WELL COMPLETION REPORT

BREAM B17

GIPPSLAND BASIN, VICTORIA

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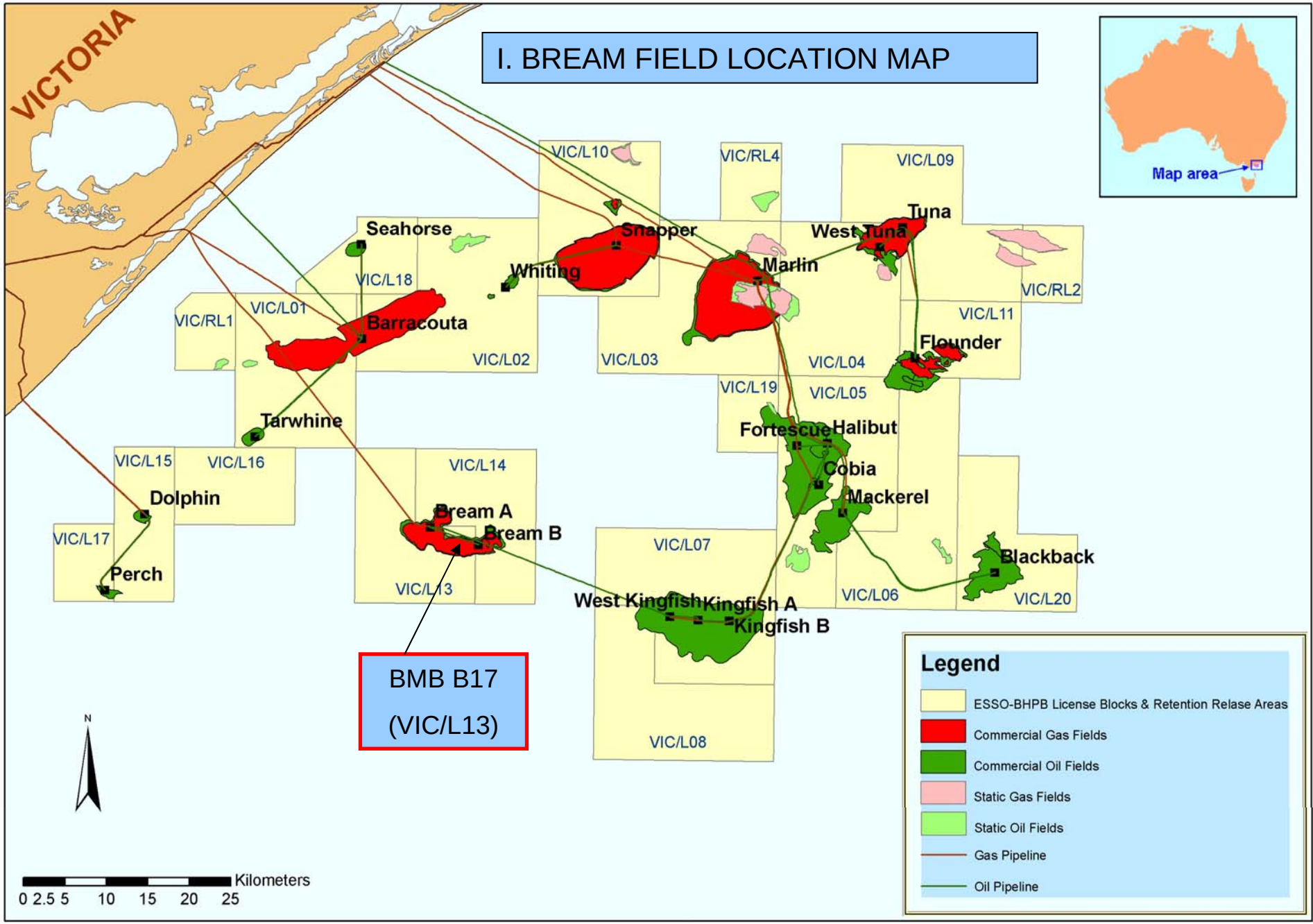
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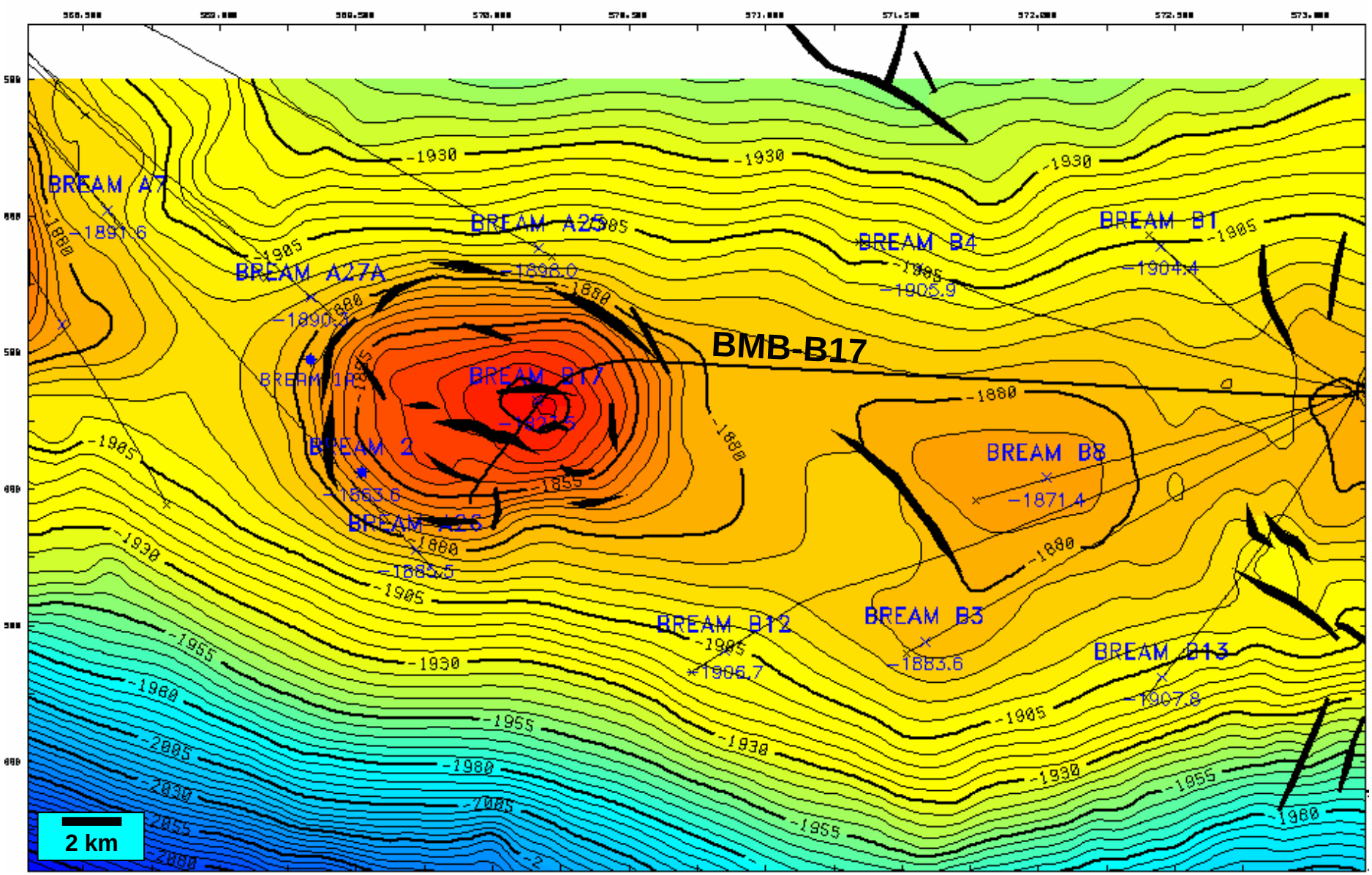
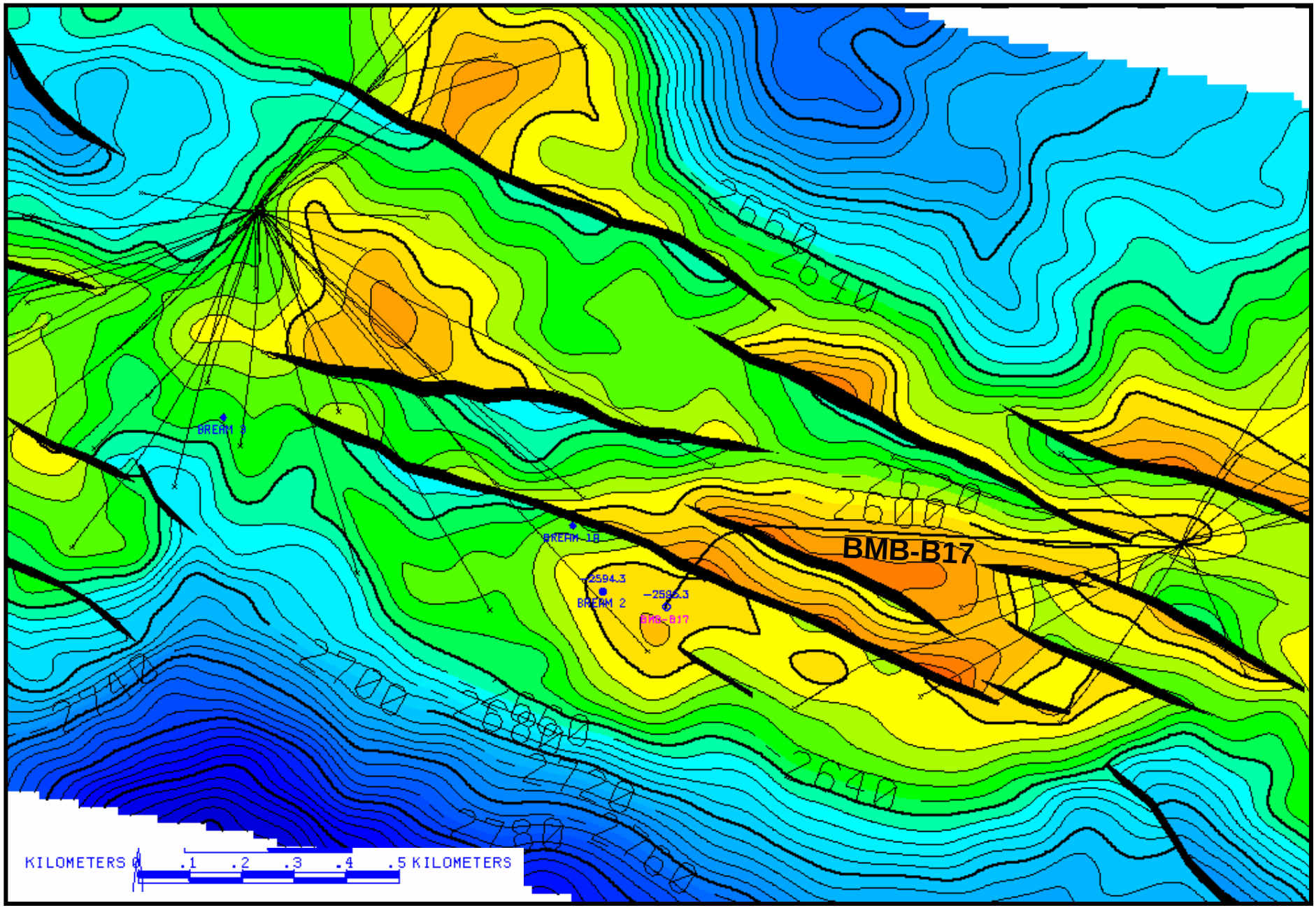
II. WELL DATA RECORD BREAM B17

Top N-1 (Base Waste) Depth Structure Map



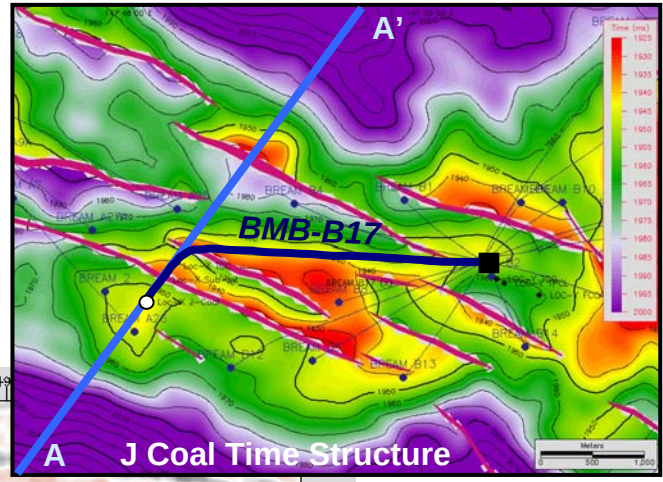
II. WELL DATA RECORD (cont'd) BREAM B17

J Coal Depth Structure Map



II. WELL DATA RECORD (cont'd) BREAM B17

Seismic Profile



Well path on line of section
Well path projected from out of plane

BMB-B17

South

North

N-1 gas column

Igneous Intrusive layer

L-2.2 gas column

L deep sands (J coal level)

Top of Latrobe

Top Coarse Clastics

Top Lower P Coal

Top F Coal

Top J Coal

BREAM B17 (X)

A

A'

LOCATION

Field	**BREAM**
Well Name	**B17** (Loc X)
Conductor Number	Slot 17
State	Victoria
Permit/Licence	Vic/L13
Geological Basin	Gippsland
Top of N-1	3796.0m MDRT
	1870.8m TVDRT
MGA94 X	570162.84m E
MGA94 Y	5736323.39m N

Conductor #17 Surface Coordinates	
(GDA94) X	573,166.8787mE
(MGA94) Y	5,736,349.5500mN
Latitude	38° 31' 5.642400"S
Longitude	147° 50' 21.462000"E
Perforations	To be done at a later date
Datum	GDA94 (GRS80)
Projection	MGA94/UTM Zone 55 (S)

ELEVATIONS & DEPTHS

Water Depth	61 m
Top Wellhead to MSL	26.17 m
Main Deck Rel to MSL	24.m
RT Relative to MSL	47.17 m
Average Well Angle	67.5° (tang)
Total Depth	4955.0 mMDRT
	2852.1 mTVDRT
Plug Back Depth	4940.0m

DATES

Skid Rig	06/07/2005
Kicked Off	08/07/2005
Development Rig Days	20.67
NPT Days	3.18
Rig Released	24/07/2005
I.P. Established	To be put on production Jan 2006 gas lift supply well for BMB

MISCELLANEOUS

Operator	Esso Australia Pty Ltd
Esso Interest	50%
Permittee/Licensee	Esso/BHPP
Other Interest	50% J.V. Interest
Overriding Royalty	2.5%
Drilling AFE No.	L0501F502

Contractor	ENSCO International
Rig Name	ENSCO 102 (Keppel FELS Mod V "A" Class Jackup)
Equipment Type	Platform
Completion Type	Single
Completion Size	3 ½ "

WELL CLASSIFICATION

Before Drilling	Gas Development
After Drilling	Cased and Suspended

CASING RECORD

Type	**Size** (Inches)	**Weight** (lb/ft)	**Grade**	**Thread**	**Depth** (mMDRT)
Surface	20"	68.0	L-80	BTC	179.0
Intermediate	9⅝"	47	L-80	VamTop	840.0
Production	7"	26	L-80	VamTop HC	4940.0

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)
9.625" Lead	G	754	Econolite ,625 gps + .008 gps NF-6	45	294	12.5		
Tail	G	267	1%BWOC Cac12 + .003 gps NF-6	20	56	15.8	27.1 m to 840 m	1500
7"	B	835	2.5 gpb Gason, 3 gpb Halad 413L, .3 gpb CFR3L, .25gpb SCR-100	131	205	14.5	2868 To 4955	2300

DRILLING PERFORMANCE

BMB B17 - Final Well Report

GENERAL

Platform:	Bream B	**Rig:**	Ensco 102	**Reservoir:**	N-1 Oil & Gas
Well:	B17	**Well Slot:**	#17	**RT-MSL (Ensco 102)**	47.24m
Drilling Complexity Index	4.4	**Completion Complexity**	2.5		

DEPTH		**PERFORMANCE**		**MUD**	
m MDRT	4,955.00	**20" Cond. Hole**	N/A	**Max Wt (ppg)**	10.15 (while drilling)
m TVDRT	2,852.06	**12-1/4" Surf. Hole**	666 m/day	**Type (Surf. Hole)**	SW / Bentonite
Vert. Section (m)	3,278.47	**8-1/2" Prod. Hole**	732 m/day	**Type (Inter. Hole)**	N/A
INCLINATION Max (deg) / Ave (deg)	S-Turn 69.9 (3059mMD) / 67.5 (Tang)	**6" Liner Hole**	N/A	**Type (Prod. Hole)**	Petrofree NAF
		* Time to drill interval, incl's connections & NPT.		**Type (Liner Hole)**	N/A

Comments: Details of the conductor installation for the B17 can be found in the rig move well file. Surface Hole - 179m to 845mMD (666m drilled), Production Hole - 845m to 4,955mMDRT (4,107m drilled).

TIME ANALYSIS

Start Date:	6/7/2005, 2000hrs	**Finish Date:**	28/7/2005, 1200hrs		
Target Days:	24.2	**Total Days:**	20.67	**% Under Target:**	14.6%
AFE Days:	29.5	**NPT Days:**	3.18	**% of Total Days:**	15.4%
Supplementary AFE Days:	N/A				

COSTS *(based on projected)*

AFE No.:	L0501F502	**Revisions:**	N/A	**$ per m**	A$2.31k / metre (new hole)
$ per day:	A$529k/day	**$ per day (excl. T + L)** * Equipment, LWD/RSS & Reeves	A$391k/day		A$2.21k / metre* * based on TD **not** new hole

	Equipment	**Materials**	**Contracts**	**Allocations**	**Contingency**	**Total**
AFE (Original)	1,280,000	2,540,000	10,305,000	595,000	--	A$14,720,000
AFE (Supp #1)	N/A	N/A	N/A	N/A	--	N/A
Projected	1,063,189	1,343,786	8,083,935	450,790	--	A$10,941,700

CASING *(all depths herein are based on Ensco 102 elevations: RT-MSL=47.24m)*

	Size / Weight / Grade / Thread	**m MDRT**	**m TVDRT**	**PIT (ppg)**
Conductor Casing	20"	179	179	N/A
Surface Casing	9-5/8", 47ppf, L80, VamTop	840	675	13.5 (Jug)
Prod Casing	7", 26ppf, L80, VamTop HC	4940	2841	N/A
Prod Liner	N/A	N/A	N/A	N/A

Comments: Conductor casing installed under another AFE. Details of the conductor installation for the B17 can be found in the rig move well file.

COMPLETION

	Size / Weight / Grade / Thread	**m MDRT**	**m TVDRT**	**Type**
Completion	3.5" 9.2 ppf Vam Ace	3791.8	1868	Single

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

Comments: Perforations will be added with wireline at a later date.

ADDITIONAL

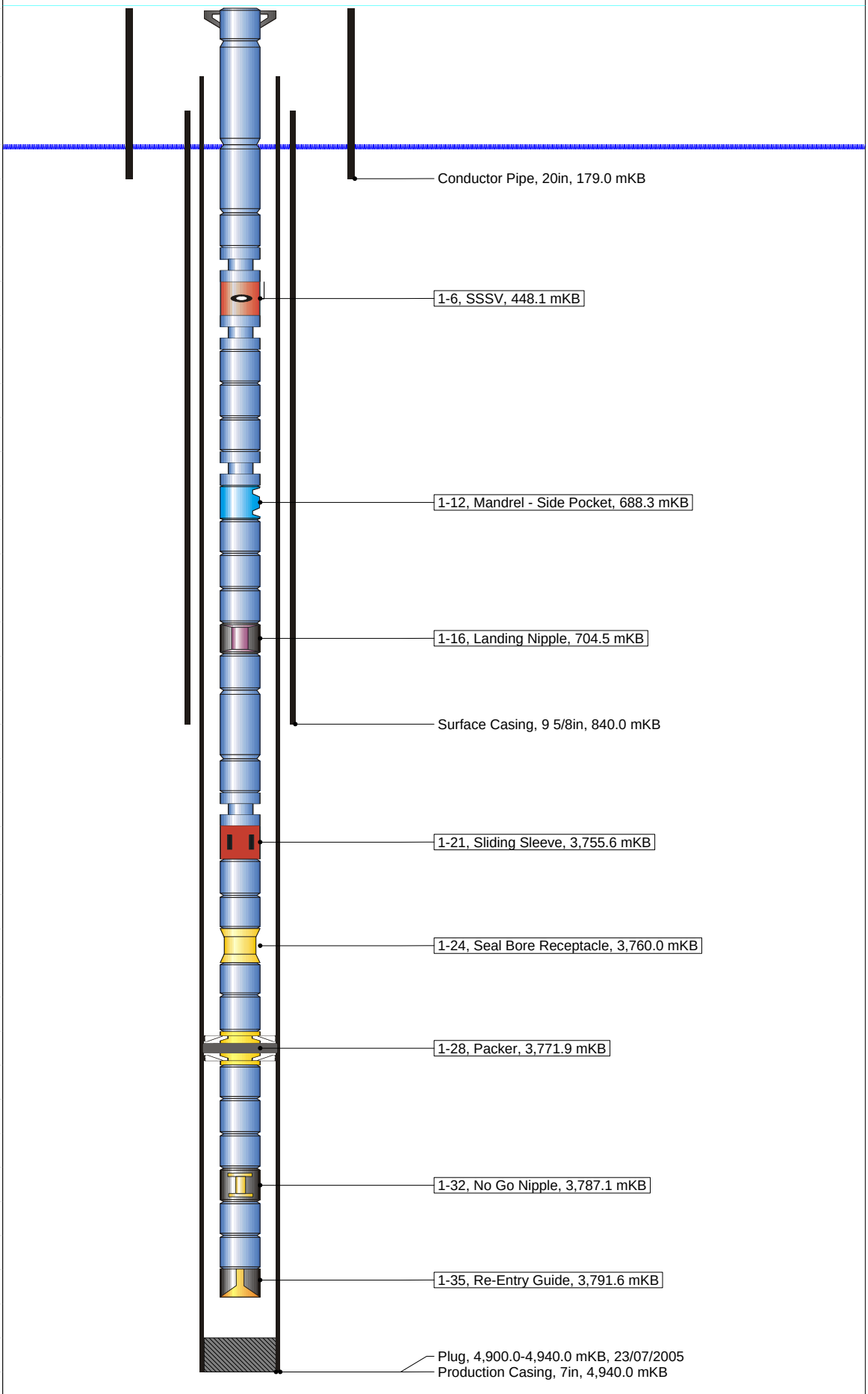
		Upper Interval [m MDRT]	**Lower Interval [m MDRT]**
Logs Run	LWD (GR-Res-Dens-Neut-Son-Cal)	845	4,955

Comments: The 8-1/2" hole interval was logged via LWD from the surface casing shoe to TD. No failures of the LWD suite occurred during the drilling of this well.

Bream B17: Existing Schematic

Incl	mKB (TVD)
0.0	26
0.0	27
0.0	27
0.0	27
0.0	28
0.4	179
27.8	435
28.1	437
28.3	439
28.5	440
28.8	441
29.0	443
58.4	608
58.7	609
59.0	610
59.4	612
59.7	613
61.1	617
61.3	618
61.4	619
61.7	620
67.1	675
53.9	1,845
53.9	1,846
54.0	1,847
54.0	1,848
54.1	1,849
54.1	1,850
54.4	1,855
54.4	1,856
54.4	1,857
54.5	1,858
54.5	1,859
54.8	1,865
54.9	1,866
54.9	1,866
55.0	1,867
55.1	1,868
55.1	1,868
5.1	2,797
4.8	2,837

Schematic - Actual



Bream B17: Existing Tubing String Summary

Tubing Description	Run Date	Run Job	Comment	Measured Depth (mKB)
Tubing - Production	24/07/2005	Drilling and Completion, 5/07/2005 00:00 - 27/07/2005 00:00	Single to N-1. P/U = 160 kips, S/O = 130 kips w/ 90 kips BW	3,791.76

Tubing Components

Item No.	Item Description	OD (in)	Wt (lbs/ft)	Grade	Top Thread	Jts	Make	Model	SN	Comments	Max OD (in)	Nom ID (in)	Len (m)	Top (mKB)
1-1	Tubing Hanger	3.500				1	Cameron	11" SSMC snapring			6.276	2.992	0.52	26.16
1-2	Tubing Pup Joint	3.500	9.20	80	VAM-ACE	1					4.500	2.992	1.76	26.68
1-3	Tubing Joint(s)	3.500	9.20	80	VAM-ACE	43					4.500	2.992	415.83	28.44
1-4	Tubing Pup Joint	3.500	9.20	80	VAM-ACE	1					4.500	2.992	1.97	444.27
1-5	Flow Coupling	3.500			VAM-ACE	1	Halliburton				4.020	2.880	1.89	446.24
1-6	SSSV	3.500			VAM-ACE	1	Halliburton	NE	782LXE27704		5.380	2.750	1.28	448.13
1-7	Flow Coupling	3.500			VAM-ACE	1	Halliburton				4.020	2.880	1.91	449.41
1-8	Tubing Pup Joint	3.500	9.20	80	VAM-ACE	1					4.500	2.992	1.97	451.32
1-9	Tubing Joint(s)	3.500	9.20	80	VAM-ACE	24					4.500	2.992	231.14	453.29
1-10	Tubing Pup Joint	3.500	9.20	80	VAM-ACE	1					4.500	2.992	1.98	684.43
1-11	Flow Coupling	3.500			VAM-ACE	1	Halliburton		811FN28711		4.020	2.880	1.88	686.40
1-12	Mandrel - Side Pocket	3.500			VAM-ACE	1	Weather...	SF0-2			5.968	2.920	2.62	688.28
1-13	Tubing Pup Joint	3.500	9.20	80	VAM-ACE	1					4.500	2.992	1.97	690.90
1-14	Tubing Joint(s)	3.500	9.20	80	VAM-ACE	1					4.500	2.992	9.67	692.87
1-15	Tubing Pup Joint	3.500	9.20	80	VAM-ACE	1					4.500	2.992	1.97	702.54
1-16	Landing Nipple	3.500			VAM-ACE	1	Halliburton	X	811X27525	2.75" X profile	3.920	2.750	0.45	704.52
1-17	Tubing Pup Joint	3.500	9.20	80	VAM-ACE	1					4.500	2.992	1.96	704.97
1-18	Tubing Joint(s)	3.500	9.20	80	VAM-ACE	315					4.500	2.992	3,044...	706.93
1-19	Tubing Pup Joint	3.500	9.20	80	VAM-ACE	1					4.500	2.992	1.98	3,751.53
1-20	Flow Coupling	3.500			VAM-ACE	1	Halliburton				4.020	2.880	2.05	3,753.51
1-21	Sliding Sleeve	3.500			VAM-ACE	1	Halliburton	XD	821XD27578-0	2.75" X profile	5.968	2.920	1.20	3,755.56
1-22	Tubing Pup Joint	3.500	9.20	80	VAM-ACE	1					4.500	2.992	1.97	3,756.75
1-23	Tubing Pup Joint	3.500	9.20	80	VAM-ACE	1					4.500	2.992	1.26	3,758.73
1-24	Seal Bore Receptacle	3.500			VAM-ACE	1	Halliburton	PBR	812PBA70404...	PBR seal unit	5.870	2.880	9.31	3,759.99
1-25	Tubing Pup Joint	3.500	9.20	80	VAM-ACE	2					4.500	2.992	0.66	3,769.30
1-26	Marker Joint	3.500			EUE		Pip Tag 1.974 above packer			pip tag				3,769.96
1-27	Tubing Pup Joint	3.500	9.20	80	VAM-ACE	1					4.500	2.992	1.97	3,769.96
1-28	Packer	3.500	26.00		VAM-ACE	1	Halliburton	7" AHC	812AHC71291...	26 - 29#	6.151	2.954	1.56	3,771.93
1-29	Tubing Pup Joint	3.500	9.20	80	VAM-ACE	1					4.500	2.992	1.97	3,773.49
1-30	Tubing Joint(s)	3.500	9.20	80	VAM-ACE	1					4.500	2.992	9.67	3,775.46
1-31	Tubing Pup Joint	3.500	9.20	80	VAM-ACE	1					4.500	2.992	1.98	3,785.13
1-32	No Go Nipple	3.500			VAM-ACE	1	Halliburton	XN	811XN27564	2.750" XN profile, 2.635" NoGo	3.920	2.635	0.50	3,787.11
1-33	Tubing Pup Joint	3.500	9.20	80	VAM-ACE	1					4.500	2.992	1.98	3,787.61
1-34	Tubing Pup Joint	3.500	9.20	80	VAM-ACE	1					4.500	2.992	1.97	3,789.59
1-35	Re-Entry Guide	3.500			VAM-ACE	1			812G40021		4.000	2.867	0.20	3,791.56

III. SAMPLES

CUTTINGS

The cuttings sampling programme for BREAM B17 are detailed in the following table:

Interval (mMDRT)	Formation	Sampling Interval/Details
Surface Casing to 150m above Top of Latrobe (TOL) 220 m - 3540 mMDRT	Gippsland Limestone & Lakes Entrance Group	30 m interval Spot samples only
150 m above TOL to Top of Latrobe (TOL) 3540 m – 3690 mMDRT	Lakes Entrance Formation	10 m interval Three sets of washed and oven dried cuttings.
TOL to Total Depth (TD) 3690 m – 4955 mMDRT (TD)	Latrobe Group	5 m interval (10 m intervals at high ROP) Three sets of washed and oven dried cuttings.

Note: Over intervals of high ROP it was not possible to collect 5m samples from the top Latrobe Group to 4955 mMDRT (TD) as designated in the Well Program.
Intervals of 5m samples collected were: 3800-3830, 3900-3940, 3960-4060, 4100-4110,4150-4170, 4180-4190, 4360-4370, 4410-4420, 4720-4810, 4820-4840, 4870-4890.

Detailed cuttings descriptions for the interval 845 to 4955 mMDRT (TD) are contained in Appendix 3a.

CONVENTIONAL CORING

No conventional cores were cut in BREAM B17.

SIDEWALL CORING

No sidewall core samples were shot in BREAM B17.

IV. LOGS AND SURVEYS

Survey/Log	Company	Top (m MDRT)	Bottom (m MDRT)
MWD Powerpulse (Directional)	Schlumberger/Anadrill	107.5	4934.41
MWD ARC (GR/Resistivity)	Schlumberger/Anadril	845.0	4955.0
MWD ADN6 (Density/Neutron)	Schlumberger/Anadrill	845.0	4955.0
MWD ISONIC (Sonic)	Schlumberger/Anadrill	845.0	4955.0

V. FORMATION RESERVOIR TOPS

Zone	m TVDSS			M MDRT	m TVT Gross HC Column	
	Predicted	Actual	Diff.		Predicted	Actual
Lakes Entrance	1049.1	1047.2	1.9 high	1940.0	-	-
Top of Latrobe	1762.9	1779.0	16.1 low	3720.0	-	-
Top N-0 Upper Snd	1766.9	-	-	-	-	-
Top N-0 Lower Snd	1808.4	-	-	-	-	-
TCC	1824.4	1820.3	4.1m high	3790.4	-	-
Top N-1 Reservoir (BWST)	1830.5	1823.5	7 m high	3796.0	63m gas	62m gas
N-1 LPG	1893.4	1885.3	8.1m high	3910.0	-	-
Top P Coal	1896.4	1886.8	9.6m high	3912.8	-	-
Top Volc Intrusives	1901.4	1892.3	9.1m high	3923.0	-	-
Base Volc Intrusives	1937.5	1956.2	18.7m low	4034.6	-	-
Top Sub-Int Sand	1940.1	1958.2	18.1m low	4037.0	-	-
Top F Coal	2078.1	2082.9	4.8m low	4209.0	-	-
Top L2 Coal	2252.0	2237.2	14.8m high	4378.0	-	-
Top L-2.2 sand	-	2247.1	-	4388.2	-	6.5m gas
Top L-2.5 sand	-	2359.0	-	4503.0	-	4.4m possible gas
L-1.0 sand	2461.5	2453.2	8.3m high	4600.3	-	-
L-1.1 sand	-	2462.7	-	4609.9	3m gas	2.5m gas
L-1.2a sand	-	2468.1	-	4615.5	-	3.9m gas
L-1.2b sand	-	2473.1	-	4620.6	-	4.9m possible gas
L-1.3 sand	-	2500.7	-	4648.7	-	-
L-1.6 sand	-	2557.4	-	4706.2	2m gas	-
L-1.7 sand	-	2574.4	-	4723.3	2m gas	-
L-1.8 sand	-	2592.2	-	4741.3	2m gas	-
L-1.9 sand	-	-	-	-	3m gas	-
Top J Coal	2586.8	2595.4	8.6m low	4744.5	-	-
L-1.10a sand	-	2614.0	-	4763.2	8m gas	5.1m gas

V. FORMATION RESERVOIR TOPS (cont'd)

Zone	m TVDSS			M MDRT	m TVT Gross HC Column	
	Predicted	Actual	Diff.		Predicted	Actual
L-1.10b sand	-	2621.0	-	4770.4	-	6.3m gas
L-1.11 sand	-	2629.9	-	4779.3	-	-
L-1.12 sand	-	2642.2	-	4791.6	7m gas	-
L-1.13 sand	-	2659.8	-	4809.3	-	4.2m gas
7L-1.13b sand	-	2680.1	-	4829.7	-	2.3m gas
L-1.18 sand	2711.5	2719.7	8.2m low	4869.5	3m gas	1.5m gas
L-1.19 sand	-	2730.9	-	4880.8	-	3.0m gas
Total Depth	2800.0	2804.9	4.9m low	4955.0	-	-

VI. GEOLOGICAL ANALYSIS – BREAM B17

BREAM B17 (pre-drill Location X) was the first of two wells to be drilled from the BREAM B platform during the 2005 Bream B drilling and workover program using the "Ensco-102 jack-up rig."The BREAM B17 well targeted the ultimate crest of the N-1 reservoir to capture liquid-rich gas reserves and provide continuity of gas lift supply to key oil wells. The well was deepened to test multiple stacked intra-Latrobe structural closures, and to appraise and develop the liquid-rich 'L' gas sands (L. balmei) discovered by the off-set Bream-2 well drilled in 1969.

BREAM B17 was designed as a high angle (67.5 deg), long reach (4948mMDRT) well with dual primary objectives. The N-1 reservoir drainage point is represented by an attic four way dip closure, with the ultimate crest predicted pre-drill to be 74 metres up-dip from the nearest offset well, BREAM-A25. A series of thin, small column height gas sands around the J coal level (intra-Latrobe L. balmei age) were also considered a primary objective of the well.

The secondary objective for the well targeted a good quality sandstone below a thick volcanic intrusive seal. However, given the significant depth interpretation risk associated with two-way-time pull-up below the high acoustic velocity intrusive body, the pre-drill hydrocarbon volumes assessed at this level were risked out of the most likely case.

A spare well slot (# 17) on the south side of the Bream B concrete gravity structure was utilised for this well. A new conductor was drilled and grouted through the CGS base.

Results

BREAM B17 was drilled to TD after drilling out of the new B17 conductor shoe (~179 mMDRT) and logged with a 6.75" Anadrill LWD suite (GR, Resistivity, Density, Neutron, ISONIC and Caliper). No wireline logs were run. The well reached a total depth of 4955mMDRT (-2804.9mSS), approximately 5m TVD deeper than programmed. This well intersected the TCC at 1820.3 mTVDSS and the Top P Coal at 1886.8 mTVDSS which is 4.1m and 9.6m TVD higher than prognosed, respectively. Gross gas intersected in the N-1 is 62m TVT (46.8m net) versus 63m TVT prognosed.

The sub-intrusive sand (secondary objective) was found to be water bearing. The top of this zone was intersected at 1959 mTVDSS, 18.1m low to prognosis. The pre and post drill depth conversion difference was in part due to the volcanic intrusive body being 28 metres thicker than predicted (36m predrill vs. 64m post-drill).

Multiple thin, intra-Latrobe gas zones in currently non-commercial quantities were intersected by the B17 well. The L2 coal was intersected at 2237.2 mTVDSS (14.8m high to prognosis). Immediately below this double coal package, a 16m (TVD) gross sandstone (L-2.2) was intersected containing an 9.3m (TVD) gross gas column (8.3m TVD net). A GWC is interpreted at 2256.3mTVDss (4397.7mMD) from the LWD logs. Another possible gas bearing sand (L-2.5 sand; 6m TVD gross) was intersected at 4503 mMD. The L-2.5 sand has been assessed as containing 4.4 mTVD of net 'possible' gas.

The L-1.0 sand was predicted to be intersected at 2461.5 mTVDSS. It was encountered 8.3 m high to prediction at 2453.2 m TVDSS but was found to be water bearing. Three thin, fining-upwards sandstones below this zone were found be gas bearing (L-1.1: 1.5m net gas on rock, L-1.2a: 1.8m net gas on rock, L-1.2b: 3.8m net 'possible' gas on rock). The L-1.6, L-1.7 and L-1.8 sands were intersected structurally low to the Bream-2 intersections, and were all found to be water bearing. The J coal was intersected 8.6m low to prognosis at 2595.4 mTVDSS. The L-1.9 sand intersected in Bream 2 was absent at B17. The L-1.10 sand was intersected approximately on depth, and at the same level as Bream-2. Although found to be gas bearing (0.6m net gas), the L1.10 reservoir is poorly developed at the B17 location. The L-1.11 and L-1.12 sands were both water bearing, with each zone intersected down-dip of Bream-2 low proved gas. The L-1.13 sand was intersected at 4808.3mMD and encountered a 4.2m gross gas column (3.6m TVD net gas) in a 8m TVD sand with an interpreted GWC at 4912.5mMD (-2663.0 mTVDSS). A thin sand below a coal at 2709.3 mTVDSS is assessed to contain 0.5m TVD net gas pay. The L-1.18, intersected at 2719.7 mTVDss (8.2 m low), appears to be gas saturated at the top, however, the effective porosity is below the net cut-off. A 2m gross gas bearing sand (L-1.19) was the deepest hydrocarbon zone encountered in the B17 well intersected at 2730.9 mTVDSS.

VII. APPENDICIES

BREAM B17

APPENDIX 1a

BREAM B17

Survey Data

BMB B17 Actual Surveys

Report Date:	July 20, 2005	Survey / DLS Computation Method:	Minimum Curvature / Lubinski
Client:	Esso Australia Pty Ltd	Vertical Section Azimuth:	262.950°
Field:	Bream B GDA 94	Vertical Section Origin:	S 8.300 m, E 1.900 m
Structure / Slot:	Bream B / 17	TVD Reference Datum:	RKB
Well:	BMB B-17	TVD Reference Elevation:	47.2 m relative to MSL
Borehole:	BMB B-17	Sea Bed / Ground Level Elevation:	-61.000 m relative to MSL
UWI/API#:		Magnetic Declination:	13.134°
Survey Name / Date:	BMB B17 Actual Surveys / July 3, 2005	Total Field Strength:	60145.425 nT
Tort / AHD / DDI / ERD ratio:	231.538° / 3536.15 m / 6.153 / 1.240	Magnetic Dip:	-69.031°
Grid Coordinate System:	GDA94/MGA94 Zone 55	Declination Date:	July 18, 2005
Location Lat/Long:	S 38 31 5.658, E 147 50 21.466	Magnetic Declination Model:	BGGM 2004
Location Grid N/E Y/X:	N 5736349.080 m, E 573166.970 m	North Reference:	Grid North
Grid Convergence Angle:	-0.52270633°	Total Corr Mag North -> Grid North:	+13.657°
Grid Scale Factor:	0.99966592	Local Coordinates Referenced To:	Structure Reference Point

Row Number	Comments	Measured Depth (m)	Inclination (deg)	Azimuth (deg)	TVD (m)	Vertical Section (m)	NS (m)	EW (m)	Course Length (m)	DLS (deg/30 m)
1	Tie-In	0.00	0.00	0.00	0.00	0.00	-8.30	1.90	0.00	0.00
2	Assume Vertical to CGS	107.50	0.00	0.00	107.50	0.00	-8.30	1.90	107.50	0.00
3		110.00	0.06	15.07	110.00	0.00	-8.30	1.90	2.50	0.72
4		138.50	0.04	98.13	138.50	-0.02	-8.29	1.91	28.50	0.07
5		157.40	0.01	181.52	157.40	-0.02	-8.29	1.92	18.90	0.06
6		176.60	0.04	183.64	176.60	-0.02	-8.30	1.92	19.20	0.05
7		184.83	1.13	182.03	184.83	-0.01	-8.38	1.92	8.23	3.97
8		213.43	3.56	179.37	213.40	0.14	-9.55	1.92	28.60	2.55
9		223.59	3.72	184.92	223.54	0.24	-10.20	1.89	10.16	1.14
10		242.62	4.46	196.22	242.52	0.66	-11.52	1.63	19.03	1.72
11		271.64	8.75	218.77	271.35	2.69	-14.33	-0.07	29.02	5.10
12		300.55	10.26	241.47	299.87	6.66	-17.27	-3.71	28.91	4.16
13		329.43	14.90	265.50	328.07	12.78	-18.80	-9.67	28.88	7.17
14		358.38	18.09	268.20	355.82	20.97	-19.23	-17.88	28.95	3.40
15		376.71	19.26	267.42	373.19	26.82	-19.45	-23.74	18.33	1.96
16		405.38	22.00	267.42	400.02	36.89	-19.91	-33.83	28.67	2.87
17		434.55	26.55	267.16	426.60	48.84	-20.48	-45.81	29.17	4.68
18		463.47	30.39	267.57	452.02	62.59	-21.11	-59.58	28.92	3.99
19		492.68	34.12	269.90	476.72	78.09	-21.44	-75.16	29.21	4.04
20		521.56	37.60	271.58	500.12	94.85	-21.21	-92.07	28.88	3.76
21		550.51	41.70	271.66	522.41	113.10	-20.69	-110.53	28.95	4.25
22		579.54	44.80	271.95	543.55	132.75	-20.06	-130.41	29.03	3.21
23		608.87	48.46	271.91	563.69	153.81	-19.34	-151.72	29.33	3.74
24		638.03	52.67	271.80	582.21	176.06	-18.61	-174.22	29.16	4.33
25		667.20	55.95	271.13	599.22	199.48	-18.01	-197.90	29.17	3.42
26		695.98	60.12	271.59	614.45	223.63	-17.43	-222.31	28.78	4.37
27		725.38	64.35	273.81	628.15	249.26	-16.19	-248.28	29.40	4.76
28		754.29	64.78	274.68	640.56	274.86	-14.26	-274.32	28.91	0.93
29		783.25	65.32	275.18	652.78	300.55	-12.00	-300.48	28.96	0.73
30		818.77	67.01	273.50	667.14	332.40	-9.55	-332.87	35.52	1.93
31		854.11	67.18	274.13	680.89	364.37	-7.38	-365.36	35.34	0.51
32		883.53	67.37	274.24	692.25	390.98	-5.40	-392.42	29.42	0.22
33		912.19	67.47	274.39	703.26	416.93	-3.41	-418.81	28.66	0.18
34		941.56	67.64	274.39	714.47	443.53	-1.33	-445.87	29.37	0.17
35		970.95	67.57	274.58	725.67	470.16	0.79	-472.96	29.39	0.19
36		1000.05	67.26	274.68	736.85	496.47	2.96	-499.74	29.10	0.33
37		1029.41	66.85	275.24	748.29	522.91	5.30	-526.68	29.36	0.67
38		1057.37	66.83	275.77	759.29	548.01	7.77	-552.27	27.96	0.52
39		1087.17	65.53	276.46	771.32	574.55	10.67	-579.37	29.80	1.45
40		1115.97	65.95	276.52	783.16	600.08	13.64	-605.46	28.80	0.44
41		1144.88	66.15	276.01	794.89	625.79	16.52	-631.72	28.91	0.53

42	1173.62	66.62	273.57	806.41	651.56	18.72	-657.96	28.74	2.38
43	1202.81	66.84	271.28	817.94	678.01	19.85	-684.75	29.19	2.17
44	1231.62	66.76	271.15	829.29	704.21	20.41	-711.23	28.81	0.15
45	1260.58	66.85	271.17	840.70	730.56	20.95	-737.84	28.96	0.10
46	1289.26	66.39	271.05	852.08	756.62	21.46	-764.16	28.68	0.49
47	1318.24	66.25	271.26	863.72	782.88	22.00	-790.69	28.98	0.25
48	1347.08	66.51	270.71	875.27	809.05	22.45	-817.11	28.84	0.59
49	1376.15	67.18	270.40	886.70	835.54	22.71	-843.84	29.07	0.75
50	1405.05	67.15	270.07	897.92	861.96	22.82	-870.48	28.90	0.32
51	1434.14	67.43	269.66	909.15	888.60	22.76	-897.31	29.09	0.49
52	1462.93	67.01	268.80	920.30	914.98	22.40	-923.85	28.79	0.93
53	1492.22	67.44	268.83	931.63	941.85	21.84	-950.85	29.29	0.44
54	1521.04	67.82	268.79	942.60	968.36	21.29	-977.50	28.82	0.40
55	1549.99	67.58	268.90	953.59	995.00	20.75	-1004.28	28.95	0.27
56	1579.01	68.11	269.05	964.53	1021.73	20.27	-1031.15	29.02	0.57
57	1608.07	68.31	269.31	975.32	1048.56	19.88	-1058.13	29.06	0.32
58	1636.95	68.63	269.58	985.92	1075.25	19.62	-1084.99	28.88	0.42
59	1666.13	68.90	270.38	996.49	1102.24	19.61	-1112.19	29.18	0.82
60	1695.25	68.90	271.14	1006.97	1129.16	19.97	-1139.36	29.12	0.73
61	1724.30	69.09	271.81	1017.38	1155.98	20.67	-1166.47	29.05	0.68
62	1753.32	69.21	272.75	1027.71	1182.74	21.75	-1193.57	29.02	0.92
63	1782.47	69.09	272.97	1038.09	1209.57	23.11	-1220.77	29.15	0.25
64	1811.46	69.33	273.59	1048.38	1236.24	24.66	-1247.83	28.99	0.65
65	1840.15	69.21	274.40	1058.53	1262.57	26.53	-1274.60	28.69	0.80
66	1869.23	69.00	274.33	1068.90	1289.20	28.60	-1301.69	29.08	0.23
67	1897.95	68.96	274.92	1079.21	1315.46	30.76	-1328.41	28.72	0.58
68	1926.96	68.73	275.07	1089.68	1341.92	33.11	-1355.36	29.01	0.28
69	1956.12	68.62	275.18	1100.28	1368.47	35.54	-1382.42	29.16	0.15
70	1985.11	68.49	275.64	1110.88	1394.82	38.08	-1409.28	28.99	0.46
71	2013.72	68.42	275.77	1121.39	1420.77	40.73	-1435.76	28.61	0.15
72	2043.27	68.42	276.11	1132.25	1447.55	43.57	-1463.09	29.55	0.32
73	2072.90	68.54	276.03	1143.12	1474.39	46.49	-1490.50	29.63	0.14
74	2101.21	68.59	276.22	1153.47	1500.05	49.30	-1516.70	28.31	0.19
75	2130.32	68.73	276.28	1164.06	1526.44	52.25	-1543.65	29.11	0.16
76	2159.55	68.71	275.76	1174.67	1552.97	55.11	-1570.74	29.23	0.50
77	2187.89	68.23	275.09	1185.07	1578.71	57.60	-1596.98	28.34	0.83
78	2217.05	67.62	273.94	1196.03	1605.18	59.73	-1623.92	29.16	1.26
79	2246.05	67.18	272.93	1207.17	1631.51	61.33	-1650.65	29.00	1.07
80	2275.35	67.02	272.33	1218.58	1658.11	62.57	-1677.61	29.30	0.59
81	2303.96	66.99	272.08	1229.75	1684.11	63.58	-1703.92	28.61	0.24
82	2333.53	66.77	271.98	1241.36	1710.96	64.55	-1731.10	29.57	0.24
83	2362.66	66.57	271.60	1252.90	1737.39	65.38	-1757.84	29.13	0.41
84	2391.16	66.42	271.10	1264.27	1763.24	66.00	-1783.97	28.50	0.51
85	2420.52	66.29	270.97	1276.04	1789.87	66.48	-1810.86	29.36	0.18
86	2449.48	66.28	270.92	1287.69	1816.13	66.92	-1837.37	28.96	0.05
87	2478.43	65.90	271.06	1299.42	1842.33	67.38	-1863.83	28.95	0.42
88	2507.38	65.86	271.31	1311.25	1868.48	67.92	-1890.25	28.95	0.24
89	2536.36	65.70	271.62	1323.14	1894.62	68.60	-1916.67	28.98	0.34
90	2565.38	65.56	271.63	1335.12	1920.75	69.35	-1943.09	29.02	0.15
91	2594.40	65.45	271.70	1347.15	1946.86	70.12	-1969.49	29.02	0.13
92	2623.43	65.17	271.70	1359.27	1972.93	70.90	-1995.85	29.03	0.29
93	2652.00	64.93	271.51	1371.33	1998.54	71.63	-2021.75	28.57	0.31
94	2681.57	64.64	272.01	1383.92	2024.97	72.45	-2048.48	29.57	0.55
95	2710.44	64.64	271.97	1396.29	2050.74	73.35	-2074.56	28.87	0.04
96	2739.43	65.30	272.03	1408.55	2076.68	74.27	-2100.81	28.99	0.69
97	2768.43	65.78	271.99	1420.56	2102.74	75.20	-2127.19	29.00	0.50
98	2797.42	66.38	272.44	1432.32	2128.90	76.22	-2153.67	28.99	0.75
99	2826.48	66.53	272.48	1443.92	2155.17	77.36	-2180.29	29.06	0.16
100	2855.34	66.71	272.69	1455.38	2181.29	78.56	-2206.75	28.86	0.27
101	2884.25	67.03	272.95	1466.73	2207.48	79.87	-2233.30	28.91	0.41
102	2913.38	67.05	273.01	1478.10	2233.89	81.26	-2260.09	29.13	0.06
103	2942.34	67.73	273.21	1489.23	2260.21	82.71	-2286.78	28.96	0.73
104	2971.33	68.13	273.23	1500.12	2286.64	84.22	-2313.61	28.99	0.41

105	3000.41	68.89	273.44	1510.78	2313.26	85.79	-2340.62	29.08	0.81
106	3029.44	69.28	273.36	1521.14	2339.93	87.40	-2367.69	29.03	0.41
107	3058.81	69.90	273.38	1531.38	2367.00	89.02	-2395.17	29.37	0.63
108	3088.07	69.80	273.29	1541.46	2394.02	90.62	-2422.59	29.26	0.13
109	3116.50	69.65	273.74	1551.31	2420.23	92.25	-2449.21	28.43	0.47
110	3145.03	69.35	274.06	1561.30	2446.47	94.07	-2475.87	28.53	0.45
111	3174.90	69.05	274.28	1571.91	2473.86	96.10	-2503.72	29.87	0.37
112	3203.62	69.10	274.16	1582.17	2500.17	98.08	-2530.47	28.72	0.13
113	3231.95	69.12	273.82	1592.27	2526.15	99.92	-2556.87	28.33	0.34
114	3261.85	69.20	274.34	1602.91	2553.57	101.91	-2584.75	29.90	0.49
115	3290.76	69.38	274.16	1613.13	2580.08	103.91	-2611.72	28.91	0.26
116	3320.19	68.08	272.09	1623.81	2607.07	105.41	-2639.10	29.43	2.37
117	3348.99	66.80	269.60	1634.86	2633.41	105.80	-2665.69	28.80	2.74
118	3378.00	65.47	267.82	1646.60	2659.81	105.21	-2692.21	29.01	2.17
119	3406.72	64.01	265.64	1658.85	2685.72	103.73	-2718.14	28.72	2.56
120	3436.65	62.50	263.31	1672.32	2712.44	101.16	-2744.74	29.93	2.58
121	3465.56	61.00	260.46	1686.01	2737.90	97.57	-2769.95	28.91	3.03
122	3493.87	59.97	257.54	1699.96	2762.47	92.87	-2794.13	28.31	2.91
123	3522.76	58.80	254.12	1714.67	2787.13	86.79	-2818.23	28.89	3.29
124	3551.72	57.78	250.60	1729.90	2811.35	79.33	-2841.70	28.96	3.28
125	3580.80	56.75	246.98	1745.63	2835.06	70.49	-2864.50	29.08	3.32
126	3609.60	55.55	243.69	1761.67	2857.85	60.51	-2886.23	28.80	3.11
127	3638.76	54.93	240.03	1778.30	2880.20	49.22	-2907.35	29.16	3.16
128	3667.68	54.16	235.71	1795.08	2901.53	36.70	-2927.30	28.92	3.74
129	3696.68	53.30	231.28	1812.24	2921.88	22.80	-2946.09	29.00	3.80
130	3725.76	53.25	227.13	1829.64	2941.25	7.58	-2963.72	29.08	3.43
131	3754.65	53.96	223.06	1846.78	2959.61	-8.83	-2980.19	28.89	3.48
132	3783.54	54.77	220.16	1863.62	2977.23	-26.39	-2995.77	28.89	2.59
133	3812.61	56.01	216.05	1880.13	2994.18	-45.21	-3010.53	29.07	3.72
134	3841.38	57.08	212.30	1896.00	3009.99	-65.07	-3024.00	28.77	3.45
135	3870.13	58.41	211.89	1911.34	3025.34	-85.66	-3036.92	28.75	1.43
136	3899.29	57.91	210.71	1926.72	3040.71	-106.83	-3049.79	29.16	1.15
137	3928.90	57.02	210.67	1942.65	3055.99	-128.30	-3062.53	29.61	0.90
138	4015.78	53.81	210.04	1991.96	3099.44	-190.01	-3098.68	86.88	1.12
139	4044.33	51.58	209.51	2009.26	3113.05	-209.72	-3109.96	28.55	2.38
140	4073.26	50.24	207.64	2027.50	3126.13	-229.43	-3120.70	28.93	2.05
141	4102.29	46.16	206.56	2046.85	3138.28	-248.69	-3130.56	29.03	4.30
142	4131.17	40.46	206.33	2067.85	3149.21	-266.42	-3139.38	28.88	5.92
143	4159.95	38.23	206.44	2090.11	3159.26	-282.76	-3147.49	28.78	2.33
144	4188.95	34.73	205.10	2113.42	3168.61	-298.28	-3154.99	29.00	3.71
145	4217.63	33.53	204.72	2137.16	3177.13	-312.88	-3161.77	28.68	1.27
146	4246.94	29.53	204.89	2162.14	3185.22	-326.79	-3168.20	29.31	4.10
147	4275.84	25.05	205.43	2187.82	3192.28	-338.78	-3173.83	28.90	4.66
148	4304.81	21.47	206.80	2214.43	3198.53	-349.05	-3178.85	28.97	3.75
149	4333.81	16.56	208.03	2241.84	3203.86	-357.44	-3183.19	29.00	5.10
150	4362.92	15.37	209.00	2269.83	3208.51	-364.48	-3187.01	29.11	1.26
151	4391.85	14.29	210.79	2297.79	3212.96	-370.90	-3190.70	28.93	1.22
152	4420.81	13.66	214.12	2325.90	3217.41	-376.80	-3194.44	28.96	1.06
153	4450.08	13.49	215.04	2354.35	3221.97	-382.46	-3198.34	29.27	0.28
154	4478.92	13.79	215.54	2382.37	3226.55	-388.01	-3202.27	28.84	0.34
155	4507.60	13.77	217.99	2410.23	3231.28	-393.48	-3206.36	28.68	0.61
156	4536.72	13.73	218.40	2438.51	3236.19	-398.92	-3210.64	29.12	0.11
157	4565.54	13.24	221.77	2466.54	3241.11	-404.06	-3214.96	28.82	0.96
158	4594.41	12.52	224.81	2494.68	3246.06	-408.75	-3219.37	28.87	1.03
159	4623.34	11.59	227.49	2522.98	3250.90	-412.94	-3223.72	28.93	1.13
160	4652.25	10.43	224.62	2551.35	3255.32	-416.76	-3227.70	28.91	1.33
161	4681.21	9.15	221.43	2579.89	3259.10	-420.35	-3231.07	28.96	1.44
162	4710.37	8.01	218.08	2608.72	3262.27	-423.69	-3233.85	29.16	1.28
163	4739.18	7.04	216.13	2637.29	3264.90	-426.70	-3236.13	28.81	1.04
164	4768.38	6.52	215.63	2666.28	3267.25	-429.49	-3238.15	29.20	0.54
165	4797.13	5.98	217.69	2694.86	3269.41	-432.00	-3240.02	28.75	0.61
166	4826.21	5.62	212.03	2723.79	3271.38	-434.41	-3241.70	29.08	0.70

167		4855.07	5.36	211.06	2752.52	3273.10	-436.76	-3243.15	28.86	0.29
168		4883.83	5.16	209.56	2781.16	3274.70	-439.04	-3244.48	28.76	0.25
169		4913.00	5.07	210.11	2810.21	3276.26	-441.29	-3245.77	29.17	0.11
170		4934.41	4.85	211.39	2831.54	3277.39	-442.88	-3246.72	21.41	0.35
171	Proj. to Hole Depth	4955.00	4.80	211.50	2852.06	3278.47	-444.36	-3247.62	20.59	0.07

Survey Type: Raw Survey

Survey Error Model: **SLB ISCWSA version 21 *** 3-D 95.00% Confidence 2.7955 sigma**

Surveying Prog:

MD From (m)	MD To (m)	EOU Freq	Survey Tool Type
0.00	0.00	Act-Stns	SLB_UNKNOWN (default tool used)
0.00	176.60	Act-Stns	SLB_NSG+MSHOT
176.60	358.38	Act-Stns	SLB_GYRO-MWD
358.38	4955.00	Act-Stns	SLB_MWD-STD

APPENDIX 1b

BREAM B17

MD-TVD Survey Data Listing

Report Date:	12 October 2005
Well:	Bream B17
Structure / Slot:	ENSCO 102
TVD Reference Datum:	Drillsite Elevation
TVD Reference Elevation:	47.24 m relative to MSL
Sea Bed / Ground Level Elevation:	61.00 m relative to MSL
Grid Coordinate System:	GDA94/MGA94 Zone 55
Location Lat/Long:	S -38 31' 5.642400", 147 50' 21.462000E "
Location Grid N/E:	N 5736349.5500 m, E 573166.8787 m
Survey Azimuth Reference:	Grid North

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
0	0	360	0	47.17	0	0	5736349.54	573166.84
5	0	0	5	42.17	0	0	5736349.54	573166.84
10	0	0	10	37.17	0	0	5736349.54	573166.84
15	0	0	15	32.17	0	0	5736349.54	573166.84
20	0	0	20	27.17	0	0	5736349.54	573166.84
25	0	0	25	22.17	0	0	5736349.54	573166.84
30	0	0	30	17.17	0	0	5736349.54	573166.84
35	0	0	35	12.17	0	0	5736349.54	573166.84
40	0	0	40	7.17	0	0	5736349.54	573166.84
45	0	0	45	2.17	0	0	5736349.54	573166.84
50	0	0	50	-2.83	0	0	5736349.54	573166.84
55	0	0	55	-7.83	0	0	5736349.54	573166.84
60	0	0	60	-12.83	0	0	5736349.54	573166.84
65	0	0	65	-17.83	0	0	5736349.54	573166.84
70	0	0	70	-22.83	0	0	5736349.54	573166.84
75	0	0	75	-27.83	0	0	5736349.54	573166.84
80	0	0	80	-32.83	0	0	5736349.54	573166.84
85	0	0	85	-37.83	0	0	5736349.54	573166.84
90	0	0	90	-42.83	0	0	5736349.54	573166.84
95	0	0	95	-47.83	0	0	5736349.54	573166.84
100	0	0	100	-52.83	0	0	5736349.54	573166.84
105	0	0	105	-57.83	0	0	5736349.54	573166.84
110	0.06	15.07	110	-62.83	0	0	5736349.54	573166.84
115	0.06	29.64	115	-67.83	0	0	5736349.55	573166.84
120	0.05	44.21	120	-72.83	0.01	0	5736349.55	573166.85
125	0.05	58.79	125	-77.83	0.01	0.01	5736349.55	573166.85
130	0.05	73.36	130	-82.83	0.01	0.01	5736349.55	573166.85
135	0.04	87.93	135	-87.83	0.01	0.01	5736349.55	573166.85
140	0.04	104.75	140	-92.83	0.01	0.01	5736349.56	573166.86
145	0.03	126.81	145	-97.83	0.01	0.02	5736349.56	573166.86
150	0.02	148.87	150	-102.83	0.01	0.02	5736349.56	573166.86
155	0.01	170.93	155	-107.83	0.01	0.02	5736349.55	573166.86
160	0.01	181.81	160	-112.83	0.01	0.02	5736349.55	573166.86
165	0.02	182.36	165	-117.83	0.01	0.02	5736349.55	573166.86
170	0.03	182.91	170	-122.83	0.01	0.02	5736349.55	573166.86
175	0.04	183.46	175	-127.83	0	0.02	5736349.55	573166.86
180	0.49	182.97	180	-132.83	-0.03	0.02	5736349.51	573166.86
185	1.14	182.01	185	-137.83	-0.09	0.02	5736349.46	573166.86
190	1.57	181.55	189.99	-142.82	-0.29	0.02	5736349.25	573166.86
195	1.99	181.08	194.99	-147.82	-0.5	0.02	5736349.05	573166.86
200	2.42	180.62	199.99	-152.82	-0.7	0.02	5736348.84	573166.86
205	2.84	180.15	204.98	-157.81	-0.91	0.02	5736348.64	573166.86
210	3.27	179.69	209.98	-162.81	-1.11	0.02	5736348.43	573166.86
215	3.58	180.23	214.97	-167.8	-1.35	0.01	5736348.19	573166.85
220	3.66	182.96	219.96	-172.79	-1.67	0	5736347.88	573166.84
225	3.77	185.76	224.95	-177.78	-1.99	-0.03	5736347.55	573166.81

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
230	3.97	188.73	229.94	-182.77	-2.34	-0.1	5736347.2	573166.75
235	4.16	191.7	234.92	-187.75	-2.69	-0.16	5736346.85	573166.68
240	4.36	194.66	239.91	-192.74	-3.04	-0.23	5736346.51	573166.61
245	4.81	198.07	244.89	-197.72	-3.45	-0.41	5736346.09	573166.44
250	5.55	201.95	249.86	-202.69	-3.93	-0.7	5736345.61	573166.14
255	6.29	205.84	254.82	-207.65	-4.42	-0.99	5736345.13	573165.85
260	7.03	209.73	259.79	-212.62	-4.9	-1.28	5736344.64	573165.56
265	7.77	213.61	264.75	-217.58	-5.38	-1.58	5736344.16	573165.26
270	8.51	217.5	269.72	-222.55	-5.87	-1.87	5736343.67	573164.97
275	8.93	221.41	274.66	-227.49	-6.37	-2.39	5736343.17	573164.45
280	9.19	225.33	279.6	-232.43	-6.88	-3.02	5736342.66	573163.82
285	9.45	229.26	284.53	-237.36	-7.39	-3.65	5736342.16	573163.19
290	9.71	233.19	289.46	-242.29	-7.9	-4.28	5736341.65	573162.56
295	9.97	237.11	294.4	-247.23	-8.41	-4.91	5736341.14	573161.93
300	10.23	241.04	299.33	-252.16	-8.92	-5.54	5736340.63	573161.31
305	10.97	245.17	304.22	-257.05	-9.21	-6.53	5736340.34	573160.32
310	11.78	249.33	309.1	-261.93	-9.47	-7.56	5736340.07	573159.28
315	12.58	253.49	313.98	-266.81	-9.73	-8.59	5736339.81	573158.25
320	13.38	257.65	318.86	-271.69	-10	-9.63	5736339.55	573157.22
325	14.19	261.81	323.74	-276.57	-10.26	-10.66	5736339.28	573156.18
330	14.96	265.55	328.62	-281.45	-10.5	-11.74	5736339.04	573155.11
335	15.51	266.02	333.41	-286.24	-10.58	-13.15	5736338.97	573153.69
340	16.06	266.49	338.2	-291.03	-10.65	-14.57	5736338.89	573152.27
345	16.62	266.95	343	-295.83	-10.73	-15.99	5736338.82	573150.85
350	17.17	267.42	347.79	-300.62	-10.8	-17.41	5736338.74	573149.44
355	17.72	267.88	352.58	-305.41	-10.88	-18.82	5736338.67	573148.02
360	18.19	268.13	357.36	-310.19	-10.95	-20.3	5736338.6	573146.54
365	18.51	267.92	362.1	-314.93	-11.01	-21.9	5736338.54	573144.94
370	18.83	267.71	366.83	-319.66	-11.07	-23.5	5736338.47	573143.34
375	19.15	267.49	371.57	-324.4	-11.13	-25.1	5736338.41	573141.74
380	19.57	267.42	376.27	-329.1	-11.2	-26.8	5736338.34	573140.04
385	20.05	267.42	380.95	-333.78	-11.28	-28.56	5736338.26	573138.28
390	20.53	267.42	385.63	-338.46	-11.36	-30.32	5736338.18	573136.52
395	21.01	267.42	390.31	-343.14	-11.44	-32.08	5736338.1	573134.76
400	21.49	267.42	394.98	-347.81	-11.52	-33.84	5736338.02	573133
405	21.96	267.42	399.66	-352.49	-11.6	-35.6	5736337.94	573131.24
410	22.72	267.38	404.23	-357.06	-11.7	-37.63	5736337.85	573129.21
415	23.5	267.33	408.79	-361.62	-11.79	-39.68	5736337.75	573127.16
420	24.28	267.29	413.34	-366.17	-11.89	-41.74	5736337.65	573125.1
425	25.06	267.25	417.9	-370.73	-11.99	-43.79	5736337.55	573123.05
430	25.84	267.2	422.46	-375.29	-12.09	-45.84	5736337.46	573121
435	26.61	267.17	427	-379.83	-12.19	-47.93	5736337.36	573118.92
440	27.27	267.24	431.39	-384.22	-12.29	-50.31	5736337.25	573116.54
445	27.94	267.31	435.79	-388.62	-12.4	-52.69	5736337.14	573114.16
450	28.6	267.38	440.18	-393.01	-12.51	-55.07	5736337.03	573111.78
455	29.27	267.45	444.58	-397.41	-12.62	-57.45	5736336.92	573109.4
460	29.93	267.52	448.97	-401.8	-12.73	-59.83	5736336.81	573107.01
465	30.59	267.69	453.31	-406.14	-12.82	-62.3	5736336.72	573104.55
470	31.22	268.09	457.54	-410.37	-12.88	-64.96	5736336.66	573101.88
475	31.86	268.49	461.77	-414.6	-12.94	-67.63	5736336.61	573099.21
480	32.5	268.89	466	-418.83	-12.99	-70.3	5736336.55	573096.55
485	33.14	269.29	470.23	-423.06	-13.05	-72.96	5736336.49	573093.88
490	33.78	269.69	474.45	-427.28	-13.1	-75.63	5736336.44	573091.21
495	34.4	270.03	478.6	-431.43	-13.12	-78.42	5736336.43	573088.42
500	35	270.33	482.65	-435.48	-13.08	-81.35	5736336.47	573085.5
505	35.6	270.62	486.7	-439.53	-13.04	-84.27	5736336.51	573082.57
510	36.21	270.91	490.75	-443.58	-13	-87.2	5736336.55	573079.64
515	36.81	271.2	494.81	-447.64	-12.96	-90.13	5736336.59	573076.71

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
520	37.41	271.49	498.86	-451.69	-12.92	-93.06	5736336.62	573073.78
525	38.09	271.59	502.77	-455.6	-12.84	-96.17	5736336.7	573070.68
530	38.8	271.6	506.62	-459.45	-12.75	-99.35	5736336.79	573067.49
535	39.5	271.62	510.47	-463.3	-12.66	-102.54	5736336.88	573064.3
540	40.21	271.63	514.32	-467.15	-12.57	-105.73	5736336.97	573061.11
545	40.92	271.64	518.17	-471	-12.48	-108.92	5736337.06	573057.92
550	41.63	271.66	522.02	-474.85	-12.39	-112.11	5736337.15	573054.73
555	42.18	271.7	525.68	-478.51	-12.29	-115.51	5736337.26	573051.33
560	42.71	271.75	529.32	-482.15	-12.18	-118.93	5736337.37	573047.91
565	43.25	271.8	532.96	-485.79	-12.07	-122.36	5736337.47	573044.49
570	43.78	271.85	536.6	-489.43	-11.96	-125.78	5736337.58	573041.06
575	44.32	271.9	540.24	-493.07	-11.85	-129.2	5736337.69	573037.64
580	44.86	271.95	543.87	-496.7	-11.74	-132.65	5736337.8	573034.2
585	45.48	271.94	547.3	-500.13	-11.62	-136.28	5736337.92	573030.56
590	46.11	271.94	550.73	-503.56	-11.5	-139.91	5736338.04	573026.93
595	46.73	271.93	554.16	-506.99	-11.38	-143.54	5736338.17	573023.3
600	47.35	271.92	557.6	-510.43	-11.25	-147.17	5736338.29	573019.67
605	47.98	271.92	561.03	-513.86	-11.13	-150.81	5736338.41	573016.04
610	48.62	271.91	564.4	-517.23	-11.01	-154.49	5736338.53	573012.35
615	49.35	271.89	567.58	-520.41	-10.88	-158.35	5736338.66	573008.49
620	50.07	271.87	570.76	-523.59	-10.76	-162.21	5736338.78	573004.63
625	50.79	271.85	573.93	-526.76	-10.63	-166.07	5736338.91	573000.78
630	51.51	271.83	577.11	-529.94	-10.51	-169.93	5736339.03	572996.92
635	52.23	271.81	580.28	-533.11	-10.38	-173.78	5736339.16	572993.06
640	52.89	271.75	583.36	-536.19	-10.27	-177.72	5736339.27	572989.12
645	53.45	271.64	586.27	-539.1	-10.16	-181.78	5736339.38	572985.06
650	54.02	271.53	589.19	-542.02	-10.06	-185.84	5736339.48	572981
655	54.58	271.41	592.1	-544.93	-9.96	-189.9	5736339.58	572976.94
660	55.14	271.3	595.02	-547.85	-9.85	-193.96	5736339.69	572972.88
665	55.7	271.18	597.94	-550.77	-9.75	-198.02	5736339.79	572968.83
670	56.36	271.17	600.7	-553.53	-9.65	-202.18	5736339.89	572964.66
675	57.08	271.25	603.35	-556.18	-9.55	-206.42	5736339.99	572960.43
680	57.8	271.33	606	-558.83	-9.45	-210.66	5736340.1	572956.19
685	58.53	271.41	608.64	-561.47	-9.35	-214.9	5736340.2	572951.95
690	59.25	271.49	611.29	-564.12	-9.24	-219.14	5736340.3	572947.71
695	59.98	271.57	613.94	-566.77	-9.14	-223.38	5736340.4	572943.47
700	60.7	271.89	616.33	-569.16	-8.96	-227.76	5736340.59	572939.08
705	61.42	272.27	618.66	-571.49	-8.75	-232.18	5736340.8	572934.67
710	62.14	272.65	620.98	-573.81	-8.54	-236.59	5736341.01	572930.25
715	62.86	273.03	623.31	-576.14	-8.33	-241.01	5736341.22	572925.83
720	63.58	273.4	625.64	-578.47	-8.12	-245.43	5736341.43	572921.41
725	64.3	273.78	627.97	-580.8	-7.9	-249.85	5736341.64	572916.99
730	64.42	273.95	630.13	-582.96	-7.58	-254.35	5736341.96	572912.5
735	64.49	274.1	632.28	-585.11	-7.25	-258.85	5736342.3	572907.99
740	64.57	274.25	634.43	-587.26	-6.91	-263.35	5736342.63	572903.49
745	64.64	274.4	636.57	-589.4	-6.58	-267.85	5736342.97	572898.99
750	64.72	274.55	638.72	-591.55	-6.24	-272.36	5736343.3	572894.49
755	64.79	274.69	640.86	-593.69	-5.9	-276.86	5736343.64	572889.98
760	64.89	274.78	642.97	-595.8	-5.51	-281.38	5736344.03	572885.46
765	64.98	274.86	645.08	-597.91	-5.12	-285.89	5736344.42	572880.95
770	65.07	274.95	647.19	-600.02	-4.73	-290.41	5736344.81	572876.43
775	65.17	275.04	649.3	-602.13	-4.34	-294.93	5736345.2	572871.91
780	65.26	275.12	651.41	-604.24	-3.95	-299.44	5736345.59	572867.4
785	65.4	275.1	653.49	-606.32	-3.58	-303.98	5736345.96	572862.87
790	65.64	274.86	655.51	-608.34	-3.23	-308.54	5736346.31	572858.31
795	65.88	274.62	657.53	-610.36	-2.89	-313.1	5736346.66	572853.75
800	66.12	274.39	659.55	-612.38	-2.54	-317.66	5736347	572849.19
805	66.35	274.15	661.57	-614.4	-2.2	-322.22	5736347.35	572844.63

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
810	66.59	273.91	663.59	-616.42	-1.85	-326.78	5736347.69	572840.07
815	66.83	273.68	665.61	-618.44	-1.5	-331.34	5736348.04	572835.51
820	67.02	273.52	667.61	-620.44	-1.17	-335.9	5736348.37	572830.94
825	67.04	273.61	669.56	-622.39	-0.86	-340.5	5736348.68	572826.34
830	67.06	273.7	671.51	-624.34	-0.56	-345.1	5736348.99	572821.75
835	67.09	273.79	673.45	-626.28	-0.25	-349.69	5736349.29	572817.15
840	67.11	273.88	675.4	-628.23	0.06	-354.29	5736349.6	572812.55
845	67.14	273.97	677.34	-630.17	0.36	-358.88	5736349.91	572807.96
850	67.16	274.06	679.29	-632.12	0.67	-363.48	5736350.21	572803.36
855	67.19	274.13	681.23	-634.06	0.98	-368.07	5736350.52	572798.77
860	67.22	274.15	683.17	-636	1.32	-372.67	5736350.86	572794.17
865	67.25	274.17	685.1	-637.93	1.65	-377.27	5736351.2	572789.57
870	67.28	274.19	687.03	-639.86	1.99	-381.87	5736351.53	572784.97
875	67.31	274.21	688.96	-641.79	2.33	-386.47	5736351.87	572780.37
880	67.35	274.23	690.89	-643.72	2.66	-391.07	5736352.21	572775.77
885	67.38	274.25	692.82	-645.65	3	-395.67	5736352.55	572771.17
890	67.39	274.27	694.74	-647.57	3.35	-400.28	5736352.89	572766.56
895	67.41	274.3	696.66	-649.49	3.7	-404.88	5736353.24	572761.96
900	67.43	274.33	698.58	-651.41	4.05	-409.48	5736353.59	572757.36
905	67.44	274.35	700.5	-653.33	4.39	-414.09	5736353.94	572752.75
910	67.46	274.38	702.42	-655.25	4.74	-418.69	5736354.28	572748.15
915	67.49	274.39	704.33	-657.16	5.09	-423.3	5736354.63	572743.54
920	67.52	274.39	706.24	-659.07	5.45	-427.9	5736354.99	572738.94
925	67.54	274.39	708.15	-660.98	5.8	-432.51	5736355.34	572734.33
930	67.57	274.39	710.06	-662.89	6.15	-437.12	5736355.7	572729.72
935	67.6	274.39	711.97	-664.8	6.51	-441.73	5736356.05	572725.11
940	67.63	274.39	713.88	-666.71	6.86	-446.34	5736356.4	572720.51
945	67.63	274.41	715.78	-668.61	7.22	-450.94	5736356.76	572715.9
950	67.62	274.44	717.69	-670.52	7.58	-455.55	5736357.12	572711.29
955	67.61	274.48	719.59	-672.42	7.94	-460.16	5736357.49	572706.68
960	67.6	274.51	721.5	-674.33	8.3	-464.77	5736357.85	572702.07
965	67.58	274.54	723.4	-676.23	8.67	-469.38	5736358.21	572697.46
970	67.57	274.57	725.31	-678.14	9.03	-473.99	5736358.57	572692.85
975	67.53	274.59	727.23	-680.06	9.4	-478.59	5736358.94	572688.25
980	67.47	274.61	729.15	-681.98	9.77	-483.19	5736359.31	572683.65
985	67.42	274.63	731.07	-683.9	10.14	-487.79	5736359.69	572679.05
990	67.37	274.65	732.99	-685.82	10.52	-492.39	5736360.06	572674.45
995	67.31	274.66	734.91	-687.74	10.89	-497	5736360.43	572669.85
1000	67.26	274.68	736.83	-689.66	11.26	-501.6	5736360.8	572665.24
1005	67.19	274.77	738.78	-691.61	11.66	-506.19	5736361.2	572660.66
1010	67.12	274.87	740.73	-693.56	12.06	-510.77	5736361.6	572656.07
1015	67.05	274.97	742.67	-695.5	12.45	-515.36	5736362	572651.48
1020	66.98	275.06	744.62	-697.45	12.85	-519.95	5736362.4	572646.9
1025	66.91	275.16	746.57	-699.4	13.25	-524.53	5736362.79	572642.31
1030	66.85	275.25	748.52	-701.35	13.65	-529.12	5736363.2	572637.72
1035	66.85	275.35	750.49	-703.32	14.09	-533.69	5736363.64	572633.15
1040	66.84	275.44	752.46	-705.29	14.54	-538.27	5736364.08	572628.57
1045	66.84	275.54	754.42	-707.25	14.98	-542.85	5736364.52	572624
1050	66.84	275.63	756.39	-709.22	15.42	-547.42	5736364.96	572619.42
1055	66.83	275.73	758.36	-711.19	15.86	-552	5736365.4	572614.84
1060	66.72	275.83	760.35	-713.18	16.32	-556.56	5736365.87	572610.28
1065	66.5	275.95	762.37	-715.2	16.81	-561.11	5736366.35	572605.73
1070	66.28	276.06	764.39	-717.22	17.3	-565.66	5736366.84	572601.19
1075	66.06	276.18	766.41	-719.24	17.79	-570.2	5736367.33	572596.64
1080	65.84	276.29	768.43	-721.26	18.27	-574.75	5736367.82	572592.09
1085	65.62	276.41	770.45	-723.28	18.76	-579.3	5736368.3	572587.54
1090	65.57	276.47	772.49	-725.32	19.26	-583.84	5736368.81	572583.01
1095	65.64	276.48	774.54	-727.37	19.78	-588.37	5736369.32	572578.48

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
1100	65.72	276.49	776.6	-729.43	20.29	-592.89	5736369.84	572573.95
1105	65.79	276.5	778.65	-731.48	20.81	-597.42	5736370.35	572569.42
1110	65.86	276.51	780.7	-733.53	21.32	-601.95	5736370.87	572564.89
1115	65.94	276.52	782.76	-735.59	21.84	-606.48	5736371.38	572560.36
1120	65.98	276.45	784.79	-737.62	22.34	-611.02	5736371.88	572555.82
1125	66.01	276.36	786.82	-739.65	22.84	-615.56	5736372.38	572551.28
1130	66.05	276.27	788.85	-741.68	23.34	-620.11	5736372.88	572546.74
1135	66.08	276.18	790.88	-743.71	23.84	-624.65	5736373.38	572542.19
1140	66.12	276.1	792.91	-745.74	24.34	-629.19	5736373.88	572537.65
1145	66.15	276	794.94	-747.77	24.83	-633.73	5736374.37	572533.11
1150	66.23	275.58	796.94	-749.77	25.21	-638.3	5736374.76	572528.54
1155	66.32	275.15	798.95	-751.78	25.6	-642.86	5736375.14	572523.98
1160	66.4	274.73	800.95	-753.78	25.98	-647.43	5736375.52	572519.41
1165	66.48	274.3	802.95	-755.78	26.36	-651.99	5736375.9	572514.85
1170	66.56	273.88	804.96	-757.79	26.74	-656.56	5736376.29	572510.28
1175	66.63	273.46	806.95	-759.78	27.07	-661.13	5736376.62	572505.71
1180	66.67	273.07	808.93	-761.76	27.27	-665.72	5736376.81	572501.12
1185	66.71	272.68	810.9	-763.73	27.46	-670.31	5736377	572496.53
1190	66.74	272.28	812.88	-765.71	27.66	-674.9	5736377.2	572491.95
1195	66.78	271.89	814.85	-767.68	27.85	-679.48	5736377.39	572487.36
1200	66.82	271.5	816.83	-769.66	28.04	-684.07	5736377.59	572482.77
1205	66.83	271.27	818.8	-771.63	28.2	-688.67	5736377.74	572478.18
1210	66.82	271.25	820.77	-773.6	28.29	-693.26	5736377.84	572473.58
1215	66.81	271.22	822.74	-775.57	28.39	-697.85	5736377.93	572468.99
1220	66.79	271.2	824.71	-777.54	28.49	-702.45	5736378.03	572464.39
1225	66.78	271.18	826.68	-779.51	28.59	-707.04	5736378.13	572459.8
1230	66.76	271.16	828.65	-781.48	28.68	-711.64	5736378.23	572455.2
1235	66.77	271.15	830.62	-783.45	28.78	-716.23	5736378.32	572450.61
1240	66.79	271.16	832.59	-785.42	28.87	-720.83	5736378.41	572446.01
1245	66.8	271.16	834.56	-787.39	28.96	-725.42	5736378.51	572441.42
1250	66.82	271.16	836.53	-789.36	29.06	-730.02	5736378.6	572436.82
1255	66.83	271.17	838.5	-791.33	29.15	-734.61	5736378.69	572432.23
1260	66.85	271.17	840.47	-793.3	29.24	-739.21	5736378.79	572427.64
1265	66.78	271.15	842.45	-795.28	29.33	-743.8	5736378.88	572423.05
1270	66.7	271.13	844.43	-797.26	29.42	-748.38	5736378.96	572418.46
1275	66.62	271.11	846.42	-799.25	29.51	-752.97	5736379.05	572413.87
1280	66.54	271.09	848.4	-801.23	29.6	-757.56	5736379.14	572409.28
1285	66.46	271.07	850.39	-803.22	29.69	-762.15	5736379.23	572404.69
1290	66.39	271.06	852.37	-805.2	29.78	-766.74	5736379.32	572400.1
1295	66.36	271.09	854.38	-807.21	29.87	-771.32	5736379.41	572395.53
1300	66.34	271.13	856.39	-809.22	29.96	-775.89	5736379.51	572390.95
1305	66.31	271.16	858.4	-811.23	30.05	-780.47	5736379.6	572386.37
1310	66.29	271.2	860.41	-813.24	30.15	-785.05	5736379.69	572381.79
1315	66.27	271.24	862.41	-815.24	30.24	-789.63	5736379.78	572377.21
1320	66.27	271.23	864.42	-817.25	30.33	-794.21	5736379.87	572372.64
1325	66.31	271.13	866.42	-819.25	30.41	-798.79	5736379.95	572368.05
1330	66.36	271.04	868.43	-821.26	30.48	-803.37	5736380.03	572363.47
1335	66.4	270.94	870.43	-823.26	30.56	-807.95	5736380.11	572358.89
1340	66.45	270.85	872.44	-825.27	30.64	-812.53	5736380.18	572354.31
1345	66.49	270.75	874.44	-827.27	30.72	-817.11	5736380.26	572349.73
1350	66.58	270.68	876.42	-829.25	30.78	-821.7	5736380.32	572345.14
1355	66.69	270.63	878.39	-831.22	30.82	-826.3	5736380.37	572340.55
1360	66.81	270.57	880.35	-833.18	30.87	-830.89	5736380.41	572335.95
1365	66.92	270.52	882.32	-835.15	30.91	-835.49	5736380.45	572331.35
1370	67.04	270.47	884.28	-837.11	30.96	-840.09	5736380.5	572326.75
1375	67.15	270.41	886.25	-839.08	31	-844.68	5736380.54	572322.16
1380	67.18	270.36	888.2	-841.03	31.03	-849.29	5736380.57	572317.55
1385	67.17	270.3	890.14	-842.97	31.05	-853.9	5736380.59	572312.94

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
1390	67.17	270.24	892.08	-844.91	31.06	-858.51	5736380.61	572308.34
1395	67.16	270.18	894.02	-846.85	31.08	-863.11	5736380.63	572303.73
1400	67.16	270.13	895.96	-848.79	31.1	-867.72	5736380.64	572299.12
1405	67.15	270.07	897.9	-850.73	31.12	-872.33	5736380.66	572294.51
1410	67.2	270	899.83	-852.66	31.11	-876.94	5736380.65	572289.9
1415	67.25	269.93	901.76	-854.59	31.1	-881.55	5736380.64	572285.29
1420	67.29	269.86	903.69	-856.52	31.09	-886.17	5736380.63	572280.67
1425	67.34	269.79	905.62	-858.45	31.08	-890.78	5736380.62	572276.06
1430	67.39	269.72	907.55	-860.38	31.07	-895.39	5736380.61	572271.45
1435	67.42	269.63	909.48	-862.31	31.05	-900	5736380.59	572266.84
1440	67.34	269.48	911.42	-864.25	30.99	-904.61	5736380.53	572262.23
1445	67.27	269.34	913.35	-866.18	30.92	-909.22	5736380.47	572257.62
1450	67.2	269.19	915.29	-868.12	30.86	-913.83	5736380.4	572253.01
1455	67.13	269.04	917.23	-870.06	30.8	-918.44	5736380.34	572248.4
1460	67.05	268.89	919.16	-871.99	30.74	-923.05	5736380.28	572243.79
1465	67.04	268.8	921.1	-873.93	30.66	-927.66	5736380.2	572239.18
1470	67.11	268.81	923.03	-875.86	30.57	-932.27	5736380.11	572234.57
1475	67.19	268.81	924.97	-877.8	30.47	-936.88	5736380.01	572229.96
1480	67.26	268.82	926.9	-879.73	30.38	-941.49	5736379.92	572225.35
1485	67.33	268.82	928.84	-881.67	30.28	-946.1	5736379.82	572220.74
1490	67.41	268.83	930.78	-883.61	30.19	-950.71	5736379.73	572216.14
1495	67.48	268.83	932.69	-885.52	30.09	-955.32	5736379.63	572211.52
1500	67.54	268.82	934.6	-887.43	29.99	-959.95	5736379.54	572206.9
1505	67.61	268.81	936.5	-889.33	29.9	-964.57	5736379.44	572202.27
1510	67.67	268.81	938.4	-891.23	29.8	-969.19	5736379.34	572197.65
1515	67.74	268.8	940.3	-893.13	29.71	-973.81	5736379.25	572193.03
1520	67.81	268.79	942.21	-895.04	29.61	-978.44	5736379.15	572188.41
1525	67.79	268.81	944.11	-896.94	29.52	-983.06	5736379.06	572183.78
1530	67.75	268.82	946	-898.83	29.42	-987.69	5736378.97	572179.16
1535	67.7	268.84	947.9	-900.73	29.33	-992.31	5736378.87	572174.53
1540	67.66	268.86	949.8	-902.63	29.24	-996.94	5736378.78	572169.91
1545	67.62	268.88	951.69	-904.52	29.14	-1001.56	5736378.68	572165.28
1550	67.58	268.9	953.59	-906.42	29.05	-1006.19	5736378.59	572160.65
1555	67.67	268.93	955.48	-908.31	28.97	-1010.82	5736378.51	572156.02
1560	67.76	268.95	957.36	-910.19	28.88	-1015.45	5736378.43	572151.39
1565	67.85	268.98	959.25	-912.08	28.8	-1020.08	5736378.34	572146.76
1570	67.95	269	961.13	-913.96	28.72	-1024.71	5736378.26	572142.13
1575	68.04	269.03	963.02	-915.85	28.64	-1029.34	5736378.18	572137.5
1580	68.12	269.06	964.9	-917.73	28.56	-1033.97	5736378.1	572132.87
1585	68.15	269.1	966.76	-919.59	28.49	-1038.61	5736378.03	572128.23
1590	68.19	269.15	968.61	-921.44	28.42	-1043.25	5736377.97	572123.59
1595	68.22	269.19	970.47	-923.3	28.36	-1047.9	5736377.9	572118.95
1600	68.25	269.24	972.32	-925.15	28.29	-1052.54	5736377.83	572114.3
1605	68.29	269.28	974.18	-927.01	28.22	-1057.18	5736377.77	572109.66
1610	68.33	269.33	976.03	-928.86	28.16	-1061.83	5736377.71	572105.02
1615	68.39	269.37	977.86	-930.69	28.12	-1066.48	5736377.66	572100.36
1620	68.44	269.42	979.7	-932.53	28.07	-1071.13	5736377.62	572095.71
1625	68.5	269.47	981.53	-934.36	28.03	-1075.78	5736377.57	572091.06
1630	68.55	269.52	983.37	-936.2	27.98	-1080.43	5736377.53	572086.41
1635	68.61	269.56	985.2	-938.03	27.94	-1085.08	5736377.48	572081.76
1640	68.66	269.66	987.02	-939.85	27.92	-1089.74	5736377.46	572077.1
1645	68.7	269.8	988.83	-941.66	27.92	-1094.4	5736377.46	572072.44
1650	68.75	269.94	990.64	-943.47	27.92	-1099.06	5736377.46	572067.78
1655	68.8	270.07	992.46	-945.29	27.92	-1103.72	5736377.46	572063.12
1660	68.84	270.21	994.27	-947.1	27.92	-1108.38	5736377.46	572058.46
1665	68.89	270.35	996.08	-948.91	27.91	-1113.04	5736377.46	572053.8
1670	68.9	270.48	997.88	-950.71	27.96	-1117.7	5736377.5	572049.14
1675	68.9	270.61	999.68	-952.51	28.02	-1122.37	5736377.57	572044.47

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
1680	68.9	270.74	1001.48	-954.31	28.08	-1127.03	5736377.63	572039.81
1685	68.9	270.87	1003.28	-956.11	28.15	-1131.7	5736377.69	572035.15
1690	68.9	271	1005.08	-957.91	28.21	-1136.36	5736377.75	572030.48
1695	68.9	271.13	1006.88	-959.71	28.27	-1141.03	5736377.81	572025.82
1700	68.93	271.25	1008.67	-961.5	28.39	-1145.69	5736377.93	572021.15
1705	68.96	271.36	1010.46	-963.29	28.51	-1150.36	5736378.05	572016.48
1710	69	271.48	1012.26	-965.09	28.63	-1155.02	5736378.17	572011.82
1715	69.03	271.6	1014.05	-966.88	28.75	-1159.69	5736378.29	572007.15
1720	69.06	271.71	1015.84	-968.67	28.87	-1164.36	5736378.41	572002.49
1725	69.09	271.83	1017.63	-970.46	29	-1169.02	5736378.54	571997.82
1730	69.11	271.99	1019.41	-972.24	29.18	-1173.69	5736378.73	571993.15
1735	69.13	272.16	1021.19	-974.02	29.37	-1178.36	5736378.91	571988.48
1740	69.15	272.32	1022.97	-975.8	29.56	-1183.03	5736379.1	571983.81
1745	69.18	272.48	1024.75	-977.58	29.74	-1187.7	5736379.28	571979.14
1750	69.2	272.64	1026.53	-979.36	29.93	-1192.37	5736379.47	571974.48
1755	69.2	272.76	1028.31	-981.14	30.13	-1197.03	5736379.67	571969.81
1760	69.18	272.8	1030.09	-982.92	30.36	-1201.7	5736379.91	571965.14
1765	69.16	272.84	1031.87	-984.7	30.6	-1206.37	5736380.14	571960.47
1770	69.14	272.88	1033.65	-986.48	30.83	-1211.03	5736380.37	571955.81
1775	69.12	272.91	1035.43	-988.26	31.06	-1215.7	5736380.6	571951.14
1780	69.1	272.95	1037.21	-990.04	31.29	-1220.37	5736380.84	571946.47
1785	69.11	273.02	1038.99	-991.82	31.55	-1225.03	5736381.09	571941.81
1790	69.15	273.13	1040.76	-993.59	31.81	-1229.7	5736381.36	571937.14
1795	69.19	273.24	1042.54	-995.37	32.08	-1234.37	5736381.62	571932.47
1800	69.24	273.34	1044.31	-997.14	32.35	-1239.04	5736381.89	571927.81
1805	69.28	273.45	1046.09	-998.92	32.62	-1243.7	5736382.16	571923.14
1810	69.32	273.56	1047.86	-1000.69	32.88	-1248.37	5736382.43	571918.47
1815	69.32	273.69	1049.63	-1002.46	33.19	-1253.03	5736382.73	571913.81
1820	69.29	273.83	1051.4	-1004.23	33.52	-1257.7	5736383.06	571909.14
1825	69.27	273.97	1053.17	-1006	33.84	-1262.36	5736383.39	571904.48
1830	69.25	274.11	1054.94	-1007.77	34.17	-1267.03	5736383.71	571899.81
1835	69.23	274.25	1056.71	-1009.54	34.49	-1271.69	5736384.04	571895.15
1840	69.21	274.4	1058.48	-1011.31	34.82	-1276.36	5736384.36	571890.48
1845	69.17	274.39	1060.26	-1013.09	35.18	-1281.02	5736384.72	571885.83
1850	69.14	274.38	1062.05	-1014.88	35.53	-1285.67	5736385.07	571881.17
1855	69.1	274.36	1063.83	-1016.66	35.89	-1290.33	5736385.43	571876.51
1860	69.07	274.35	1065.61	-1018.44	36.24	-1294.99	5736385.78	571871.85
1865	69.03	274.34	1067.4	-1020.23	36.6	-1299.65	5736386.14	571867.19
1870	69	274.35	1069.18	-1022.01	36.96	-1304.3	5736386.5	571862.54
1875	68.99	274.45	1070.97	-1023.8	37.33	-1308.96	5736386.87	571857.89
1880	68.98	274.55	1072.77	-1025.6	37.71	-1313.61	5736387.25	571853.23
1885	68.98	274.65	1074.56	-1027.39	38.08	-1318.26	5736387.63	571848.58
1890	68.97	274.76	1076.35	-1029.18	38.46	-1322.91	5736388	571843.93
1895	68.96	274.86	1078.15	-1030.98	38.84	-1327.56	5736388.38	571839.28
1900	68.94	274.93	1079.95	-1032.78	39.23	-1332.21	5736388.77	571834.63
1905	68.9	274.96	1081.75	-1034.58	39.63	-1336.86	5736389.17	571829.98
1910	68.86	274.98	1083.55	-1036.38	40.04	-1341.5	5736389.58	571825.34
1915	68.82	275.01	1085.36	-1038.19	40.44	-1346.15	5736389.99	571820.69
1920	68.79	275.03	1087.16	-1039.99	40.85	-1350.79	5736390.39	571816.05
1925	68.75	275.06	1088.97	-1041.8	41.26	-1355.44	5736390.8	571811.4
1930	68.72	275.08	1090.78	-1043.61	41.67	-1360.08	5736391.21	571806.76
1935	68.7	275.1	1092.6	-1045.43	42.08	-1364.72	5736391.63	571802.12
1940	68.68	275.12	1094.42	-1047.25	42.5	-1369.36	5736392.04	571797.48
1945	68.66	275.14	1096.24	-1049.07	42.92	-1374	5736392.46	571792.84
1950	68.64	275.16	1098.05	-1050.88	43.33	-1378.64	5736392.87	571788.2
1955	68.62	275.18	1099.87	-1052.7	43.75	-1383.28	5736393.29	571783.57
1960	68.6	275.24	1101.7	-1054.53	44.18	-1387.91	5736393.72	571778.93
1965	68.58	275.32	1103.53	-1056.36	44.62	-1392.54	5736394.16	571774.3

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
1970	68.56	275.4	1105.35	-1058.18	45.06	-1397.18	5736394.6	571769.66
1975	68.54	275.48	1107.18	-1060.01	45.5	-1401.81	5736395.04	571765.03
1980	68.51	275.56	1109.01	-1061.84	45.94	-1406.44	5736395.48	571760.4
1985	68.49	275.64	1110.84	-1063.67	46.38	-1411.08	5736395.92	571755.77
1990	68.48	275.66	1112.67	-1065.5	46.84	-1415.7	5736396.38	571751.14
1995	68.47	275.68	1114.51	-1067.34	47.3	-1420.33	5736396.84	571746.51
2000	68.45	275.71	1116.35	-1069.18	47.76	-1424.96	5736397.3	571741.88
2005	68.44	275.73	1118.18	-1071.01	48.22	-1429.59	5736397.77	571737.25
2010	68.43	275.75	1120.02	-1072.85	48.69	-1434.21	5736398.23	571732.63
2015	68.42	275.78	1121.86	-1074.69	49.15	-1438.84	5736398.7	571728
2020	68.42	275.84	1123.7	-1076.53	49.64	-1443.47	5736399.18	571723.38
2025	68.42	275.9	1125.53	-1078.36	50.12	-1448.09	5736399.66	571718.75
2030	68.42	275.96	1127.37	-1080.2	50.6	-1452.72	5736400.14	571714.13
2035	68.42	276.01	1129.21	-1082.04	51.08	-1457.34	5736400.62	571709.5
2040	68.42	276.07	1131.05	-1083.88	51.56	-1461.96	5736401.1	571704.88
2045	68.43	276.11	1132.89	-1085.72	52.04	-1466.59	5736401.59	571700.25
2050	68.45	276.09	1134.72	-1087.55	52.54	-1471.21	5736402.08	571695.63
2055	68.47	276.08	1136.56	-1089.39	53.03	-1475.84	5736402.57	571691
2060	68.49	276.06	1138.39	-1091.22	53.52	-1480.47	5736403.06	571686.38
2065	68.51	276.05	1140.23	-1093.06	54.01	-1485.09	5736403.55	571681.75
2070	68.53	276.04	1142.06	-1094.89	54.5	-1489.72	5736404.05	571677.13
2075	68.54	276.04	1143.89	-1096.72	55	-1494.34	5736404.54	571672.5
2080	68.55	276.08	1145.72	-1098.55	55.49	-1498.97	5736405.04	571667.87
2085	68.56	276.11	1147.54	-1100.37	55.99	-1503.6	5736405.53	571663.24
2090	68.57	276.14	1149.37	-1102.2	56.49	-1508.23	5736406.03	571658.62
2095	68.58	276.18	1151.2	-1104.03	56.98	-1512.85	5736406.53	571653.99
2100	68.59	276.21	1153.03	-1105.86	57.48	-1517.48	5736407.02	571649.36
2105	68.61	276.23	1154.85	-1107.68	57.99	-1522.11	5736407.53	571644.73
2110	68.63	276.24	1156.67	-1109.5	58.49	-1526.74	5736408.03	571640.1
2115	68.66	276.25	1158.49	-1111.32	59	-1531.37	5736408.54	571635.47
2120	68.68	276.26	1160.31	-1113.14	59.51	-1536	5736409.05	571630.84
2125	68.7	276.27	1162.13	-1114.96	60.01	-1540.63	5736409.56	571626.21
2130	68.73	276.28	1163.95	-1116.78	60.52	-1545.26	5736410.06	571621.59
2135	68.73	276.2	1165.76	-1118.59	61.01	-1549.89	5736410.55	571616.95
2140	68.72	276.11	1167.58	-1120.41	61.5	-1554.52	5736411.04	571612.32
2145	68.72	276.02	1169.39	-1122.22	61.99	-1559.16	5736411.53	571607.69
2150	68.72	275.93	1171.2	-1124.03	62.48	-1563.79	5736412.02	571603.05
2155	68.71	275.84	1173.02	-1125.85	62.96	-1568.42	5736412.51	571598.42
2160	68.7	275.75	1174.84	-1127.67	63.45	-1573.06	5736412.99	571593.79
2165	68.62	275.63	1176.67	-1129.5	63.89	-1577.69	5736413.43	571589.16
2170	68.53	275.51	1178.51	-1131.34	64.33	-1582.32	5736413.87	571584.52
2175	68.45	275.39	1180.34	-1133.17	64.77	-1586.95	5736414.31	571579.89
2180	68.36	275.28	1182.18	-1135.01	65.21	-1591.58	5736414.75	571575.26
2185	68.28	275.16	1184.01	-1136.84	65.65	-1596.21	5736415.19	571570.63
2190	68.19	275.01	1185.86	-1138.69	66.06	-1600.83	5736415.6	571566.01
2195	68.08	274.81	1187.74	-1140.57	66.42	-1605.45	5736415.96	571561.39
2200	67.98	274.61	1189.62	-1142.45	66.79	-1610.07	5736416.33	571556.77
2205	67.87	274.42	1191.5	-1144.33	67.15	-1614.69	5736416.69	571552.15
2210	67.77	274.22	1193.38	-1146.21	67.51	-1619.31	5736417.06	571547.53
2215	67.66	274.02	1195.26	-1148.09	67.88	-1623.93	5736417.42	571542.91
2220	67.58	273.84	1197.16	-1149.99	68.19	-1628.54	5736417.74	571538.3
2225	67.5	273.66	1199.09	-1151.92	68.47	-1633.15	5736418.01	571533.69
2230	67.42	273.49	1201.01	-1153.84	68.75	-1637.76	5736418.29	571529.09
2235	67.35	273.31	1202.93	-1155.76	69.02	-1642.36	5736418.57	571524.48
2240	67.27	273.14	1204.85	-1157.68	69.3	-1646.97	5736418.84	571519.87
2245	67.2	272.97	1206.77	-1159.6	69.58	-1651.58	5736419.12	571515.26
2250	67.16	272.85	1208.71	-1161.54	69.8	-1656.18	5736419.34	571510.66
2255	67.13	272.75	1210.66	-1163.49	70.01	-1660.78	5736419.56	571506.06

