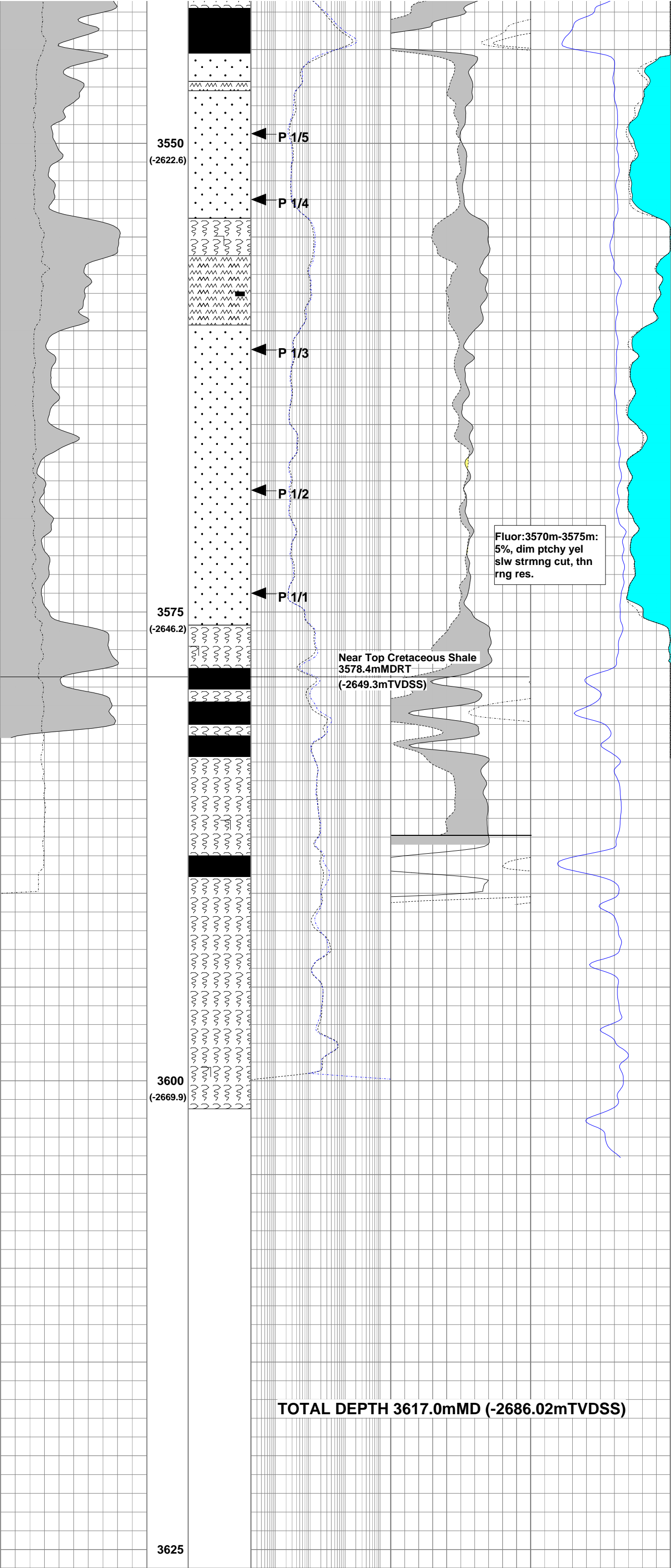
3306.0
ANG 28.1
DIR 238.4
(-2398.29)



3350
MW 9.7ppg
FV 64sec/qt
PV 24cP
YP 47
pH 9.0

3420.7
ANG 22.9
DIR 240.6
(-2501.68)





GRGC
CLDC
DDLL
DSLL
DEN
NPRL
DT35
PHIE

Gamma Ray
Density Caliper
Deep Resistivity
Medium Resistivity
Formation Density
Neutron Porosity
Compensated Sonic
Effective Porosity