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
2260	67.1	272.64	1212.6	-1165.43	70.22	-1665.38	5736419.77	571501.46
2265	67.08	272.54	1214.55	-1167.38	70.43	-1669.98	5736419.98	571496.86
2270	67.05	272.44	1216.49	-1169.32	70.65	-1674.59	5736420.19	571492.26
2275	67.02	272.34	1218.44	-1171.27	70.86	-1679.19	5736420.4	571487.66
2280	67.02	272.29	1220.39	-1173.22	71.04	-1683.79	5736420.58	571483.06
2285	67.01	272.25	1222.35	-1175.18	71.21	-1688.38	5736420.76	571478.46
2290	67	272.2	1224.3	-1177.13	71.39	-1692.98	5736420.93	571473.86
2295	67	272.16	1226.25	-1179.08	71.57	-1697.58	5736421.11	571469.26
2300	66.99	272.11	1228.21	-1181.04	71.75	-1702.18	5736421.29	571464.66
2305	66.98	272.08	1230.16	-1182.99	71.92	-1706.78	5736421.46	571460.06
2310	66.95	272.06	1232.12	-1184.95	72.08	-1711.38	5736421.62	571455.47
2315	66.91	272.04	1234.09	-1186.92	72.25	-1715.97	5736421.79	571450.87
2320	66.87	272.03	1236.05	-1188.88	72.41	-1720.57	5736421.95	571446.27
2325	66.83	272.01	1238.01	-1190.84	72.57	-1725.16	5736422.11	571441.68
2330	66.8	271.99	1239.98	-1192.81	72.73	-1729.76	5736422.28	571437.08
2335	66.76	271.96	1241.95	-1194.78	72.89	-1734.35	5736422.43	571432.49
2340	66.73	271.9	1243.93	-1196.76	73.03	-1738.94	5736422.58	571427.9
2345	66.69	271.83	1245.91	-1198.74	73.18	-1743.53	5736422.72	571423.31
2350	66.66	271.77	1247.89	-1200.72	73.32	-1748.12	5736422.86	571418.72
2355	66.62	271.7	1249.87	-1202.7	73.46	-1752.71	5736423.01	571414.13
2360	66.59	271.63	1251.85	-1204.68	73.61	-1757.3	5736423.15	571409.54
2365	66.56	271.56	1253.83	-1206.66	73.73	-1761.88	5736423.28	571404.96
2370	66.53	271.47	1255.83	-1208.66	73.84	-1766.47	5736423.39	571400.37
2375	66.51	271.38	1257.82	-1210.65	73.95	-1771.05	5736423.49	571395.79
2380	66.48	271.3	1259.82	-1212.65	74.06	-1775.64	5736423.6	571391.21
2385	66.45	271.21	1261.81	-1214.64	74.17	-1780.22	5736423.71	571386.62
2390	66.43	271.12	1263.8	-1216.63	74.28	-1784.8	5736423.82	571382.04
2395	66.4	271.08	1265.81	-1218.64	74.36	-1789.38	5736423.91	571377.46
2400	66.38	271.06	1267.81	-1220.64	74.45	-1793.96	5736423.99	571372.88
2405	66.36	271.04	1269.82	-1222.65	74.53	-1798.54	5736424.07	571368.3
2410	66.34	271.02	1271.82	-1224.65	74.61	-1803.12	5736424.15	571363.72
2415	66.31	270.99	1273.83	-1226.66	74.69	-1807.7	5736424.24	571359.14
2420	66.29	270.97	1275.83	-1228.66	74.78	-1812.28	5736424.32	571354.56
2425	66.29	270.96	1277.84	-1230.67	74.85	-1816.86	5736424.4	571349.98
2430	66.29	270.95	1279.85	-1232.68	74.93	-1821.44	5736424.47	571345.41
2435	66.28	270.94	1281.87	-1234.7	75	-1826.01	5736424.55	571340.83
2440	66.28	270.94	1283.88	-1236.71	75.08	-1830.59	5736424.62	571336.25
2445	66.28	270.93	1285.89	-1238.72	75.16	-1835.17	5736424.7	571331.67
2450	66.27	270.92	1287.9	-1240.73	75.23	-1839.74	5736424.77	571327.1
2455	66.21	270.95	1289.93	-1242.76	75.31	-1844.31	5736424.85	571322.53
2460	66.14	270.97	1291.95	-1244.78	75.39	-1848.88	5736424.93	571317.96
2465	66.08	271	1293.98	-1246.81	75.47	-1853.45	5736425.01	571313.39
2470	66.01	271.02	1296.01	-1248.84	75.55	-1858.02	5736425.09	571308.82
2475	65.95	271.04	1298.03	-1250.86	75.63	-1862.6	5736425.17	571304.25
2480	65.9	271.07	1300.06	-1252.89	75.71	-1867.16	5736425.25	571299.68
2485	65.89	271.12	1302.11	-1254.94	75.81	-1871.73	5736425.35	571295.12
2490	65.88	271.16	1304.15	-1256.98	75.9	-1876.29	5736425.44	571290.55
2495	65.88	271.2	1306.19	-1259.02	75.99	-1880.85	5736425.54	571285.99
2500	65.87	271.25	1308.24	-1261.07	76.09	-1885.41	5736425.63	571281.43
2505	65.86	271.29	1310.28	-1263.11	76.18	-1889.97	5736425.73	571276.87
2510	65.85	271.34	1312.33	-1265.16	76.29	-1894.53	5736425.83	571272.31
2515	65.82	271.39	1314.38	-1267.21	76.41	-1899.09	5736425.95	571267.75
2520	65.79	271.44	1316.43	-1269.26	76.52	-1903.65	5736426.06	571263.19
2525	65.76	271.5	1318.48	-1271.31	76.64	-1908.21	5736426.18	571258.63
2530	65.74	271.55	1320.53	-1273.36	76.75	-1912.77	5736426.3	571254.07
2535	65.71	271.61	1322.58	-1275.41	76.87	-1917.33	5736426.41	571249.51
2540	65.68	271.62	1324.64	-1277.47	77	-1921.88	5736426.54	571244.96
2545	65.66	271.62	1326.71	-1279.54	77.13	-1926.43	5736426.67	571240.41

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
2550	65.63	271.62	1328.77	-1281.6	77.26	-1930.99	5736426.8	571235.86
2555	65.61	271.63	1330.83	-1283.66	77.38	-1935.54	5736426.93	571231.3
2560	65.59	271.63	1332.9	-1285.73	77.51	-1940.09	5736427.06	571226.75
2565	65.56	271.63	1334.96	-1287.79	77.64	-1944.64	5736427.19	571222.2
2570	65.54	271.64	1337.03	-1289.86	77.77	-1949.19	5736427.32	571217.65
2575	65.52	271.65	1339.11	-1291.94	77.91	-1953.74	5736427.45	571213.1
2580	65.5	271.67	1341.18	-1294.01	78.04	-1958.29	5736427.58	571208.55
2585	65.49	271.68	1343.25	-1296.08	78.17	-1962.84	5736427.71	571204
2590	65.47	271.69	1345.32	-1298.15	78.3	-1967.39	5736427.85	571199.46
2595	65.44	271.7	1347.4	-1300.23	78.44	-1971.93	5736427.98	571194.91
2600	65.4	271.7	1349.49	-1302.32	78.57	-1976.47	5736428.11	571190.37
2605	65.35	271.7	1351.58	-1304.41	78.71	-1981.01	5736428.25	571185.83
2610	65.3	271.7	1353.67	-1306.5	78.84	-1985.56	5736428.38	571181.29
2615	65.25	271.7	1355.75	-1308.58	78.97	-1990.1	5736428.52	571176.75
2620	65.2	271.7	1357.84	-1310.67	79.11	-1994.64	5736428.65	571172.2
2625	65.16	271.69	1359.94	-1312.77	79.24	-1999.18	5736428.78	571167.67
2630	65.11	271.66	1362.05	-1314.88	79.37	-2003.71	5736428.91	571163.13
2635	65.07	271.62	1364.16	-1316.99	79.5	-2008.24	5736429.04	571158.6
2640	65.03	271.59	1366.26	-1319.09	79.62	-2012.77	5736429.17	571154.07
2645	64.99	271.56	1368.37	-1321.2	79.75	-2017.3	5736429.29	571149.54
2650	64.95	271.52	1370.48	-1323.31	79.88	-2021.83	5736429.42	571145.01
2655	64.9	271.56	1372.6	-1325.43	80.01	-2026.36	5736429.55	571140.48
2660	64.85	271.65	1374.73	-1327.56	80.15	-2030.88	5736429.69	571135.96
2665	64.8	271.73	1376.86	-1329.69	80.29	-2035.4	5736429.83	571131.44
2670	64.75	271.81	1378.99	-1331.82	80.43	-2039.92	5736429.97	571126.92
2675	64.7	271.9	1381.12	-1333.95	80.57	-2044.44	5736430.11	571122.4
2680	64.66	271.98	1383.26	-1336.09	80.71	-2048.97	5736430.25	571117.88
2685	64.64	272.01	1385.39	-1338.22	80.86	-2053.48	5736430.4	571113.36
2690	64.64	272	1387.53	-1340.36	81.01	-2058	5736430.56	571108.84
2695	64.64	271.99	1389.68	-1342.51	81.17	-2062.51	5736430.71	571104.33
2700	64.64	271.98	1391.82	-1344.65	81.33	-2067.03	5736430.87	571099.81
2705	64.64	271.98	1393.96	-1346.79	81.48	-2071.54	5736431.03	571095.3
2710	64.64	271.97	1396.1	-1348.93	81.64	-2076.06	5736431.18	571090.78
2715	64.74	271.98	1398.22	-1351.05	81.8	-2080.59	5736431.34	571086.26
2720	64.86	271.99	1400.33	-1353.16	81.96	-2085.11	5736431.5	571081.73
2725	64.97	272	1402.45	-1355.28	82.12	-2089.64	5736431.66	571077.2
2730	65.09	272.01	1404.56	-1357.39	82.27	-2094.17	5736431.82	571072.67
2735	65.2	272.02	1406.68	-1359.51	82.43	-2098.7	5736431.97	571068.14
2740	65.31	272.03	1408.79	-1361.62	82.59	-2103.23	5736432.13	571063.61
2745	65.39	272.02	1410.86	-1363.69	82.75	-2107.78	5736432.29	571059.07
2750	65.47	272.02	1412.93	-1365.76	82.91	-2112.32	5736432.45	571054.52
2755	65.56	272.01	1415	-1367.83	83.07	-2116.87	5736432.61	571049.97
2760	65.64	272	1417.07	-1369.9	83.23	-2121.42	5736432.77	571045.42
2765	65.72	271.99	1419.14	-1371.97	83.39	-2125.97	5736432.93	571040.87
2770	65.81	272.01	1421.2	-1374.03	83.55	-2130.52	5736433.1	571036.32
2775	65.92	272.09	1423.23	-1376.06	83.73	-2135.09	5736433.27	571031.75
2780	66.02	272.17	1425.25	-1378.08	83.91	-2139.66	5736433.45	571027.18
2785	66.12	272.25	1427.28	-1380.11	84.08	-2144.23	5736433.63	571022.62
2790	66.23	272.32	1429.31	-1382.14	84.26	-2148.79	5736433.8	571018.05
2795	66.33	272.4	1431.33	-1384.16	84.44	-2153.36	5736433.98	571013.48
2800	66.39	272.44	1433.35	-1386.18	84.62	-2157.93	5736434.17	571008.91
2805	66.42	272.45	1435.34	-1388.17	84.82	-2162.51	5736434.36	571004.33
2810	66.44	272.46	1437.34	-1390.17	85.02	-2167.09	5736434.56	570999.75
2815	66.47	272.46	1439.34	-1392.17	85.21	-2171.67	5736434.76	570995.17
2820	66.5	272.47	1441.34	-1394.17	85.41	-2176.25	5736434.95	570990.59
2825	66.52	272.48	1443.33	-1396.16	85.61	-2180.83	5736435.15	570986.01
2830	66.55	272.51	1445.32	-1398.15	85.81	-2185.41	5736435.35	570981.43
2835	66.58	272.54	1447.31	-1400.14	86.02	-2190	5736435.56	570976.84

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
2840	66.61	272.58	1449.29	-1402.12	86.23	-2194.58	5736435.77	570972.26
2845	66.65	272.61	1451.27	-1404.1	86.43	-2199.17	5736435.97	570967.67
2850	66.68	272.65	1453.26	-1406.09	86.64	-2203.75	5736436.18	570963.09
2855	66.71	272.69	1455.24	-1408.07	86.85	-2208.34	5736436.39	570958.5
2860	66.76	272.73	1457.21	-1410.04	87.07	-2212.93	5736436.61	570953.91
2865	66.82	272.78	1459.17	-1412	87.3	-2217.52	5736436.84	570949.32
2870	66.87	272.82	1461.14	-1413.97	87.52	-2222.11	5736437.07	570944.73
2875	66.93	272.87	1463.1	-1415.93	87.75	-2226.71	5736437.29	570940.13
2880	66.98	272.91	1465.06	-1417.89	87.98	-2231.3	5736437.52	570935.54
2885	67.03	272.95	1467.03	-1419.86	88.2	-2235.89	5736437.75	570930.95
2890	67.03	272.96	1468.98	-1421.81	88.44	-2240.49	5736437.99	570926.35
2895	67.04	272.97	1470.93	-1423.76	88.68	-2245.09	5736438.23	570921.75
2900	67.04	272.98	1472.88	-1425.71	88.92	-2249.69	5736438.46	570917.16
2905	67.04	272.99	1474.83	-1427.66	89.16	-2254.28	5736438.7	570912.56
2910	67.05	273	1476.78	-1429.61	89.4	-2258.88	5736438.94	570907.96
2915	67.09	273.02	1478.72	-1431.55	89.64	-2263.48	5736439.19	570903.36
2920	67.21	273.06	1480.64	-1433.47	89.89	-2268.09	5736439.44	570898.75
2925	67.32	273.09	1482.56	-1435.39	90.14	-2272.7	5736439.69	570894.14
2930	67.44	273.12	1484.49	-1437.32	90.4	-2277.31	5736439.94	570889.53
2935	67.56	273.16	1486.41	-1439.24	90.65	-2281.92	5736440.19	570884.92
2940	67.68	273.19	1488.33	-1441.16	90.9	-2286.53	5736440.44	570880.32
2945	67.77	273.21	1490.23	-1443.06	91.15	-2291.15	5736440.69	570875.7
2950	67.84	273.22	1492.11	-1444.94	91.41	-2295.77	5736440.95	570871.07
2955	67.9	273.22	1493.99	-1446.82	91.67	-2300.4	5736441.21	570866.44
2960	67.97	273.22	1495.87	-1448.7	91.93	-2305.02	5736441.48	570861.82
2965	68.04	273.23	1497.74	-1450.57	92.19	-2309.65	5736441.74	570857.19
2970	68.11	273.23	1499.62	-1452.45	92.45	-2314.28	5736442	570852.57
2975	68.23	273.26	1501.47	-1454.3	92.72	-2318.92	5736442.26	570847.93
2980	68.36	273.29	1503.3	-1456.13	92.99	-2323.56	5736442.53	570843.28
2985	68.49	273.33	1505.13	-1457.96	93.26	-2328.21	5736442.8	570838.64
2990	68.62	273.36	1506.96	-1459.79	93.53	-2332.85	5736443.08	570833.99
2995	68.75	273.4	1508.79	-1461.62	93.8	-2337.49	5736443.35	570829.35
3000	68.88	273.44	1510.63	-1463.46	94.07	-2342.14	5736443.62	570824.7
3005	68.95	273.43	1512.41	-1465.24	94.35	-2346.8	5736443.89	570820.04
3010	69.02	273.41	1514.2	-1467.03	94.63	-2351.46	5736444.17	570815.38
3015	69.09	273.4	1515.98	-1468.81	94.9	-2356.12	5736444.45	570810.72
3020	69.15	273.39	1517.77	-1470.6	95.18	-2360.79	5736444.72	570806.05
3025	69.22	273.37	1519.55	-1472.38	95.46	-2365.45	5736445	570801.39
3030	69.29	273.36	1521.34	-1474.17	95.74	-2370.11	5736445.28	570796.73
3035	69.4	273.36	1523.08	-1475.91	96.01	-2374.79	5736445.55	570792.05
3040	69.5	273.37	1524.82	-1477.65	96.29	-2379.47	5736445.83	570787.37
3045	69.61	273.37	1526.57	-1479.4	96.56	-2384.15	5736446.1	570782.69
3050	69.71	273.37	1528.31	-1481.14	96.84	-2388.83	5736446.38	570778.02
3055	69.82	273.38	1530.05	-1482.88	97.11	-2393.5	5736446.66	570773.34
3060	69.9	273.38	1531.79	-1484.62	97.39	-2398.18	5736446.93	570768.66
3065	69.88	273.36	1533.51	-1486.34	97.66	-2402.87	5736447.2	570763.97
3070	69.86	273.35	1535.24	-1488.07	97.93	-2407.56	5736447.48	570759.29
3075	69.84	273.33	1536.96	-1489.79	98.21	-2412.24	5736447.75	570754.6
3080	69.83	273.31	1538.68	-1491.51	98.48	-2416.93	5736448.02	570749.91
3085	69.81	273.3	1540.4	-1493.23	98.75	-2421.61	5736448.3	570745.23
3090	69.79	273.32	1542.13	-1494.96	99.03	-2426.3	5736448.57	570740.54
3095	69.76	273.4	1543.86	-1496.69	99.32	-2430.98	5736448.86	570735.86
3100	69.74	273.48	1545.6	-1498.43	99.61	-2435.66	5736449.15	570731.18
3105	69.71	273.56	1547.33	-1500.16	99.89	-2440.34	5736449.44	570726.5
3110	69.68	273.64	1549.06	-1501.89	100.18	-2445.02	5736449.73	570721.82
3115	69.66	273.72	1550.79	-1503.62	100.47	-2449.7	5736450.01	570717.14
3120	69.61	273.78	1552.54	-1505.37	100.78	-2454.38	5736450.32	570712.46
3125	69.56	273.84	1554.29	-1507.12	101.1	-2459.05	5736450.64	570707.79

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
3130	69.51	273.89	1556.04	-1508.87	101.42	-2463.72	5736450.96	570703.12
3135	69.46	273.95	1557.79	-1510.62	101.73	-2468.4	5736451.28	570698.45
3140	69.4	274	1559.54	-1512.37	102.05	-2473.07	5736451.6	570693.77
3145	69.35	274.06	1561.29	-1514.12	102.37	-2477.74	5736451.91	570689.1
3150	69.3	274.1	1563.07	-1515.9	102.71	-2482.4	5736452.25	570684.44
3155	69.25	274.13	1564.85	-1517.68	103.05	-2487.06	5736452.59	570679.78
3160	69.2	274.17	1566.62	-1519.45	103.39	-2491.73	5736452.93	570675.12
3165	69.15	274.21	1568.4	-1521.23	103.73	-2496.39	5736453.27	570670.45
3170	69.1	274.24	1570.17	-1523	104.07	-2501.05	5736453.61	570665.79
3175	69.05	274.28	1571.95	-1524.78	104.41	-2505.71	5736453.95	570661.13
3180	69.06	274.26	1573.73	-1526.56	104.75	-2510.37	5736454.3	570656.47
3185	69.07	274.24	1575.52	-1528.35	105.1	-2515.03	5736454.64	570651.81
3190	69.08	274.22	1577.3	-1530.13	105.44	-2519.68	5736454.98	570647.16
3195	69.08	274.2	1579.09	-1531.92	105.79	-2524.34	5736455.33	570642.5
3200	69.09	274.18	1580.88	-1533.71	106.13	-2529	5736455.67	570637.84
3205	69.1	274.14	1582.66	-1535.49	106.47	-2533.66	5736456.01	570633.18
3210	69.1	274.08	1584.44	-1537.27	106.79	-2538.32	5736456.34	570628.52
3215	69.11	274.02	1586.23	-1539.06	107.12	-2542.98	5736456.66	570623.86
3220	69.11	273.96	1588.01	-1540.84	107.44	-2547.64	5736456.99	570619.2
3225	69.12	273.9	1589.79	-1542.62	107.77	-2552.3	5736457.31	570614.54
3230	69.12	273.84	1591.58	-1544.41	108.09	-2556.96	5736457.64	570609.88
3235	69.13	273.87	1593.36	-1546.19	108.42	-2561.62	5736457.97	570605.22
3240	69.14	273.96	1595.13	-1547.96	108.76	-2566.28	5736458.3	570600.56
3245	69.15	274.05	1596.91	-1549.74	109.09	-2570.94	5736458.63	570595.9
3250	69.17	274.13	1598.69	-1551.52	109.42	-2575.6	5736458.96	570591.24
3255	69.18	274.22	1600.47	-1553.3	109.75	-2580.26	5736459.29	570586.58
3260	69.2	274.31	1602.25	-1555.08	110.08	-2584.92	5736459.63	570581.92
3265	69.22	274.32	1604.02	-1556.85	110.43	-2589.59	5736459.97	570577.26
3270	69.25	274.29	1605.79	-1558.62	110.77	-2594.25	5736460.31	570572.59
3275	69.28	274.26	1607.56	-1560.39	111.12	-2598.91	5736460.66	570567.93
3280	69.31	274.23	1609.33	-1562.16	111.47	-2603.58	5736461.01	570563.26
3285	69.34	274.2	1611.09	-1563.92	111.81	-2608.24	5736461.35	570558.6
3290	69.38	274.16	1612.86	-1565.69	112.16	-2612.91	5736461.7	570553.93
3295	69.19	273.86	1614.67	-1567.5	112.43	-2617.56	5736461.97	570549.28
3300	68.97	273.51	1616.48	-1569.31	112.68	-2622.21	5736462.22	570544.63
3305	68.75	273.16	1618.3	-1571.13	112.94	-2626.86	5736462.48	570539.98
3310	68.53	272.81	1620.11	-1572.94	113.19	-2631.52	5736462.73	570535.33
3315	68.31	272.46	1621.93	-1574.76	113.45	-2636.17	5736462.99	570530.67
3320	68.09	272.1	1623.74	-1576.57	113.7	-2640.82	5736463.24	570526.02
3325	67.87	271.67	1625.65	-1578.48	113.78	-2645.44	5736463.32	570521.4
3330	67.64	271.24	1627.57	-1580.4	113.84	-2650.05	5736463.39	570516.79
3335	67.42	270.81	1629.49	-1582.32	113.91	-2654.67	5736463.45	570512.17
3340	67.2	270.38	1631.41	-1584.24	113.98	-2659.29	5736463.52	570507.55
3345	66.98	269.94	1633.33	-1586.16	114.05	-2663.9	5736463.59	570502.94
3350	66.75	269.54	1635.27	-1588.1	114.08	-2668.51	5736463.63	570498.33
3355	66.52	269.23	1637.29	-1590.12	113.98	-2673.08	5736463.52	570493.76
3360	66.3	268.92	1639.31	-1592.14	113.88	-2677.65	5736463.42	570489.19
3365	66.07	268.62	1641.34	-1594.17	113.78	-2682.22	5736463.32	570484.62
3370	65.84	268.31	1643.36	-1596.19	113.67	-2686.8	5736463.22	570480.05
3375	65.61	268	1645.38	-1598.21	113.57	-2691.37	5736463.11	570475.48
3380	65.37	267.67	1647.45	-1600.28	113.41	-2695.91	5736462.95	570470.93
3385	65.11	267.29	1649.58	-1602.41	113.15	-2700.43	5736462.69	570466.41
3390	64.86	266.91	1651.72	-1604.55	112.89	-2704.94	5736462.43	570461.9
3395	64.61	266.53	1653.85	-1606.68	112.63	-2709.46	5736462.18	570457.39
3400	64.35	266.15	1655.99	-1608.82	112.38	-2713.97	5736461.92	570452.87
3405	64.1	265.77	1658.12	-1610.95	112.12	-2718.49	5736461.66	570448.36
3410	63.84	265.38	1660.33	-1613.16	111.75	-2722.95	5736461.29	570443.89
3415	63.59	265	1662.58	-1615.41	111.32	-2727.4	5736460.86	570439.44

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
3420	63.34	264.61	1664.83	-1617.66	110.89	-2731.84	5736460.43	570435
3425	63.09	264.22	1667.08	-1619.91	110.46	-2736.28	5736460	570430.56
3430	62.84	263.83	1669.33	-1622.16	110.03	-2740.73	5736459.57	570426.11
3435	62.58	263.44	1671.58	-1624.41	109.6	-2745.17	5736459.15	570421.67
3440	62.33	262.98	1673.91	-1626.74	109.04	-2749.56	5736458.59	570417.28
3445	62.07	262.49	1676.28	-1629.11	108.42	-2753.92	5736457.97	570412.92
3450	61.81	261.99	1678.64	-1631.47	107.8	-2758.28	5736457.35	570408.56
3455	61.55	261.5	1681.01	-1633.84	107.18	-2762.64	5736456.72	570404.2
3460	61.29	261.01	1683.38	-1636.21	106.56	-2767	5736456.1	570399.84
3465	61.03	260.52	1685.74	-1638.57	105.94	-2771.36	5736455.48	570395.48
3470	60.84	260	1688.2	-1641.03	105.13	-2775.64	5736454.68	570391.2
3475	60.66	259.49	1690.66	-1643.49	104.3	-2779.91	5736453.85	570386.93
3480	60.47	258.97	1693.12	-1645.95	103.48	-2784.18	5736453.02	570382.66
3485	60.29	258.45	1695.59	-1648.42	102.65	-2788.45	5736452.19	570378.39
3490	60.11	257.94	1698.05	-1650.88	101.82	-2792.72	5736451.36	570374.12
3495	59.92	257.41	1700.53	-1653.36	100.94	-2796.97	5736450.48	570369.87
3500	59.72	256.81	1703.08	-1655.91	99.88	-2801.14	5736449.43	570365.7
3505	59.52	256.22	1705.63	-1658.46	98.83	-2805.31	5736448.37	570361.53
3510	59.32	255.63	1708.17	-1661	97.78	-2809.48	5736447.32	570357.36
3515	59.11	255.04	1710.72	-1663.55	96.73	-2813.65	5736446.27	570353.19
3520	58.91	254.45	1713.27	-1666.1	95.67	-2817.83	5736445.22	570349.02
3525	58.72	253.85	1715.85	-1668.68	94.52	-2821.94	5736444.06	570344.9
3530	58.55	253.24	1718.48	-1671.31	93.23	-2826	5736442.77	570340.85
3535	58.37	252.63	1721.11	-1673.94	91.94	-2830.05	5736441.48	570336.79
3540	58.19	252.02	1723.74	-1676.57	90.65	-2834.1	5736440.2	570332.74
3545	58.02	251.42	1726.37	-1679.2	89.36	-2838.15	5736438.91	570328.69
3550	57.84	250.81	1728.99	-1681.82	88.08	-2842.21	5736437.62	570324.63
3555	57.66	250.19	1731.67	-1684.5	86.64	-2846.17	5736436.18	570320.67
3560	57.49	249.57	1734.38	-1687.21	85.12	-2850.09	5736434.66	570316.75
3565	57.31	248.95	1737.08	-1689.91	83.59	-2854.01	5736433.14	570312.83
3570	57.13	248.32	1739.79	-1692.62	82.07	-2857.93	5736431.62	570308.91
3575	56.96	247.7	1742.49	-1695.32	80.55	-2861.85	5736430.1	570304.99
3580	56.78	247.08	1745.19	-1698.02	79.03	-2865.77	5736428.58	570301.07
3585	56.58	246.5	1747.97	-1700.8	77.34	-2869.57	5736426.88	570297.27
3590	56.37	245.93	1750.75	-1703.58	75.6	-2873.34	5736425.15	570293.5
3595	56.16	245.36	1753.54	-1706.37	73.87	-2877.12	5736423.41	570289.72
3600	55.95	244.79	1756.32	-1709.15	72.14	-2880.89	5736421.68	570285.95
3605	55.74	244.22	1759.11	-1711.94	70.41	-2884.66	5736419.95	570282.18
3610	55.54	243.64	1761.9	-1714.73	68.66	-2888.42	5736418.2	570278.42
3615	55.44	243.01	1764.75	-1717.58	66.72	-2892.05	5736416.27	570274.8
3620	55.33	242.38	1767.6	-1720.43	64.79	-2895.67	5736414.33	570271.18
3625	55.22	241.76	1770.45	-1723.28	62.85	-2899.29	5736412.39	570267.55
3630	55.12	241.13	1773.31	-1726.14	60.92	-2902.91	5736410.46	570263.93
3635	55.01	240.5	1776.16	-1728.99	58.98	-2906.53	5736408.52	570260.31
3640	54.9	239.84	1779.02	-1731.85	56.99	-2910.11	5736406.53	570256.73
3645	54.76	239.1	1781.92	-1734.75	54.82	-2913.56	5736404.36	570253.28
3650	54.63	238.35	1784.82	-1737.65	52.66	-2917.01	5736402.2	570249.84
3655	54.5	237.6	1787.72	-1740.55	50.49	-2920.45	5736400.03	570246.39
3660	54.36	236.86	1790.63	-1743.46	48.33	-2923.9	5736397.87	570242.94
3665	54.23	236.11	1793.53	-1746.36	46.16	-2927.35	5736395.71	570239.49
3670	54.09	235.36	1796.45	-1749.28	43.89	-2930.7	5736393.43	570236.14
3675	53.94	234.59	1799.41	-1752.24	41.49	-2933.94	5736391.04	570232.9
3680	53.79	233.83	1802.37	-1755.2	39.1	-2937.18	5736388.64	570229.66
3685	53.65	233.06	1805.33	-1758.16	36.7	-2940.42	5736386.24	570226.42
3690	53.5	232.3	1808.29	-1761.12	34.3	-2943.66	5736383.85	570223.18
3695	53.35	231.54	1811.25	-1764.08	31.91	-2946.9	5736381.45	570219.94
3700	53.29	230.81	1814.23	-1767.06	29.37	-2950	5736378.91	570216.84
3705	53.29	230.09	1817.22	-1770.05	26.75	-2953.03	5736376.29	570213.81

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
3710	53.28	229.38	1820.21	-1773.04	24.13	-2956.07	5736373.67	570210.78
3715	53.27	228.67	1823.2	-1776.03	21.51	-2959.1	5736371.06	570207.74
3720	53.26	227.95	1826.19	-1779.02	18.9	-2962.13	5736368.44	570204.71
3721	53.26	227.81	1826.79	-1779.62	18.37	-2962.74	5736367.91	570204.1
3722	53.26	227.67	1827.39	-1780.22	17.85	-2963.34	5736367.39	570203.5
3723	53.25	227.52	1827.99	-1780.82	17.33	-2963.95	5736366.87	570202.89
3724	53.25	227.38	1828.58	-1781.41	16.8	-2964.56	5736366.34	570202.28
3725	53.25	227.24	1829.18	-1782.01	16.28	-2965.16	5736365.82	570201.68
3726	53.26	227.1	1829.78	-1782.61	15.74	-2965.76	5736365.29	570201.08
3727	53.28	226.96	1830.37	-1783.2	15.18	-2966.33	5736364.72	570200.51
3728	53.31	226.81	1830.97	-1783.8	14.61	-2966.9	5736364.15	570199.94
3729	53.33	226.67	1831.56	-1784.39	14.04	-2967.47	5736363.58	570199.37
3730	53.35	226.53	1832.15	-1784.98	13.47	-2968.04	5736363.01	570198.8
3731	53.38	226.39	1832.75	-1785.58	12.9	-2968.61	5736362.45	570198.23
3732	53.4	226.25	1833.34	-1786.17	12.34	-2969.18	5736361.88	570197.66
3733	53.43	226.11	1833.93	-1786.76	11.77	-2969.75	5736361.31	570197.09
3734	53.45	225.97	1834.53	-1787.36	11.2	-2970.32	5736360.74	570196.52
3735	53.48	225.83	1835.12	-1787.95	10.63	-2970.89	5736360.17	570195.95
3736	53.5	225.69	1835.71	-1788.54	10.06	-2971.46	5736359.61	570195.38
3737	53.53	225.55	1836.31	-1789.14	9.5	-2972.03	5736359.04	570194.81
3738	53.55	225.41	1836.9	-1789.73	8.93	-2972.6	5736358.47	570194.24
3739	53.58	225.26	1837.5	-1790.33	8.36	-2973.17	5736357.9	570193.67
3740	53.6	225.12	1838.09	-1790.92	7.79	-2973.74	5736357.33	570193.1
3741	53.62	224.98	1838.68	-1791.51	7.22	-2974.31	5736356.77	570192.53
3742	53.65	224.84	1839.28	-1792.11	6.65	-2974.88	5736356.2	570191.96
3743	53.67	224.7	1839.87	-1792.7	6.09	-2975.45	5736355.63	570191.39
3744	53.7	224.56	1840.46	-1793.29	5.52	-2976.02	5736355.06	570190.82
3745	53.72	224.42	1841.06	-1793.89	4.95	-2976.59	5736354.49	570190.25
3746	53.75	224.28	1841.65	-1794.48	4.38	-2977.16	5736353.92	570189.68
3747	53.77	224.14	1842.24	-1795.07	3.81	-2977.73	5736353.36	570189.11
3748	53.8	224	1842.84	-1795.67	3.25	-2978.3	5736352.79	570188.54
3749	53.82	223.86	1843.43	-1796.26	2.68	-2978.87	5736352.22	570187.97
3750	53.85	223.72	1844.02	-1796.85	2.11	-2979.44	5736351.65	570187.4
3751	53.87	223.57	1844.62	-1797.45	1.54	-2980.01	5736351.08	570186.83
3752	53.89	223.43	1845.21	-1798.04	0.97	-2980.58	5736350.52	570186.26
3753	53.92	223.29	1845.8	-1798.63	0.41	-2981.15	5736349.95	570185.69
3754	53.94	223.15	1846.4	-1799.23	-0.16	-2981.72	5736349.38	570185.12
3755	53.97	223.02	1846.99	-1799.82	-0.74	-2982.28	5736348.8	570184.57
3756	54	222.92	1847.57	-1800.4	-1.35	-2982.82	5736348.19	570184.03
3757	54.03	222.82	1848.15	-1800.98	-1.96	-2983.36	5736347.58	570183.49
3758	54.05	222.72	1848.74	-1801.57	-2.57	-2983.9	5736346.98	570182.95
3759	54.08	222.62	1849.32	-1802.15	-3.18	-2984.43	5736346.37	570182.41
3760	54.11	222.52	1849.9	-1802.73	-3.78	-2984.97	5736345.76	570181.87
3761	54.14	222.42	1850.48	-1803.31	-4.39	-2985.51	5736345.15	570181.33
3762	54.17	222.32	1851.07	-1803.9	-5	-2986.05	5736344.54	570180.79
3763	54.19	222.22	1851.65	-1804.48	-5.61	-2986.59	5736343.94	570180.25
3764	54.22	222.12	1852.23	-1805.06	-6.21	-2987.13	5736343.33	570179.71
3765	54.25	222.02	1852.81	-1805.64	-6.82	-2987.67	5736342.72	570179.17
3766	54.28	221.92	1853.4	-1806.23	-7.43	-2988.21	5736342.11	570178.63
3767	54.31	221.82	1853.98	-1806.81	-8.04	-2988.75	5736341.51	570178.09
3768	54.33	221.72	1854.56	-1807.39	-8.64	-2989.29	5736340.9	570177.55
3769	54.36	221.62	1855.15	-1807.98	-9.25	-2989.83	5736340.29	570177.01
3770	54.39	221.52	1855.73	-1808.56	-9.86	-2990.37	5736339.68	570176.47
3771	54.42	221.42	1856.31	-1809.14	-10.47	-2990.91	5736339.08	570175.93
3772	54.45	221.32	1856.89	-1809.72	-11.07	-2991.45	5736338.47	570175.39
3773	54.47	221.22	1857.48	-1810.31	-11.68	-2991.99	5736337.86	570174.85
3774	54.5	221.12	1858.06	-1810.89	-12.29	-2992.53	5736337.25	570174.31
3775	54.53	221.02	1858.64	-1811.47	-12.9	-2993.07	5736336.65	570173.77

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
3776	54.56	220.92	1859.22	-1812.05	-13.5	-2993.61	5736336.04	570173.24
3777	54.59	220.82	1859.81	-1812.64	-14.11	-2994.15	5736335.43	570172.7
3778	54.61	220.72	1860.39	-1813.22	-14.72	-2994.69	5736334.82	570172.16
3779	54.64	220.62	1860.97	-1813.8	-15.33	-2995.23	5736334.21	570171.62
3780	54.67	220.52	1861.56	-1814.39	-15.94	-2995.76	5736333.61	570171.08
3781	54.7	220.41	1862.14	-1814.97	-16.54	-2996.3	5736333	570170.54
3782	54.73	220.31	1862.72	-1815.55	-17.15	-2996.84	5736332.39	570170
3783	54.75	220.21	1863.3	-1816.13	-17.76	-2997.38	5736331.78	570169.46
3784	54.79	220.09	1863.88	-1816.71	-18.38	-2997.91	5736331.16	570168.93
3785	54.83	219.95	1864.45	-1817.28	-19.03	-2998.42	5736330.51	570168.43
3786	54.87	219.81	1865.02	-1817.85	-19.68	-2998.92	5736329.86	570167.92
3787	54.92	219.67	1865.58	-1818.41	-20.33	-2999.43	5736329.22	570167.41
3788	54.96	219.53	1866.15	-1818.98	-20.97	-2999.94	5736328.57	570166.9
3789	55	219.39	1866.72	-1819.55	-21.62	-3000.45	5736327.92	570166.4
3790	55.05	219.25	1867.29	-1820.12	-22.27	-3000.95	5736327.27	570165.89
3791	55.09	219.11	1867.86	-1820.69	-22.92	-3001.46	5736326.63	570165.38
3792	55.13	218.96	1868.42	-1821.25	-23.56	-3001.97	5736325.98	570164.87
3793	55.17	218.82	1868.99	-1821.82	-24.21	-3002.48	5736325.33	570164.37
3794	55.22	218.68	1869.56	-1822.39	-24.86	-3002.98	5736324.68	570163.86
3795	55.26	218.54	1870.13	-1822.96	-25.51	-3003.49	5736324.04	570163.35
3796	55.3	218.4	1870.7	-1823.53	-26.15	-3004	5736323.39	570162.84
3797	55.34	218.26	1871.27	-1824.1	-26.8	-3004.51	5736322.74	570162.34
3798	55.39	218.12	1871.83	-1824.66	-27.45	-3005.01	5736322.09	570161.83
3799	55.43	217.97	1872.4	-1825.23	-28.1	-3005.52	5736321.45	570161.32
3800	55.47	217.83	1872.97	-1825.8	-28.74	-3006.03	5736320.8	570160.81
3801	55.51	217.69	1873.54	-1826.37	-29.39	-3006.54	5736320.15	570160.31
3802	55.56	217.55	1874.11	-1826.94	-30.04	-3007.04	5736319.5	570159.8
3803	55.6	217.41	1874.67	-1827.5	-30.69	-3007.55	5736318.86	570159.29
3804	55.64	217.27	1875.24	-1828.07	-31.33	-3008.06	5736318.21	570158.78
3805	55.69	217.13	1875.81	-1828.64	-31.98	-3008.57	5736317.56	570158.28
3806	55.73	216.98	1876.38	-1829.21	-32.63	-3009.07	5736316.91	570157.77
3807	55.77	216.84	1876.95	-1829.78	-33.28	-3009.58	5736316.27	570157.26
3808	55.81	216.7	1877.51	-1830.34	-33.92	-3010.09	5736315.62	570156.75
3809	55.86	216.56	1878.08	-1830.91	-34.57	-3010.6	5736314.97	570156.25
3810	55.9	216.42	1878.65	-1831.48	-35.22	-3011.1	5736314.32	570155.74
3811	55.94	216.28	1879.22	-1832.05	-35.87	-3011.61	5736313.68	570155.23
3812	55.98	216.14	1879.79	-1832.62	-36.51	-3012.12	5736313.03	570154.72
3813	56.02	216	1880.35	-1833.18	-37.18	-3012.61	5736312.36	570154.23
3814	56.06	215.87	1880.9	-1833.73	-37.87	-3013.08	5736311.67	570153.76
3815	56.1	215.74	1881.45	-1834.28	-38.56	-3013.55	5736310.98	570153.29
3816	56.14	215.61	1882	-1834.83	-39.25	-3014.02	5736310.29	570152.83
3817	56.17	215.48	1882.55	-1835.38	-39.94	-3014.49	5736309.6	570152.36
3818	56.21	215.35	1883.11	-1835.94	-40.63	-3014.95	5736308.91	570151.89
3819	56.25	215.22	1883.66	-1836.49	-41.32	-3015.42	5736308.22	570151.42
3820	56.28	215.09	1884.21	-1837.04	-42.01	-3015.89	5736307.53	570150.95
3821	56.32	214.96	1884.76	-1837.59	-42.7	-3016.36	5736306.84	570150.48
3822	56.36	214.83	1885.31	-1838.14	-43.39	-3016.83	5736306.15	570150.02
3823	56.4	214.7	1885.86	-1838.69	-44.08	-3017.3	5736305.46	570149.55
3824	56.43	214.57	1886.41	-1839.24	-44.77	-3017.76	5736304.77	570149.08
3825	56.47	214.44	1886.97	-1839.8	-45.46	-3018.23	5736304.08	570148.61
3826	56.51	214.3	1887.52	-1840.35	-46.15	-3018.7	5736303.39	570148.14
3827	56.55	214.17	1888.07	-1840.9	-46.84	-3019.17	5736302.7	570147.67
3828	56.58	214.04	1888.62	-1841.45	-47.53	-3019.64	5736302.01	570147.2
3829	56.62	213.91	1889.17	-1842	-48.22	-3020.11	5736301.32	570146.74
3830	56.66	213.78	1889.72	-1842.55	-48.91	-3020.57	5736300.63	570146.27
3831	56.69	213.65	1890.27	-1843.1	-49.6	-3021.04	5736299.94	570145.8
3832	56.73	213.52	1890.83	-1843.66	-50.29	-3021.51	5736299.25	570145.33
3833	56.77	213.39	1891.38	-1844.21	-50.98	-3021.98	5736298.56	570144.86

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
3834	56.81	213.26	1891.93	-1844.76	-51.67	-3022.45	5736297.87	570144.39
3835	56.84	213.13	1892.48	-1845.31	-52.36	-3022.92	5736297.18	570143.93
3836	56.88	213	1893.03	-1845.86	-53.05	-3023.38	5736296.49	570143.46
3837	56.92	212.87	1893.58	-1846.41	-53.74	-3023.85	5736295.8	570142.99
3838	56.95	212.74	1894.13	-1846.96	-54.43	-3024.32	5736295.11	570142.52
3839	56.99	212.61	1894.69	-1847.52	-55.12	-3024.79	5736294.42	570142.05
3840	57.03	212.48	1895.24	-1848.07	-55.81	-3025.26	5736293.73	570141.58
3841	57.07	212.35	1895.79	-1848.62	-56.5	-3025.73	5736293.04	570141.12
3842	57.11	212.29	1896.33	-1849.16	-57.21	-3026.18	5736292.33	570140.66
3843	57.15	212.28	1896.86	-1849.69	-57.93	-3026.63	5736291.62	570140.21
3844	57.2	212.26	1897.4	-1850.23	-58.64	-3027.08	5736290.9	570139.76
3845	57.25	212.25	1897.93	-1850.76	-59.36	-3027.53	5736290.18	570139.31
3846	57.29	212.23	1898.46	-1851.29	-60.08	-3027.98	5736289.47	570138.86
3847	57.34	212.22	1899	-1851.83	-60.79	-3028.43	5736288.75	570138.41
3848	57.39	212.21	1899.53	-1852.36	-61.51	-3028.88	5736288.03	570137.96
3849	57.43	212.19	1900.06	-1852.89	-62.22	-3029.33	5736287.32	570137.51
3850	57.48	212.18	1900.6	-1853.43	-62.94	-3029.78	5736286.6	570137.07
3851	57.53	212.16	1901.13	-1853.96	-63.66	-3030.23	5736285.89	570136.62
3852	57.57	212.15	1901.67	-1854.5	-64.37	-3030.68	5736285.17	570136.17
3853	57.62	212.13	1902.2	-1855.03	-65.09	-3031.12	5736284.45	570135.72
3854	57.66	212.12	1902.73	-1855.56	-65.81	-3031.57	5736283.74	570135.27
3855	57.71	212.11	1903.27	-1856.1	-66.52	-3032.02	5736283.02	570134.82
3856	57.76	212.09	1903.8	-1856.63	-67.24	-3032.47	5736282.3	570134.37
3857	57.8	212.08	1904.33	-1857.16	-67.96	-3032.92	5736281.59	570133.92
3858	57.85	212.06	1904.87	-1857.7	-68.67	-3033.37	5736280.87	570133.47
3859	57.9	212.05	1905.4	-1858.23	-69.39	-3033.82	5736280.15	570133.02
3860	57.94	212.03	1905.93	-1858.76	-70.11	-3034.27	5736279.44	570132.57
3861	57.99	212.02	1906.47	-1859.3	-70.82	-3034.72	5736278.72	570132.12
3862	58.03	212.01	1907	-1859.83	-71.54	-3035.17	5736278	570131.67
3863	58.08	211.99	1907.54	-1860.37	-72.25	-3035.62	5736277.29	570131.22
3864	58.13	211.98	1908.07	-1860.9	-72.97	-3036.07	5736276.57	570130.78
3865	58.17	211.96	1908.6	-1861.43	-73.69	-3036.52	5736275.86	570130.33
3866	58.22	211.95	1909.14	-1861.97	-74.4	-3036.97	5736275.14	570129.88
3867	58.27	211.93	1909.67	-1862.5	-75.12	-3037.41	5736274.42	570129.43
3868	58.31	211.92	1910.2	-1863.03	-75.84	-3037.86	5736273.71	570128.98
3869	58.36	211.91	1910.74	-1863.57	-76.55	-3038.31	5736272.99	570128.53
3870	58.4	211.89	1911.27	-1864.1	-77.27	-3038.76	5736272.27	570128.08
3871	58.4	211.85	1911.8	-1864.63	-77.99	-3039.21	5736271.55	570127.64
3872	58.38	211.81	1912.33	-1865.16	-78.72	-3039.65	5736270.82	570127.2
3873	58.36	211.77	1912.86	-1865.69	-79.45	-3040.09	5736270.1	570126.75
3874	58.34	211.73	1913.38	-1866.21	-80.17	-3040.53	5736269.37	570126.31
3875	58.33	211.69	1913.91	-1866.74	-80.9	-3040.97	5736268.65	570125.87
3876	58.31	211.65	1914.44	-1867.27	-81.62	-3041.41	5736267.92	570125.43
3877	58.29	211.61	1914.97	-1867.8	-82.35	-3041.85	5736267.19	570124.99
3878	58.28	211.57	1915.49	-1868.32	-83.07	-3042.29	5736266.47	570124.55
3879	58.26	211.53	1916.02	-1868.85	-83.8	-3042.74	5736265.74	570124.11
3880	58.24	211.49	1916.55	-1869.38	-84.53	-3043.18	5736265.02	570123.66
3881	58.22	211.45	1917.08	-1869.91	-85.25	-3043.62	5736264.29	570123.22
3882	58.21	211.41	1917.6	-1870.43	-85.98	-3044.06	5736263.56	570122.78
3883	58.19	211.37	1918.13	-1870.96	-86.7	-3044.5	5736262.84	570122.34
3884	58.17	211.33	1918.66	-1871.49	-87.43	-3044.94	5736262.11	570121.9
3885	58.16	211.29	1919.19	-1872.02	-88.16	-3045.38	5736261.39	570121.46
3886	58.14	211.25	1919.71	-1872.54	-88.88	-3045.83	5736260.66	570121.02
3887	58.12	211.21	1920.24	-1873.07	-89.61	-3046.27	5736259.94	570120.58
3888	58.1	211.17	1920.77	-1873.6	-90.33	-3046.71	5736259.21	570120.13
3889	58.09	211.13	1921.3	-1874.13	-91.06	-3047.15	5736258.48	570119.69
3890	58.07	211.09	1921.82	-1874.65	-91.78	-3047.59	5736257.76	570119.25
3891	58.05	211.05	1922.35	-1875.18	-92.51	-3048.03	5736257.03	570118.81

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
3892	58.03	211	1922.88	-1875.71	-93.24	-3048.47	5736256.31	570118.37
3893	58.02	210.96	1923.41	-1876.24	-93.96	-3048.91	5736255.58	570117.93
3894	58	210.92	1923.93	-1876.76	-94.69	-3049.36	5736254.85	570117.49
3895	57.98	210.88	1924.46	-1877.29	-95.41	-3049.8	5736254.13	570117.04
3896	57.97	210.84	1924.99	-1877.82	-96.14	-3050.24	5736253.4	570116.6
3897	57.95	210.8	1925.52	-1878.35	-96.87	-3050.68	5736252.68	570116.16
3898	57.93	210.76	1926.04	-1878.87	-97.59	-3051.12	5736251.95	570115.72
3899	57.91	210.72	1926.57	-1879.4	-98.32	-3051.56	5736251.23	570115.28
3900	57.89	210.71	1927.11	-1879.94	-99.04	-3052	5736250.5	570114.85
3901	57.86	210.71	1927.64	-1880.47	-99.77	-3052.43	5736249.77	570114.42
3902	57.83	210.71	1928.18	-1881.01	-100.49	-3052.86	5736249.05	570113.99
3903	57.8	210.7	1928.72	-1881.55	-101.22	-3053.29	5736248.32	570113.55
3904	57.77	210.7	1929.26	-1882.09	-101.94	-3053.72	5736247.6	570113.12
3905	57.74	210.7	1929.8	-1882.63	-102.67	-3054.15	5736246.87	570112.69
3906	57.71	210.7	1930.33	-1883.16	-103.39	-3054.58	5736246.15	570112.26
3907	57.68	210.7	1930.87	-1883.7	-104.12	-3055.01	5736245.43	570111.83
3908	57.65	210.7	1931.41	-1884.24	-104.84	-3055.44	5736244.7	570111.4
3909	57.62	210.7	1931.95	-1884.78	-105.57	-3055.87	5736243.98	570110.97
3910	57.59	210.7	1932.48	-1885.31	-106.29	-3056.3	5736243.25	570110.54
3911	57.56	210.69	1933.02	-1885.85	-107.02	-3056.73	5736242.53	570110.11
3912	57.53	210.69	1933.56	-1886.39	-107.74	-3057.16	5736241.8	570109.68
3913	57.5	210.69	1934.1	-1886.93	-108.47	-3057.59	5736241.08	570109.25
3914	57.47	210.69	1934.64	-1887.47	-109.19	-3058.02	5736240.35	570108.82
3915	57.44	210.69	1935.17	-1888	-109.92	-3058.45	5736239.63	570108.39
3916	57.41	210.69	1935.71	-1888.54	-110.64	-3058.88	5736238.9	570107.96
3917	57.38	210.69	1936.25	-1889.08	-111.37	-3059.31	5736238.18	570107.53
3918	57.35	210.68	1936.79	-1889.62	-112.09	-3059.74	5736237.45	570107.1
3919	57.32	210.68	1937.32	-1890.15	-112.82	-3060.17	5736236.73	570106.67
3920	57.29	210.68	1937.86	-1890.69	-113.54	-3060.6	5736236	570106.24
3921	57.26	210.68	1938.4	-1891.23	-114.27	-3061.03	5736235.28	570105.81
3922	57.23	210.68	1938.94	-1891.77	-114.99	-3061.46	5736234.55	570105.38
3923	57.2	210.68	1939.48	-1892.31	-115.72	-3061.89	5736233.83	570104.95
3924	57.17	210.68	1940.01	-1892.84	-116.44	-3062.32	5736233.1	570104.52
3925	57.14	210.68	1940.55	-1893.38	-117.17	-3062.75	5736232.38	570104.09
3926	57.11	210.67	1941.09	-1893.92	-117.89	-3063.18	5736231.65	570103.66
3927	57.08	210.67	1941.63	-1894.46	-118.62	-3063.61	5736230.93	570103.23
3928	57.05	210.67	1942.16	-1894.99	-119.34	-3064.04	5736230.2	570102.8
3929	57.02	210.67	1942.71	-1895.54	-120.07	-3064.47	5736229.48	570102.37
3930	56.98	210.66	1943.27	-1896.1	-120.78	-3064.89	5736228.77	570101.95
3931	56.94	210.65	1943.84	-1896.67	-121.49	-3065.31	5736228.06	570101.54
3932	56.91	210.65	1944.41	-1897.24	-122.2	-3065.72	5736227.35	570101.12
3933	56.87	210.64	1944.98	-1897.81	-122.91	-3066.14	5736226.64	570100.7
3934	56.83	210.63	1945.54	-1898.37	-123.62	-3066.55	5736225.93	570100.29
3935	56.79	210.63	1946.11	-1898.94	-124.33	-3066.97	5736225.22	570099.87
3936	56.76	210.62	1946.68	-1899.51	-125.04	-3067.39	5736224.5	570099.46
3937	56.72	210.61	1947.25	-1900.08	-125.75	-3067.8	5736223.79	570099.04
3938	56.68	210.6	1947.81	-1900.64	-126.46	-3068.22	5736223.08	570098.62
3939	56.65	210.6	1948.38	-1901.21	-127.17	-3068.63	5736222.37	570098.21
3940	56.61	210.59	1948.95	-1901.78	-127.88	-3069.05	5736221.66	570097.79
3941	56.57	210.58	1949.52	-1902.35	-128.59	-3069.47	5736220.95	570097.38
3942	56.54	210.58	1950.08	-1902.91	-129.3	-3069.88	5736220.24	570096.96
3943	56.5	210.57	1950.65	-1903.48	-130.01	-3070.3	5736219.53	570096.54
3944	56.46	210.56	1951.22	-1904.05	-130.72	-3070.71	5736218.82	570096.13
3945	56.43	210.55	1951.79	-1904.62	-131.43	-3071.13	5736218.11	570095.71
3946	56.39	210.55	1952.35	-1905.18	-132.14	-3071.55	5736217.4	570095.3
3947	56.35	210.54	1952.92	-1905.75	-132.85	-3071.96	5736216.69	570094.88
3948	56.31	210.53	1953.49	-1906.32	-133.56	-3072.38	5736215.98	570094.46
3949	56.28	210.52	1954.06	-1906.89	-134.27	-3072.8	5736215.27	570094.05

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
3950	56.24	210.52	1954.62	-1907.45	-134.98	-3073.21	5736214.56	570093.63
3951	56.2	210.51	1955.19	-1908.02	-135.69	-3073.63	5736213.85	570093.21
3952	56.17	210.5	1955.76	-1908.59	-136.4	-3074.04	5736213.14	570092.8
3953	56.13	210.5	1956.33	-1909.16	-137.11	-3074.46	5736212.43	570092.38
3954	56.09	210.49	1956.89	-1909.72	-137.82	-3074.88	5736211.72	570091.97
3955	56.06	210.48	1957.46	-1910.29	-138.53	-3075.29	5736211.01	570091.55
3956	56.02	210.47	1958.03	-1910.86	-139.24	-3075.71	5736210.3	570091.13
3957	55.98	210.47	1958.6	-1911.43	-139.95	-3076.12	5736209.59	570090.72
3958	55.94	210.46	1959.17	-1912	-140.66	-3076.54	5736208.88	570090.3
3959	55.91	210.45	1959.73	-1912.56	-141.37	-3076.96	5736208.17	570089.89
3960	55.87	210.44	1960.3	-1913.13	-142.08	-3077.37	5736207.46	570089.47
3961	55.83	210.44	1960.87	-1913.7	-142.79	-3077.79	5736206.75	570089.05
3962	55.8	210.43	1961.44	-1914.27	-143.51	-3078.2	5736206.04	570088.64
3963	55.76	210.42	1962	-1914.83	-144.22	-3078.62	5736205.33	570088.22
3964	55.72	210.42	1962.57	-1915.4	-144.93	-3079.04	5736204.62	570087.81
3965	55.69	210.41	1963.14	-1915.97	-145.64	-3079.45	5736203.91	570087.39
3966	55.65	210.4	1963.71	-1916.54	-146.35	-3079.87	5736203.2	570086.97
3967	55.61	210.39	1964.27	-1917.1	-147.06	-3080.28	5736202.49	570086.56
3968	55.58	210.39	1964.84	-1917.67	-147.77	-3080.7	5736201.78	570086.14
3969	55.54	210.38	1965.41	-1918.24	-148.48	-3081.12	5736201.07	570085.73
3970	55.5	210.37	1965.98	-1918.81	-149.19	-3081.53	5736200.36	570085.31
3971	55.46	210.36	1966.54	-1919.37	-149.9	-3081.95	5736199.64	570084.89
3972	55.43	210.36	1967.11	-1919.94	-150.61	-3082.36	5736198.93	570084.48
3973	55.39	210.35	1967.68	-1920.51	-151.32	-3082.78	5736198.22	570084.06
3974	55.35	210.34	1968.25	-1921.08	-152.03	-3083.2	5736197.51	570083.65
3975	55.32	210.34	1968.81	-1921.64	-152.74	-3083.61	5736196.8	570083.23
3976	55.28	210.33	1969.38	-1922.21	-153.45	-3084.03	5736196.09	570082.81
3977	55.24	210.32	1969.95	-1922.78	-154.16	-3084.44	5736195.38	570082.4
3978	55.21	210.31	1970.52	-1923.35	-154.87	-3084.86	5736194.67	570081.98
3979	55.17	210.31	1971.08	-1923.91	-155.58	-3085.28	5736193.96	570081.57
3980	55.13	210.3	1971.65	-1924.48	-156.29	-3085.69	5736193.25	570081.15
3981	55.1	210.29	1972.22	-1925.05	-157	-3086.11	5736192.54	570080.73
3982	55.06	210.28	1972.79	-1925.62	-157.71	-3086.53	5736191.83	570080.32
3983	55.02	210.28	1973.35	-1926.18	-158.42	-3086.94	5736191.12	570079.9
3984	54.98	210.27	1973.92	-1926.75	-159.13	-3087.36	5736190.41	570079.48
3985	54.95	210.26	1974.49	-1927.32	-159.84	-3087.77	5736189.7	570079.07
3986	54.91	210.26	1975.06	-1927.89	-160.55	-3088.19	5736188.99	570078.65
3987	54.87	210.25	1975.62	-1928.45	-161.26	-3088.61	5736188.28	570078.24
3988	54.84	210.24	1976.19	-1929.02	-161.97	-3089.02	5736187.57	570077.82
3989	54.8	210.23	1976.76	-1929.59	-162.68	-3089.44	5736186.86	570077.4
3990	54.76	210.23	1977.33	-1930.16	-163.39	-3089.85	5736186.15	570076.99
3991	54.73	210.22	1977.89	-1930.72	-164.1	-3090.27	5736185.44	570076.57
3992	54.69	210.21	1978.46	-1931.29	-164.81	-3090.69	5736184.73	570076.16
3993	54.65	210.21	1979.03	-1931.86	-165.52	-3091.1	5736184.02	570075.74
3994	54.61	210.2	1979.6	-1932.43	-166.23	-3091.52	5736183.31	570075.32
3995	54.58	210.19	1980.17	-1933	-166.94	-3091.93	5736182.6	570074.91
3996	54.54	210.18	1980.73	-1933.56	-167.65	-3092.35	5736181.89	570074.49
3997	54.5	210.18	1981.3	-1934.13	-168.37	-3092.77	5736181.18	570074.08
3998	54.47	210.17	1981.87	-1934.7	-169.08	-3093.18	5736180.47	570073.66
3999	54.43	210.16	1982.44	-1935.27	-169.79	-3093.6	5736179.76	570073.24
4000	54.39	210.15	1983	-1935.83	-170.5	-3094.01	5736179.05	570072.83
4001	54.36	210.15	1983.57	-1936.4	-171.21	-3094.43	5736178.34	570072.41
4002	54.32	210.14	1984.14	-1936.97	-171.92	-3094.85	5736177.63	570072
4003	54.28	210.13	1984.71	-1937.54	-172.63	-3095.26	5736176.92	570071.58
4004	54.25	210.13	1985.27	-1938.1	-173.34	-3095.68	5736176.21	570071.16
4005	54.21	210.12	1985.84	-1938.67	-174.05	-3096.09	5736175.5	570070.75
4006	54.17	210.11	1986.41	-1939.24	-174.76	-3096.51	5736174.78	570070.33
4007	54.13	210.1	1986.98	-1939.81	-175.47	-3096.93	5736174.07	570069.92

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
4008	54.1	210.1	1987.54	-1940.37	-176.18	-3097.34	5736173.36	570069.5
4009	54.06	210.09	1988.11	-1940.94	-176.89	-3097.76	5736172.65	570069.08
4010	54.02	210.08	1988.68	-1941.51	-177.6	-3098.17	5736171.94	570068.67
4011	53.99	210.07	1989.25	-1942.08	-178.31	-3098.59	5736171.23	570068.25
4012	53.95	210.07	1989.81	-1942.64	-179.02	-3099.01	5736170.52	570067.84
4013	53.91	210.06	1990.38	-1943.21	-179.73	-3099.42	5736169.81	570067.42
4014	53.88	210.05	1990.95	-1943.78	-180.44	-3099.84	5736169.1	570067
4015	53.84	210.05	1991.52	-1944.35	-181.15	-3100.26	5736168.39	570066.59
4016	53.79	210.04	1992.09	-1944.92	-181.86	-3100.67	5736167.69	570066.18
4017	53.71	210.02	1992.7	-1945.53	-182.55	-3101.06	5736167	570065.78
4018	53.64	210	1993.3	-1946.13	-183.24	-3101.46	5736166.31	570065.39
4019	53.56	209.98	1993.91	-1946.74	-183.93	-3101.85	5736165.62	570064.99
4020	53.48	209.96	1994.52	-1947.35	-184.62	-3102.25	5736164.92	570064.6
4021	53.4	209.94	1995.12	-1947.95	-185.31	-3102.64	5736164.23	570064.2
4022	53.32	209.92	1995.73	-1948.56	-186	-3103.04	5736163.54	570063.81
4023	53.25	209.91	1996.33	-1949.16	-186.69	-3103.43	5736162.85	570063.41
4024	53.17	209.89	1996.94	-1949.77	-187.38	-3103.83	5736162.16	570063.02
4025	53.09	209.87	1997.55	-1950.38	-188.07	-3104.22	5736161.47	570062.62
4026	53.01	209.85	1998.15	-1950.98	-188.76	-3104.62	5736160.78	570062.23
4027	52.93	209.83	1998.76	-1951.59	-189.45	-3105.01	5736160.09	570061.83
4028	52.86	209.81	1999.36	-1952.19	-190.14	-3105.41	5736159.4	570061.44
4029	52.78	209.79	1999.97	-1952.8	-190.83	-3105.8	5736158.71	570061.04
4030	52.7	209.78	2000.58	-1953.41	-191.52	-3106.2	5736158.02	570060.64
4031	52.62	209.76	2001.18	-1954.01	-192.21	-3106.59	5736157.33	570060.25
4032	52.54	209.74	2001.79	-1954.62	-192.9	-3106.99	5736156.64	570059.85
4033	52.46	209.72	2002.39	-1955.22	-193.59	-3107.38	5736155.95	570059.46
4034	52.39	209.7	2003	-1955.83	-194.28	-3107.78	5736155.26	570059.06
4035	52.31	209.68	2003.61	-1956.44	-194.97	-3108.17	5736154.57	570058.67
4036	52.23	209.66	2004.21	-1957.04	-195.66	-3108.57	5736153.88	570058.27
4037	52.15	209.65	2004.82	-1957.65	-196.35	-3108.96	5736153.19	570057.88
4038	52.07	209.63	2005.42	-1958.25	-197.04	-3109.36	5736152.5	570057.48
4039	52	209.61	2006.03	-1958.86	-197.73	-3109.75	5736151.81	570057.09
4040	51.92	209.59	2006.64	-1959.47	-198.42	-3110.15	5736151.12	570056.69
4041	51.84	209.57	2007.24	-1960.07	-199.11	-3110.54	5736150.43	570056.3
4042	51.76	209.55	2007.85	-1960.68	-199.8	-3110.94	5736149.74	570055.9
4043	51.68	209.53	2008.45	-1961.28	-200.5	-3111.33	5736149.05	570055.51
4044	51.61	209.52	2009.06	-1961.89	-201.19	-3111.73	5736148.36	570055.11
4045	51.55	209.47	2009.68	-1962.51	-201.87	-3112.11	5736147.67	570054.74
4046	51.5	209.4	2010.31	-1963.14	-202.55	-3112.48	5736146.99	570054.36
4047	51.46	209.34	2010.94	-1963.77	-203.23	-3112.85	5736146.31	570053.99
4048	51.41	209.27	2011.57	-1964.4	-203.91	-3113.22	5736145.63	570053.62
4049	51.36	209.21	2012.2	-1965.03	-204.6	-3113.59	5736144.95	570053.25
4050	51.32	209.14	2012.84	-1965.67	-205.28	-3113.96	5736144.27	570052.88
4051	51.27	209.08	2013.47	-1966.3	-205.96	-3114.33	5736143.58	570052.51
4052	51.22	209.01	2014.1	-1966.93	-206.64	-3114.71	5736142.9	570052.14
4053	51.18	208.95	2014.73	-1967.56	-207.32	-3115.08	5736142.22	570051.76
4054	51.13	208.88	2015.36	-1968.19	-208	-3115.45	5736141.54	570051.39
4055	51.09	208.82	2015.99	-1968.82	-208.68	-3115.82	5736140.86	570051.02
4056	51.04	208.76	2016.62	-1969.45	-209.37	-3116.19	5736140.18	570050.65
4057	50.99	208.69	2017.25	-1970.08	-210.05	-3116.56	5736139.5	570050.28
4058	50.95	208.63	2017.88	-1970.71	-210.73	-3116.93	5736138.81	570049.91
4059	50.9	208.56	2018.51	-1971.34	-211.41	-3117.31	5736138.13	570049.54
4060	50.85	208.5	2019.14	-1971.97	-212.09	-3117.68	5736137.45	570049.17
4061	50.81	208.43	2019.77	-1972.6	-212.77	-3118.05	5736136.77	570048.79
4062	50.76	208.37	2020.4	-1973.23	-213.45	-3118.42	5736136.09	570048.42
4063	50.72	208.3	2021.03	-1973.86	-214.14	-3118.79	5736135.41	570048.05
4064	50.67	208.24	2021.66	-1974.49	-214.82	-3119.16	5736134.72	570047.68
4065	50.62	208.17	2022.29	-1975.12	-215.5	-3119.53	5736134.04	570047.31

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
4066	50.58	208.11	2022.92	-1975.75	-216.18	-3119.9	5736133.36	570046.94
4067	50.53	208.04	2023.56	-1976.39	-216.86	-3120.28	5736132.68	570046.57
4068	50.48	207.98	2024.19	-1977.02	-217.54	-3120.65	5736132	570046.19
4069	50.44	207.92	2024.82	-1977.65	-218.23	-3121.02	5736131.32	570045.82
4070	50.39	207.85	2025.45	-1978.28	-218.91	-3121.39	5736130.64	570045.45
4071	50.34	207.79	2026.08	-1978.91	-219.59	-3121.76	5736129.95	570045.08
4072	50.3	207.72	2026.71	-1979.54	-220.27	-3122.13	5736129.27	570044.71
4073	50.25	207.66	2027.34	-1980.17	-220.95	-3122.5	5736128.59	570044.34
4074	50.14	207.61	2028	-1980.83	-221.62	-3122.85	5736127.92	570043.99
4075	50	207.58	2028.66	-1981.49	-222.28	-3123.19	5736127.26	570043.65
4076	49.85	207.54	2029.33	-1982.16	-222.95	-3123.53	5736126.6	570043.31
4077	49.71	207.5	2030	-1982.83	-223.61	-3123.87	5736125.93	570042.97
4078	49.57	207.46	2030.66	-1983.49	-224.27	-3124.21	5736125.27	570042.63
4079	49.43	207.43	2031.33	-1984.16	-224.94	-3124.55	5736124.61	570042.29
4080	49.29	207.39	2031.99	-1984.82	-225.6	-3124.89	5736123.94	570041.95
4081	49.15	207.35	2032.66	-1985.49	-226.26	-3125.23	5736123.28	570041.61
4082	49.01	207.31	2033.33	-1986.16	-226.93	-3125.57	5736122.62	570041.27
4083	48.87	207.28	2033.99	-1986.82	-227.59	-3125.91	5736121.95	570040.93
4084	48.73	207.24	2034.66	-1987.49	-228.25	-3126.25	5736121.29	570040.59
4085	48.59	207.2	2035.33	-1988.16	-228.92	-3126.59	5736120.63	570040.25
4086	48.45	207.17	2035.99	-1988.82	-229.58	-3126.93	5736119.96	570039.91
4087	48.31	207.13	2036.66	-1989.49	-230.24	-3127.27	5736119.3	570039.57
4088	48.17	207.09	2037.33	-1990.16	-230.91	-3127.61	5736118.64	570039.23
4089	48.03	207.05	2037.99	-1990.82	-231.57	-3127.95	5736117.97	570038.89
4090	47.89	207.02	2038.66	-1991.49	-232.23	-3128.29	5736117.31	570038.55
4091	47.75	206.98	2039.32	-1992.15	-232.9	-3128.63	5736116.65	570038.22
4092	47.61	206.94	2039.99	-1992.82	-233.56	-3128.97	5736115.98	570037.88
4093	47.47	206.91	2040.66	-1993.49	-234.22	-3129.31	5736115.32	570037.54
4094	47.33	206.87	2041.32	-1994.15	-234.89	-3129.65	5736114.66	570037.2
4095	47.18	206.83	2041.99	-1994.82	-235.55	-3129.99	5736113.99	570036.86
4096	47.04	206.79	2042.66	-1995.49	-236.21	-3130.33	5736113.33	570036.52
4097	46.9	206.76	2043.32	-1996.15	-236.88	-3130.67	5736112.67	570036.18
4098	46.76	206.72	2043.99	-1996.82	-237.54	-3131	5736112	570035.84
4099	46.62	206.68	2044.66	-1997.49	-238.2	-3131.34	5736111.34	570035.5
4100	46.48	206.65	2045.32	-1998.15	-238.87	-3131.68	5736110.68	570035.16
4101	46.34	206.61	2045.99	-1998.82	-239.53	-3132.02	5736110.01	570034.82
4102	46.2	206.57	2046.65	-1999.48	-240.19	-3132.36	5736109.35	570034.48
4103	46.02	206.55	2047.36	-2000.19	-240.82	-3132.68	5736108.72	570034.16
4104	45.82	206.55	2048.09	-2000.92	-241.44	-3132.98	5736108.11	570033.86
4105	45.63	206.54	2048.82	-2001.65	-242.05	-3133.29	5736107.49	570033.55
4106	45.43	206.53	2049.55	-2002.38	-242.66	-3133.6	5736106.88	570033.25
4107	45.23	206.52	2050.27	-2003.1	-243.28	-3133.9	5736106.27	570032.94
4108	45.03	206.51	2051	-2003.83	-243.89	-3134.21	5736105.65	570032.64
4109	44.84	206.51	2051.73	-2004.56	-244.51	-3134.51	5736105.04	570032.33
4110	44.64	206.5	2052.46	-2005.29	-245.12	-3134.82	5736104.42	570032.03
4111	44.44	206.49	2053.18	-2006.01	-245.73	-3135.12	5736103.81	570031.72
4112	44.24	206.48	2053.91	-2006.74	-246.35	-3135.43	5736103.2	570031.41
4113	44.05	206.47	2054.64	-2007.47	-246.96	-3135.73	5736102.58	570031.11
4114	43.85	206.47	2055.37	-2008.2	-247.57	-3136.04	5736101.97	570030.8
4115	43.65	206.46	2056.09	-2008.92	-248.19	-3136.34	5736101.35	570030.5
4116	43.45	206.45	2056.82	-2009.65	-248.8	-3136.65	5736100.74	570030.19
4117	43.26	206.44	2057.55	-2010.38	-249.42	-3136.95	5736100.13	570029.89
4118	43.06	206.43	2058.27	-2011.1	-250.03	-3137.26	5736099.51	570029.58
4119	42.86	206.43	2059	-2011.83	-250.64	-3137.57	5736098.9	570029.28
4120	42.66	206.42	2059.73	-2012.56	-251.26	-3137.87	5736098.28	570028.97
4121	42.47	206.41	2060.46	-2013.29	-251.87	-3138.18	5736097.67	570028.67
4122	42.27	206.4	2061.18	-2014.01	-252.49	-3138.48	5736097.06	570028.36
4123	42.07	206.4	2061.91	-2014.74	-253.1	-3138.79	5736096.44	570028.05

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
4124	41.88	206.39	2062.64	-2015.47	-253.71	-3139.09	5736095.83	570027.75
4125	41.68	206.38	2063.37	-2016.2	-254.33	-3139.4	5736095.21	570027.44
4126	41.48	206.37	2064.09	-2016.92	-254.94	-3139.7	5736094.6	570027.14
4127	41.28	206.36	2064.82	-2017.65	-255.56	-3140.01	5736093.99	570026.83
4128	41.09	206.36	2065.55	-2018.38	-256.17	-3140.31	5736093.37	570026.53
4129	40.89	206.35	2066.28	-2019.11	-256.78	-3140.62	5736092.76	570026.22
4130	40.69	206.34	2067	-2019.83	-257.4	-3140.93	5736092.15	570025.92
4131	40.49	206.33	2067.73	-2020.56	-258.01	-3141.23	5736091.53	570025.61
4132	40.4	206.33	2068.5	-2021.33	-258.59	-3141.52	5736090.96	570025.33
4133	40.32	206.34	2069.27	-2022.1	-259.15	-3141.8	5736090.39	570025.04
4134	40.24	206.34	2070.04	-2022.87	-259.72	-3142.08	5736089.82	570024.76
4135	40.16	206.34	2070.82	-2023.65	-260.29	-3142.36	5736089.25	570024.48
4136	40.09	206.35	2071.59	-2024.42	-260.86	-3142.64	5736088.68	570024.2
4137	40.01	206.35	2072.36	-2025.19	-261.43	-3142.92	5736088.12	570023.92
4138	39.93	206.36	2073.14	-2025.97	-261.99	-3143.21	5736087.55	570023.64
4139	39.85	206.36	2073.91	-2026.74	-262.56	-3143.49	5736086.98	570023.35
4140	39.78	206.36	2074.68	-2027.51	-263.13	-3143.77	5736086.41	570023.07
4141	39.7	206.37	2075.46	-2028.29	-263.7	-3144.05	5736085.84	570022.79
4142	39.62	206.37	2076.23	-2029.06	-264.27	-3144.33	5736085.28	570022.51
4143	39.54	206.38	2077	-2029.83	-264.83	-3144.61	5736084.71	570022.23
4144	39.47	206.38	2077.78	-2030.61	-265.4	-3144.9	5736084.14	570021.95
4145	39.39	206.38	2078.55	-2031.38	-265.97	-3145.18	5736083.57	570021.66
4146	39.31	206.39	2079.32	-2032.15	-266.54	-3145.46	5736083.01	570021.38
4147	39.23	206.39	2080.1	-2032.93	-267.11	-3145.74	5736082.44	570021.1
4148	39.16	206.39	2080.87	-2033.7	-267.67	-3146.02	5736081.87	570020.82
4149	39.08	206.4	2081.64	-2034.47	-268.24	-3146.31	5736081.3	570020.54
4150	39	206.4	2082.42	-2035.25	-268.81	-3146.59	5736080.73	570020.26
4151	38.92	206.41	2083.19	-2036.02	-269.38	-3146.87	5736080.17	570019.97
4152	38.85	206.41	2083.96	-2036.79	-269.95	-3147.15	5736079.6	570019.69
4153	38.77	206.41	2084.74	-2037.57	-270.51	-3147.43	5736079.03	570019.41
4154	38.69	206.42	2085.51	-2038.34	-271.08	-3147.71	5736078.46	570019.13
4155	38.61	206.42	2086.28	-2039.11	-271.65	-3148	5736077.89	570018.85
4156	38.54	206.42	2087.06	-2039.89	-272.22	-3148.28	5736077.33	570018.56
4157	38.46	206.43	2087.83	-2040.66	-272.78	-3148.56	5736076.76	570018.28
4158	38.38	206.43	2088.6	-2041.43	-273.35	-3148.84	5736076.19	570018
4159	38.3	206.44	2089.38	-2042.21	-273.92	-3149.12	5736075.62	570017.72
4160	38.22	206.44	2090.15	-2042.98	-274.49	-3149.4	5736075.06	570017.44
4161	38.1	206.39	2090.95	-2043.78	-275.02	-3149.66	5736074.52	570017.18
4162	37.98	206.35	2091.76	-2044.59	-275.56	-3149.92	5736073.99	570016.92
4163	37.86	206.3	2092.56	-2045.39	-276.09	-3150.18	5736073.45	570016.66
4164	37.74	206.25	2093.37	-2046.2	-276.63	-3150.44	5736072.92	570016.4
4165	37.62	206.21	2094.17	-2047	-277.16	-3150.7	5736072.38	570016.15
4166	37.5	206.16	2094.97	-2047.8	-277.7	-3150.95	5736071.84	570015.89
4167	37.38	206.11	2095.78	-2048.61	-278.23	-3151.21	5736071.31	570015.63
4168	37.26	206.07	2096.58	-2049.41	-278.77	-3151.47	5736070.77	570015.37
4169	37.14	206.02	2097.39	-2050.22	-279.3	-3151.73	5736070.24	570015.11
4170	37.02	205.98	2098.19	-2051.02	-279.84	-3151.99	5736069.7	570014.85
4171	36.9	205.93	2098.99	-2051.82	-280.37	-3152.25	5736069.17	570014.59
4172	36.78	205.88	2099.8	-2052.63	-280.91	-3152.51	5736068.63	570014.34
4173	36.65	205.84	2100.6	-2053.43	-281.44	-3152.77	5736068.1	570014.08
4174	36.53	205.79	2101.41	-2054.24	-281.98	-3153.02	5736067.56	570013.82
4175	36.41	205.74	2102.21	-2055.04	-282.51	-3153.28	5736067.03	570013.56
4176	36.29	205.7	2103.01	-2055.84	-283.05	-3153.54	5736066.49	570013.3
4177	36.17	205.65	2103.82	-2056.65	-283.58	-3153.8	5736065.96	570013.04
4178	36.05	205.61	2104.62	-2057.45	-284.12	-3154.06	5736065.42	570012.78
4179	35.93	205.56	2105.42	-2058.25	-284.66	-3154.32	5736064.89	570012.52
4180	35.81	205.51	2106.23	-2059.06	-285.19	-3154.58	5736064.35	570012.27
4181	35.69	205.47	2107.03	-2059.86	-285.73	-3154.84	5736063.82	570012.01

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
4182	35.57	205.42	2107.84	-2060.67	-286.26	-3155.09	5736063.28	570011.75
4183	35.45	205.37	2108.64	-2061.47	-286.8	-3155.35	5736062.75	570011.49
4184	35.33	205.33	2109.44	-2062.27	-287.33	-3155.61	5736062.21	570011.23
4185	35.21	205.28	2110.25	-2063.08	-287.87	-3155.87	5736061.68	570010.97
4186	35.09	205.24	2111.05	-2063.88	-288.4	-3156.13	5736061.14	570010.71
4187	34.97	205.19	2111.86	-2064.69	-288.94	-3156.39	5736060.61	570010.45
4188	34.84	205.14	2112.66	-2065.49	-289.47	-3156.65	5736060.07	570010.2
4189	34.73	205.1	2113.47	-2066.3	-290.01	-3156.9	5736059.54	570009.94
4190	34.69	205.09	2114.29	-2067.12	-290.51	-3157.14	5736059.03	570009.7
4191	34.64	205.07	2115.12	-2067.95	-291.02	-3157.38	5736058.52	570009.47
4192	34.6	205.06	2115.95	-2068.78	-291.53	-3157.61	5736058.01	570009.23
4193	34.56	205.05	2116.78	-2069.61	-292.04	-3157.85	5736057.5	570008.99
4194	34.52	205.03	2117.6	-2070.43	-292.55	-3158.09	5736056.99	570008.76
4195	34.48	205.02	2118.43	-2071.26	-293.06	-3158.32	5736056.48	570008.52
4196	34.44	205.01	2119.26	-2072.09	-293.57	-3158.56	5736055.97	570008.28
4197	34.39	204.99	2120.09	-2072.92	-294.08	-3158.79	5736055.47	570008.05
4198	34.35	204.98	2120.92	-2073.75	-294.59	-3159.03	5736054.96	570007.81
4199	34.31	204.97	2121.74	-2074.57	-295.09	-3159.27	5736054.45	570007.58
4200	34.27	204.95	2122.57	-2075.4	-295.6	-3159.5	5736053.94	570007.34
4201	34.23	204.94	2123.4	-2076.23	-296.11	-3159.74	5736053.43	570007.1
4202	34.18	204.93	2124.23	-2077.06	-296.62	-3159.98	5736052.92	570006.87
4203	34.14	204.91	2125.05	-2077.88	-297.13	-3160.21	5736052.41	570006.63
4204	34.1	204.9	2125.88	-2078.71	-297.64	-3160.45	5736051.9	570006.39
4205	34.06	204.89	2126.71	-2079.54	-298.15	-3160.69	5736051.4	570006.16
4206	34.02	204.87	2127.54	-2080.37	-298.66	-3160.92	5736050.89	570005.92
4207	33.97	204.86	2128.36	-2081.19	-299.16	-3161.16	5736050.38	570005.68
4208	33.93	204.85	2129.19	-2082.02	-299.67	-3161.39	5736049.87	570005.45
4209	33.89	204.83	2130.02	-2082.85	-300.18	-3161.63	5736049.36	570005.21
4210	33.85	204.82	2130.85	-2083.68	-300.69	-3161.87	5736048.85	570004.98
4211	33.81	204.81	2131.68	-2084.51	-301.2	-3162.1	5736048.34	570004.74
4212	33.77	204.79	2132.5	-2085.33	-301.71	-3162.34	5736047.83	570004.5
4213	33.72	204.78	2133.33	-2086.16	-302.22	-3162.58	5736047.32	570004.27
4214	33.68	204.77	2134.16	-2086.99	-302.73	-3162.81	5736046.82	570004.03
4215	33.64	204.75	2134.99	-2087.82	-303.24	-3163.05	5736046.31	570003.79
4216	33.6	204.74	2135.81	-2088.64	-303.74	-3163.28	5736045.8	570003.56
4217	33.56	204.73	2136.64	-2089.47	-304.25	-3163.52	5736045.29	570003.32
4218	33.48	204.72	2137.48	-2090.31	-304.75	-3163.75	5736044.79	570003.09
4219	33.34	204.73	2138.33	-2091.16	-305.22	-3163.97	5736044.32	570002.87
4220	33.21	204.73	2139.18	-2092.01	-305.7	-3164.19	5736043.84	570002.65
4221	33.07	204.74	2140.04	-2092.87	-306.17	-3164.41	5736043.37	570002.43
4222	32.93	204.75	2140.89	-2093.72	-306.65	-3164.63	5736042.89	570002.21
4223	32.8	204.75	2141.74	-2094.57	-307.12	-3164.85	5736042.42	570001.99
4224	32.66	204.76	2142.59	-2095.42	-307.6	-3165.07	5736041.95	570001.77
4225	32.52	204.76	2143.44	-2096.27	-308.07	-3165.29	5736041.47	570001.56
4226	32.39	204.77	2144.3	-2097.13	-308.55	-3165.51	5736041	570001.34
4227	32.25	204.77	2145.15	-2097.98	-309.02	-3165.73	5736040.52	570001.12
4228	32.11	204.78	2146	-2098.83	-309.5	-3165.94	5736040.05	570000.9
4229	31.98	204.79	2146.85	-2099.68	-309.97	-3166.16	5736039.57	570000.68
4230	31.84	204.79	2147.71	-2100.54	-310.45	-3166.38	5736039.1	570000.46
4231	31.71	204.8	2148.56	-2101.39	-310.92	-3166.6	5736038.62	570000.24
4232	31.57	204.8	2149.41	-2102.24	-311.39	-3166.82	5736038.15	570000.02
4233	31.43	204.81	2150.26	-2103.09	-311.87	-3167.04	5736037.67	569999.8
4234	31.3	204.81	2151.11	-2103.94	-312.34	-3167.26	5736037.2	569999.58
4235	31.16	204.82	2151.97	-2104.8	-312.82	-3167.48	5736036.72	569999.36
4236	31.02	204.83	2152.82	-2105.65	-313.29	-3167.7	5736036.25	569999.14
4237	30.89	204.83	2153.67	-2106.5	-313.77	-3167.92	5736035.78	569998.92
4238	30.75	204.84	2154.52	-2107.35	-314.24	-3168.14	5736035.3	569998.7
4239	30.61	204.84	2155.38	-2108.21	-314.72	-3168.36	5736034.83	569998.49

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
4240	30.48	204.85	2156.23	-2109.06	-315.19	-3168.58	5736034.35	569998.27
4241	30.34	204.86	2157.08	-2109.91	-315.67	-3168.8	5736033.88	569998.05
4242	30.2	204.86	2157.93	-2110.76	-316.14	-3169.01	5736033.4	569997.83
4243	30.07	204.87	2158.78	-2111.61	-316.61	-3169.23	5736032.93	569997.61
4244	29.93	204.87	2159.64	-2112.47	-317.09	-3169.45	5736032.45	569997.39
4245	29.79	204.88	2160.49	-2113.32	-317.56	-3169.67	5736031.98	569997.17
4246	29.66	204.88	2161.34	-2114.17	-318.04	-3169.89	5736031.5	569996.95
4247	29.52	204.89	2162.2	-2115.03	-318.51	-3170.11	5736031.03	569996.73
4248	29.37	204.91	2163.08	-2115.91	-318.92	-3170.3	5736030.62	569996.54
4249	29.21	204.93	2163.97	-2116.8	-319.34	-3170.5	5736030.2	569996.34
4250	29.06	204.95	2164.86	-2117.69	-319.75	-3170.69	5736029.79	569996.15
4251	28.9	204.97	2165.75	-2118.58	-320.17	-3170.89	5736029.37	569995.95
4252	28.75	204.98	2166.64	-2119.47	-320.58	-3171.08	5736028.96	569995.76
4253	28.59	205	2167.53	-2120.36	-321	-3171.28	5736028.54	569995.56
4254	28.44	205.02	2168.41	-2121.24	-321.41	-3171.47	5736028.13	569995.37
4255	28.28	205.04	2169.3	-2122.13	-321.83	-3171.67	5736027.71	569995.17
4256	28.13	205.06	2170.19	-2123.02	-322.24	-3171.86	5736027.3	569994.98
4257	27.97	205.08	2171.08	-2123.91	-322.66	-3172.06	5736026.88	569994.78
4258	27.82	205.1	2171.97	-2124.8	-323.07	-3172.25	5736026.47	569994.59
4259	27.66	205.12	2172.86	-2125.69	-323.49	-3172.45	5736026.05	569994.4
4260	27.51	205.13	2173.75	-2126.58	-323.9	-3172.64	5736025.64	569994.2
4261	27.35	205.15	2174.63	-2127.46	-324.32	-3172.84	5736025.22	569994.01
4262	27.2	205.17	2175.52	-2128.35	-324.73	-3173.03	5736024.81	569993.81
4263	27.04	205.19	2176.41	-2129.24	-325.15	-3173.23	5736024.39	569993.62
4264	26.89	205.21	2177.3	-2130.13	-325.56	-3173.42	5736023.98	569993.42
4265	26.73	205.23	2178.19	-2131.02	-325.98	-3173.62	5736023.56	569993.23
4266	26.58	205.25	2179.08	-2131.91	-326.39	-3173.81	5736023.15	569993.03
4267	26.42	205.26	2179.96	-2132.79	-326.81	-3174	5736022.73	569992.84
4268	26.27	205.28	2180.85	-2133.68	-327.22	-3174.2	5736022.32	569992.64
4269	26.11	205.3	2181.74	-2134.57	-327.64	-3174.39	5736021.9	569992.45
4270	25.96	205.32	2182.63	-2135.46	-328.05	-3174.59	5736021.49	569992.25
4271	25.8	205.34	2183.52	-2136.35	-328.47	-3174.78	5736021.07	569992.06
4272	25.65	205.36	2184.41	-2137.24	-328.88	-3174.98	5736020.66	569991.86
4273	25.49	205.38	2185.3	-2138.13	-329.3	-3175.17	5736020.24	569991.67
4274	25.34	205.4	2186.18	-2139.01	-329.71	-3175.37	5736019.83	569991.47
4275	25.18	205.41	2187.07	-2139.9	-330.13	-3175.56	5736019.41	569991.28
4276	25.03	205.44	2187.97	-2140.8	-330.53	-3175.75	5736019.01	569991.09
4277	24.91	205.48	2188.88	-2141.71	-330.89	-3175.93	5736018.65	569990.91
4278	24.78	205.53	2189.8	-2142.63	-331.24	-3176.1	5736018.3	569990.74
4279	24.66	205.58	2190.72	-2143.55	-331.6	-3176.27	5736017.94	569990.57
4280	24.54	205.63	2191.64	-2144.47	-331.95	-3176.45	5736017.59	569990.39
4281	24.41	205.67	2192.56	-2145.39	-332.31	-3176.62	5736017.24	569990.22
4282	24.29	205.72	2193.48	-2146.31	-332.66	-3176.79	5736016.88	569990.05
4283	24.17	205.77	2194.4	-2147.23	-333.02	-3176.97	5736016.53	569989.87
4284	24.04	205.82	2195.31	-2148.14	-333.37	-3177.14	5736016.17	569989.7
4285	23.92	205.86	2196.23	-2149.06	-333.73	-3177.32	5736015.82	569989.53
4286	23.79	205.91	2197.15	-2149.98	-334.08	-3177.49	5736015.46	569989.35
4287	23.67	205.96	2198.07	-2150.9	-334.44	-3177.66	5736015.11	569989.18
4288	23.55	206.01	2198.99	-2151.82	-334.79	-3177.84	5736014.75	569989.01
4289	23.42	206.05	2199.91	-2152.74	-335.14	-3178.01	5736014.4	569988.83
4290	23.3	206.1	2200.83	-2153.66	-335.5	-3178.18	5736014.04	569988.66
4291	23.18	206.15	2201.74	-2154.57	-335.85	-3178.36	5736013.69	569988.49
4292	23.05	206.19	2202.66	-2155.49	-336.21	-3178.53	5736013.33	569988.31
4293	22.93	206.24	2203.58	-2156.41	-336.56	-3178.7	5736012.98	569988.14
4294	22.81	206.29	2204.5	-2157.33	-336.92	-3178.88	5736012.62	569987.97
4295	22.68	206.34	2205.42	-2158.25	-337.27	-3179.05	5736012.27	569987.79
4296	22.56	206.38	2206.34	-2159.17	-337.63	-3179.22	5736011.92	569987.62
4297	22.44	206.43	2207.26	-2160.09	-337.98	-3179.4	5736011.56	569987.45

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
4298	22.31	206.48	2208.17	-2161	-338.34	-3179.57	5736011.21	569987.27
4299	22.19	206.53	2209.09	-2161.92	-338.69	-3179.74	5736010.85	569987.1
4300	22.06	206.57	2210.01	-2162.84	-339.05	-3179.92	5736010.5	569986.92
4301	21.94	206.62	2210.93	-2163.76	-339.4	-3180.09	5736010.14	569986.75
4302	21.82	206.67	2211.85	-2164.68	-339.76	-3180.26	5736009.79	569986.58
4303	21.69	206.71	2212.77	-2165.6	-340.11	-3180.44	5736009.43	569986.4
4304	21.57	206.76	2213.69	-2166.52	-340.46	-3180.61	5736009.08	569986.23
4305	21.44	206.81	2214.61	-2167.44	-340.81	-3180.78	5736008.74	569986.06
4306	21.27	206.85	2215.55	-2168.38	-341.1	-3180.93	5736008.45	569985.91
4307	21.1	206.89	2216.5	-2169.33	-341.39	-3181.08	5736008.16	569985.76
4308	20.93	206.94	2217.44	-2170.27	-341.67	-3181.23	5736007.87	569985.61
4309	20.76	206.98	2218.39	-2171.22	-341.96	-3181.38	5736007.58	569985.46
4310	20.59	207.02	2219.34	-2172.17	-342.25	-3181.53	5736007.29	569985.31
4311	20.42	207.06	2220.28	-2173.11	-342.54	-3181.68	5736007	569985.16
4312	20.25	207.1	2221.23	-2174.06	-342.83	-3181.83	5736006.71	569985.01
4313	20.08	207.15	2222.17	-2175	-343.12	-3181.98	5736006.42	569984.87
4314	19.91	207.19	2223.12	-2175.95	-343.41	-3182.13	5736006.13	569984.72
4315	19.74	207.23	2224.06	-2176.89	-343.7	-3182.28	5736005.84	569984.57
4316	19.58	207.27	2225.01	-2177.84	-343.99	-3182.43	5736005.55	569984.42
4317	19.41	207.32	2225.95	-2178.78	-344.28	-3182.58	5736005.26	569984.27
4318	19.24	207.36	2226.9	-2179.73	-344.57	-3182.72	5736004.97	569984.12
4319	19.07	207.4	2227.84	-2180.67	-344.86	-3182.87	5736004.69	569983.97
4320	18.9	207.44	2228.79	-2181.62	-345.15	-3183.02	5736004.4	569983.82
4321	18.73	207.49	2229.73	-2182.56	-345.44	-3183.17	5736004.11	569983.67
4322	18.56	207.53	2230.68	-2183.51	-345.72	-3183.32	5736003.82	569983.52
4323	18.39	207.57	2231.62	-2184.45	-346.01	-3183.47	5736003.53	569983.37
4324	18.22	207.61	2232.57	-2185.4	-346.3	-3183.62	5736003.24	569983.22
4325	18.05	207.66	2233.51	-2186.34	-346.59	-3183.77	5736002.95	569983.07
4326	17.88	207.7	2234.46	-2187.29	-346.88	-3183.92	5736002.66	569982.92
4327	17.71	207.74	2235.4	-2188.23	-347.17	-3184.07	5736002.37	569982.77
4328	17.54	207.78	2236.35	-2189.18	-347.46	-3184.22	5736002.08	569982.62
4329	17.37	207.83	2237.29	-2190.12	-347.75	-3184.37	5736001.79	569982.47
4330	17.21	207.87	2238.24	-2191.07	-348.04	-3184.52	5736001.5	569982.32
4331	17.04	207.91	2239.18	-2192.01	-348.33	-3184.67	5736001.21	569982.17
4332	16.87	207.95	2240.13	-2192.96	-348.62	-3184.82	5736000.92	569982.02
4333	16.7	208	2241.07	-2193.9	-348.91	-3184.97	5736000.64	569981.87
4334	16.55	208.04	2242.02	-2194.85	-349.19	-3185.11	5736000.36	569981.73
4335	16.51	208.07	2242.98	-2195.81	-349.43	-3185.25	5736000.11	569981.6
4336	16.47	208.1	2243.94	-2196.77	-349.67	-3185.38	5735999.87	569981.47
4337	16.43	208.14	2244.91	-2197.74	-349.91	-3185.51	5735999.63	569981.33
4338	16.39	208.17	2245.87	-2198.7	-350.15	-3185.64	5735999.39	569981.2
4339	16.35	208.2	2246.83	-2199.66	-350.4	-3185.77	5735999.15	569981.07
4340	16.31	208.24	2247.79	-2200.62	-350.64	-3185.9	5735998.9	569980.94
4341	16.27	208.27	2248.75	-2201.58	-350.88	-3186.03	5735998.66	569980.81
4342	16.23	208.3	2249.71	-2202.54	-351.12	-3186.16	5735998.42	569980.68
4343	16.18	208.34	2250.67	-2203.5	-351.36	-3186.3	5735998.18	569980.55
4344	16.14	208.37	2251.64	-2204.47	-351.6	-3186.43	5735997.94	569980.42
4345	16.1	208.4	2252.6	-2205.43	-351.85	-3186.56	5735997.7	569980.28
4346	16.06	208.44	2253.56	-2206.39	-352.09	-3186.69	5735997.45	569980.15
4347	16.02	208.47	2254.52	-2207.35	-352.33	-3186.82	5735997.21	569980.02
4348	15.98	208.5	2255.48	-2208.31	-352.57	-3186.95	5735996.97	569979.89
4349	15.94	208.54	2256.44	-2209.27	-352.81	-3187.08	5735996.73	569979.76
4350	15.9	208.57	2257.4	-2210.23	-353.05	-3187.21	5735996.49	569979.63
4351	15.86	208.6	2258.37	-2211.2	-353.3	-3187.34	5735996.25	569979.5
4352	15.82	208.64	2259.33	-2212.16	-353.54	-3187.48	5735996	569979.37
4353	15.78	208.67	2260.29	-2213.12	-353.78	-3187.61	5735995.76	569979.23
4354	15.73	208.7	2261.25	-2214.08	-354.02	-3187.74	5735995.52	569979.1
4355	15.69	208.74	2262.21	-2215.04	-354.26	-3187.87	5735995.28	569978.97

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
4356	15.65	208.77	2263.17	-2216	-354.51	-3188	5735995.04	569978.84
4357	15.61	208.8	2264.13	-2216.96	-354.75	-3188.13	5735994.8	569978.71
4358	15.57	208.84	2265.1	-2217.93	-354.99	-3188.26	5735994.55	569978.58
4359	15.53	208.87	2266.06	-2218.89	-355.23	-3188.39	5735994.31	569978.45
4360	15.49	208.9	2267.02	-2219.85	-355.47	-3188.53	5735994.07	569978.32
4361	15.45	208.94	2267.98	-2220.81	-355.71	-3188.66	5735993.83	569978.18
4362	15.41	208.97	2268.94	-2221.77	-355.96	-3188.79	5735993.59	569978.05
4363	15.37	209	2269.9	-2222.73	-356.2	-3188.92	5735993.35	569977.92
4364	15.33	209.07	2270.87	-2223.7	-356.42	-3189.05	5735993.12	569977.8
4365	15.29	209.13	2271.84	-2224.67	-356.64	-3189.17	5735992.9	569977.67
4366	15.26	209.19	2272.8	-2225.63	-356.86	-3189.3	5735992.68	569977.54
4367	15.22	209.25	2273.77	-2226.6	-357.08	-3189.43	5735992.46	569977.41
4368	15.18	209.31	2274.74	-2227.57	-357.31	-3189.56	5735992.24	569977.29
4369	15.14	209.38	2275.7	-2228.53	-357.53	-3189.68	5735992.02	569977.16
4370	15.11	209.44	2276.67	-2229.5	-357.75	-3189.81	5735991.79	569977.03
4371	15.07	209.5	2277.64	-2230.47	-357.97	-3189.94	5735991.57	569976.9
4372	15.03	209.56	2278.6	-2231.43	-358.19	-3190.07	5735991.35	569976.78
4373	14.99	209.62	2279.57	-2232.4	-358.42	-3190.19	5735991.13	569976.65
4374	14.96	209.69	2280.54	-2233.37	-358.64	-3190.32	5735990.91	569976.52
4375	14.92	209.75	2281.5	-2234.33	-358.86	-3190.45	5735990.68	569976.39
4376	14.88	209.81	2282.47	-2235.3	-359.08	-3190.58	5735990.46	569976.27
4377	14.84	209.87	2283.44	-2236.27	-359.3	-3190.7	5735990.24	569976.14
4378	14.81	209.93	2284.4	-2237.23	-359.52	-3190.83	5735990.02	569976.01
4379	14.77	209.99	2285.37	-2238.2	-359.75	-3190.96	5735989.8	569975.88
4380	14.73	210.06	2286.34	-2239.17	-359.97	-3191.09	5735989.57	569975.76
4381	14.7	210.12	2287.3	-2240.13	-360.19	-3191.21	5735989.35	569975.63
4382	14.66	210.18	2288.27	-2241.1	-360.41	-3191.34	5735989.13	569975.5
4383	14.62	210.24	2289.24	-2242.07	-360.63	-3191.47	5735988.91	569975.37
4384	14.58	210.3	2290.2	-2243.03	-360.86	-3191.6	5735988.69	569975.25
4385	14.55	210.37	2291.17	-2244	-361.08	-3191.72	5735988.46	569975.12
4386	14.51	210.43	2292.14	-2244.97	-361.3	-3191.85	5735988.24	569974.99
4387	14.47	210.49	2293.1	-2245.93	-361.52	-3191.98	5735988.02	569974.86
4388	14.43	210.55	2294.07	-2246.9	-361.74	-3192.11	5735987.8	569974.74
4389	14.4	210.61	2295.04	-2247.87	-361.97	-3192.23	5735987.58	569974.61
4390	14.36	210.68	2296	-2248.83	-362.19	-3192.36	5735987.35	569974.48
4391	14.32	210.74	2296.97	-2249.8	-362.41	-3192.49	5735987.13	569974.35
4392	14.29	210.81	2297.94	-2250.77	-362.63	-3192.62	5735986.91	569974.23
4393	14.26	210.92	2298.91	-2251.74	-362.83	-3192.74	5735986.71	569974.1
4394	14.24	211.04	2299.88	-2252.71	-363.04	-3192.87	5735986.51	569973.97
4395	14.22	211.15	2300.85	-2253.68	-363.24	-3193	5735986.3	569973.84
4396	14.2	211.27	2301.82	-2254.65	-363.44	-3193.13	5735986.1	569973.71
4397	14.18	211.38	2302.79	-2255.62	-363.65	-3193.26	5735985.89	569973.58
4398	14.16	211.5	2303.76	-2256.59	-363.85	-3193.39	5735985.69	569973.45
4399	14.13	211.61	2304.73	-2257.56	-364.06	-3193.52	5735985.49	569973.32
4400	14.11	211.73	2305.7	-2258.53	-364.26	-3193.65	5735985.28	569973.19
4401	14.09	211.84	2306.67	-2259.5	-364.46	-3193.78	5735985.08	569973.06
4402	14.07	211.96	2307.64	-2260.47	-364.67	-3193.91	5735984.88	569972.93
4403	14.05	212.07	2308.61	-2261.44	-364.87	-3194.04	5735984.67	569972.8
4404	14.03	212.19	2309.58	-2262.41	-365.07	-3194.17	5735984.47	569972.67
4405	14	212.3	2310.55	-2263.38	-365.28	-3194.3	5735984.26	569972.54
4406	13.98	212.42	2311.52	-2264.35	-365.48	-3194.43	5735984.06	569972.42
4407	13.96	212.53	2312.49	-2265.32	-365.69	-3194.56	5735983.86	569972.29
4408	13.94	212.65	2313.46	-2266.29	-365.89	-3194.69	5735983.65	569972.16
4409	13.92	212.76	2314.43	-2267.26	-366.09	-3194.82	5735983.45	569972.03
4410	13.9	212.88	2315.4	-2268.23	-366.3	-3194.94	5735983.25	569971.9
4411	13.87	212.99	2316.38	-2269.21	-366.5	-3195.07	5735983.04	569971.77
4412	13.85	213.11	2317.35	-2270.18	-366.71	-3195.2	5735982.84	569971.64
4413	13.83	213.22	2318.32	-2271.15	-366.91	-3195.33	5735982.63	569971.51

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
4414	13.81	213.34	2319.29	-2272.12	-367.11	-3195.46	5735982.43	569971.38
4415	13.79	213.45	2320.26	-2273.09	-367.32	-3195.59	5735982.23	569971.25
4416	13.76	213.57	2321.23	-2274.06	-367.52	-3195.72	5735982.02	569971.12
4417	13.74	213.68	2322.2	-2275.03	-367.72	-3195.85	5735981.82	569970.99
4418	13.72	213.8	2323.17	-2276	-367.93	-3195.98	5735981.61	569970.86
4419	13.7	213.91	2324.14	-2276.97	-368.13	-3196.11	5735981.41	569970.73
4420	13.68	214.03	2325.11	-2277.94	-368.34	-3196.24	5735981.21	569970.6
4421	13.66	214.13	2326.08	-2278.91	-368.54	-3196.37	5735981.01	569970.47
4422	13.65	214.16	2327.05	-2279.88	-368.73	-3196.5	5735980.81	569970.34
4423	13.65	214.19	2328.02	-2280.85	-368.92	-3196.64	5735980.62	569970.21
4424	13.64	214.22	2329	-2281.83	-369.12	-3196.77	5735980.43	569970.07
4425	13.64	214.25	2329.97	-2282.8	-369.31	-3196.9	5735980.23	569969.94
4426	13.63	214.28	2330.94	-2283.77	-369.5	-3197.03	5735980.04	569969.81
4427	13.62	214.31	2331.91	-2284.74	-369.7	-3197.17	5735979.85	569969.67
4428	13.62	214.35	2332.88	-2285.71	-369.89	-3197.3	5735979.65	569969.54
4429	13.61	214.38	2333.86	-2286.69	-370.08	-3197.43	5735979.46	569969.41
4430	13.61	214.41	2334.83	-2287.66	-370.28	-3197.57	5735979.27	569969.27
4431	13.6	214.44	2335.8	-2288.63	-370.47	-3197.7	5735979.07	569969.14
4432	13.6	214.47	2336.77	-2289.6	-370.66	-3197.83	5735978.88	569969.01
4433	13.59	214.5	2337.74	-2290.57	-370.86	-3197.97	5735978.69	569968.87
4434	13.58	214.53	2338.72	-2291.55	-371.05	-3198.1	5735978.49	569968.74
4435	13.58	214.57	2339.69	-2292.52	-371.24	-3198.23	5735978.3	569968.61
4436	13.57	214.6	2340.66	-2293.49	-371.44	-3198.37	5735978.11	569968.48
4437	13.57	214.63	2341.63	-2294.46	-371.63	-3198.5	5735977.91	569968.34
4438	13.56	214.66	2342.61	-2295.44	-371.82	-3198.63	5735977.72	569968.21
4439	13.55	214.69	2343.58	-2296.41	-372.02	-3198.77	5735977.53	569968.08
4440	13.55	214.72	2344.55	-2297.38	-372.21	-3198.9	5735977.33	569967.94
4441	13.54	214.75	2345.52	-2298.35	-372.4	-3199.03	5735977.14	569967.81
4442	13.54	214.79	2346.49	-2299.32	-372.6	-3199.17	5735976.95	569967.68
4443	13.53	214.82	2347.47	-2300.3	-372.79	-3199.3	5735976.75	569967.54
4444	13.53	214.85	2348.44	-2301.27	-372.98	-3199.43	5735976.56	569967.41
4445	13.52	214.88	2349.41	-2302.24	-373.17	-3199.57	5735976.37	569967.28
4446	13.51	214.91	2350.38	-2303.21	-373.37	-3199.7	5735976.17	569967.14
4447	13.51	214.94	2351.35	-2304.18	-373.56	-3199.83	5735975.98	569967.01
4448	13.5	214.97	2352.33	-2305.16	-373.75	-3199.97	5735975.79	569966.88
4449	13.5	215.01	2353.3	-2306.13	-373.95	-3200.1	5735975.59	569966.74
4450	13.49	215.04	2354.27	-2307.1	-374.14	-3200.23	5735975.4	569966.61
4451	13.5	215.06	2355.24	-2308.07	-374.33	-3200.37	5735975.21	569966.47
4452	13.51	215.07	2356.21	-2309.04	-374.53	-3200.5	5735975.02	569966.34
4453	13.52	215.09	2357.19	-2310.02	-374.72	-3200.64	5735974.82	569966.2
4454	13.53	215.11	2358.16	-2310.99	-374.91	-3200.78	5735974.63	569966.07
4455	13.54	215.13	2359.13	-2311.96	-375.1	-3200.91	5735974.44	569965.93
4456	13.55	215.14	2360.1	-2312.93	-375.3	-3201.05	5735974.25	569965.79
4457	13.56	215.16	2361.07	-2313.9	-375.49	-3201.19	5735974.05	569965.66
4458	13.57	215.18	2362.04	-2314.87	-375.68	-3201.32	5735973.86	569965.52
4459	13.58	215.19	2363.02	-2315.85	-375.87	-3201.46	5735973.67	569965.38
4460	13.59	215.21	2363.99	-2316.82	-376.07	-3201.59	5735973.48	569965.25
4461	13.6	215.23	2364.96	-2317.79	-376.26	-3201.73	5735973.28	569965.11
4462	13.61	215.25	2365.93	-2318.76	-376.45	-3201.87	5735973.09	569964.98
4463	13.62	215.26	2366.9	-2319.73	-376.64	-3202	5735972.9	569964.84
4464	13.63	215.28	2367.88	-2320.71	-376.84	-3202.14	5735972.71	569964.7
4465	13.65	215.3	2368.85	-2321.68	-377.03	-3202.27	5735972.51	569964.57
4466	13.66	215.32	2369.82	-2322.65	-377.22	-3202.41	5735972.32	569964.43
4467	13.67	215.33	2370.79	-2323.62	-377.41	-3202.55	5735972.13	569964.29
4468	13.68	215.35	2371.76	-2324.59	-377.61	-3202.68	5735971.94	569964.16
4469	13.69	215.37	2372.73	-2325.56	-377.8	-3202.82	5735971.74	569964.02
4470	13.7	215.39	2373.71	-2326.54	-377.99	-3202.96	5735971.55	569963.89
4471	13.71	215.4	2374.68	-2327.51	-378.18	-3203.09	5735971.36	569963.75

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
4472	13.72	215.42	2375.65	-2328.48	-378.38	-3203.23	5735971.17	569963.61
4473	13.73	215.44	2376.62	-2329.45	-378.57	-3203.36	5735970.97	569963.48
4474	13.74	215.45	2377.59	-2330.42	-378.76	-3203.5	5735970.78	569963.34
4475	13.75	215.47	2378.56	-2331.39	-378.95	-3203.64	5735970.59	569963.2
4476	13.76	215.49	2379.54	-2332.37	-379.15	-3203.77	5735970.4	569963.07
4477	13.77	215.51	2380.51	-2333.34	-379.34	-3203.91	5735970.2	569962.93
4478	13.78	215.52	2381.48	-2334.31	-379.53	-3204.05	5735970.01	569962.8
4479	13.79	215.55	2382.45	-2335.28	-379.72	-3204.18	5735969.82	569962.66
4480	13.79	215.63	2383.42	-2336.25	-379.91	-3204.33	5735969.63	569962.52
4481	13.79	215.72	2384.39	-2337.22	-380.1	-3204.47	5735969.44	569962.37
4482	13.79	215.8	2385.37	-2338.2	-380.3	-3204.61	5735969.25	569962.23
4483	13.79	215.89	2386.34	-2339.17	-380.49	-3204.75	5735969.06	569962.09
4484	13.79	215.97	2387.31	-2340.14	-380.68	-3204.9	5735968.87	569961.95
4485	13.79	216.06	2388.28	-2341.11	-380.87	-3205.04	5735968.67	569961.8
4486	13.79	216.14	2389.25	-2342.08	-381.06	-3205.18	5735968.48	569961.66
4487	13.78	216.23	2390.22	-2343.05	-381.25	-3205.32	5735968.29	569961.52
4488	13.78	216.32	2391.19	-2344.02	-381.44	-3205.47	5735968.1	569961.38
4489	13.78	216.4	2392.16	-2344.99	-381.63	-3205.61	5735967.91	569961.23
4490	13.78	216.49	2393.14	-2345.97	-381.82	-3205.75	5735967.72	569961.09
4491	13.78	216.57	2394.11	-2346.94	-382.01	-3205.89	5735967.53	569960.95
4492	13.78	216.66	2395.08	-2347.91	-382.2	-3206.04	5735967.34	569960.81
4493	13.78	216.74	2396.05	-2348.88	-382.39	-3206.18	5735967.15	569960.66
4494	13.78	216.83	2397.02	-2349.85	-382.58	-3206.32	5735966.96	569960.52
4495	13.78	216.91	2397.99	-2350.82	-382.78	-3206.46	5735966.77	569960.38
4496	13.78	217	2398.96	-2351.79	-382.97	-3206.61	5735966.58	569960.24
4497	13.78	217.08	2399.93	-2352.76	-383.16	-3206.75	5735966.39	569960.09
4498	13.78	217.17	2400.91	-2353.74	-383.35	-3206.89	5735966.19	569959.95
4499	13.78	217.26	2401.88	-2354.71	-383.54	-3207.03	5735966	569959.81
4500	13.78	217.34	2402.85	-2355.68	-383.73	-3207.18	5735965.81	569959.67
4501	13.77	217.43	2403.82	-2356.65	-383.92	-3207.32	5735965.62	569959.52
4502	13.77	217.51	2404.79	-2357.62	-384.11	-3207.46	5735965.43	569959.38
4503	13.77	217.6	2405.76	-2358.59	-384.3	-3207.6	5735965.24	569959.24
4504	13.77	217.68	2406.73	-2359.56	-384.49	-3207.75	5735965.05	569959.1
4505	13.77	217.77	2407.7	-2360.53	-384.68	-3207.89	5735964.86	569958.95
4506	13.77	217.85	2408.68	-2361.51	-384.87	-3208.03	5735964.67	569958.81
4507	13.77	217.94	2409.65	-2362.48	-385.07	-3208.17	5735964.48	569958.67
4508	13.77	218	2410.62	-2363.45	-385.25	-3208.32	5735964.29	569958.52
4509	13.77	218.01	2411.59	-2364.42	-385.44	-3208.47	5735964.1	569958.38
4510	13.77	218.02	2412.56	-2365.39	-385.63	-3208.61	5735963.91	569958.23
4511	13.77	218.04	2413.53	-2366.36	-385.81	-3208.76	5735963.73	569958.08
4512	13.76	218.05	2414.5	-2367.33	-386	-3208.91	5735963.54	569957.94
4513	13.76	218.07	2415.47	-2368.3	-386.19	-3209.05	5735963.35	569957.79
4514	13.76	218.08	2416.45	-2369.28	-386.38	-3209.2	5735963.17	569957.64
4515	13.76	218.09	2417.42	-2370.25	-386.56	-3209.35	5735962.98	569957.5
4516	13.76	218.11	2418.39	-2371.22	-386.75	-3209.49	5735962.79	569957.35
4517	13.76	218.12	2419.36	-2372.19	-386.94	-3209.64	5735962.61	569957.2
4518	13.76	218.14	2420.33	-2373.16	-387.12	-3209.79	5735962.42	569957.05
4519	13.75	218.15	2421.3	-2374.13	-387.31	-3209.93	5735962.23	569956.91
4520	13.75	218.16	2422.27	-2375.1	-387.5	-3210.08	5735962.05	569956.76
4521	13.75	218.18	2423.24	-2376.07	-387.68	-3210.23	5735961.86	569956.61
4522	13.75	218.19	2424.22	-2377.05	-387.87	-3210.38	5735961.67	569956.47
4523	13.75	218.21	2425.19	-2378.02	-388.06	-3210.52	5735961.49	569956.32
4524	13.75	218.22	2426.16	-2378.99	-388.24	-3210.67	5735961.3	569956.17
4525	13.75	218.23	2427.13	-2379.96	-388.43	-3210.82	5735961.11	569956.03
4526	13.74	218.25	2428.1	-2380.93	-388.62	-3210.96	5735960.93	569955.88
4527	13.74	218.26	2429.07	-2381.9	-388.8	-3211.11	5735960.74	569955.73
4528	13.74	218.28	2430.04	-2382.87	-388.99	-3211.26	5735960.55	569955.58
4529	13.74	218.29	2431.02	-2383.85	-389.18	-3211.4	5735960.37	569955.44

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
4530	13.74	218.31	2431.99	-2384.82	-389.36	-3211.55	5735960.18	569955.29
4531	13.74	218.32	2432.96	-2385.79	-389.55	-3211.7	5735959.99	569955.14
4532	13.74	218.33	2433.93	-2386.76	-389.74	-3211.85	5735959.81	569955
4533	13.74	218.35	2434.9	-2387.73	-389.92	-3211.99	5735959.62	569954.85
4534	13.73	218.36	2435.87	-2388.7	-390.11	-3212.14	5735959.43	569954.7
4535	13.73	218.38	2436.84	-2389.67	-390.3	-3212.29	5735959.25	569954.56
4536	13.73	218.39	2437.81	-2390.64	-390.48	-3212.43	5735959.06	569954.41
4537	13.73	218.43	2438.79	-2391.62	-390.67	-3212.58	5735958.87	569954.26
4538	13.71	218.55	2439.76	-2392.59	-390.85	-3212.73	5735958.7	569954.11
4539	13.69	218.67	2440.73	-2393.56	-391.03	-3212.88	5735958.52	569953.96
4540	13.67	218.78	2441.7	-2394.53	-391.2	-3213.03	5735958.34	569953.81
4541	13.66	218.9	2442.68	-2395.51	-391.38	-3213.18	5735958.16	569953.66
4542	13.64	219.02	2443.65	-2396.48	-391.56	-3213.33	5735957.98	569953.51
4543	13.62	219.13	2444.62	-2397.45	-391.74	-3213.48	5735957.8	569953.36
4544	13.61	219.25	2445.59	-2398.42	-391.92	-3213.63	5735957.62	569953.21
4545	13.59	219.37	2446.57	-2399.4	-392.1	-3213.78	5735957.45	569953.06
4546	13.57	219.49	2447.54	-2400.37	-392.27	-3213.93	5735957.27	569952.91
4547	13.56	219.6	2448.51	-2401.34	-392.45	-3214.08	5735957.09	569952.76
4548	13.54	219.72	2449.48	-2402.31	-392.63	-3214.23	5735956.91	569952.61
4549	13.52	219.84	2450.46	-2403.29	-392.81	-3214.38	5735956.73	569952.46
4550	13.5	219.95	2451.43	-2404.26	-392.99	-3214.53	5735956.55	569952.31
4551	13.49	220.07	2452.4	-2405.23	-393.17	-3214.68	5735956.38	569952.16
4552	13.47	220.19	2453.37	-2406.2	-393.34	-3214.83	5735956.2	569952.01
4553	13.45	220.3	2454.35	-2407.18	-393.52	-3214.98	5735956.02	569951.86
4554	13.44	220.42	2455.32	-2408.15	-393.7	-3215.13	5735955.84	569951.71
4555	13.42	220.54	2456.29	-2409.12	-393.88	-3215.28	5735955.66	569951.56
4556	13.4	220.65	2457.26	-2410.09	-394.06	-3215.43	5735955.48	569951.41
4557	13.39	220.77	2458.24	-2411.07	-394.24	-3215.58	5735955.31	569951.26
4558	13.37	220.89	2459.21	-2412.04	-394.42	-3215.73	5735955.13	569951.11
4559	13.35	221.01	2460.18	-2413.01	-394.59	-3215.88	5735954.95	569950.96
4560	13.33	221.12	2461.15	-2413.98	-394.77	-3216.03	5735954.77	569950.81
4561	13.32	221.24	2462.13	-2414.96	-394.95	-3216.18	5735954.59	569950.66
4562	13.3	221.36	2463.1	-2415.93	-395.13	-3216.33	5735954.41	569950.51
4563	13.28	221.47	2464.07	-2416.9	-395.31	-3216.48	5735954.24	569950.36
4564	13.27	221.59	2465.04	-2417.87	-395.49	-3216.63	5735954.06	569950.21
4565	13.25	221.71	2466.01	-2418.84	-395.66	-3216.78	5735953.88	569950.06
4566	13.23	221.82	2466.99	-2419.82	-395.84	-3216.93	5735953.71	569949.91
4567	13.2	221.92	2467.96	-2420.79	-396	-3217.09	5735953.55	569949.76
4568	13.18	222.03	2468.94	-2421.77	-396.16	-3217.24	5735953.38	569949.6
4569	13.15	222.13	2469.91	-2422.74	-396.32	-3217.39	5735953.22	569949.45
4570	13.13	222.24	2470.89	-2423.72	-396.48	-3217.54	5735953.06	569949.3
4571	13.1	222.34	2471.86	-2424.69	-396.65	-3217.7	5735952.9	569949.15
4572	13.08	222.45	2472.84	-2425.67	-396.81	-3217.85	5735952.73	569948.99
4573	13.05	222.56	2473.81	-2426.64	-396.97	-3218	5735952.57	569948.84
4574	13.03	222.66	2474.79	-2427.62	-397.13	-3218.15	5735952.41	569948.69
4575	13	222.77	2475.76	-2428.59	-397.3	-3218.31	5735952.25	569948.54
4576	12.98	222.87	2476.74	-2429.57	-397.46	-3218.46	5735952.08	569948.38
4577	12.95	222.98	2477.71	-2430.54	-397.62	-3218.61	5735951.92	569948.23
4578	12.93	223.08	2478.69	-2431.52	-397.78	-3218.76	5735951.76	569948.08
4579	12.9	223.19	2479.66	-2432.49	-397.95	-3218.92	5735951.6	569947.92
4580	12.88	223.29	2480.64	-2433.47	-398.11	-3219.07	5735951.43	569947.77
4581	12.85	223.4	2481.61	-2434.44	-398.27	-3219.22	5735951.27	569947.62
4582	12.83	223.5	2482.59	-2435.42	-398.43	-3219.38	5735951.11	569947.47
4583	12.8	223.61	2483.56	-2436.39	-398.59	-3219.53	5735950.95	569947.31
4584	12.78	223.71	2484.54	-2437.37	-398.76	-3219.68	5735950.79	569947.16
4585	12.75	223.82	2485.51	-2438.34	-398.92	-3219.83	5735950.62	569947.01
4586	12.73	223.92	2486.49	-2439.32	-399.08	-3219.99	5735950.46	569946.86
4587	12.7	224.03	2487.46	-2440.29	-399.24	-3220.14	5735950.3	569946.7

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
4588	12.68	224.14	2488.44	-2441.27	-399.41	-3220.29	5735950.14	569946.55
4589	12.65	224.24	2489.41	-2442.24	-399.57	-3220.44	5735949.97	569946.4
4590	12.63	224.35	2490.38	-2443.21	-399.73	-3220.6	5735949.81	569946.25
4591	12.61	224.45	2491.36	-2444.19	-399.89	-3220.75	5735949.65	569946.09
4592	12.58	224.56	2492.33	-2445.16	-400.06	-3220.9	5735949.49	569945.94
4593	12.56	224.66	2493.31	-2446.14	-400.22	-3221.05	5735949.32	569945.79
4594	12.53	224.77	2494.28	-2447.11	-400.38	-3221.21	5735949.16	569945.63
4595	12.5	224.86	2495.26	-2448.09	-400.53	-3221.36	5735949.01	569945.48
4596	12.47	224.96	2496.24	-2449.07	-400.68	-3221.51	5735948.87	569945.33
4597	12.44	225.05	2497.22	-2450.05	-400.82	-3221.66	5735948.72	569945.18
4598	12.4	225.14	2498.19	-2451.02	-400.97	-3221.81	5735948.58	569945.03
4599	12.37	225.24	2499.17	-2452	-401.11	-3221.96	5735948.43	569944.88
4600	12.34	225.33	2500.15	-2452.98	-401.26	-3222.11	5735948.29	569944.73
4601	12.31	225.42	2501.13	-2453.96	-401.4	-3222.26	5735948.14	569944.58
4602	12.28	225.51	2502.11	-2454.94	-401.55	-3222.41	5735948	569944.43
4603	12.24	225.61	2503.08	-2455.91	-401.69	-3222.56	5735947.85	569944.28
4604	12.21	225.7	2504.06	-2456.89	-401.84	-3222.71	5735947.71	569944.13
4605	12.18	225.79	2505.04	-2457.87	-401.98	-3222.86	5735947.56	569943.98
4606	12.15	225.88	2506.02	-2458.85	-402.12	-3223.01	5735947.42	569943.83
4607	12.12	225.98	2507	-2459.83	-402.27	-3223.16	5735947.27	569943.68
4608	12.08	226.07	2507.97	-2460.8	-402.41	-3223.31	5735947.13	569943.53
4609	12.05	226.16	2508.95	-2461.78	-402.56	-3223.47	5735946.98	569943.38
4610	12.02	226.25	2509.93	-2462.76	-402.7	-3223.62	5735946.84	569943.23
4611	11.99	226.35	2510.91	-2463.74	-402.85	-3223.77	5735946.69	569943.08
4612	11.95	226.44	2511.89	-2464.72	-402.99	-3223.92	5735946.55	569942.93
4613	11.92	226.53	2512.86	-2465.69	-403.14	-3224.07	5735946.4	569942.78
4614	11.89	226.62	2513.84	-2466.67	-403.28	-3224.22	5735946.26	569942.62
4615	11.86	226.72	2514.82	-2467.65	-403.43	-3224.37	5735946.12	569942.47
4616	11.83	226.81	2515.8	-2468.63	-403.57	-3224.52	5735945.97	569942.32
4617	11.79	226.9	2516.78	-2469.61	-403.72	-3224.67	5735945.83	569942.17
4618	11.76	227	2517.75	-2470.58	-403.86	-3224.82	5735945.68	569942.02
4619	11.73	227.09	2518.73	-2471.56	-404.01	-3224.97	5735945.54	569941.87
4620	11.7	227.18	2519.71	-2472.54	-404.15	-3225.12	5735945.39	569941.72
4621	11.67	227.27	2520.69	-2473.52	-404.3	-3225.27	5735945.25	569941.57
4622	11.63	227.37	2521.67	-2474.5	-404.44	-3225.42	5735945.1	569941.42
4623	11.6	227.46	2522.64	-2475.47	-404.59	-3225.57	5735944.96	569941.27
4624	11.56	227.42	2523.62	-2476.45	-404.72	-3225.71	5735944.82	569941.13
4625	11.52	227.33	2524.61	-2477.44	-404.85	-3225.85	5735944.69	569940.99
4626	11.48	227.23	2525.59	-2478.42	-404.99	-3225.99	5735944.56	569940.85
4627	11.44	227.13	2526.57	-2479.4	-405.12	-3226.13	5735944.42	569940.72
4628	11.4	227.03	2527.55	-2480.38	-405.25	-3226.26	5735944.29	569940.58
4629	11.36	226.93	2528.53	-2481.36	-405.38	-3226.4	5735944.16	569940.44
4630	11.32	226.83	2529.51	-2482.34	-405.52	-3226.54	5735944.03	569940.3
4631	11.28	226.73	2530.5	-2483.33	-405.65	-3226.68	5735943.89	569940.17
4632	11.24	226.63	2531.48	-2484.31	-405.78	-3226.81	5735943.76	569940.03
4633	11.2	226.53	2532.46	-2485.29	-405.91	-3226.95	5735943.63	569939.89
4634	11.16	226.43	2533.44	-2486.27	-406.05	-3227.09	5735943.5	569939.75
4635	11.12	226.33	2534.42	-2487.25	-406.18	-3227.23	5735943.36	569939.61
4636	11.08	226.23	2535.4	-2488.23	-406.31	-3227.36	5735943.23	569939.48
4637	11.04	226.13	2536.38	-2489.21	-406.44	-3227.5	5735943.1	569939.34
4638	11	226.03	2537.37	-2490.2	-406.57	-3227.64	5735942.97	569939.2
4639	10.96	225.94	2538.35	-2491.18	-406.71	-3227.78	5735942.84	569939.06
4640	10.92	225.84	2539.33	-2492.16	-406.84	-3227.92	5735942.7	569938.93
4641	10.88	225.74	2540.31	-2493.14	-406.97	-3228.05	5735942.57	569938.79
4642	10.84	225.64	2541.29	-2494.12	-407.1	-3228.19	5735942.44	569938.65
4643	10.8	225.54	2542.27	-2495.1	-407.24	-3228.33	5735942.31	569938.51
4644	10.76	225.44	2543.26	-2496.09	-407.37	-3228.47	5735942.17	569938.38
4645	10.72	225.34	2544.24	-2497.07	-407.5	-3228.6	5735942.04	569938.24

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
4646	10.68	225.24	2545.22	-2498.05	-407.63	-3228.74	5735941.91	569938.1
4647	10.64	225.14	2546.2	-2499.03	-407.77	-3228.88	5735941.78	569937.96
4648	10.6	225.04	2547.18	-2500.01	-407.9	-3229.02	5735941.64	569937.83
4649	10.56	224.94	2548.16	-2500.99	-408.03	-3229.15	5735941.51	569937.69
4650	10.52	224.84	2549.15	-2501.98	-408.16	-3229.29	5735941.38	569937.55
4651	10.48	224.74	2550.13	-2502.96	-408.29	-3229.43	5735941.25	569937.41
4652	10.44	224.64	2551.11	-2503.94	-408.43	-3229.57	5735941.12	569937.27
4653	10.4	224.54	2552.09	-2504.92	-408.55	-3229.69	5735940.99	569937.15
4654	10.35	224.43	2553.08	-2505.91	-408.68	-3229.8	5735940.87	569937.04
4655	10.31	224.32	2554.06	-2506.89	-408.8	-3229.92	5735940.74	569936.92
4656	10.26	224.21	2555.05	-2507.88	-408.93	-3230.04	5735940.62	569936.8
4657	10.22	224.1	2556.03	-2508.86	-409.05	-3230.15	5735940.49	569936.69
4658	10.18	223.99	2557.02	-2509.85	-409.17	-3230.27	5735940.37	569936.57
4659	10.13	223.88	2558.01	-2510.84	-409.3	-3230.39	5735940.25	569936.46
4660	10.09	223.77	2558.99	-2511.82	-409.42	-3230.5	5735940.12	569936.34
4661	10.04	223.66	2559.98	-2512.81	-409.55	-3230.62	5735940	569936.22
4662	10	223.55	2560.96	-2513.79	-409.67	-3230.73	5735939.87	569936.11
4663	9.95	223.44	2561.95	-2514.78	-409.79	-3230.85	5735939.75	569935.99
4664	9.91	223.33	2562.93	-2515.76	-409.92	-3230.97	5735939.63	569935.88
4665	9.87	223.22	2563.92	-2516.75	-410.04	-3231.08	5735939.5	569935.76
4666	9.82	223.11	2564.9	-2517.73	-410.17	-3231.2	5735939.38	569935.64
4667	9.78	223	2565.89	-2518.72	-410.29	-3231.32	5735939.25	569935.53
4668	9.73	222.89	2566.87	-2519.7	-410.41	-3231.43	5735939.13	569935.41
4669	9.69	222.77	2567.86	-2520.69	-410.54	-3231.55	5735939	569935.29
4670	9.65	222.66	2568.84	-2521.67	-410.66	-3231.66	5735938.88	569935.18
4671	9.6	222.55	2569.83	-2522.66	-410.79	-3231.78	5735938.76	569935.06
4672	9.56	222.44	2570.82	-2523.65	-410.91	-3231.9	5735938.63	569934.95
4673	9.51	222.33	2571.8	-2524.63	-411.03	-3232.01	5735938.51	569934.83
4674	9.47	222.22	2572.79	-2525.62	-411.16	-3232.13	5735938.38	569934.71
4675	9.42	222.11	2573.77	-2526.6	-411.28	-3232.24	5735938.26	569934.6
4676	9.38	222	2574.76	-2527.59	-411.41	-3232.36	5735938.14	569934.48
4677	9.34	221.89	2575.74	-2528.57	-411.53	-3232.48	5735938.01	569934.36
4678	9.29	221.78	2576.73	-2529.56	-411.65	-3232.59	5735937.89	569934.25
4679	9.25	221.67	2577.71	-2530.54	-411.78	-3232.71	5735937.76	569934.13
4680	9.2	221.56	2578.7	-2531.53	-411.9	-3232.83	5735937.64	569934.02
4681	9.16	221.45	2579.68	-2532.51	-412.03	-3232.94	5735937.52	569933.9
4682	9.12	221.34	2580.67	-2533.5	-412.14	-3233.04	5735937.4	569933.8
4683	9.08	221.22	2581.66	-2534.49	-412.26	-3233.14	5735937.29	569933.7
4684	9.04	221.11	2582.65	-2535.48	-412.37	-3233.23	5735937.17	569933.61
4685	9	220.99	2583.64	-2536.47	-412.49	-3233.33	5735937.06	569933.51
4686	8.96	220.88	2584.63	-2537.46	-412.6	-3233.42	5735936.94	569933.42
4687	8.92	220.76	2585.62	-2538.45	-412.72	-3233.52	5735936.83	569933.32
4688	8.88	220.65	2586.61	-2539.44	-412.83	-3233.62	5735936.71	569933.23
4689	8.85	220.54	2587.59	-2540.42	-412.94	-3233.71	5735936.6	569933.13
4690	8.81	220.42	2588.58	-2541.41	-413.06	-3233.81	5735936.48	569933.04
4691	8.77	220.31	2589.57	-2542.4	-413.17	-3233.9	5735936.37	569932.94
4692	8.73	220.19	2590.56	-2543.39	-413.29	-3234	5735936.26	569932.84
4693	8.69	220.08	2591.55	-2544.38	-413.4	-3234.09	5735936.14	569932.75
4694	8.65	219.96	2592.54	-2545.37	-413.52	-3234.19	5735936.03	569932.65
4695	8.61	219.85	2593.53	-2546.36	-413.63	-3234.28	5735935.91	569932.56
4696	8.57	219.73	2594.52	-2547.35	-413.75	-3234.38	5735935.8	569932.46
4697	8.53	219.62	2595.5	-2548.33	-413.86	-3234.48	5735935.68	569932.37
4698	8.49	219.5	2596.49	-2549.32	-413.97	-3234.57	5735935.57	569932.27
4699	8.45	219.39	2597.48	-2550.31	-414.09	-3234.67	5735935.45	569932.17
4700	8.42	219.27	2598.47	-2551.3	-414.2	-3234.76	5735935.34	569932.08
4701	8.38	219.16	2599.46	-2552.29	-414.32	-3234.86	5735935.23	569931.98
4702	8.34	219.04	2600.45	-2553.28	-414.43	-3234.95	5735935.11	569931.89
4703	8.3	218.93	2601.44	-2554.27	-414.55	-3235.05	5735935	569931.79

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
4704	8.26	218.81	2602.43	-2555.26	-414.66	-3235.15	5735934.88	569931.7
4705	8.22	218.7	2603.42	-2556.25	-414.78	-3235.24	5735934.77	569931.6
4706	8.18	218.58	2604.4	-2557.23	-414.89	-3235.34	5735934.65	569931.51
4707	8.14	218.47	2605.39	-2558.22	-415	-3235.43	5735934.54	569931.41
4708	8.1	218.35	2606.38	-2559.21	-415.12	-3235.53	5735934.42	569931.31
4709	8.06	218.24	2607.37	-2560.2	-415.23	-3235.62	5735934.31	569931.22
4710	8.02	218.12	2608.36	-2561.19	-415.35	-3235.72	5735934.19	569931.12
4711	7.99	218.04	2609.35	-2562.18	-415.46	-3235.8	5735934.09	569931.04
4712	7.96	217.97	2610.34	-2563.17	-415.56	-3235.88	5735933.98	569930.96
4713	7.92	217.9	2611.33	-2564.16	-415.66	-3235.96	5735933.88	569930.88
4714	7.89	217.83	2612.32	-2565.15	-415.77	-3236.04	5735933.77	569930.8
4715	7.85	217.77	2613.31	-2566.14	-415.87	-3236.12	5735933.67	569930.72
4716	7.82	217.7	2614.31	-2567.14	-415.98	-3236.2	5735933.57	569930.64
4717	7.79	217.63	2615.3	-2568.13	-416.08	-3236.28	5735933.46	569930.56
4718	7.75	217.56	2616.29	-2569.12	-416.19	-3236.36	5735933.36	569930.48
4719	7.72	217.5	2617.28	-2570.11	-416.29	-3236.44	5735933.25	569930.41
4720	7.69	217.43	2618.27	-2571.1	-416.39	-3236.52	5735933.15	569930.33
4721	7.65	217.36	2619.26	-2572.09	-416.5	-3236.59	5735933.04	569930.25
4722	7.62	217.29	2620.25	-2573.08	-416.6	-3236.67	5735932.94	569930.17
4723	7.58	217.23	2621.25	-2574.08	-416.71	-3236.75	5735932.83	569930.09
4724	7.55	217.16	2622.24	-2575.07	-416.81	-3236.83	5735932.73	569930.01
4725	7.52	217.09	2623.23	-2576.06	-416.92	-3236.91	5735932.63	569929.93
4726	7.48	217.02	2624.22	-2577.05	-417.02	-3236.99	5735932.52	569929.85
4727	7.45	216.95	2625.21	-2578.04	-417.13	-3237.07	5735932.42	569929.77
4728	7.42	216.89	2626.2	-2579.03	-417.23	-3237.15	5735932.31	569929.69
4729	7.38	216.82	2627.19	-2580.02	-417.33	-3237.23	5735932.21	569929.61
4730	7.35	216.75	2628.19	-2581.02	-417.44	-3237.31	5735932.1	569929.54
4731	7.32	216.68	2629.18	-2582.01	-417.54	-3237.39	5735932	569929.46
4732	7.28	216.62	2630.17	-2583	-417.65	-3237.46	5735931.9	569929.38
4733	7.25	216.55	2631.16	-2583.99	-417.75	-3237.54	5735931.79	569929.3
4734	7.21	216.48	2632.15	-2584.98	-417.86	-3237.62	5735931.69	569929.22
4735	7.18	216.41	2633.14	-2585.97	-417.96	-3237.7	5735931.58	569929.14
4736	7.15	216.35	2634.13	-2586.96	-418.06	-3237.78	5735931.48	569929.06
4737	7.11	216.28	2635.12	-2587.95	-418.17	-3237.86	5735931.37	569928.98
4738	7.08	216.21	2636.12	-2588.95	-418.27	-3237.94	5735931.27	569928.9
4739	7.05	216.14	2637.11	-2589.94	-418.38	-3238.02	5735931.16	569928.82
4740	7.03	216.12	2638.1	-2590.93	-418.47	-3238.09	5735931.07	569928.75
4741	7.01	216.1	2639.09	-2591.92	-418.57	-3238.16	5735930.97	569928.68
4742	6.99	216.08	2640.09	-2592.92	-418.67	-3238.23	5735930.88	569928.61
4743	6.97	216.06	2641.08	-2593.91	-418.76	-3238.3	5735930.78	569928.55
4744	6.95	216.05	2642.07	-2594.9	-418.86	-3238.37	5735930.69	569928.48
4745	6.94	216.03	2643.07	-2595.9	-418.95	-3238.44	5735930.59	569928.41
4746	6.92	216.01	2644.06	-2596.89	-419.05	-3238.5	5735930.49	569928.34
4747	6.9	216	2645.05	-2597.88	-419.14	-3238.57	5735930.4	569928.27
4748	6.88	215.98	2646.04	-2598.87	-419.24	-3238.64	5735930.3	569928.2
4749	6.87	215.96	2647.04	-2599.87	-419.34	-3238.71	5735930.21	569928.13
4750	6.85	215.94	2648.03	-2600.86	-419.43	-3238.78	5735930.11	569928.06
4751	6.83	215.93	2649.02	-2601.85	-419.53	-3238.85	5735930.02	569927.99
4752	6.81	215.91	2650.02	-2602.85	-419.62	-3238.92	5735929.92	569927.92
4753	6.79	215.89	2651.01	-2603.84	-419.72	-3238.99	5735929.82	569927.85
4754	6.78	215.88	2652	-2604.83	-419.81	-3239.06	5735929.73	569927.78
4755	6.76	215.86	2653	-2605.83	-419.91	-3239.13	5735929.63	569927.71
4756	6.74	215.84	2653.99	-2606.82	-420.01	-3239.2	5735929.54	569927.65
4757	6.72	215.82	2654.98	-2607.81	-420.1	-3239.27	5735929.44	569927.58
4758	6.7	215.81	2655.97	-2608.8	-420.2	-3239.33	5735929.35	569927.51
4759	6.69	215.79	2656.97	-2609.8	-420.29	-3239.4	5735929.25	569927.44
4760	6.67	215.77	2657.96	-2610.79	-420.39	-3239.47	5735929.15	569927.37
4761	6.65	215.76	2658.95	-2611.78	-420.48	-3239.54	5735929.06	569927.3

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
4762	6.63	215.74	2659.95	-2612.78	-420.58	-3239.61	5735928.96	569927.23
4763	6.62	215.72	2660.94	-2613.77	-420.67	-3239.68	5735928.87	569927.16
4764	6.6	215.7	2661.93	-2614.76	-420.77	-3239.75	5735928.77	569927.09
4765	6.58	215.69	2662.93	-2615.76	-420.87	-3239.82	5735928.68	569927.02
4766	6.56	215.67	2663.92	-2616.75	-420.96	-3239.89	5735928.58	569926.95
4767	6.54	215.65	2664.91	-2617.74	-421.06	-3239.96	5735928.49	569926.88
4768	6.53	215.64	2665.9	-2618.73	-421.15	-3240.03	5735928.39	569926.82
4769	6.51	215.67	2666.9	-2619.73	-421.24	-3240.09	5735928.3	569926.75
4770	6.49	215.75	2667.89	-2620.72	-421.33	-3240.16	5735928.21	569926.68
4771	6.47	215.82	2668.89	-2621.72	-421.42	-3240.22	5735928.12	569926.62
4772	6.45	215.89	2669.88	-2622.71	-421.51	-3240.29	5735928.04	569926.55
4773	6.43	215.96	2670.87	-2623.7	-421.59	-3240.35	5735927.95	569926.49
4774	6.41	216.03	2671.87	-2624.7	-421.68	-3240.42	5735927.86	569926.42
4775	6.4	216.1	2672.86	-2625.69	-421.77	-3240.48	5735927.78	569926.36
4776	6.38	216.18	2673.86	-2626.69	-421.85	-3240.55	5735927.69	569926.29
4777	6.36	216.25	2674.85	-2627.68	-421.94	-3240.61	5735927.6	569926.23
4778	6.34	216.32	2675.84	-2628.67	-422.03	-3240.68	5735927.51	569926.16
4779	6.32	216.39	2676.84	-2629.67	-422.12	-3240.74	5735927.43	569926.1
4780	6.3	216.46	2677.83	-2630.66	-422.2	-3240.81	5735927.34	569926.03
4781	6.28	216.53	2678.83	-2631.66	-422.29	-3240.87	5735927.25	569925.97
4782	6.26	216.61	2679.82	-2632.65	-422.38	-3240.94	5735927.16	569925.9
4783	6.25	216.68	2680.82	-2633.65	-422.47	-3241	5735927.08	569925.84
4784	6.23	216.75	2681.81	-2634.64	-422.55	-3241.07	5735926.99	569925.77
4785	6.21	216.82	2682.8	-2635.63	-422.64	-3241.13	5735926.9	569925.71
4786	6.19	216.89	2683.8	-2636.63	-422.73	-3241.2	5735926.81	569925.64
4787	6.17	216.96	2684.79	-2637.62	-422.82	-3241.26	5735926.73	569925.58
4788	6.15	217.04	2685.79	-2638.62	-422.9	-3241.33	5735926.64	569925.51
4789	6.13	217.11	2686.78	-2639.61	-422.99	-3241.39	5735926.55	569925.45
4790	6.11	217.18	2687.77	-2640.6	-423.08	-3241.46	5735926.46	569925.38
4791	6.1	217.25	2688.77	-2641.6	-423.17	-3241.52	5735926.38	569925.32
4792	6.08	217.32	2689.76	-2642.59	-423.25	-3241.59	5735926.29	569925.26
4793	6.06	217.39	2690.76	-2643.59	-423.34	-3241.65	5735926.2	569925.19
4794	6.04	217.47	2691.75	-2644.58	-423.43	-3241.72	5735926.11	569925.13
4795	6.02	217.54	2692.74	-2645.57	-423.52	-3241.78	5735926.03	569925.06
4796	6	217.61	2693.74	-2646.57	-423.6	-3241.85	5735925.94	569925
4797	5.98	217.68	2694.73	-2647.56	-423.69	-3241.91	5735925.85	569924.93
4798	5.97	217.52	2695.73	-2648.56	-423.77	-3241.97	5735925.77	569924.87
4799	5.96	217.33	2696.72	-2649.55	-423.86	-3242.03	5735925.69	569924.81
4800	5.94	217.13	2697.72	-2650.55	-423.94	-3242.09	5735925.6	569924.76
4801	5.93	216.94	2698.71	-2651.54	-424.02	-3242.14	5735925.52	569924.7
4802	5.92	216.74	2699.71	-2652.54	-424.1	-3242.2	5735925.44	569924.64
4803	5.91	216.55	2700.7	-2653.53	-424.19	-3242.26	5735925.36	569924.58
4804	5.89	216.35	2701.7	-2654.53	-424.27	-3242.32	5735925.27	569924.52
4805	5.88	216.16	2702.69	-2655.52	-424.35	-3242.38	5735925.19	569924.47
4806	5.87	215.96	2703.69	-2656.52	-424.43	-3242.43	5735925.11	569924.41
4807	5.86	215.77	2704.68	-2657.51	-424.52	-3242.49	5735925.02	569924.35
4808	5.85	215.57	2705.68	-2658.51	-424.6	-3242.55	5735924.94	569924.29
4809	5.83	215.38	2706.67	-2659.5	-424.68	-3242.61	5735924.86	569924.24
4810	5.82	215.19	2707.67	-2660.5	-424.77	-3242.66	5735924.78	569924.18
4811	5.81	214.99	2708.66	-2661.49	-424.85	-3242.72	5735924.69	569924.12
4812	5.8	214.8	2709.65	-2662.48	-424.93	-3242.78	5735924.61	569924.06
4813	5.78	214.6	2710.65	-2663.48	-425.01	-3242.84	5735924.53	569924
4814	5.77	214.41	2711.64	-2664.47	-425.1	-3242.9	5735924.45	569923.95
4815	5.76	214.21	2712.64	-2665.47	-425.18	-3242.95	5735924.36	569923.89
4816	5.75	214.02	2713.63	-2666.46	-425.26	-3243.01	5735924.28	569923.83
4817	5.73	213.82	2714.63	-2667.46	-425.34	-3243.07	5735924.2	569923.77
4818	5.72	213.63	2715.62	-2668.45	-425.43	-3243.13	5735924.11	569923.72
4819	5.71	213.43	2716.62	-2669.45	-425.51	-3243.18	5735924.03	569923.66

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
4820	5.7	213.24	2717.61	-2670.44	-425.59	-3243.24	5735923.95	569923.6
4821	5.68	213.04	2718.61	-2671.44	-425.68	-3243.3	5735923.87	569923.54
4822	5.67	212.85	2719.6	-2672.43	-425.76	-3243.36	5735923.78	569923.48
4823	5.66	212.65	2720.6	-2673.43	-425.84	-3243.42	5735923.7	569923.43
4824	5.65	212.46	2721.59	-2674.42	-425.92	-3243.47	5735923.62	569923.37
4825	5.63	212.27	2722.59	-2675.42	-426.01	-3243.53	5735923.54	569923.31
4826	5.62	212.07	2723.58	-2676.41	-426.09	-3243.59	5735923.45	569923.25
4827	5.61	212	2724.58	-2677.41	-426.17	-3243.64	5735923.37	569923.2
4828	5.6	211.97	2725.57	-2678.4	-426.25	-3243.69	5735923.29	569923.15
4829	5.59	211.94	2726.57	-2679.4	-426.33	-3243.74	5735923.21	569923.1
4830	5.59	211.9	2727.56	-2680.39	-426.42	-3243.79	5735923.13	569923.05
4831	5.58	211.87	2728.56	-2681.39	-426.5	-3243.84	5735923.05	569923
4832	5.57	211.84	2729.56	-2682.39	-426.58	-3243.89	5735922.96	569922.95
4833	5.56	211.8	2730.55	-2683.38	-426.66	-3243.94	5735922.88	569922.9
4834	5.55	211.77	2731.55	-2684.38	-426.74	-3243.99	5735922.8	569922.85
4835	5.54	211.73	2732.54	-2685.37	-426.82	-3244.04	5735922.72	569922.8
4836	5.53	211.7	2733.54	-2686.37	-426.91	-3244.09	5735922.64	569922.75
4837	5.52	211.67	2734.53	-2687.36	-426.99	-3244.14	5735922.56	569922.7
4838	5.51	211.63	2735.53	-2688.36	-427.07	-3244.19	5735922.47	569922.65
4839	5.5	211.6	2736.52	-2689.35	-427.15	-3244.24	5735922.39	569922.6
4840	5.5	211.57	2737.52	-2690.35	-427.23	-3244.29	5735922.31	569922.55
4841	5.49	211.53	2738.51	-2691.34	-427.31	-3244.34	5735922.23	569922.5
4842	5.48	211.5	2739.51	-2692.34	-427.39	-3244.39	5735922.15	569922.45
4843	5.47	211.47	2740.51	-2693.34	-427.48	-3244.44	5735922.07	569922.4
4844	5.46	211.43	2741.5	-2694.33	-427.56	-3244.49	5735921.99	569922.35
4845	5.45	211.4	2742.5	-2695.33	-427.64	-3244.54	5735921.9	569922.3
4846	5.44	211.36	2743.49	-2696.32	-427.72	-3244.59	5735921.82	569922.25
4847	5.43	211.33	2744.49	-2697.32	-427.8	-3244.64	5735921.74	569922.2
4848	5.42	211.3	2745.48	-2698.31	-427.88	-3244.69	5735921.66	569922.15
4849	5.41	211.26	2746.48	-2699.31	-427.96	-3244.74	5735921.58	569922.1
4850	5.41	211.23	2747.47	-2700.3	-428.05	-3244.79	5735921.5	569922.05
4851	5.4	211.2	2748.47	-2701.3	-428.13	-3244.84	5735921.41	569922
4852	5.39	211.16	2749.46	-2702.29	-428.21	-3244.89	5735921.33	569921.95
4853	5.38	211.13	2750.46	-2703.29	-428.29	-3244.94	5735921.25	569921.9
4854	5.37	211.1	2751.45	-2704.28	-428.37	-3244.99	5735921.17	569921.85
4855	5.36	211.06	2752.45	-2705.28	-428.45	-3245.04	5735921.09	569921.8
4856	5.35	211.01	2753.45	-2706.28	-428.53	-3245.09	5735921.01	569921.75
4857	5.35	210.96	2754.44	-2707.27	-428.61	-3245.14	5735920.93	569921.71
4858	5.34	210.91	2755.44	-2708.27	-428.69	-3245.18	5735920.85	569921.66
4859	5.33	210.86	2756.43	-2709.26	-428.77	-3245.23	5735920.77	569921.61
4860	5.33	210.8	2757.43	-2710.26	-428.85	-3245.27	5735920.69	569921.57
4861	5.32	210.75	2758.43	-2711.26	-428.93	-3245.32	5735920.61	569921.52
4862	5.31	210.7	2759.42	-2712.25	-429.01	-3245.37	5735920.53	569921.47
4863	5.3	210.65	2760.42	-2713.25	-429.09	-3245.41	5735920.46	569921.43
4864	5.3	210.59	2761.41	-2714.24	-429.17	-3245.46	5735920.38	569921.38
4865	5.29	210.54	2762.41	-2715.24	-429.25	-3245.51	5735920.3	569921.34
4866	5.28	210.49	2763.4	-2716.23	-429.32	-3245.55	5735920.22	569921.29
4867	5.28	210.44	2764.4	-2717.23	-429.4	-3245.6	5735920.14	569921.24
4868	5.27	210.39	2765.4	-2718.23	-429.48	-3245.64	5735920.06	569921.2
4869	5.26	210.33	2766.39	-2719.22	-429.56	-3245.69	5735919.98	569921.15
4870	5.26	210.28	2767.39	-2720.22	-429.64	-3245.74	5735919.9	569921.1
4871	5.25	210.23	2768.38	-2721.21	-429.72	-3245.78	5735919.82	569921.06
4872	5.24	210.18	2769.38	-2722.21	-429.8	-3245.83	5735919.74	569921.01
4873	5.24	210.12	2770.37	-2723.2	-429.88	-3245.88	5735919.66	569920.97
4874	5.23	210.07	2771.37	-2724.2	-429.96	-3245.92	5735919.58	569920.92
4875	5.22	210.02	2772.37	-2725.2	-430.04	-3245.97	5735919.51	569920.87
4876	5.21	209.97	2773.36	-2726.19	-430.12	-3246.02	5735919.43	569920.83
4877	5.21	209.92	2774.36	-2727.19	-430.2	-3246.06	5735919.35	569920.78

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
4878	5.2	209.86	2775.35	-2728.18	-430.27	-3246.11	5735919.27	569920.73
4879	5.19	209.81	2776.35	-2729.18	-430.35	-3246.15	5735919.19	569920.69
4880	5.19	209.76	2777.35	-2730.18	-430.43	-3246.2	5735919.11	569920.64
4881	5.18	209.71	2778.34	-2731.17	-430.51	-3246.25	5735919.03	569920.6
4882	5.17	209.66	2779.34	-2732.17	-430.59	-3246.29	5735918.95	569920.55
4883	5.17	209.6	2780.33	-2733.16	-430.67	-3246.34	5735918.87	569920.5
4884	5.16	209.56	2781.33	-2734.16	-430.75	-3246.39	5735918.79	569920.46
4885	5.16	209.58	2782.32	-2735.15	-430.83	-3246.43	5735918.72	569920.41
4886	5.15	209.6	2783.32	-2736.15	-430.9	-3246.47	5735918.64	569920.37
4887	5.15	209.62	2784.32	-2737.15	-430.98	-3246.52	5735918.56	569920.32
4888	5.15	209.64	2785.31	-2738.14	-431.06	-3246.56	5735918.48	569920.28
4889	5.14	209.66	2786.31	-2739.14	-431.14	-3246.61	5735918.41	569920.24
4890	5.14	209.68	2787.3	-2740.13	-431.21	-3246.65	5735918.33	569920.19
4891	5.14	209.7	2788.3	-2741.13	-431.29	-3246.7	5735918.25	569920.15
4892	5.13	209.71	2789.3	-2742.13	-431.37	-3246.74	5735918.18	569920.1
4893	5.13	209.73	2790.29	-2743.12	-431.44	-3246.78	5735918.1	569920.06
4894	5.13	209.75	2791.29	-2744.12	-431.52	-3246.83	5735918.02	569920.01
4895	5.13	209.77	2792.28	-2745.11	-431.6	-3246.87	5735917.94	569919.97
4896	5.12	209.79	2793.28	-2746.11	-431.68	-3246.92	5735917.87	569919.92
4897	5.12	209.81	2794.28	-2747.11	-431.75	-3246.96	5735917.79	569919.88
4898	5.12	209.83	2795.27	-2748.1	-431.83	-3247.01	5735917.71	569919.84
4899	5.11	209.85	2796.27	-2749.1	-431.91	-3247.05	5735917.63	569919.79
4900	5.11	209.86	2797.26	-2750.09	-431.99	-3247.09	5735917.56	569919.75
4901	5.11	209.88	2798.26	-2751.09	-432.06	-3247.14	5735917.48	569919.7
4902	5.1	209.9	2799.26	-2752.09	-432.14	-3247.18	5735917.4	569919.66
4903	5.1	209.92	2800.25	-2753.08	-432.22	-3247.23	5735917.32	569919.61
4904	5.1	209.94	2801.25	-2754.08	-432.3	-3247.27	5735917.25	569919.57
4905	5.09	209.96	2802.24	-2755.07	-432.37	-3247.32	5735917.17	569919.53
4906	5.09	209.98	2803.24	-2756.07	-432.45	-3247.36	5735917.09	569919.48
4907	5.09	210	2804.24	-2757.07	-432.53	-3247.41	5735917.02	569919.44
4908	5.09	210.02	2805.23	-2758.06	-432.6	-3247.45	5735916.94	569919.39
4909	5.08	210.03	2806.23	-2759.06	-432.68	-3247.49	5735916.86	569919.35
4910	5.08	210.05	2807.22	-2760.05	-432.76	-3247.54	5735916.78	569919.3
4911	5.08	210.07	2808.22	-2761.05	-432.84	-3247.58	5735916.71	569919.26
4912	5.07	210.09	2809.22	-2762.05	-432.91	-3247.63	5735916.63	569919.22
4913	5.07	210.11	2810.21	-2763.04	-432.99	-3247.67	5735916.55	569919.17
4914	5.06	210.17	2811.21	-2764.04	-433.07	-3247.72	5735916.48	569919.13
4915	5.05	210.23	2812.21	-2765.04	-433.14	-3247.76	5735916.4	569919.08
4916	5.04	210.29	2813.2	-2766.03	-433.21	-3247.8	5735916.33	569919.04
4917	5.03	210.35	2814.2	-2767.03	-433.29	-3247.85	5735916.25	569918.99
4918	5.02	210.41	2815.19	-2768.02	-433.36	-3247.89	5735916.18	569918.95
4919	5.01	210.47	2816.19	-2769.02	-433.44	-3247.94	5735916.11	569918.91
4920	5	210.53	2817.19	-2770.02	-433.51	-3247.98	5735916.03	569918.86
4921	4.99	210.59	2818.18	-2771.01	-433.59	-3248.02	5735915.96	569918.82
4922	4.98	210.65	2819.18	-2772.01	-433.66	-3248.07	5735915.88	569918.77
4923	4.97	210.71	2820.18	-2773.01	-433.73	-3248.11	5735915.81	569918.73
4924	4.96	210.77	2821.17	-2774	-433.81	-3248.16	5735915.73	569918.68
4925	4.95	210.83	2822.17	-2775	-433.88	-3248.2	5735915.66	569918.64
4926	4.94	210.89	2823.16	-2775.99	-433.96	-3248.25	5735915.59	569918.6
4927	4.93	210.95	2824.16	-2776.99	-434.03	-3248.29	5735915.51	569918.55
4928	4.92	211.01	2825.16	-2777.99	-434.11	-3248.33	5735915.44	569918.51
4929	4.91	211.07	2826.15	-2778.98	-434.18	-3248.38	5735915.36	569918.46
4930	4.9	211.13	2827.15	-2779.98	-434.25	-3248.42	5735915.29	569918.42
4931	4.89	211.19	2828.15	-2780.98	-434.33	-3248.47	5735915.21	569918.38
4932	4.87	211.25	2829.14	-2781.97	-434.4	-3248.51	5735915.14	569918.33
4933	4.86	211.31	2830.14	-2782.97	-434.48	-3248.56	5735915.06	569918.29
4934	4.85	211.37	2831.13	-2783.96	-434.55	-3248.6	5735914.99	569918.24
4935	4.85	211.39	2832.13	-2784.96	-434.62	-3248.64	5735914.92	569918.2

MD	Angle	Direction	TVDRT	TVDSS	Dnorth	Deast	Northing	Easting
4936	4.85	211.4	2833.13	-2785.96	-434.7	-3248.69	5735914.85	569918.15
4937	4.84	211.4	2834.12	-2786.95	-434.77	-3248.73	5735914.77	569918.11
4938	4.84	211.41	2835.12	-2787.95	-434.84	-3248.78	5735914.7	569918.07
4939	4.84	211.41	2836.12	-2788.95	-434.91	-3248.82	5735914.63	569918.02
4940	4.84	211.42	2837.11	-2789.94	-434.98	-3248.86	5735914.56	569917.98
4941	4.83	211.43	2838.11	-2790.94	-435.06	-3248.91	5735914.49	569917.94
4942	4.83	211.43	2839.11	-2791.94	-435.13	-3248.95	5735914.42	569917.89
4943	4.83	211.44	2840.1	-2792.93	-435.2	-3248.99	5735914.34	569917.85
4944	4.83	211.44	2841.1	-2793.93	-435.27	-3249.04	5735914.27	569917.8
4945	4.82	211.45	2842.1	-2794.93	-435.34	-3249.08	5735914.2	569917.76
4946	4.82	211.45	2843.09	-2795.92	-435.41	-3249.13	5735914.13	569917.72
4947	4.82	211.46	2844.09	-2796.92	-435.49	-3249.17	5735914.06	569917.67
4948	4.82	211.46	2845.08	-2797.91	-435.56	-3249.21	5735913.98	569917.63
4949	4.81	211.47	2846.08	-2798.91	-435.63	-3249.26	5735913.91	569917.58
4950	4.81	211.47	2847.08	-2799.91	-435.7	-3249.3	5735913.84	569917.54
4951	4.81	211.48	2848.07	-2800.9	-435.77	-3249.35	5735913.77	569917.5
4952	4.81	211.48	2849.07	-2801.9	-435.85	-3249.39	5735913.7	569917.45
4953	4.8	211.49	2850.07	-2802.9	-435.92	-3249.43	5735913.63	569917.41
4954	4.8	211.49	2851.06	-2803.89	-435.99	-3249.48	5735913.55	569917.36
4955	4.8	211.5	2852.06	-2804.89	-436.06	-3249.52	5735913.48	569917.32

APPENDIX 2a

BREAM B17

Petrophysics Evaluation Summary

Esso Australia Pty Ltd.

Exploration Department

Bream B-17
Formation Evaluation
Log Interpretation Report

Petrophysicist: A. Cernovskis
November 2005

Bream B-17 Log Interpretation

The Bream B-17 well was designed to capture and develop N-1 gas reserves up-dip of existing producers (primary target) and intra-Latrobe gas from the L.Balmei sands (secondary target).

The well was drilled from a new 20" conductor installed as part of the Bream B drilling program. The 22/26" phase of drilling spudded on the 3rd of July; the 12.25" drilling commenced on the 7th July from 180mMDRT to 845mMDRT. The 9-5/8" casing was run in the hole and landed at a depth of 840mMDRT. The 8½" hole was drilled with one bit run to a total depth of 4955mMDRT and 7" casing was run in hole and set at a depth of 4940.0mMDRT.

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

DATA

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

Survey/Log	Run	Company	Top (m MDRT)	Bottom (m MDRT)
ADN 6C Azimuthal Density Neutron ARC6-BA Array Resistivity Compensated, GR , Sonic 6	2	Schlumberger Anadrill	845.0	4955.0

Deviation

The well angle over the N-1 gas reservoir was 57^0 and through the L.Balmei reservoir ranged from 11.6^0 decreasing to 9.2^0.

Mud Data

Mud Type	8½" hole section: PetroFree (NAF)
Mud Weight:	9.5-10.2 ppg
Rm:	n/a
Rmf:	n/a
Rmc:	n/a
BHT:	120 ^{0}C

Hole Size

8½ inches	845.0 – 4955.0mMDRT

Data Acquisition & Log Quality

No problems were encountered with acquisition of key well log data. Data quality of the GR, Density-Neutron and Resistivity logs is acceptable. The real-time sonic log data quality was unacceptable and was unsuitable for formation evaluation purposes. Excessive drilling noise and high rates of penetration adversely affected the acquisition of the sonic data. Post-processing was unable to adequately recover first arrivals over much of the logged interval, particularly over the multiple coal zones. Also, due to the long period of continuous real-time log recording on the ISONIC, the down-hole memory was exceeded and a repeat logging run on the trip out was not possible.

Data Processing

The ROBB (bulk density, bottom quadrant), TNPH (thermal neutron porosity) curves were depth aligned to the GR (GR_ARC) curve. Within the original data-set there is significant mis-match of log data and depth alignment has been achieved through qualitative assessment of log character across sand shale dolomite and coal.

All coal and igneous zones were manually picked from the logs and flags created; Flag_Coal; Flag_Volc. A temperature curve (Temperature) was also generated; all the new curves were included as inputs for the final petrophysical interpretation.

INTERPRETATION

Logs Used

The primary logs used in the interpretation were P40H (ARC Phase resistivity 40" spacing at 2MHz), GR_ARC (ARC gamma ray), ROBB (bulk density, bottom) and TNPH (thermal neutron porosity in LPU).

Formation Water Salinity

R_{wa} analysis using a = 1, m = 2 and n = 2 indicates clean water sands have an apparent formation water salinity of 40,000ppm NaCl equivalent (Figure 1).

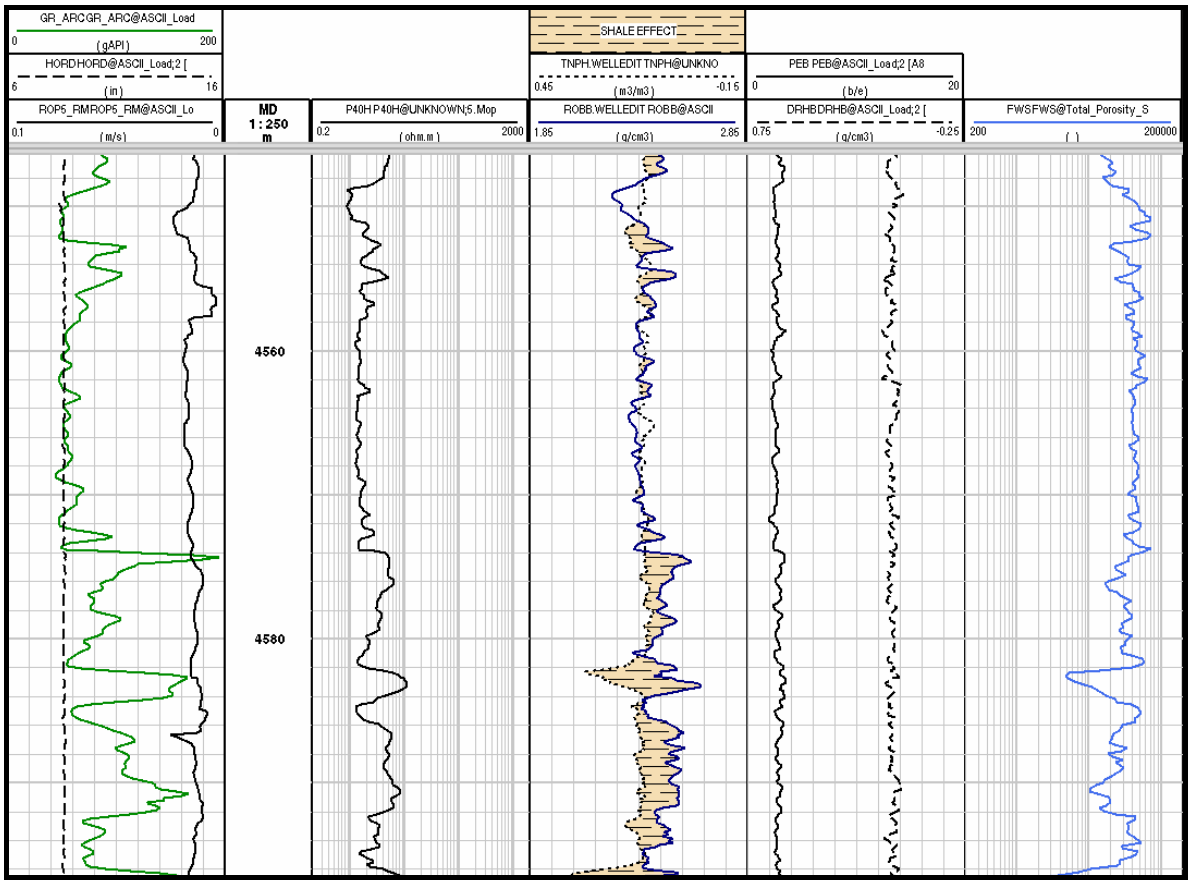


Figure 1: Apparent Formation Water Salinity (FWS) across clean water sand 4556-4574mMDRT

Hydrocarbon Type Identification

N-1 Zone 3796-3912mMDRT
The density-neutron log character indicates that all of the sand units are gas saturated with Lowest-Known-Gas (LKG) at 3912.0mMDRT. Hydrocarbon fluorescence was described in the ditch cuttings across the interval 3838-3878mMDRT; 2-20% dull-moderate bright greenish yellow even fluorescence, rapid blooming direct cut, thin residual ring.

L.Balmei 4388-4883mMDRT
Within this zone there are several discreet hydrocarbon units interpreted as gas bearing based on the density-neutron log character, PHIX-DT log methodology and associated elevated ditch gas readings. Hydrocarbon fluorescence was not described in the ditch cuttings.

Shale Volume, Porosity and Water Saturation

Schlumberger's Geoframe ELAN+ module was used to determine mineral volumes, total porosity, effective porosity and effective saturation. The details of the models are illustrated in the figures and tables below.

ELAN+ MODEL

ELAN Processes

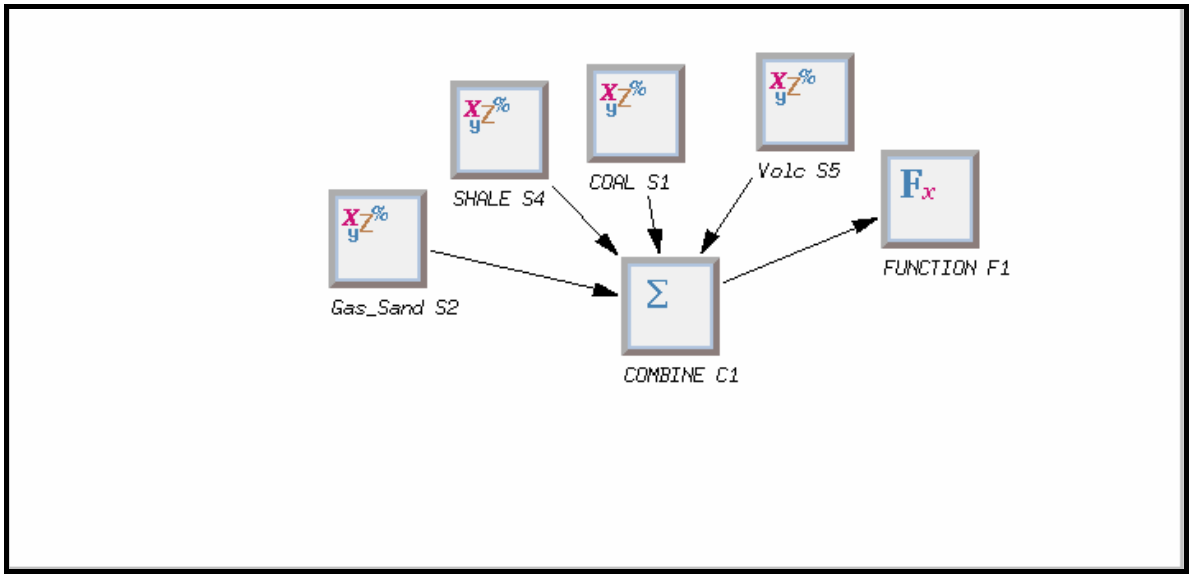
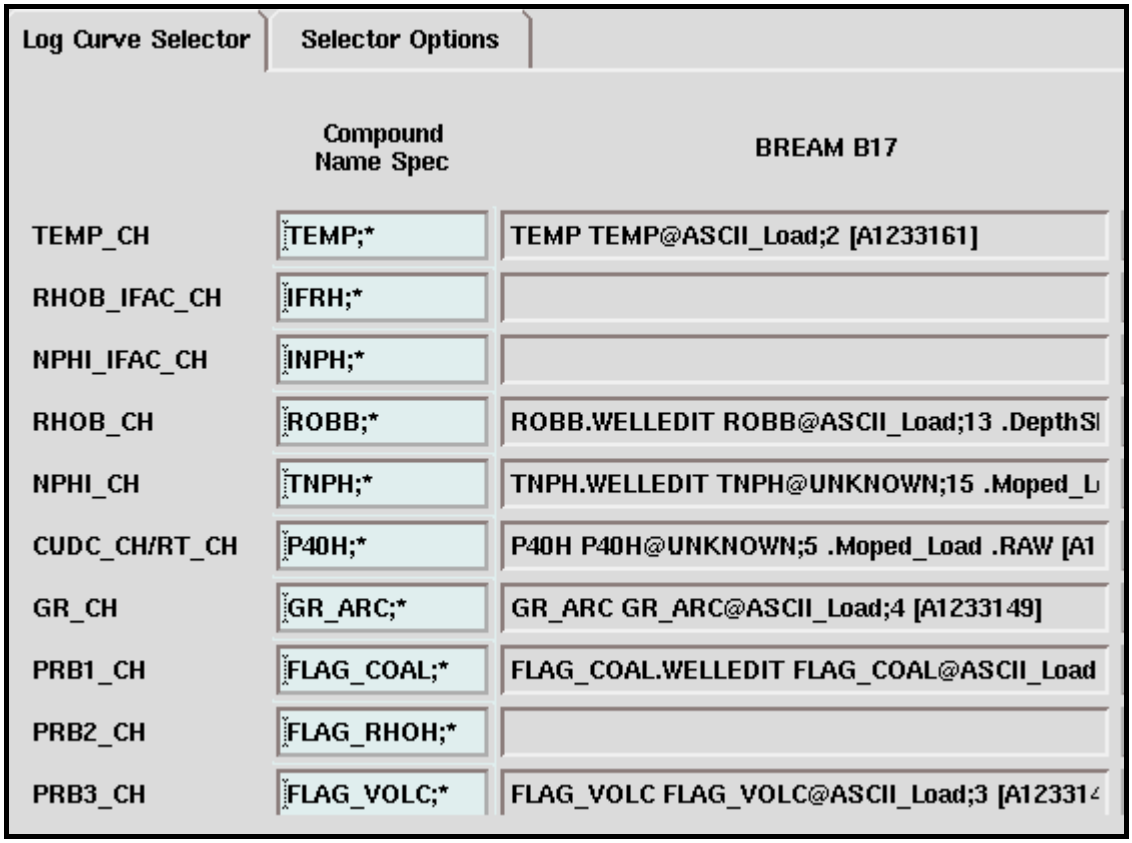


Figure 2. Elan + Model and Module Configuration

ELAN Input Channels



ELAN Global Parameters

Reference Index	MD
Processing Interval	3700.0(m) To 4919.0(m)
Sampling Rate	0.1(m)
Uncertainty Channel	FALSE
Clay Input	DRY
Special Fluids	IMMOVABLE_HYDROCARBON

ELAN Zone Definition

Name	Bottom To Top
Zone 4	4919.2500(m) To 4600.0000(m)
Zone 3	4600.0000(m) To 4039.9998(m)
Zone 2	4039.9998(m) To 3920.0000(m)
Zone 1	3920.0000(m) To 3700.0000(m)

ELAN Process Definition

Process	SOLVE1 "Gas"
Equations	RHOB NPHI CUDC_DWA GR CT1 CT2
Volumes	QUAR ORTH ILLI XWAT UWAT XGAS UGAS
Process	SOLVE4 "Shale"
Equations	RHOB NPHI GR
Volumes	QUAR ILLI XWAT UWAT
Process	SOLVE1 "Coal"
Equations	RHOB
Volumes	COAL
Process	SOLVE5 "Volc"
Equations	RHOB
Volumes	IGNE
Process	COMBINE 1 "COMBINE"
Order	SOL.1 SOL.5 SOL.4 SOL.2
Combine Method:	Internal Average

Probability Functions

```
probability (  SOL.1 , PRB1_CH)
probability (  SOL.5 , PRB3_CH)
prob1=linear (ILLI_VOL,0.3,0,0.5,1)
probability (  SOL.4 , prob1)
```

Process	FUNCTION 1 "FUNCTION"
Outputs	VCL SWT SUWI PIGN PHIT

User-defined Function

```
swt_cmp=(UWAT_VOL+XBWA_VOL)/(UWAT_VOL+XBWA_VOL+UGAS_VOL)
output(SWT,swt_cmp)
```

ELAN Different Parameters

Parameters	Zone 3	Zone 2	Zone 1
RHOB_UWAT (g/cm3	0.976	0.981	0.982
NPHI_QUAR (m3/m3)	-0.062	-0.062	-0.07
CXDC_XWAT (mS/m)	24.339	21.537	21.086
CUDC_UWAT (mS/m)	13.396	12.064	11.844
CUDC_UBWA (mS/m)	5.742	5.089	4.984
CT2_XGAS ( )	0	0	-1
MST (degC)	254.869	227.805	223.432
RW (ohm.m)	0.075	0.083	0.084
RWT (degC)	254.869	227.805	223.432
CUDC_UNC_ZP (mS/m)	0.055	0.052	0.052
RHOB_IFAC_ZP( )	0.7	0.7	0.3
NPHI_IFAC_ZP( )	0.7	0.7	0.3

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	2.000(g/cm3)	RHOB_IGNE	2.250(g/cm3)
RHOB_XWAT	0.800(g/cm3)	RHOB_XOIL	0.800(g/cm3)
RHOB_UOIL	0.800(g/cm3)	RHOB_XGAS	-0.037(g/cm3)
RHOB_UGAS	-0.037(g/cm3)	RHOB_XBWA	1.000(g/cm3)
NPHI_CALC	0.000(m3/m3)	NPHI_DOLO	0.026(m3/m3)
NPHI_ORTH	-0.010(m3/m3)	NPHI_ILLI	0.247(m3/m3)
NPHI_KAOL	0.451(m3/m3)	NPHI_COAL	0.450(m3/m3)
NPHI_IGNE	0.400(m3/m3)	NPHI_XWAT	1.000(m3/m3)
NPHI_UWAT	1.000(m3/m3)	NPHI_XOIL	1.000(m3/m3)
NPHI_UOIL	1.000(m3/m3)	NPHI_XGAS	0.048(m3/m3)
NPHI_UGAS	0.048(m3/m3)	NPHI_XBWA	1.000(m3/m3)
DT_QUAR	55.500(us/m)	DT_CALC	47.800(us/m)
DT_ILLI	90.000(us/m)	DT_KAOL	80.000(us/m)
DT_COAL	-999.250(us/m)	DT_XWAT	189.000(us/m)
DT_UWAT	0.000(us/m)	DT_XOIL	200.000(us/m)
DT_UOIL	0.000(us/m)	DT_XGAS	215.000(us/m)
DT_UGAS	0.000(us/m)	DT_XBWA	189.000(us/m)
CXDC_QUAR	0.000(mS/m)	CXDC_ILLI	-999.250(mS/m)
CXDC_KAOL	-999.250(mS/m)	CXDC_XGAS	0.000(mS/m)
CXDC_UGAS	0.000(mS/m)	CXDC_XBWA	-999.250(mS/m)
CUDC_QUAR	0.000(mS/m)	CUDC_ILLI	-999.250(mS/m)
CUDC_KAOL	-999.250(mS/m)	CUDC_XGAS	0.000(mS/m)
CUDC_UGAS	0.000(mS/m)	GR_QUAR	40.000(gAPI)
GR_CALC	11.000(gAPI)	GR_DOLO	8.000(gAPI)
GR_ORTH	170.000(gAPI)	GR_ILLI	220.000(gAPI)
GR_KAOL	130.000(gAPI)	GR_COAL	80.000(gAPI)
GR_IGNE	80.000(gAPI)	GR_XWAT	0.000(gAPI)
GR_UWAT	0.000(gAPI)	GR_XOIL	0.000(gAPI)

Parameter	Value	Parameter	Value
GR_UOIL	0.000(gAPI)	GR_XGAS	0.000(gAPI)
GR_UGAS	0.000(gAPI)	GR_XBWA	0.000(gAPI)
CT1_QUAR	0.080( )	CT1_CALC	0.000( )
CT1_DOLO	0.000( )	CT1_ORTH	-1.000( )
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	0.000( )	CT1_UGAS	0.000( )
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_UGAS	0.300( )
CT2_XBWA	0.000( )	CT3_QUAR	0.000( )
CT3_ORTH	0.000( )	CT3_ILLI	0.000( )
CT3_KAOL	0.000( )	CT3_COAL	0.000( )
CT3_IGNE	0.000( )	CT3_XWAT	0.000( )
CT3_UWAT	0.000( )	CT3_XOIL	0.000( )
CT3_UOIL	0.000( )	CT3_XGAS	1.000( )
CT3_UGAS	-0.300( )	CT3_XBWA	0.000( )
ARHOB_ILLI	2.780(g/cm3)	ARHOB_KAOL	2.620(g/cm3)
WCLP_ILLI	0.154(m3/m3)	WCLP_KAOL	0.062(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	10000.000(ohm.m)	SALIN_ISOL	-999.250(ppk)
SALIN_PARA	-999.250(ppk)	SALIN_XWAT	0.000(ppk)
SALIN_UWAT	25.000(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)	CXDC_UNC_ZP	0.079(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	0.750( )
CXDC_UNC_WM	0.500( )	CUDC_UNC_WM	0.670( )
GR_UNC_WM	0.300( )	CT1_UNC_WM	1.000( )
CT2_UNC_WM	1.000( )	CT3_UNC_WM	1.000( )
VOLS_UNC_WM	1.000( )	A_ZP	1.000( )
N_ZP	2.000( )	C_DWA	0.000( )
M_DWA	2.000( )	BVIRR	0.010(m3/m3)
BETA_0	0.750( )	M_SGS	-1.000( )
QV_CUT	1.000(meq/cm3)		

RESULTS AND DISCUSSION

A summary of the results of the interpretation is presented in Table 1.

The top of the N-1 reservoir (Base Waste Zone) was intersected at 3796.2mMDRT (-1823.6mTVDSS). A total 86.4mMD (46.8mTVT) net gas pay was intersected with an effective porosity (PIGN) of 18.6% and average water saturation of 27% (SUWI). A graphical presentation of the interpretation is presented in Figure 3.

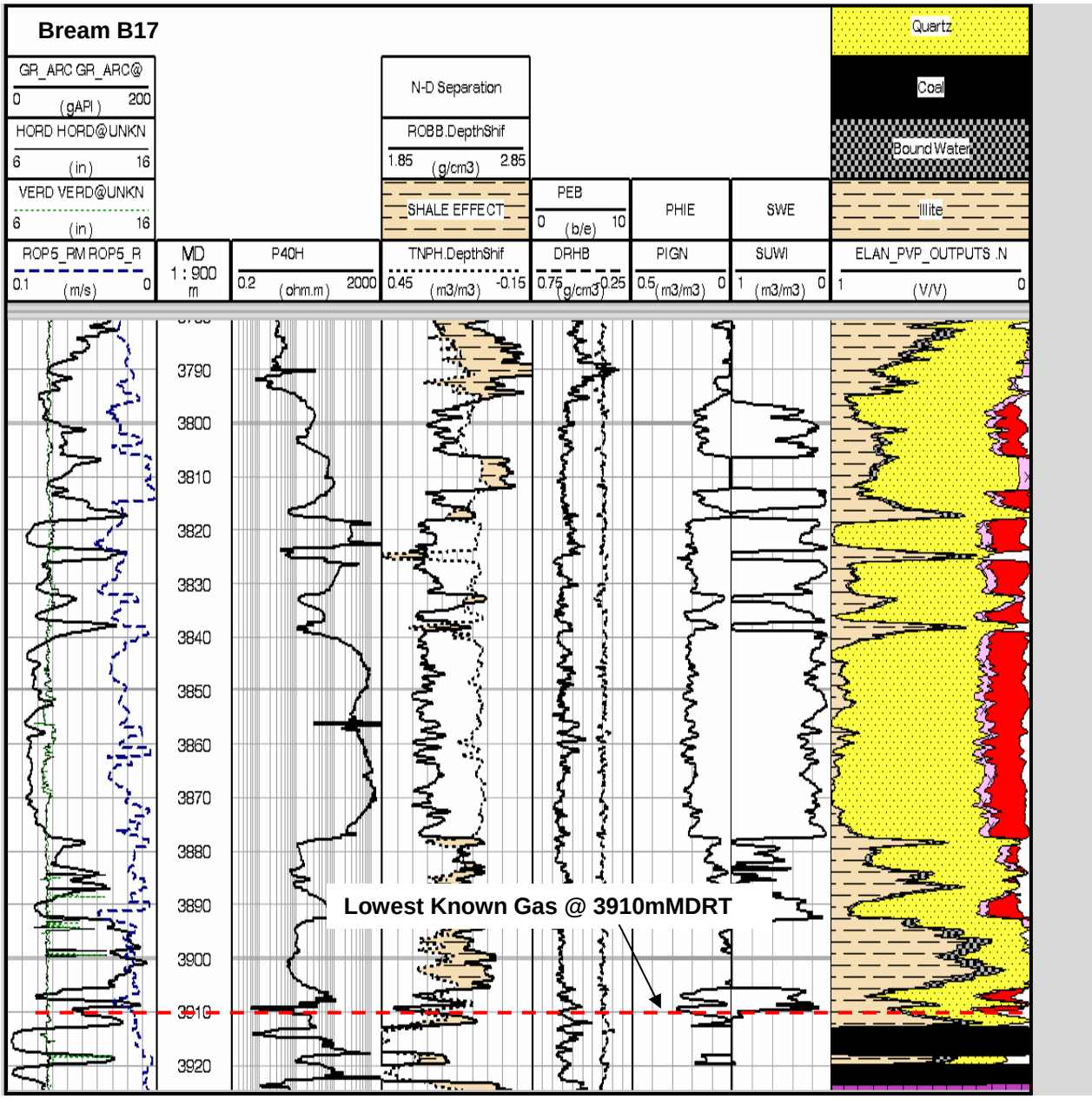


Figure 3. Bream B17 N-1 Gas Reservoir Interpretation.

Below the N-1 reservoir several discreet gas reservoir units were intersected within the L.Balmei zone from 4388-4883mMD. Graphical presentations of the reservoir units are presented in Figures 4 to 7.

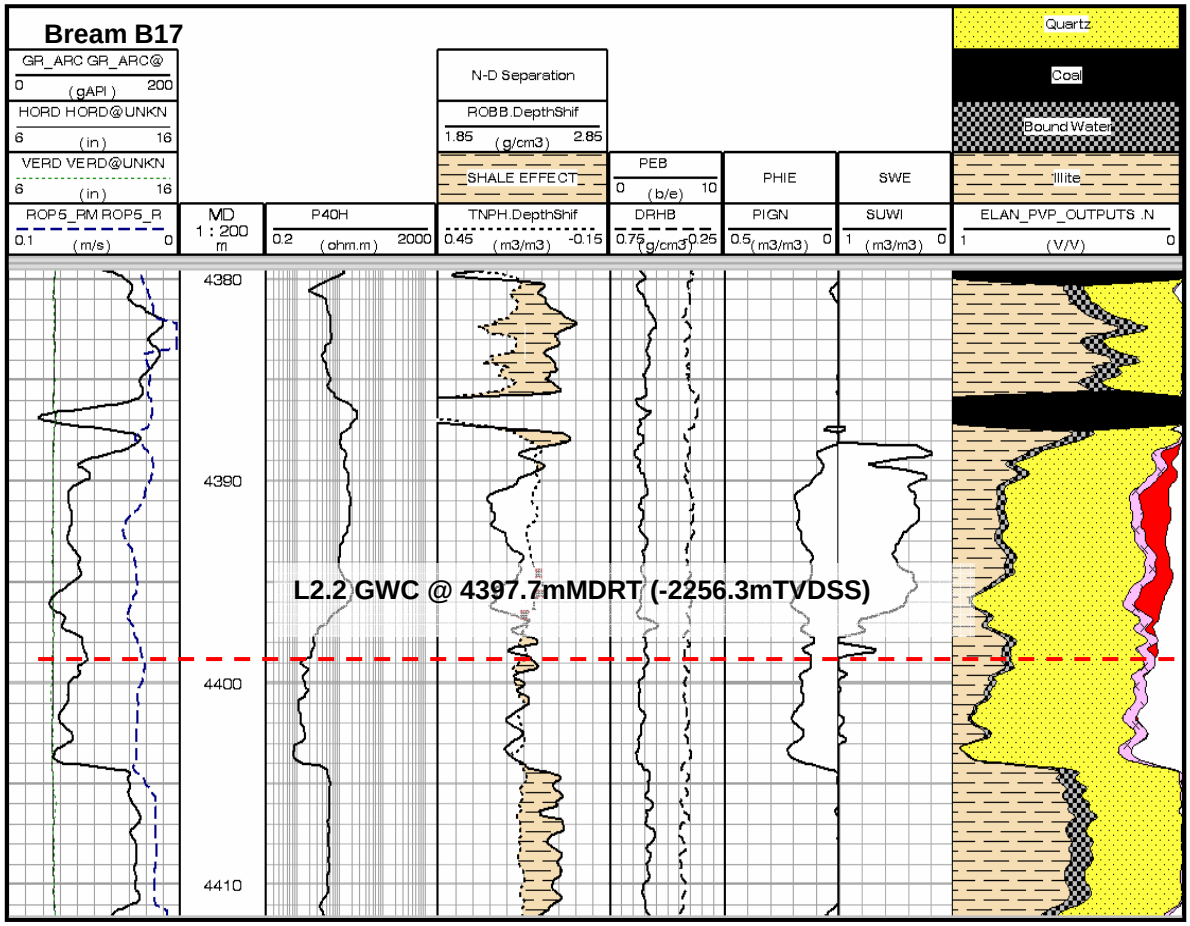


Figure 4. L2.2 Gas Reservoir Interpretation

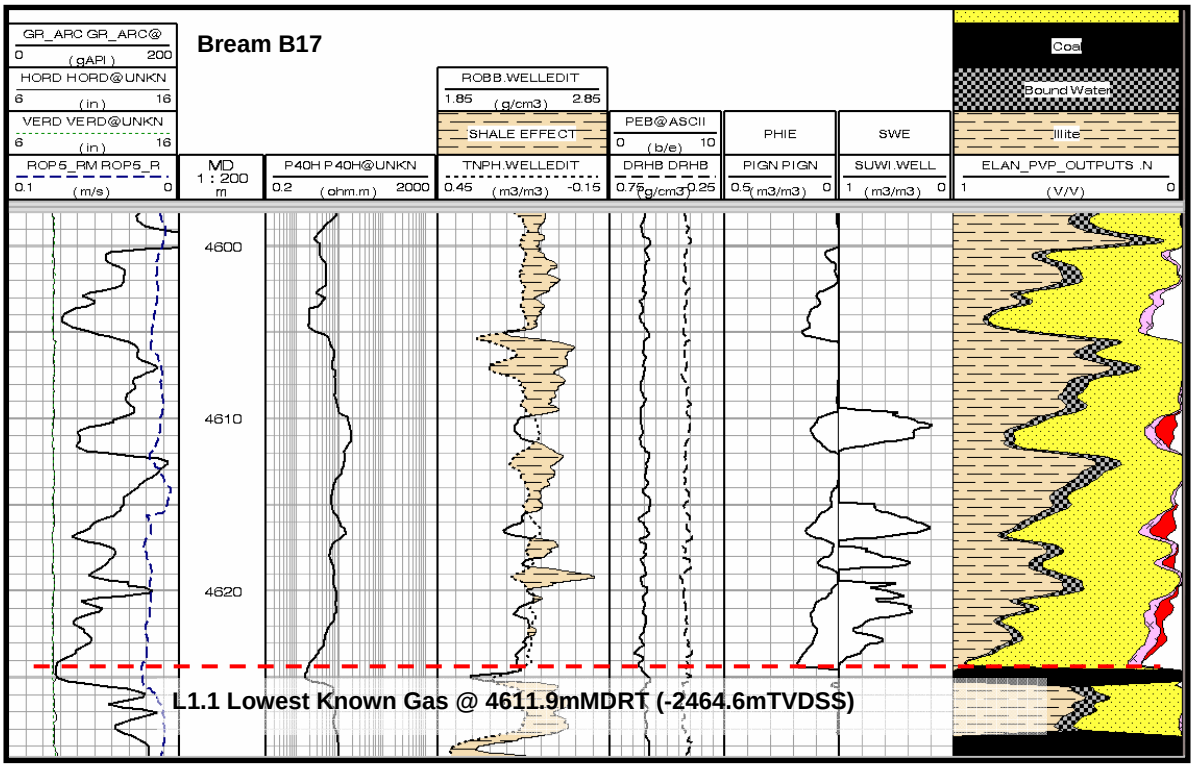


Figure 5. L1.1 Reservoir Interpretation

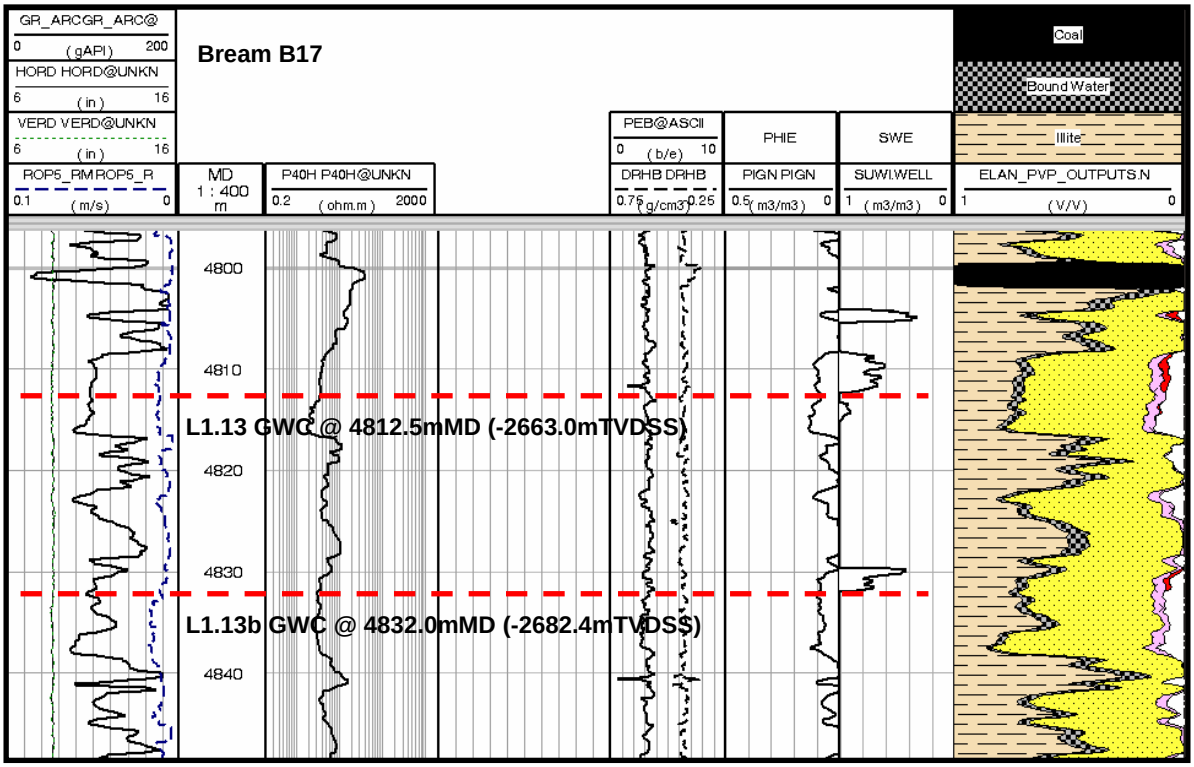


Figure 6. L1.13 and L1.3b Reservoir Interpretation

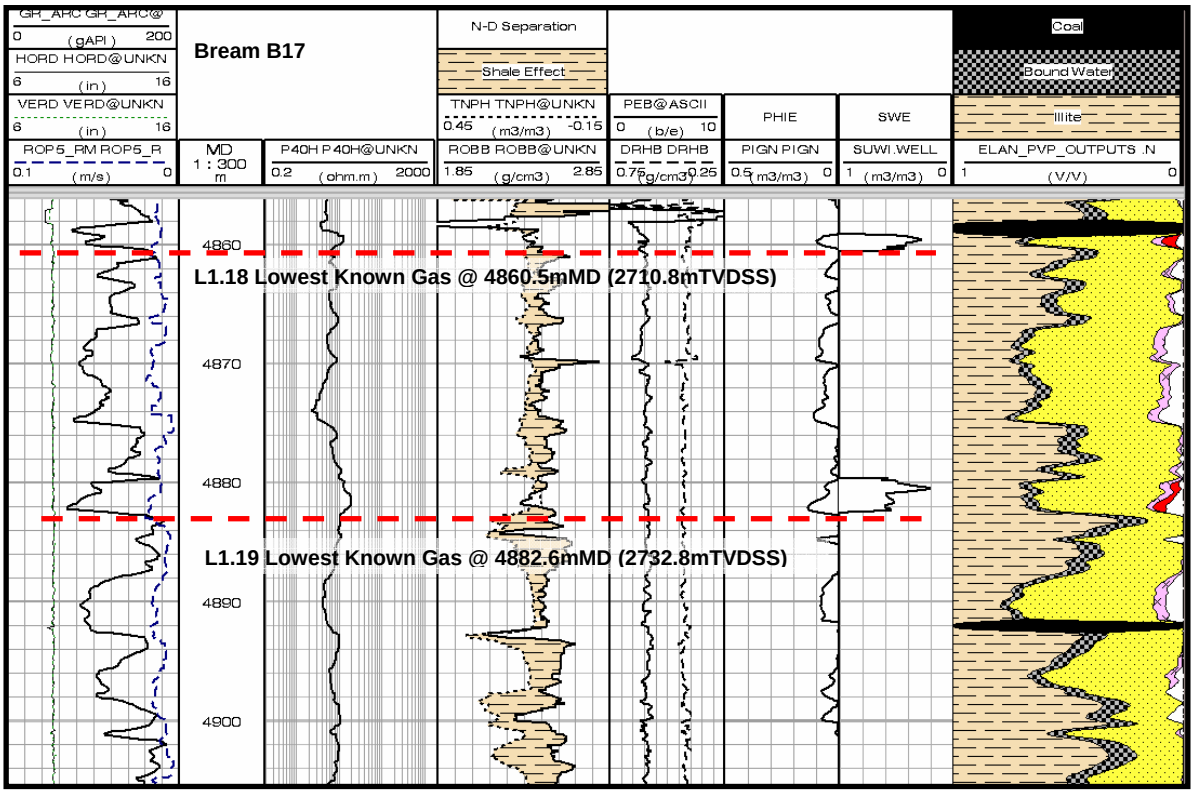


Figure 7. L1.18 and L1.9 Reservoir Interpretation

Bream B17

Petrophysical Summary 3770 - 4920m MD

Depth Reference: Primary: MDKB

Mean VCL, Mean PHIE (or PIGN), Mean SWE (or SUWI) is based on a PHIE or PIGN cutoff: 0.08 for Gas, 0.12 for oil and water

Zone	Top Depth mMD	Bottom Depth mMD	Top Depth mTVDSS	Bottom Depth mTVDSS	Gross Thickness mMD	Gross Thickness mTVD	Net/Gross	Mean VCL	Mean PHIE	Mean SWE	Comments	Net Pay Thickness mMD	Net Pay Thickness mTVD
N-1 Gas	3796.2	3912.0	1823.6	1886.4	115.8	62.8	0.75	0.15	0.186	0.27	Gas	86.4	46.8
	Lowest Known Gas @ 3912.0mMD (-1886.4mTVDSS)												
L-2.2 Gas	4388.1	4397.7	2247.0	2256.3	9.6	9.3	0.89	0.22	0.153	0.44	Gas	8.6	8.3
	GWC @ 4397.7mMD (-2256.3mTVDSS)												
L-2.2 Water	4397.7	4404.4	2256.3	2262.8	6.7	6.5	0.87	0.15	0.169	0.97	Water		
L-2.5 Gas	4503.0	4507.5	2359.0	2363.4	4.5	4.4	1.00	0.35	0.080	0.69	Possible Gas		
	GWC @ 4507.5mMD (-2363.4mTVDSS)												
L-2.5 Water	4507.5	4509.0	2363.4	4510.5	1.5	1.5	0.76	0.08	0.172	1.00			
L-1.1 Gas	4609.3	4611.9	2462.1	2464.6	2.6	2.5	0.58	0.31	0.105	0.34	Gas	1.5	1.5
L-1.2a Gas	4614.8	4618.8	2467.5	2471.4	4.0	3.9	0.45	0.34	0.110	0.37	Gas	1.8	1.8
L-1.2b Gas	4619.4	4624.4	2472.0	2476.9	5.0	4.9	0.77	0.24	0.124	0.74	Possible Gas		
L-1.10 Gas	4762.3	4767.4	2613.1	2618.1	5.1	5.1	0.12	0.33	0.106	0.27	Gas	0.6	0.6
L-1.10b Gas	4770.4	4776.7	2621.1	2627.4	6.3	6.3	0.10	0.39	0.085	0.47	Gas	0.6	0.6
L-1.12b Gas	4804.0	4805.5	2654.5	2656.0	1.5	1.5	0.13	0.33	0.084	0.42	Gas	0.2	0.2
L-1.13 Gas	4808.3	4812.5	2658.8	2663.0	4.2	4.2	0.87	0.32	0.099	0.72	Gas	3.7	3.6
	GWC @ 4812.5mMD (-2663.0mTVDSS)												
L-1.13 Water	4812.5	4816.7	2663.0	2667.2	4.2	4.2	0.38	0.25	0.129	0.99	Water		
L-1.13b Gas	4829.7	4832.0	2680.1	2682.4	2.3	2.3	0.50	0.31	0.087	0.76	Gas	1.2	1.1
	GWC @ 4832.0mMD (-2682.4mTVDSS)												
L-1.13b Water	4832.0	4838.9	2682.4	2689.3	6.9	6.9	0.04	0.16	0.125	1.00	Water		
L-1.18 Gas	4859.0	4860.5	2709.3	2710.8	1.5	1.5	0.33	0.32	0.094	0.36	Gas	0.5	0.5
L-1.19 Gas	4879.6	4882.6	2729.8	2732.8	3.0	3.0	0.40	0.38	0.116	0.59	Gas	1.2	1.2