Marlin A22a
Plugged and Suspended
27/06/2004

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APPENDIX 5a

MARLIN A-22A

Open Hole MDT Data

Vic L3/L4: MLA-A22A MDT Summary

ESSO AUSTRALIA PTY LTD

Permit: Vic L3/L4	Logged: 14-Jun-04	Summary
Field: Marlin Platform, Turrum Field	Tool Type: Pipe conveyed MDT-GR-LEHQT	Pretests: 60
Target: Turrum L500 sands	Gauge Type: CQG	Valid: 46
RT: 27.9 m	Probe type: Large	Tight, s/c: 13
Datum: MSL	Geologist: Cliff Menhennitt- Greg O'Neill	Plugged: 1
TD: 3617 mMDRT		

Pretest	Prog Reeve	Schlumb	rog Reeve	Schlumb	Schlumb Depth corr	Strain Gauge						Quartz Gauge							Strain	Qtz	Mobility	Pretest			Comments							
	Depth mMD	Depth mMD	Depth mTVDSS	Depth mTVDSS	Depth mMD	Depth mTVDSS	Hydrostatic			Reservoir			hydrostati	Hydrostatic			Reservoir			hydrostati	Temp			Ratio		Volume	Time					
							Before psi	ppg	psig	ppg	After psi	Before psi	ppg	psia	ppg	After psi																
1	3574.0	3573.9	2645.2	2645.1	nil		4969	11.0	3767.0	8.4	4976	4975	11.0	3774.1	8.4	4984	110.3	4976.1	4983.7					10	12	valid	?	Plugging & DP very sticky				
2	3568.5	3568.5	2639.5	2639.5	nil			0.0	3560.2	7.9			0.0	3768.3	8.4									10	10							
3	3561.0	3561.0	2632.9	2632.9	nil			0.0		0.0			0.0		0.0								10	10	plugging		Some plugging on preflow...could not clear....pretest					
4	3553.0	3553.1	2625.4	2625.5	nil			0.0	3739.7	8.4			0.0	3747.3	8.4							13	10	10	valid		Pretest 10cc..pump..stop pump...final 10cc pretest					
5	3549.5	3549.5	2622.1	2622.1	nil		4951	11.1	3734.6	8.4	4933	4959	11.1	3742.3	8.4	4941	112.8	4933	4941	44	10	10	valid				Mobility difficult to pick due to time restrictions but P valid					
6	3540.0	3540.0	2613.1	2613.1	nil		4739	10.6	3724.6	8.4	4917	4945	11.1	3732.2	8.4	4925	113.0	4917	4925	49	10	9	valid									
7	3535.0	3535.0	2608.4	2608.4	nil		4929	11.1	3718.3	8.4	4909	4936	11.1	3725.9	8.4	4916	113.5	4909	4916	38	10	9	valid									
Pretests 8 to 13 require a 1m correction to the Schlumberger depth. This was established after pretest 13 was run when sufficient correlation on the GR was recorded.																																
8	3530.0	3530.0	2603.7	2603.7	3531.0	2604.7	4912	11.1		0.0		4919	11.1		0.0											terminated		Power failure, retest after approx 30 mins, unable to d/d at sufficient rate-VALVE OPEN				
9	3529.0	3528.9	2602.8	2602.7	3529.9	2603.6	4899	11.0	3713.0	8.4	4901	4905	11.1	3720.4	8.4	4908	115.7	4901	4908	1	10	11	valid									
10	3525.0	3525.0	2599.0	2599.0	3526.0	2600.0	4890	11.0	3707.9	8.4		4896	11.1	3715.0	8.4	3715	116.0		3715	7	10	9	valid									
11	3518.0	3518.0	2592.5	2592.5	3519.0	2593.4	4878	11.0		0.0		4884	11.1		0.0											tight		tight...check GR correlation...old OK...after power down...may be slightly off depth				
12	3517.0	3517.0	2591.5	2591.5	3518.0	2592.5		0.0		0.0	4879		0.0		0.0	4885		4879	4885							tight						