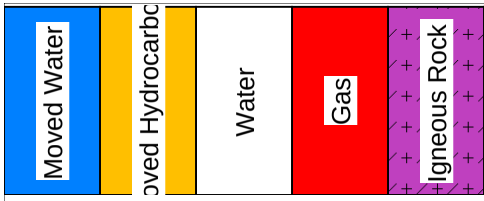
ExxonMobil

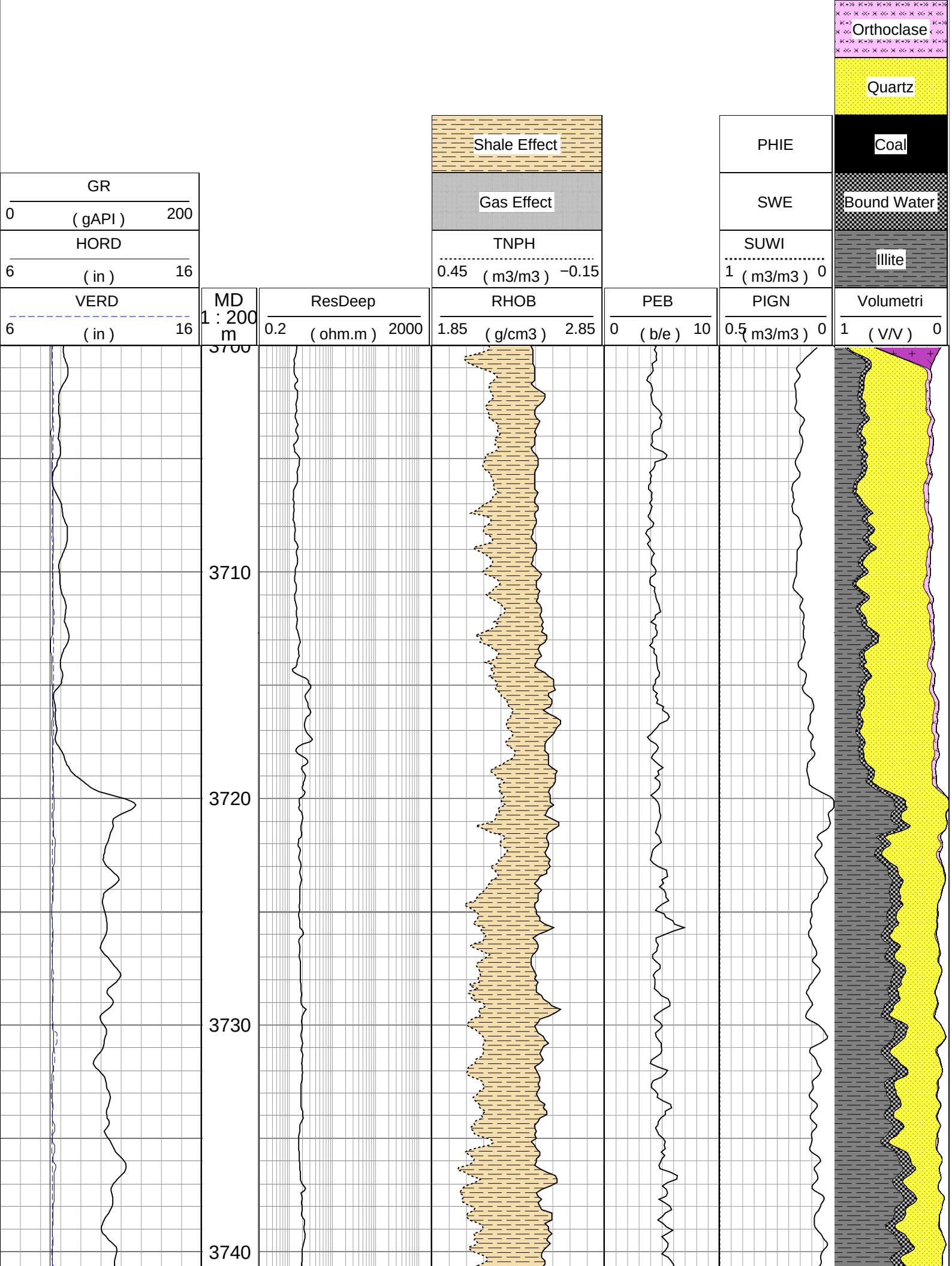
BREAM B17

Petrophysical Analysis

COMPANY:	Esso Australia Pty. Ltd.
WELL:	Bream B17
BOREHOLE:	
FIELD:	Bream
STATE:	Victoria
COUNTRY:	Australia
PETROPHYSICIST:	Angie Cernovskis

Date Logged:	July 2005	Date of Analysis: November 2005
Well Location:	Gippsland Basin	
Elevations:	R.T. 47.17	
Latitude:	38 31’05.658"S	RT to MSL : 108.17m
Longitude:	147 50’21.466"E	

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Gas Effect
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(b/e)
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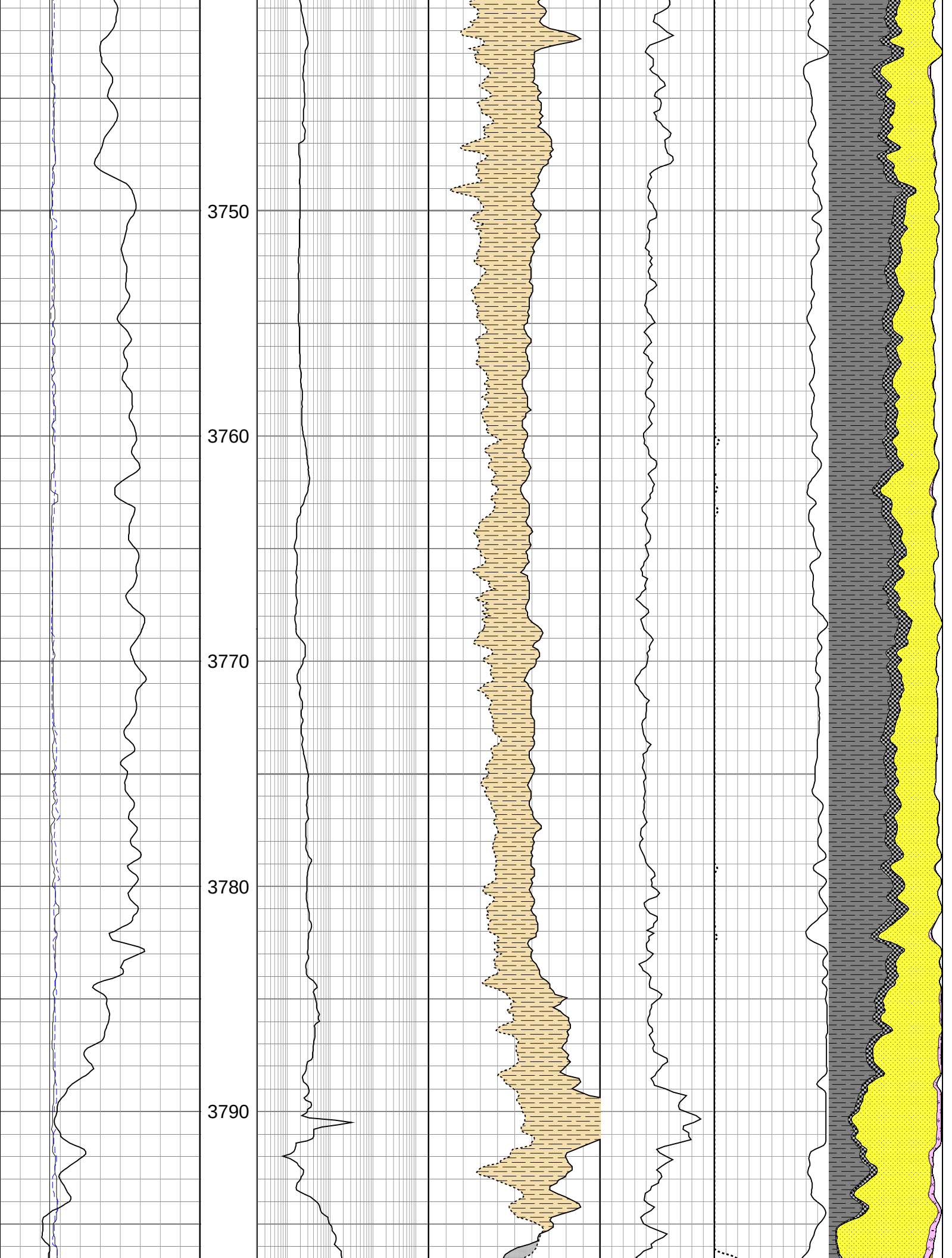
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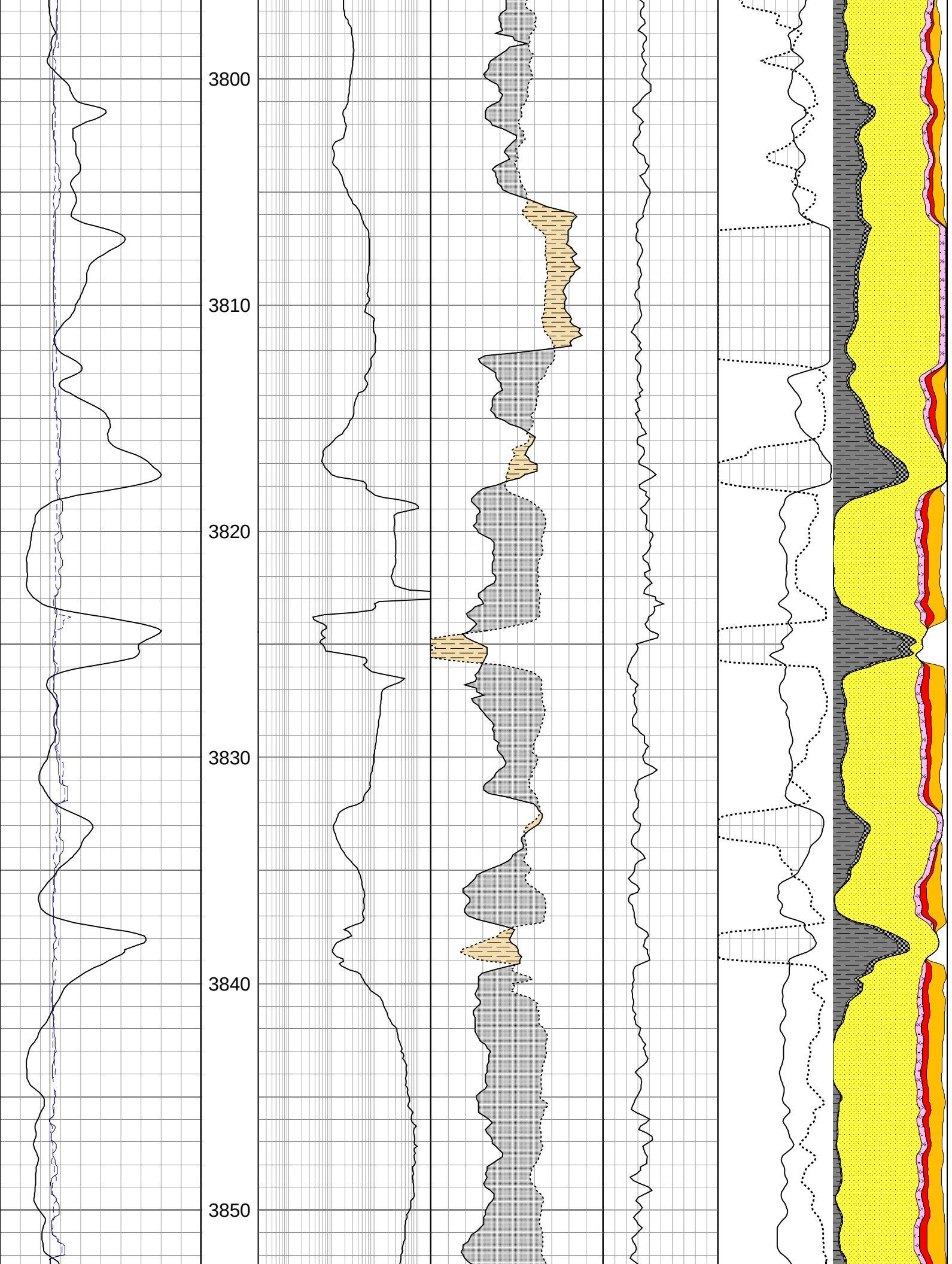
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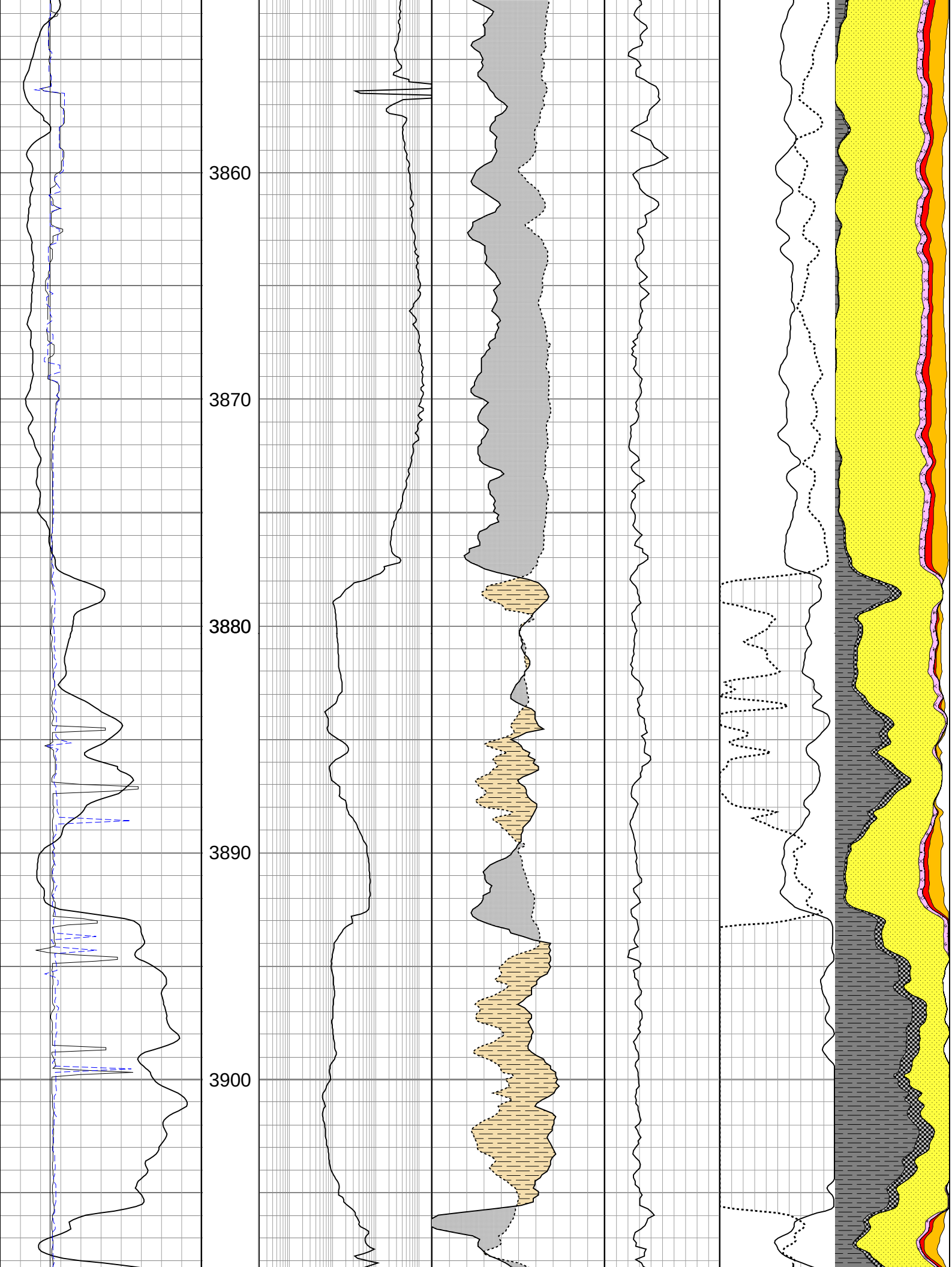
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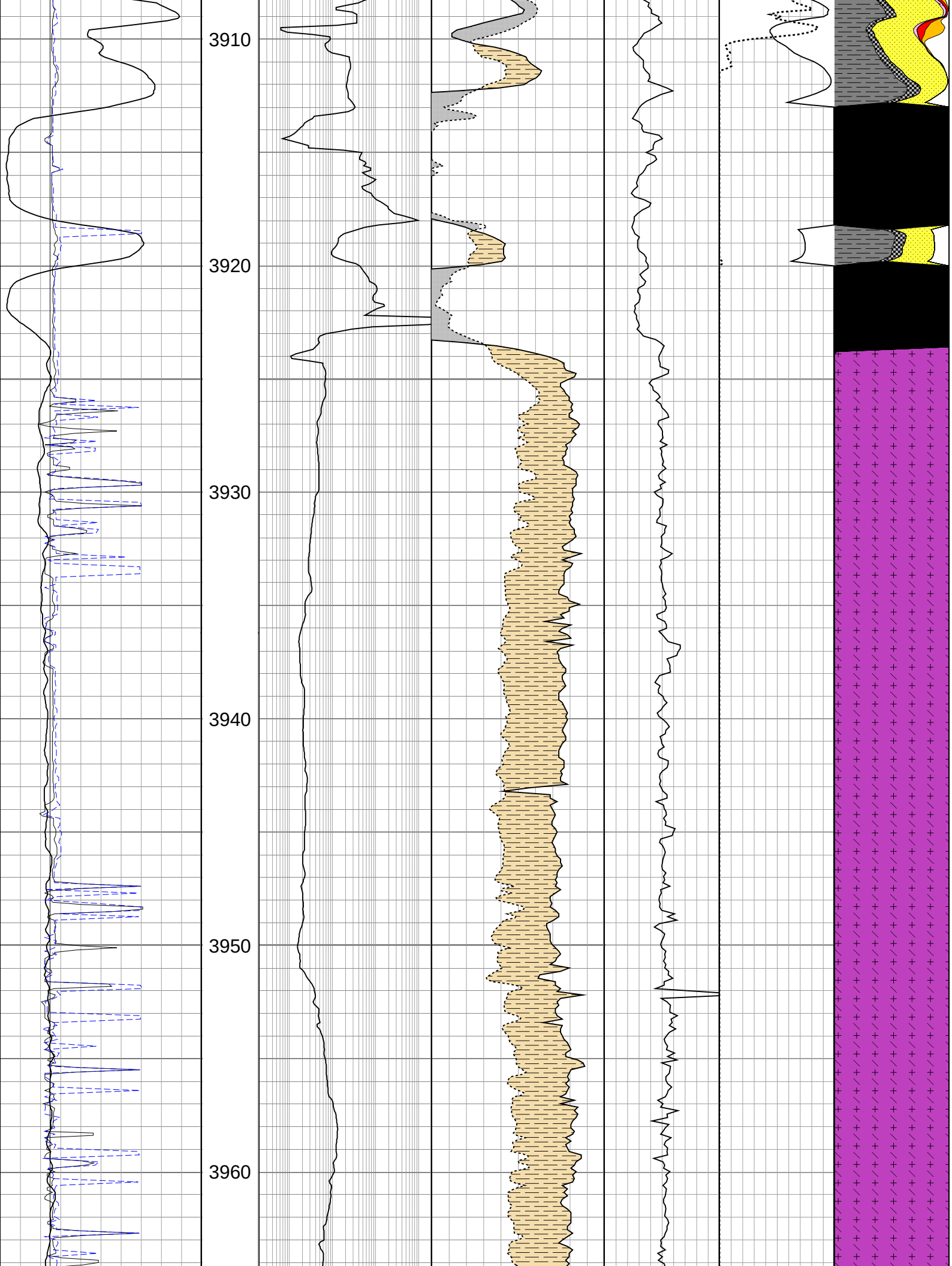
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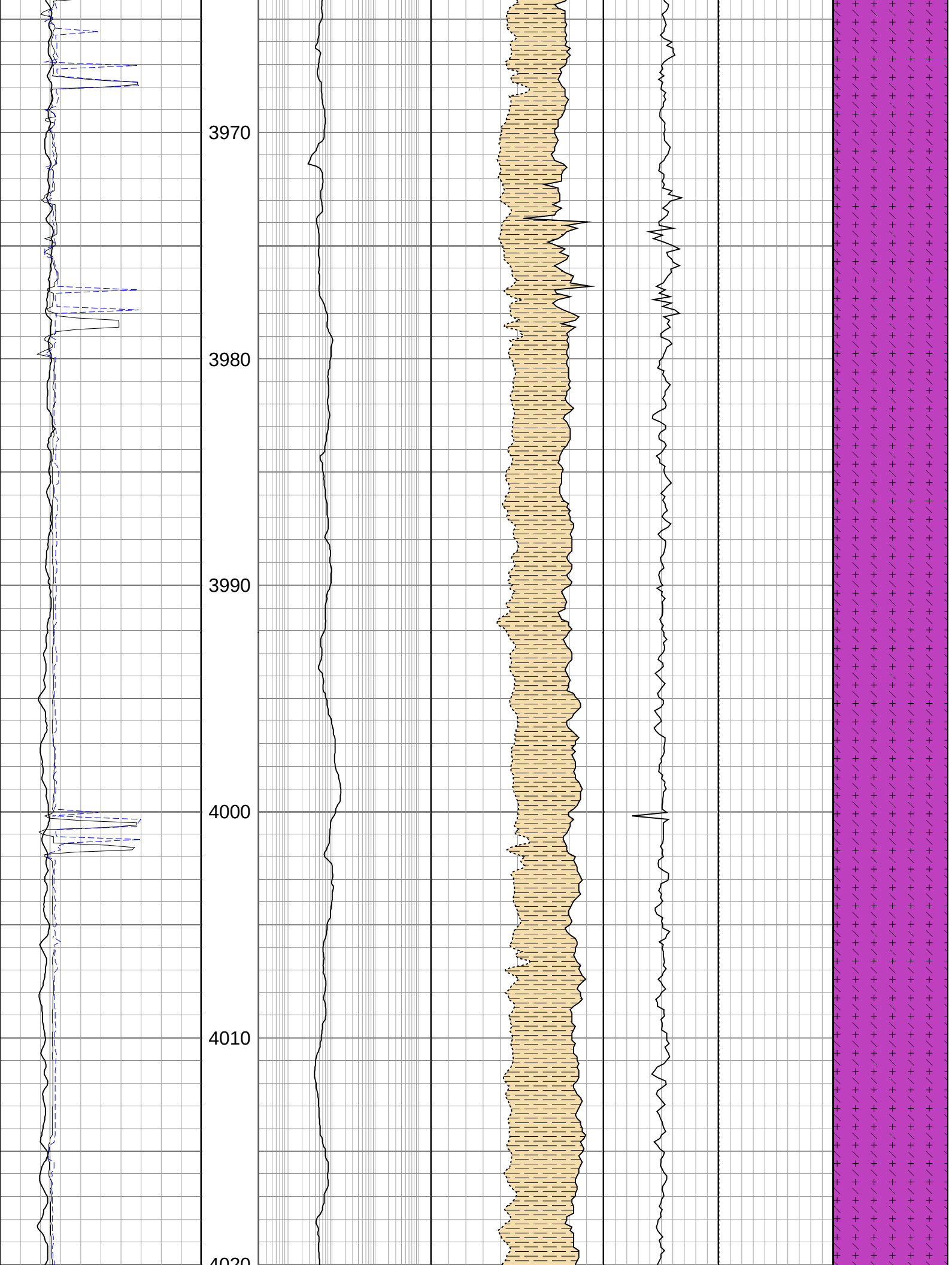
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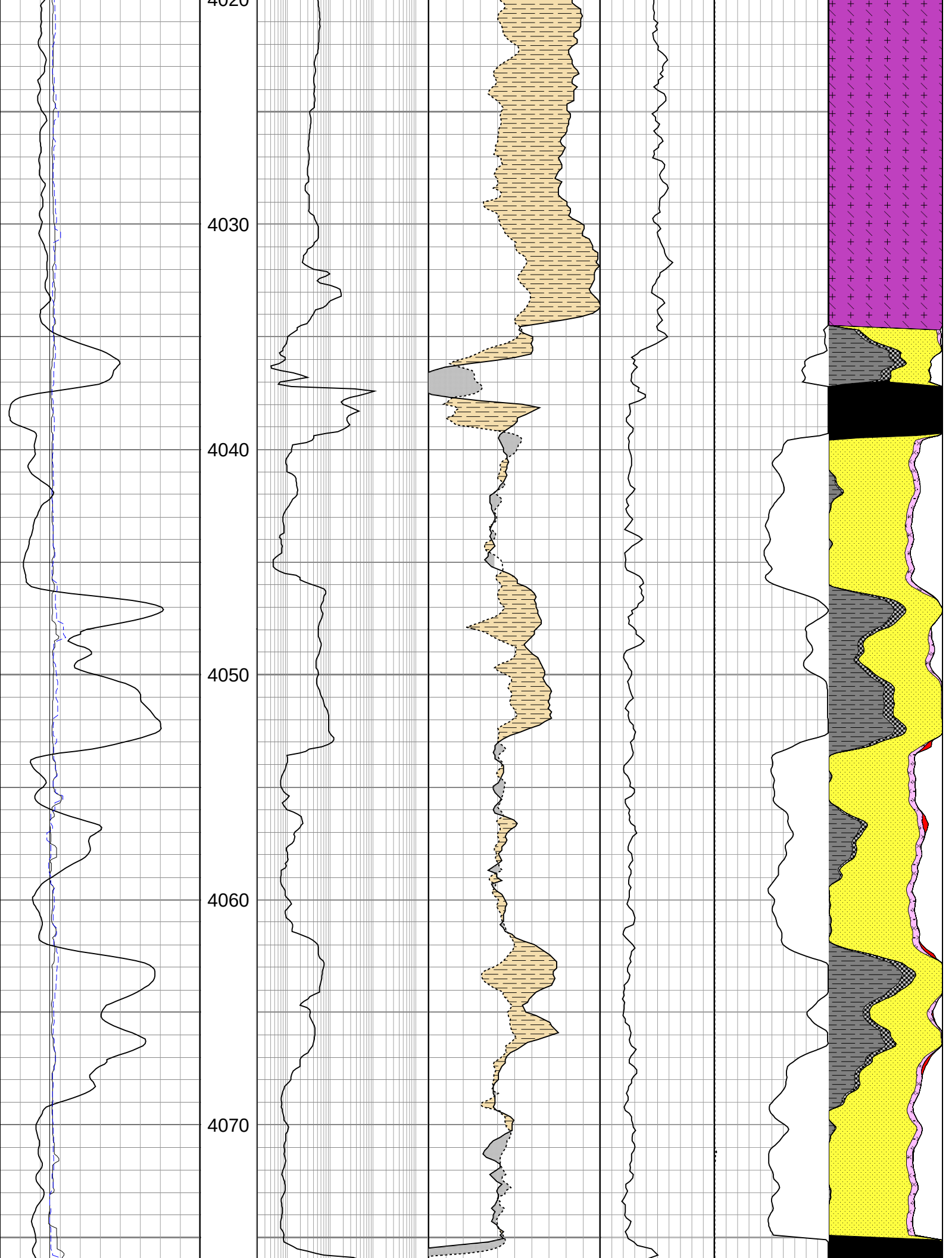
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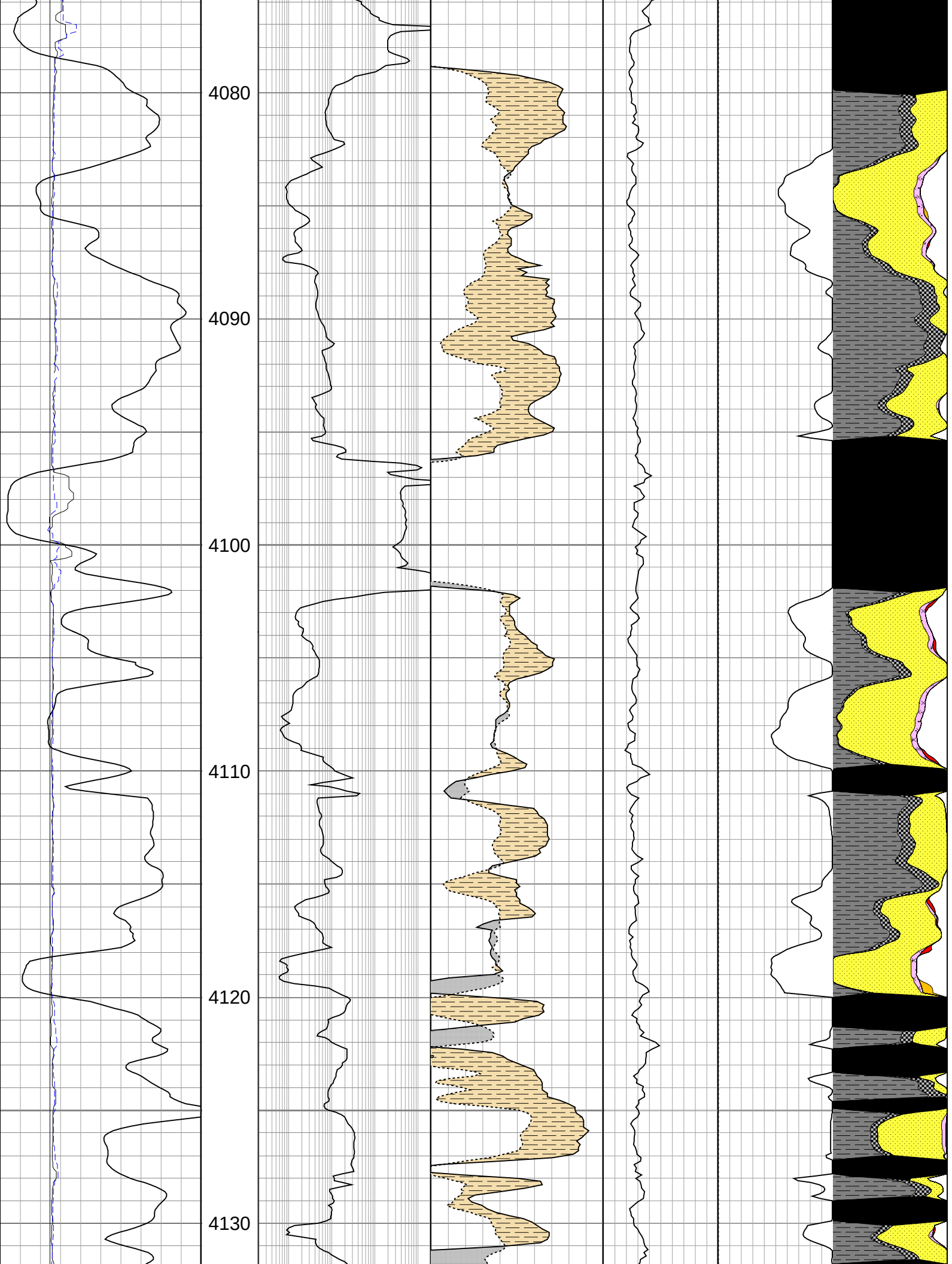
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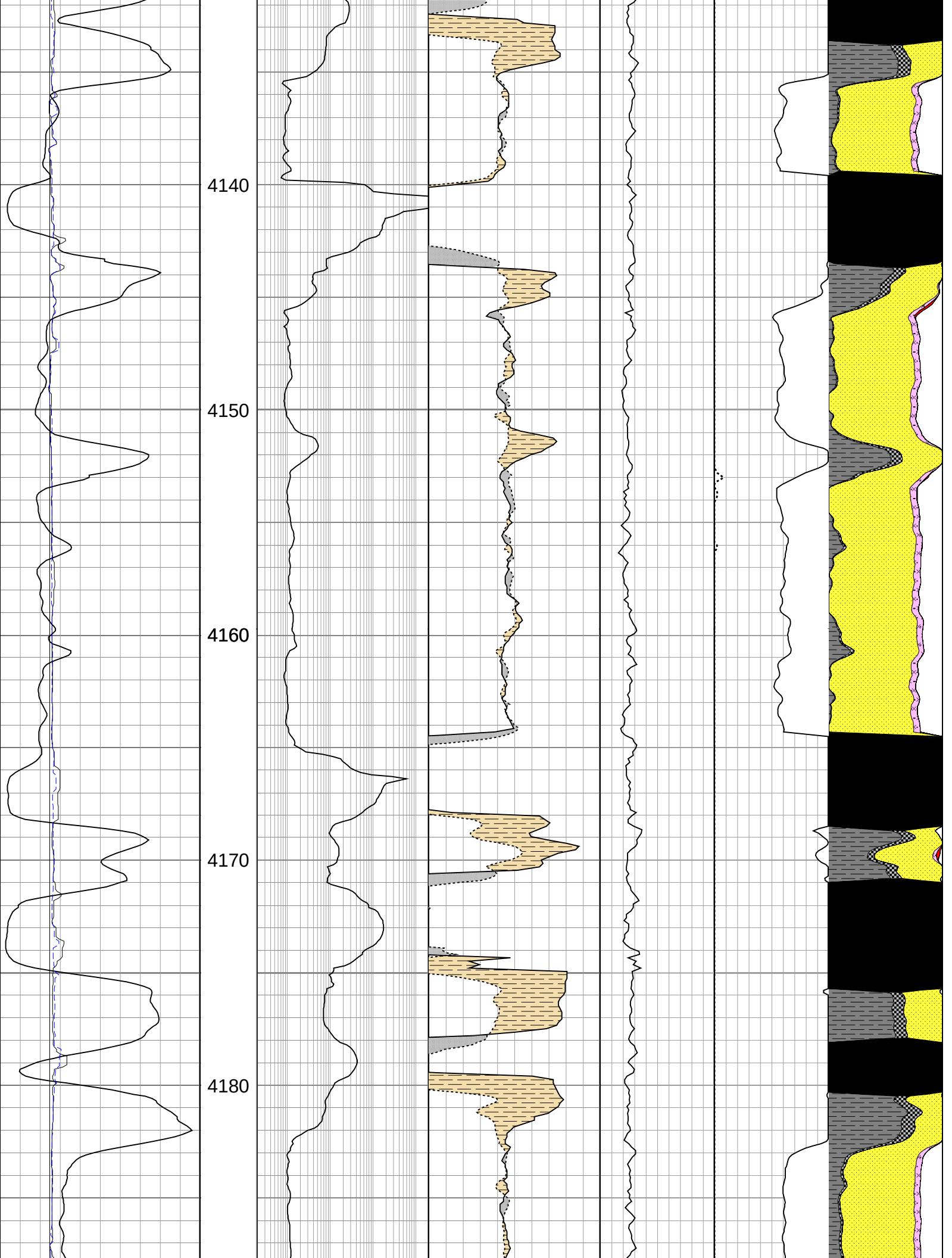
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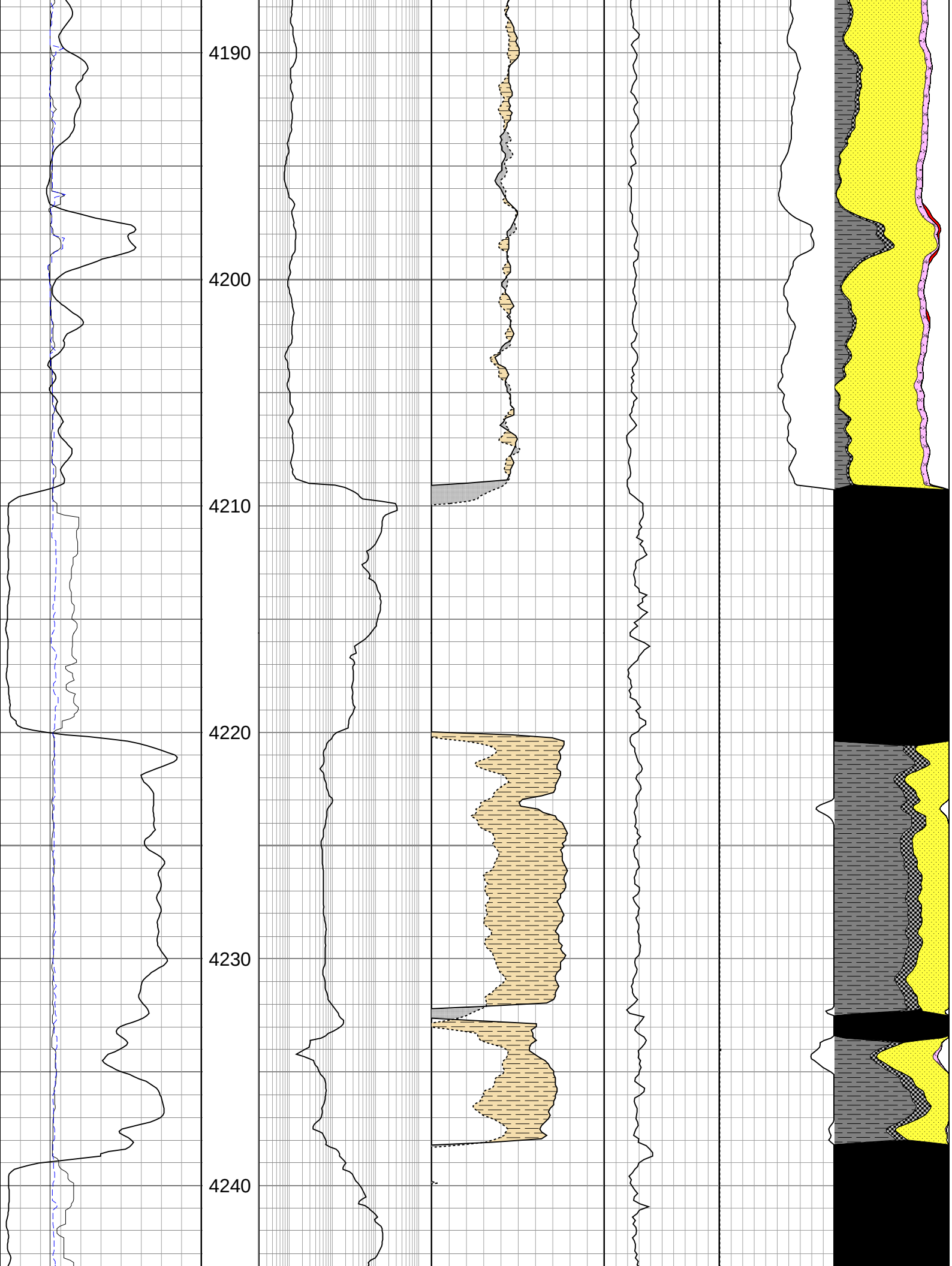
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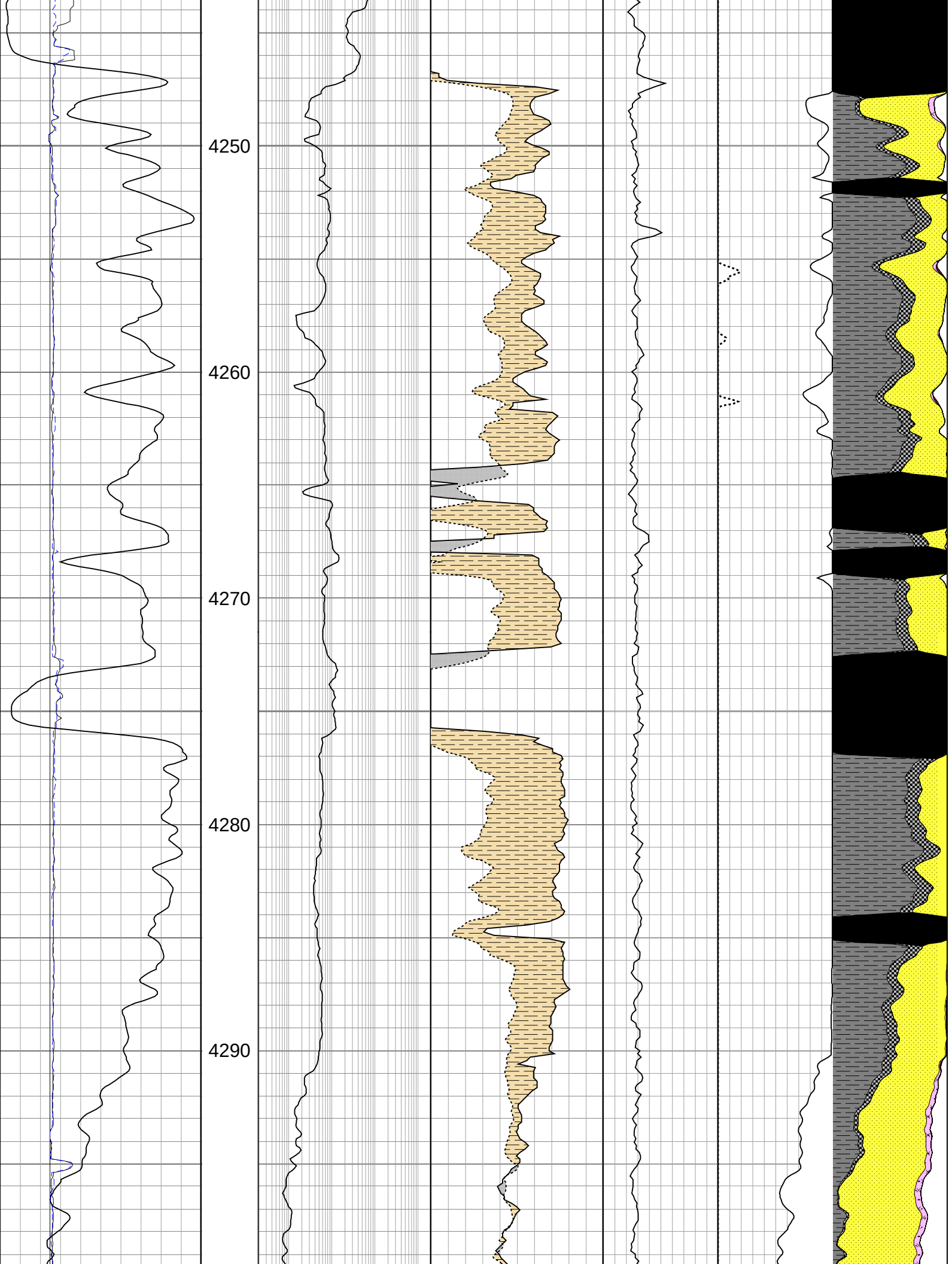
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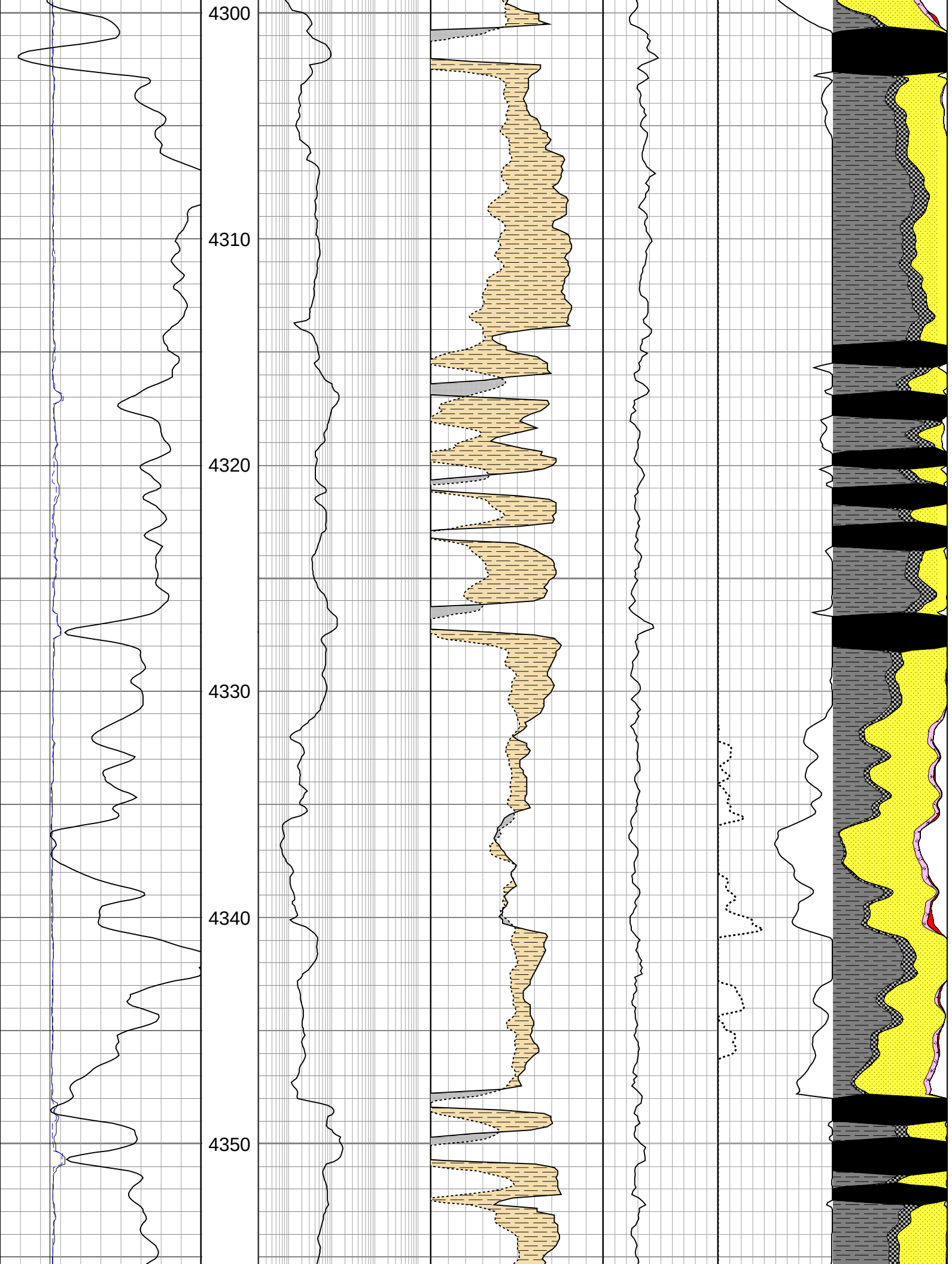
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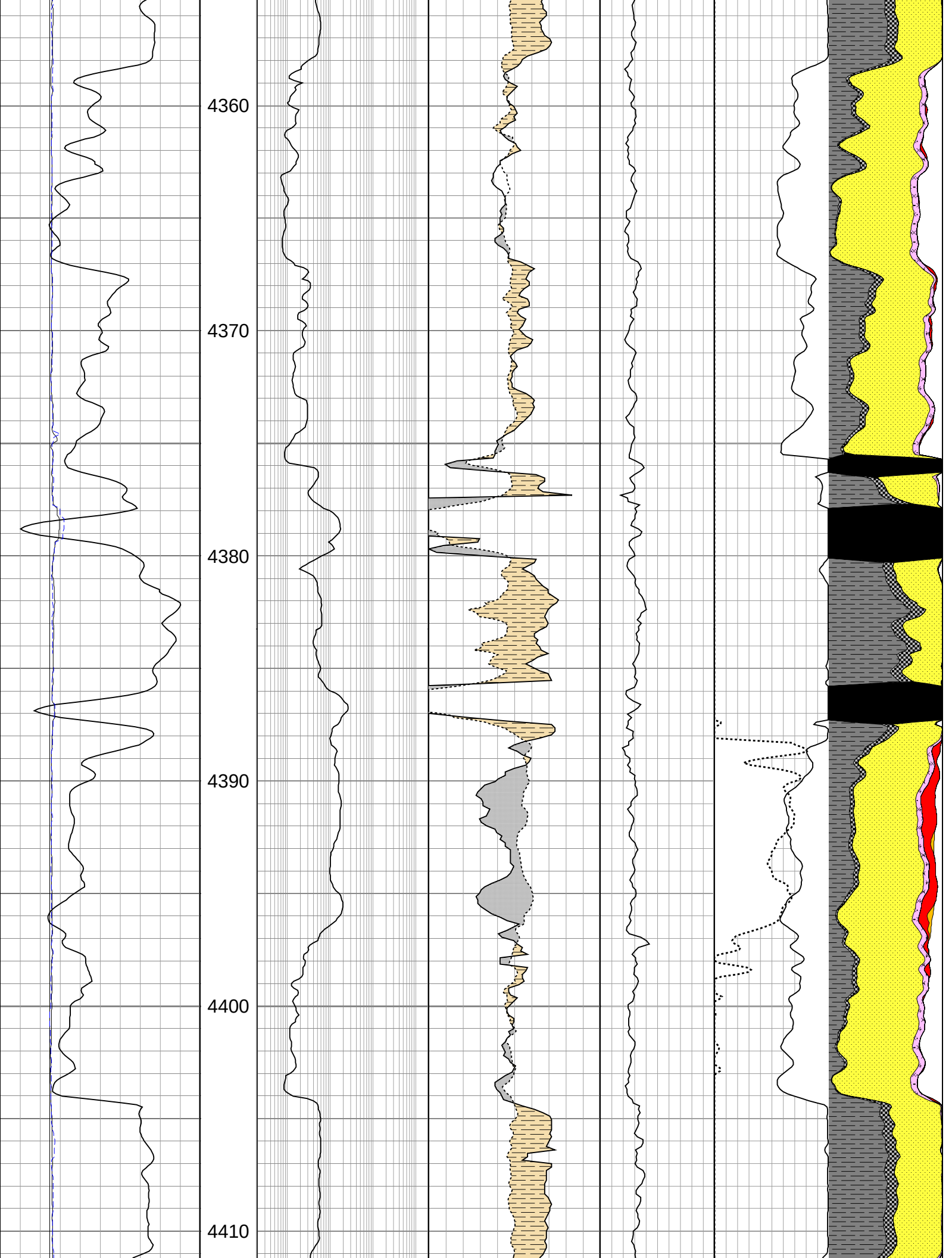
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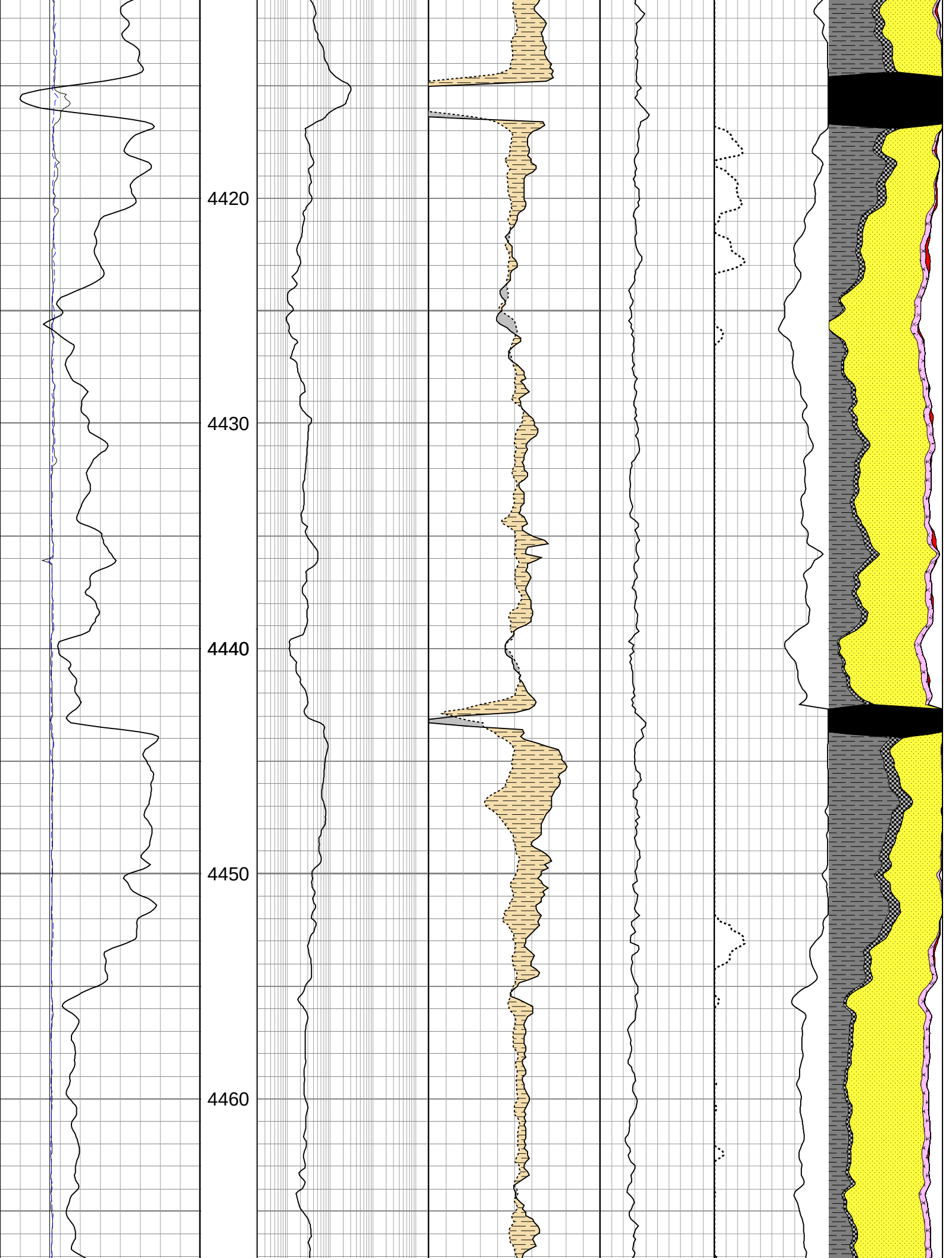
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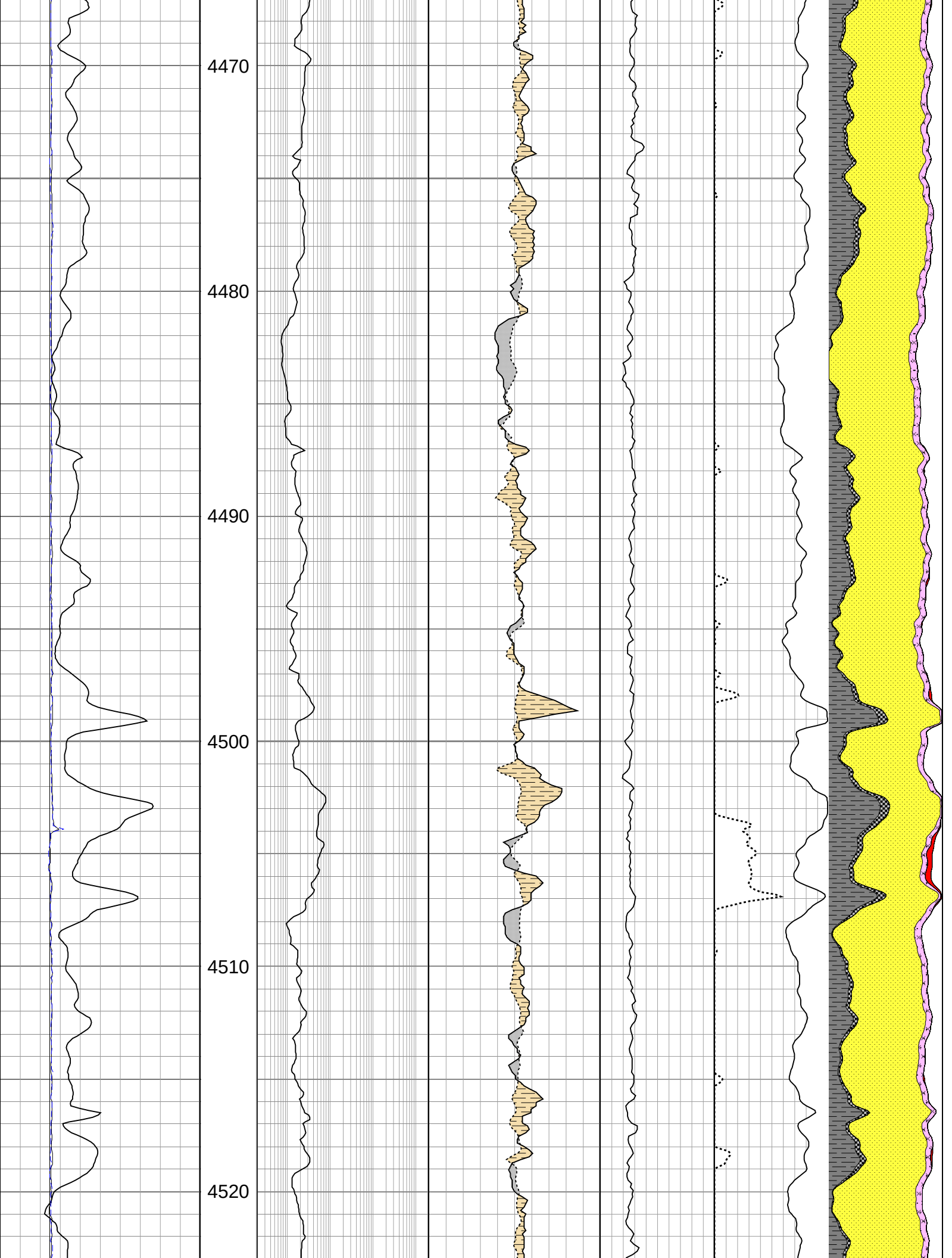
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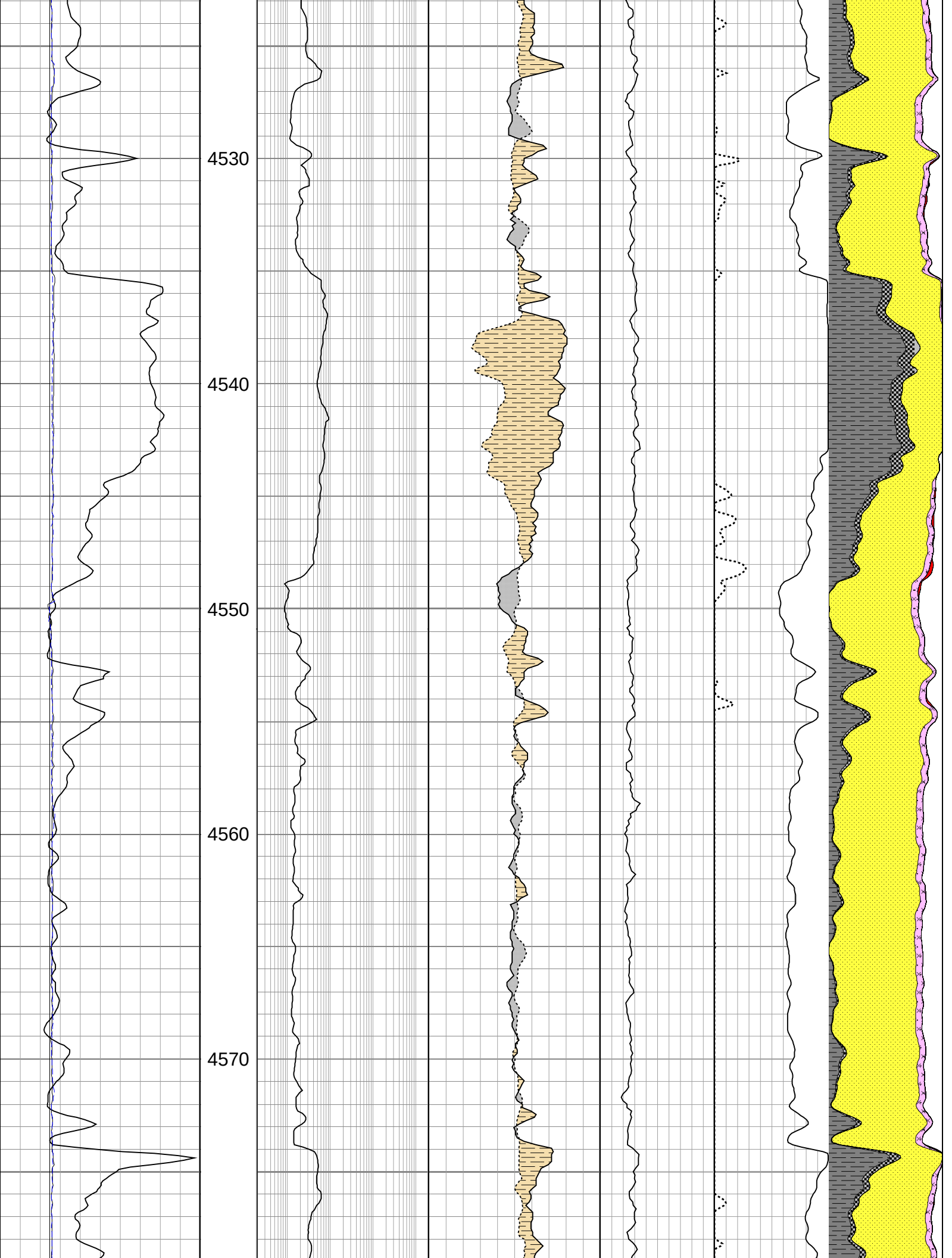
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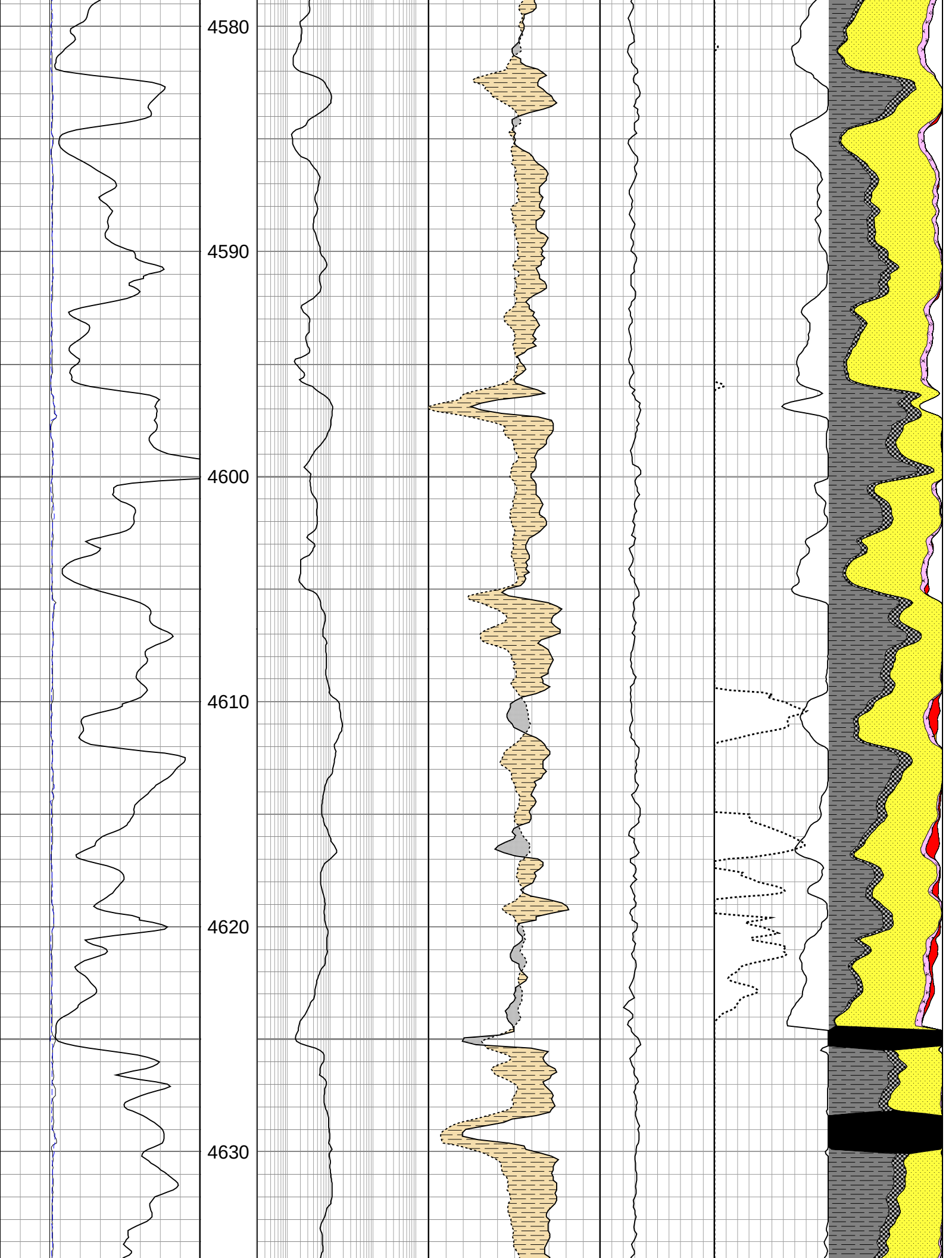
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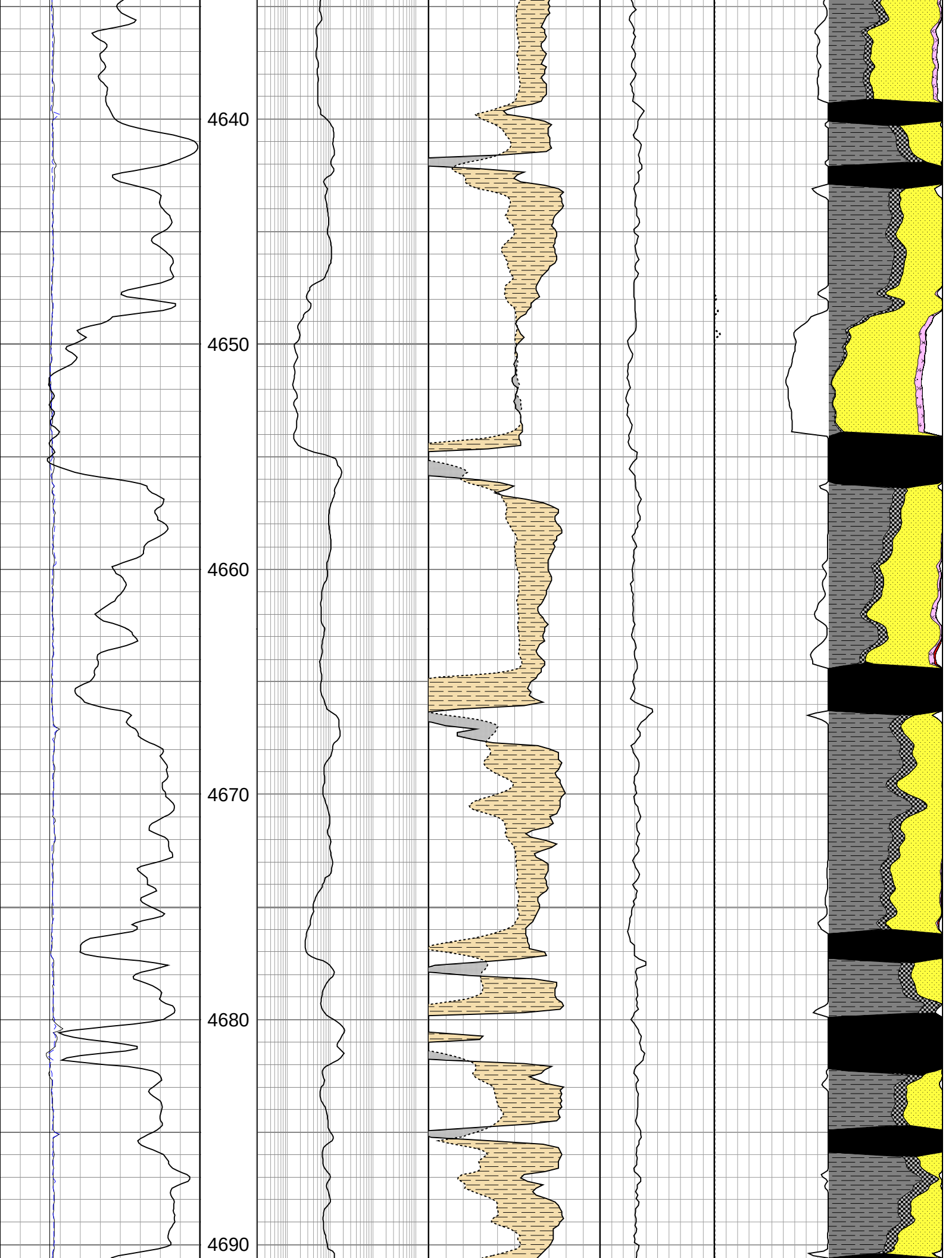
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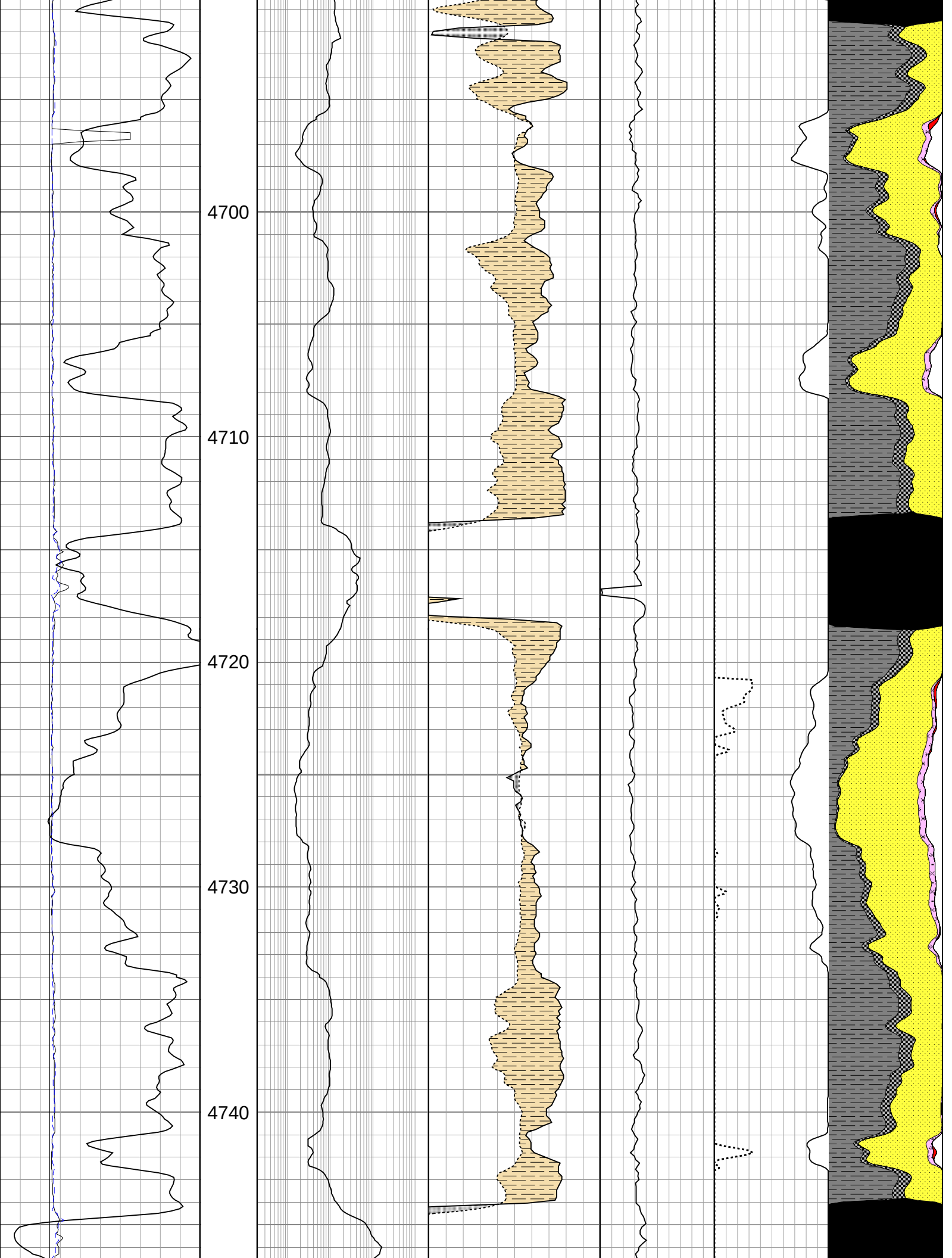
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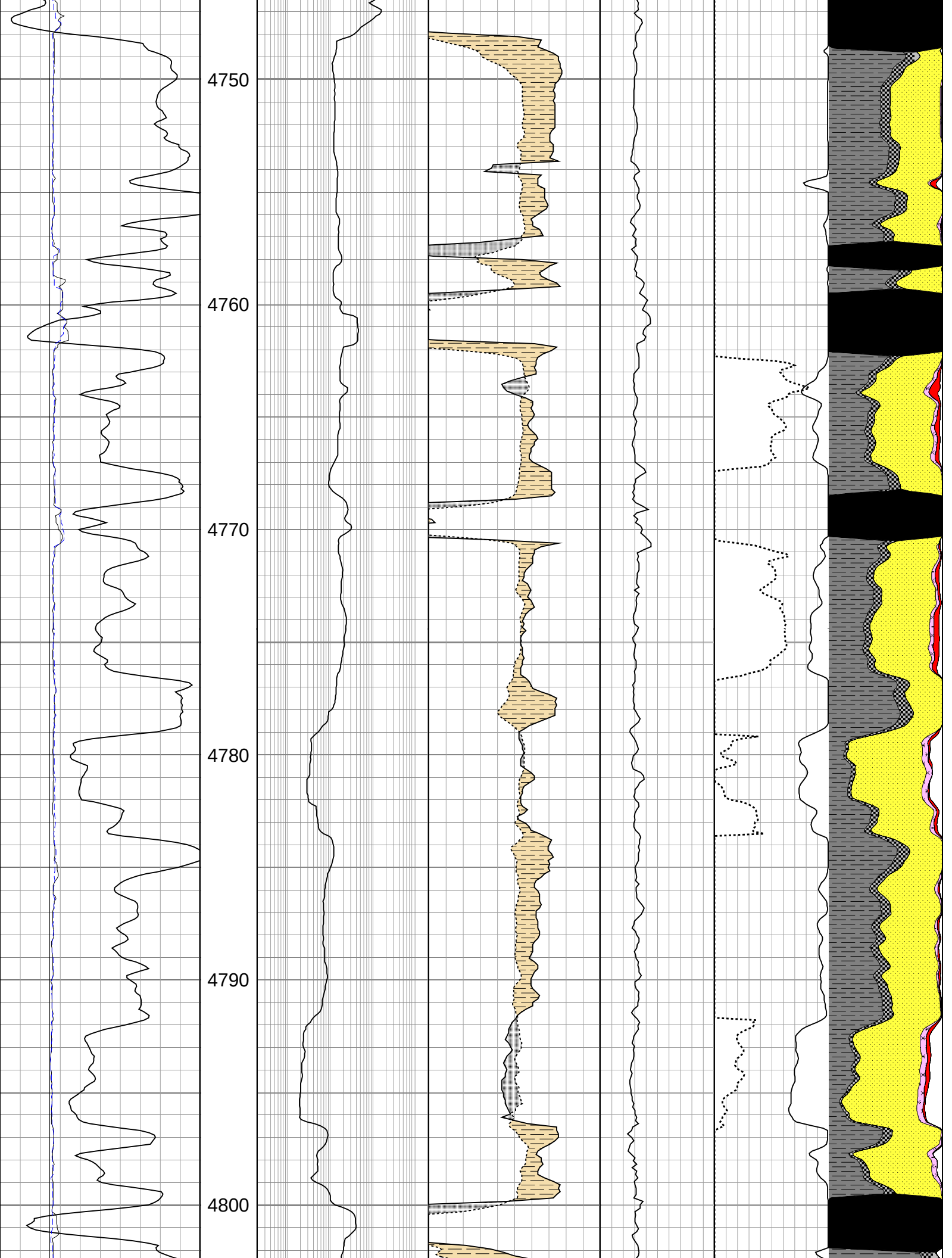
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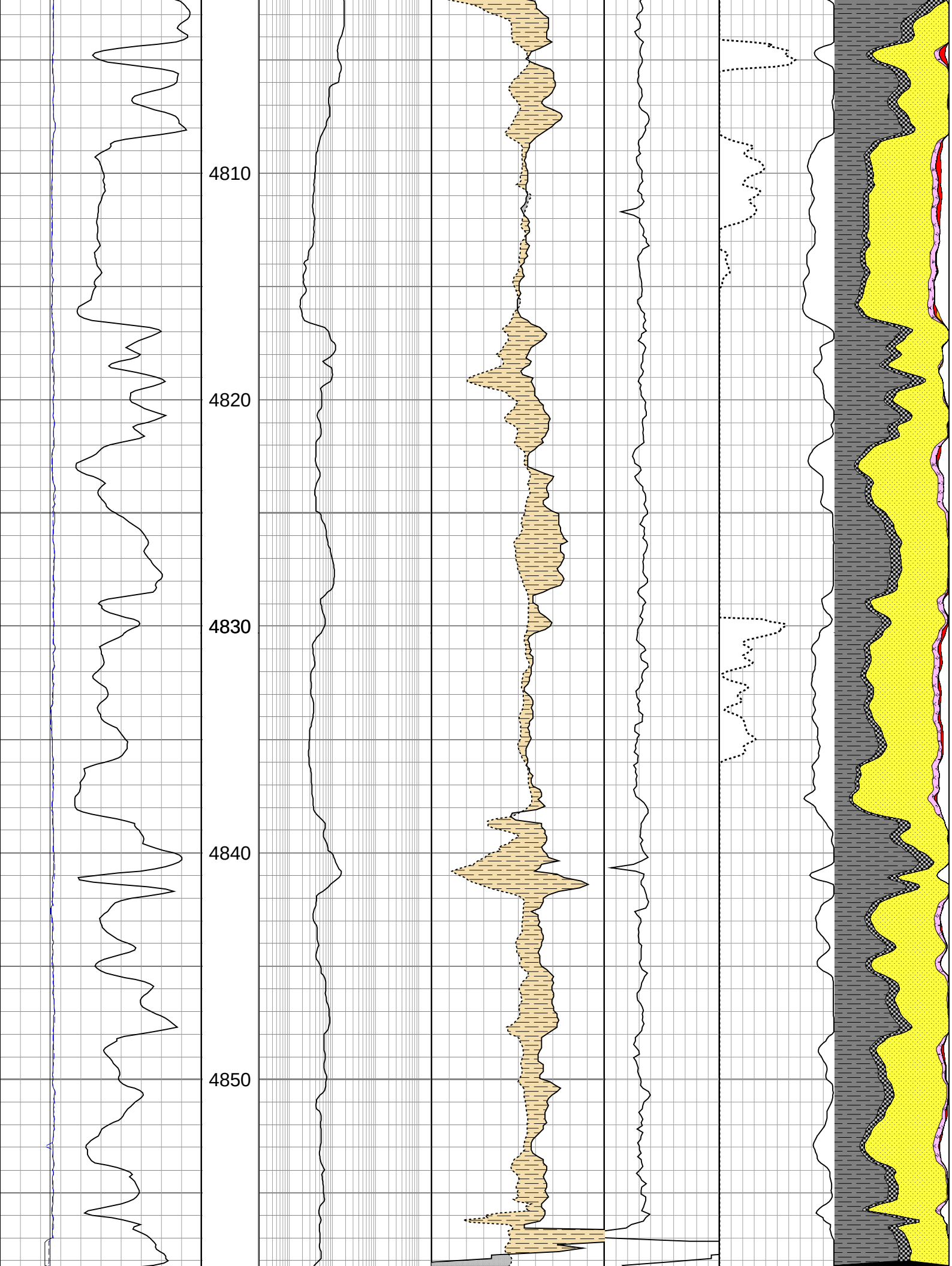
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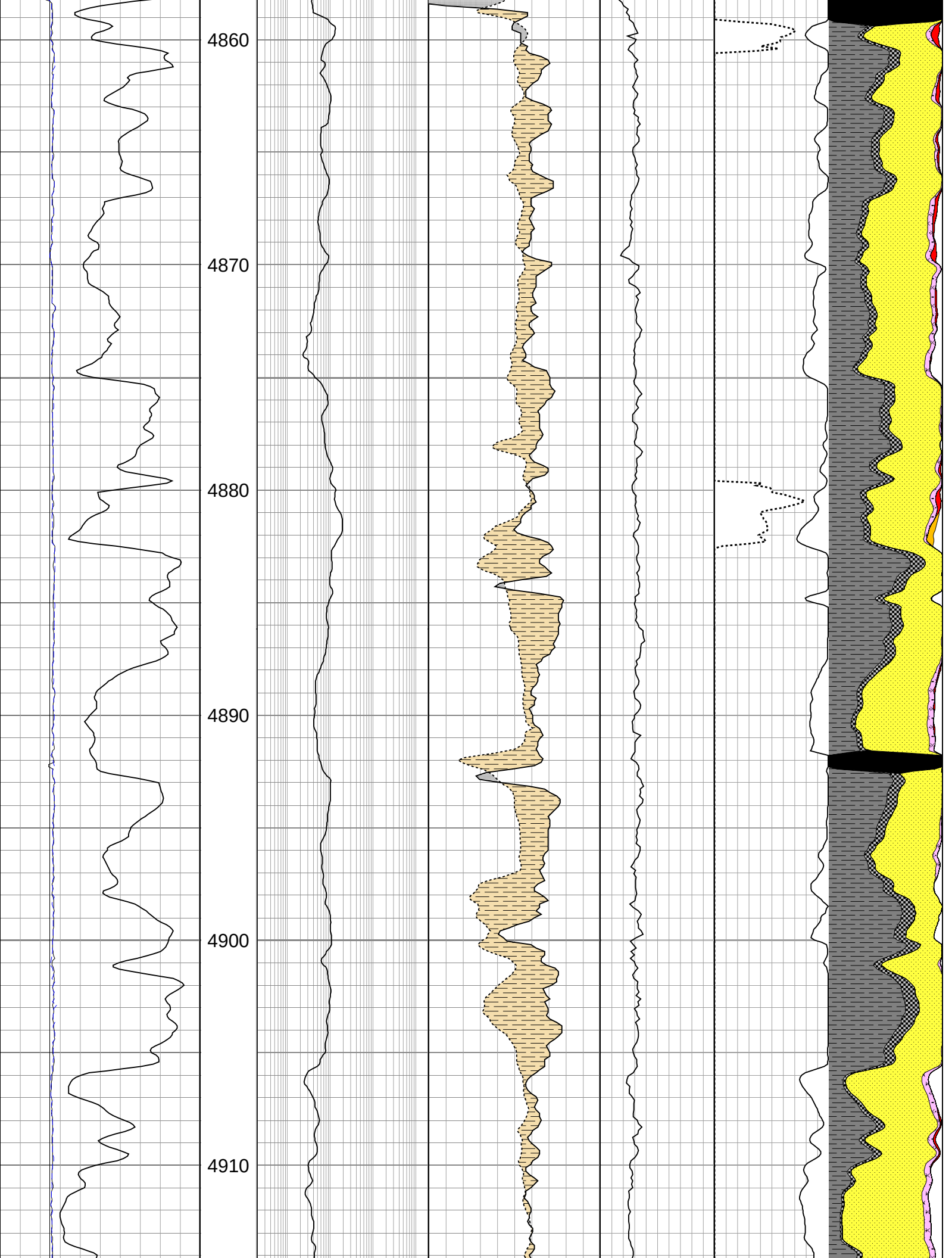
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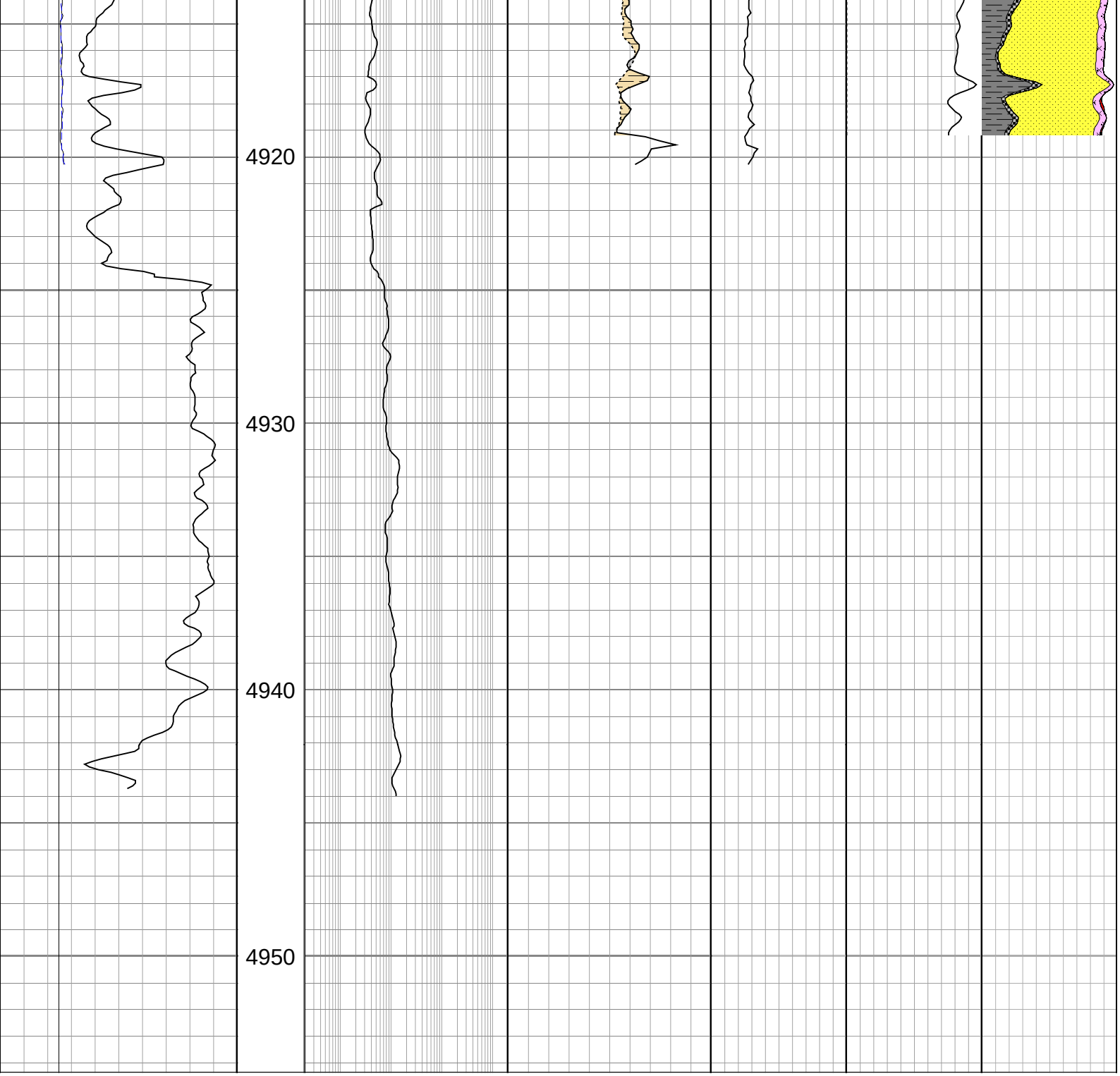
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APPENDIX 3a

BREAM B17

Lithology/Show Descriptions

Bream B17 Lithology / Show Descriptions

Interval (m) From	To	%	Lithology / Show Description
			Geologist on board from 845.0 mMDRT at 1320 hrs 14 July 2005.
			Drill from 845.0 to 4955.0 mMDRT with PDC bit on steerable rotary assembly.
			Bit Details:
			8.50" PDC / Reed Hycalog RSX 162 / Serial # 209390 **Nozzles: 6 x 18 / TFA = 1.491 sq.in** **In 845.0 / Out 4955.0 mMDRT: Run 4110 m.** **Hours on Bit: 63.7 hrs. Average ROP = 4110/63.7 = 64.52 m/hr.** **Bit Grading: 3-5-WT-A-X-I-NO-TD.**
			30m spot samples for description only from 845 to 3540 mMDRT (150 m above the TOL at 3694.7 mMDRT).
			10m bagged samples from 3540 to 3690m.
			5m (or 10m when high ROP) bagged samples from 3690m to 4955m (TD).
845	870	100	CALCISILTITE: light grey to medium grey, argillaceous in part, grading to CALCILUTITE, trace micromicaceous, trace very fine carbonaceous specks, firm to moderately hard, sub blocky.
870	900	100	CALCISILTITE: as above.
900	930	100	CALCISILTITE: as above, occasionally green grey, common glauconite.
930	960	100	CALCISILTITE: as above.
960	990	100	CALCISILTITE: as above, occasionally medium grey.
990	1020	100	CALCISILTITE: as above.
1020	1050	100	CALCISILTITE: as above.
1050	1080	100	CALCISILTITE: medium grey to greenish grey, occasionally very arenaceous grading to CALCARENITE, trace argillaceous in part, grading to CALCILUTITE, trace micromicaceous, trace glauconite, rare forams, rare fine carbonaceous specks, firm to moderately hard, sub blocky.
1080	1110	100	CALCISILTITE: as above, rare forams.
1110	1140	100	CALCISILTITE: as above, rare forams.
1140	1170	100	CALCISILTITE: medium grey to dark grey occasionally greenish grey, trace argillaceous in part, grading to CALCILUTITE, rare very arenaceous, trace micromicaceous, trace glauconite, rare forams, rare fine carbonaceous specks, firm to moderately hard, sub blocky.
1170	1200	100	CALCISILTITE: as above.
1200	1230	100	CALCISILTITE: as above.
1230	1260	100	CALCISILTITE: as above.
1260	1290	100	CALCISILTITE: medium grey to dark grey occasionally greenish grey, trace

Bream B17 Lithology / Show Descriptions

Interval (m) From	To	%	Lithology / Show Description
			argillaceous in part, grading to CALCILUTITE, trace glauconite, rare forams, firm to moderately hard, sub blocky
1290	1320	100	CALCISILTITE: as above.
1320	1350	100	CALCISILTITE: as above.
1350	1380	100	CALCISILTITE: as above.
1380	1410	100	CALCISILTITE: as above, common forams.
1410	1440	100	CALCISILTITE: dark grey to medium dark grey, occasionally dark greenish grey, trace arenaceous in part grading to CALCARENITE, common forams, rare glauconite, firm to moderately hard, sub blocky.
1440	1470	100	CALCISILTITE: as above.
1470	1500	100	CALCISILTITE: as above, rare forams.
1500	1530	100	CALCISILTITE: as above.
1530	1560	100	CALCISILTITE: as above.
1560	1590	100	CALCISILTITE: as above.
1590	1620	95	CALCISILTITE: dark grey to medium dark grey, occasionally dark greenish grey, trace arenaceous in part grading to CALCARENITE, common forams, rare glauconite, firm to moderately hard, sub blocky.
		5	SANDSTONE: translucent to greyish orange, occasionally light brown, dominantly very fine to fine, moderately well sorted, sub angular to sub rounded, strong siliceous cement, dominantly hard aggregates, very poor visible porosity. No flourescence.
1620	1650	80	CALCISILTITE: dark grey to medium dark grey, occasionally dark greenish grey, trace arenaceous in part grading to very fine CALCARENITE, common forams, rare glauconite, firm to moderately hard, sub blocky.
		20	CALCILUTITE: dark grey to medium dark grey, silty in part grading to CALCISILTITE, trace forams, rare glauconite, moderately hard to hard, sub blocky to blocky.
1650	1680	50	CALCISILTITE: as above.
		50	CALCILUTITE: as above.
1680	1710	40	CALCISILTITE: dark grey to medium dark grey, trace arenaceous in part grading to very fine CALCARENITE, trace forams, rare glauconite, firm to moderately hard, sub blocky to blocky.
		60	CALCILUTITE: medium grey, silty in part grading to CALCISILTITE, trace forams, moderately hard to hard, sub blocky to blocky.
1710	1740	30	CALCISILTITE: as above.
		70	CALCILUTITE: as above.
1740	1770	40	CALCISILTITE: dark grey to medium dark grey, trace arenaceous in part grading to very fine CALCARENITE, trace forams, rare glauconite, firm to moderately hard, sub blocky to blocky.
		60	CALCILUTITE: medium grey, silty in part grading to CALCISILTITE, trace forams, moderately hard to hard, sub blocky to blocky.
1770	1800	20	CALCISILTITE: as above.
		80	CALCILUTITE: as above.
1800	1830	20	CALCISILTITE: as above.
		80	CALCILUTITE: as above. (Metal shavings (about 8) in sample, informed companyman).

Bream B17 Lithology / Show Descriptions

Interval (m) From	To	%	Lithology / Show Description
1830	1860	10	CALCISILTITE: as above.
		90	CALCILUTITE: as above. (Metal shavings (about 4) in sample, informed companyman).
1860	1890	100	CALCILUTITE: as above. (No metal shavings in sample, informed companyman).
		Trace	SANDSTONE: translucent to greyish orange, occasionally light brown, dominantly very fine to fine, moderately well sorted, sub angular to sub rounded, strong siliceous cement, dominantly hard aggregates, very poor visible porosity. No flourescence
1890	1920	100	CALCILUTITE: medium grey, silty in part grading to CALCISILTITE, trace forams, moderately hard to hard, sub blocky to blocky. **Top of Lakes Entrance at 1940.0 mMDRT (1904.4 mTVDRT).**
1920	1950	90	CALCILUTITE: medium grey, silty in part grading to CALCISILTITE, trace forams, moderately hard to hard, sub blocky to blocky.
		10	CALCAREOUS CLAYSTONE: dark medium grey to dark grey, silty in part, moderately calcareous (15%), trace forams, moderately hard to hard, sub blocky to blocky.
		Trace	SANDTONE: trace, translucent to greyish orange, occasionally light brown, dominantly very fine to fine, moderately well sorted, sub angular to sub rounded, strong siliceous cement, dominantly hard aggregates, very poor visible porosity. No flourescence
1950	1980	30	CALCILUTITE: as above.
		70	CALCAREOUS CLAYSTONE: as above.
1980	2010	10	CALCILUTITE: as above.
		90	CALCAREOUS CLAYSTONE: as above, common forams.
2010	2040	100	CALCAREOUS CLAYSTONE: dark medium grey to dark grey, silty in part, moderately calcareous (15%), common forams, moderately hard to hard, sub blocky to blocky.
2040	2070	100	CALCAREOUS CLAYSTONE: as above, common forams.
2070	2100	100	CALCAREOUS CLAYSTONE: as above, common forams, trace micromicaceous.
2100	2130	100	CALCAREOUS CLAYSTONE: medium grey to medium dark grey, silty in part, moderately calcareous (15%), common forams, moderately hard to hard, sub blocky to blocky.
2130	2160	100	CALCAREOUS CLAYSTONE: as above.
2160	2190	100	CALCAREOUS CLAYSTONE: as above.
2190	2220	100	CALCAREOUS CLAYSTONE: as above
2220	2250	100	CALCAREOUS CLAYSTONE: medium grey to medium dark grey, silty in part, moderately calcareous (15%), common forams, moderately hard to hard, sub blocky to blocky.
2250	2280	100	CALCAREOUS CLAYSTONE: as above.
2280	2310	100	CALCAREOUS CLAYSTONE: as above.
2310	2340	100	CALCAREOUS CLAYSTONE: as above
2340	2370	100	CALCAREOUS CLAYSTONE: medium grey to medium dark grey, silty in part, moderately calcareous (15%), trace forams, moderately hard to hard, sub blocky to blocky.
2370	2400	100	CALCAREOUS CLAYSTONE: as above.
2400	2430	100	CALCAREOUS CLAYSTONE: as above.

Bream B17 Lithology / Show Descriptions

Interval (m) From	To	%	Lithology / Show Description
2430	2460	100	CALCAREOUS CLAYSTONE: as above
2460	2490	100	CALCAREOUS CLAYSTONE: medium dark grey to dark greenish grey, silty in part, moderately calcareous (15%), trace forams, trace micromicaceous, rare disseminated pyrite, moderately hard to hard, sub blocky to blocky.
2490	2520	100	CALCAREOUS CLAYSTONE: medium dark grey to dark greenish grey, silty in part, moderately calcareous (15%), trace forams, trace micromicaceous, moderately hard to hard, sub blocky to blocky.
2520	2550	100	CALCAREOUS CLAYSTONE: as above.
2550	2580	100	CALCAREOUS CLAYSTONE: as above.
2580	2610	100	CALCAREOUS CLAYSTONE: medium dark grey to dark olive grey, silty in part, moderately calcareous (15%), rare forams, moderately hard to hard, sub blocky to blocky.
2610	2640	100	CALCAREOUS CLAYSTONE: as above
2640	2670	100	CALCAREOUS CLAYSTONE: as above.
2670	2700	100	CALCAREOUS CLAYSTONE: medium dark grey to dark olive grey, silty in part, moderately calcareous (15%), rare forams, moderately hard to hard, sub blocky to blocky.
2700	2730	100	CALCAREOUS CLAYSTONE: as above.
2730	2760	100	CALCAREOUS CLAYSTONE: medium dark grey to dark grey, silty in part, moderately calcareous (15%), rare forams, rare ooids, rare micromicaceous, moderately hard to hard, sub blocky to blocky.
2760	2790	100	CALCAREOUS CLAYSTONE: as above, rare carbonaceous specks.
2790	2820	100	CALCAREOUS CLAYSTONE: medium dark grey to dark grey, silty in part, moderately calcareous (15%), rare forams, rare micromicaceous, moderately hard to hard, sub blocky to blocky.
2820	2850	100	CALCAREOUS CLAYSTONE: medium light grey to medium dark grey, occasionally dark grey, silty in part, moderately calcareous (15%), rare forams, rare ooids, rare micromicaceous, firm to moderately hard, sub blocky to blocky.
2850	2880	100	CALCAREOUS CLAYSTONE: as above, (no ooids).
2880	2910	100	CALCAREOUS CLAYSTONE: as above, rare forams, common ooids, rare carbonaceous specks.
2910	2940	100	CALCAREOUS CLAYSTONE: as above, rare forams, rare ooids.
2940	2970	100	CALCAREOUS CLAYSTONE: light grey to medium grey, silty in part, moderately calcareous (10%), trace micromicaceous,, trace ooids, rare forams, firm to moderately hard, sub blocky to blocky.
2970	3000	100	CALCAREOUS CLAYSTONE: medium light grey, silty in part, moderately calcareous (10%), common forams, trace micromicaceous,, trace ooids, soft to firm, sub blocky.
3000	3030	100	CALCAREOUS CLAYSTONE: medium dark grey to occasionally medium light grey, silty in part, moderately calcareous (10%), common forams, trace micromicaceous,, rare ooids, soft to firm, sub blocky.
3030	3060	100	CALCAREOUS CLAYSTONE: medium dark grey, medium light grey, to occasionally light olive grey, silty in part, moderately calcareous (10%), common forams, trace micromicaceous,, rare ooids, soft to firm, sub
3060	3090	100	CALCAREOUS CLAYSTONE: medium light grey to occasionally light olive

Bream B17 Lithology / Show Descriptions

Interval (m) From	To	%	Lithology / Show Description
			grey, very argillaceous, moderately calcareous (10%), trace forams, trace micromicaceous, rare ooids, soft to firm, amorphous to sub blocky.
3090	3120	100	CALCAREOUS CLAYSTONE: medium dark grey to occasionally medium light grey, silty in part, moderately calcareous (10%), common forams, trace micromicaceous, firm to moderately hard, sub blocky to blocky.
3120	3150	100	CALCAREOUS CLAYSTONE: as above.
3150	3180	100	CALCAREOUS CLAYSTONE: light olive grey to medium dark grey, silty in part, moderately calcareous (10%), trace micromicaceous, soft to moderately hard, amorphous to sub blocky.
3180	3210	100	CALCAREOUS CLAYSTONE: as above.
3210	3240	100	CALCAREOUS CLAYSTONE: as above, soft to moderately hard, common forams, rare micromicaceous..
3240	3270	100	CALCAREOUS CLAYSTONE: medium dark grey to occasionally light olive grey, silty in part, moderately calcareous (10%), trace forams, trace micromicaceous, moderately hard to hard, sub blocky to blocky.
3270	3300	100	CALCAREOUS CLAYSTONE: as above.
3300	3330	100	CALCAREOUS CLAYSTONE: as above.
3330	3360	100	CALCAREOUS CLAYSTONE: as above.
3360	3390	100	CALCAREOUS CLAYSTONE: light grey to medium dark grey, silty in part, moderately calcareous (10%), trace micromicaceous, soft to moderately hard, amorphous to sub blocky.
3390	3420	100	CALCAREOUS CLAYSTONE: as above, light olive grey to medium dark grey.
3420	3450	100	CALCAREOUS CLAYSTONE: as above.
3450	3480	100	CALCAREOUS CLAYSTONE: light grey to medium dark grey, silty in part, moderately calcareous (10%), trace micromicaceous, soft to moderately hard, amorphous to sub blocky.
3480	3510	100	CALCAREOUS CLAYSTONE: as above.
3510	3540	100	CALCAREOUS CLAYSTONE: as above.
3540	3550	100	CALCAREOUS CLAYSTONE: light grey to medium dark grey, silty in part, moderately calcareous (10%), trace micromicaceous, soft to moderately hard, amorphous to sub blocky.
3550	3560	100	CALCAREOUS CLAYSTONE: as above.
3560	3570	100	CALCAREOUS CLAYSTONE: light grey to dark olive grey, silty in part, moderately calcareous (10%), trace micromicaceous, moderately hard to hard, occasionally soft, amorphous to sub blocky.
3570	3580	100	CALCAREOUS CLAYSTONE: as above.
3580	3590	100	CALCAREOUS CLAYSTONE: medium dark grey to occasionally dark olive grey, silty in part, moderately calcareous (10%), trace micromicaceous, trace forams, moderately hard to hard, occasionally soft, amorphous to sub blocky. BARACARB added to mud system at 3600 mMDRT, at 0315 hrs, 17 July 2005. Baracarb seen in samples from 3660 mMDRT (to TD) Lag.
3590	3600	100	CALCAREOUS CLAYSTONE: as above.
3600	3610	100	CALCAREOUS CLAYSTONE: as above, trace disseminated pyrite.
3610	3620	100	CALCAREOUS CLAYSTONE: medium grey to occasionally medium dark grey, silty in part, moderately calcareous (10%), trace micromicaceous, rare forams, firm

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Interval (m) From	To	%	Lithology / Show Description
			to moderately hard, sub blocky to blocky.
3620	3630	100	CALCAREOUS CLAYSTONE: as above.
3630	3630	100	CALCAREOUS CLAYSTONE: as above.
3630	3640	100	CALCAREOUS CLAYSTONE: as above.
3640	3650	100	CALCAREOUS CLAYSTONE: light medium grey to occasionally light blueish grey, silty in part, moderately calcareous (10%), trace micromicaceous, moderately hard to hard, sub blocky to blocky.
3650	3660	100	CALCAREOUS CLAYSTONE: as above.
3660	3670	100	CALCAREOUS CLAYSTONE: as above, trace glauconite grains.
3670	3680	100	CALCAREOUS CLAYSTONE: as above.
3680	3690	100	CALCAREOUS CLAYSTONE: as above.
3690	3700	100	CALCAREOUS CLAYSTONE: medium dark grey to light medium grey, silty in part, moderately calcareous (10%), trace micromicaceous, firm to moderately hard, sub blocky to blocky.
3700	3710	100	CALCAREOUS CLAYSTONE: as above. **TOP OF LATROBE at 3720.0 mMDRT (1826.2 mTVDRT).**
3710	3720	100	CALCAREOUS CLAYSTONE: light blueish grey to dark brownish grey, silty in part, slightly calcareous (5%), trace micromicaceous, moderately hard to hard, sub blocky to blocky.
3720	3730	20	CALCAREOUS CLAYSTONE: 10%, as above. CLAYSTONE: 10%, dark yellowish orange, very dispersive, very soft to soft, amorphous. SILTSTONE: light brown to moderate brown, very arenaceous, grading to very fine SANDSTONE, common micromicaceous, trace glauconite, soft to firm, amorphous to sub blocky. SANDSTONE: translucent to light brown, very fine to fine, dominantly very fine, moderately well sorted, sub angular to sub rounded, silty grading to SILTSTONE, common glauconite, strong siliceous matrix, hard aggregates, tight to very poor porosity. No fluorescence.
3730	3740	5	CLAYSTONE: as above.
		50	SILTSTONE: as above, common to abundant glauconite.
		45	SANDSTONE: as above.
			No fluorescence.
3740	3750	5	CLAYSTONE: as above,
		50	SILTSTONE: as above, abundant glauconite.
		45	SANDSTONE: as above.
			No fluorescence.
3750	3760	5	CLAYSTONE: as above.
		55	SILTSTONE: as above, common glauconite.
		40	SANDSTONE: as above.
			No fluorescence.
3760	3770	Trace	CLAYSTONE: as above.
		75	SILTSTONE: as above, trace glauconite.
		25	SANDSTONE: as above.
			No fluorescence.