13	3516.0	3516.0	2590.6	2590.6	3517.0	2591.5	4867	11.0	3692.8	8.4		4880	11.1	3699.2	8.4	4882			4882	93	10		valid									
*+1m correction APPLIED to Schlumberger depth after establishing GR correlation post power failure.																																
14	3515.5	3515.6	2590.1	2590.2	nil		4872	11.0	3691.6	8.4		4878	11.1	3697.9	8.4					78	10		valid									
15	3512.5	3512.50	2587.3	2587.3	nil		4868	11.0		0.0		4874	11.1		0.0											tight						
16	3510.0	3510.0	2584.9	2584.9	nil		4886	11.1	3686.3	8.4	4865	4892	11.1	3692.3	8.4	4871	115.7	4865	4871	36	10	9	valid									
17	3508.0	3508.0	2583.1	2583.1	nil		4859	11.0		0.0		4865	11.1		0.0											s/c		Supercharged...3700 increasasing				
18	3505.2	3505.2			nil					#DIV/0!																tight		tight				
19	3506.0	3506.0	2581.2	2581.2	nil		4853	11.0	3683.3	8.4		4859	11.0	3689.0	8.4					151	10		valid									
20	3501.0	3500.9	2576.5	2576.4	nil		4845	11.0	3678.4	8.4	4847	4851	11.0	3684.0	8.4	4852	116.2	4847	4852	127	10		valid									
21	3498.5	3498.5	2574.1	2574.1	nil		4840	11.0	3677.3	8.4		4847	11.0	3683.4	8.4		116.2			48	10		valid									
22	3496.5	3496.5	2572.3	2572.3	nil		4836	11.0	3676.7	8.4		4842	11.0	3683.8	8.4		116.2			17	10	13	?				First Fm P slightly high, (3683.7 psi) d/d again, same P, higher than previous					
23	3494.0	3493.9	2569.9	2569.8	nil		4832	11.0	3675.8	8.4	4833	4839	11.1	3682.8	8.4	4840	116.6	4833	4840	42	10		valid									
24	3491.5	3491.5	2567.6	2567.6	nil		4833	11.0	3675.1	8.4		4840	11.1	3681.9	8.4		116.4			61	10		valid									
"Correlation log shows -0.3m depth correction required to tie Schlumberger GR to Reeves log."																																
25	3448.5	3448.8	2527.4	2527.7			4767	11.1	3727.6	8.7		4771	11.1	3734.1	8.7	4770			4770	114	10	7	valid									
26	3442.5	3442.8	2521.8	2522.1			4747	11.0	3726.1	8.7	4750	4754	11.1	3732.8	8.7	4757		4750	4757	10	10	11	valid									
27	3437.0	3437.3	2516.7	2517.0			4735	11.0	3724.9	8.7	4738	4741	11.1	3731.5	8.7	4744	115.0	4738	4744	5	10	11	valid					Tighter but looked stable after 10 mins				
28	3434.5	3434.8	2514.4	2514.7			4728	11.0	3723.2	8.7	4731	4734	11.0	3730.1	8.7	4738	115.1	4731	4738	1472	10	9	valid									
"Correlation log shows no depth correction required to tie Schlumberger GR to Reeves log."																																
29	3408.0	3408.0	2490.0	2490.0	nil		4688	11.0	3695.6	8.7	4687	4695	11.1	3702.7	8.7	4694	114.3	4687	4694	725	10		valid									
30	3405.0	3405.0	2487.3	2487.3	nil		4678	11.0	3695.4	8.7	4678	4685	11.1	3702.6	8.7	4685	114.0	4678	4685	4	10	12	?					Tighter, required 2 pretest d/d				
31	3406.0	3406.0	2488.2	2488.2	nil		4673	11.0	3695.4	8.7	4673	4680	11.0	3702.7	8.7	4680	114.3	4673	4680	11	10	12	?					3rd test of sand, no room to move in quality section.				

Vic L3/L4: MLA-A22A MDT Summary

ESSO AUSTRALIA PTY LTD

Permit: Vic L3/L4	Logged: 14-Jun-04	Summary
Field: Marlin Platform, Turrum Field	Tool Type: Pipe conveyed MDT-GR-LEHQT	Pretests: 60
Target: Turrum L500 sands	Gauge Type: CQG	Valid: 46
RT: 27.9 m	Probe type: Large	Tight, s/c: 13
Datum: MSL	Geologist: Cliff Menhennitt- Greg O'Neill	Plugged: 1
TD: 3617 mMDRT		

Prog Reeves		Schlumb	rog Reeves	Schlumb	Schlumb	Depth corr	Strain Gauge					Quartz Gauge						Strain	Qtz	Mobility	Pretest				
Pretest	Depth	Depth	Depth	Depth	Depth	Depth	Hydrostatic		Reservoir		hydrostatic	Hydrostatic		Reservoir		hydrostatic	Temp			Ratio	Volume	Time			
	mMD	mMD	mTVDSS	mTVDSS	mMD	mTVDSS	before psi	ppg	psig	ppg	After psig	before psi	ppg	psia	ppg	After psig	C	hyd after	hyd after	md/cp	cc	min		Comments	
	"Correlation log shows -0.3m depth correction required to tie Schlumberger GR to Reeves log."																								
32	3374.0	3374.0	2459.1	2459.1			4626	11.0	3691.1	8.8	4626	4632	11.1	3698.2	8.8	4632	113.6	4626	4632	2365	10	9	valid	Boomer	
33	3370.0	3370.3	2455.5	2455.7			4609	11.0	3689.8	8.8	4612	4617	11.0	3697.3	8.8	4619	113.1	4612	4619	167	10	7	valid		
	"Correlation log shows very close tie between Schlumberger GR to Reeves log."																								
34	3299.0	3299.0	2392.1	2392.1	nil		4494	11.0	3491.1	8.6	4494	4501	11.0	3498.5	8.6	4501	111.6			3	10	13	?/tight	Still very slowly building after 11 mins, terminated.	
35	3297.2	3296.8	2390.5	2390.2	nil		4484	11.0		0.0	4485	4491	11.0		0.0	4492	111.2				10	7	tight	Very slow P buildup. Pretets abandoned. Move down to try validate pretest 34.	
36	3297.5	3297.5	2390.8	2390.8	nil		4482	11.0		0.0	4483	4490	11.0		0.0	4490	111.7					11	tight	Slow build up test terminated after d/d w/ pump. Unable to validate pretest 34 in this sand. Stuck after tool retraction.	
	"Correlation log shows very close tie between Schlumberger GR to Reeves log."																								
37	3287.2	3287.2	2381.8	2381.8	nil		4465	11.0	3487.2	8.6	4468	4473	11.0	3494.8	8.6	4475	111.5			90	10	7	valid	Gas sand	
38	3284.0	3284.0	2378.9	2378.9	nil		4458	11.0	3486.5	8.6	4459	4465	11.0	3494.1	8.6	4466	111.5			2313	10	10	valid	Gas sand little Fm pressure difference w/ pretest 38.	
	"Correlation log shows +0.4m depth correction required to tie Schlumberger GR to Reeves log."																								
39	3281.0	3281.0	2376.3	2376.3			4454	11.0	3485.2	8.6	4455	4461	11.0	3493.0	8.6	4462	111.5			32	10	8	valid		
40	3265.0	3264.5	2362.3	2361.9			4429	11.0	3479.2	8.6		4437	11.0	3487.0	8.7		111.4			2569	10	11	valid		
41	3260.0	3260.0	2357.9	2357.9			4422	11.0	3477.9	8.7	4420	4429	11.0	3486.0	8.7	4428	111.2			391	10	9	valid		
	"Correlation log shows +0.5m depth correction required to tie Schlumberger GR to Reeves log."																								
42	3236.0	3235.5	2337.1	2336.6			4386	11.0	3451.9	8.7	4387	4392	11.0	3459.8	8.7		110.7			1493	10	9	valid		
43	3229.0	3228.5	2331.0	2330.6			4372	11.0	3449.6	8.7	4373	4378	11.0	3457.6	8.7	4380	110.4			523	10	10	valid		
44	3225.5	3225.0	2328.0	2327.6			4362	11.0		0.0		4370	11.0		0.0						10	10	tight	Very slow build up, time limit reached, test aborted.	
45	3222.5	3222.0	2325.4	2325.0			4360	11.0	3447.7	8.7	4355	4368	11.0	3455.5	8.7	4362	110.3				10	10	valid		
46	3220.0	3220.0	2323.2	2323.2			4349	11.0		0.0	4349	4356	11.0		0.0		110.0				10	10	tight	Time limit reached, test aborted.	
	"Correlation log shows very close tie between Schlumberger GR to Reeves log."																								
47	3211.5	3211.5	2316.0	2316.0			4337	11.0	3445.7	8.7	4337	4343	11.0	3453.5	8.8	4344	110.0			7	10	7	valid		
48	3207.0	3207.0	2312.1	2312.1			4328	11.0	3443.5	8.7	4329	4335	11.0	3451.0	8.8	4336	109.9			880	10	10	valid	Strain gauge very stable, quartz gauge varying slightly, time limit reached.	
49	3193.2	3193.2	2300.3	2300.3			4315	11.0	3408.2	8.7	4310	4322	11.0	3416.1	8.7	4317	109.7			215	10	7	valid		
50	3191.0	3191.0	2298.4	2298.4			4330	11.1		0.0	4305	4313	11.0		0.0	4313	109.5				10	8	tight		
51	3151.0	3151.0	2264.8	2264.8			4254	11.0	3403.1	8.8	4246	4261	11.0	3410.8	8.8	4254	108.9			61	10	10	valid		
52	3146.0	3146.0	2260.6	2260.6			4233	11.0	3401.4	8.8	4235	4240	11.0	3409.2	8.9	4243	108.5			2746	10	6	valid		
53	3143.0	3143.0	2258.1	2258.1			4227	11.0	3400.4	8.8	4227	4232	11.0	3408.3	8.9	4234	108.3			93	10	10	valid		
	"Correlation log shows -0.5m depth correction required to tie Schlumberger GR to Reeves log."																								
54	3030.0	3029.5	2164.3	2164.9			4082	11.1		0.0	4053	4063	11.0		0.0	4059	106.2				10	7	tight	Stopped on Reeves depth 3030 instead of 3029.5 as per program, cannot move 0.5m. Tight hole	
55	3026.5	3027.0	2162.5	2162.9			4043	11.0		0.0	4043	4050	11.0		0.0	4050	105.9				10	7	tight		
56	3023.0	3023.5	2159.6	2160.0			4029	10.9	3209.9	8.7	4030	4035	11.0	3217.2	8.7	4037	105.8			665	10	6	valid		
57	3020.0	3020.5	2157.2	2157.6			4023	10.9	3209.2	8.7	4024	4028	11.0	3216.3	8.7	4030	105.8			164	10	8	valid		