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Interval (m) From	To	%	Lithology / Show Description
3770	3780	Trace	CLAYSTONE: as above.
		70	SILTSTONE: as above, no glauconite.
		30	SANDSTONE: as above.
			No fluorescence.
3780	3790	50	SILTSTONE: as above, no glauconite.
		50	SANDSTONE: as above.
			No fluorescence.
			COARSE CLASTICS (Top N-1 Sand) at 3794.5 mMDRT (1870.0 mTVDRT).
			BARABLOCK added to the mud system at 3800.0 mMDRT.
			Barablock seen in cuttings samples from 3820 mMDRT.
3790	3800	30	SILTSTONE: light brown to moderate brown, very arenaceous, grading to very fine SANDSTONE, common micromicaceous, trace glauconite, soft to firm, amorphous to sub blocky.
		70	SANDSTONE 1: 50%, translucent to light brown, very fine to fine, dominantly very fine, moderately well sorted, sub angular to sub rounded, silty grading to SILTSTONE, common glauconite, strong siliceous matrix, hard aggregates, tight to very poor porosity.
			SANDSTONE 2: 20%, clear to translucent, dominantly coarse to occasionally very coarse, moderately well sorted, sub rounded to rounded, nil matrix, clean, loose, good to very good inferred and visible porosity.
			No fluorescence.
3800	3805	20	SILTSTONE: as above.
		80	SANDSTONE 1: 50%, as above.
			SANDSTONE 1: 30%, as above.
			No fluorescence.
3805	3810	5	DOLOMITE: greyish brown to dusky brown, hard to very hard, blocky.
		80	SILTSTONE: pale brown to greyish brown, very arenaceous, grading to very fine SANDSTONE, strong dolomite cement, common micromicaceous, common rock flour, moderately hard to hard, sub blocky to blocky.
		15	SANDSTONE 1: 15%, translucent to light brown, very fine to fine, dominantly very fine, moderately well sorted, sub angular to sub rounded, silty grading to SILTSTONE, strong dolomite cement, strong siliceous matrix, hard aggregates, tight to very poor porosity.
			SANDSTONE 2: trace, as above.
			No fluorescence.
3810	3815	30	SILTSTONE: as above, weak dolomite cement.
		70	SANDSTONE 1: 10%, as above, weak dolomite cement.
			SANDSTONE 2: 60%, clear to translucent, dominantly coarse to very coarse, moderately well sorted, dominantly sub rounded to rounded, nil matrix, clean, loose, good to very good inferred and visible porosity.
			No fluorescence.
3815	3820	60	SILTSTONE: as above.
		40	SANDSTONE 2: 40%, clear to translucent, coarse to very coarse, moderately well sorted, dominantly sub rounded to sub angular, nil matrix, clean, loose, fair to good inferred and visible porosity.

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Interval (m) From	To	%	Lithology / Show Description
			No fluorescence.
3820	3825	5	SILTSTONE: as above.
		95	SANDSTONE: clear to translucent, occasionally pale yellowish brown, dominantly very coarse to coarse, occasionally fractured quartz grains, moderately well sorted, sub angular to sub rounded, nil matrix, clean, loose, good inferred and visible porosity.
			No fluorescence.
3825	3830	10	SILTSTONE: as above.
		90	SANDSTONE: as above.
			FLUORESCENCE: Trace, pale, dull, yellowish green even fluorescence, very slow diffuse direct cut, nil ring residue.
3830	3840	20	SILTSTONE: greyish brown to dusky brown, very arenaceous, grading to very fine SANDSTONE, moderate pyrite cement, common pyrite nodules, common micromicaceous, rare glauconite, hard to occasionally firm, sub blocky to blocky.
		80	SANDSTONE: clear to translucent, dominantly very coarse to coarse, occasionally medium, moderately well sorted, sub angular to sub rounded, occasionally fractured quartz grains, weak pyrite cement, trace pyrite nodules, clean, dominantly loose, occasionally hard aggregates, fair to good inferred and visible porosity.
			FLUORESCENCE: Trace to 2%, pale, dull, yellowish green even fluorescence, very slow diffuse direct cut, thin yellowish white ring residue.
3840	3850	20	SILTSTONE: as above, trace pyrite cement, rare pyrite nodules.
		80	SANDSTONE: clear to translucent, pale yellowish brown, rare smokey grey, dominantly coarse to very coarse, occasionally medium, moderately well sorted, sub angular to sub rounded, common fractured quartz grains, weak pyrite cement, rare pyrite nodules, clean, dominantly loose, good to very good inferred and visible porosity.
			FLUORESCENCE: 20%, pale, dull to moderately bright, yellowish green even fluorescence, rapid blooming direct cut, thin yellowish white ring residue.
3850	3860	10	SILTSTONE: as above, trace pyrite cement, rare pyrite nodules.
		90	SANDSTONE: as above, occasionally medium to very coarse, dominantly coarse, good to very good inferred and visible porosity..
			FLUORESCENCE: 15%, pale, dull to moderately bright, yellowish green even fluorescence, rapid blooming direct cut, thin yellowish white ring residue.
3860	3870	5	SILTSTONE: as above, trace pyrite cement, rare pyrite nodules.
		95	SANDSTONE: as above, occasionally medium to very coarse, dominantly coarse, good to very good inferred and visible porosity.
			FLUORESCENCE: 20%, pale, dull to moderately bright, yellowish green even fluorescence, rapid blooming direct cut, thin yellowish white ring residue.
3870	3880	15	SILTSTONE: as above, trace pyrite cement, rare pyrite nodules.
		85	SANDSTONE: clear to translucent, pale yellowish brown, rare smokey grey, occasionally medium to very coarse, dominantly coarse, moderately well sorted,

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Interval (m) From	To	%	Lithology / Show Description
			sub angular to sub rounded, occasionally fractured quartz grains, weak pyrite cement, rare pyrite nodules, clean, dominantly loose, good to very good inferred and visible porosity. **FLUORESCENCE: 20%, pale, dull to moderately bright, yellowish green even fluorescence, rapid blooming direct cut, thin yellowish white ring residue.**
3880	3890	5	CLAYSTONE: light brown grey to light blueish grey, slightly calcareous, rare glauconite, soft to firm, amorphous to subblocky.
		70	SILTSTONE: dark yellowish brown to greyish brown, very arenaceous, grading to very fine SANDSTONE, common micromicaceous, trace pyrite cement, trace pyrite nodules, firm to moderately hard, sub blocky to blocky.
		25	SANDSTONE: clear to translucent, occasionally fine to very coarse, dominantly coarse, moderately well sorted, sub angular to sub rounded, weak pyrite cement, rare pyrite nodules, clean, dominantly loose, fair inferred and visible porosity. **FLUORESCENCE: 2%, dull to moderately bright, yellowish green even fluorescence, no direct cut, no crush cut.**
3890	3900	10	CLAYSTONE: as above.
		60	SILTSTONE: as above.
		30	SANDSTONE: as above, fine to very coarse, poorly sorted, sub angular to sub rounded, poor to fair inferred and visible porosity. No fluorescence.
3900	3910	40	COAL: greyish black, silty in part grading to CARBONACEOUS SILTSTONE, trace micromicaceous, subvitreous, firm, subblocky, uneven.
		10	CLAYSTONE: as above.
		45	SILTSTONE: greyish brown to brownish black, very arenaceous, grading to very fine SANDSTONE, common micromicaceous, rare pyrite nodules, trace disseminated pyrite, occasionally firm to moderately hard, sub blocky to blocky.
		5	SANDSTONE: as above. No fluorescence. **P. asperopolus Coal at 3912.0 mMDRT(1933.5 mTVDRT)**
3910	3920	50	COAL: as above.
		30	CLAYSTONE: as above.
		10	SILTSTONE: as above.
		20	SANDSTONE: clear to translucent, fine to occasionally coarse, dominantly medium, moderately well sorted, sub angular to sub rounded, weak pyrite cement, rare pyrite nodules, generally clean, dominantly loose, poor to fair inferred and visible porosity. No fluorescence. **Igneous Intrusives at 3923.5 mMDRT(1939.7 mTVDRT)**
3920	3925	50	COAL: as above.
		20	CLAYSTONE: off white to dark yellowish brown to light blueish grey, slightly calcareous, soft to firm, common rock flour, amorphous to subblocky.
		20	SILTSTONE: as above.
		10	VOLCANICS: black to greyish black, moderately hard, occasionally crystalline, 50% sand, inferred basic igneous volcanic rock.. **Due to magnetic interference, the inability to obtain Directional surveys in the**

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Interval (m) From	To	%	Lithology / Show Description
			depth interval with VOLCANICS. The inference drawn is that these volcanics have a composition of a basic igneous rock, with magnetite as an accessory mineral.
3925	3930	20	CLAYSTONE: as above.
		10	SILTSTONE: as above.
		10	SANDSTONE: clear to translucent, occasionally pale yellowish brown, medium to very coarse, poorly sorted, sub angular to sub rounded, weak pyrite cement, trace pyrite nodules, generally clean, dominantly loose, fair to good inferred and visible porosity. No fluorescence.
		60	VOLCANICS: as above.
3930	3935	10	CLAYSTONE: as above.
		10	SILTSTONE: as above.
		30	SANDSTONE 1: 30%, off white to pale green, very fine to fine, dominantly very fine, moderately well sorted, sub angular to sub rounded, common glauconitic matrix, common glauconite pellets, common hard aggregates, tight to very poor inferred porosity. SANDSTONE 2: trace, clear to translucent, occasionally pale yellowish brown, medium to very coarse, poorly sorted, sub angular to sub rounded, weak pyrite cement, trace pyrite nodules, generally clean, dominantly loose, fair to good inferred and visible porosity. No fluorescence.
		50	VOLCANICS: greyish brown to brownish black, moderately hard to hard, crystalline, 50% sand, inferred basic igneous volcanic rock.
3935	3940	5	CLAYSTONE: as above.
		5	SILTSTONE: as above.
		20	SANDSTONE 1: 20%, as above. No fluorescence.
		70	VOLCANICS: as above.
3940	3950	5	CLAYSTONE: as above.
		5	SILTSTONE: as above.
		10	SANDSTONE 1: 20%, as above. No fluorescence.
		80	VOLCANICS: as above.
3950	3960	5	CLAYSTONE: as above.
		5	SILTSTONE: as above.
		20	SANDSTONE 1: 20%, as above. No fluorescence.
		70	VOLCANICS: as above.
3960	3965	5	CLAYSTONE: off white to very pale orange, slightly calcareous, soft to firm, common rock flour, amorphous to sub blocky.
		5	SILTSTONE: greyish brown to brownish black, very arenaceous, grading to very fine SANDSTONE, common micromicaceous, rare pyrite nodules, trace disseminated pyrite, common rock flour, soft to firm amorphous to sub blocky.
		5	SANDSTONE: trace, clear to translucent, occasionally pale yellowish brown, fine to very coarse, occasionally fractured quartz grains, poorly sorted, sub angular to

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Interval (m) From	To	%	Lithology / Show Description
			sub rounded, weak pyrite cement, rare pyrite nodules, generally clean, dominantly loose, occasional hard aggregates, poor inferred and visible porosity. No fluorescence.
		85	VOLCANICS: dusky brown to brownish black, moderately hard to hard, crystalline, 50% sand, inferred basic igneous volcanic rock.
3965	3970	5	CLAYSTONE: as above.
		5	SILTSTONE: as above.
		5	SANDSTONE: as above. No fluorescence.
		85	VOLCANICS: as above.
3970	3975	5	CLAYSTONE: as above.
		5	SILTSTONE: as above.
		5	SANDSTONE: as above. No fluorescence.
		85	VOLCANICS: as above.
3975	3980	5	CLAYSTONE: as above.
		5	SILTSTONE: as above.
		15	SANDSTONE 1: 10%, clear to translucent, occasionally pale green, very fine to fine, dominantly very fine, moderately well sorted, sub angular to sub rounded, predominantly quartzite, strong siliceous cement, common very fine glauconite matrix, dominantly hard aggregates, tight to very poor inferred and visible porosity. SANDSTONE 2: 5%, clear to translucent, occasionally pale yellowish brown, fine to very coarse, occasionally fractured quartz grains, poorly sorted, sub angular to sub rounded, weak pyrite cement, rare pyrite nodules, generally clean, dominantly loose, occasional hard aggregates, poor inferred and visible porosity. No fluorescence.
		75	VOLCANICS: as above.
3980	3985	5	CLAYSTONE: as above.
		5	SILTSTONE: as above.
		15	SANDSTONE 1: 10%, as above. SANDSTONE 2: 5%, as above. No fluorescence.
		75	VOLCANICS: as above.
3985	3990	5	CLAYSTONE: as above.
		5	SILTSTONE: as above.
		10	SANDSTONE 1: 5%, as above. SANDSTONE 2: 5%, as above. No fluorescence.
		80	VOLCANICS: as above.
3990	3995	5	CLAYSTONE: as above.
		5	SILTSTONE: greyish brown to brownish black, very arenaceous, grading to very fine SANDSTONE, common micromicaceous, rare pyrite nodules, trace disseminated pyrite, common rock flour, soft to firm amorphous to sub blocky.
		10	SANDSTONE 1: 5%, as above. SANDSTONE 2: 5%, as above.

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Interval (m) From	To	%	Lithology / Show Description
			No fluorescence.
		80	VOLCANICS: as above.
3995	4000	5	CLAYSTONE: as above.
		5	SILTSTONE: as above.
		15	SANDSTONE 1: 10%, as above.
			SANDSTONE 2: 5%, as above.
			No fluorescence.
		75	VOLCANICS: as above.
4000	4005	5	CLAYSTONE: as above.
		5	SILTSTONE: as above.
		5	SANDSTONE 1: 5%, as above.
			SANDSTONE 2: Trace, as above.
			No fluorescence.
		85	VOLCANICS: as above.
4005	4010	5	CLAYSTONE: as above.
		5	SILTSTONE: as above.
		5	SANDSTONE 1: 5%, as above.
			SANDSTONE 2: Trace, as above.
			No fluorescence.
		85	VOLCANICS: as above.
4010	4015	5	CLAYSTONE: as above.
		5	SILTSTONE: as above.
		20	SANDSTONE: 10%, clear to translucent, occasionally pale green, very fine to fine, dominantly very fine, moderately well sorted, sub angular to sub rounded, predominantly quartzite, strong siliceous cement, common very fine glauconite matrix, dominantly hard aggregates, tight to very poor inferred and visible porosity.
			No fluorescence.
		70	VOLCANICS: as above.
4015	4020	5	CLAYSTONE: as above.
		5	SILTSTONE: as above.
		15	SANDSTONE: as above.
			No fluorescence.
		75	VOLCANICS: as above.
4020	4030	5	CLAYSTONE: as above.
		5	SILTSTONE: as above.
		15	SANDSTONE: as above.
			No fluorescence.
		75	VOLCANICS: as above.
4030	4035	5	CLAYSTONE: as above.
		5	SILTSTONE: as above.
		20	SANDSTONE: as above.
			No fluorescence.
		70	VOLCANICS: as above.
			Sub-Intrusives Sand at 4037.0 mMDRT (2001.5 mTVDRT)
4035	4040	30	COAL: greyish black to black, silty, grading to CARBONACEOUS SILTSTONE,

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Interval (m) From	To	%	Lithology / Show Description
			trace micromicaceous, dull, firm, blocky, uneven.
		5	CLAYSTONE: as above.
		5	SILTSTONE: greyish brown to brownish black, very arenaceous, grading to very fine SANDSTONE, common micromicaceous, rare pyrite nodules, trace disseminated pyrite, common rock flour, soft to firm amorphous to sub blocky.
		25	SANDSTONE: as above. No fluorescence.
		35	VOLCANICS: as above.
4040	4045	10	COAL: as above.
		15	CLAYSTONE: medium brown to greyish brown, soft, dispersive, amorphous to sub blocky.
		50	SILTSTONE: dusky brown to black, argillaceous in part, arenaceous grading to very fine SANDSTONE, trace micromicaceous, soft to firm, sub blocky.
		20	SANDSTONE: as above. No fluorescence.
		5	VOLCANICS: as above.
4045	4050	5	CLAYSTONE: as above.
		35	SILTSTONE: as above.
		60	SANDSTONE: clear to translucent, very fine to coarse, predominantly fine to medium, moderately sorted, sub angular to sub rounded, weak siliceous cement, trace argillaceous matrix, predominantly loose, common friable aggregates, fair inferred and visible porosity. No fluorescence.
4050	4055	5	CLAYSTONE: as above.
		50	SILTSTONE: as above.
		45	SANDSTONE: as above. No fluorescence.
4055	4060	5	CLAYSTONE: as above.
		60	SILTSTONE: dusky brown to black, argillaceous in part, arenaceous grading to very fine SANDSTONE, trace micromicaceous, soft to firm, sub blocky.
		35	SANDSTONE: as above. No fluorescence.
4060	4070	5	CLAYSTONE: as above.
		25	SILTSTONE: as above.
		70	SANDSTONE: as above, common coarse to very coarse. No fluorescence.
4070	4080	30	COAL: greyish black to black, silty, grading to CARBONACEOUS SILTSTONE, trace micromicaceous, dull, firm, blocky, uneven.
		10	SILTSTONE: as above.
		60	SANDSTONE: clear to translucent, very fine to very coarse, predominantly medium to coarse, poorly sorted, angular to sub rounded, moderate siliceous cement, common white argillaceous matrix, predominantly loose, common friable aggregates, fair to poor inferred and visible porosity. No fluorescence.
4080	4090	20	CLAYSTONE: off white to pale brown, silty in part, soft, dispersive in part, amorphous to sub blocky.

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Interval (m) From	To	%	Lithology / Show Description
		20	SILTSTONE: as above.
		60	SANDSTONE: as above.
			No fluorescence.
4090	4100	30	COAL: greyish black to black, silty, grading to CARBONACEOUS SILTSTONE, trace micromicaceous, dull, firm, blocky, uneven.
		10	CLAYSTONE: as above.
		20	SILTSTONE: as above.
		40	SANDSTONE: as above.
			No fluorescence.
4100	4110	20	CLAYSTONE: as above.
		40	SILTSTONE: as above.
		40	SANDSTONE: as above.
			No fluorescence.
4110	4120	30	CLAYSTONE: as above.
		40	SILTSTONE: dusky brown to black, argillaceous in part, arenaceous grading to very fine SANDSTONE, trace micromicaceous, soft to firm, sub blocky.
		30	SANDSTONE: as above.
			No fluorescence.
4120	4130	20	COAL: greyish black to black, silty, grading to CARBONACEOUS SILTSTONE, trace micromicaceous, dull, firm, blocky, uneven.
		30	CLAYSTONE: as above.
		20	SILTSTONE: as above.
		30	SANDSTONE: as above.
			No fluorescence.
4130	4140	40	CLAYSTONE: as above.
		40	SILTSTONE: as above.
		20	SANDSTONE: as above.
			No fluorescence.
4140	4150	10	CLAYSTONE: as above.
		10	SILTSTONE: as above.
		80	SANDSTONE: clear to translucent, dominantly fine to very coarse, predominantly medium to coarse, poorly sorted, angular to sub rounded, moderate siliceous cement, common white argillaceous matrix, predominantly loose, common friable aggregates, fair to poor inferred and visible porosity.
			No fluorescence.
4150	4160	10	CLAYSTONE: as above.
		30	SILTSTONE: as above.
		60	SANDSTONE: as above.
			No fluorescence.
4160	4170	20	COAL: greyish black to black, silty in part, grading to CARBONACEOUS SILTSTONE, trace micromicaceous, dull, firm, sub blocky, uneven, trace quartz inclusions.
		10	CLAYSTONE: off white to pale grey brown, soft to firm, amorphous to sub blocky.
		20	SILTSTONE: as above.
		50	SANDSTONE: as above, dominantly fine to medium, commonly very coarse, poor

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Interval (m) From	To	%	Lithology / Show Description
			to fair inferred porosity.
			No fluorescence.
4170	4180	20	COAL: as above.
		40	CLAYSTONE: as above.
		10	SILTSTONE: as above.
		30	SANDSTONE: as above.
			No fluorescence.
4180	4190	30	CLAYSTONE: as above.
		20	SILTSTONE: as above.
		50	SANDSTONE: as above, very fine to fine, dominantly fine, poor inferred porosity.
			No fluorescence.
4190	4200	10	CLAYSTONE: as above.
		20	SILTSTONE: dusky brown to black, argillaceous in part, arenaceous grading to very fine SANDSTONE, trace micromicaceous, soft to firm, sub blocky.
		70	SANDSTONE: as above.
			No fluorescence.
4200	4210	10	COAL: black, sub vitreous, brittle, blocky, angular.
		10	CLAYSTONE: as above.
		10	SILTSTONE: as above.
		70	SANDSTONE: clear to translucent, medium to dominantly very coarse, moderately well sorted, angular to sub rounded, common fractured quartz grains, weak pyrite cement, rare pyrite nodules, generally clean, predominantly loose, fair to good inferred porosity.
			No fluorescence.
			F Coal at 4209.0 mMDRT (2129.9 mTVDRT)
4210	4220	80	COAL: as above.
		10	CLAYSTONE: as above.
		5	SILTSTONE: as above.
		5	SANDSTONE: as above.
			No fluorescence.
4220	4230	10	COAL: as above.
		70	CLAYSTONE: as above.
		15	SILTSTONE: as above.
		5	SANDSTONE: as above.
			No fluorescence.
4230	4240	50	COAL: brownish black to black, brittle, silty in part, grading to CARBONACEOUS SILTSTONE, trace micromicaceous, dull, firm, sub blocky, uneven, with interbedded quartz inclusions.
		30	CLAYSTONE: as above.
		10	SILTSTONE: as above.
		10	SANDSTONE: as above.
			No fluorescence.
4240	4250	60	COAL: as above.
		20	CLAYSTONE: as above.
		10	SILTSTONE: as above.
		10	SANDSTONE: as above.

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Interval (m) From	To	%	Lithology / Show Description
			No fluorescence.
4250	4260	10	COAL: as above.
		10	CLAYSTONE: light grey to brownish grey, slightly calcareous, firm to moderately hard, sub blocky.
		60	SILTSTONE: dark yellowish brown to greyish brown, very arenaceous, grading to very fine SANDSTONE, trace micromicaceous, firm to moderately hard, sub blocky.
		20	SANDSTONE: clear to translucent, fine to rare coarse, dominantly medium, moderately well sorted, angular to sub rounded, generally clean, predominantly loose, fair inferred porosity.
			No fluorescence.
4260	4270	30	COAL: as above.
		10	CLAYSTONE: as above.
		40	SILTSTONE: as above.
		20	SANDSTONE: as above.
			No fluorescence.
4270	4280	50	COAL: as above.
		10	CLAYSTONE: as above.
		30	SILTSTONE: as above.
		10	SANDSTONE: as above.
			No fluorescence.
4280	4290	20	COAL: as above.
		10	CLAYSTONE: as above.
		50	SILTSTONE: as above.
		20	SANDSTONE: as above.
			No fluorescence.
4290	4300	10	COAL: as above.
		5	CLAYSTONE: as above.
		35	SILTSTONE: as above.
		50	SANDSTONE: clear to translucent, fine to occasionally very coarse, poorly sorted, angular to sub rounded, generally clean, predominantly loose, poor to fair inferred porosity.
			No fluorescence.
4300	4310	20	COAL: greyish black to greenish black, very silty grading to CARBONACEOUS SILTSTONE, dull, moderately hard, sub fissile to sub blocky, uneven.
		5	CLAYSTONE: as above.
		45	SILTSTONE: as above.
		30	SANDSTONE: as above, medium to very coarse, fair inferred porosity.
			No fluorescence.
4310	4320	10	COAL: as above.
		20	CLAYSTONE: as above.
		65	SILTSTONE: as above.
		5	SANDSTONE: as above.
			No fluorescence.
4320	4330	5	COAL: as above.
		10	CLAYSTONE: as above.

Bream B17 Lithology / Show Descriptions

Interval (m) From	To	%	Lithology / Show Description
		80	SILTSTONE: dark yellowish brown to greyish brown, very arenaceous, grading to very fine SANDSTONE, common pelletoid glauconite, trace micromicaceous, moderately hard, sub blocky.
		5	SANDSTONE: as above.
			No fluorescence.
4330	4340	10	CLAYSTONE: light grey to brownish grey, slightly calcareous, firm to moderately hard, sub blocky.
		80	SILTSTONE: as above.
		10	SANDSTONE: clear to translucent, fine to occasionally very coarse, common fractured quartz grains, poorly sorted, angular to sub rounded, generally clean, predominantly loose, poor to fair inferred porosity.
			No fluorescence.
4340	4350	5	CLAYSTONE: as above.
		70	SILTSTONE: as above.
		25	SANDSTONE: clear to translucent, fine to occasionally very coarse, dominantly medium, moderately well sorted, occasionally fractured quartz grains, angular to sub rounded, generally clean, predominantly loose, poor to fair inferred porosity.
			No fluorescence.
4350	4360	10	COAL: black, brittle, sub vitreous, angular, sub blocky, common quartz inclusions.
		5	CLAYSTONE: as above.
		65	SILTSTONE: as above.
		20	SANDSTONE: as above.
			No fluorescence.
4360	4370	5	CLAYSTONE: as above.
		50	SILTSTONE: as above.
		45	SANDSTONE: as above.
			No fluorescence.
4370	4380	25	COAL: as above.
		5	CLAYSTONE: as above.
		55	SILTSTONE: dark yellowish brown to greyish brown, very arenaceous, grading to very fine SANDSTONE, common pelletoid glauconite, trace micromicaceous, moderately hard, sub blocky.
		15	SANDSTONE: as above.
			No fluorescence.
4380	4390	5	CLAYSTONE: as above.
		65	SILTSTONE: as above.
		30	SANDSTONE: clear to translucent, fine to occasionally very coarse, dominantly medium, moderately well sorted, occasionally fractured quartz grains, angular to sub rounded, generally clean, predominantly loose, poor to fair inferred porosity.
			No fluorescence.
			L 2 Coal at 4397.0 mMDRT (2302.8 mTVDRT)
4390	4400	30	COAL: as above.
		5	CLAYSTONE: as above.
		40	SILTSTONE: as above.
		25	SANDSTONE: as above.
			No fluorescence.

Bream B17 Lithology / Show Descriptions

Interval (m) From	To	%	Lithology / Show Description
4400	4410	5	CLAYSTONE: as above.
		50	SILTSTONE: as above.
		45	SANDSTONE: as above.
			No fluorescence.
			Swivel Packer problem at 4431.0 mMDRT.
			Stop circulating. Wiper trip to Top of Latrobe.
			Samples 4420 and 4430 were logged after the trip (LAT) to the Top of Latrobe.
			Trip Gas on circulating = 1401 units.
4410	4420	20	COAL: black, brittle, sub vitreous, angular, sub blocky, common quartz inclusions.
	LAT	5	CLAYSTONE: as above.
		60	SILTSTONE: as above, trace pelltoid glauconite.
		15	SANDSTONE: as above.
			No fluorescence.
4420	4430	5	CLAYSTONE: as above.
	LAT	60	SILTSTONE: as above, rare glauconite.
		35	SANDSTONE: clear to translucent, medium to occasionally very coarse, poorly sorted, common fractured quartz grains, angular to sub rounded, generally clean, predominantly loose, poor to fair inferred porosity.
			No fluorescence.
4430	4440	5	CLAYSTONE: as above.
		25	SILTSTONE: as above.
		70	SANDSTONE: clear to translucent, fine to dominantly medium, poorly sorted, sub angular to sub rounded, generally clean, predominantly loose, trace friable aggregates, poor to fair inferred porosity.
			No fluorescence.
4440	4450	60	SILTSTONE: dark yellowish brown to dusky brown, very arenaceous, grading to very fine SANDSTONE, trace micromicaceous, firm to moderately hard, sub blocky to blocky.
		40	SANDSTONE: as above.
			No fluorescence.
4450	4460	40	SILTSTONE: as above.
		60	SANDSTONE: clear to translucent, dominantly very fine to fine, rare very coarse fractured quartz grains, moderately well sorted, sub angular to sub rounded, strong off-white to light brown argillaceous matrix, friable aggregates, poor to very poor inferred porosity.
			No fluorescence.
4460	4470	20	SILTSTONE: as above.
		80	SANDSTONE: clear to translucent, dominantly very fine to fine, moderately well sorted, sub angular to sub rounded, strong off-white to light brown argillaceous matrix, friable aggregates, poor to very poor inferred porosity.
			No fluorescence.
4470	4480	20	SILTSTONE: dark yellowish brown to dusky brown, very arenaceous, grading to very fine SANDSTONE, trace micromicaceous, firm to moderately hard, sub blocky to blocky.
		80	SANDSTONE: as above.
			No fluorescence.

Bream B17 Lithology / Show Descriptions

Interval (m) From	To	%	Lithology / Show Description
4480	4490	10	SILTSTONE: as above.
		90	SANDSTONE: clear to translucent, dominantly very fine to fine, occasionally medium, moderately well sorted, sub angular to sub rounded, strong off-white to light brown argillaceous matrix, friable aggregates, poor to very poor inferred porosity. No fluorescence.
4490	4500	5	CLAYSTONE: very light grey to light blueish grey, firm to moderately hard, sub blocky to blocky.
		5	SILTSTONE: as above.
		90	SANDSTONE 1: 70%, clear to translucent, dominantly very fine to fine, occasionally medium, moderately well sorted, sub angular to sub rounded, strong off-white to light brown argillaceous matrix, friable aggregates, poor to very poor inferred porosity. SANDSTONE 2: 20%, clear to translucent, occasionally pale yellowish brown, coarse to dominantly very coarse, moderately well sorted, angular to sub angular, weak pyrite cement, trace disseminated pyrite cement, generally clean, loose, fair inferred porosity. No fluorescence.
4500	4510	10	CLAYSTONE: as above
		20	SILTSTONE: as above.
		70	SANDSTONE 1: 50%, as above. SANDSTONE 2: 20%, as above. No fluorescence.
4510	4520	10	SILTSTONE: as above.
		90	SANDSTONE 1: 80%, as above. SANDSTONE 2: 10%, as above. No fluorescence.
4520	4530	10	SILTSTONE: dark yellowish brown to dusky brown, very arenaceous, grading to very fine SANDSTONE, trace micromicaceous, firm to moderately hard, sub blocky to blocky.
		90	SANDSTONE 1: 80%, as above. SANDSTONE 2: 10%, as above. No fluorescence.
4530	4540	20	SILTSTONE: as above.
		80	SANDSTONE 1: 80%, as above. SANDSTONE 2: Trace, as above. No fluorescence.
4540	4550	35	SILTSTONE: dark yellowish brown to dusky brown, very arenaceous, grading to very fine SANDSTONE, trace micromicaceous, firm to moderately hard, sub blocky to blocky.
		65	SANDSTONE 1: 55%, clear to translucent, dominantly very fine to fine, occasionally medium, moderately well sorted, sub angular to sub rounded, strong off-white to light brown argillaceous matrix, friable aggregates, poor to very poor inferred porosity. SANDSTONE 2: 10%, clear to translucent, occasionally pale yellowish brown, coarse to dominantly very coarse, moderately well sorted, angular to sub angular,

Bream B17 Lithology / Show Descriptions

Interval (m) From	To	%	Lithology / Show Description
			weak pyrite cement, trace disseminated pyrite cement, generally clean, loose, fair inferred porosity. No fluorescence.
4550	4560	20	SILTSTONE: as above.
		80	SANDSTONE 1: 60%, as above. SANDSTONE 2: 20%, as above. No fluorescence.
4560	4570	10	SILTSTONE: as above.
		90	SANDSTONE 1: 85%, as above. SANDSTONE 2: 5%, as above. No fluorescence.
4570	4580	5	CLAYSTONE: very light grey to light blueish grey, firm to moderately hard, sub blocky to blocky.
		25	SILTSTONE: pale yellowish brown to dusky brown, very arenaceous, grading to very fine SANDSTONE, trace micromicaceous, firm to moderately hard, sub blocky to blocky.
		70	SANDSTONE 1: 60%, clear to translucent, dominantly very fine to fine, occasionally medium, moderately well sorted, sub angular to sub rounded, strong light brown argillaceous matrix, friable aggregates, very poor to poor inferred porosity. SANDSTONE 2: 10%, clear to translucent, coarse to dominantly very coarse, moderately well sorted, angular to sub angular, weak pyrite cement, generally clean, dominantly loose, poor to fair inferred porosity. No fluorescence.
4580	4590	10	CLAYSTONE: as above.
		30	SILTSTONE: as above.
		60	SANDSTONE 1: 50%, as above. SANDSTONE 2: 10%, as above. No fluorescence.
4590	4600	15	COAL: brownish black to black, dull, moderately hard to hard, sub blocky, uneven.
		30	SILTSTONE: as above.
		55	SANDSTONE 1: 50%, as above. SANDSTONE 2: 5%, as above. No fluorescence.
4600	4610	5	CLAYSTONE: as above.
		70	SILTSTONE: as above.
		25	SANDSTONE 1: 25%, as above. SANDSTONE 2: Trace, as above. No fluorescence. **L-1.0 Gas Sand at 4609.0 mMDRT (2509.0 mTVDRT)**
4610	4620	20	SILTSTONE: as above.
		80	SANDSTONE 1: 80%, as above. SANDSTONE 2: Trace, as above. No fluorescence.
4620	4630	5	COAL: black, brittle, sub vitreous, moderately hard, angular, blocky.

Bream B17 Lithology / Show Descriptions

Interval (m) From	To	%	Lithology / Show Description
		5	CLAYSTONE: medium grey to pale blue, moderately hard, blocky.
		20	SILTSTONE: as above.
		70	SANDSTONE 1: 60%, clear to translucent, dominantly very fine to fine, occasionally medium, moderately well sorted, sub angular to sub rounded, strong light brown argillaceous matrix, friable aggregates, very poor to poor inferred porosity. SANDSTONE 2: 10%, clear to translucent, coarse to dominantly very coarse, moderately well sorted, angular to sub angular, weak pyrite cement, generally clean, dominantly loose, poor to fair inferred porosity. No fluorescence.
4630	4640	5	COAL: as above.
		35	SILTSTONE: as above.
		60	SANDSTONE 1: 50%, as above. SANDSTONE 2: 10%, as above. No fluorescence.
4640	4650	5	CLAYSTONE: as above.
		60	SILTSTONE: as above.
		35	SANDSTONE 1: 35%, as above. No fluorescence.
4650	4660	30	COAL: black, brittle, sub vitreous, moderately hard, angular, blocky, common quartz inclusions.
		50	SILTSTONE: pale yellowish brown to dusky brown, very arenaceous, grading to very fine SANDSTONE, trace micromicaceous, firm to moderately hard, sub blocky to blocky.
		20	SANDSTONE: clear to translucent, occasionally light yellowish brown, medium to very coarse, common fractured quartz grains, moderately sorted, angular to sub angular, weak pyrite cement, generally clean, dominantly loose, poor to fair inferred porosity. No fluorescence.
4660	4670	20	COAL: as above.
		50	SILTSTONE: as above.
		30	SANDSTONE: as above. No fluorescence.
4670	4680	20	COAL: as above.
		40	SILTSTONE: as above.
		40	SANDSTONE: as above. No fluorescence.
4680	4690	10	COAL: as above.
		50	SILTSTONE: as above.
		40	SANDSTONE: as above. No fluorescence.
4690	4700	70	SILTSTONE: as above.
		30	SANDSTONE: as above. No fluorescence.
4700	4710	40	CLAYSTONE: light blueish grey to pale brown, silty in part, non-calcareous, moderately hard to firm, sub blocky to blocky.

Bream B17 Lithology / Show Descriptions

Interval (m) From	To	%	Lithology / Show Description
		40	SILTSTONE: pale yellowish brown to dusky brown, very arenaceous, grading to very fine SANDSTONE, trace micromicaceous, firm to moderately hard, sub blocky to blocky.
		20	SANDSTONE: clear to translucent, occasionally light yellowish brown, medium to very coarse, common fractured quartz grains, moderately sorted, angular to sub angular, weak pyrite cement, generally clean, dominantly loose, poor to fair inferred porosity.
			No fluorescence.
4710	4720	40	COAL: black, brittle, sub vitreous, moderately hard, angular, blocky, common quartz inclusions.
		10	CLAYSTONE: as above.
		40	SILTSTONE: as above.
		10	SANDSTONE: as above.
			No fluorescence.
4720	4725	5	COAL: as above.
		5	CLAYSTONE: as above.
		85	SILTSTONE: as above.
		5	SANDSTONE: as above.
			No fluorescence.
4725	4730	5	CLAYSTONE: light blueish grey to pale brown, silty in part, non-calcareous, moderately hard to firm, sub blocky to blocky.
		75	SILTSTONE: pale yellowish brown to dusky brown, very arenaceous, grading to very fine SANDSTONE, trace micromicaceous, firm to moderately hard, sub blocky to blocky.
		20	SANDSTONE: clear to translucent, occasionally light yellowish brown, medium to very coarse, common fractured quartz grains, moderately sorted, angular to sub angular, weak pyrite cement, generally clean, dominantly loose, poor to fair inferred porosity.
			No fluorescence.
4730	4735	5	COAL: black, brittle, sub vitreous, angular, blocky, common quartz inclusions.
		10	CLAYSTONE: as above.
		75	SILTSTONE: as above.
		10	SANDSTONE: as above.
			No fluorescence.
4735	4740	5	COAL: as above.
		5	CLAYSTONE: as above.
		90	SILTSTONE: as above.
4740	4745	5	COAL: as above.
		5	CLAYSTONE: as above.
		90	SILTSTONE: as above.
			J Coal at 4744.5 mMDRT (2642.6 mTVDRT)
4745	4750	70	COAL: black, brittle, sub vitreous, angular, blocky, common quartz inclusions.
		25	SILTSTONE: greyish brown to dusky brown, very arenaceous, grading to very fine SANDSTONE, trace micromicaceous, interbedded COAL, firm to moderately hard, sub blocky.
		5	SANDSTONE: clear to translucent, occasionally light yellowish brown, medium

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Interval (m) From	To	%	Lithology / Show Description
			to coarse, common fractured quartz grains, moderately well sorted, sub angular to sub rounded, coal matrix, generally clean, dominantly loose, poor to fair inferred porosity. No fluorescence.
4750	4755	30	COAL: as above.
		5	CLAYSTONE: light blueish grey to pale brown, silty in part, non-calcareous, moderately hard to firm, sub blocky to blocky.
		60	SILTSTONE: as above.
		5	SANDSTONE: as above. No fluorescence.
4755	4760	10	COAL: as above.
		65	SILTSTONE: as above.
		25	SANDSTONE: as above. No fluorescence.
4760	4765	10	COAL: black, brittle, sub vitreous, angular, blocky, common quartz inclusions.
		80	SILTSTONE: greyish brown to dusky brown, very arenaceous, grading to very fine SANDSTONE, trace micromicaceous, interbedded COAL, firm to moderately hard, sub blocky.
		10	SANDSTONE: clear to translucent, occasionally light yellowish brown, medium to coarse, common fractured quartz grains, moderately well sorted, sub angular to sub rounded, coal matrix, generally clean, dominantly loose, poor to fair inferred porosity. No fluorescence.
4765	4770	15	COAL: as above.
		75	SILTSTONE: as above.
		10	SANDSTONE: as above. No fluorescence.
4770	4775	20	COAL: as above.
		60	SILTSTONE: as above.
		20	SANDSTONE: as above. No fluorescence.
4775	4780	10	COAL: as above.
		5	CLAYSTONE: light blueish grey to pale brown, silty in part, non-calcareous, moderately hard to firm, sub blocky to blocky.
		60	SILTSTONE: as above.
		25	SANDSTONE: clear to translucent, very fine to medium, dominantly fine, moderately well sorted, sub angular to sub rounded, abundant light brown silty matrix, friable aggregates, very poor to poor inferred porosity. No fluorescence.
4780	4785	5	COAL: as above.
		70	SILTSTONE: as above.
		25	SANDSTONE: as above. No fluorescence. PRS failure at 4788 mMDRT. Circulate at bottom till problem fixed.
4785	4790	10	COAL: as above.
		60	SILTSTONE: greyish brown to dusky brown, very arenaceous, grading to very

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Interval (m) From	To	%	Lithology / Show Description
			fine SANDSTONE, trace micromicaceous, interbedded COAL, firm to moderately hard, sub blocky to blocky.
		30	SANDSTONE: as above. No fluorescence.
4790	4800	70	SILTSTONE: as above.
		30	SANDSTONE: clear to translucent, fine to medium, dominantly fine, moderately well sorted, sub angular to sub rounded, abundant light brown silty matrix, friable aggregates, very poor to poor inferred porosity. No fluorescence.
4800	4805	20	COAL: black, brittle, sub vitreous, angular, blocky, minor brownish black to black, earthy, silty in part grading to CARBONACEOUS SILTSTONE, sub blocky to blocky, woody texture.
		5	CLAYSTONE: light grey to light blueish grey, moderately hard to hard, sub blocky to blocky.
		65	SILTSTONE: greyish brown to dusky brown, very arenaceous, grading to very fine SANDSTONE, trace micromicaceous, interbedded COAL, firm to moderately hard, sub blocky to blocky.
		10	SANDSTONE: as above. No fluorescence.
4805	4810	5	CLAYSTONE: as above.
		85	SILTSTONE: as above.
		10	SANDSTONE: as above. No fluorescence.
4810	4820	20	COAL: black, brittle, sub vitreous, angular, blocky.
		10	CLAYSTONE: as above.
		20	SILTSTONE: as above.
		50	SANDSTONE: clear to translucent, occasionally pale yellowish brown, medium to dominantly very coarse, moderately well sorted, sub angular to sub rounded, common fractured quartz grains, generally clean, dominantly loose, fair inferred porosity. No fluorescence.
4820	4825	5	CLAYSTONE: as above.
		85	SILTSTONE: greyish brown to dusky brown, very arenaceous, grading to very fine SANDSTONE, trace micromicaceous, firm to moderately hard, sub blocky to blocky.
		10	SANDSTONE: as above. No fluorescence.
4825	4830	5	CLAYSTONE: light grey to light blueish grey, moderately hard to hard, sub blocky to blocky.
		80	SILTSTONE: as above.
		15	SANDSTONE: as above. No fluorescence.
4830	4835	20	CLAYSTONE: as above.
		75	SILTSTONE: greyish brown to dusky brown, very arenaceous, grading to very fine SANDSTONE, trace micromicaceous, firm to moderately hard, sub blocky to blocky.

Bream B17 Lithology / Show Descriptions

Interval (m) From	To	%	Lithology / Show Description
		5	SANDSTONE: clear to translucent, occasionally pale yellowish brown, medium to dominantly very coarse, moderately well sorted, sub angular to sub rounded, common fractured quartz grains, generally clean, dominantly loose, fair inferred porosity. No fluorescence.
4835	4840	5	COAL: black, brittle, sub vitreous, angular, blocky, common quartz inclusions.
		25	CLAYSTONE: as above.
		65	SILTSTONE: as above.
		5	SANDSTONE: as above. No fluorescence.
4840	4850	10	CLAYSTONE: light grey to light blueish grey, moderately hard to hard, sub blocky to blocky.
		85	SILTSTONE: as above.
		5	SANDSTONE: as above. No fluorescence.
4850	4860	10	CLAYSTONE: as above.
		85	SILTSTONE: greyish brown to dusky brown, very arenaceous, grading to very fine SANDSTONE, trace micromicaceous, firm to moderately hard, sub blocky to blocky.
		5	SANDSTONE: clear to translucent, occasionally pale yellowish brown, medium to dominantly very coarse, moderately well sorted, sub angular to sub rounded, common fractured quartz grains, generally clean, dominantly loose, fair inferred porosity. No fluorescence. **L-1.18 Gas Sand at 4867.0 mMDRT (2764.4 mTVDRT)**
4860	4870	5	COAL: as above.
		10	CLAYSTONE: as above.
		65	SILTSTONE: as above.
		20	SANDSTONE: as above. No fluorescence.
4870	4875	10	COAL: as above.
		10	CLAYSTONE: as above.
		40	SILTSTONE: as above.
		40	SANDSTONE: as above. No fluorescence.
4875	4880	10	COAL: black, brittle, sub vitreous, angular, blocky, common quartz and pyrite inclusions.
		80	SILTSTONE: greyish brown to dusky brown, very arenaceous, grading to very fine SANDSTONE, trace micromicaceous, trace disseminated pyrite, moderately hard, sub blocky to blocky.
		10	SANDSTONE: as above. No fluorescence.
4880	4885	5	COAL: as above.
		5	CLAYSTONE: light grey to light blueish grey, moderately hard to hard, sub blocky to blocky.
		70	SILTSTONE: as above.

Bream B17 Lithology / Show Descriptions

Interval (m) From	To	%	Lithology / Show Description
		20	SANDSTONE: clear to translucent, fine to occasionally coarse, dominantly fine to medium, moderately well sorted, sub angular to sub rounded, weak pyrite cement, rare pyrite nodules, generally clean, dominantly loose, fair inferred porosity. No fluorescence.
4885	4890	5	COAL: as above.
		10	CLAYSTONE: as above.
		80	SILTSTONE: as above.
		5	SANDSTONE: as above. No fluorescence.
4890	4900	10	COAL: black, brittle, sub vitreous, angular, blocky, no inclusions.
		5	CLAYSTONE: as above.
		80	SILTSTONE: as above.
		5	SANDSTONE: as above. No fluorescence.
4900	4910	5	COAL: as above.
		5	CLAYSTONE: as above.
		85	SILTSTONE: as above.
		5	SANDSTONE: as above. No fluorescence.
4910	4920	10	CLAYSTONE: light grey to light blueish grey, moderately hard to hard, sub blocky to blocky.
		50	SILTSTONE: moderate brown to greyish brown, very arenaceous, grading to very fine SANDSTONE, trace micromicaceous, firm to moderately hard, amorphous to sub blocky.
		40	SANDSTONE: clear to translucent, rare pale yellowish brown, medium to very coarse, dominantly coarse, moderately well sorted, sub angular to sub rounded, clean, loose, fair to good inferred porosity. No fluorescence.
4920	4930	5	COAL: black, brittle, sub vitreous, angular, sub blocky.
		5	CLAYSTONE: as above.
		65	SILTSTONE: as above.
		25	SANDSTONE: as above. No fluorescence.
4930	4940	5	COAL: black, brittle, sub vitreous, angular, sub blocky.
		15	CLAYSTONE: as above.
		75	SILTSTONE: dusky brown, arenaceous in part, trace micromicaceous, trace disseminated pyrite, moderately hard to hard, sub blocky.
		5	SANDSTONE: as above. No fluorescence.
4940	4950	15	COAL: black, brittle, subvitreous, angular, sub blocky.
		10	CLAYSTONE: as above.
		75	SILTSTONE: dusky brown, arenaceous in part, trace micromicaceous, trace disseminated pyrite, moderately hard to hard, sub blocky.
4950	**4955**	10	COAL: black, brittle, sub vitreous, angular, blocky, common pyrite inclusions.
	TD	5	CLAYSTONE: light grey to light blueish grey, moderately hard to hard, sub blocky to blocky.

Bream B17 Lithology / Show Descriptions

Interval (m) From	To	%	Lithology / Show Description
		85	SILTSTONE: greyish brown to dusky brown, very arenaceous, arenaceous in part, trace micromicaceous, trace disseminated pyrite, moderately hard to hard, sub blocky to blocky.
			Bream B17 reached a TD of 4955.0 mMDRT (2852.1 mTVDRT = - 2804.9 mTVDSS), at 0330 hrs 20 July 2005. **Wiper Trip Gas = 1615 units at 1015 hrs 21 July 2005.**

APPENDIX 4a

BREAM B17

Mud Log

MASTERLOG

BMB-B17

FROM (m): 100 TO (m): 4960 SCALE: 1/ 200

GENERAL

Country : AUSTRALIA
Permit : VIC/L13 & L14
Field : BREAM
Basin: GIPPSLAND BASIN
Well Type: DEVELOPMENT
Rig Name : ENSCO 102

SURFACE POSITION

Latitude : 38 31'05.658" S
Longitude : 147 50'21.466" E
MGA94 Coord X: 573,166.97mE
MGA94 Coord Y: 5,736,349.08mN
RT to MSL : 47.17m
RT to Sea Bed : 108.17m

HOLE / CASING INFO

20" Conductor @ 179.0mMDRT
9 5/8" Casing @ 840mMDRT
7" Casing @: 4940mMDRT
12 1/4" Hole to: 845mMDRT
8 1/2" Hole to: 4955.0mMDRT

DATE / DEPTH

Spud Date : 03 JULY 2005
Total Depth Date : 20 JULY 2005
Total Depth : 4955.0mMDRT
True Vertical Depth : 2852.1mTVDRT

Final Status : CASED & COMPLETED

ENGINEERS

Matt Boyd
Daniel van der Aa
Boris Beranek
Tom Platt

ABBREVIATIONS

MW	Mud Weight	WOB	Weight on Bit (Klbs)
FV	Funnel Viscosity	RPM	Rotations Per Min
PV	Plastic Viscosity	FLW	Flow Rate (gpm)
YP	Yield Point	SPP	Pump Pressure (psi)
Gel	Gel Strength	RR	Re-Run Bit
WL	Water Loss	TG	Trip Gas
KCl	Potassium Chloride	CG	Connection Gas
Cl	Chlorides	BG	Background Gas
Incl	Inclination	DGP	Drilled Gas Peak
Az	Azimuth	MM	Mud Motor

LITHOLOGY LEGEND

CLAYSTONE, MARL, BRYOZOA, CARB FRAGMENT
SILTSTONE, LIMESTONE, RADIOLARITES, QUARTZITE
SST: F - V FINE, DOLOMITE, ECHINOIDS, INTRUSIVES
SST: MEDIUM, CHERT, CORALS, GLAUCONITE
SST: COARSE, CONGLOMERATE, FORAMINIFERA, PYRITE
SHALE, COAL, LITHIC FRAGMENT, CEMENT

ENGINEERING LEGEND

CASING SHOE, WIRELINE LOGS
LINER HANGER, MDT POINTS:
BIT CHANGE, PRESSURE ONLY
DEVIA. SURVEY, SAMPLE
SWC UNRECOV, SEAL FAILURE
SIDEWALL CORE, TIGHT
CORE

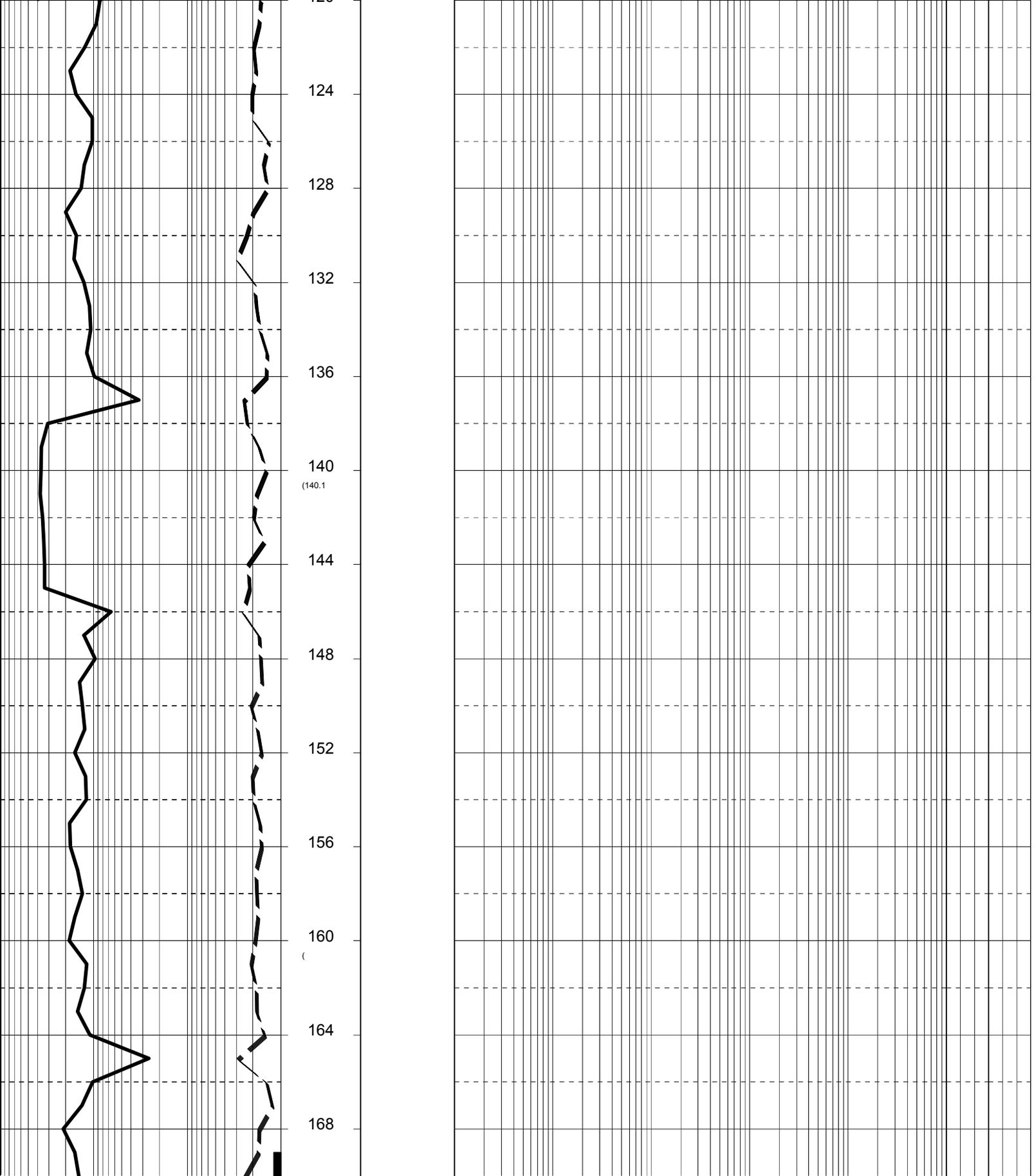
ROP (m/hr) 500 50 5 .5
WOB (klbs) 50 25 0
MWD Gamma Ray (api) 0 125 250
DEPTH (m) (RT) (TVD) (m)(RT)
CUTTINGS LITHOLOGY % 0 100
TOTAL GAS & CHROMATOGRAPH DATA
C1, C2, C3, iC4, nC4, iC5, nC5, TG
Total Gas in Units Chromatograph in PPM
.05 .5 5 50 500 5K
10 100 1K 10K 100K 1000K
CUT FLUOR good fair poor
DIRECT FLUOR good fair poor
LITHOLOGICAL DESCRIPTIONS and REMARKS

100
104
108
112
116
120

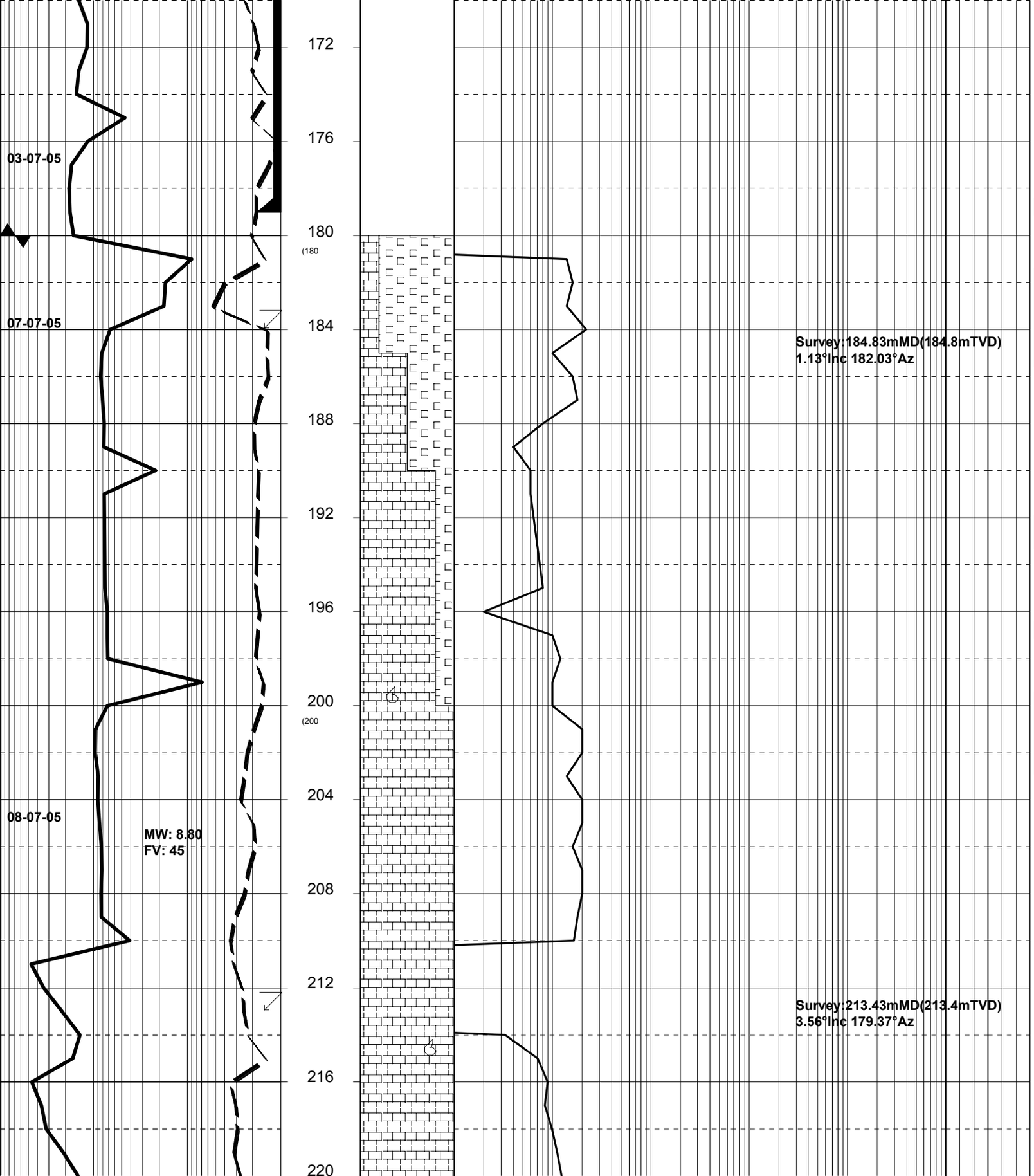
BMB-B17 SPUDDED AT 13:00 HRS ON 03-07-2005

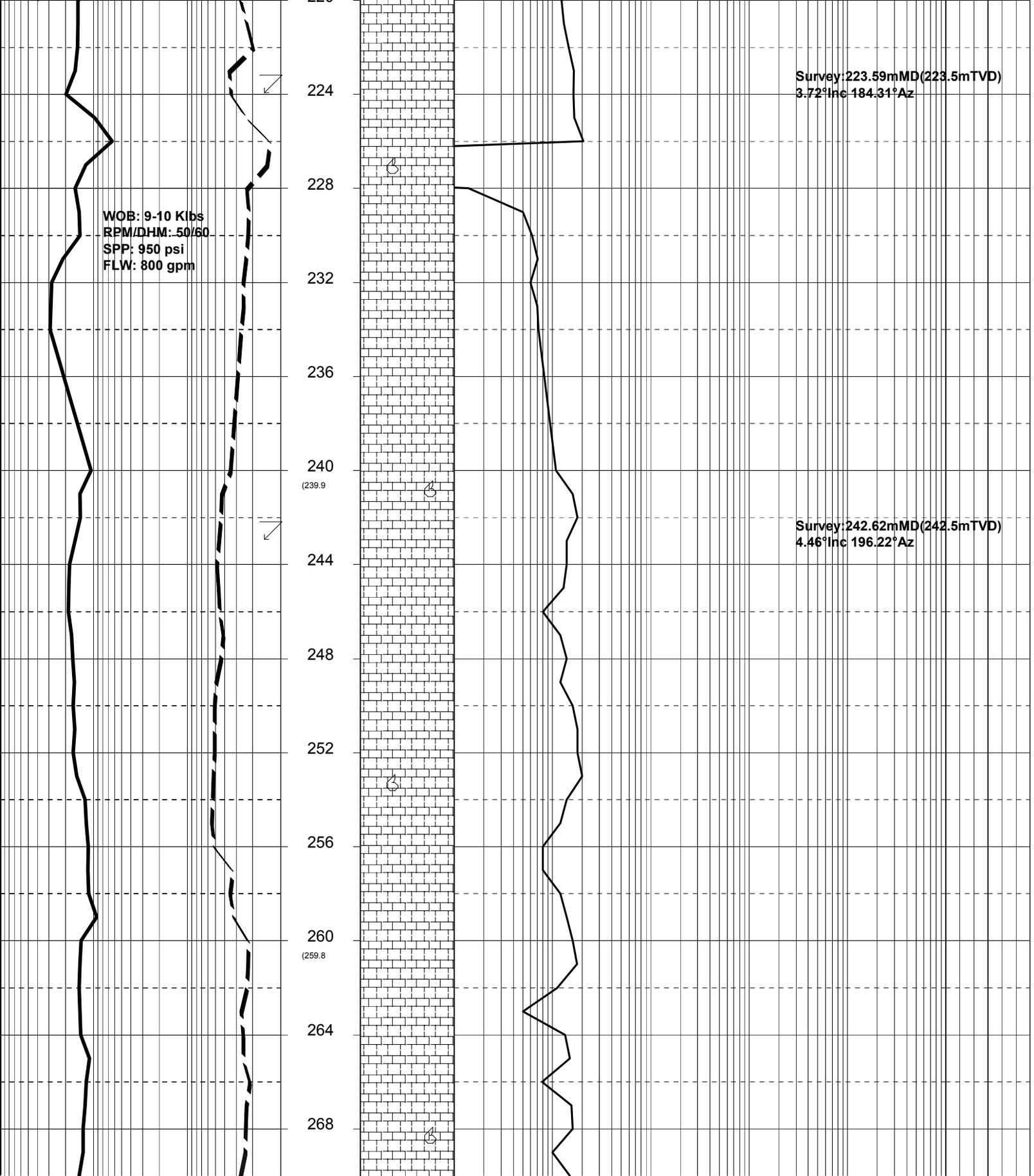
RETURNS TO SEABED

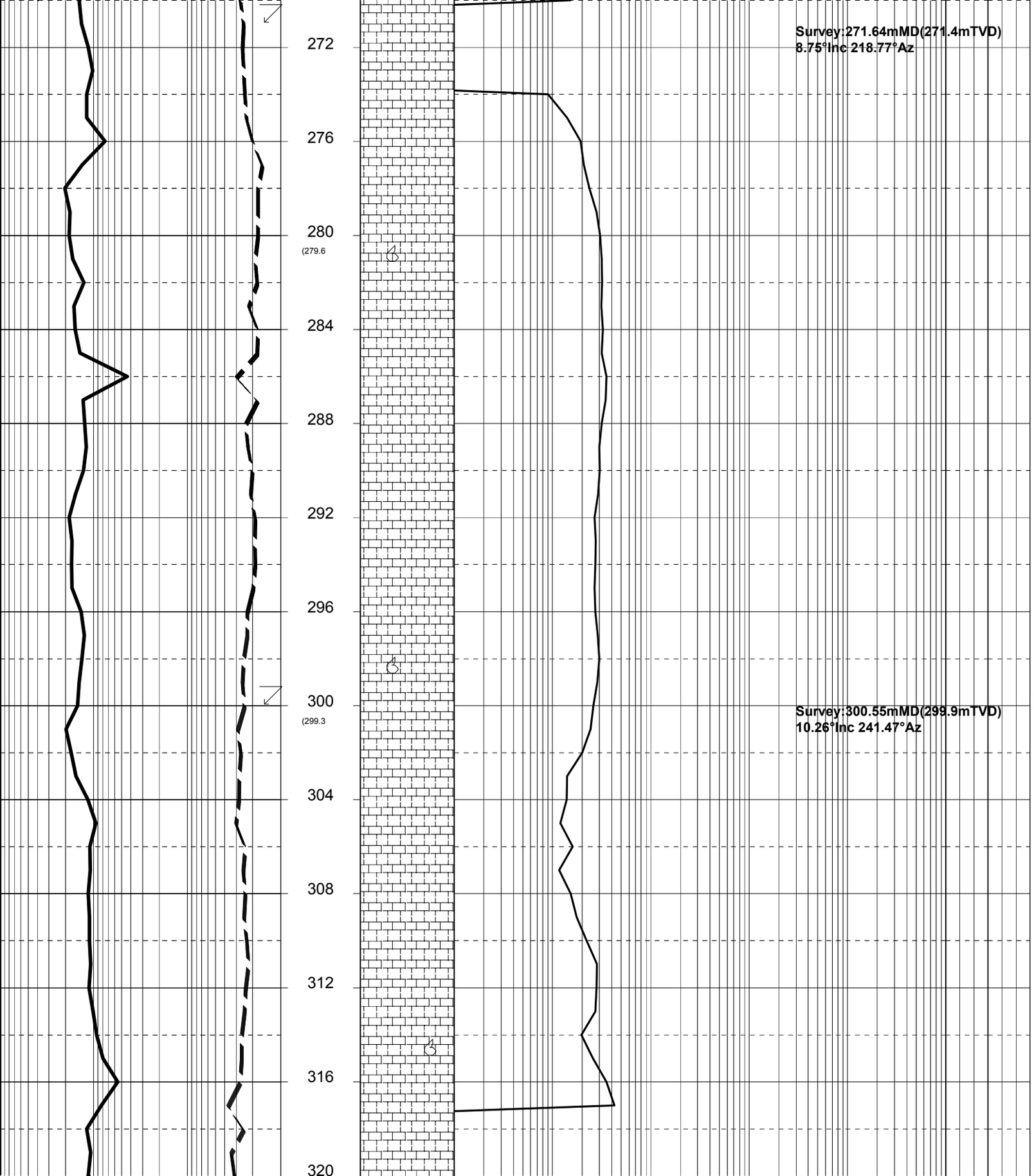
DRILL FROM 108m TO 180m WITH SEAWATER, SWEEPING THE HOLE WITH PREHYDRATED BENTONITE HI-VIS MUD EVERY 15m.

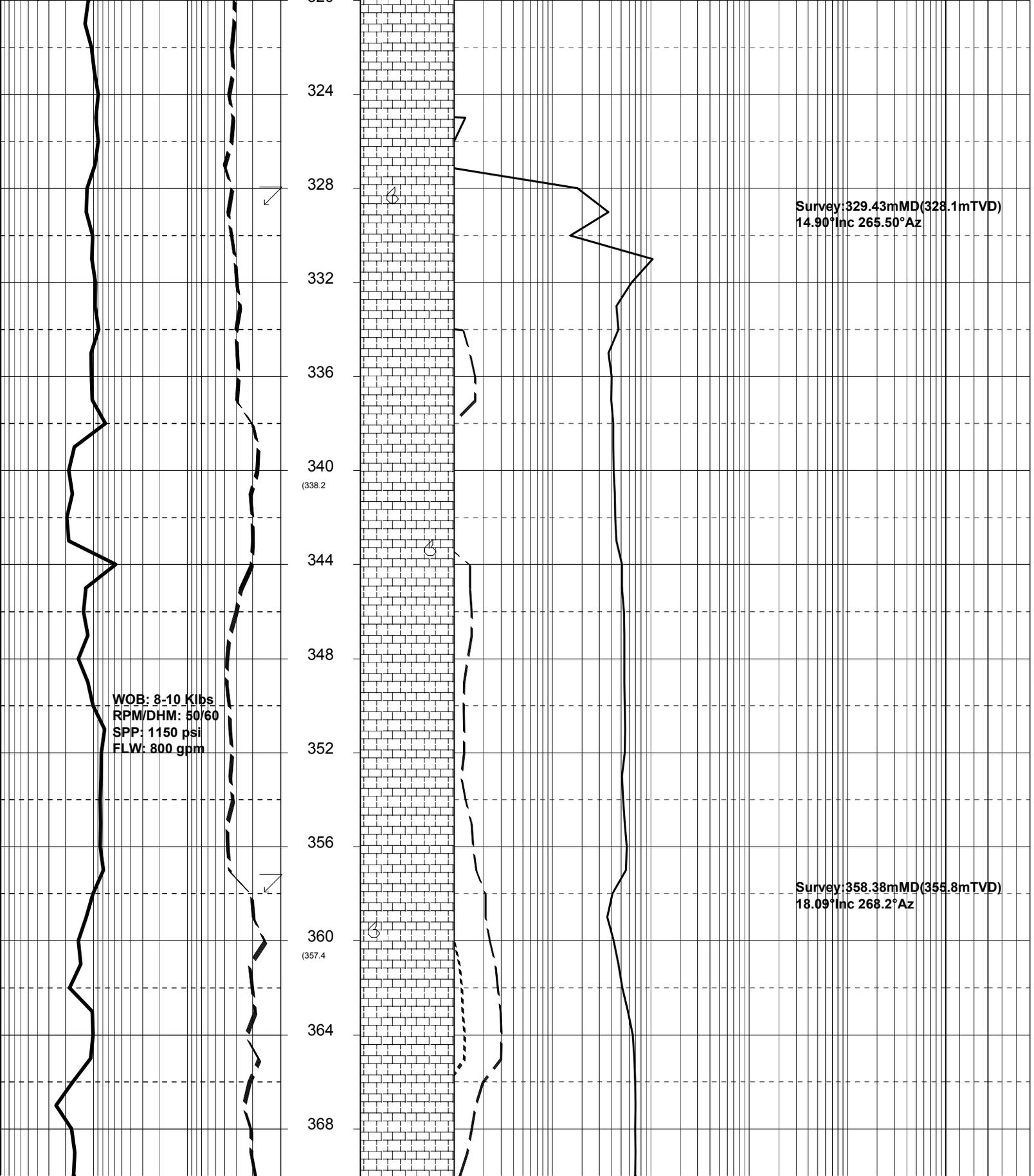


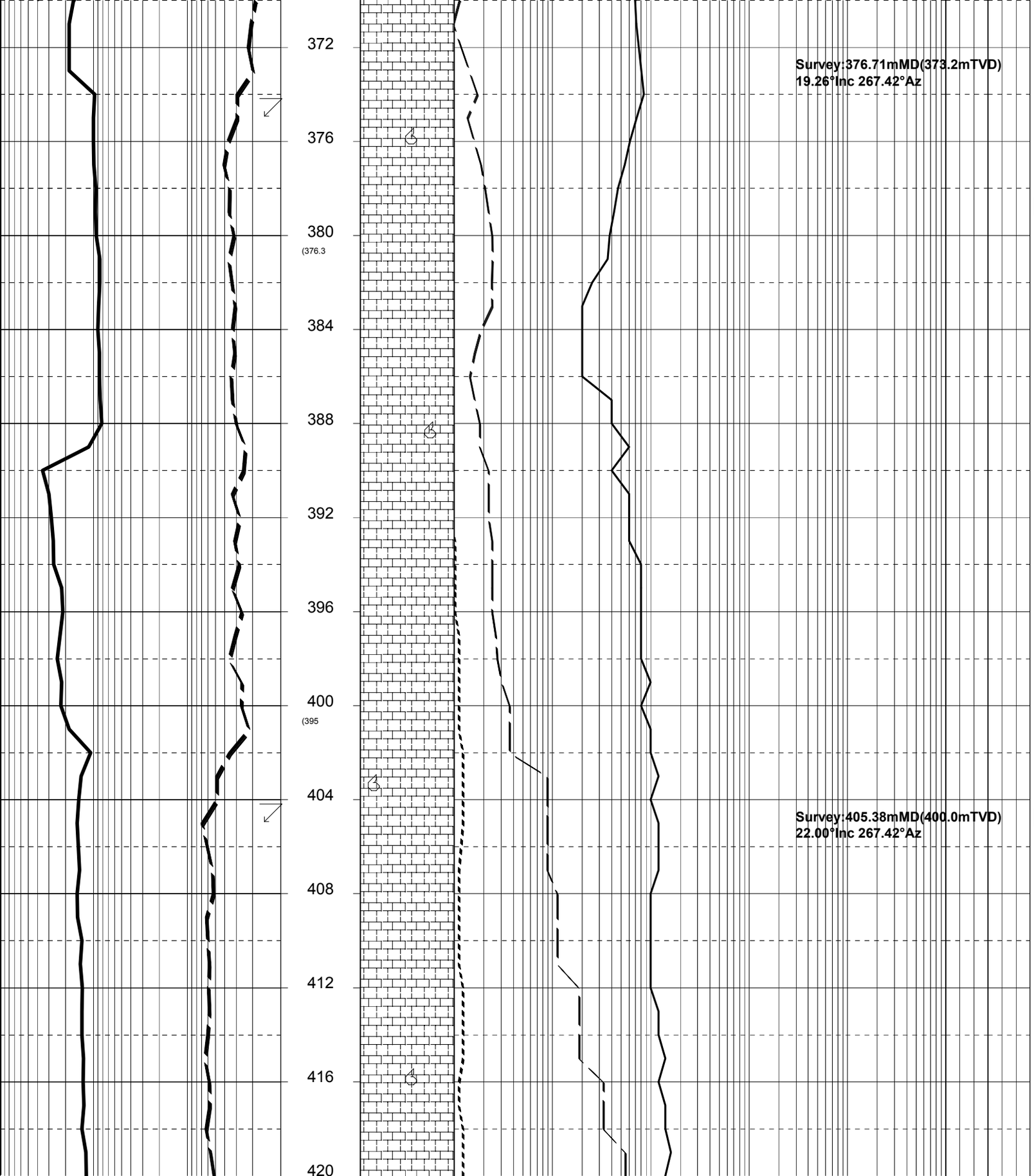
BIT# 1: 22" 558.8mm
SMITH MILL TOOTH BIT
JETS: 3 x 22, 1 x 19
IN: 108m OUT: 180m
RUN: 72m HRS: 1.9

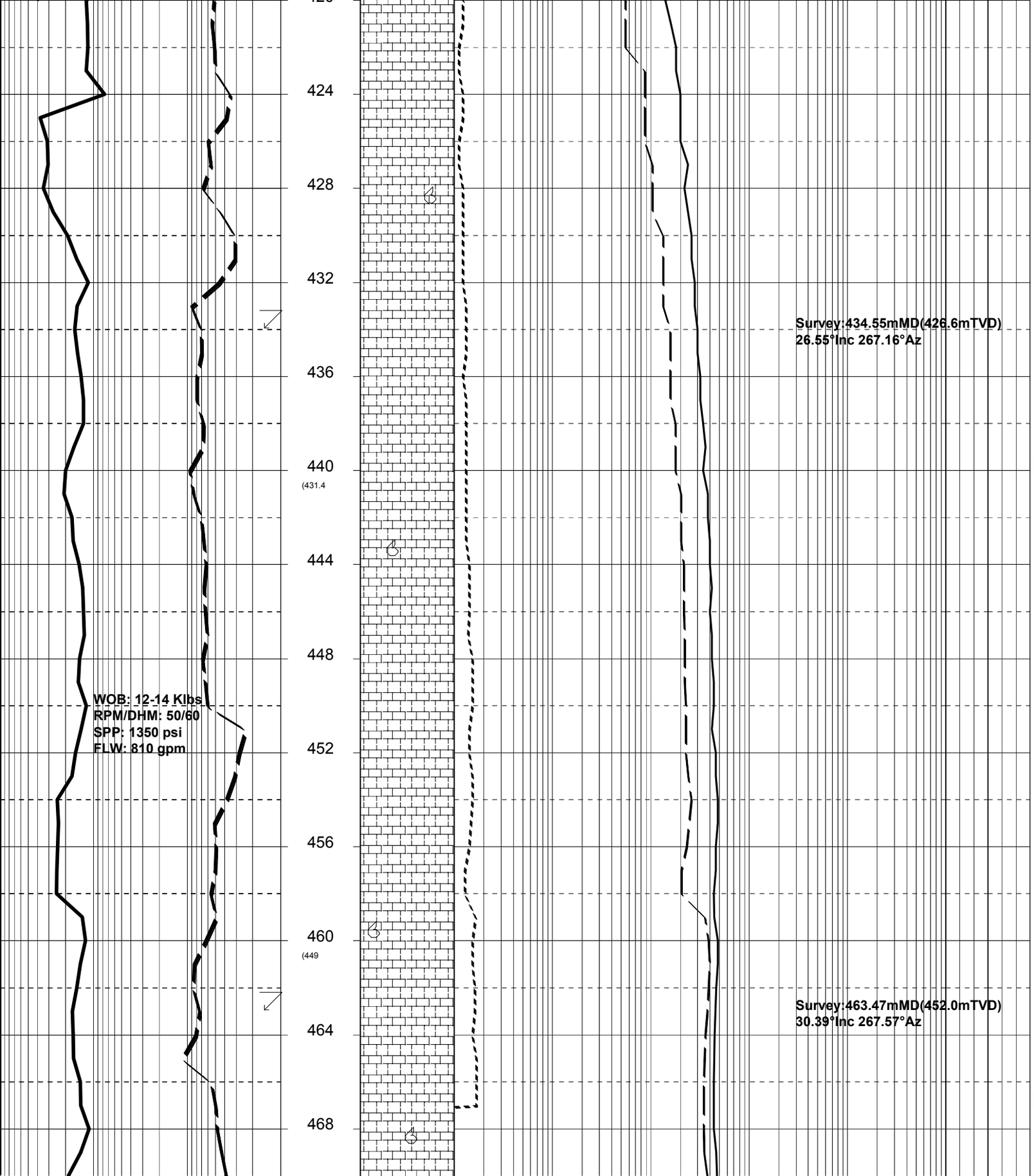

172
176
180
(180
184
188
192
196
200
(200
204
208
212
216
220
03-07-05
07-07-05
08-07-05
MW: 8.80
FV: 45
20" CONDUCTOR SHOE @ 179.0m
BIT# 2: 12 1/4" 311.2mm
REED T11C
JETS: 3 x 24, 1 x 16
IN: 180m OUT: 845m
RUN: 665m HRS: 16.7
COND: 1-1-WT-A-EEE-IN-TC
Survey:184.83mMD(184.8mTVD)
1.13°Inc 182.03°Az
BMB-B17 KICKED OFF FROM 181m
ON 07-07-2005
STEER 181m-210m
DRILL FROM 180- 845mMDRT WITH
LIME-FLOCCULATED SEAWATER/
BENTONITE CLOSED MUD SYSTEM
AND A STEERABLE MOTOR
ASSEMBLY
Survey:213.43mMD(213.4mTVD)
3.56°Inc 179.37°Az

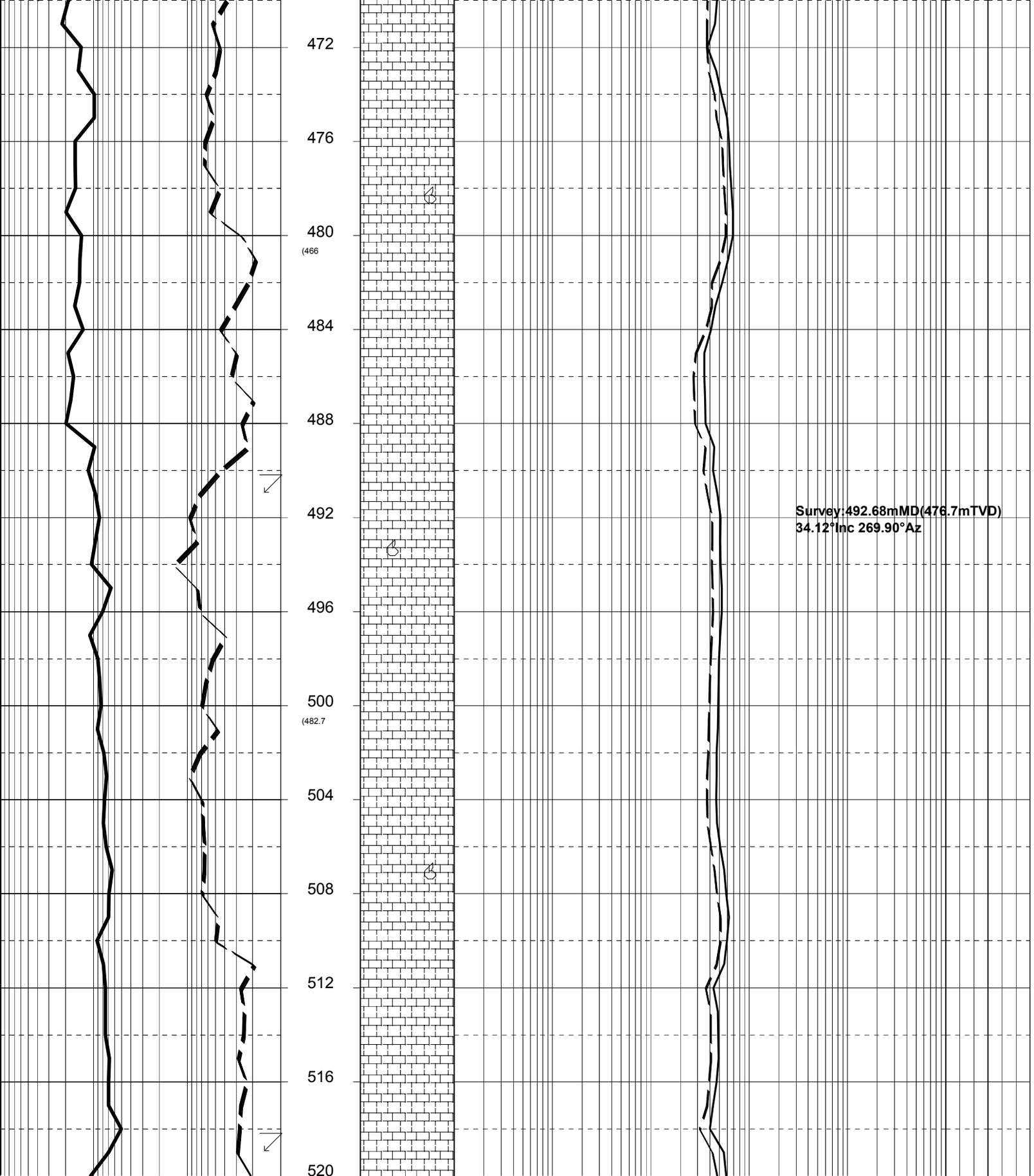

224
228
232
236
240
(239.9
244
248
252
256
260
(259.8
264
268
WOB: 9-10 Klbs
RPM/DHM: 50/60
SPP: 950 psi
FLW: 800 gpm
Survey:223.59mMD(223.5mTVD)
3.72°Inc 184.31°Az
Survey:242.62mMD(242.5mTVD)
4.46°Inc 196.22°Az
CALCARENITE:clr-trnsl,lt gy, wh,med-crs,abdt foss & shll frag, forams,pred lse,frm aggs,gd intgran vis por,no fluor.
STEER 241m-277m

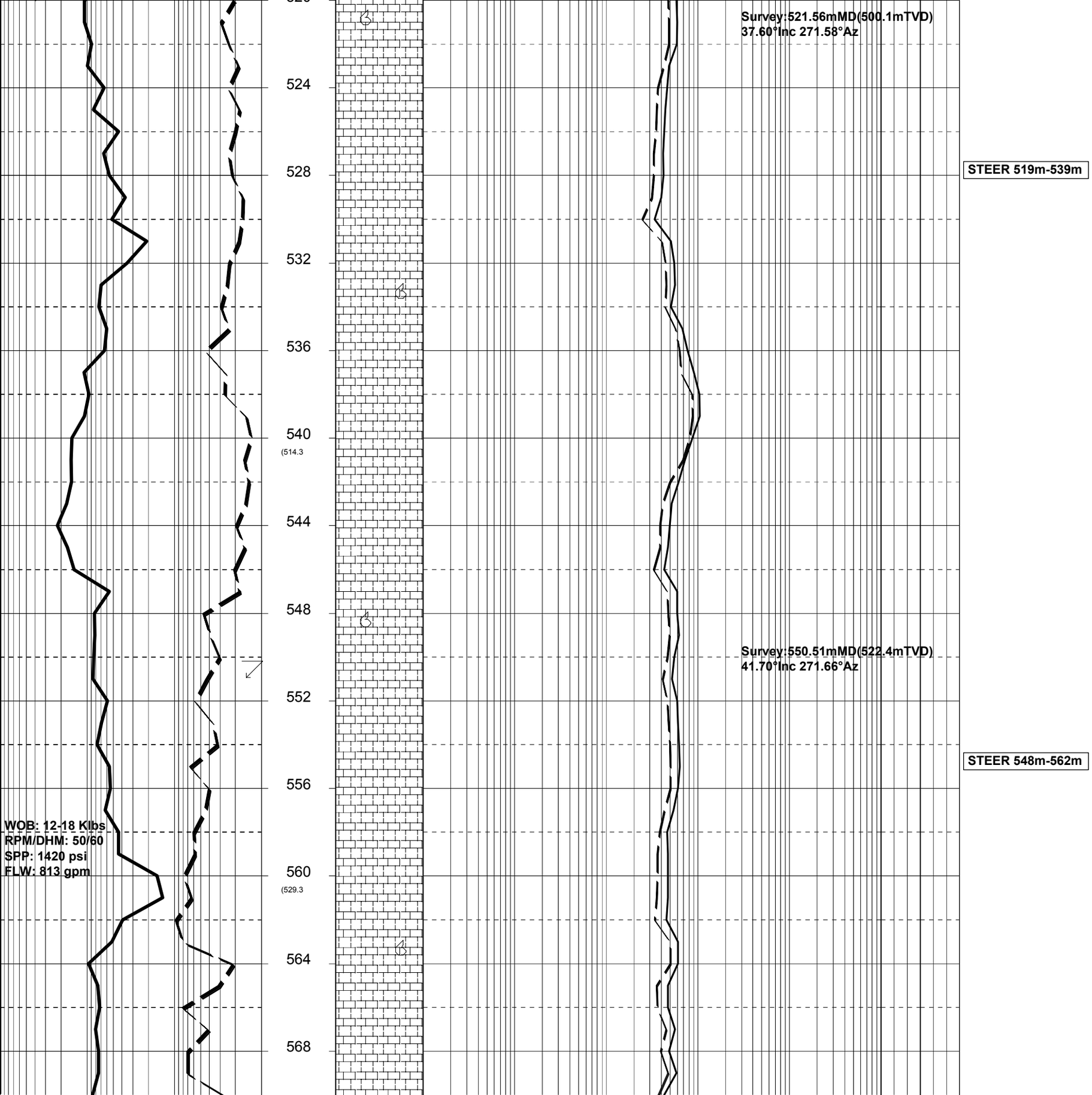

272
276
280
(279.6
284
288
292
296
300
(299.3
304
308
312
316
320
Survey:271.64mMD(271.4mTVD)
8.75°Inc 218.77°Az
CALCARENITE:lt gy,lt gn gy
i/p,abdt foss frag,fri,occ
g/t CLCLT,gd intgran inf por,
no fluor.
STEER 287m-338m
Survey:300.55mMD(299.9mTVD)
10.26°Inc 241.47°Az

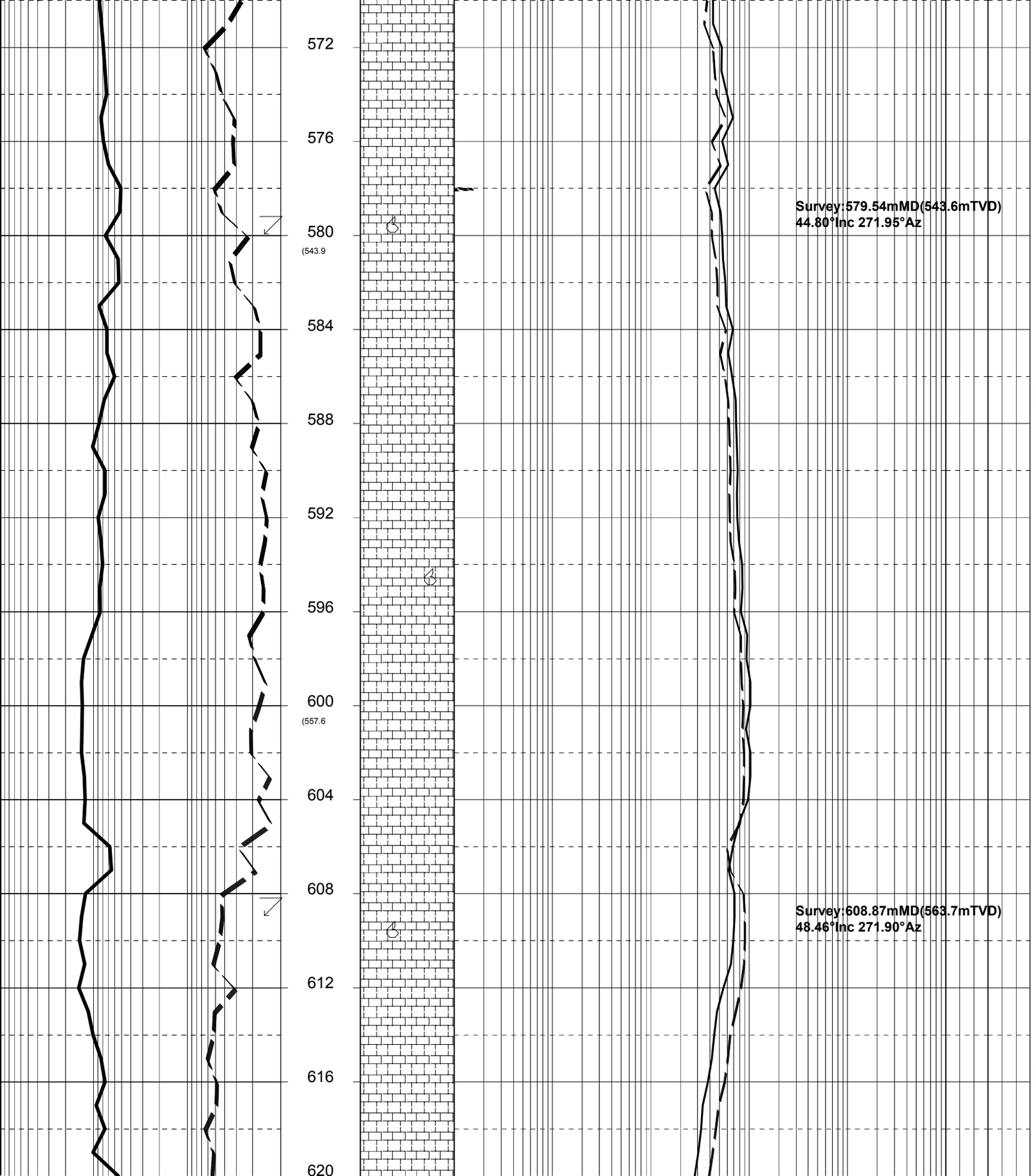

324
328
332
336
340
(338.2
344
348
352
356
360
(357.4
364
368
Survey:329.43mMD(328.1mTVD)
14.90°Inc 265.50°Az
WOB: 8-10 Klbs
RPM/DHM: 50/60
SPP: 1150 psi
FLW: 800 gpm
STEER 345m-358m
Survey:358.38mMD(355.8mTVD)
18.09°Inc 268.2°Az
CALCARENITE:lt gy,lt gn gy
i/p,abdt foss frag,fri,occ
g/t CLCLT,gd intgran inf por,
no fluor.