Vic L3/L4: MLA-A22A MDT Summary

ESSO AUSTRALIA PTY LTD

Permit: Vic L3/L4	Logged: 14-Jun-04	Summary
Field: Marlin Platform, Turrum Field	Tool Type: Pipe conveyed MDT-GR-LEHQT	Pretests: 60
Target: Turrum L500 sands	Gauge Type: CQG	Valid: 46
RT: 27.9 m	Probe type: Large	Tight, s/c: 13
Datum: MSL	Geologist: Cliff Menhennitt- Greg O'Neill	Plugged: 1
TD: 3617 mMDRT		

Prog Reeve		Schlumb	rog Reeve	Schlumb	Schlumb Depth corr		Strain Gauge					Quartz Gauge						Strain	Qtz	Mobility	Pretest				Comments
Pretest	Depth	Depth	Depth	Depth	Depth	Depth	Hydrostatic		Reservoir		hydrostatic	Hydrostatic		Reservoir		hydrostatic	Temp			Ratio	Volume	Time			
	mMD	mMD	mTVDS	mTVDS	mMD	mTVDS	before psi	ppg	psig	ppg	After psig	before psi	ppg	psia	ppg	After psig	C	hyd after	hyd after	md/cp	cc	min			
58	3016.0	3016.5	2154.0	2154.4			4017	10.9	3207.9	8.7	4016	4023	11.0	3215.1	8.8	4023	105.6			9181	10	8	valid		
59	3011.5	3012.0	2150.4	2150.8			4013	10.9	3207.1	8.8	4010	4020	11.0	3214.5	8.8	4017	105.6			1345	10	5	valid		
60	3006.0	3006.5	2145.9	2146.3			4011	11.0	3205.8	8.8	4002	4018	11.0	3213.2	8.8	4009	105.6			6600	10	8	valid		
														46											