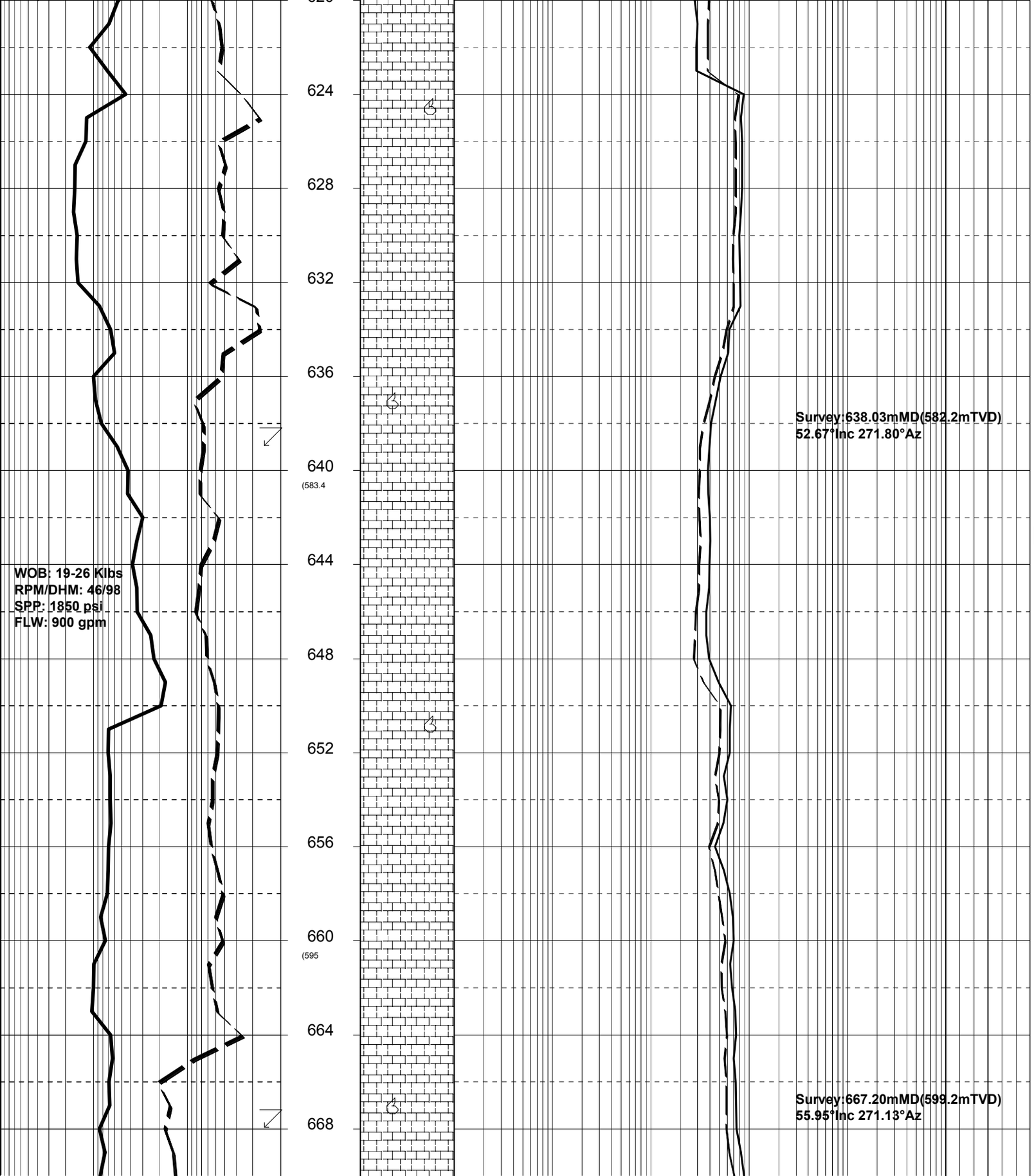

372
376
380
(376.3
384
388
392
396
400
(395
404
408
412
416
420
Survey:376.71mMD(373.2mTVD)
19.26°Inc 267.42°Az
STEER 375m-389m
Survey:405.38mMD(400.0mTVD)
22.00°Inc 267.42°Az
STEER 402m-425m
CALCARENITE:lt gy,lt gn gy

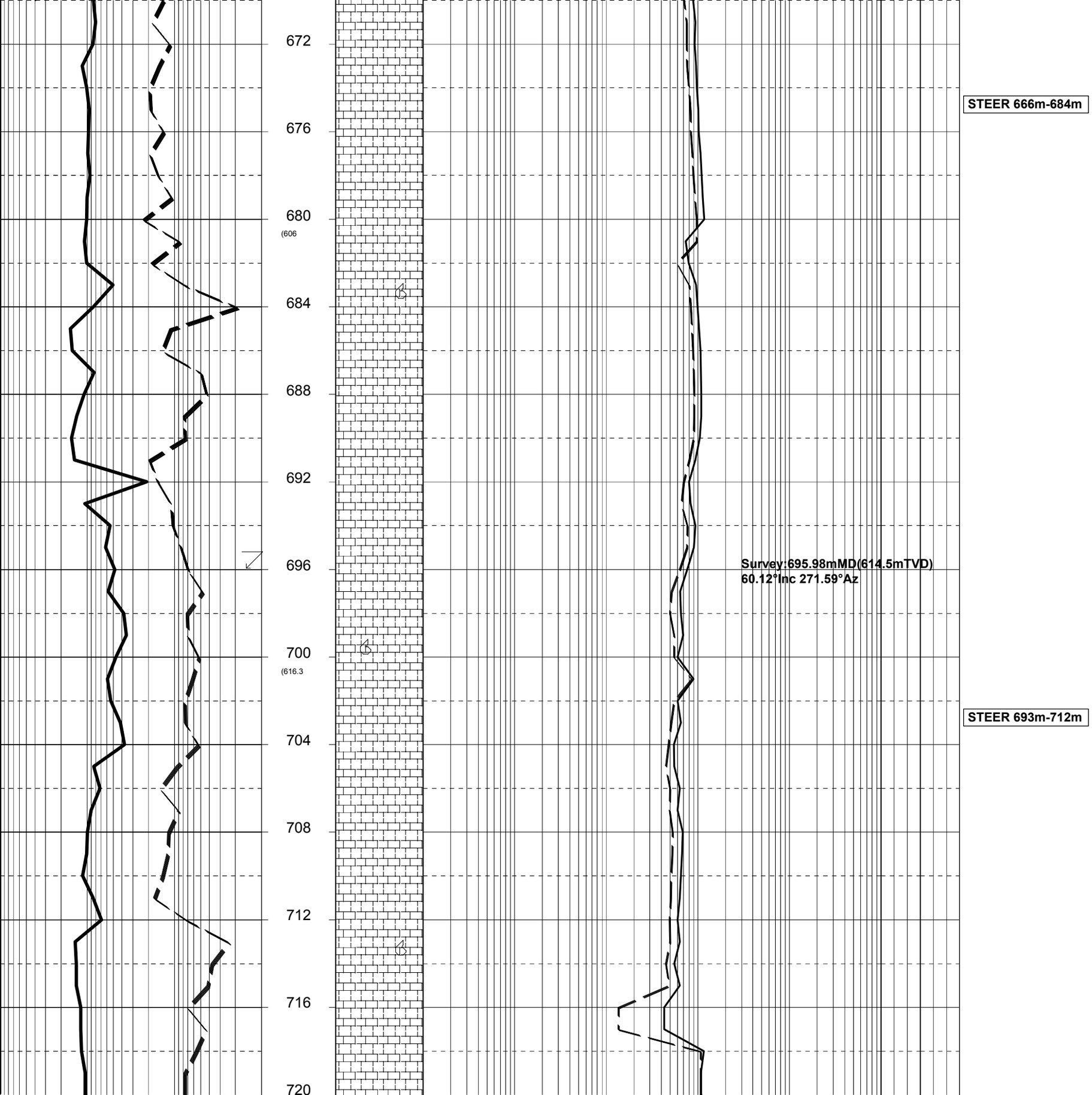

i/p,abdt foss frag,fri,occ
g/t CLCLT,gd intgran inf por,
no fluor.
424
428
432
436
440
(431.4
444
448
452
456
460
(449
464
468
Survey:434.55mMD(426.6mTVD)
26.55°Inc 267.16°Az
STEER 432m-450m
WOB: 12-14 Klbs
RPM/DHM: 50/60
SPP: 1350 psi
FLW: 810 gpm
Survey:463.47mMD(452.0mTVD)
30.39°Inc 267.57°Az
STEER 459m-480m

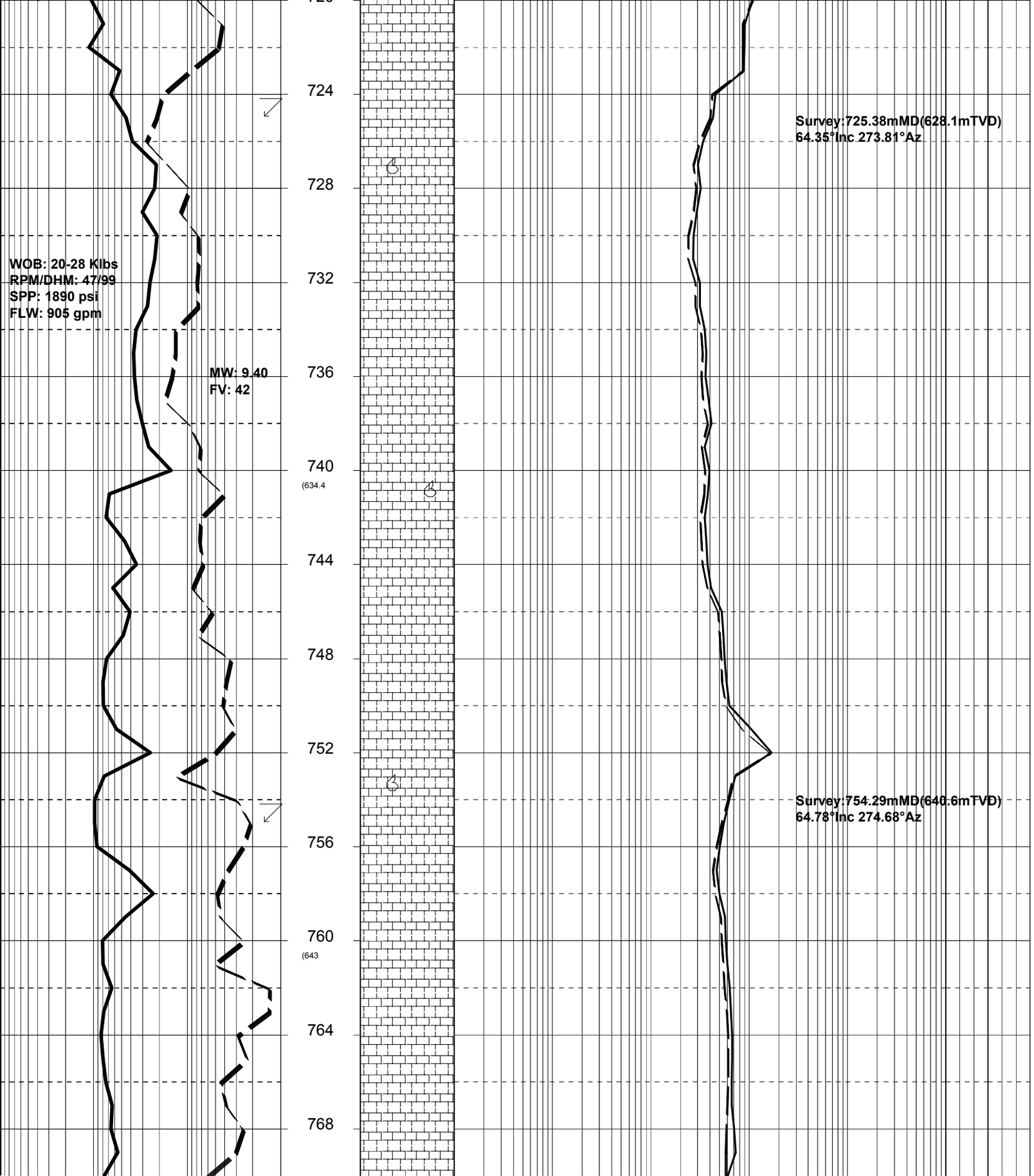

472
476
480
(466
484
488
492
496
500
(482.7
504
508
512
516
520
CALCARENITE:lt gy,lt gn gy i/p,abdt foss frag,fri,occ g/t CLCLT,gd intgran inf por, no fluor.
Survey:492.68mMD(476.7mTVD)
34.12°Inc 269.90°Az
STEER 489m-510m

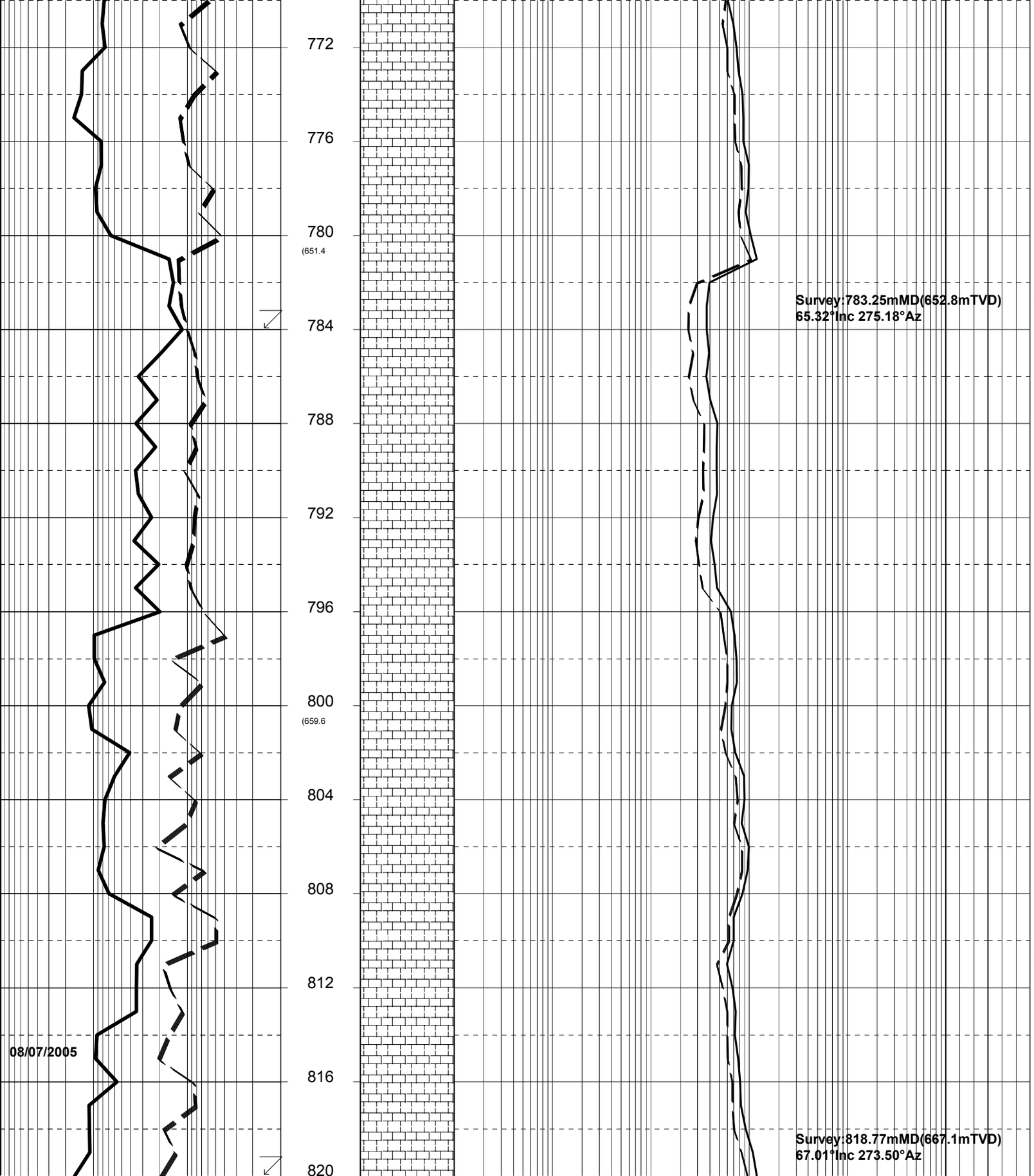

Survey:521.56mMD(500.1mTVD)
37.60°Inc 271.58°Az
524
528
STEER 519m-539m
532
536
540
(514.3
544
548
Survey:550.51mMD(522.4mTVD)
41.70°Inc 271.66°Az
552
STEER 548m-562m
556
WOB: 12-18 Klbs
RPM/DHM: 50/60
SPP: 1420 psi
FLW: 813 gpm
560
(529.3
564
568

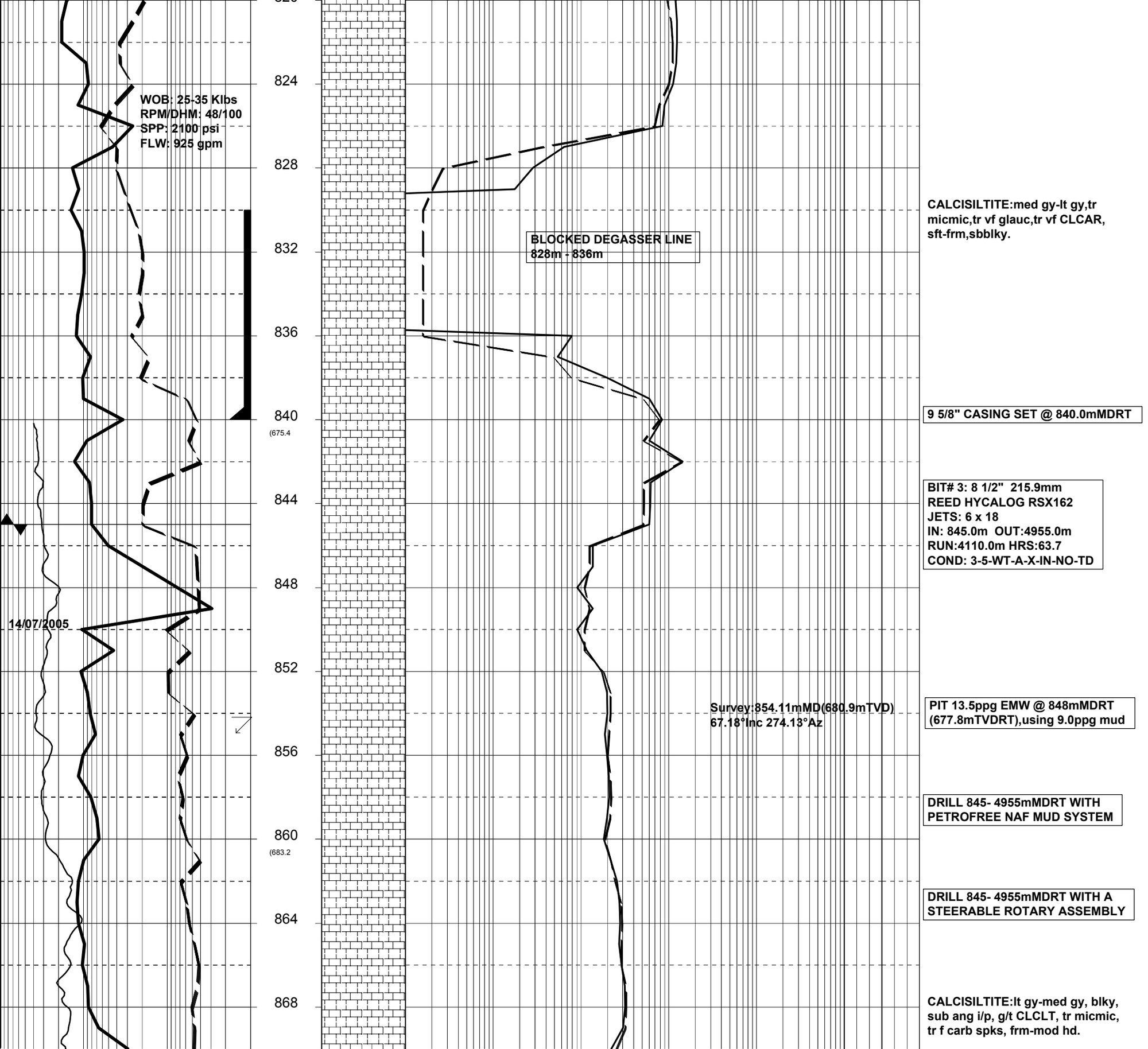

572
576
580
(543.9
584
588
592
596
600
(557.6
604
608
612
616
620
Survey:579.54mMD(543.6mTVD)
44.80°Inc 271.95°Az
STEER 578m-597m
CALCARENITE:lt gy,lt gn gy
i/p,abdt foss frag,fri,occ
g/t CLSLT,gd intgran inf por,
no fluor.
Survey:608.87mMD(563.7mTVD)
48.46°Inc 271.90°Az
STEER 608m-625m

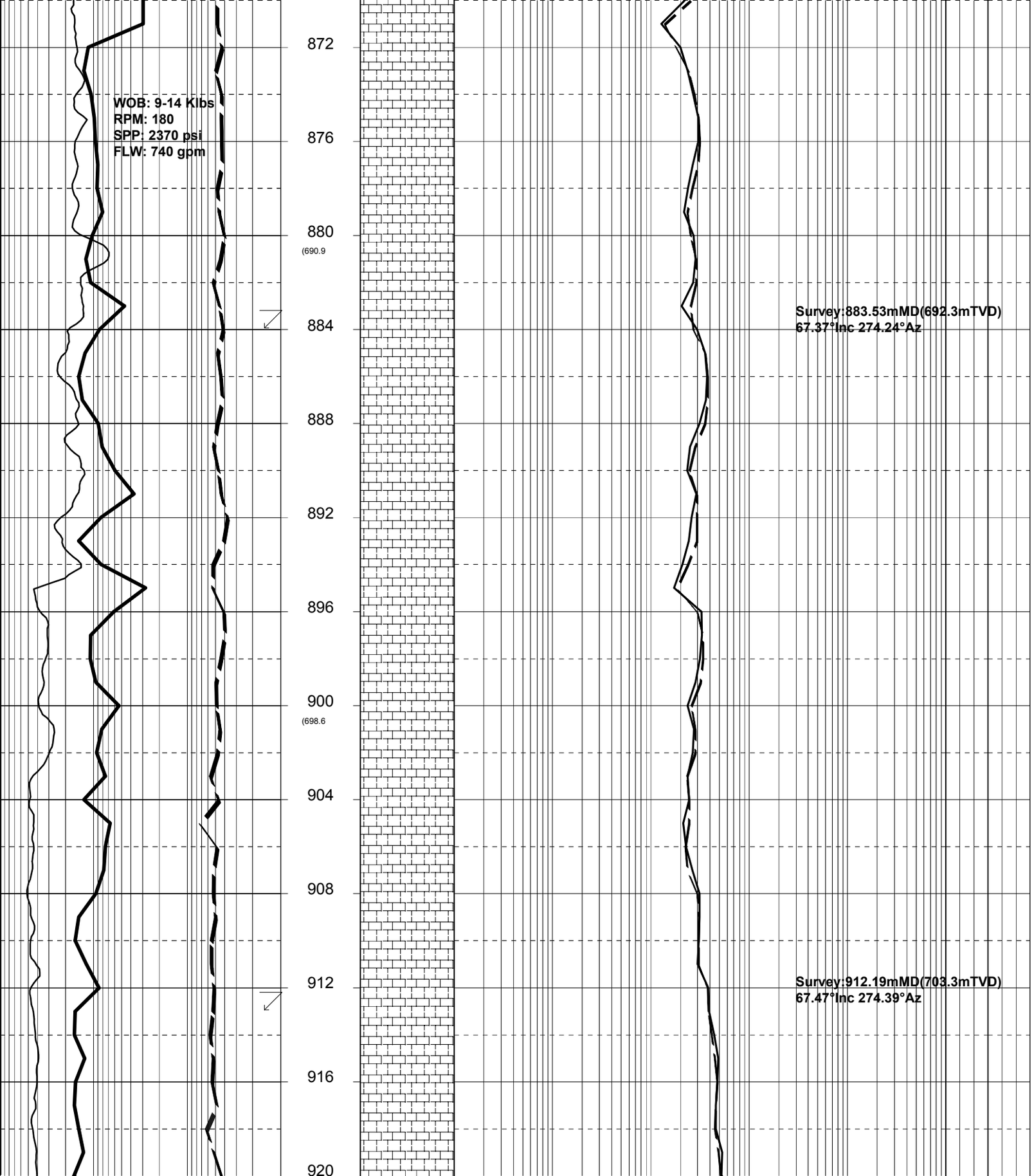

624
628
632
636
640
(583.4
644
648
652
656
660
(595
664
668
Survey:638.03mMD(582.2mTVD)
52.67°Inc 271.80°Az
STEER 635m-651m
WOB: 19-26 Klbs
RPM/DHM: 46/98
SPP: 1850 psi
FLW: 900 gpm
CALCISILTITE:med gy-lt gy
i/p,abdt foss frag,fri,occ
g/t CLCLT,gd intgran inf por,
no fluor.
Survey:667.20mMD(599.2mTVD)
55.95°Inc 271.13°Az

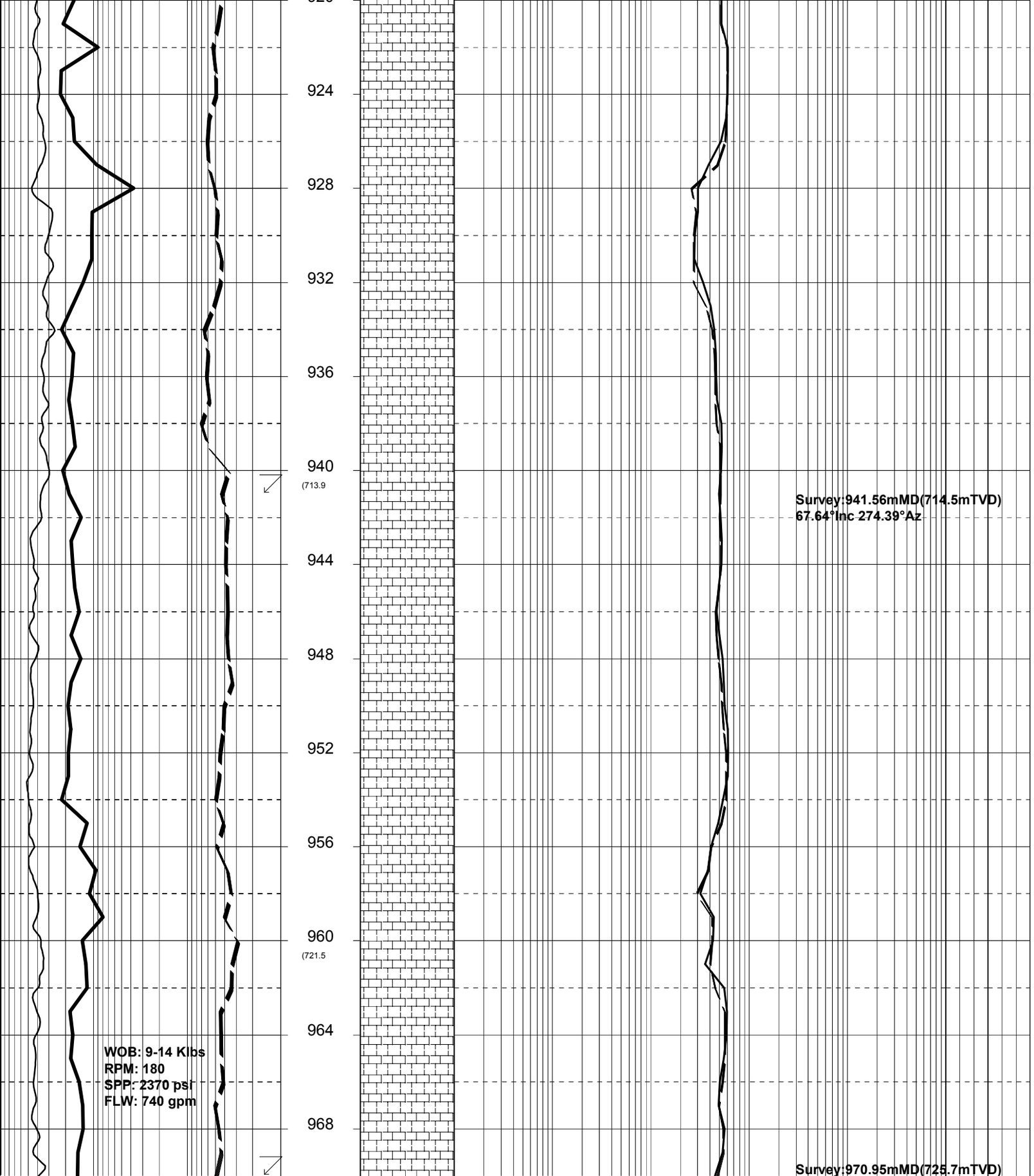

672
676
680
(606
684
688
692
696
700
(616.3
704
708
712
716
720
STEER 666m-684m
Survey:695.98mMD(614.5mTVD)
60.12°Inc 271.59°Az
STEER 693m-712m


724
728
732
736
740
(634.4
744
748
752
756
760
(643
764
768
Survey:725.38mMD(628.1mTVD)
64.35°Inc 273.81°Az
STEER 722m-738m
WOB: 20-28 Klbs
RPM/DHM: 47/99
SPP: 1890 psi
FLW: 905 gpm
MW: 9.40
FV: 42
CALCISILTITE:med gy-lt gy
i/p,abdt foss frag,fri,occ
g/t CLCLT,gd intgran inf por,
pyr nod, tr glauc, no fluor.
Survey:754.29mMD(640.6mTVD)
64.78°Inc 274.68°Az

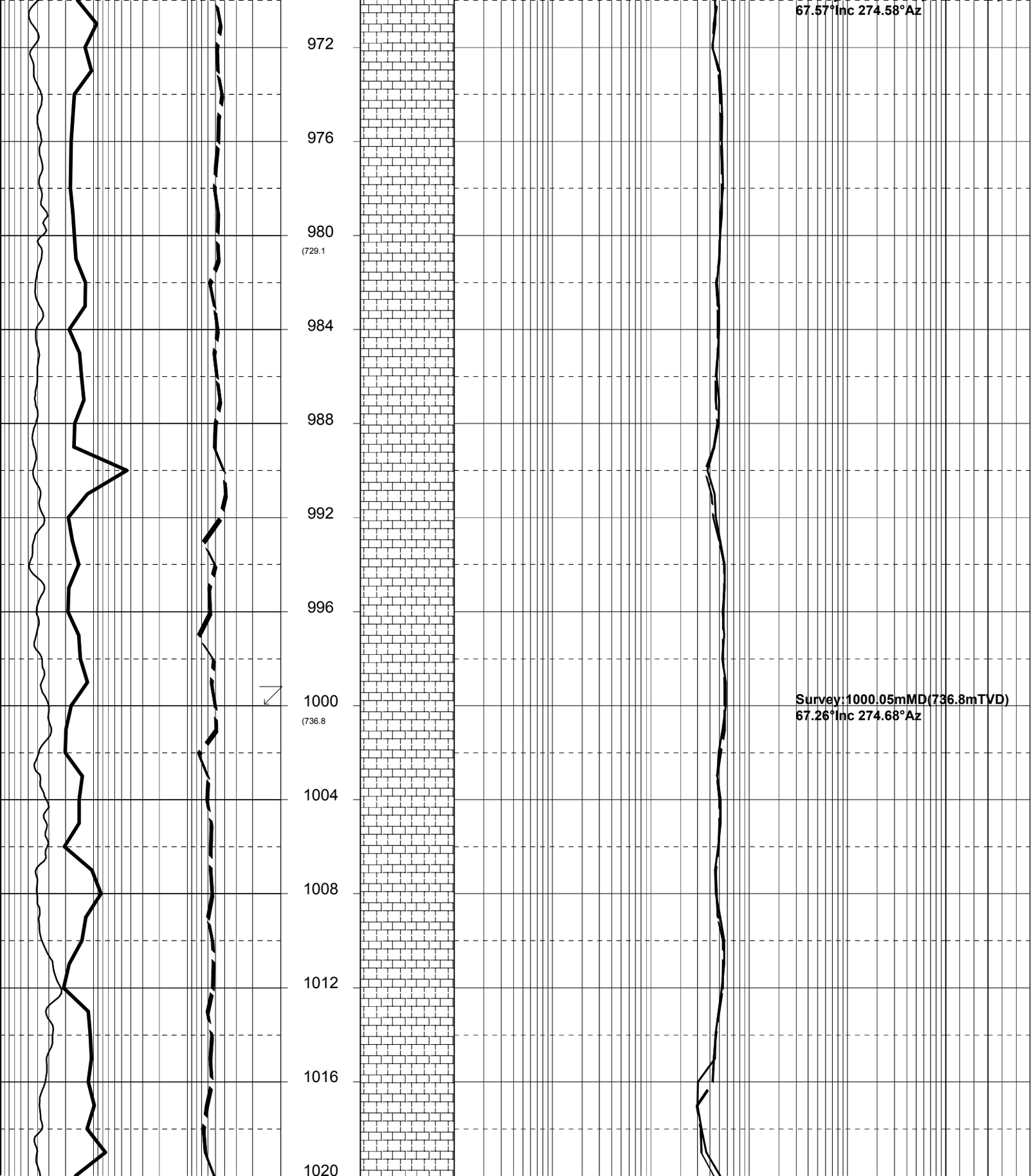

772
776
780
(651.4
784
788
792
796
800
(659.6
804
808
812
816
820
08/07/2005
CALCISILTITE:med gy-lt gy,tr micmic,tr vf glauc,tr qtz slt,sft-frm,sbblky.
Survey:783.25mMD(652.8mTVD)
65.32°Inc 275.18°Az
STEER 780m-796m
STEER 810m-813m
Survey:818.77mMD(667.1mTVD)
67.01°Inc 273.50°Az

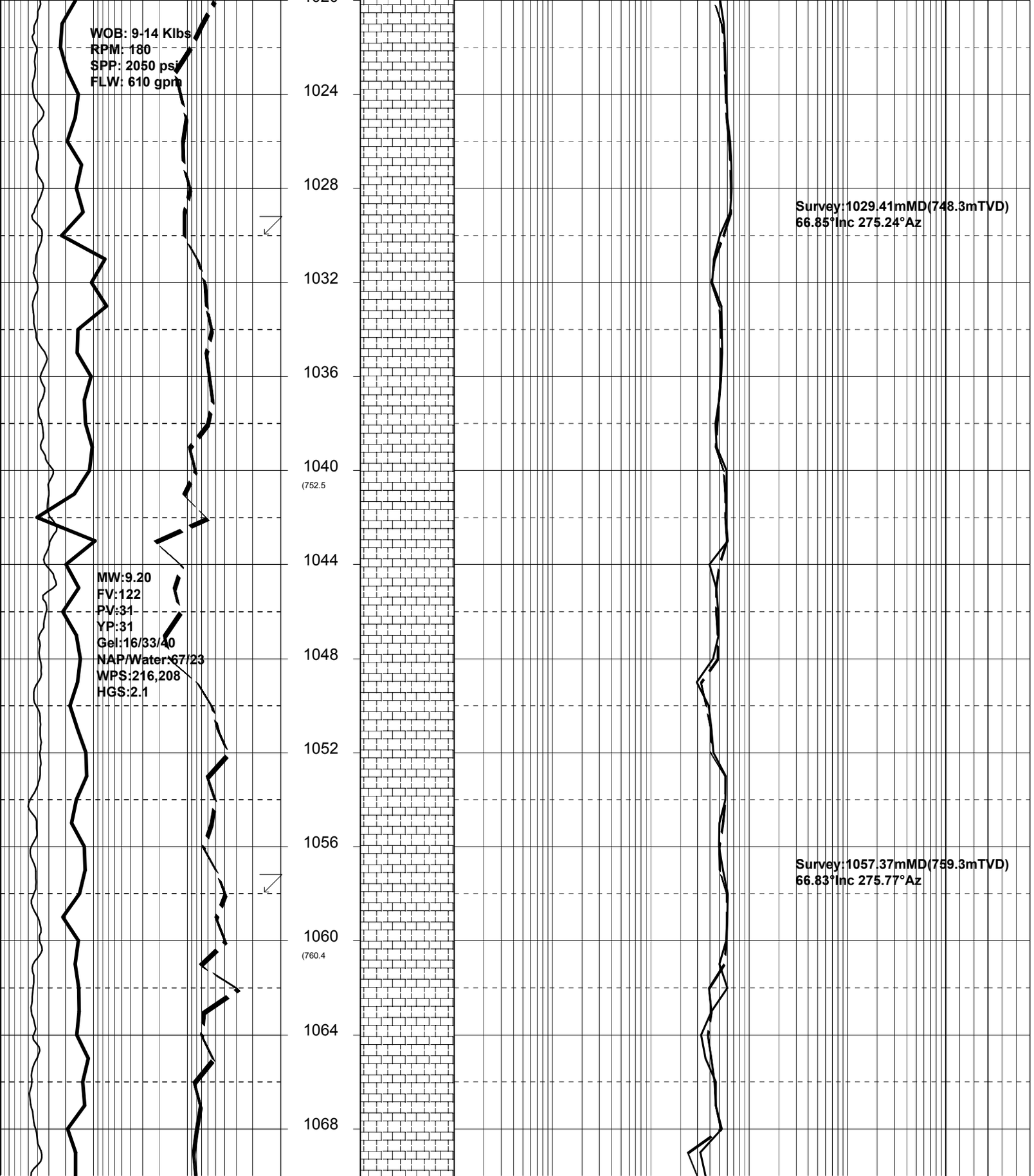

WOB: 25-35 Klbs
RPM/DHM: 48/100
SPP: 2100 psi
FLW: 925 gpm
824
828
832
836
840
(675.4
844
848
852
856
860
(683.2
864
868
14/07/2005
BLOCKED DEGASSER LINE
828m - 836m
Survey:854.11mMD(680.9mTVD)
67.18°Inc 274.13°Az
CALCISILTITE:med gy-lt gy,tr micmic,tr vf glauc,tr vf CLCAR, sft-frm,sbblky.
9 5/8" CASING SET @ 840.0mMDRT
BIT# 3: 8 1/2" 215.9mm
REED HYCALOG RSX162
JETS: 6 x 18
IN: 845.0m OUT:4955.0m
RUN:4110.0m HRS:63.7
COND: 3-5-WT-A-X-IN-NO-TD
PIT 13.5ppg EMW @ 848mMDRT (677.8mTVDRT),using 9.0ppg mud
DRILL 845- 4955mMDRT WITH PETROFREE NAF MUD SYSTEM
DRILL 845- 4955mMDRT WITH A STEERABLE ROTARY ASSEMBLY
CALCISILTITE:lt gy-med gy, blky, sub ang i/p, g/t CLCLT, tr micmic, tr f carb spks, frm-mod hd.

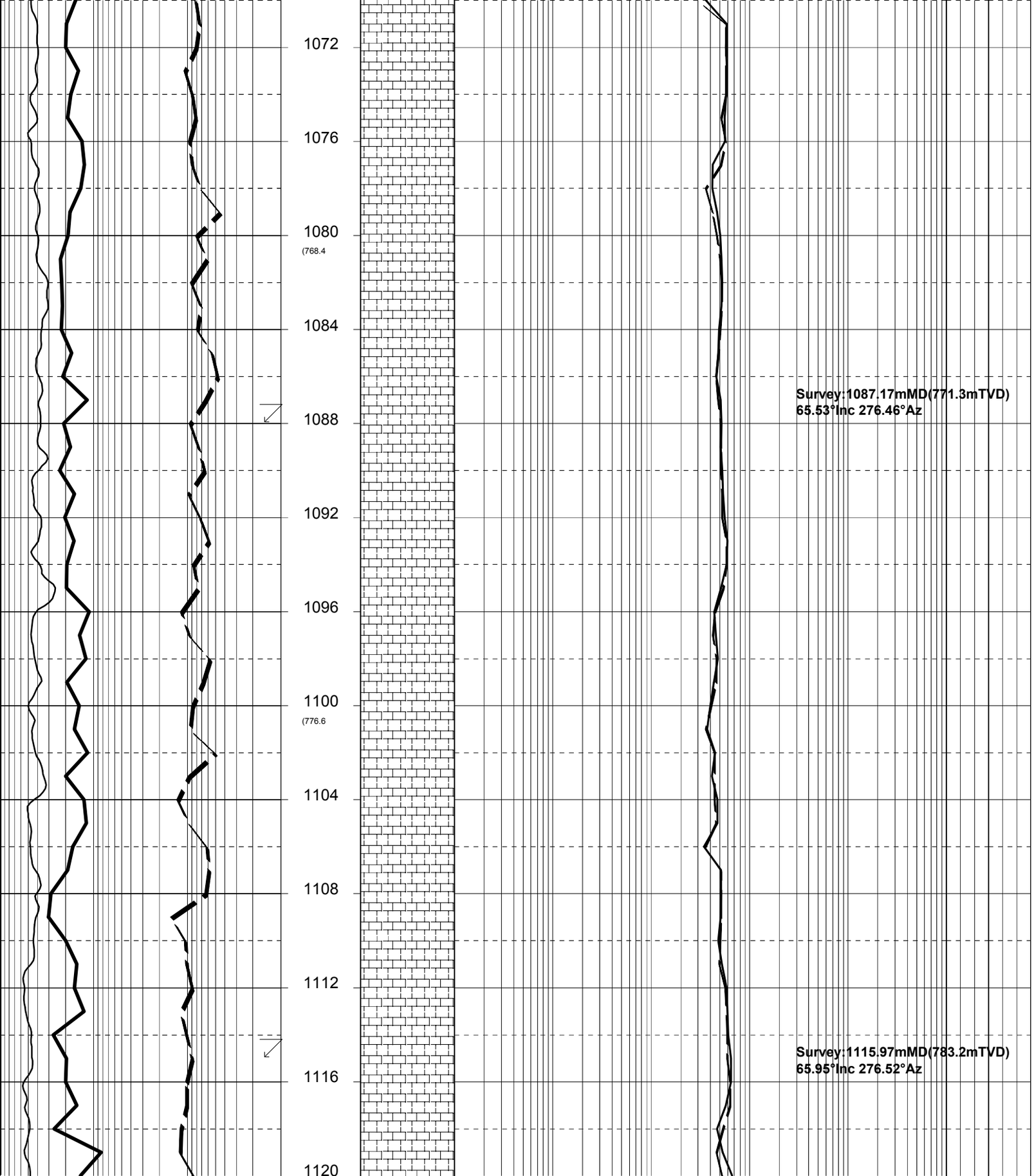

WOB: 9-14 Klbs
RPM: 180
SPP: 2370 psi
FLW: 740 gpm
872
876
880
(690.9
884
888
892
896
900
(698.6
904
908
912
916
920
Survey:883.53mMD(692.3mTVD)
67.37°Inc 274.24°Az
Survey:912.19mMD(703.3mTVD)
67.47°Inc 274.39°Az

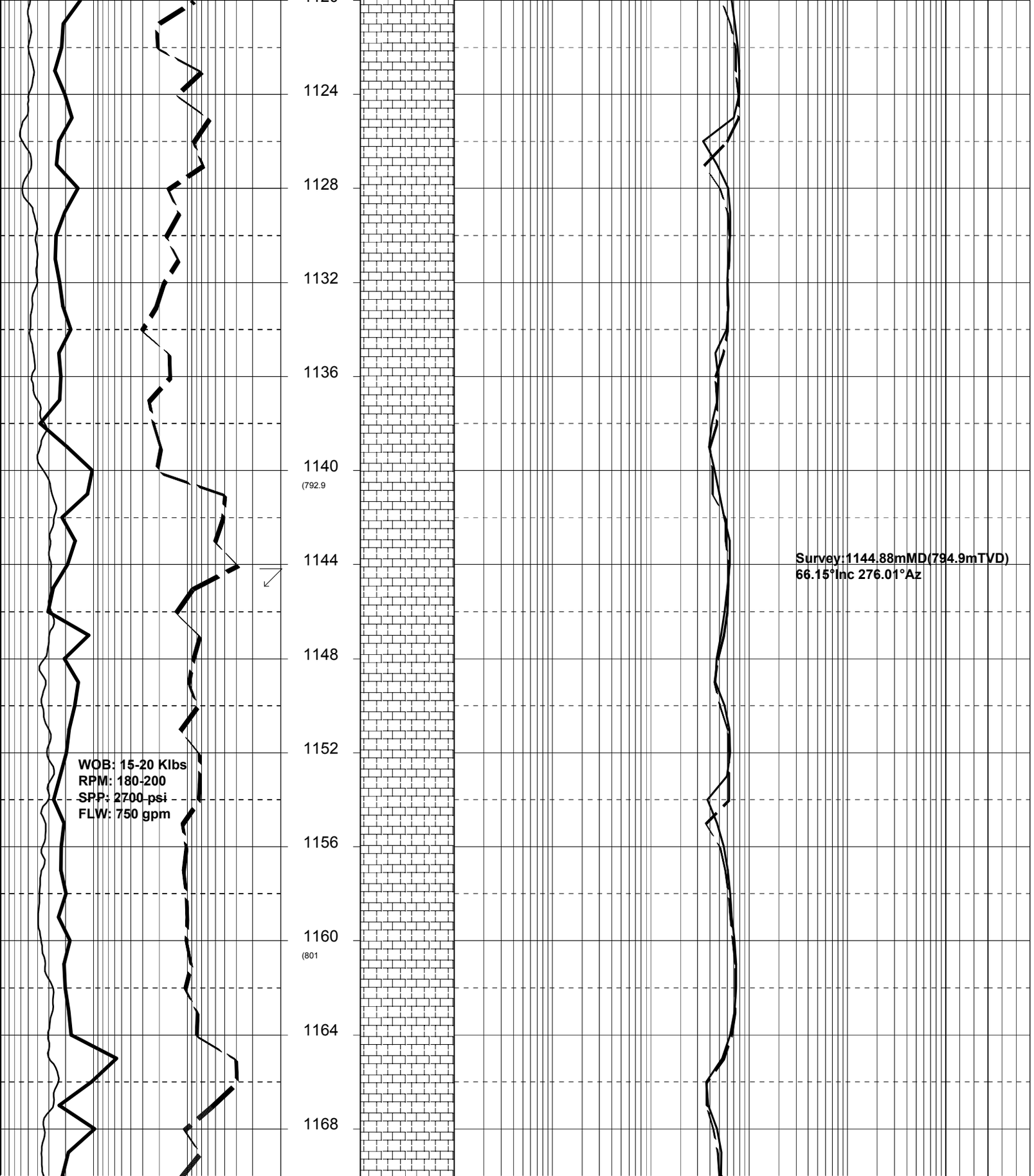


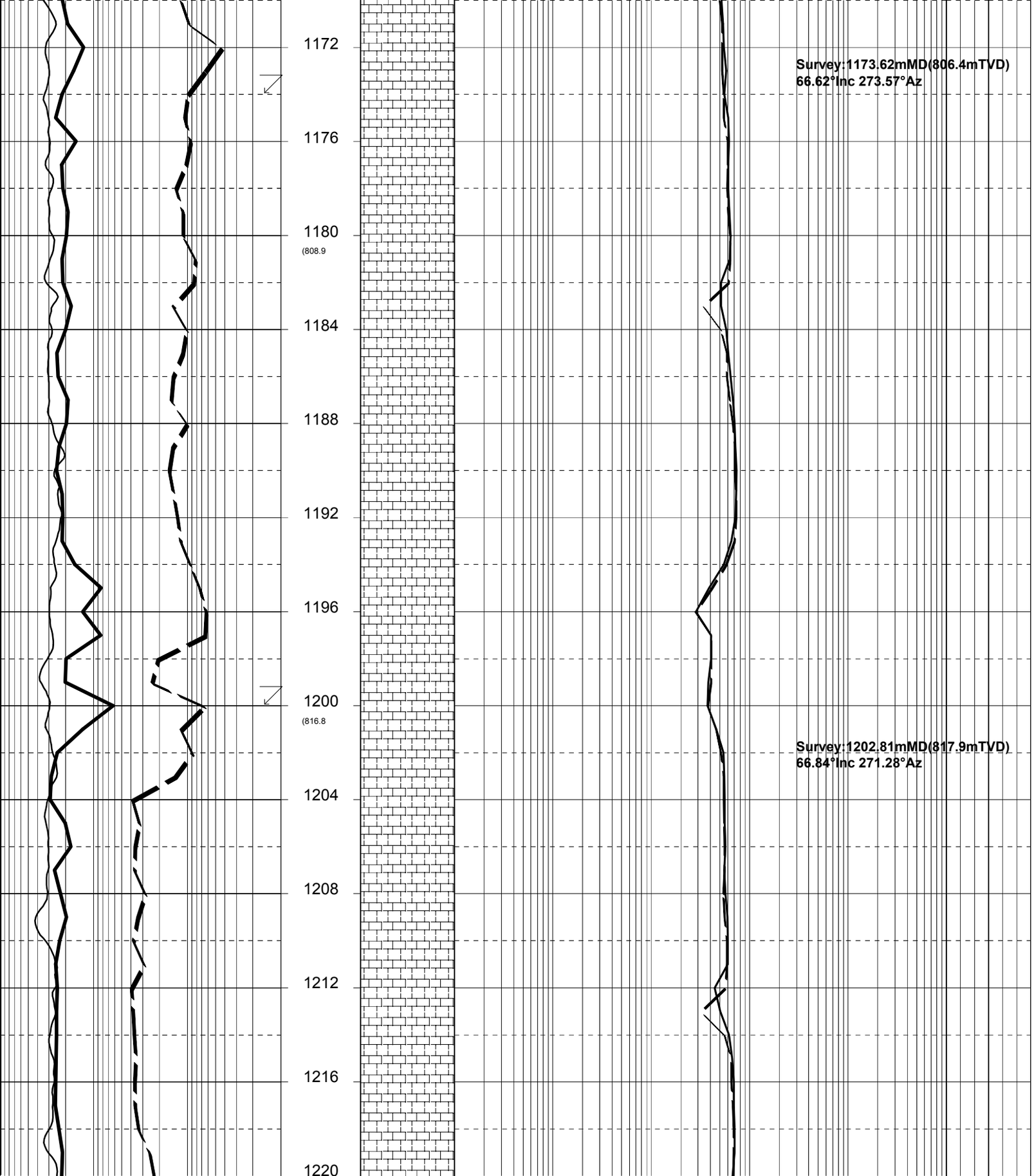
CALCISILTITE:lt gy-med gy, blky, sub ang i/p, g/t CLCLT, tr micmic, tr f carb spks, frm-mod hd.

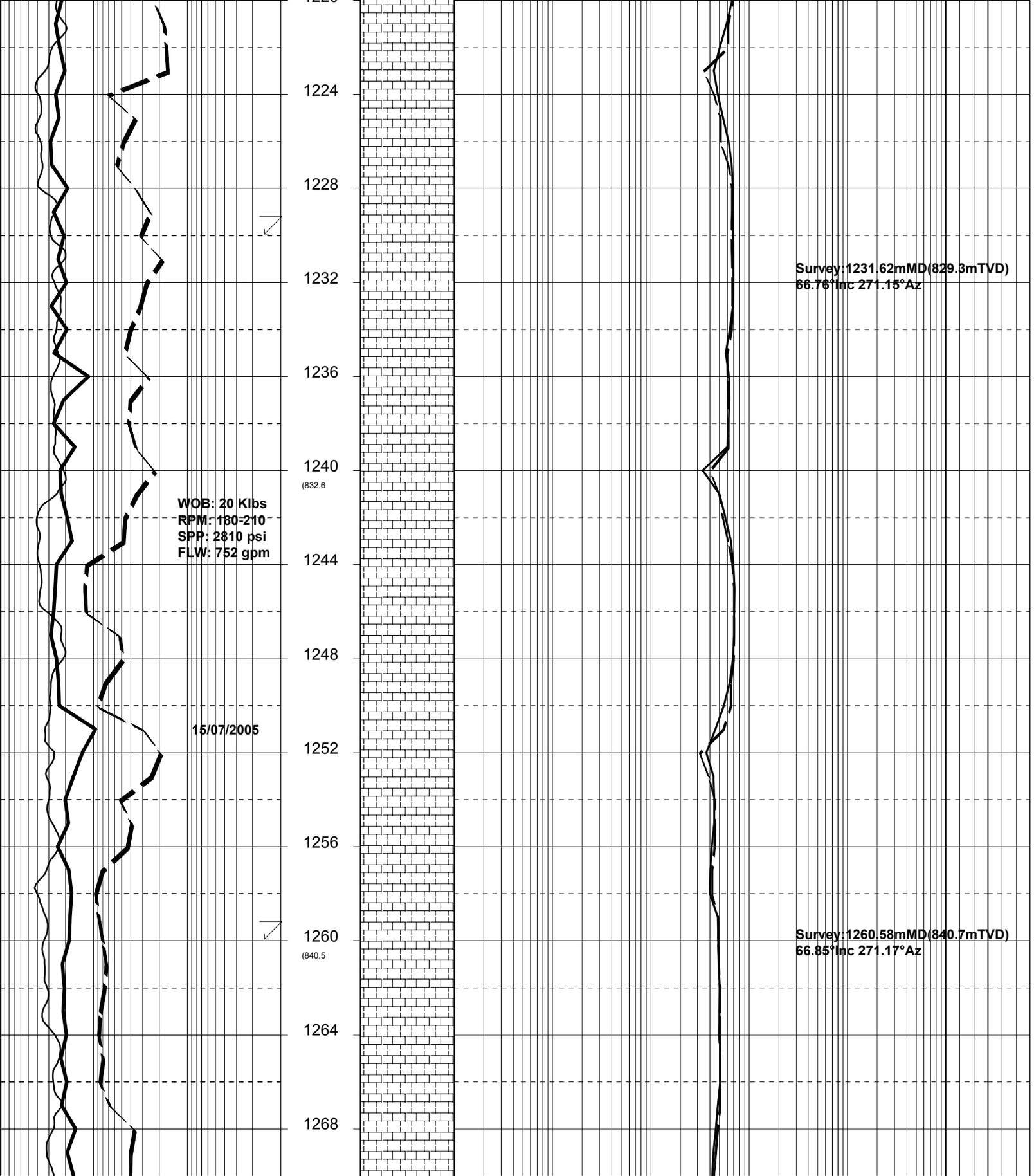

67.57°Inc 274.58°Az
972
976
980
(729.1
984
988
992
996
1000
(736.8
Survey:1000.05mMD(736.8mTVD)
67.26°Inc 274.68°Az
1004
1008
1012
1016
1020

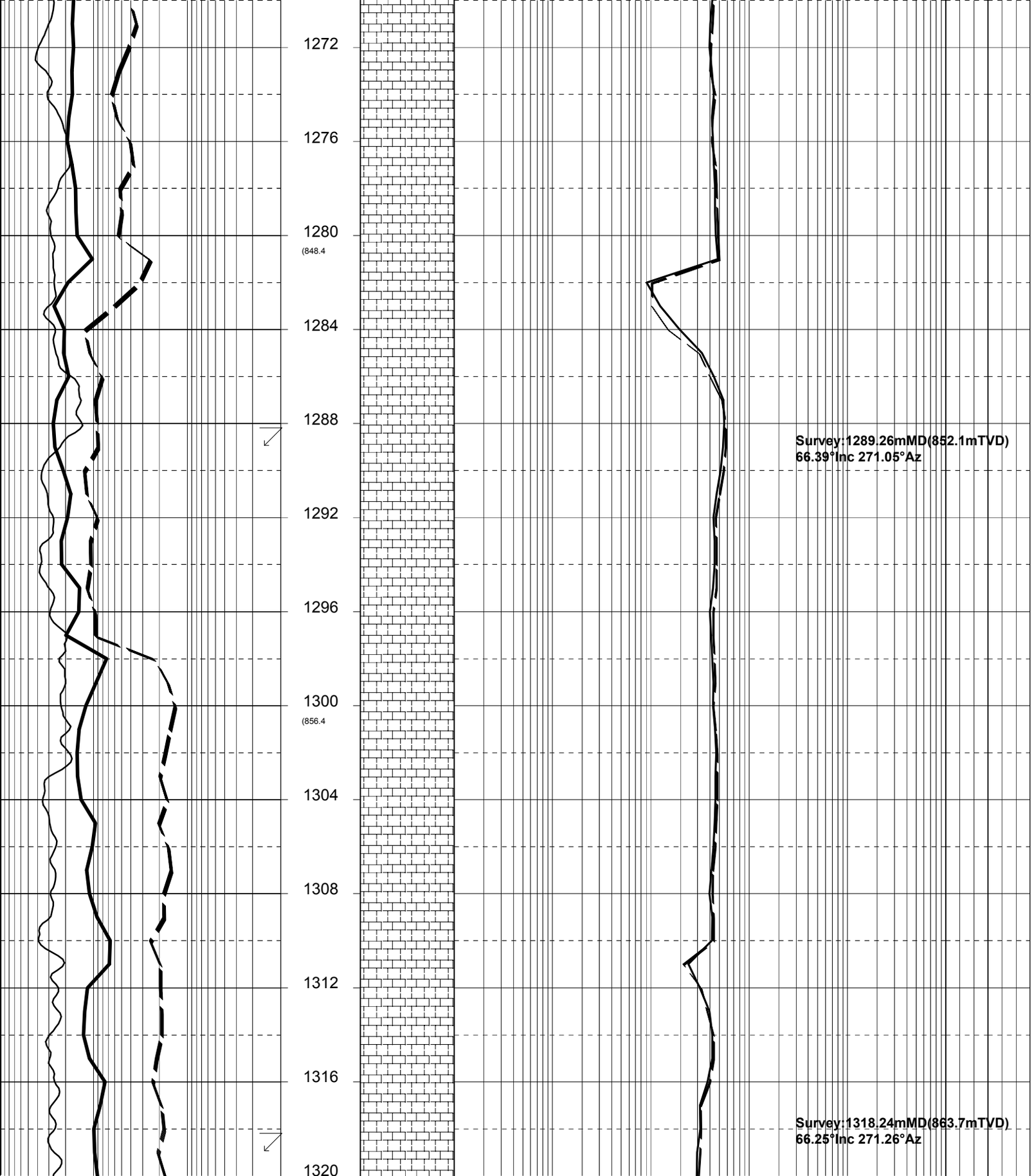

WOB: 9-14 Klbs
RPM: 180
SPP: 2050 psi
FLW: 610 gpm
1024
1028
Survey:1029.41mMD(748.3mTVD)
66.85°Inc 275.24°Az
1032
1036
1040
(752.5
1044
MW:9.20
FV:122
PV:31
YP:31
Gel:16/33/40
NAP/Water:67/23
WPS:216,208
HGS:2.1
1048
CALCISILTITE:gn gy-occ med gy,
occ glauc grns,tr f carb spks,
blky,frm-mod hd.
1052
1056
Survey:1057.37mMD(759.3mTVD)
66.83°Inc 275.77°Az
1060
(760.4
1064
1068


1072
1076
1080
(768.4
1084
1088
1092
1096
1100
(776.6
1104
1108
1112
1116
1120
Survey:1087.17mMD(771.3mTVD)
65.53°Inc 276.46°Az
Survey:1115.97mMD(783.2mTVD)
65.95°Inc 276.52°Az

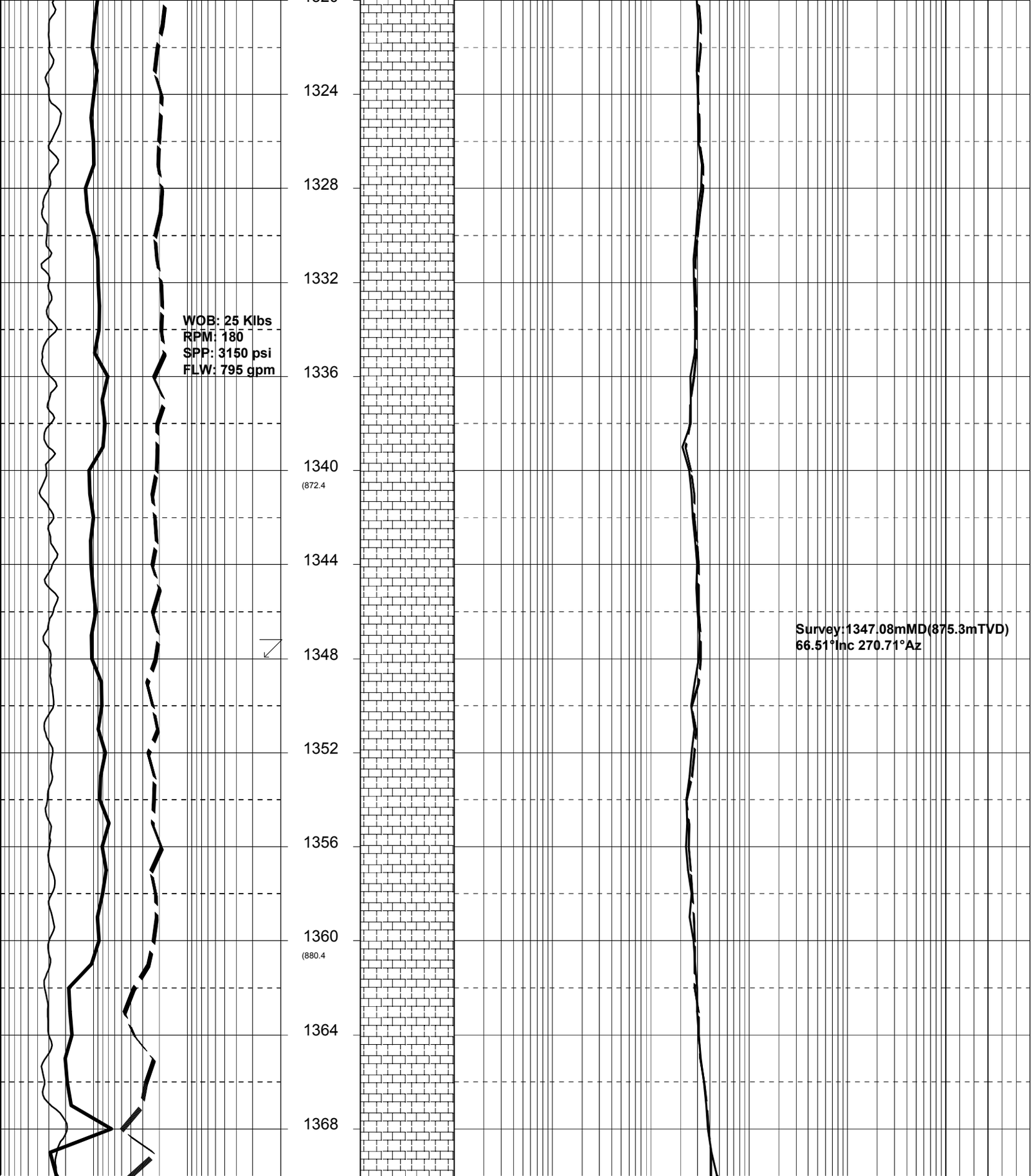

1124
1128
1132
1136
1140
(792.9
1144
1148
1152
1156
1160
(801
1164
1168
WOB: 15-20 Klbs
RPM: 180-200
SPP: 2700 psi
FLW: 750 gpm
Survey:1144.88mMD(794.9mTVD)
66.15°Inc 276.01°Az
CALCISILTITE:gn gy-occ med gy, occ glauc grns,tr f carb spks, blky,frm-mod hd.

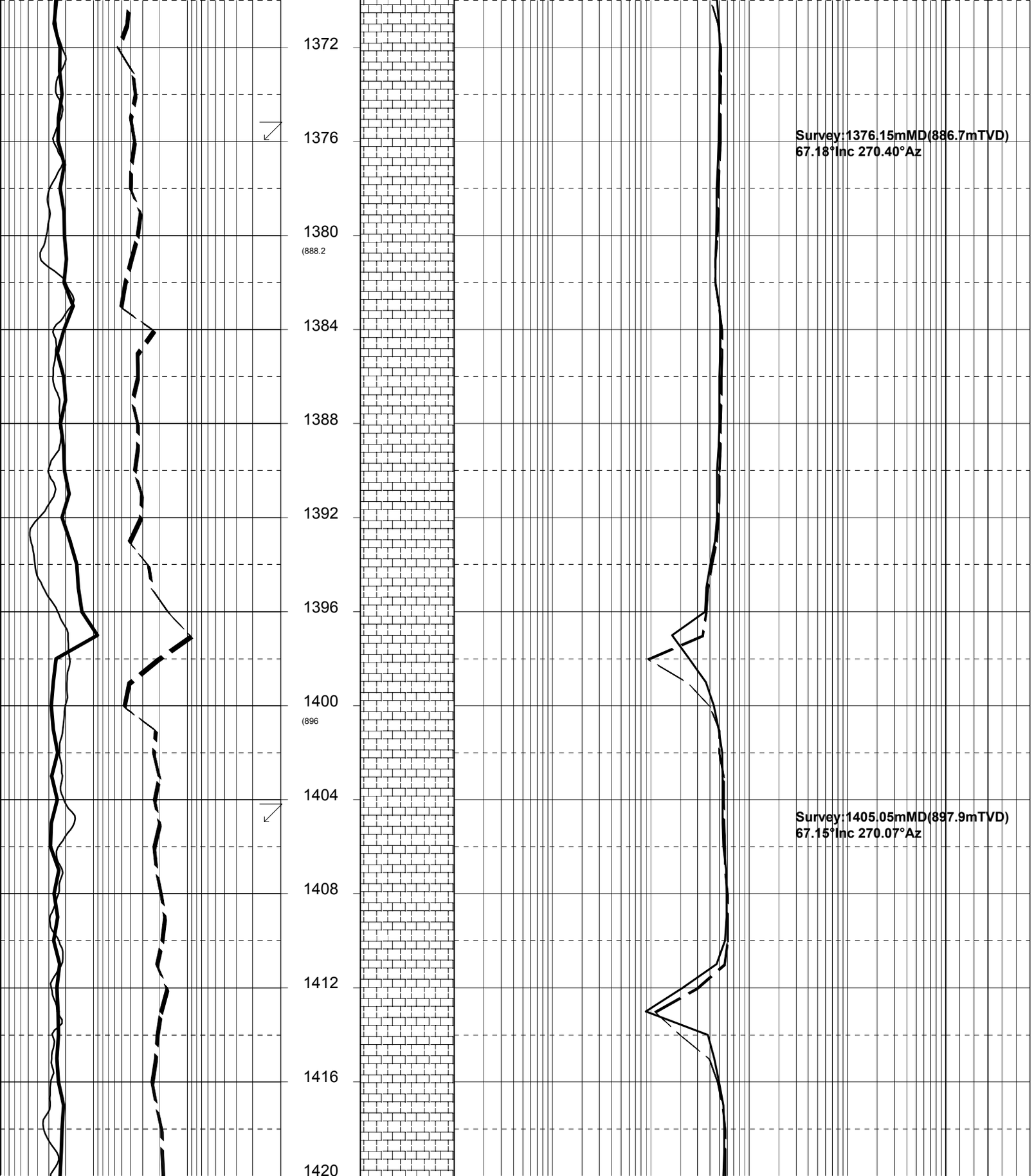

1172
1176
1180
(808.9
1184
1188
1192
1196
1200
(816.8
1204
1208
1212
1216
1220
Survey:1173.62mMD(806.4mTVD)
66.62°Inc 273.57°Az
Survey:1202.81mMD(817.9mTVD)
66.84°Inc 271.28°Az

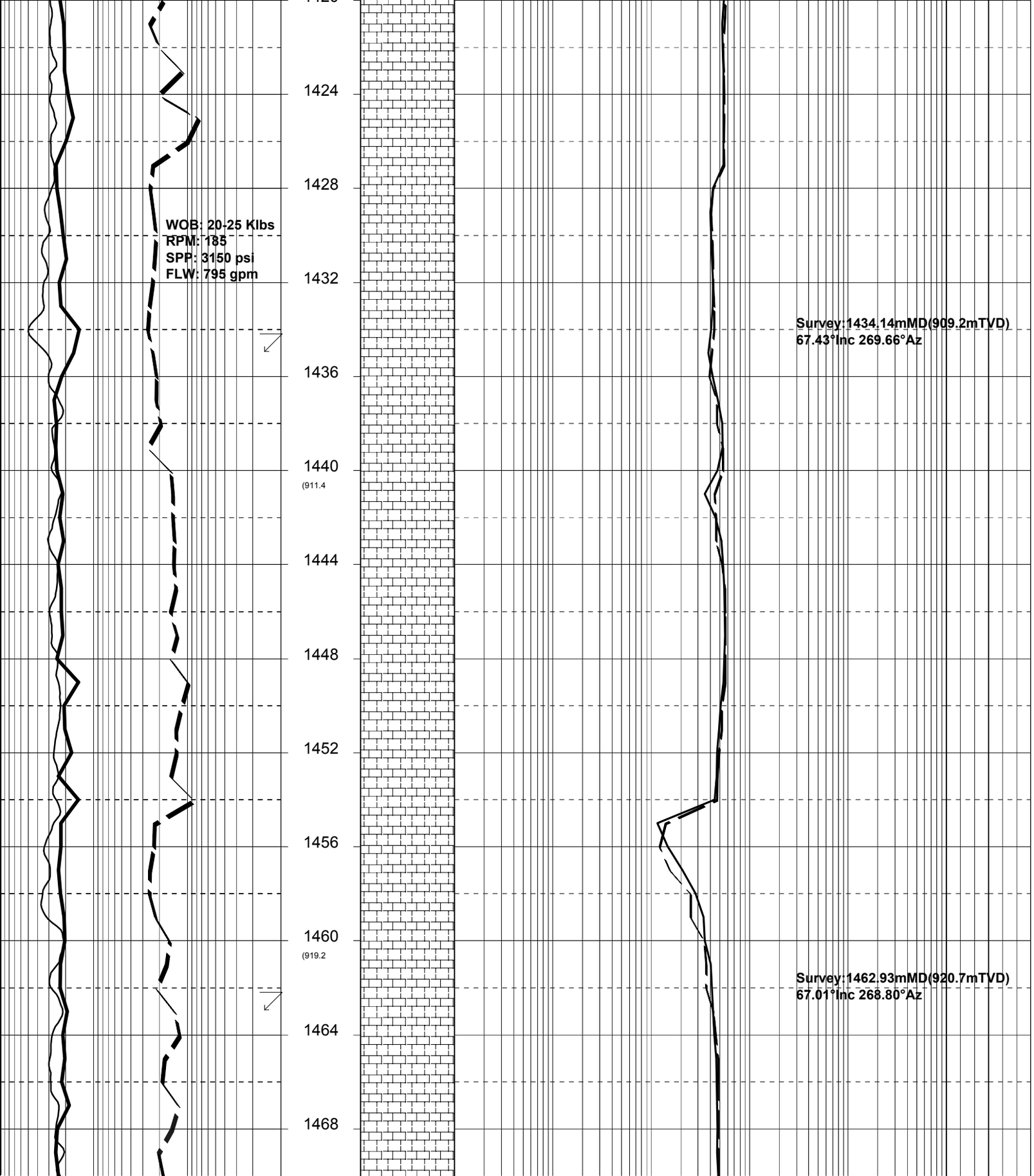

1224
1228
1232
1236
1240
(832.6
1244
1248
1252
1256
1260
(840.5
1264
1268
WOB: 20 Klbs
RPM: 180-210
SPP: 2810 psi
FLW: 752 gpm
15/07/2005
Survey:1231.62mMD(829.3mTVD)
66.76°Inc 271.15°Az
Survey:1260.58mMD(840.7mTVD)
66.85°Inc 271.17°Az
CALCISILTITE:gn gy-occ med gy,
occ glauc grns,tr f carb spks,
blky,frm-mod hd.

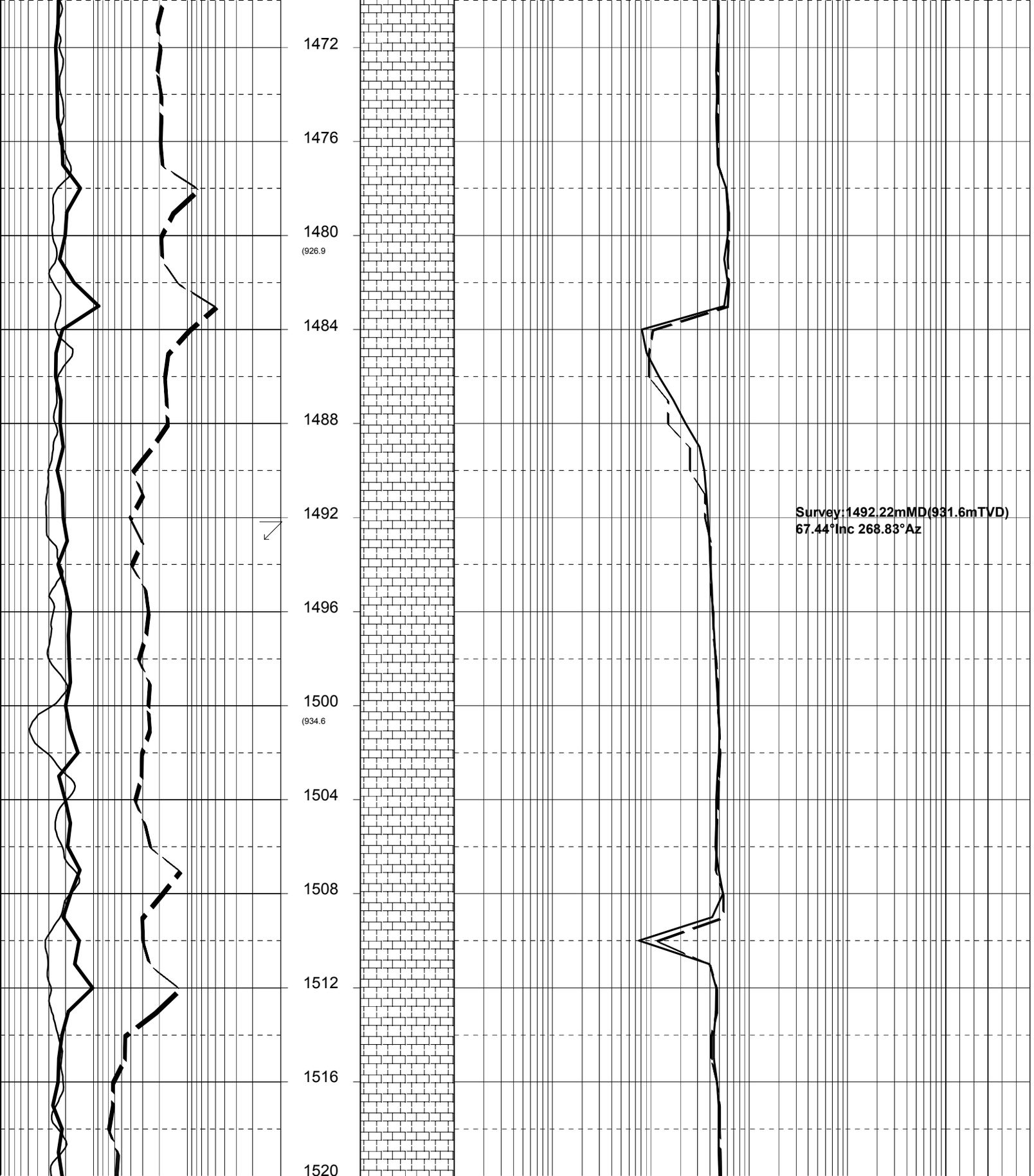


CALCISILTITE:gn gy-occ med gy, pred arg,g/t CLCAR l/P,tr f carb spks,frm-mod hd, sbblky-blky.

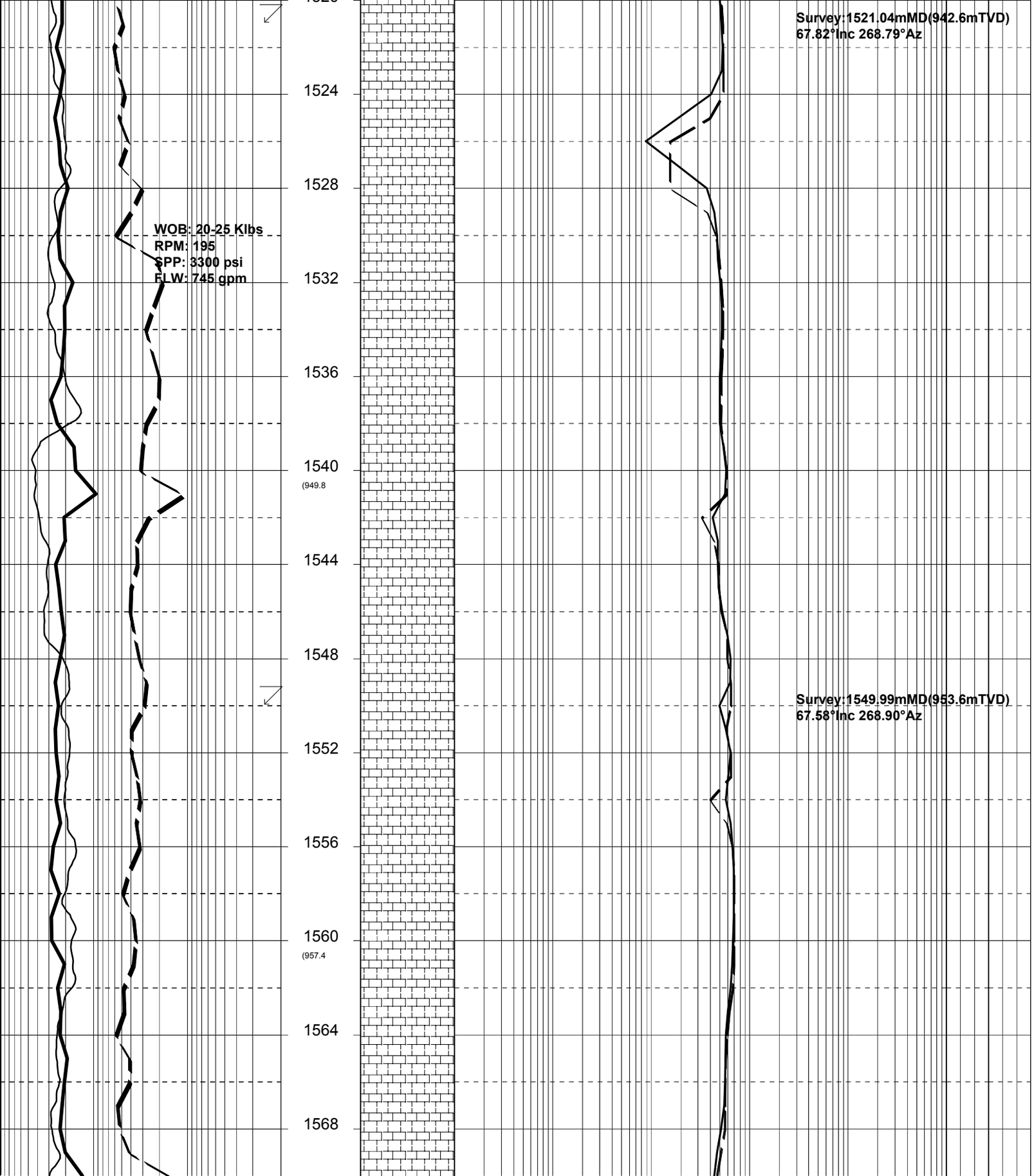

1324
1328
1332
WOB: 25 Klbs
RPM: 180
SPP: 3150 psi
FLW: 795 gpm
1336
1340
(872.4
1344
1348
Survey:1347.08mMD(875.3mTVD)
66.51°Inc 270.71°Az
1352
1356
1360
(880.4
1364
1368

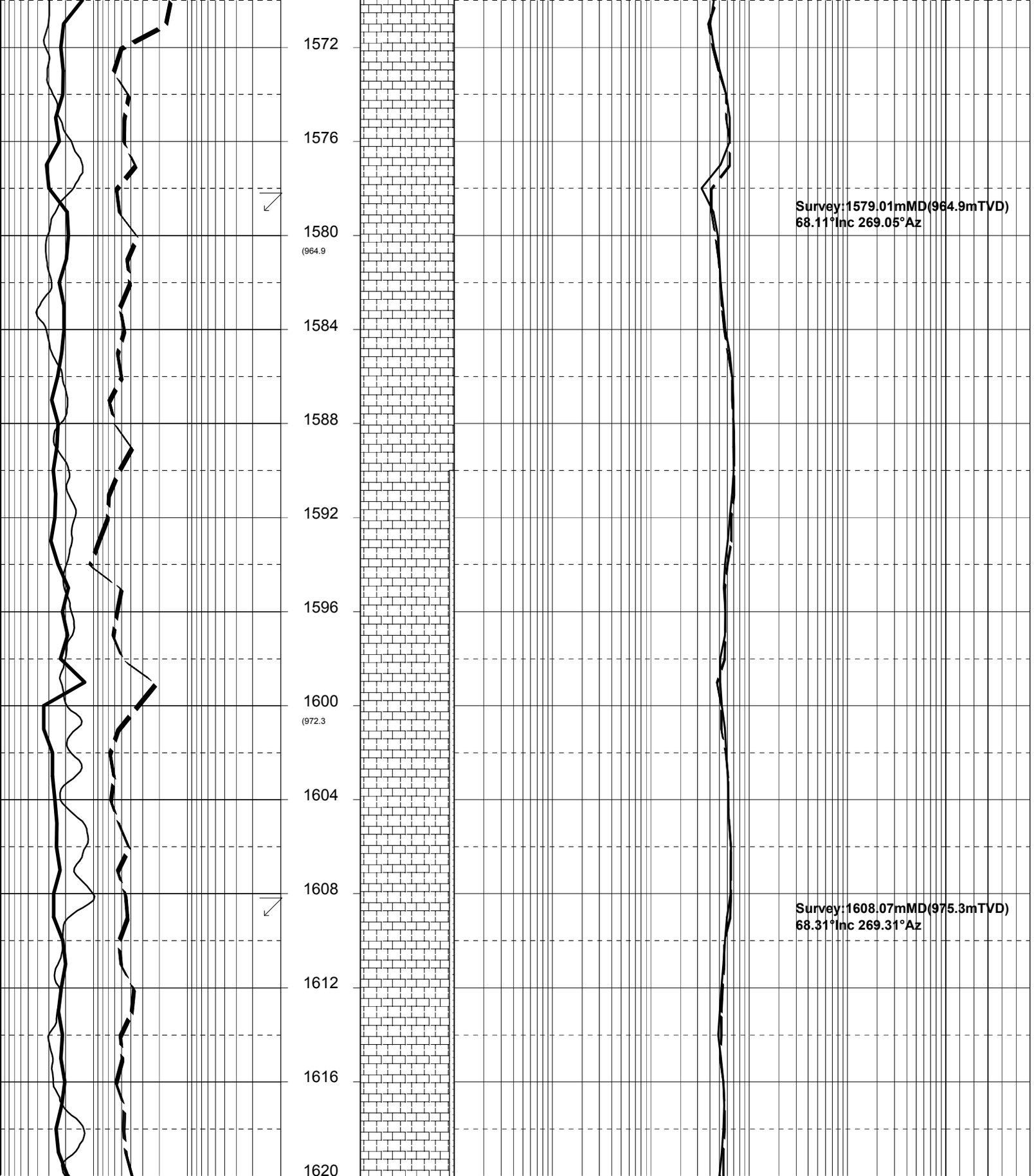

1372
1376
1380
(888.2
1384
1388
1392
1396
1400
(896
1404
1408
1412
1416
1420
Survey:1376.15mMD(886.7mTVD)
67.18°Inc 270.40°Az
Survey:1405.05mMD(897.9mTVD)
67.15°Inc 270.07°Az
CALCISILTITE:gn gy-occ med gy,
pred arg,g/t CLCAR i/p,frm-mod hd,
sbblky-blky.


1424
1428
WOB: 20-25 Klbs
RPM: 185
SPP: 3150 psi
FLW: 795 gpm
1432
Survey:1434.14mMD(909.2mTVD)
67.43°Inc 269.66°Az
1436
1440
(911.4
1444
1448
1452
1456
1460
(919.2
Survey:1462.93mMD(920.7mTVD)
67.01°Inc 268.80°Az
1464
1468



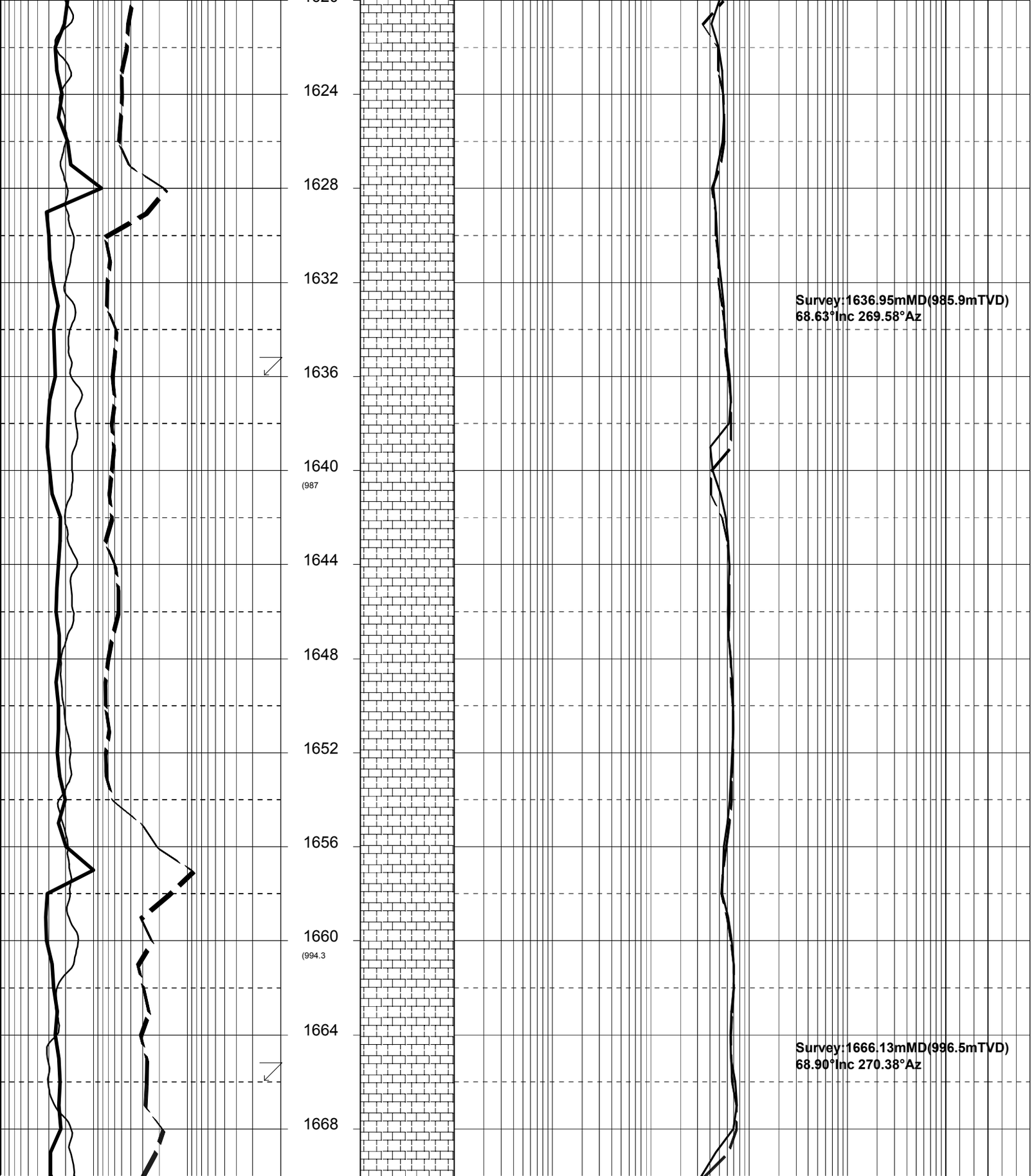
CALCISILTITE:dk gy-med dk gy occ dk gnsh gy,aren i/p,g/t CLCAR, com forams,rr glauc,mod hd-hd, sbblky-blky.

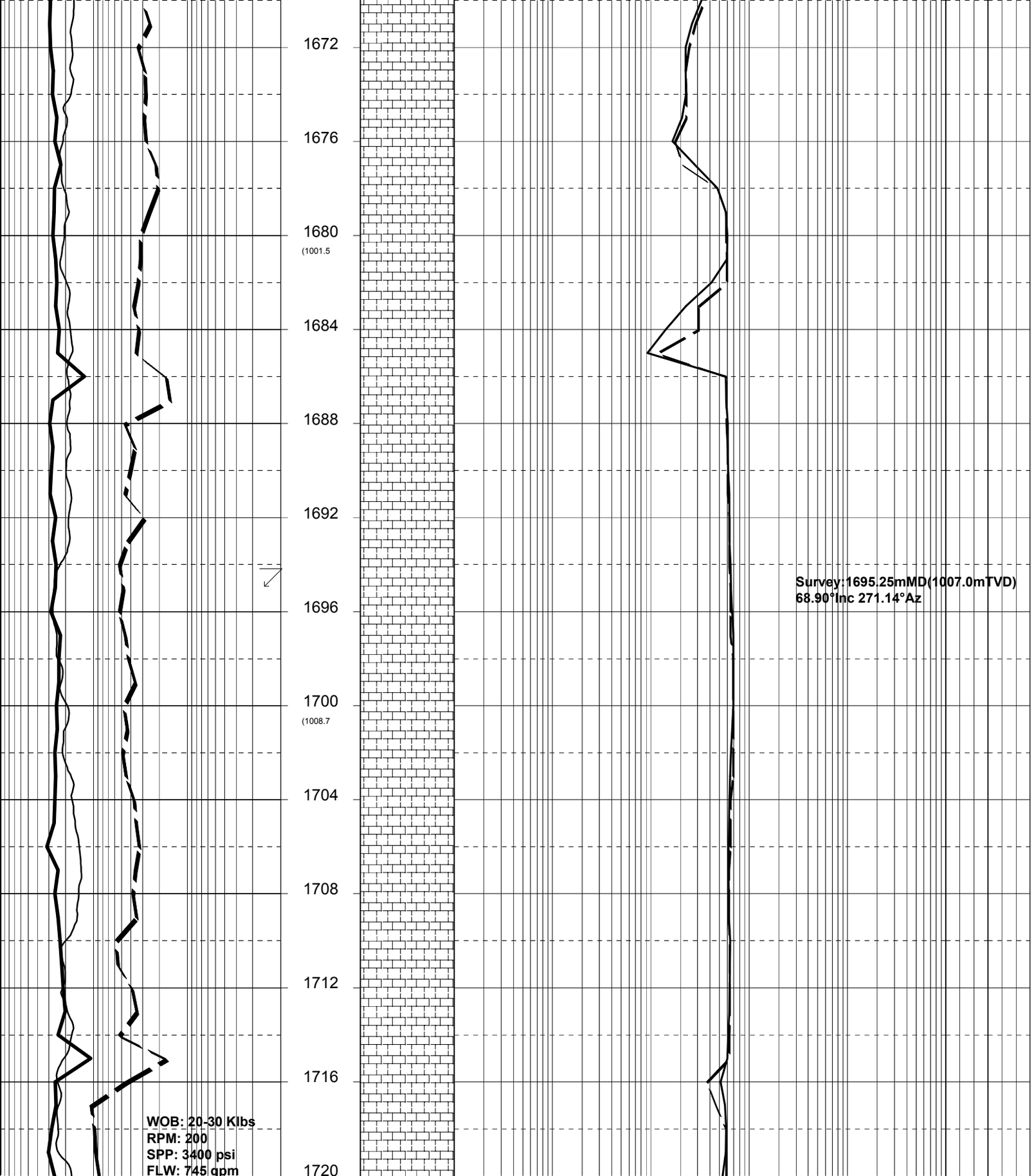

Survey:1521.04mMD(942.6mTVD)
67.82°Inc 268.79°Az
1524
1528
WOB: 20-25 Klbs
RPM: 195
SPP: 3300 psi
FLW: 745 gpm
1532
1536
1540
(949.8
1544
1548
Survey:1549.99mMD(953.6mTVD)
67.58°Inc 268.90°Az
1552
1556
1560
(957.4
1564
1568

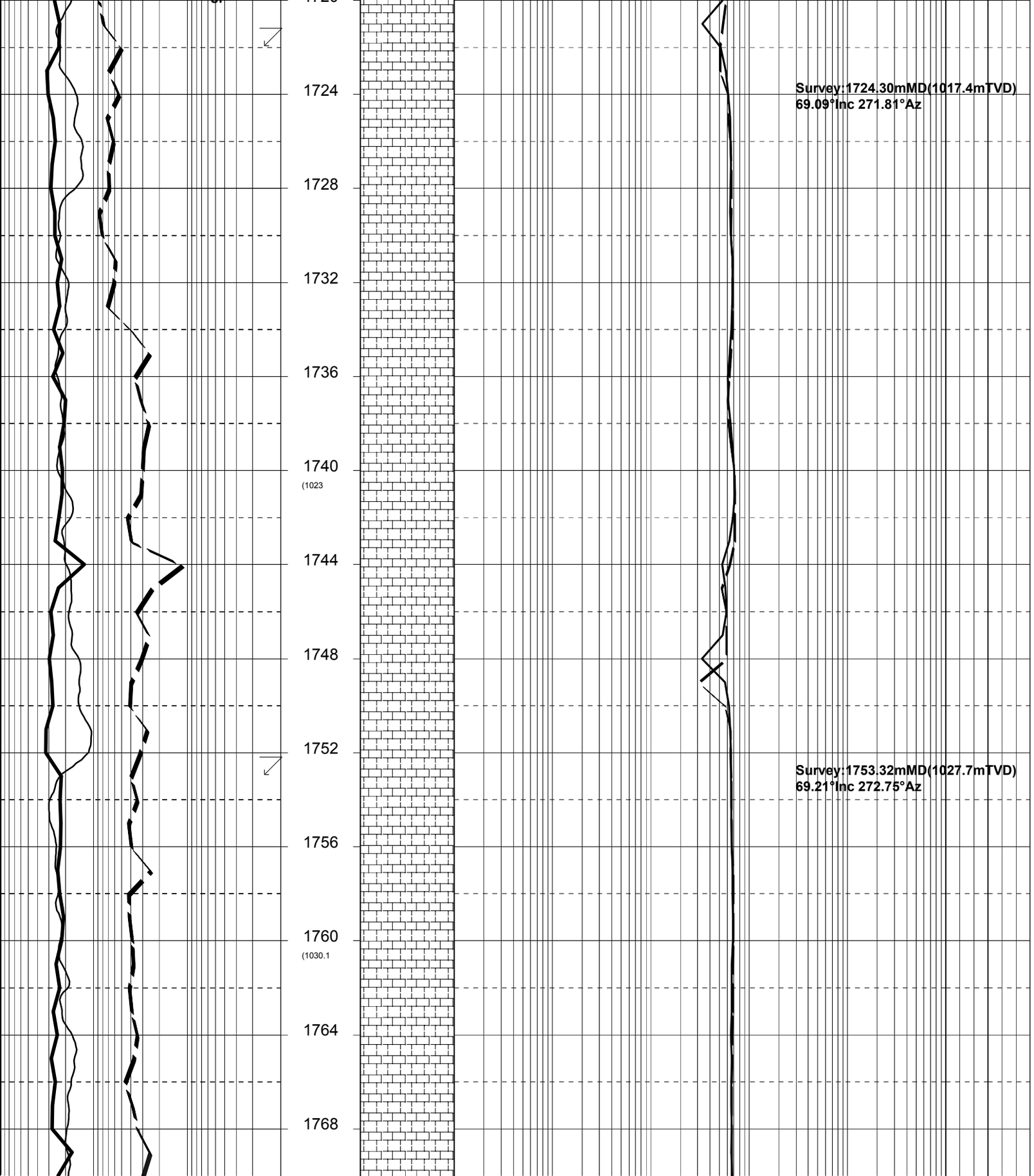


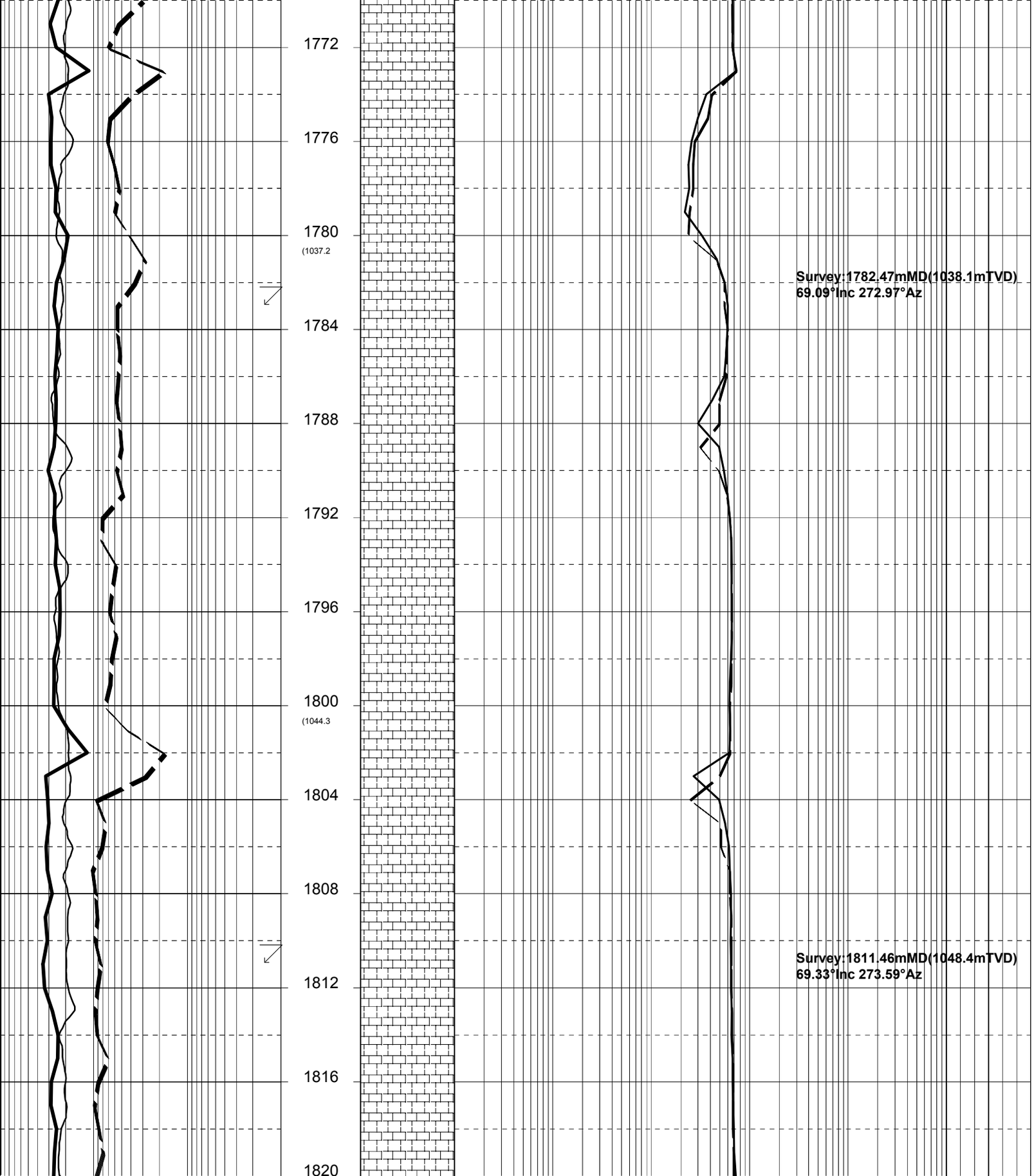
CALCISILTITE:dk gy-med dk gy occ dk gnsh gy,aren i/p,g/t CLCAR, com forams,rr glauc,mod hd-hd, sbblky-blky.

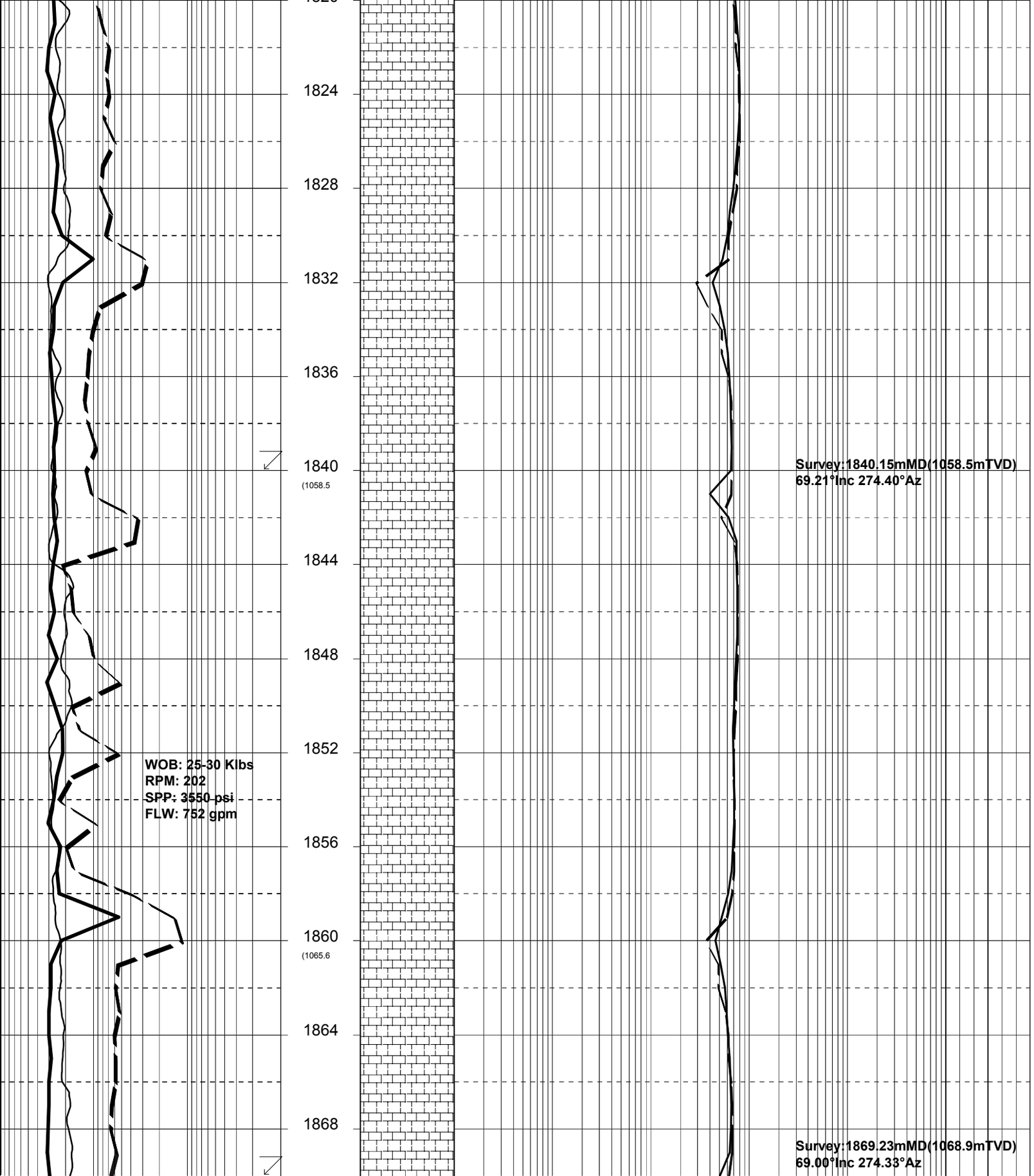
SANDSTONE(tr):trnsl-lt brn,dom vf-f,sa-sr,mod w srt,strg sil cmt, hd aggs,pr vis por,no fluor.


1624
1628
1632
1636
1640
(987
1644
1648
1652
1656
1660
(994.3
1664
1668
Survey:1636.95mMD(985.9mTVD)
68.63°Inc 269.58°Az
Survey:1666.13mMD(996.5mTVD)
68.90°Inc 270.38°Az

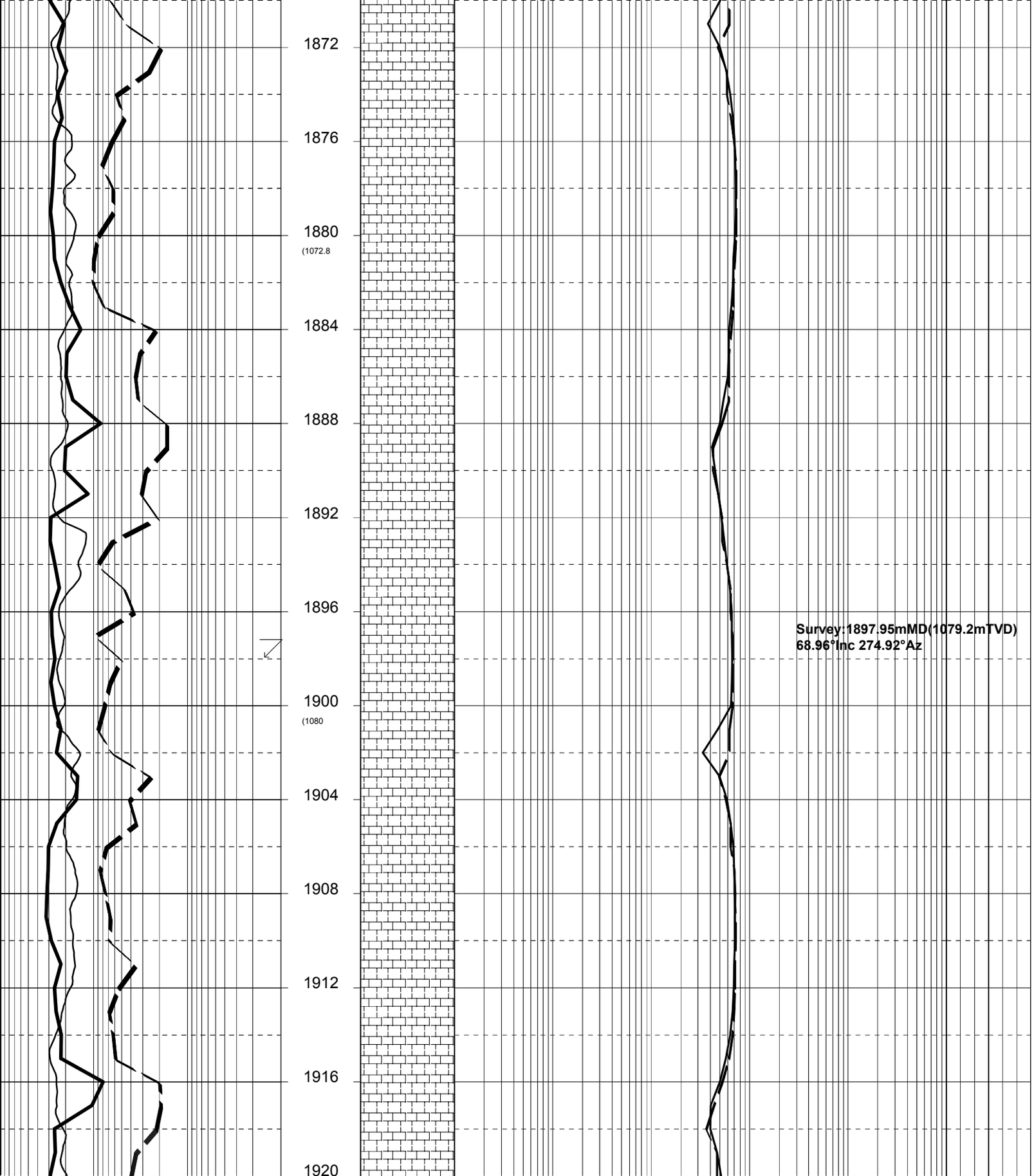

1672
1676
1680
(1001.5
1684
1688
1692
1696
1700
(1008.7
1704
1708
1712
1716
1720
WOB: 20-30 Klbs
RPM: 200
SPP: 3400 psi
FLW: 745 gpm
Survey:1695.25mMD(1007.0mTVD)
68.90°Inc 271.14°Az
CALCISILTITE:dk gy-med dk gy occ dk gnsh gy,aren i/p,g/t CLCAR, com forams,rr glauc,mod hd-hd, sbblky-blky.

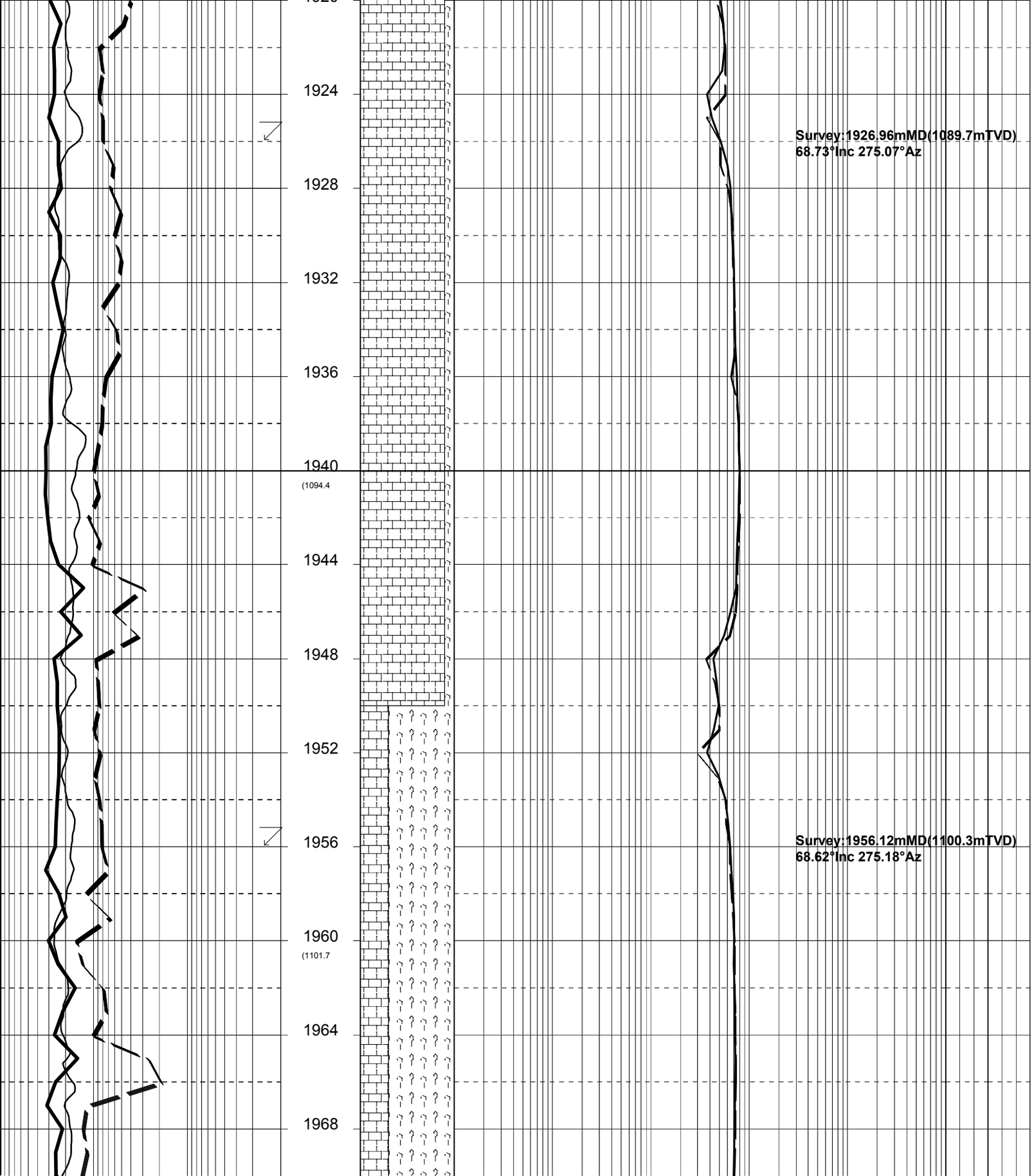

1724
1728
1732
1736
1740
(1023
1744
1748
1752
1756
1760
(1030.1
1764
1768
Survey:1724.30mMD(1017.4mTVD)
69.09°Inc 271.81°Az
Survey:1753.32mMD(1027.7mTVD)
69.21°Inc 272.75°Az
CALCISILTITE:dk gy-med dk gy occ dk gnsh gy,aren i/p,g/t CLCAR, com forams,rr glauc,mod hd-hd, sbblky-blky.

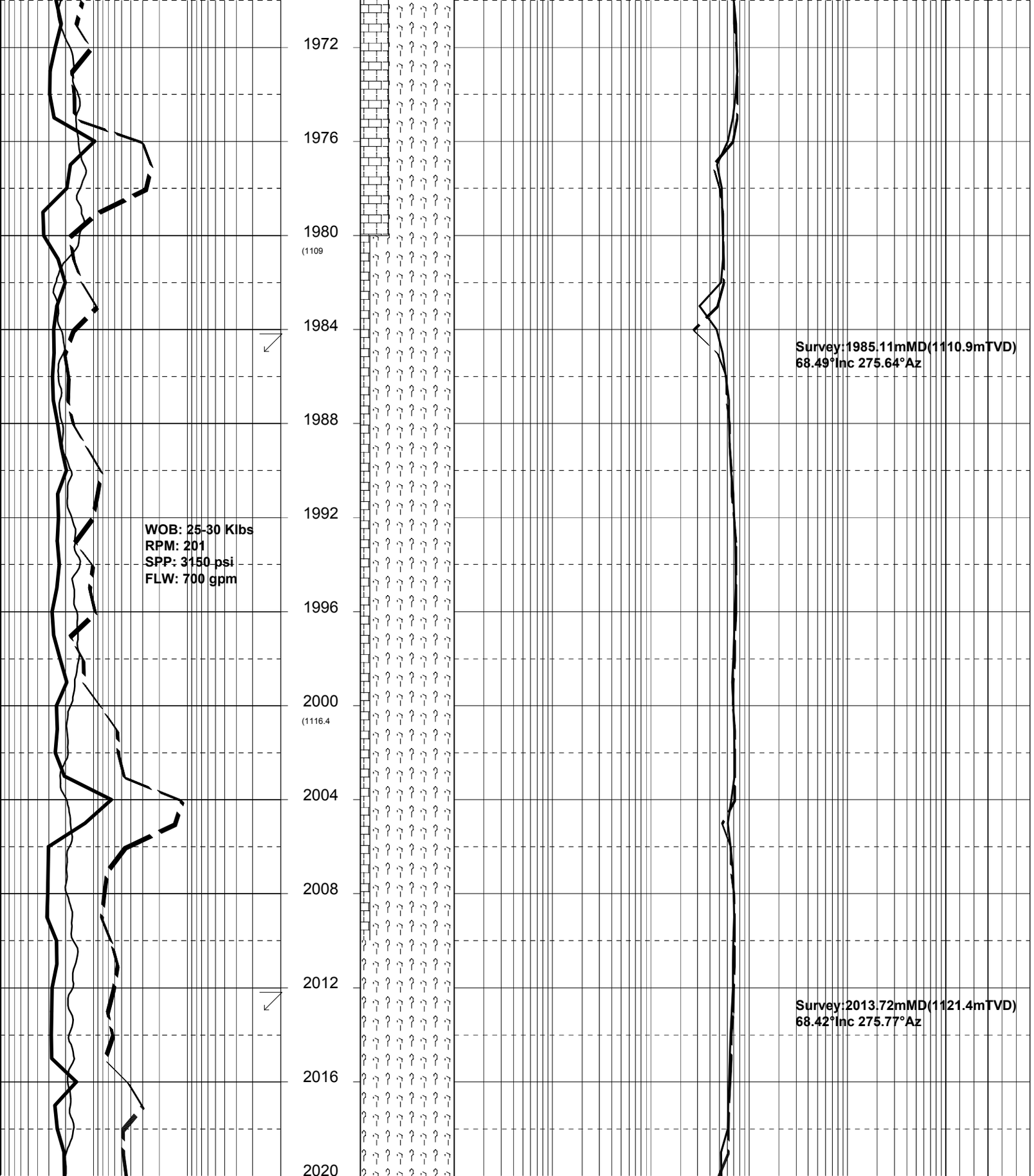

1772
1776
1780
(1037.2
1784
1788
1792
1796
1800
(1044.3
1804
1808
1812
1816
1820
Survey:1782.47mMD(1038.1mTVD)
69.09°Inc 272.97°Az
Survey:1811.46mMD(1048.4mTVD)
69.33°Inc 273.59°Az

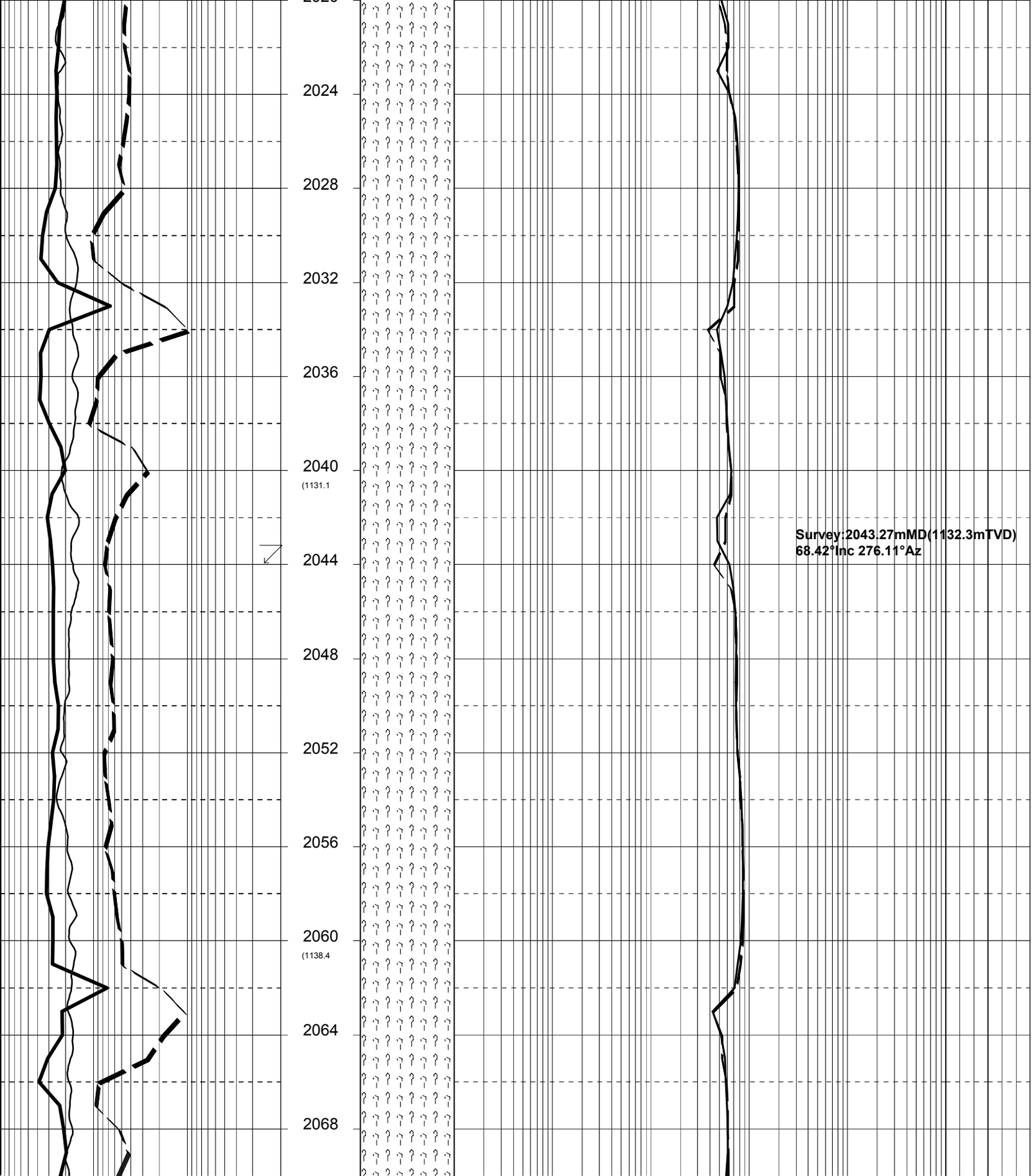


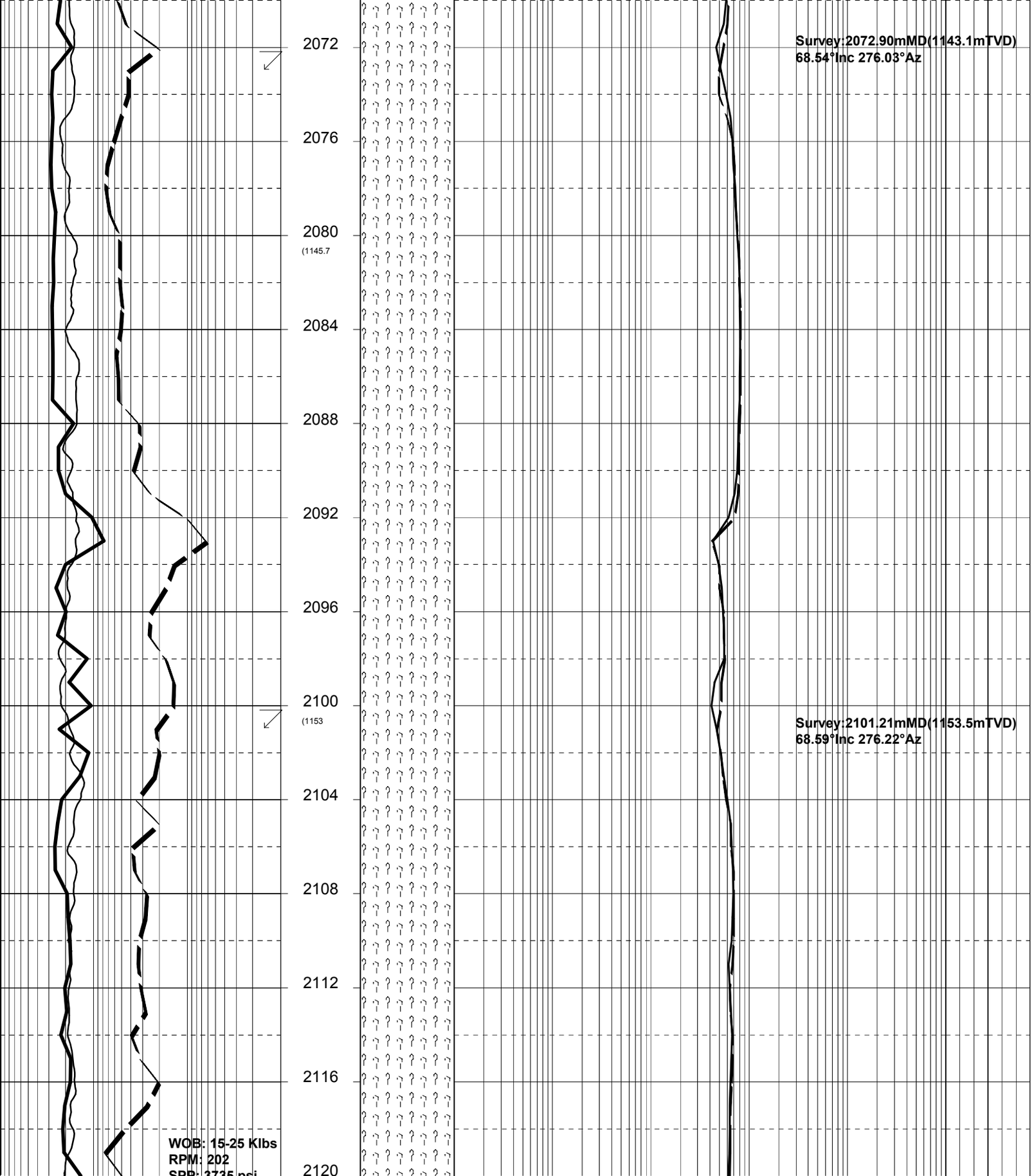
CALCILUTITE:med gy,slty i/p, g/t CLSLT,tr forams,mod hd-hd,sbblky-blky.

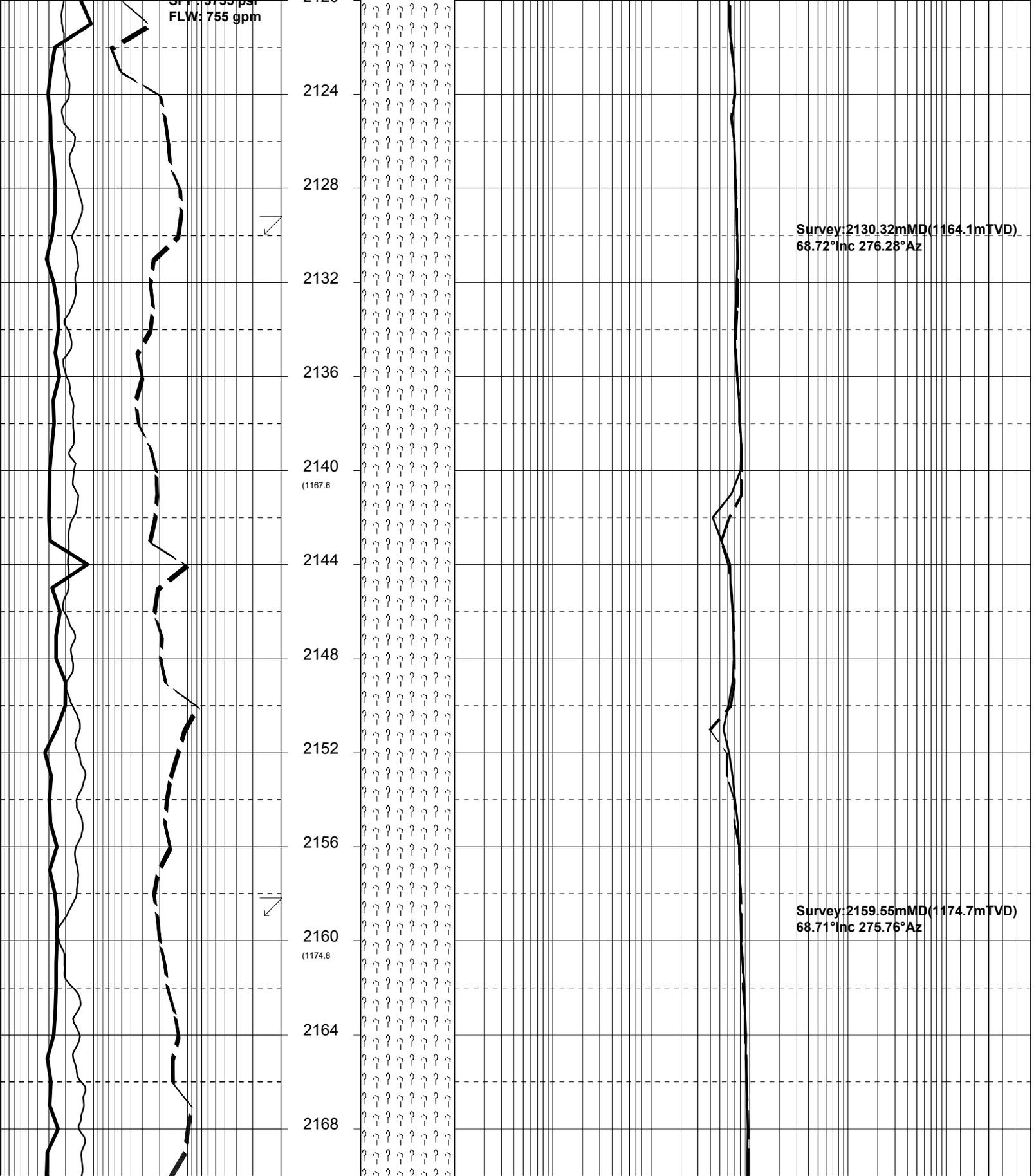

1872
1876
1880
(1072.8
1884
1888
1892
1896
1900
(1080
1904
1908
1912
1916
1920
Survey:1897.95mMD(1079.2mTVD)
68.96°Inc 274.92°Az

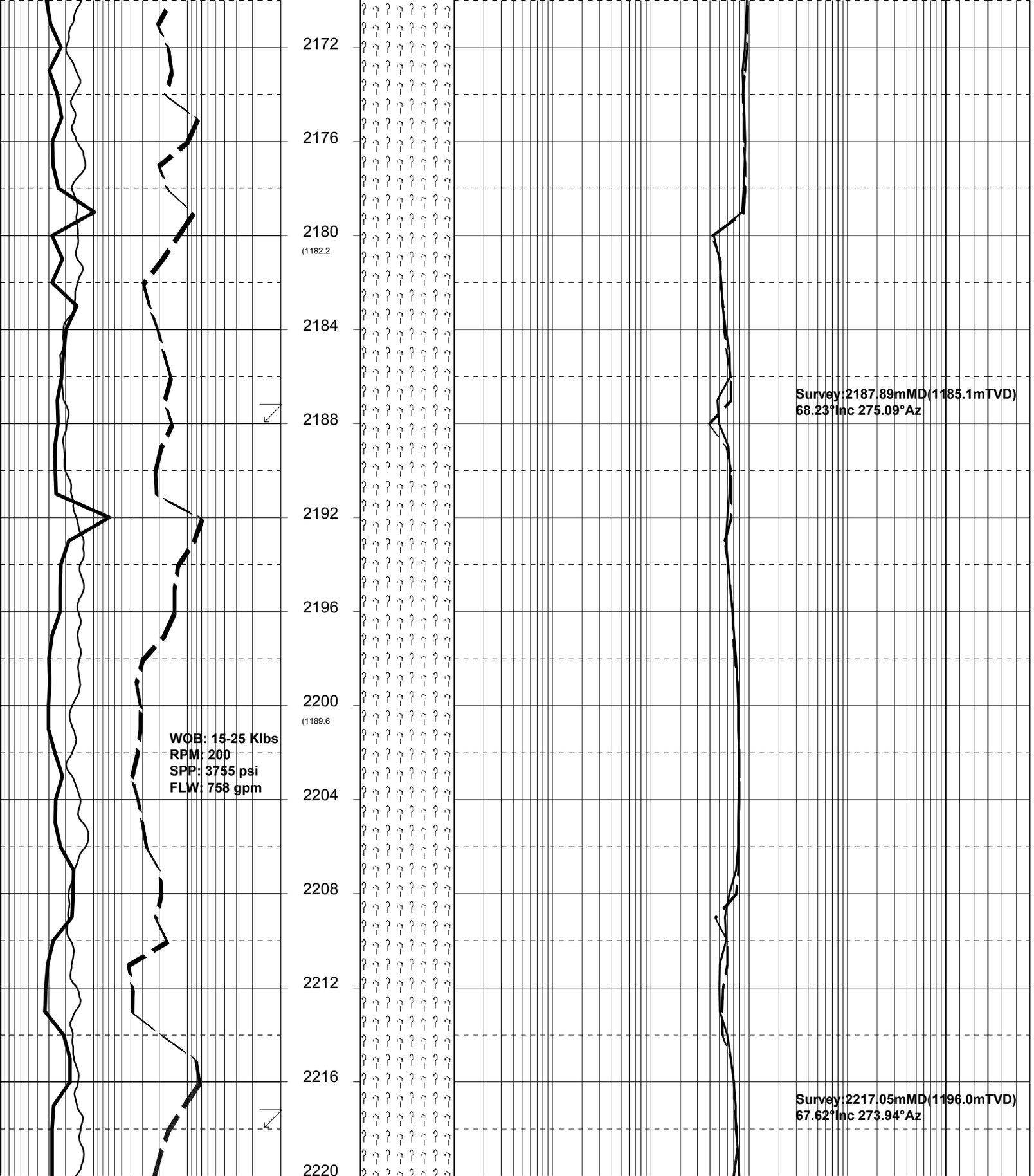

1924
1928
1932
1936
1940
(1094.4
1944
1948
1952
1956
1960
(1101.7
1964
1968
Survey:1926.96mMD(1089.7mTVD)
68.73°Inc 275.07°Az
LAKES ENTRANCE FORMATION
1940.0mMDRT 1094.4mTVDRT
CALCILUTITE:med gy,slty i/p,
g/t CLSLT,tr forams,mod hd,
sbblky-blky.
Survey:1956.12mMD(1100.3mTVD)
68.62°Inc 275.18°Az
CALCAREOUS CLAYSTONE:dk med
gy-dk gy,slty,mod calc,tr forams,
mod hd-hd,sbblky-blky.


1972
1976
1980
(1109
1984
1988
1992
1996
2000
(1116.4
2004
2008
2012
2016
2020
WOB: 25-30 Klbs
RPM: 201
SPP: 3150 psi
FLW: 700 gpm
Survey:1985.11mMD(1110.9mTVD)
68.49°Inc 275.64°Az
Survey:2013.72mMD(1121.4mTVD)
68.42°Inc 275.77°Az

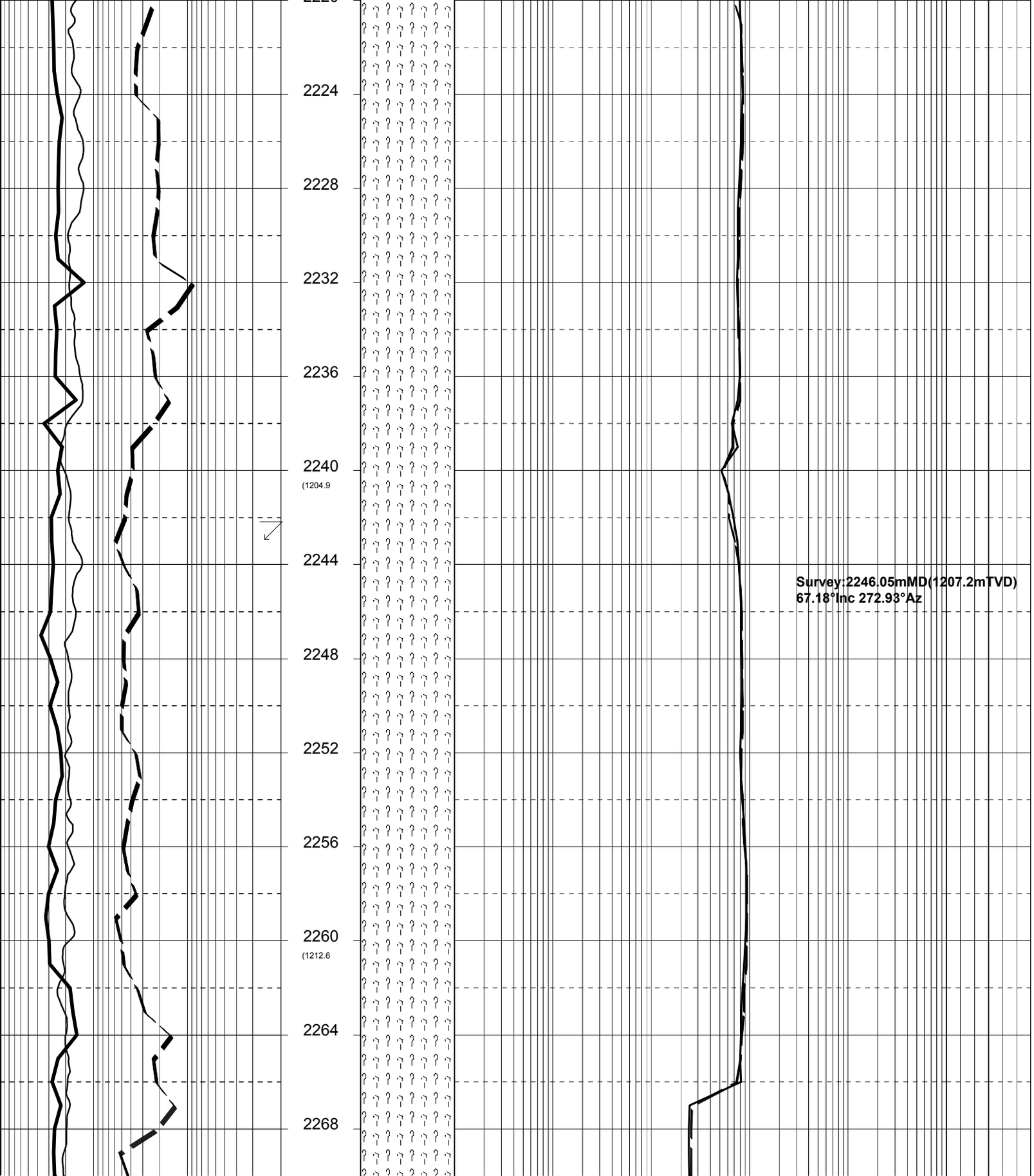

2024
2028
2032
2036
2040
(1131.1
2044
2048
2052
2056
2060
(1138.4
2064
2068
CALCAREOUS CLAYSTONE:dk med gy-med gy,slty,mod calc,tr forams, mod hd-hd,sbblky-blky.
Survey:2043.27mMD(1132.3mTVD)
68.42°Inc 276.11°Az

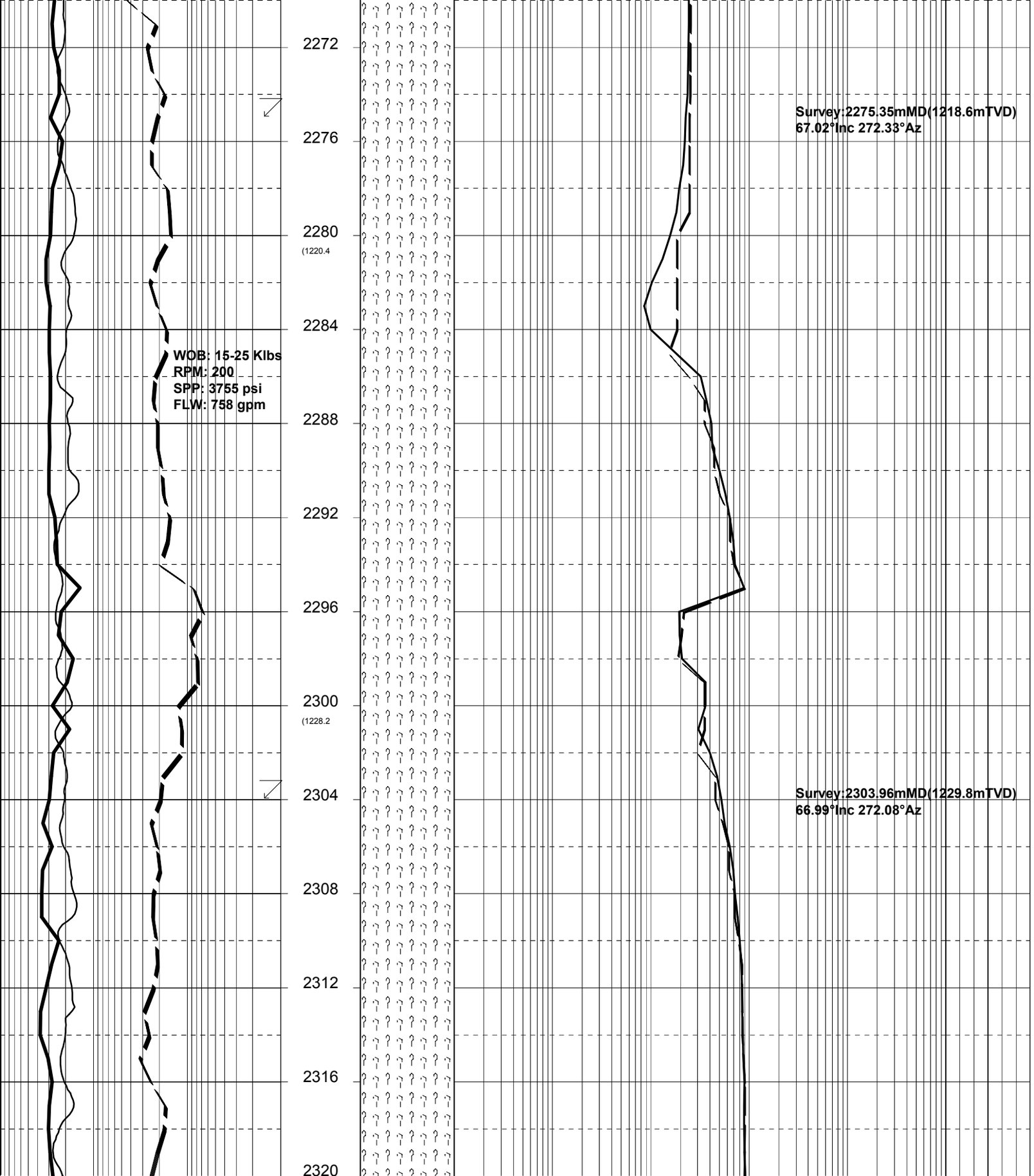

2072
2076
2080
(1145.7
2084
2088
2092
2096
2100
(1153
2104
2108
2112
2116
2120
Survey:2072.90mMD(1143.1mTVD)
68.54°Inc 276.03°Az
CALCAREOUS CLAYSTONE:med gy-med dk gy,lsty i/p,mod calc,com forams,mod hd-hd,sbblky-blky.
Survey:2101.21mMD(1153.5mTVD)
68.59°Inc 276.22°Az
WOB: 15-25 Klbs
RPM: 202
SPP: 3735 psi

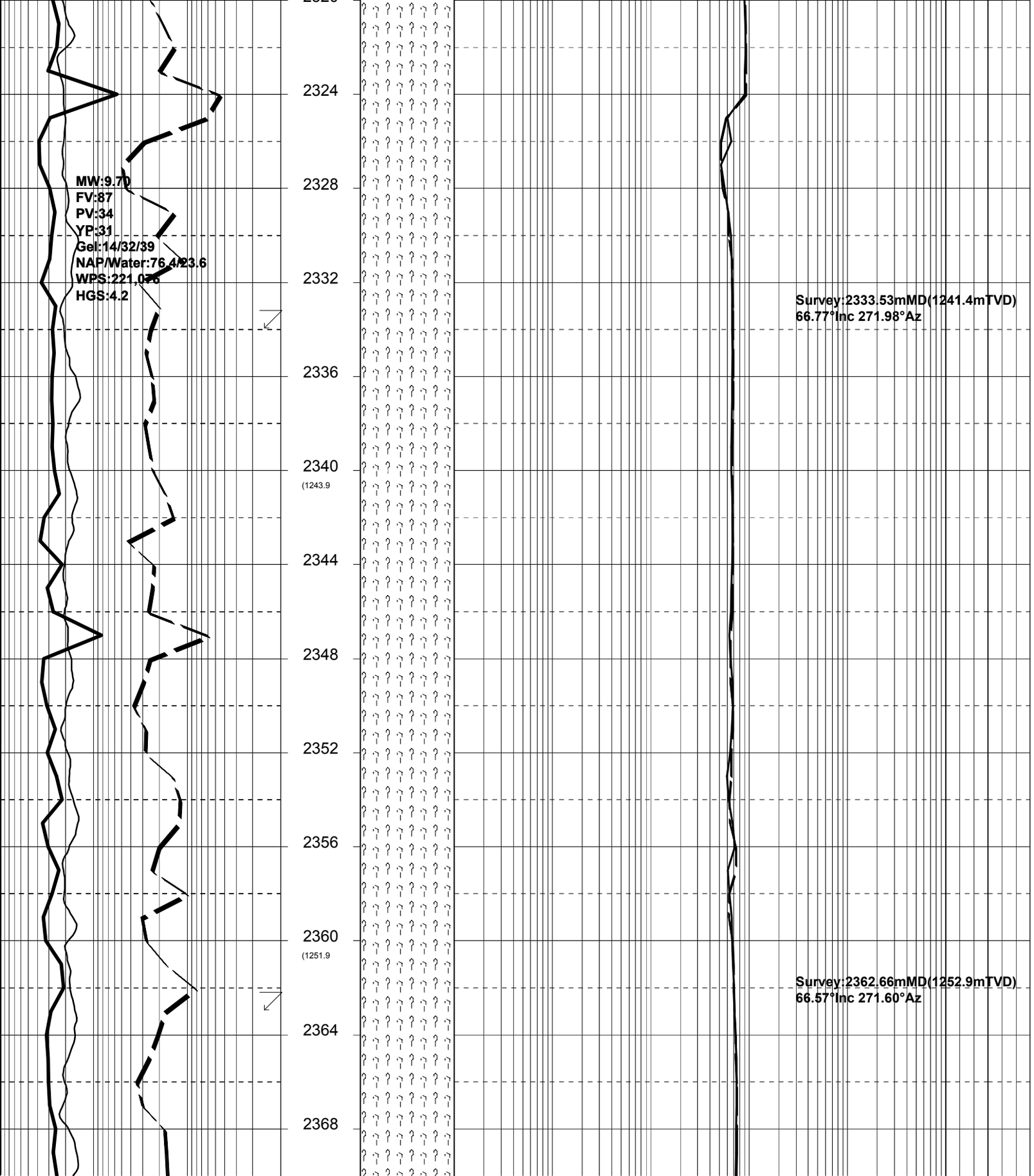

FLW: 755 gpm
2124
2128
2132
2136
2140
(1167.6
2144
2148
2152
2156
2160
(1174.8
2164
2168
Survey:2130.32mMD(1164.1mTVD)
68.72°Inc 276.28°Az
Survey:2159.55mMD(1174.7mTVD)
68.71°Inc 275.76°Az

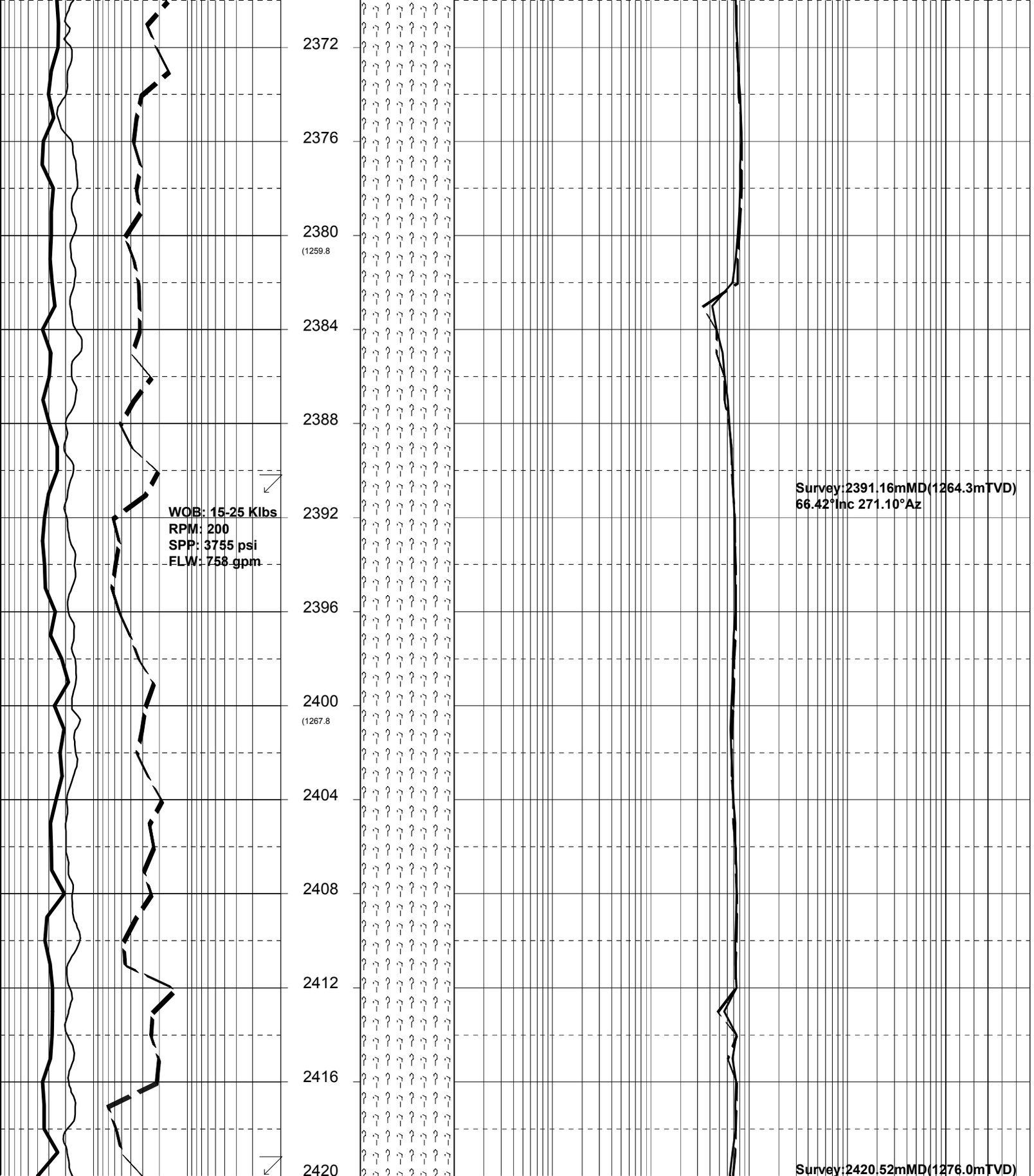


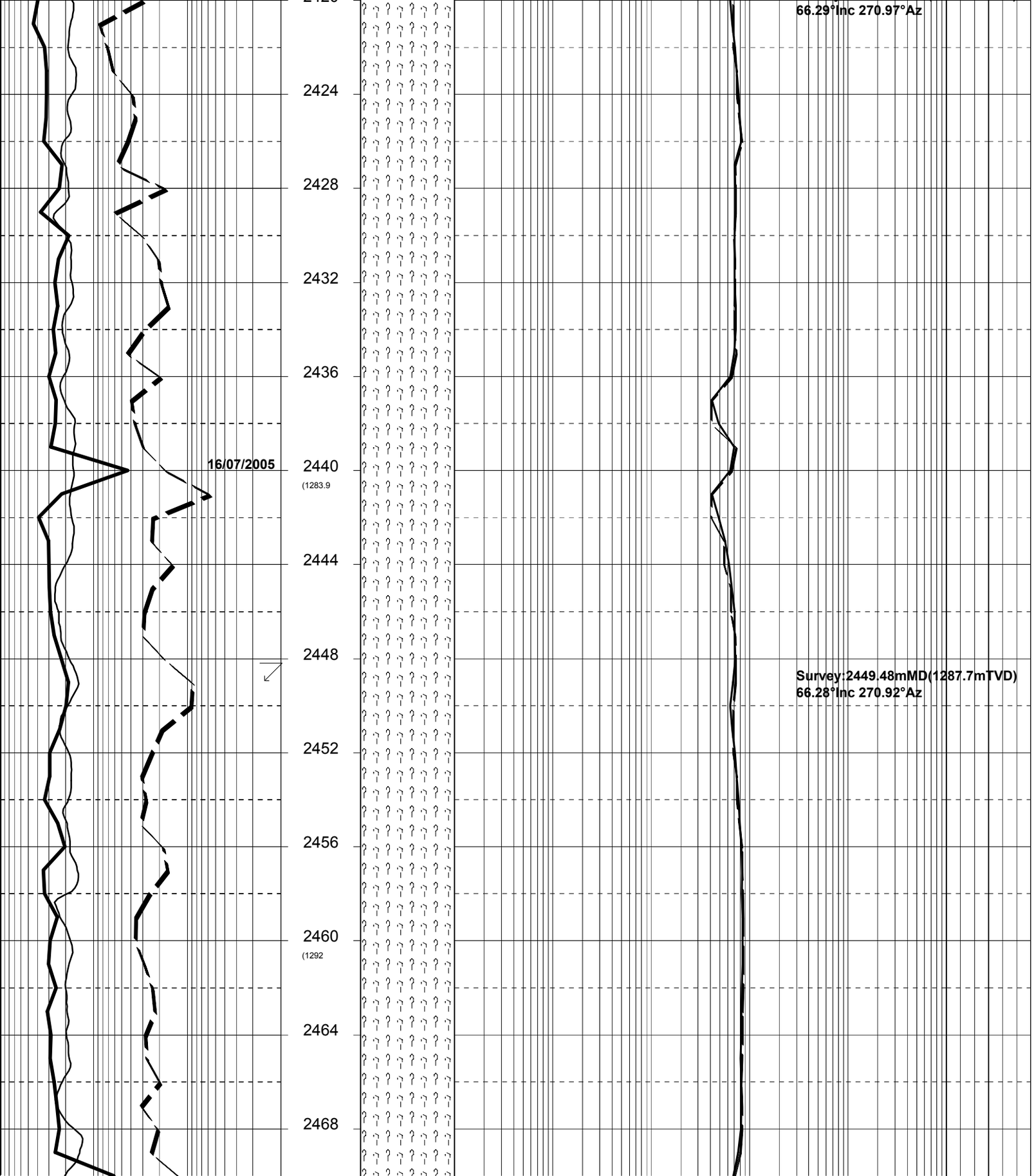
CALCAREOUS CLAYSTONE:med gy-dk med gy,mod calc,slty i/p,com forams,tr micmic,mod hd-hd, sbblky-blky.

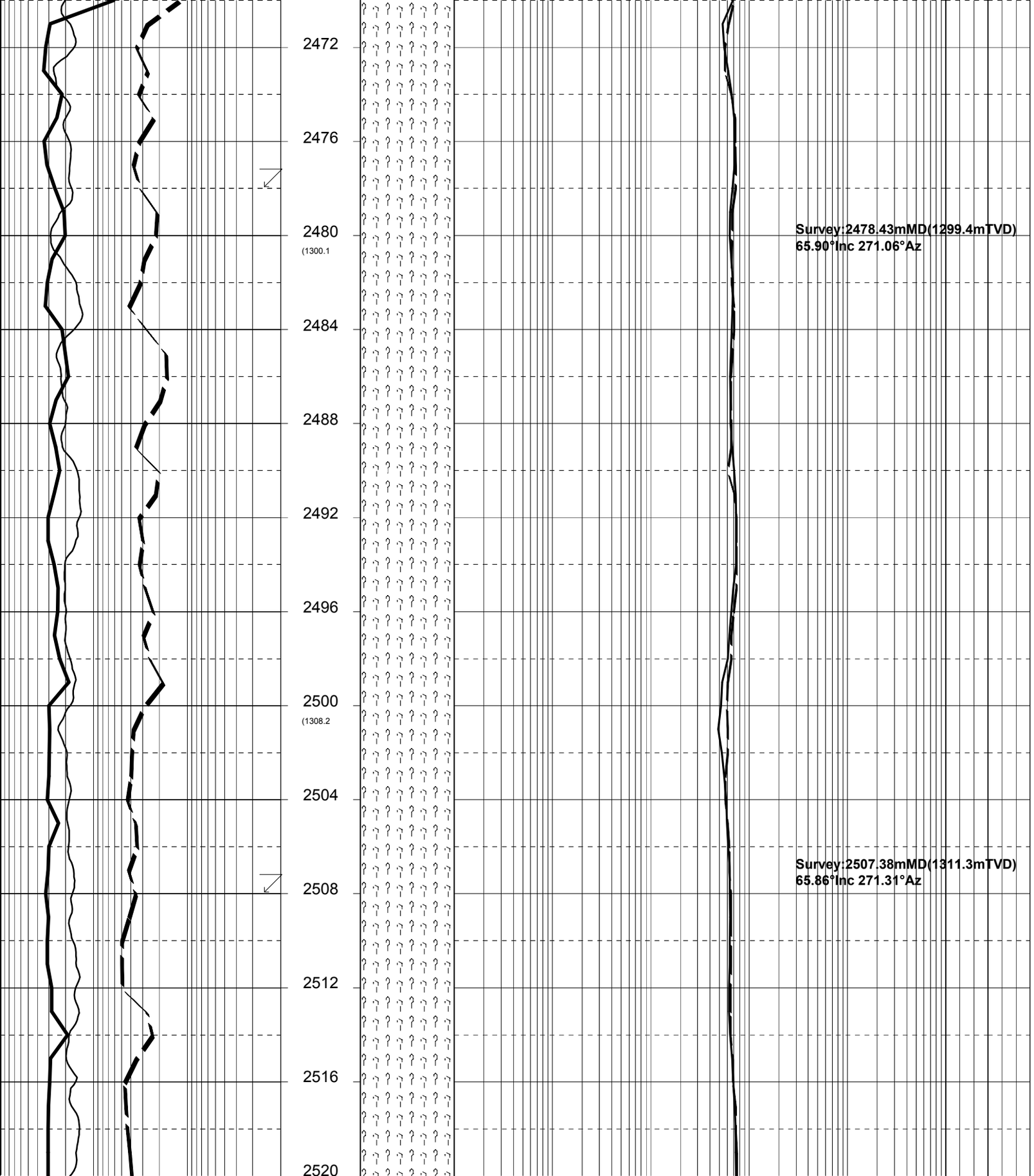

2224
2228
2232
2236
2240
(1204.9
2244
2248
2252
2256
2260
(1212.6
2264
2268
Survey:2246.05mMD(1207.2mTVD)
67.18°Inc 272.93°Az

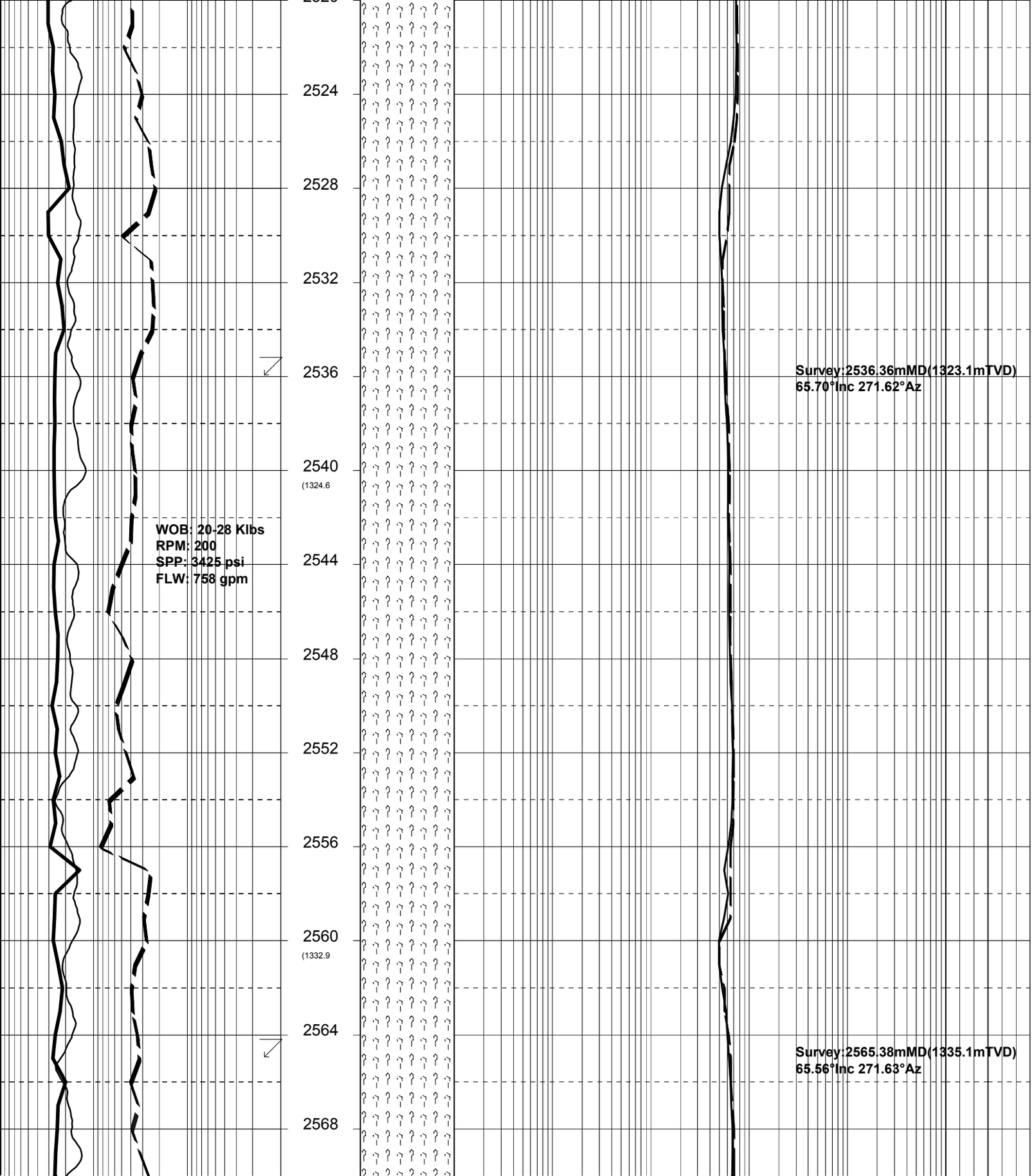

2272
2276
2280
(1220.4
2284
2288
2292
2296
2300
(1228.2
2304
2308
2312
2316
2320
WOB: 15-25 Klbs
RPM: 200
SPP: 3755 psi
FLW: 758 gpm
Survey:2275.35mMD(1218.6mTVD)
67.02°Inc 272.33°Az
Survey:2303.96mMD(1229.8mTVD)
66.99°Inc 272.08°Az
CALCAREOUS CLAYSTONE:med gy-dk med gy,mod calc,slty i/p,com forams,tr micmic,mod hd-hd, sbblky-blky.

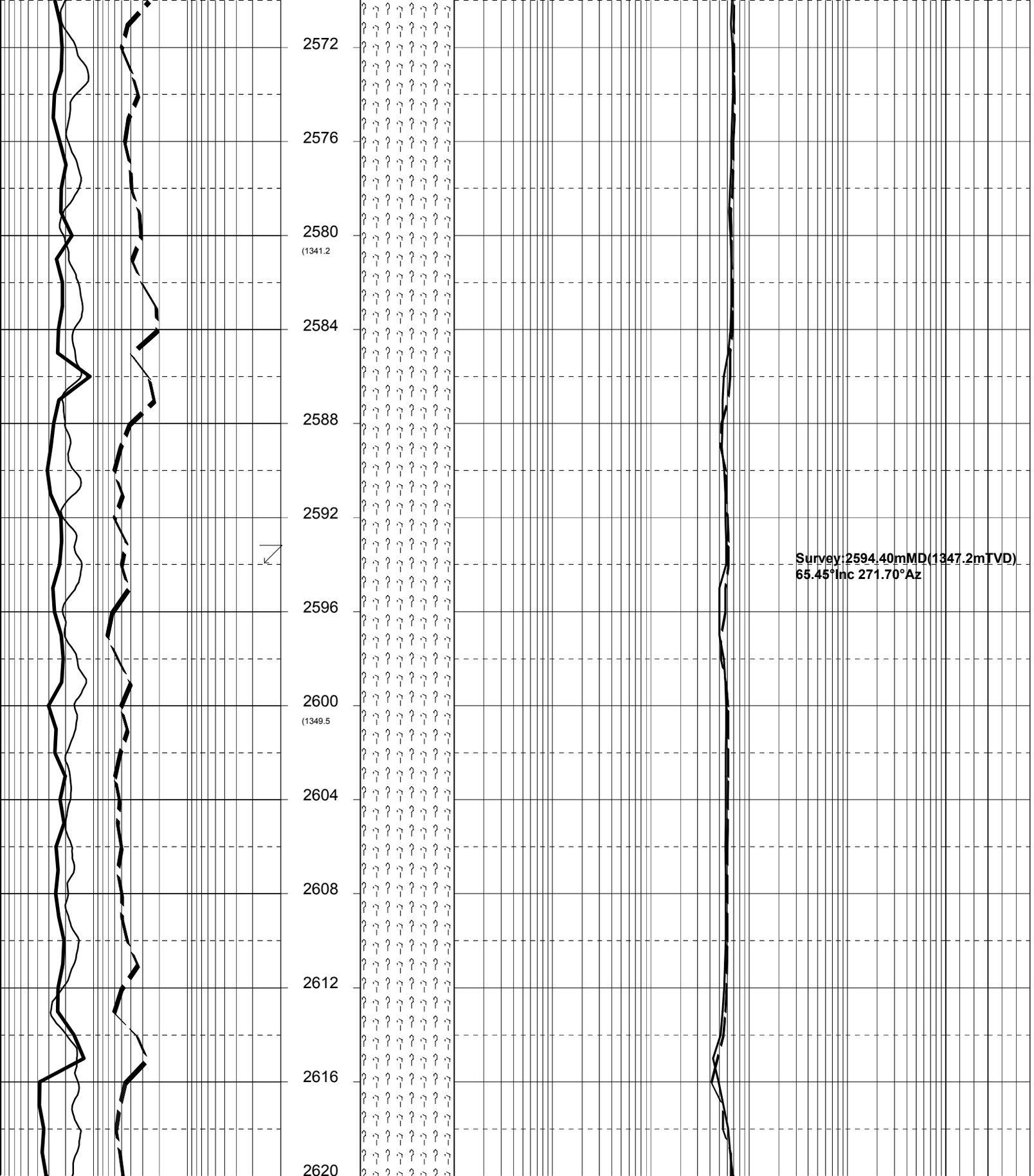

2324
2328
2332
2336
2340
(1243.9
2344
2348
2352
2356
2360
(1251.9
2364
2368
MW:9.70
FV:87
PV:34
YP:31
Gel:14/32/39
NAP/Water:76.4/23.6
WPS:221,036
HGS:4.2
Survey:2333.53mMD(1241.4mTVD)
66.77°Inc 271.98°Az
Survey:2362.66mMD(1252.9mTVD)
66.57°Inc 271.60°Az


2372
2376
2380
(1259.8
2384
2388
WOB: 15-25 Klbs
RPM: 200
SPP: 3755 psi
FLW: 758 gpm
2392
2396
2400
(1267.8
2404
2408
2412
2416
2420
Survey:2391.16mMD(1264.3mTVD)
66.42°Inc 271.10°Az
Survey:2420.52mMD(1276.0mTVD)
CALCAREOUS CLAYSTONE:med gy-dk med gy,mod calc,slty i/p,com forams,tr micmic,mod hd-hd, sbblky-blky.

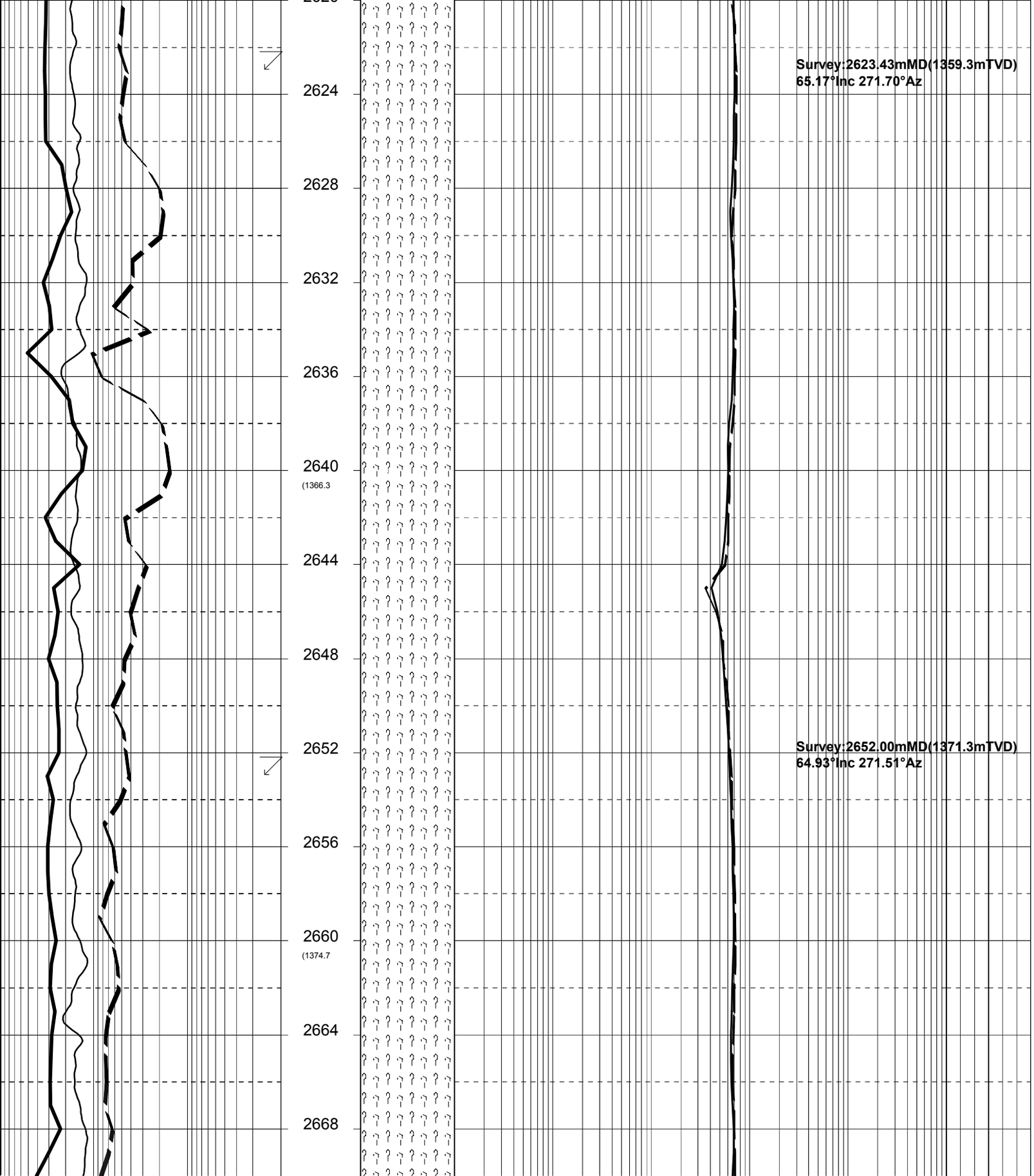

66.29°Inc 270.97°Az
2424
2428
2432
2436
16/07/2005
2440
(1283.9
2444
2448
Survey:2449.48mMD(1287.7mTVD)
66.28°Inc 270.92°Az
2452
2456
2460
(1292
2464
2468

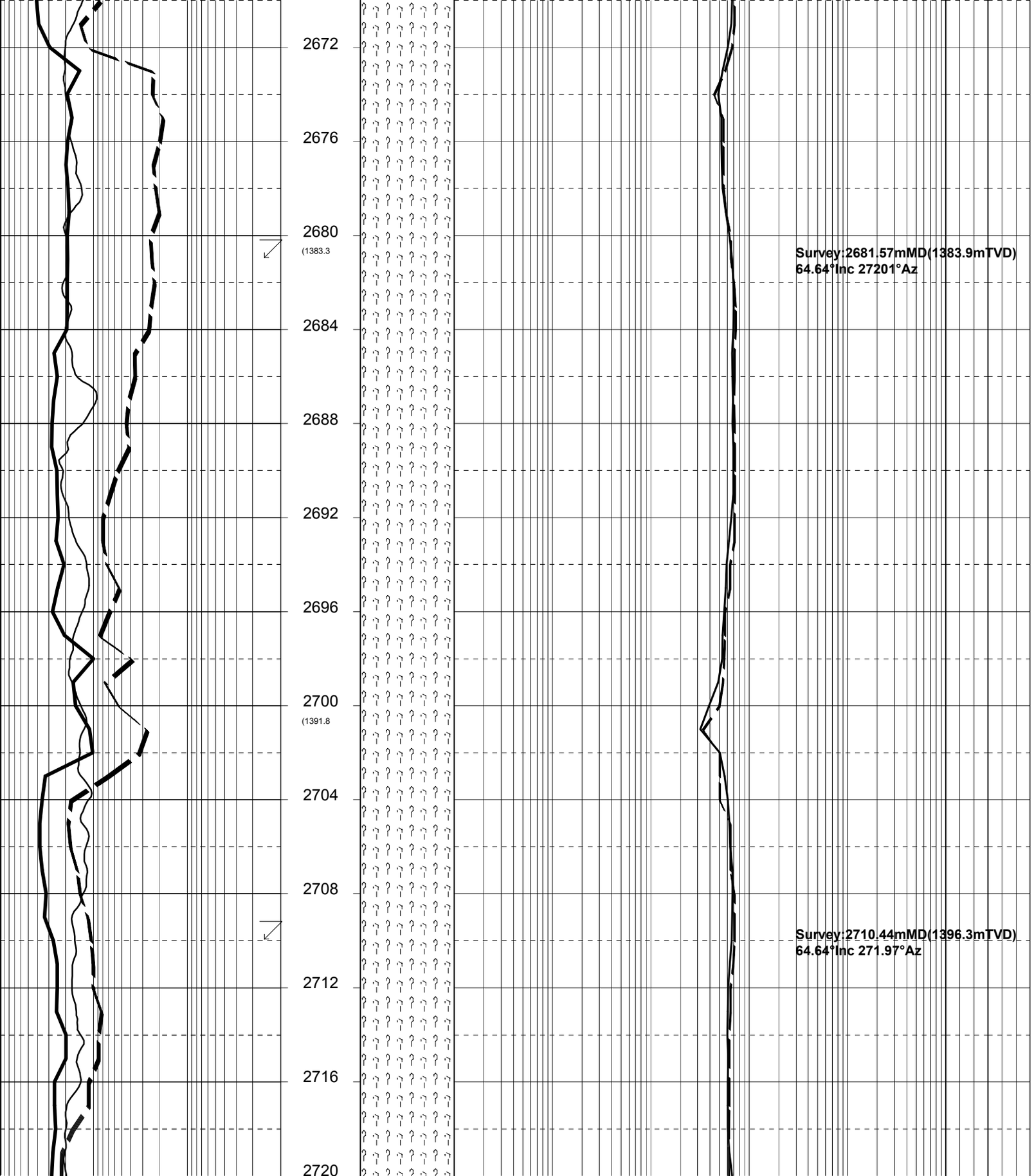

2472
2476
2480
(1300.1
2484
2488
2492
2496
2500
(1308.2
2504
2508
2512
2516
2520
Survey:2478.43mMD(1299.4mTVD)
65.90°Inc 271.06°Az
CALCAREOUS CLAYSTONE:med gy-dk med gy,mod calc,slty i/p,com forams,tr micmic,mod hd-hd, sbblky-blky.
Survey:2507.38mMD(1311.3mTVD)
65.86°Inc 271.31°Az

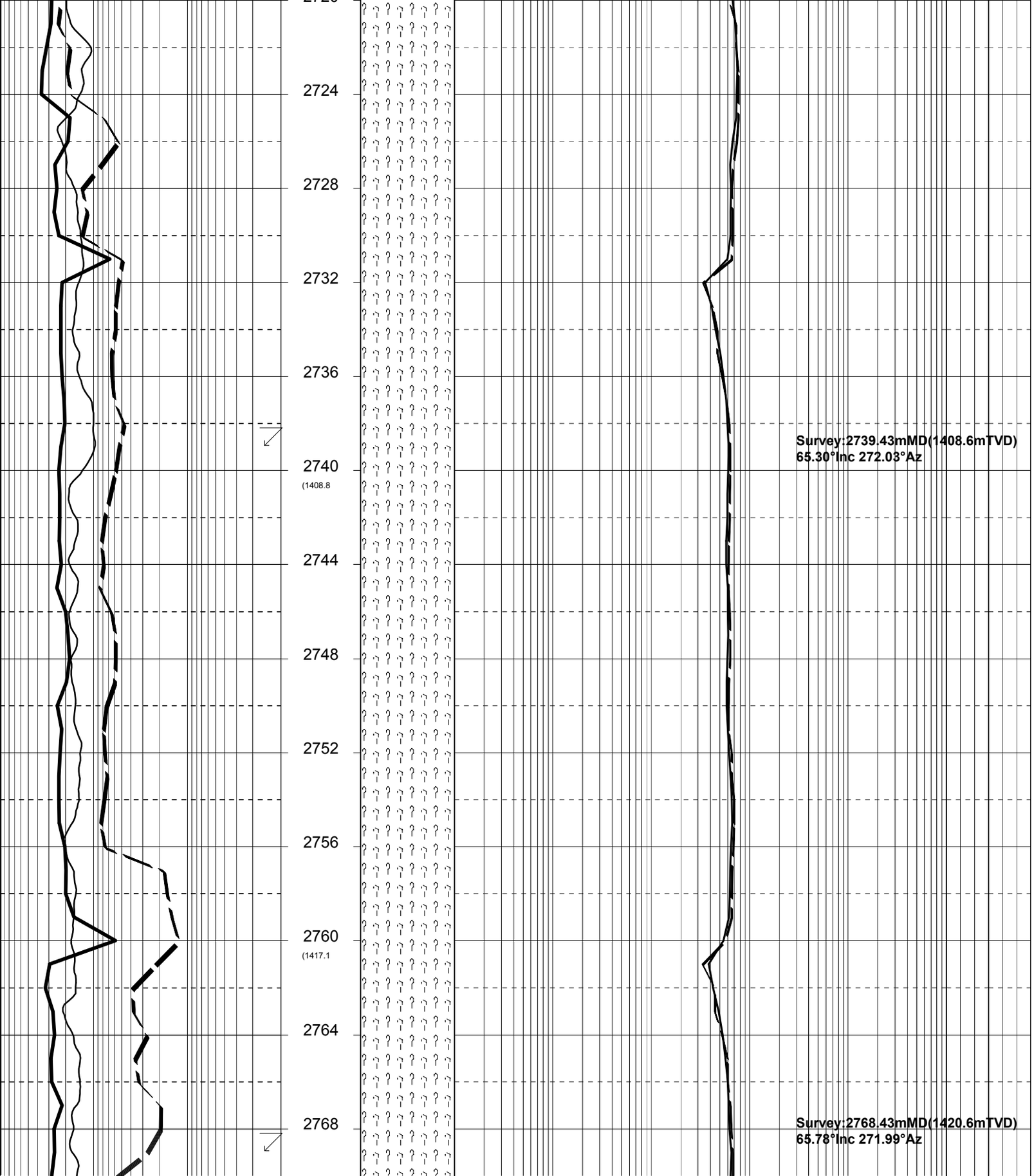

2524
2528
2532
2536
2540
(1324.6
2544
2548
2552
2556
2560
(1332.9
2564
2568
WOB: 20-28 Klbs
RPM: 200
SPP: 3425 psi
FLW: 758 gpm
Survey:2536.36mMD(1323.1mTVD)
65.70°Inc 271.62°Az
Survey:2565.38mMD(1335.1mTVD)
65.56°Inc 271.63°Az

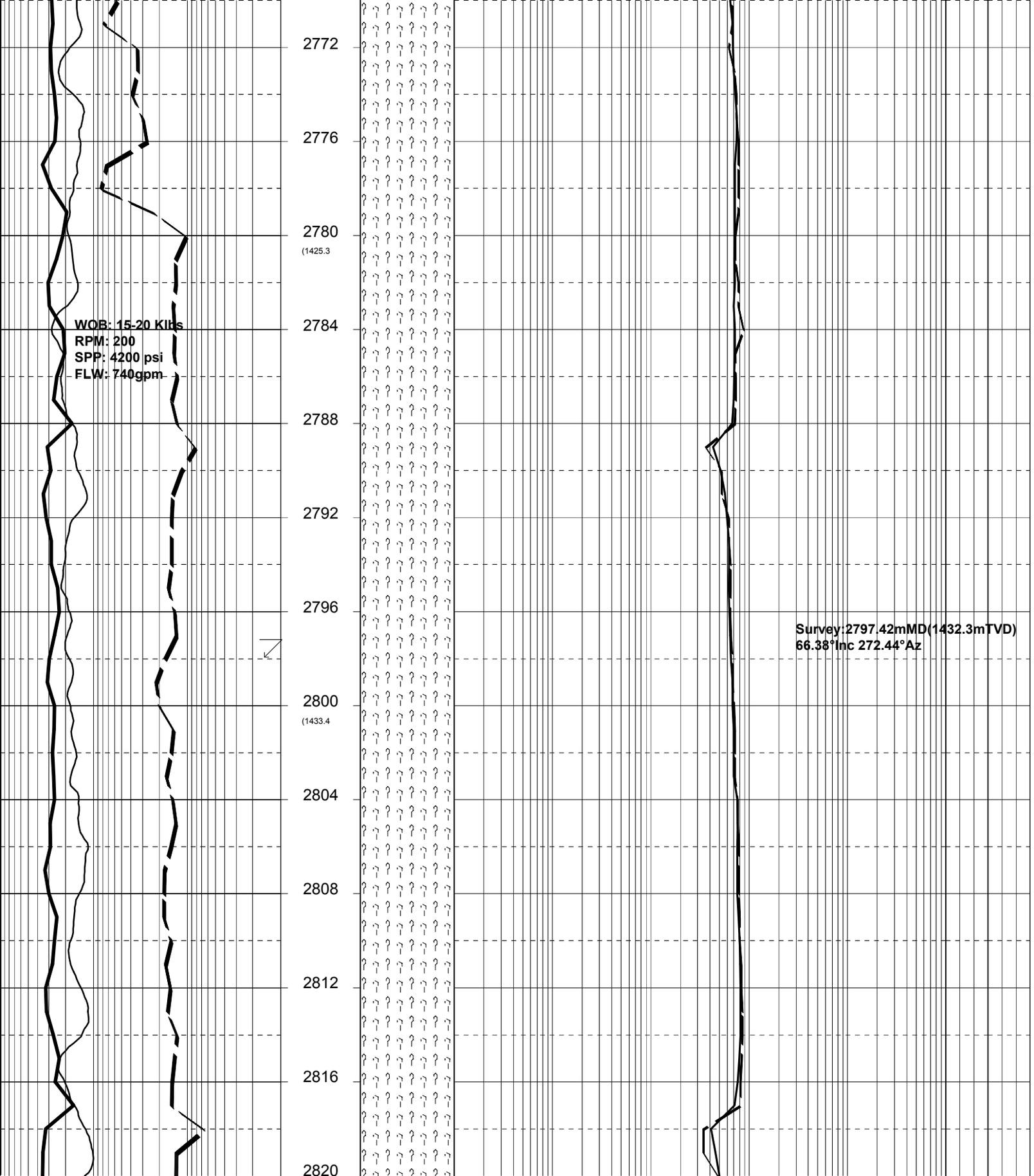


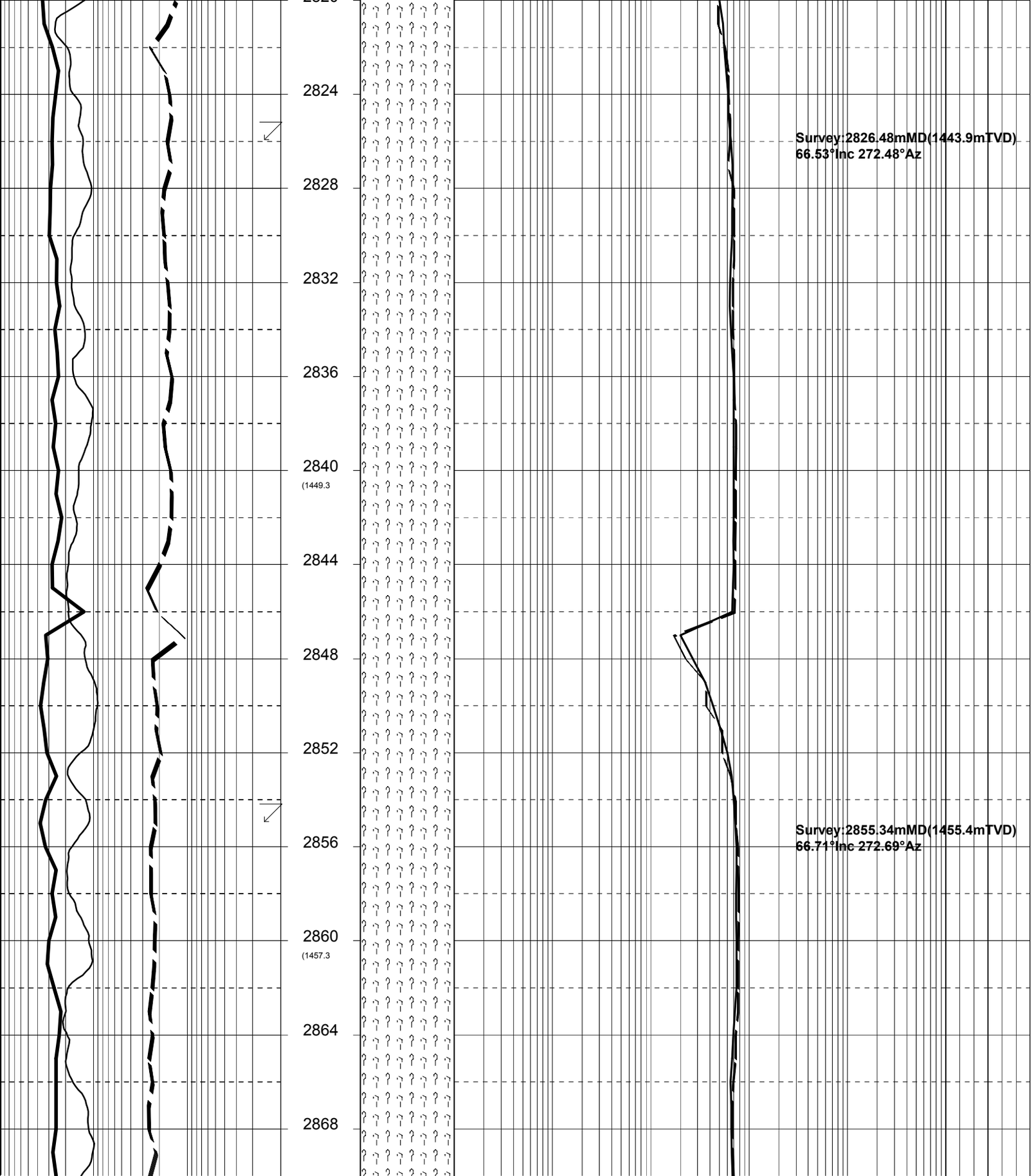
CALCAREOUS CLAYSTONE:dk gnsh gy-dk olv gry, rr aren, micmic,occ diss pyr,rr forams,mod hd-hd,sbblky-blky.

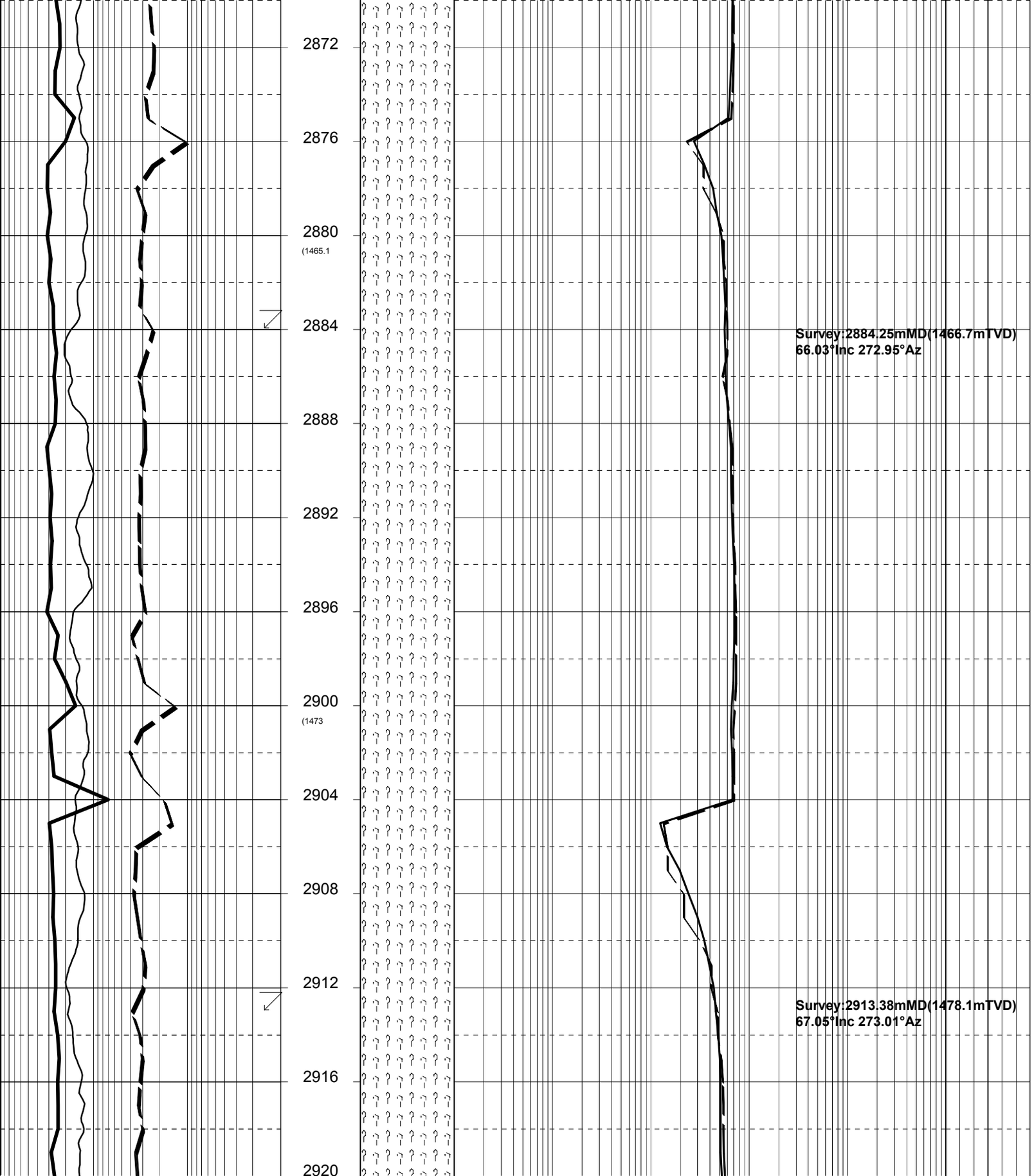

2624
2628
2632
2636
2640
(1366.3
2644
2648
2652
2656
2660
(1374.7
2664
2668
Survey:2623.43mMD(1359.3mTVD)
65.17°Inc 271.70°Az
Survey:2652.00mMD(1371.3mTVD)
64.93°Inc 271.51°Az


2672
2676
2680
(1383.3
2684
2688
2692
2696
2700
(1391.8
2704
2708
2712
2716
2720
Survey:2681.57mMD(1383.9mTVD)
64.64°Inc 27201°Az
CALCAREOUS CLAYSTONE:dk gnsh gy-dk olv gry, rr aren, micmic,occ diss pyr,mod hd-hd,sbblky-blky.
Survey:2710.44mMD(1396.3mTVD)
64.64°Inc 271.97°Az

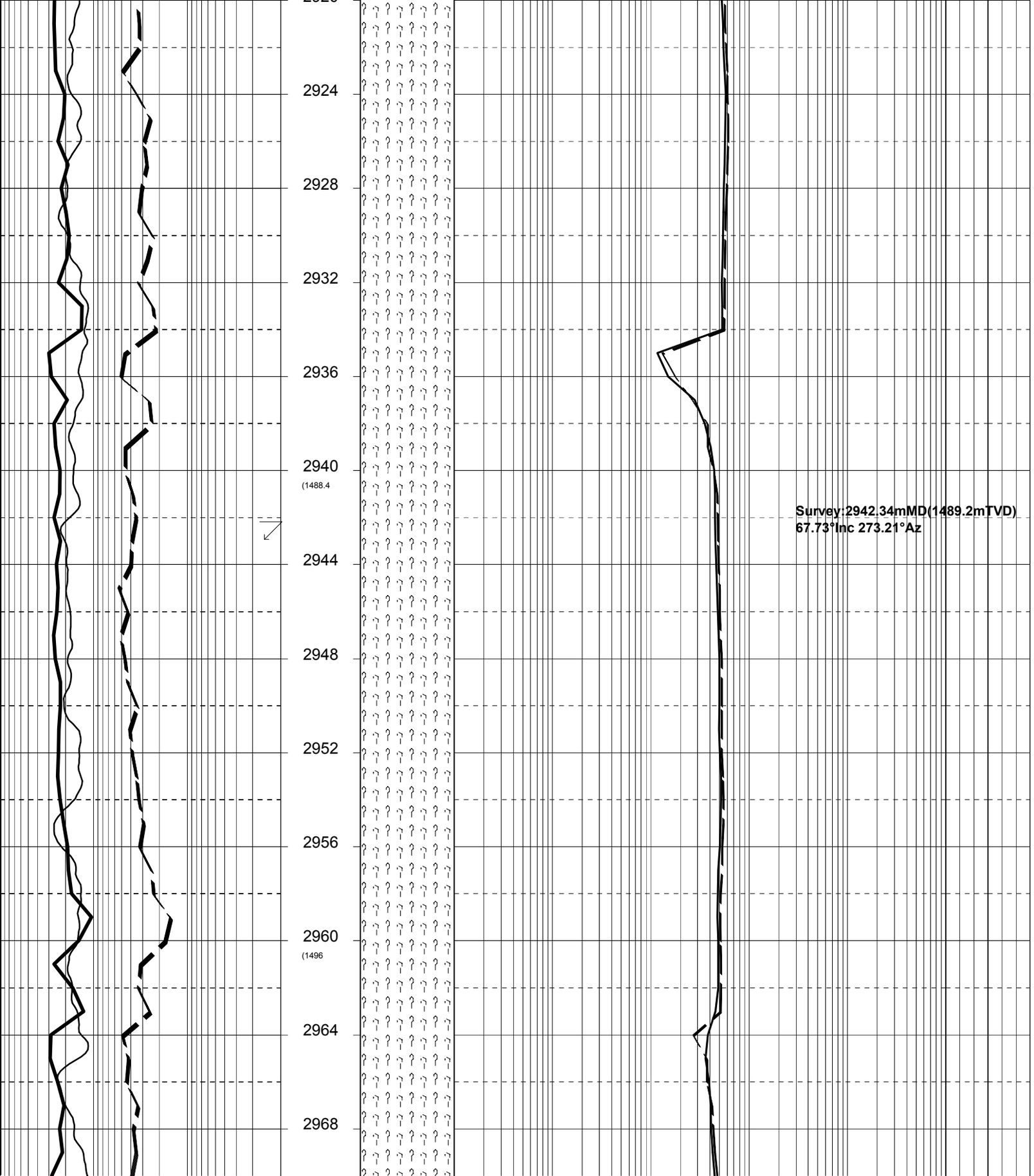

2724
2728
2732
2736
2740
(1408.8
2744
2748
2752
2756
2760
(1417.1
2764
2768
Survey:2739.43mMD(1408.6mTVD)
65.30°Inc 272.03°Az
Survey:2768.43mMD(1420.6mTVD)
65.78°Inc 271.99°Az


2772
2776
2780
(1425.3
2784
2788
2792
2796
2800
(1433.4
2804
2808
2812
2816
2820
WOB: 15-20 Klbs
RPM: 200
SPP: 4200 psi
FLW: 740gpm
Survey:2797.42mMD(1432.3mTVD)
66.38°Inc 272.44°Az
CALCAREOUS CLAYSTONE:dk gnsh gy-dk olv gry,rr aren,micmic,mod hd-hd,sbblky-blky.

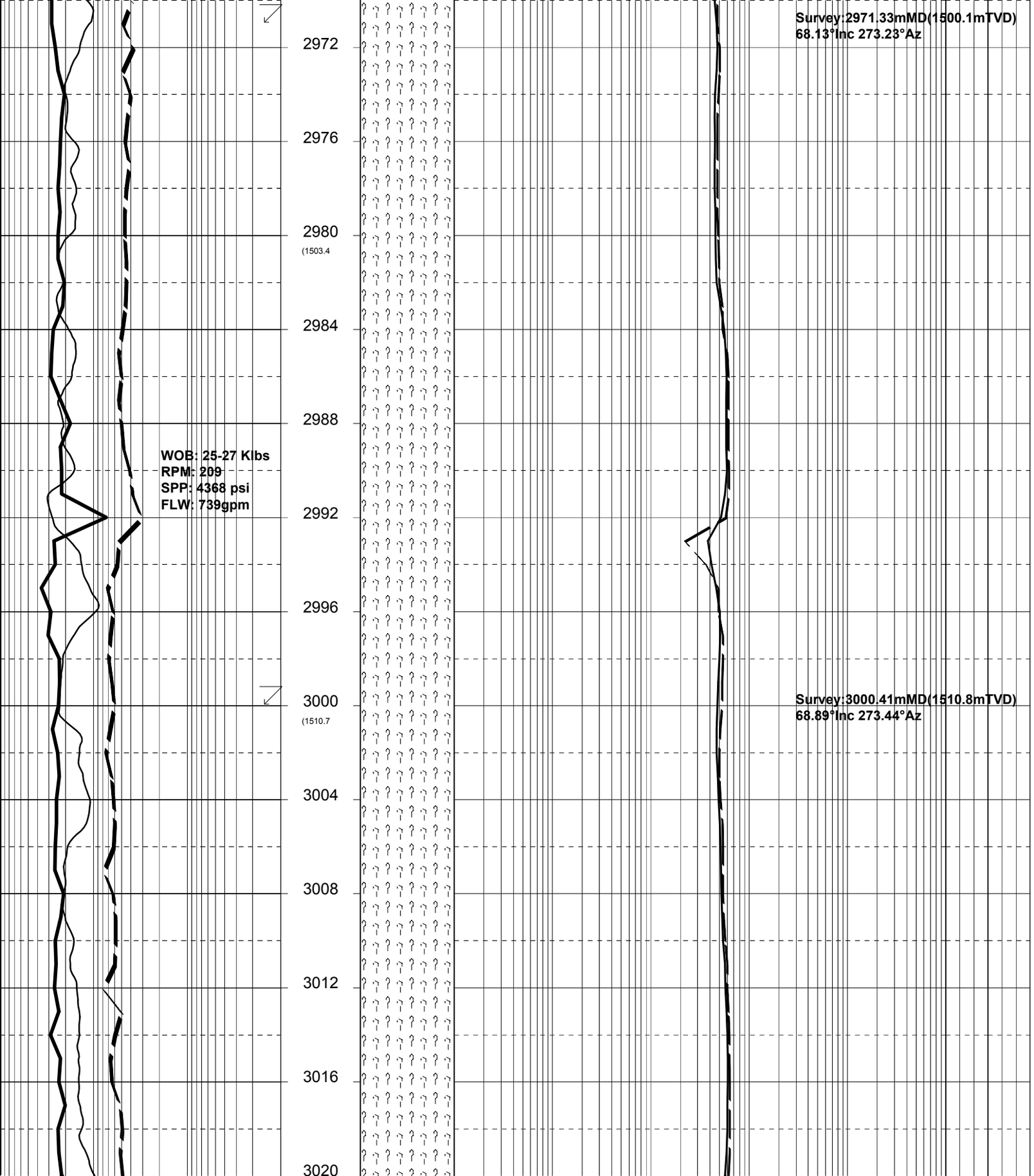

2824
2828
2832
2836
2840
(1449.3
2844
2848
2852
2856
2860
(1457.3
2864
2868
Survey:2826.48mMD(1443.9mTVD)
66.53°Inc 272.48°Az
Survey:2855.34mMD(1455.4mTVD)
66.71°Inc 272.69°Az
CALCAREOUS CLAYSTONE:med lt gy-med dk gy,occ dk gy,slty i/p,mod calc,rr forams,rr ooids,rr micmic, frm-mod hd,sbblky-blky.

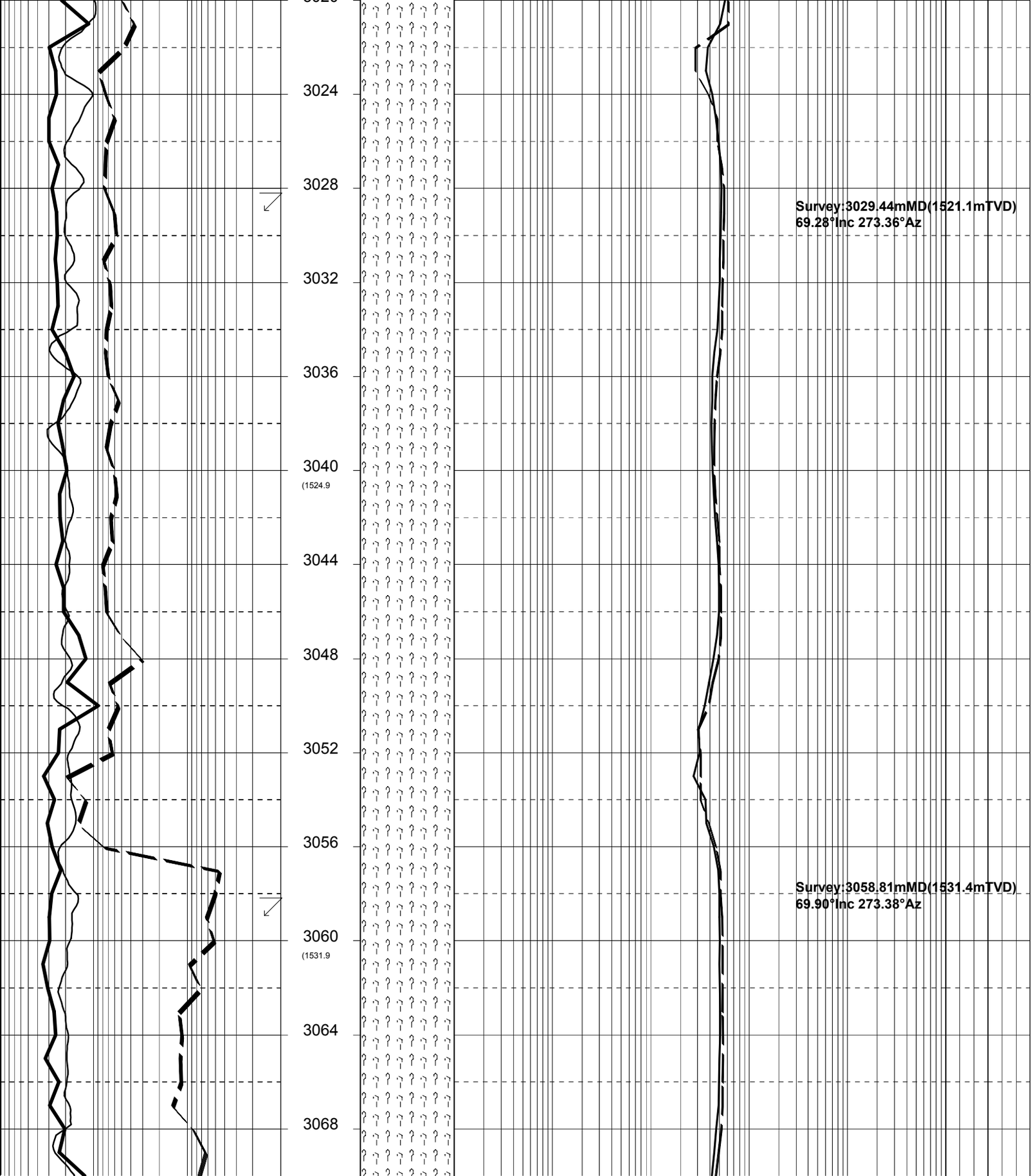


CALCAREOUS CLAYSTONE:dk gnsh gy-dk olv gry,rr aren,micmic,mod hd-hd,sbblky-blky.

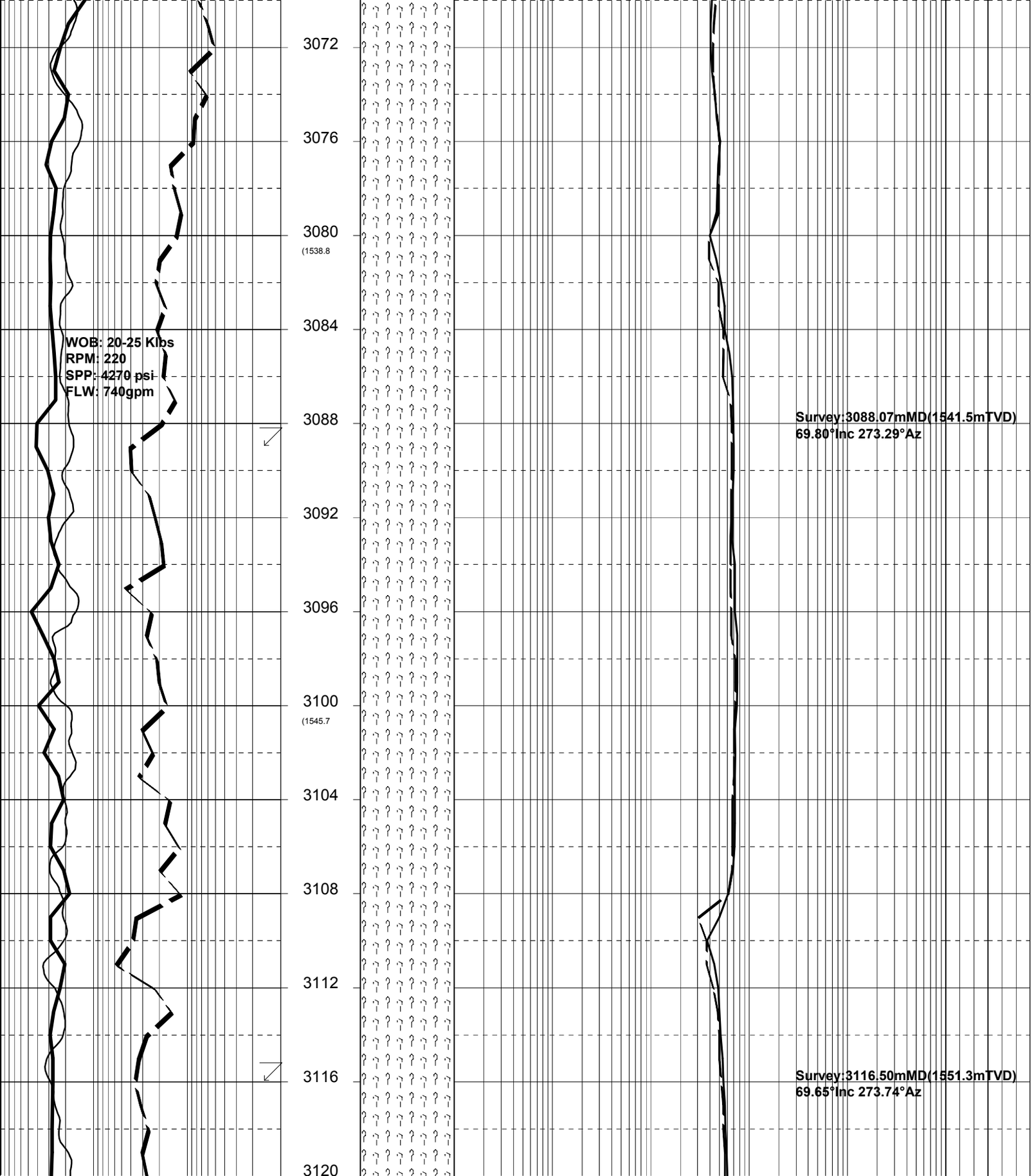


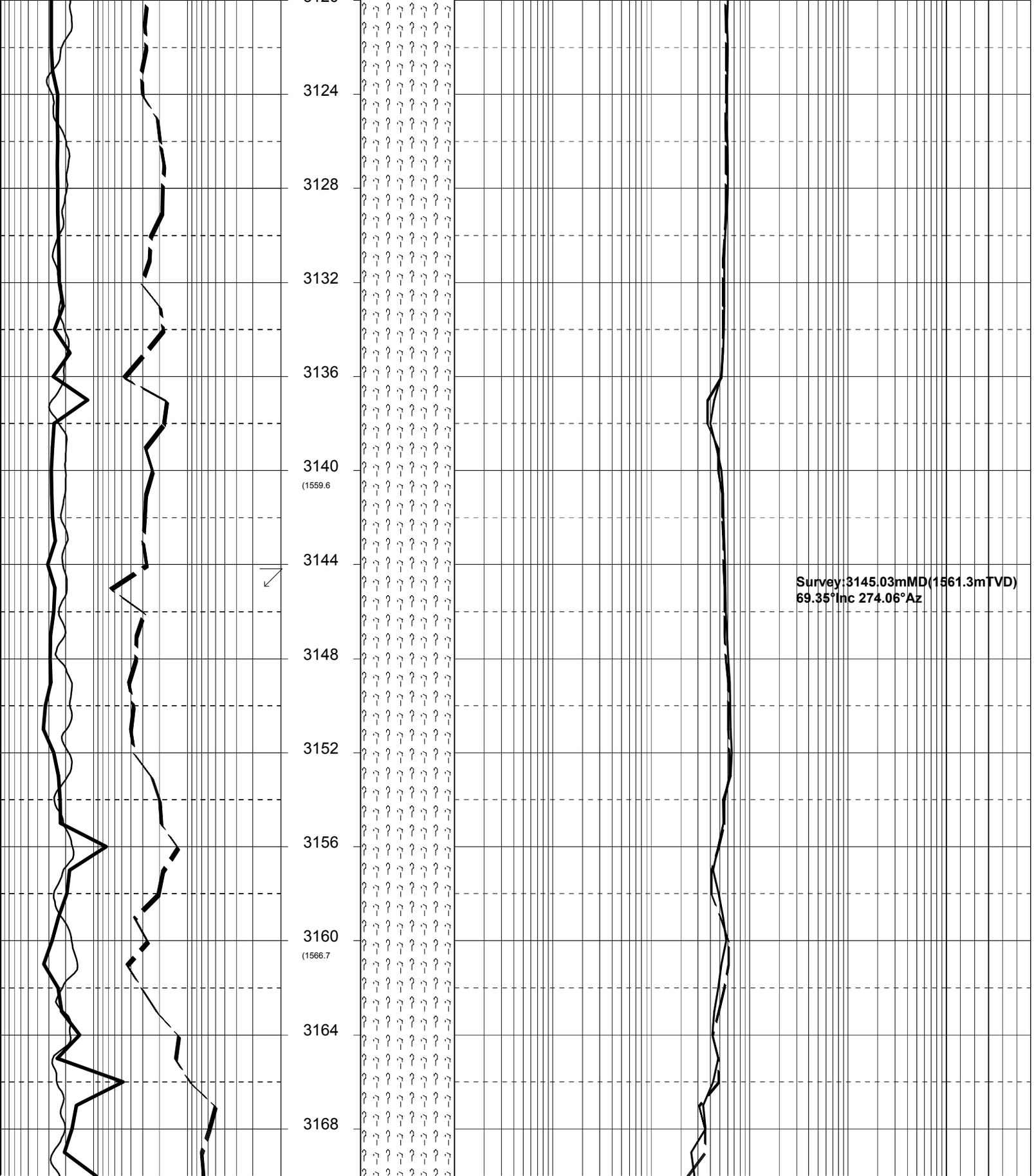
CALCAREOUS CLAYSTONE:dk gnsh gy-dk olv gry,rr aren,micmic,tr carb spks,rr ooids,rr forams,mod hd-hd, sbblky-blky.

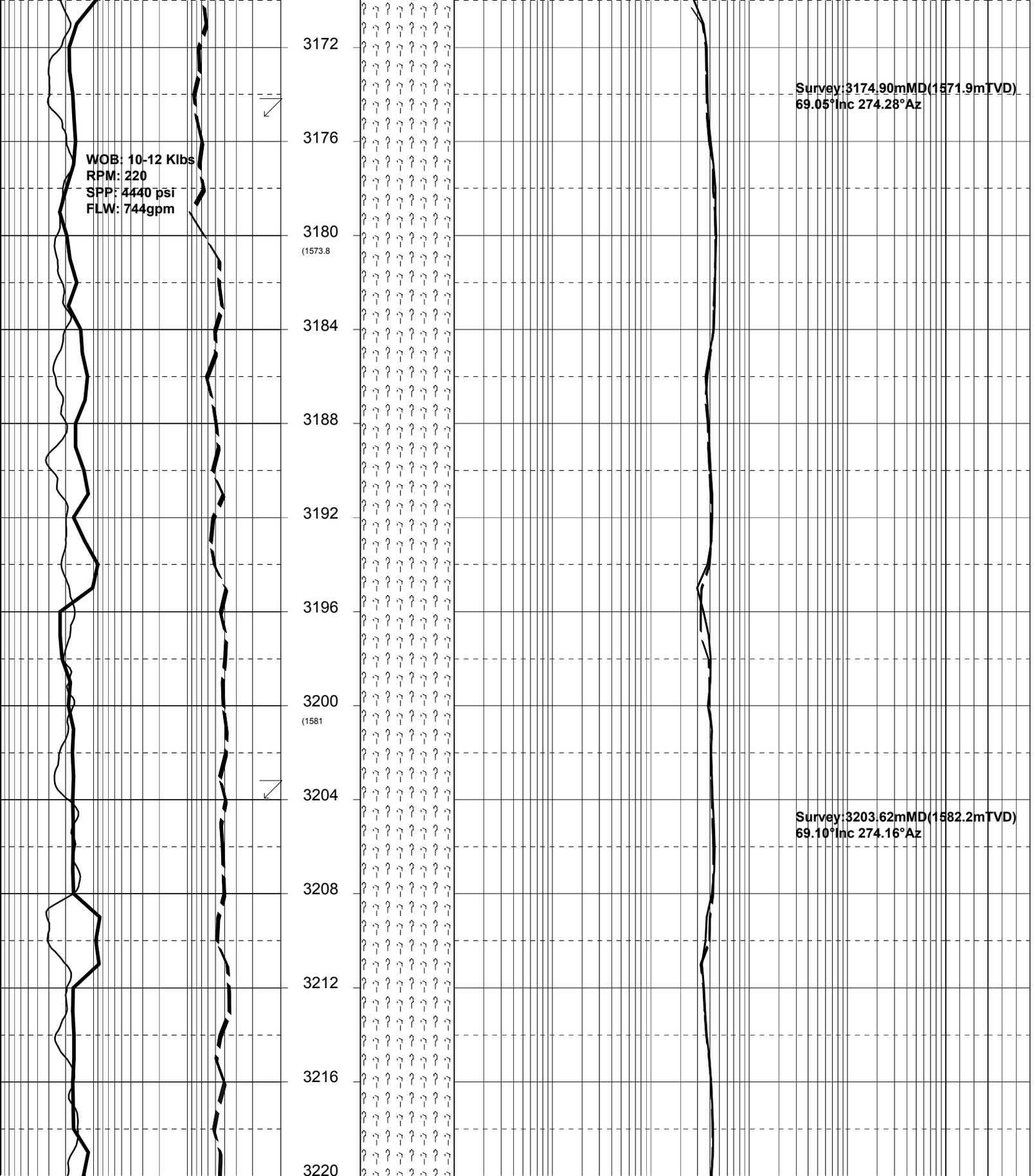

Survey:2971.33mMD(1500.1mTVD)
68.13°Inc 273.23°Az
2972
2976
2980
(1503.4
2984
2988
WOB: 25-27 Klbs
RPM: 209
SPP: 4368 psi
FLW: 739gpm
2992
2996
3000
(1510.7
Survey:3000.41mMD(1510.8mTVD)
68.89°Inc 273.44°Az
3004
3008
3012
3016
3020



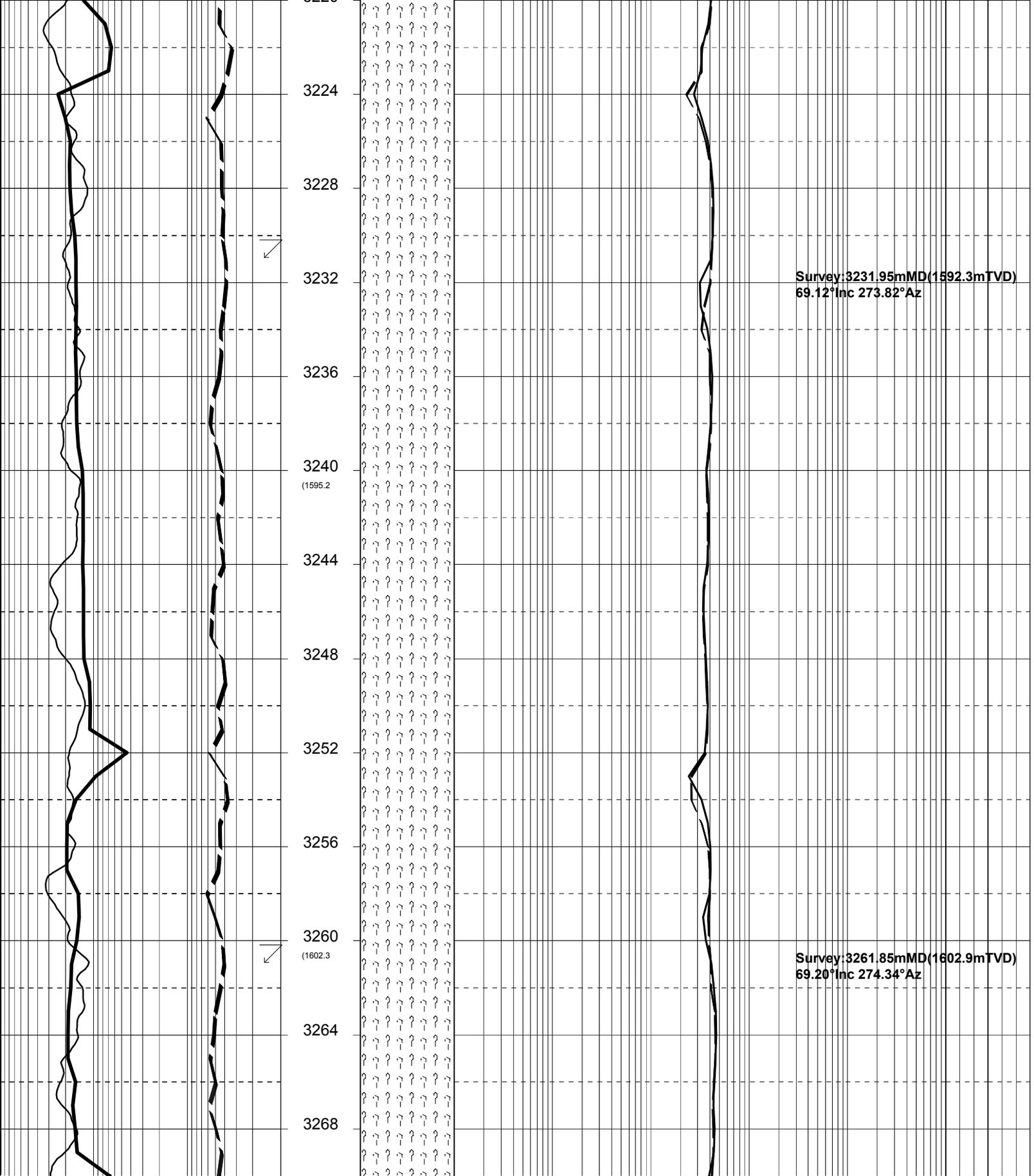
CALCAREOUS CLAYSTONE:med dk gy-occ med lt gy, slty i/p,com forams, tr micmic,tr ooids,frm-mod hd,sbblky-blky.

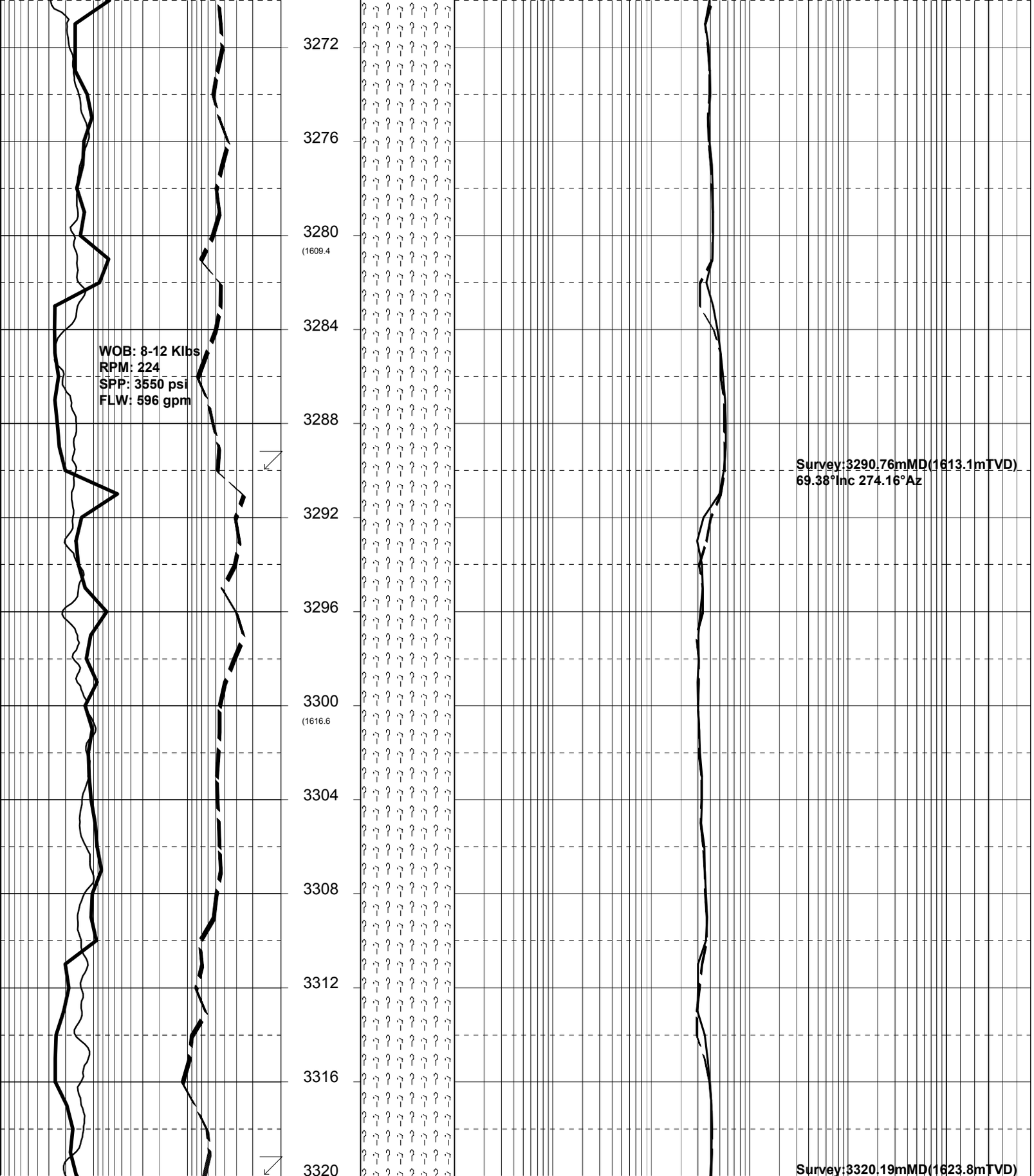

3072
3076
3080
(1538.8
3084
WOB: 20-25 Klbs
RPM: 220
SPP: 4270 psi
FLW: 740gpm
3088
Survey:3088.07mMD(1541.5mTVD)
69.80°Inc 273.29°Az
3092
3096
3100
(1545.7
3104
3108
3112
CALCAREOUS CLAYSTONE:med dk gy-occ med lt gy,slty,tr forams,rr ooids,tr micmic,frm-mod hd,sbblky-blky.
3116
Survey:3116.50mMD(1551.3mTVD)
69.65°Inc 273.74°Az
3120

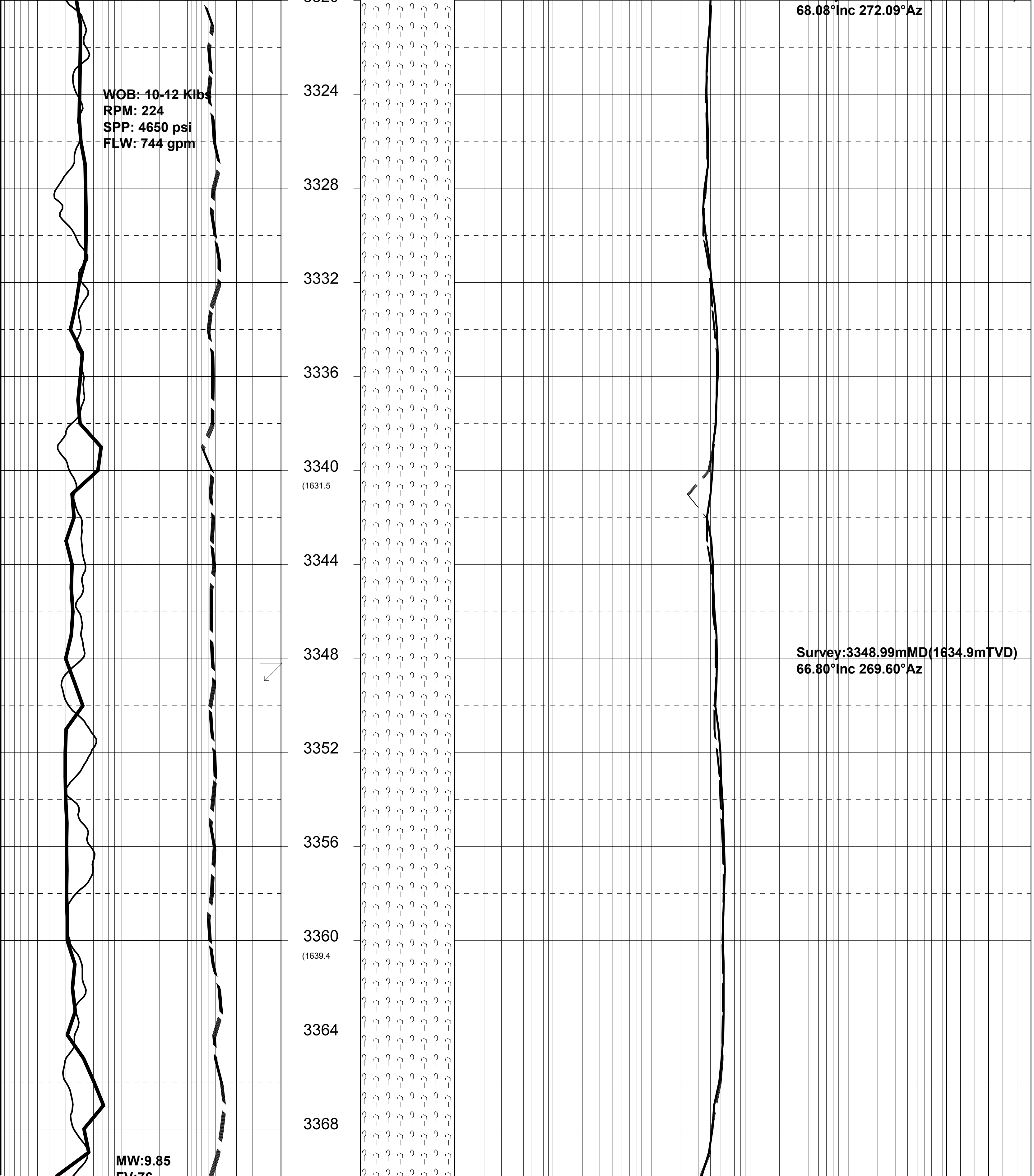

3124
3128
3132
3136
3140
(1559.6
3144
3148
3152
3156
3160
(1566.7
3164
3168
Survey:3145.03mMD(1561.3mTVD)
69.35°Inc 274.06°Az



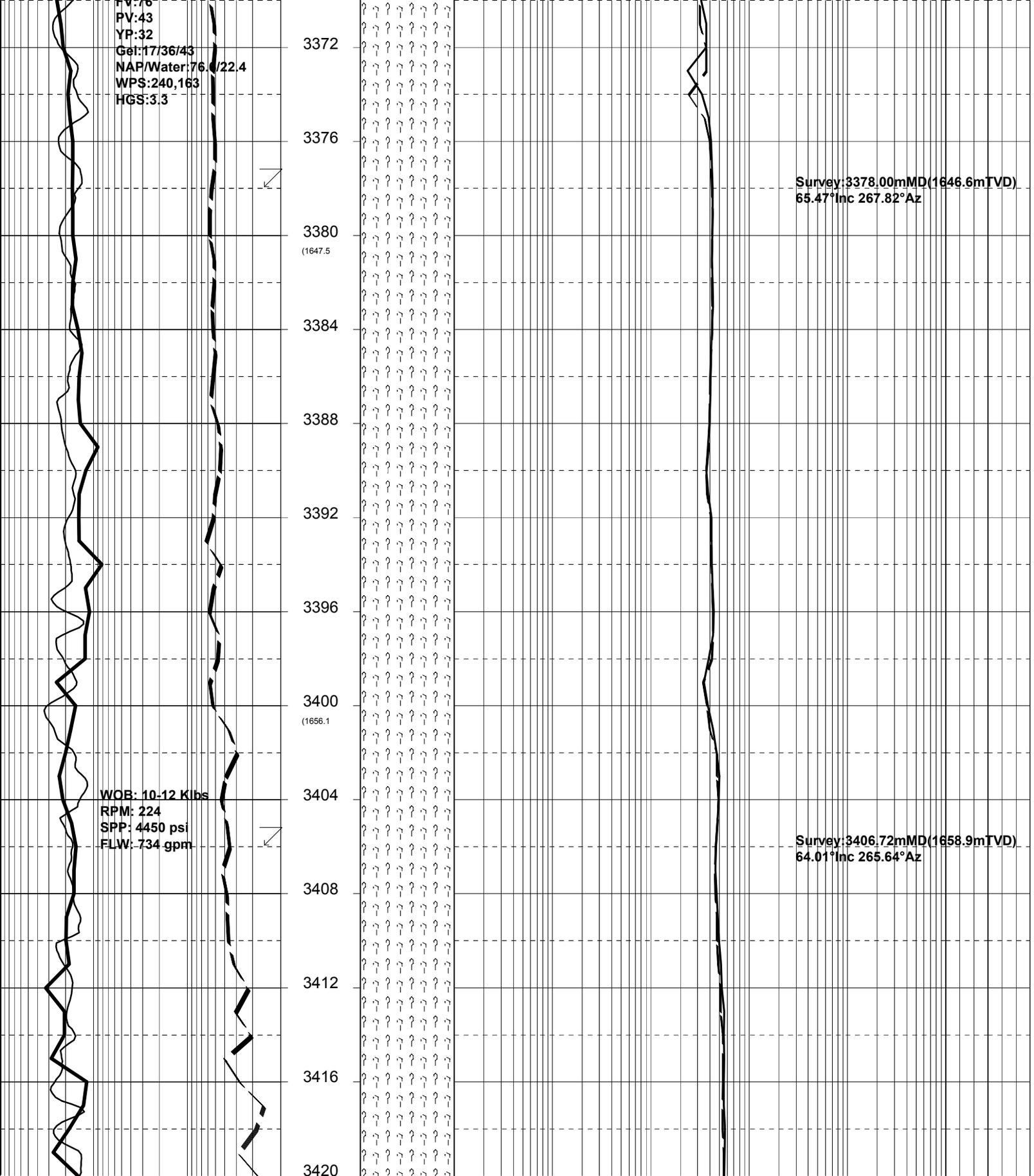
CALCAREOUS CLAYSTONE:lt olv gy-med dk gy, slty i/p,mod calc,tr micmic, sft-mod hd,amor-sbblky.

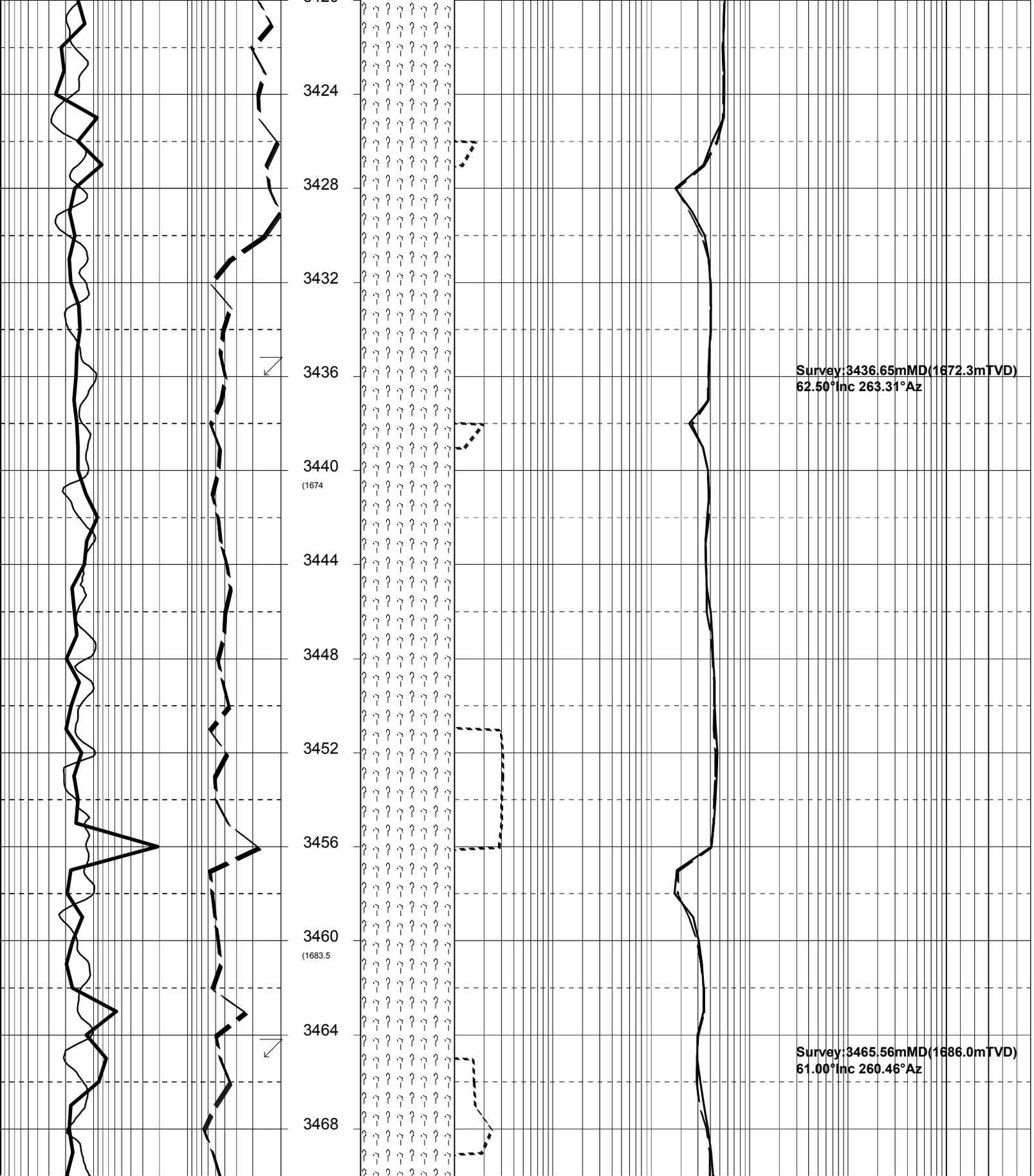

3224
3228
3232
3236
3240
(1595.2
3244
3248
3252
3256
3260
(1602.3
3264
3268
Survey:3231.95mMD(1592.3mTVD)
69.12°Inc 273.82°Az
Survey:3261.85mMD(1602.9mTVD)
69.20°Inc 274.34°Az
CALCAREOUS CLAYSTONE:lt olv gy-
med dk gy,slty i/p,mod calc,com
forams,rr micmic,sft-mod hd,amor-
sbblky.

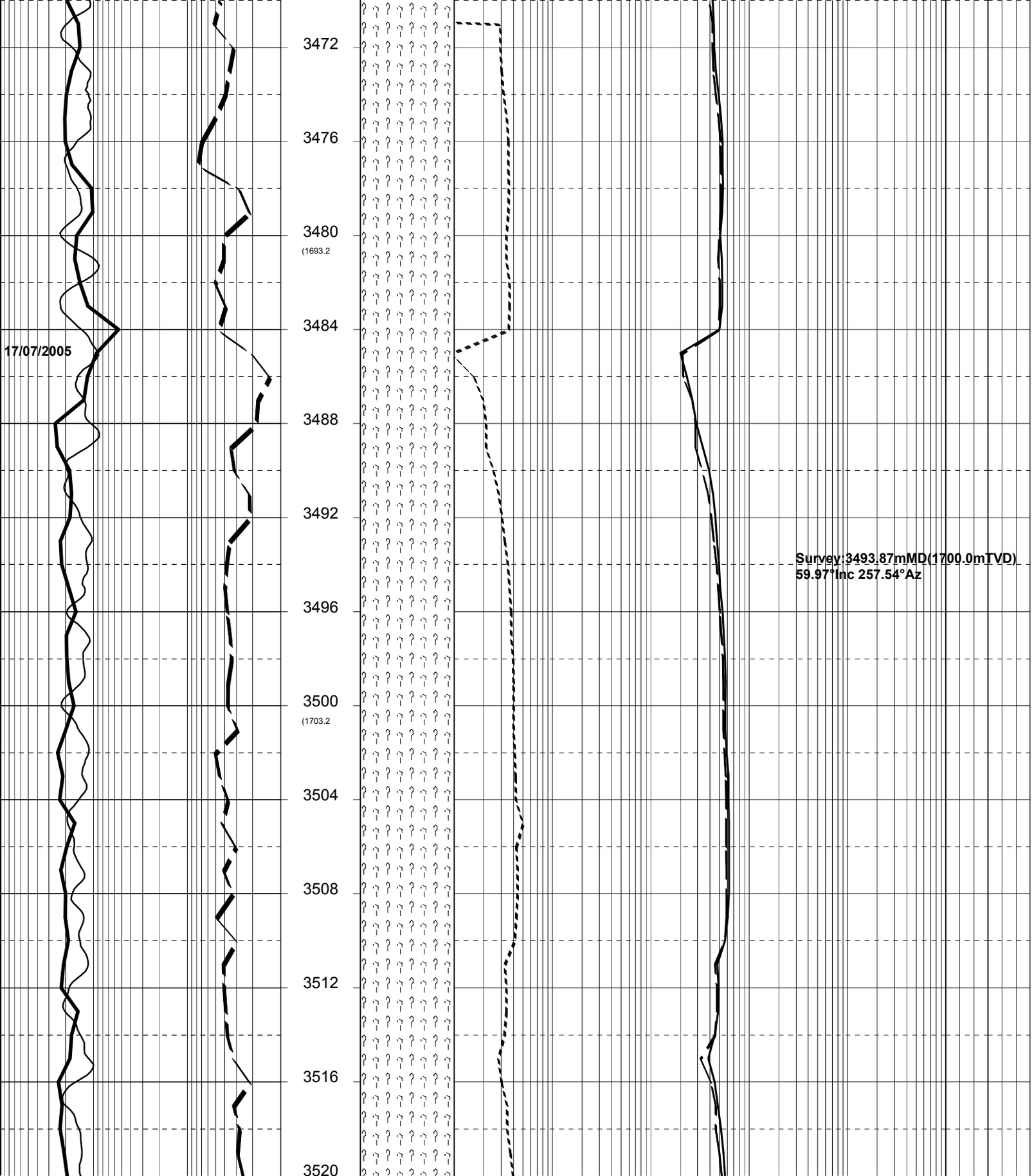

3272
3276
3280
(1609.4
3284
WOB: 8-12 Klbs
RPM: 224
SPP: 3550 psi
FLW: 596 gpm
3288
Survey:3290.76mMD(1613.1mTVD)
69.38°Inc 274.16°Az
3292
3296
3300
(1616.6
3304
3308
3312
3316
3320
Survey:3320.19mMD(1623.8mTVD)
CALCAREOUS CLAYSTONE:med dk gy,tr-occ lt oly gy,slty i/p,mod calc,



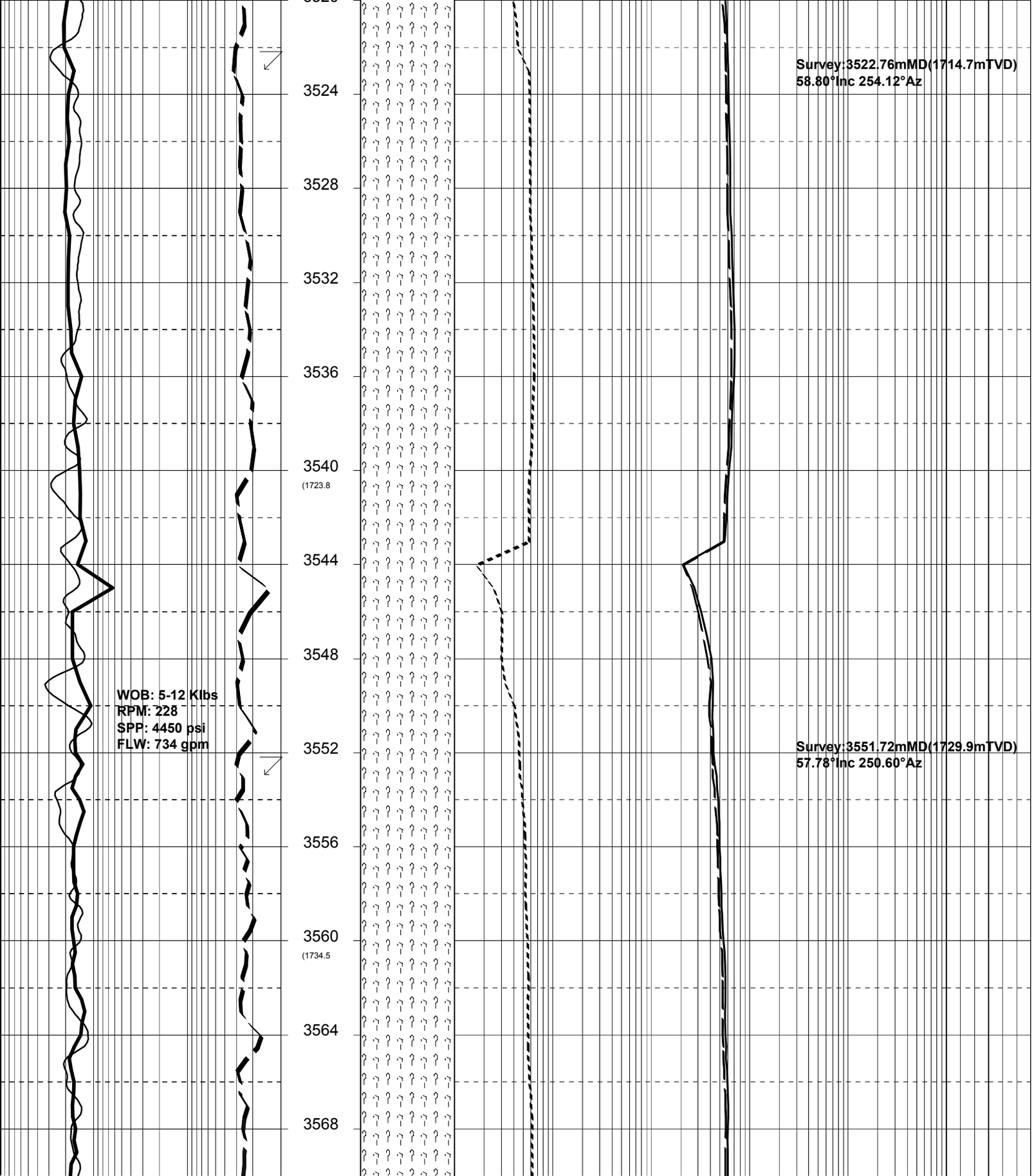
tr forams,tr micmic,mod hd-hd,
sbblky-blky.

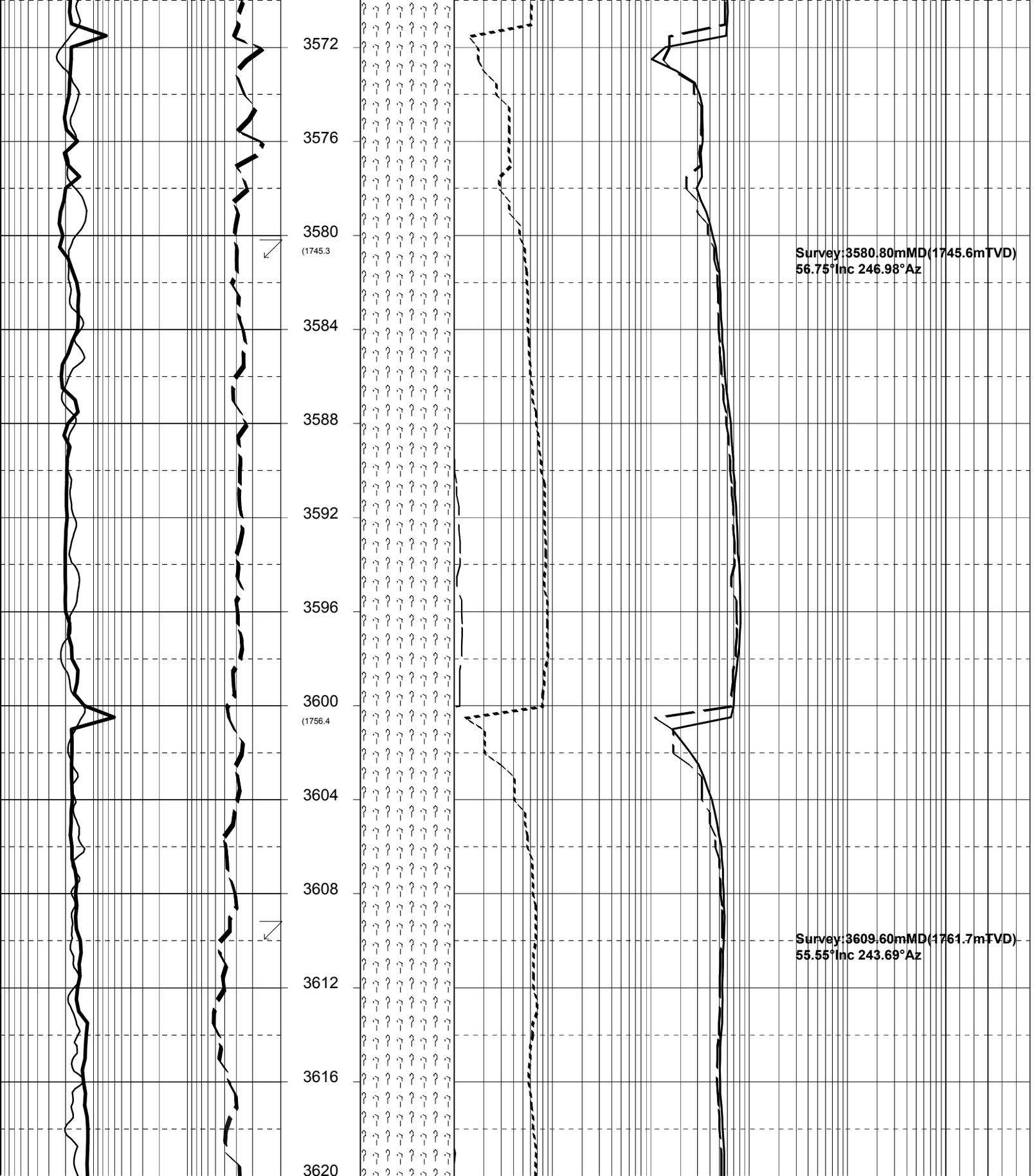

PV:43
YP:32
Gel:17/36/43
WPS:240,163
HGS:3.3
3372
3376
3380
(1647.5
3384
3388
3392
3396
3400
(1656.1
3404
3408
3412
3416
3420
WOB: 10-12 Klbs
RPM: 224
SPP: 4450 psi
FLW: 734 gpm
Survey:3378.00mMD(1646.6mTVD)
65.47°Inc 267.82°Az
Survey:3406.72mMD(1658.9mTVD)
64.01°Inc 265.64°Az
CALCAREOUS CLAYSTONE:lt olv gy-med dk gy,slty i/p,mod calc tr micmic, sft-mod hd,amor-sbblky.

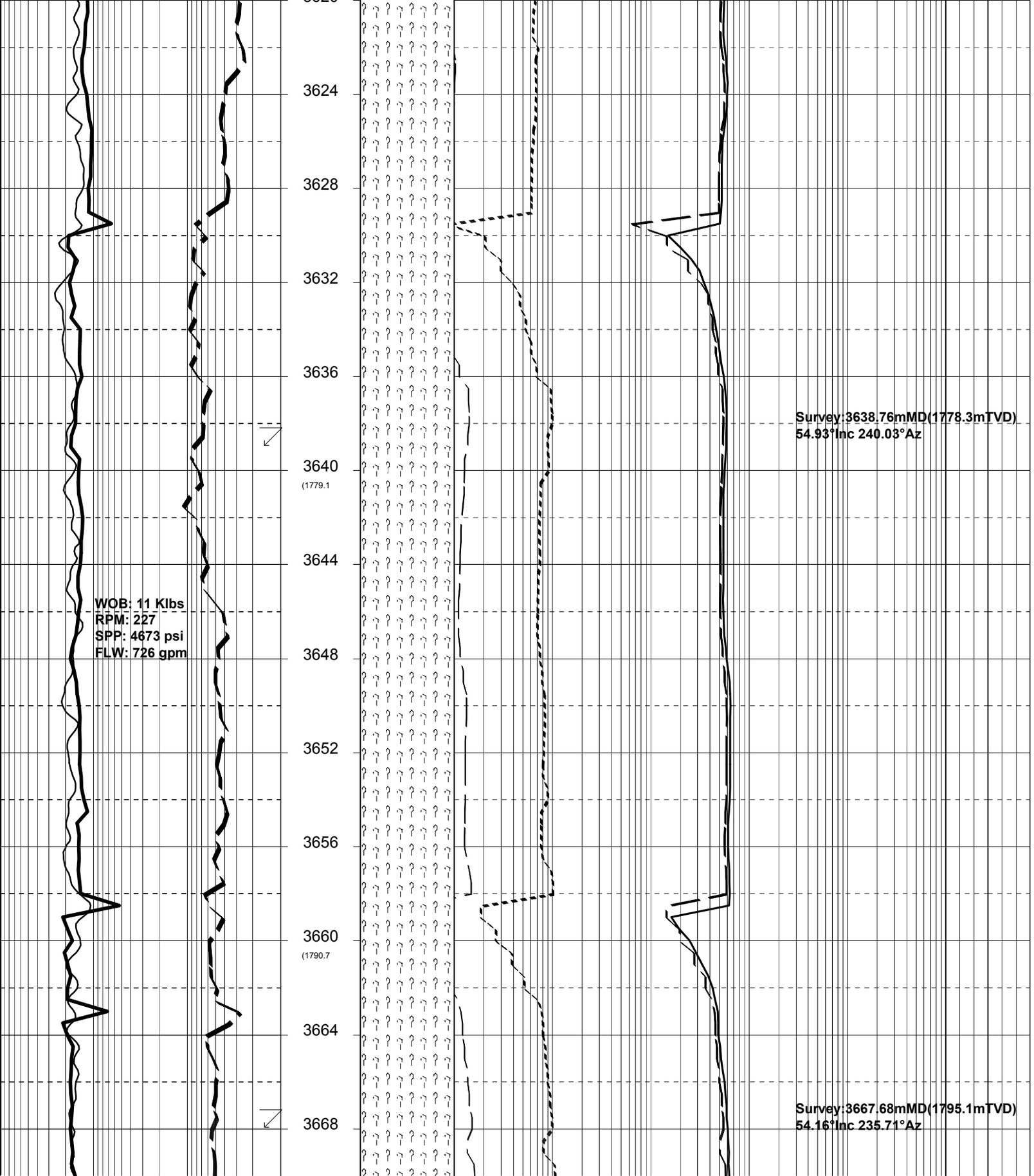

3424
3428
3432
3436
3440
(1674
3444
3448
3452
3456
3460
(1683.5
3464
3468
Survey:3436.65mMD(1672.3mTVD)
62.50°Inc 263.31°Az
Survey:3465.56mMD(1686.0mTVD)
61.00°Inc 260.46°Az



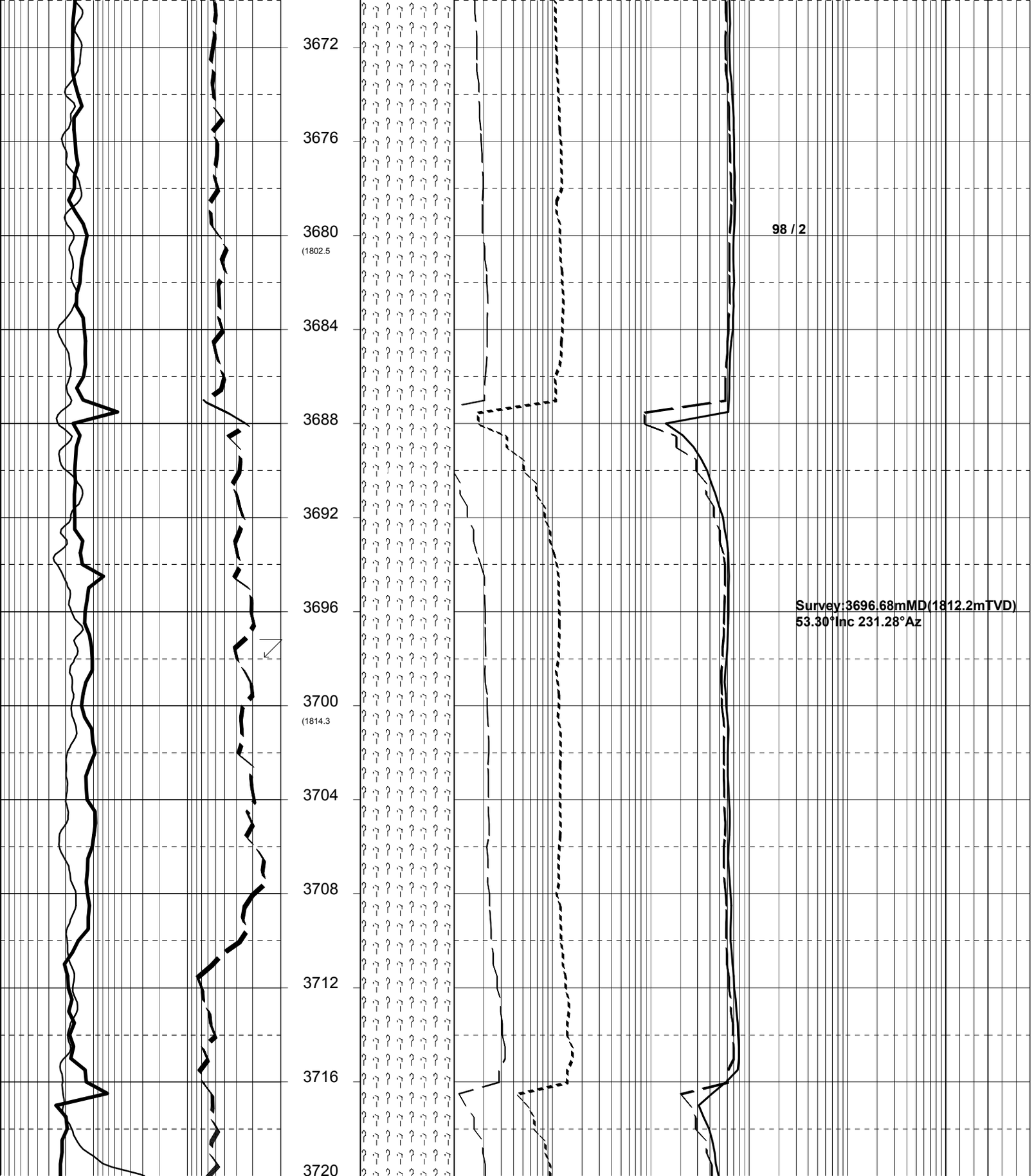
CALCAREOUS CLAYSTONE:lt olv gy-med dk gy,slty i/p,mod calc,tr micmic, sft-mod hd,amor-sbblky.

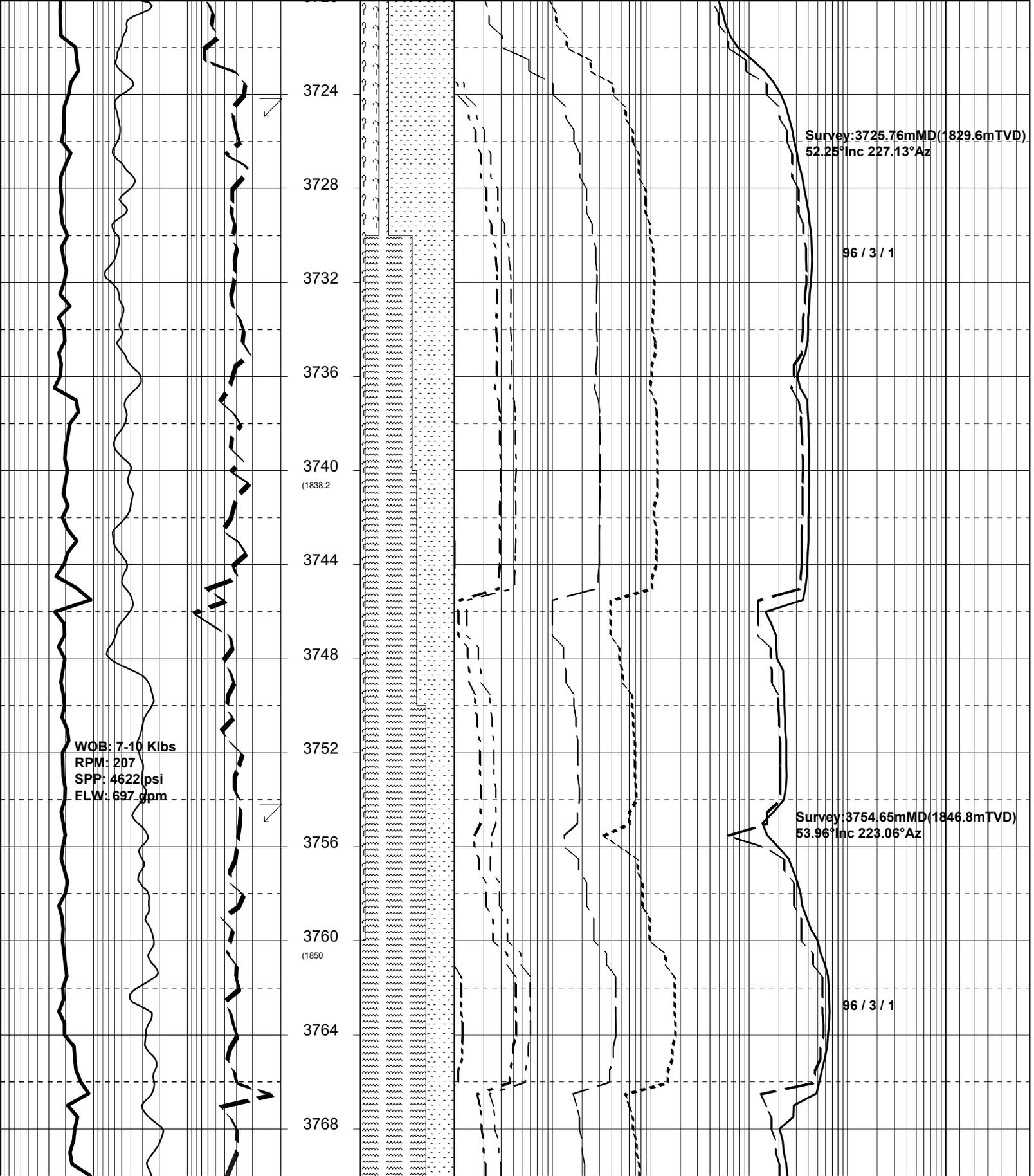

3524
3528
3532
3536
3540
(1723.8
3544
3548
3552
3556
3560
(1734.5
3564
3568
WOB: 5-12 Klbs
RPM: 228
SPP: 4450 psi
FLW: 734 gpm
Survey:3522.76mMD(1714.7mTVD)
58.80°Inc 254.12°Az
Survey:3551.72mMD(1729.9mTVD)
57.78°Inc 250.60°Az

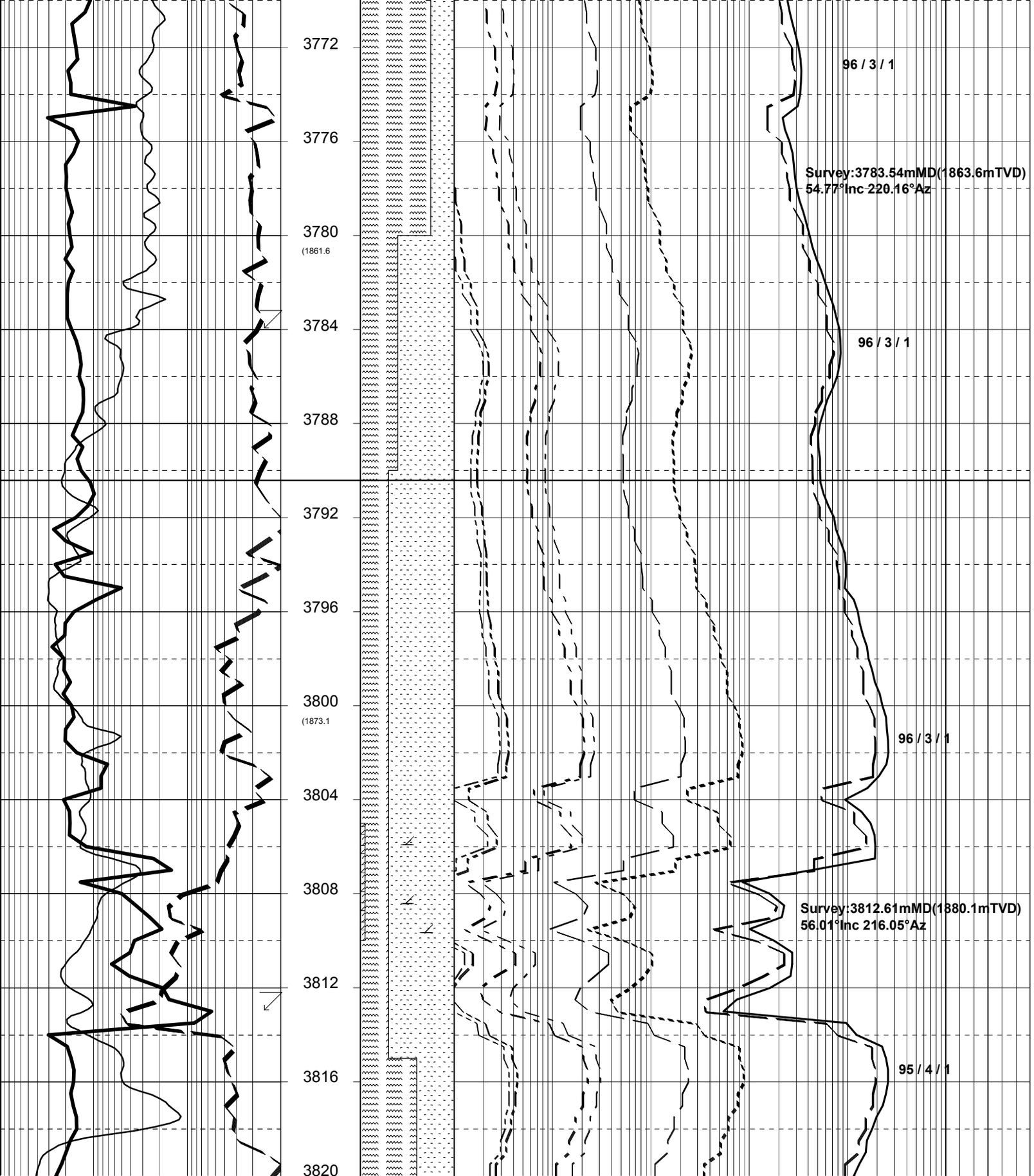

3572
3576
3580
(1745.3
3584
3588
3592
3596
3600
(1756.4
3604
3608
3612
3616
3620
Survey:3580.80mMD(1745.6mTVD)
56.75°Inc 246.98°Az
CALCAREOUS CLAYSTONE:lt olv gy-med dk gy,slty i/p,mod calc tr micmic, mod hd occ sft,amor-sbblky.
Survey:3609.60mMD(1761.7mTVD)
55.55°Inc 243.69°Az
CALCAREOUS CLAYSTONE:lt olv gy-med dk gy,slty i/p,mod calc tr micmic, tr dissem pyr,mod hd occ sft,amor-sbblky.



CALCAREOUS CLAYSTONE:lt med gy-occ blush gy,slty i/p,tr micmic, mod hd-hd,amor-sbblky.


3672
3676
3680
(1802.5
3684
3688
3692
3696
3700
(1814.3
3704
3708
3712
3716
3720
98 / 2
Survey:3696.68mMD(1812.2mTVD)
53.30°Inc 231.28°Az
CALCAREOUS CLAYSTONE:lt med gy-occ blsh gy,slty i/p,tr micmic, tr glauc,mod hd-hd,amor-sbblky.
TOP LATROBE GROUP
3720.0mMDRT 1826.2mTVDRT

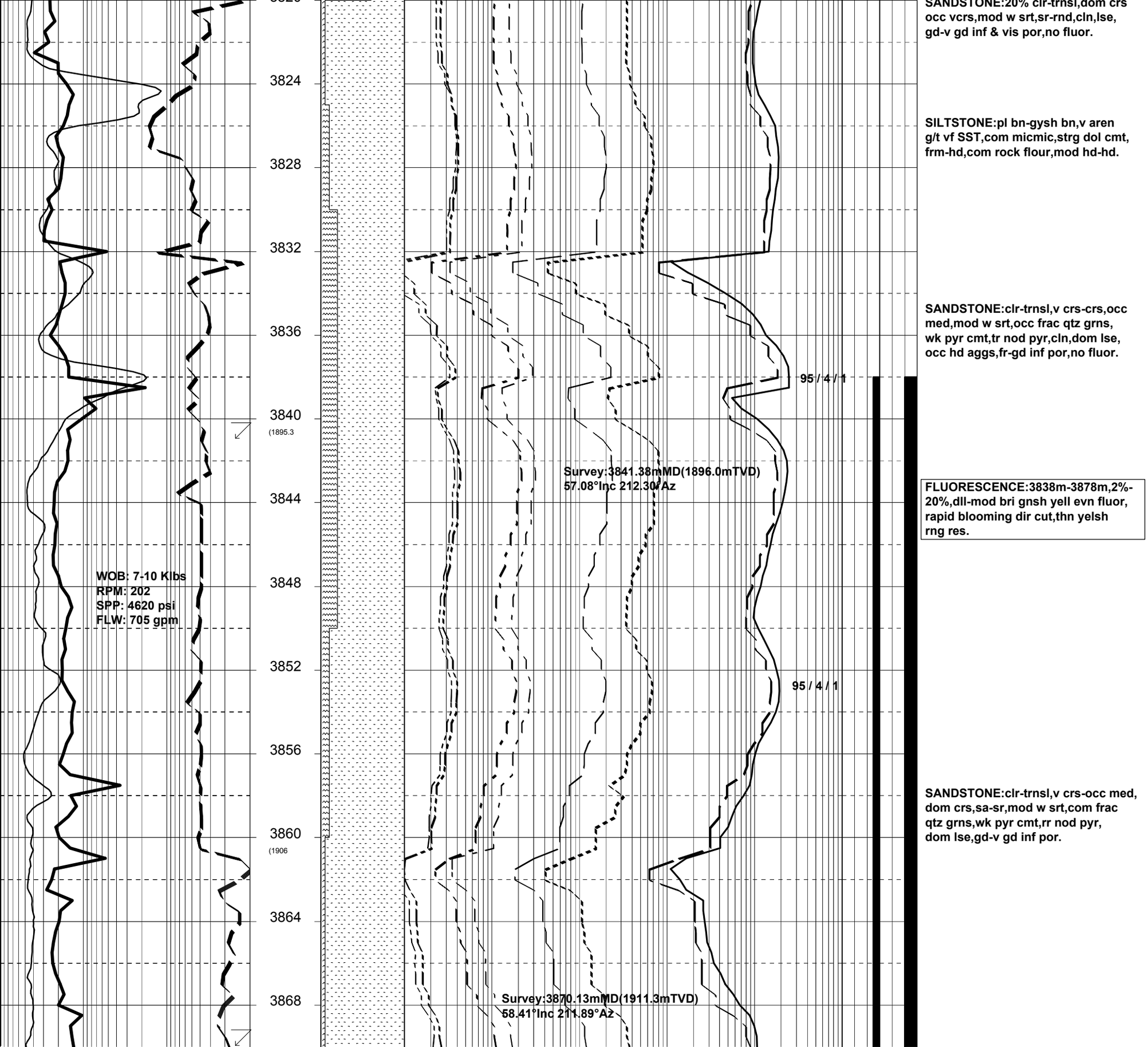

3720.0mMDRT 1826.2mTVDRT
3724
3728
3732
3736
3740
(1838.2
3744
3748
3752
3756
3760
(1850
3764
3768
WOB: 7-10 Klbs
RPM: 207
SPP: 4622 psi
ELW: 697 gpm
Survey:3725.76mMD(1829.6mTVD)
52.25°Inc 227.13°Az
96 / 3 / 1
Survey:3754.65mMD(1846.8mTVD)
53.96°Inc 223.06°Az
96 / 3 / 1
CLAYSTONE:dk yelsh orng,v disp, v sft-sft,disp.
SILTSTONE:lt bn-mod bn,v aren,g/t vf SST,com micmic,rr glauc,sft-frm, sbblky-blky.
SANDSTONE:trnsl-lt bn,vf-f dom vf, mod w srt,sa-sr,slty g/t SLTST.com mimic,com glauc,srtg gysh bn sil mtx, hd aggs,fr-v pr por,no fluor.
SILTSTONE:lt bn-mod bn,v aren,g/t vf SST,tr micmic,com-abdt glauc,sft-frm,sbblky-blky.

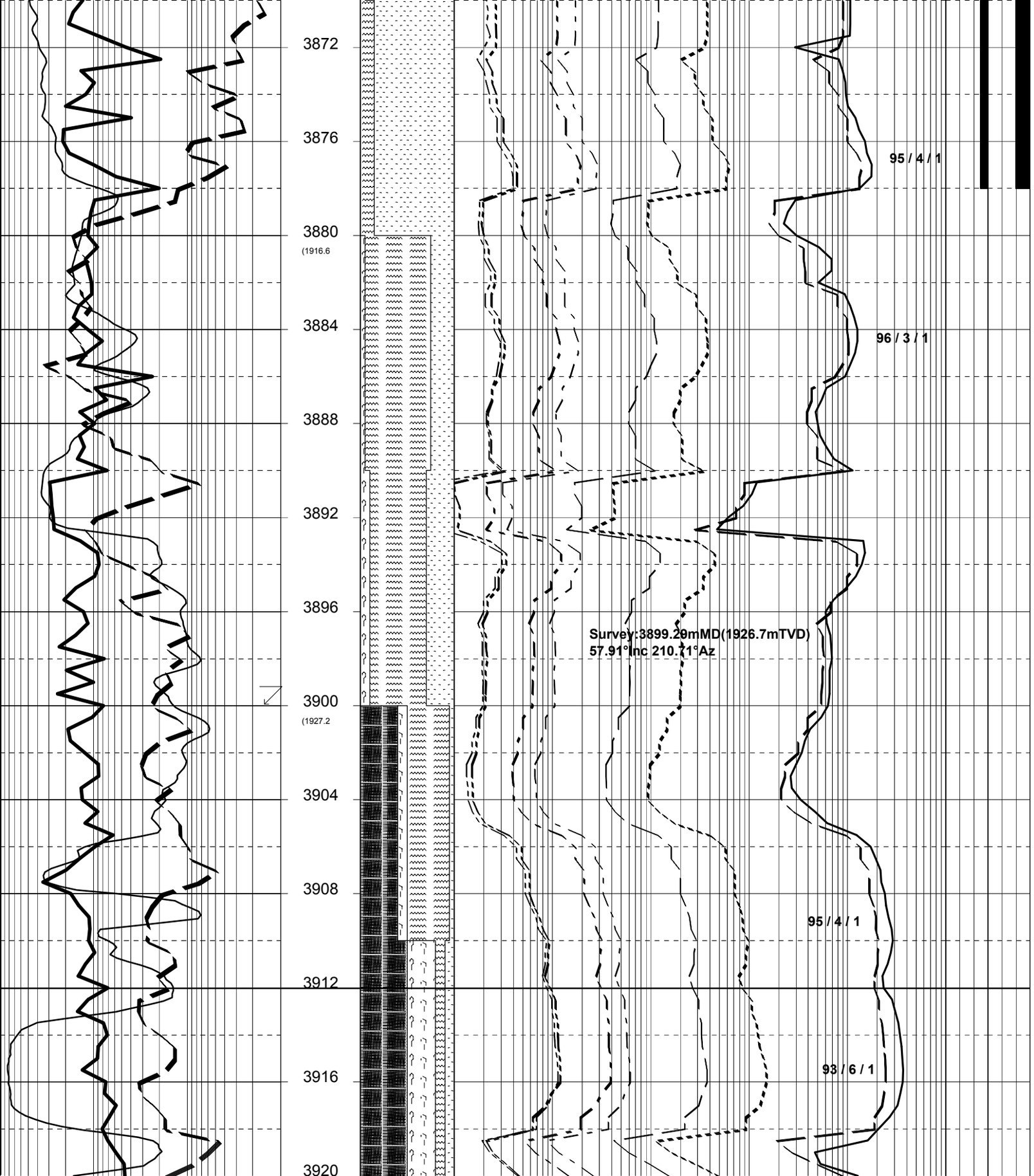


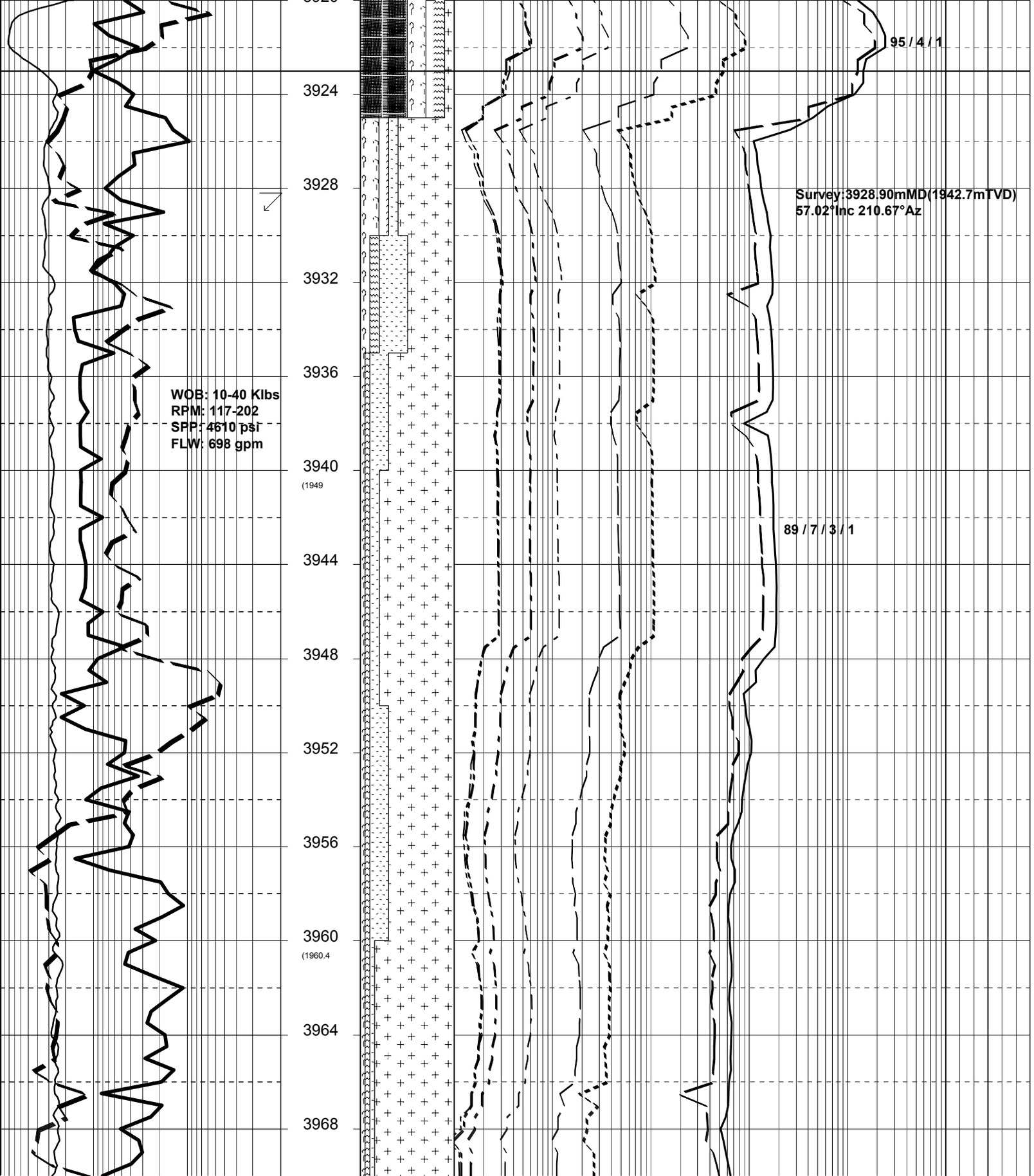
COARSE CLASTICS (TOP N-1 SAND)
3790.4mMDRT 1867.5mTVDRT

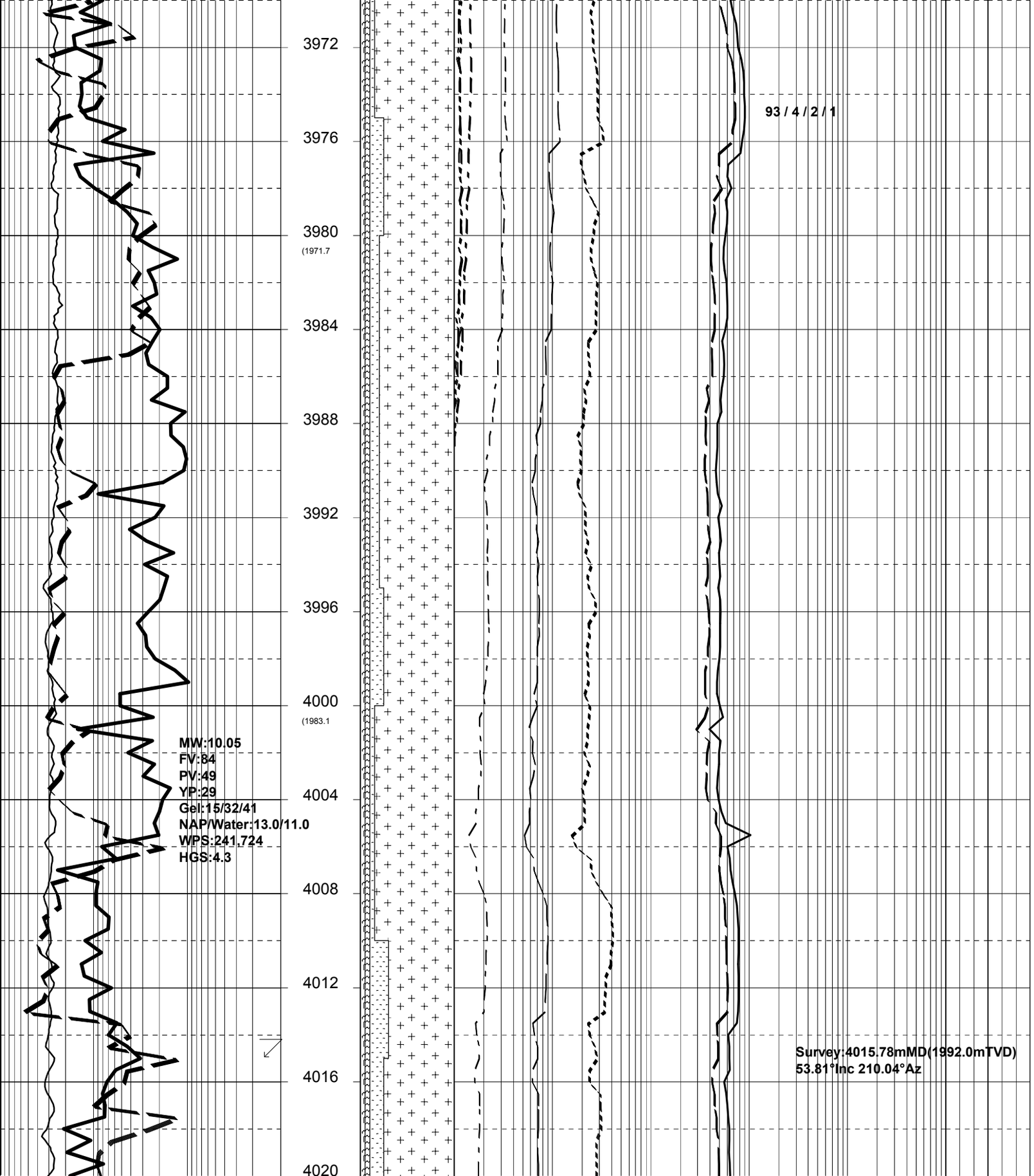
DOLOMITE:gysh bn-dsky bn,hd-v hd, blky.

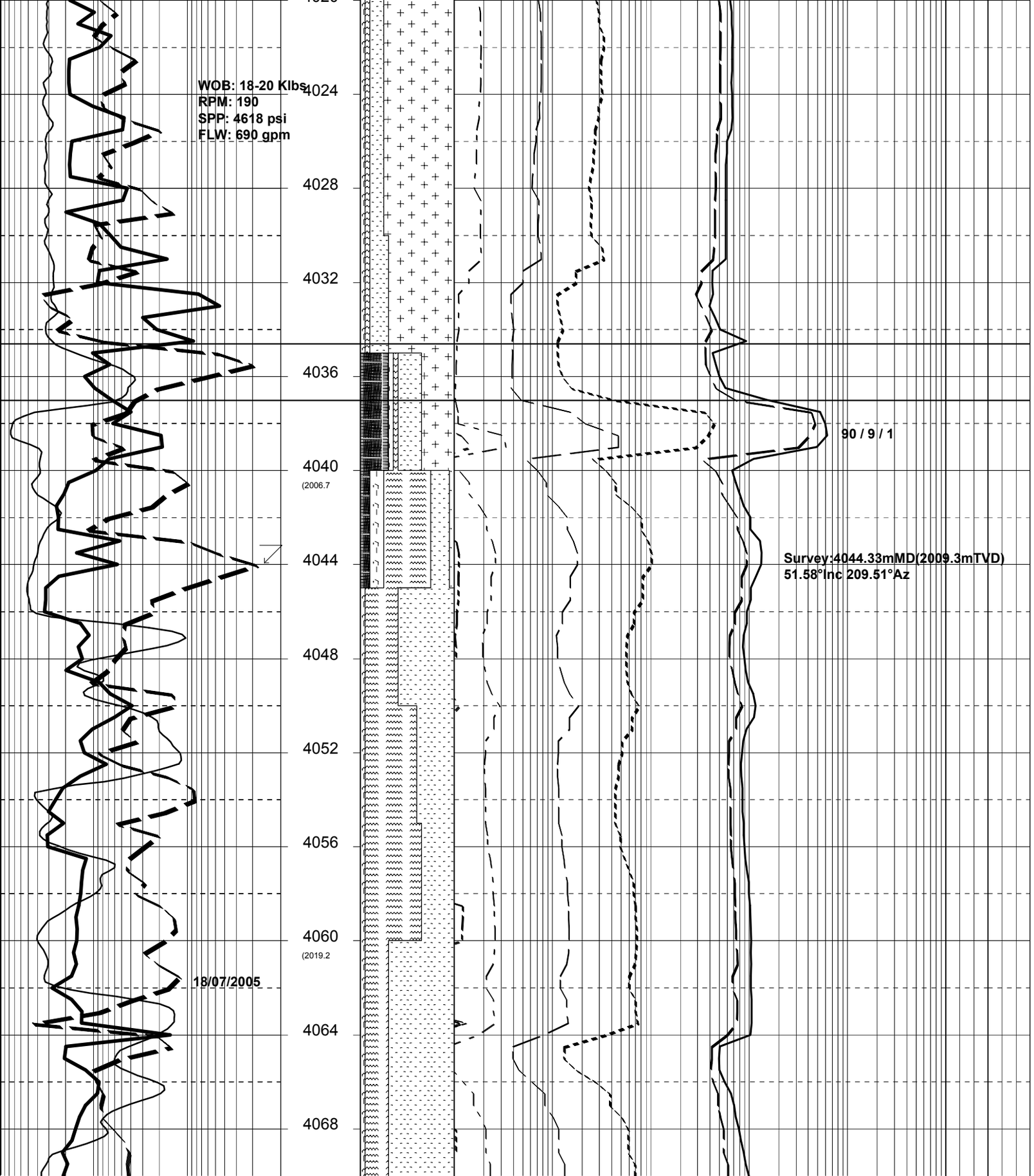
SANDSTONE:50% trnsl-lt bn,vf-f dom vf,mod w srt,sa-sr,slty g/t SLTST.com mimic,strg gysh bn dol cmt/mtx,hd aggs,ti-v pr por,no fluor.

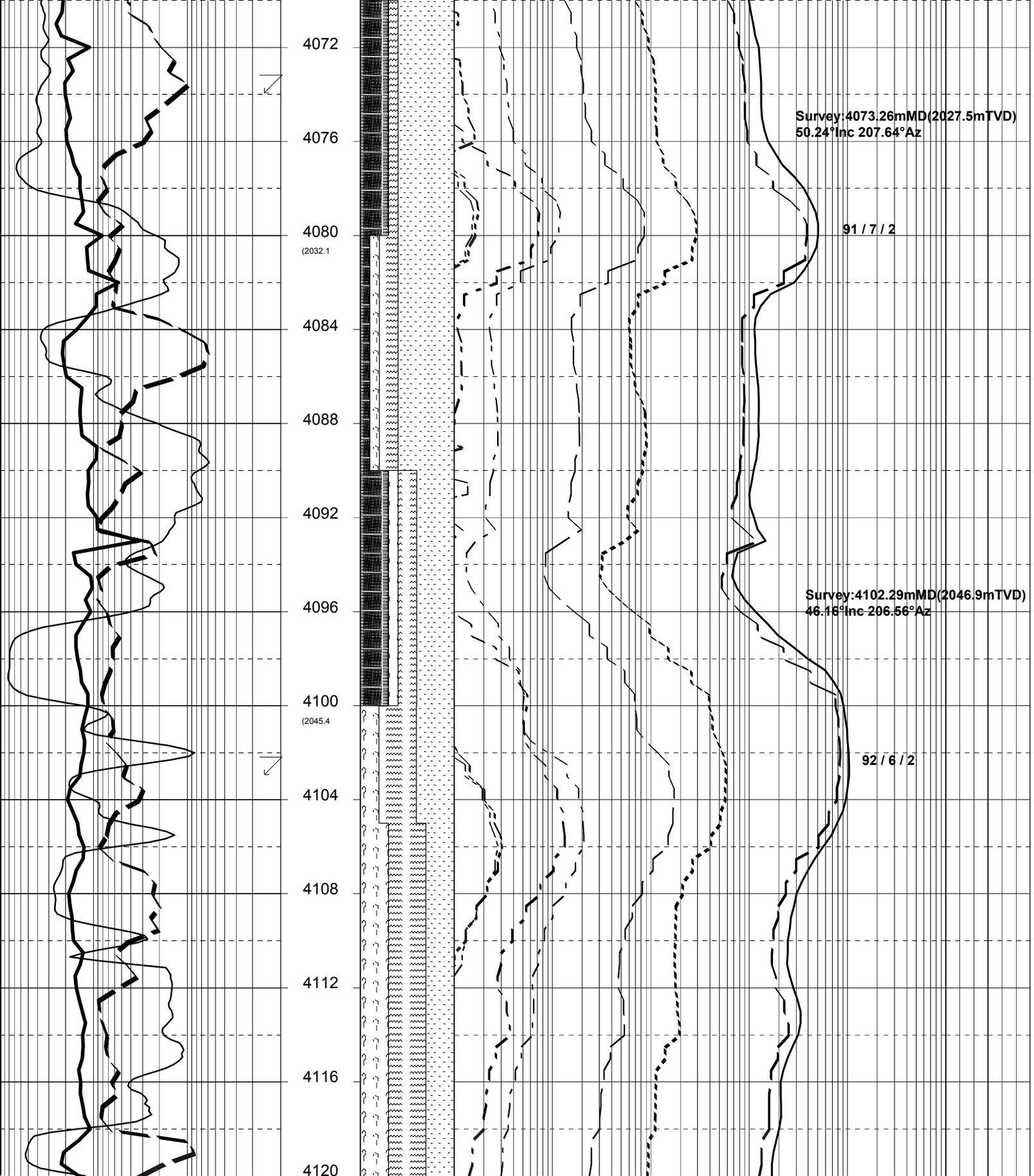

3824
3828
3832
3836
3840
(1895.3
3844
3848
3852
3856
3860
(1906
3864
3868
WOB: 7-10 Klbs
RPM: 202
SPP: 4620 psi
FLW: 705 gpm
Survey:3841.38mMD(1896.0mTVD)
57.08°Inc 212.30°Az
95 / 4 / 1
95 / 4 / 1
Survey:3870.13mMD(1911.3mTVD)
58.41°Inc 211.89°Az
SANDSTONE:20% clr-trnsl,dom crs occ vcrs,mod w srt,sr-rnd,cln,lse, gd-v gd inf & vis por,no fluor.
SILTSTONE:pl bn-gysh bn,v aren g/t vf SST,com micmic,strg dol cmt, frm-hd,com rock flour,mod hd-hd.
SANDSTONE:clr-trnsl,v crs-crs,occ med,mod w srt,occ frac qtz grns, wk pyr cmt,tr nod pyr,cln,dom lse, occ hd aggs,fr-gd inf por,no fluor.
FLUORESCENCE:3838m-3878m,2%-20%,dll-mod bri gnsh yell evn fluor, rapid blooming dir cut,thn yelsh rng res.
SANDSTONE:clr-trnsl,v crs-occ med, dom crs,sa-sr,mod w srt,com frac qtz grns,wk pyr cmt,rr nod pyr, dom lse,gd-v gd inf por.

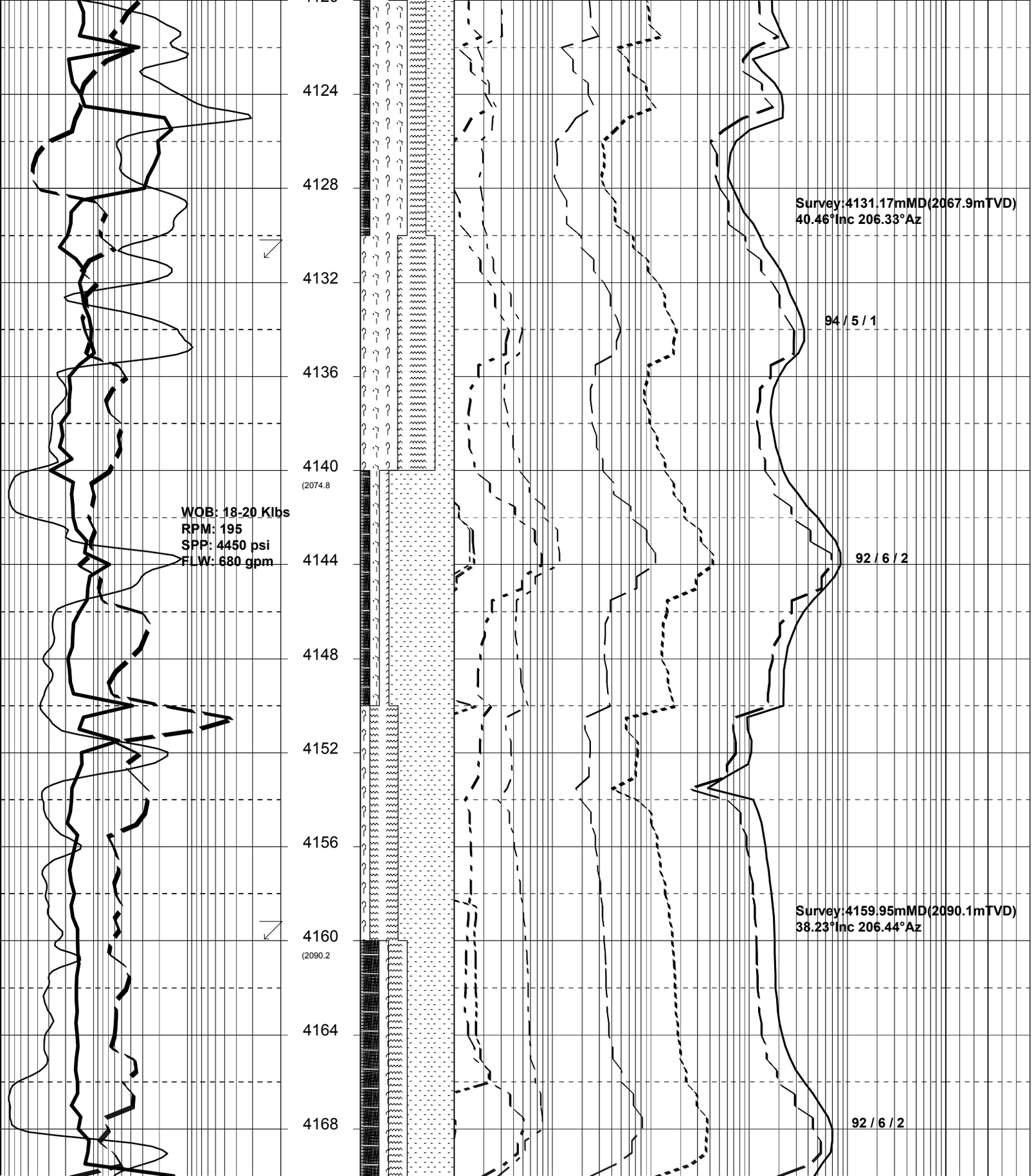

3872
3876
3880
(1916.6
3884
3888
3892
3896
3900
(1927.2
3904
3908
3912
3916
3920
95 / 4 / 1
96 / 3 / 1
Survey:3899.29mMD(1926.7mTVD)
57.91°Inc 210.71°Az
95 / 4 / 1
93 / 6 / 1
SANDSTONE:clr-trnsl,pl yel bn, crs-v crs,occ med,dom crs,occ frac qtz grns,wk pyr cmt,rr pyr nod,dom lse & cln,gd inf por,fr vis por.
SILTSTONE:gy bn-bn blk,v aren, g/t vf SST,com micmic,tr pyr nods, tr dissem pyr,occ frm-mod hd, sbblky-blky.
CLAYSTONE:off wh-pl bn,sli calc,sft-frm,amor-sbblky.
COAL:gy blk,slty i/p,g/t carb SLTST,tr micmic,sbvit,frm, sbblky,unevn.
P.asperopulus COAL
3912.8mMDRT 1934.0mTVDRT
SANDSTONE:clr-trns,f-occ crs,dom med,sa-sr,mod w srt,wk pyr cmt, tr pyr nod,dom lse and gen cln, pr-fr inf por,no fluor.

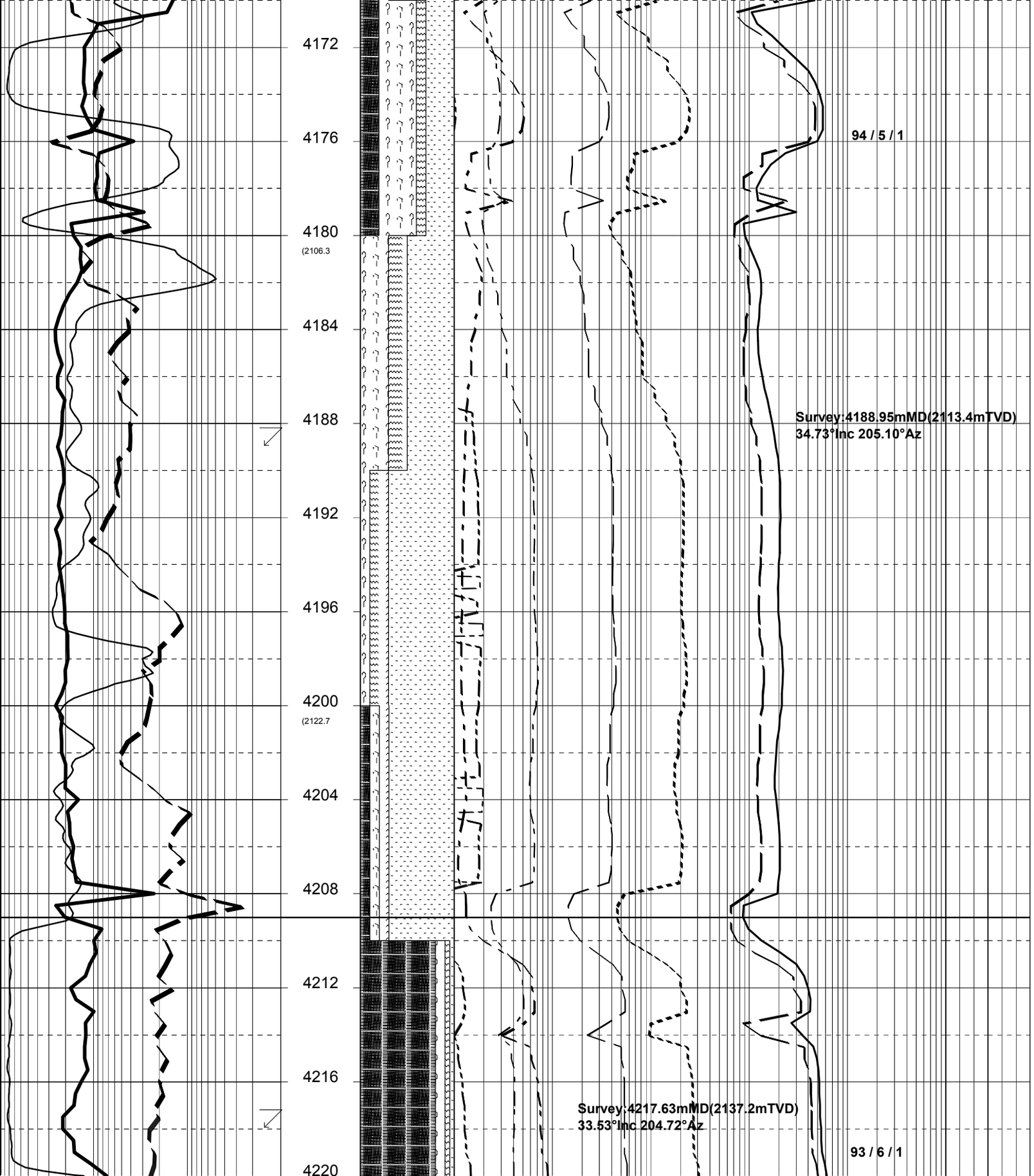

95 / 4 / 1
3924
3928
3932
3936
3940
(1949
3944
3948
3952
3956
3960
(1960.4
3964
3968
WOB: 10-40 Klbs
RPM: 117-202
SPP: 4610 psi
FLW: 698 gpm
89 / 7 / 3 / 1
IGNEOUS INTRUSIVES
3923.0mMDRT 1939.5mTVDRT
Survey:3928.90mMD(1942.7mTVD)
57.02°Inc 210.67°Az
VOLCANICS:gy bn-bn blk,xln,
50% sand,mod hd-hd.
SANDSTONE:off wh-pl gy,vf-f,dom
vf,mod w srt,sa-sr,com glauc mtx,
com glauc pell,com hd aggs,ti vis
& inf por,no fluor.
CLAYSTONE:off wh-v pl org,sli
calc,com rock flour,sft-frm,
amor-sbblky.
SANDSTONE:clr-trnsl,occ pa yelsh brn,
f-vcrs,pr srt,sa-sr,occ crac qtz grns,
occ hd aggs,pr vis & inf por,
no fluor.
VOLCANICS:dusky brn-brnsh blk xln

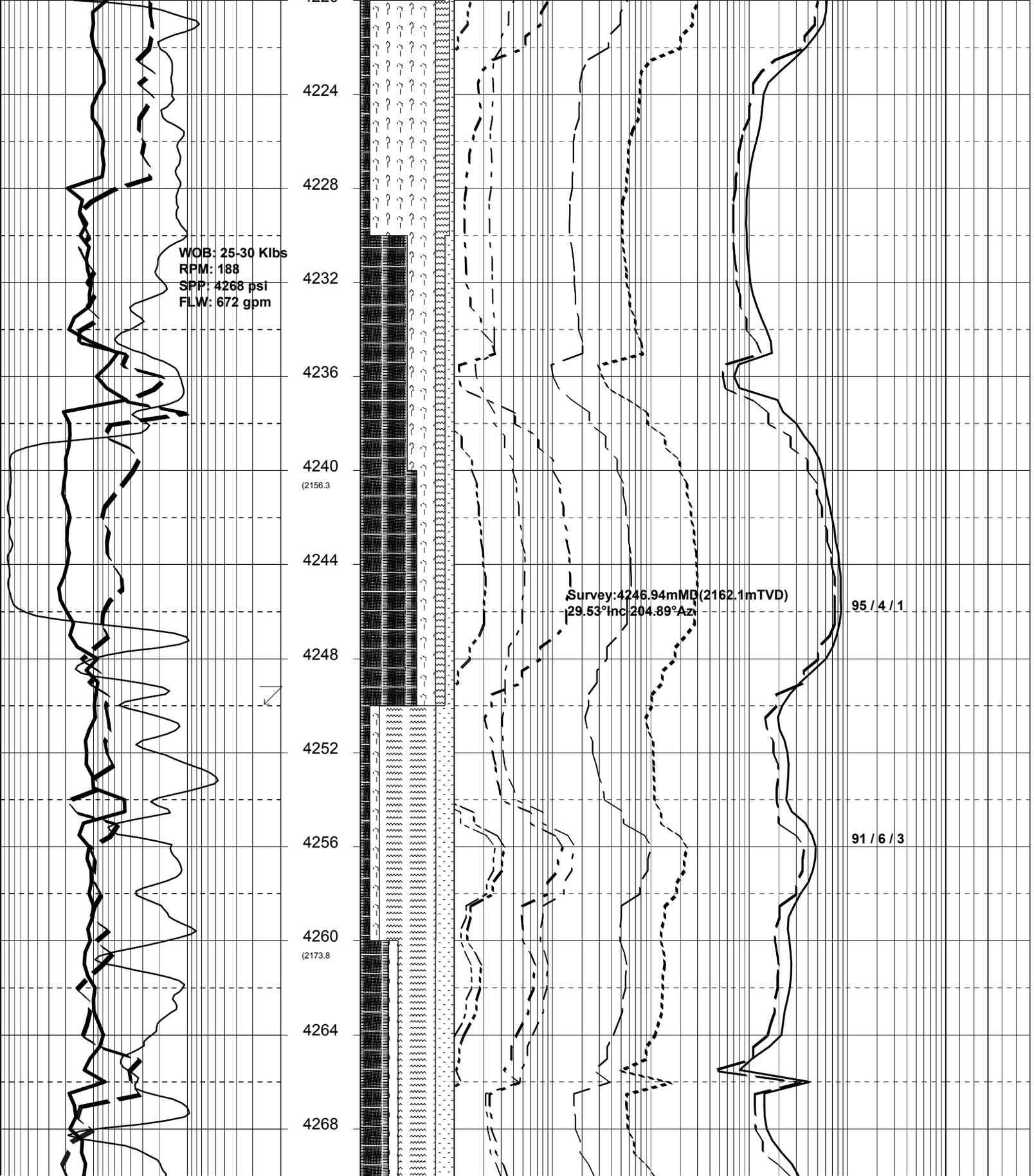

3972
3976
3980
(1971.7
3984
3988
3992
3996
4000
(1983.1
4004
4008
4012
4016
4020
MW:10.05
FV:84
PV:49
YP:29
Gel:15/32/41
NAP/Water:13.0/11.0
WPS:241,724
HGS:4.3
93 / 4 / 2 / 1
Survey:4015.78mMD(1992.0mTVD)
53.81°Inc 210.04°Az
VOLCANICS:dusky brn-brnsh blk,xln,
50% sand,mod hd-hd,com rock flour.
CLAYSTONE:off wh-v pl org,sli
calc,com rock flour,sft-frm,
amor-sbblky.
VOLCANICS:dusky brn-brnsh blk,xln,
50% sand,mod hd-hd,com rock flour.
SANDSTONE:trnsl-occ pa gn,dom
vf-f,mod wl srt,sa-sr,pred qtzite,
str sil cmt,com vf glauc mtx,hd aggs
ti-v pr inf & vis por,no fluor.

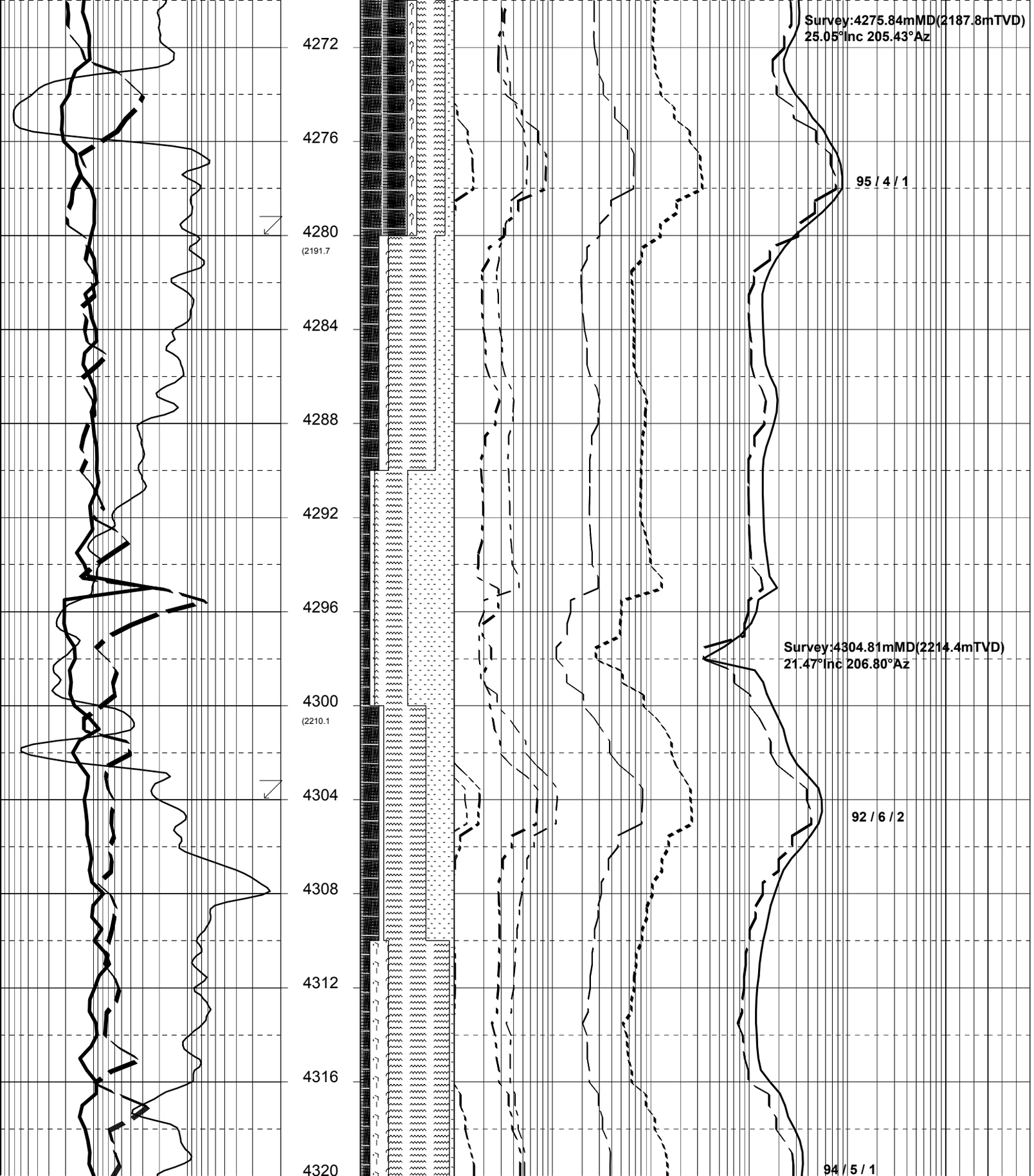

WOB: 18-20 Klbs
RPM: 190
SPP: 4618 psi
FLW: 690 gpm
4024
4028
4032
4036
4040
(2006.7
4044
4048
4052
4056
4060
(2019.2
18/07/2005
4064
4068
Base Igneous Intrusives
4034.6mMDRT 2003.4mTVDRT
Sub-Intrusives Sand
4037.0mMDRT 2005.4mTVDRT
90 / 9 / 1
Survey:4044.33mMD(2009.3mTVD)
51.58°Inc 209.51°Az
COAL:gysh blk-blk,slty g/t CARB SLTST,tr micmic,dll,frm,sbblky, uneven.
SANDSTONE:clr-trnsl bn,vf-c pred f-med,p srt,sa-sr,pred lse w/com fri aggs,wk-mod sil cmt,tr arg mtx,tr carb inc,fr inf/vis por, no fluor.
CLAYSTONE:off wh-med bn,sli calc, com rock flour,sft-frm,amor-sbblky.
SILTSTONE:dk gy-blk,arg occ aren, v carb i/p,micmic,sft-frm,sbblky.
SILTSTONE:dk gnsh gy-gy,aren i/p,dol i/p,frm-vhd,blky.


4072
4076
4080
(2032.1
4084
4088
4092
4096
4100
(2045.4
4104
4108
4112
4116
4120
Survey:4073.26mMD(2027.5mTVD)
50.24°Inc 207.64°Az
91 / 7 / 2
Survey:4102.29mMD(2046.9mTVD)
46.16°Inc 206.56°Az
92 / 6 / 2
CLAYSTONE:off wh-pl bn,slty i/p,tr carb spks & incl,sft-fri,disp i/p, sbblky.
COAL:gysh blk-blk,slty,tr micmic, dll,frm,sbblky,uneven.
SANDSTONE:clr-trnsl bn-frstd,vf-vc pred med-crs,v pr srt,ang-sr,lse crs grns,com vf-f fri aggs,mod sil cmt, com wh arg mtx,fr-pr vis/inf por,no fluor.
COAL:gysh blk-blk,slty,tr micmic, dll,frm,sbblky,uneven occ sbconch.
SILTSTONE:dk gnsh gy-gy,dom aren arg i/p,dol i/p,carb i/p,frm-vhd, sbblky-blky.
CLAYSTONE:off wh-pl bn,slty i/p,tr carb spks & incl,fri-frm,sbblky-blky.
SANDSTONE:clr-trnsl bn-frstd,vf-crs pred f-med,pr srt,ang-sr,lse crs grns, com vf-f fri aggs,mod sil cmt,com wh arg mtx,fr-pr vis/inf por,no fluor.


4124
4128
4132
4136
4140
(2074.8
4144
4148
4152
4156
4160
(2090.2
4164
4168
WOB: 18-20 Klbs
RPM: 195
SPP: 4450 psi
FLW: 680 gpm
Survey:4131.17mMD(2067.9mTVD)
40.46°Inc 206.33°Az
94 / 5 / 1
92 / 6 / 2
Survey:4159.95mMD(2090.1mTVD)
38.23°Inc 206.44°Az
92 / 6 / 2
CLAYSTONE:off wh-pl bn,g/t SLTST, tr carb spks & incl,sft-frm,sbblky-blky.
COAL:gysh blk-blk,slty,tr micmic, dll,frm,sbblky,uneven.
SILTSTONE:dk gnsh gy-gy,dom aren arg i/p,carb i/p,frm-vhd,sbblky-blky.
SANDSTONE:clr-trnsl bn,f-crs pred f-med,p srt,sr-sa,dom lse,occ f aggs w/slty/arg mtx,tr lith,pr inf/vis por, no fluor.
COAL:gysh blk-blk,slty,tr micmic, dll,frm,sbblky,uneven.


4172
4176
4180
(2106.3
4184
4188
4192
4196
4200
(2122.7
4204
4208
4212
4216
4220
94 / 5 / 1
Survey:4188.95mMD(2113.4mTVD)
34.73°Inc 205.10°Az
Survey:4217.63mMD(2137.2mTVD)
33.53°Inc 204.72°Az
93 / 6 / 1
CLAYSTONE:off wh-pl gy-med bn, slty i/p,tr carb spks & incl,sft-frm, sbblky-blky.
SANDSTONE:clr-trnsl bn,f-crs pred f-med,p srt,sr-sa,dom lse,com v crs qtz grs,occ f aggs w/slty/arg mtx, tr lith,pr inf/vis por,no fluor.
F Coal
4209.0mMDRT 2130.0mTVDRT
COAL:blk,sbvit,brit,blky,ang.


4224
4228
4232
4236
4240
(2156.3
4244
4248
4252
4256
4260
(2173.8
4264
4268
WOB: 25-30 Klbs
RPM: 188
SPP: 4268 psi
FLW: 672 gpm
Survey:4246.94mMD(2162.1mTVD)
29.53°Inc 204.89°Az
95 / 4 / 1
91 / 6 / 3
SANDSTONE:clr-trnsl bn,f-crs pred f-med,p srt,sr-sa,dom lse,com v crs qtz grs,occ f aggs w/slty/arg mtx, tr lith,pr inf/vis por,no fluor.
COAL:blk,sbvit,brit,blky,ang.
CLAYSTONE:off wh-pl gy-med bn, slty i/p,tr carb spks & incl,sft-frm, sbblky-blky.
SILTSTONE:dk yellsh bn-gy bn, v aren g/t vf SST,tr micmic,frm-mod hd,sbblky.
SANDSTONE:clr-trnsl,f-rr crs dom med,mod w srt,sa-sr,cln,dom lse,fr inf & vis por,no fluor.

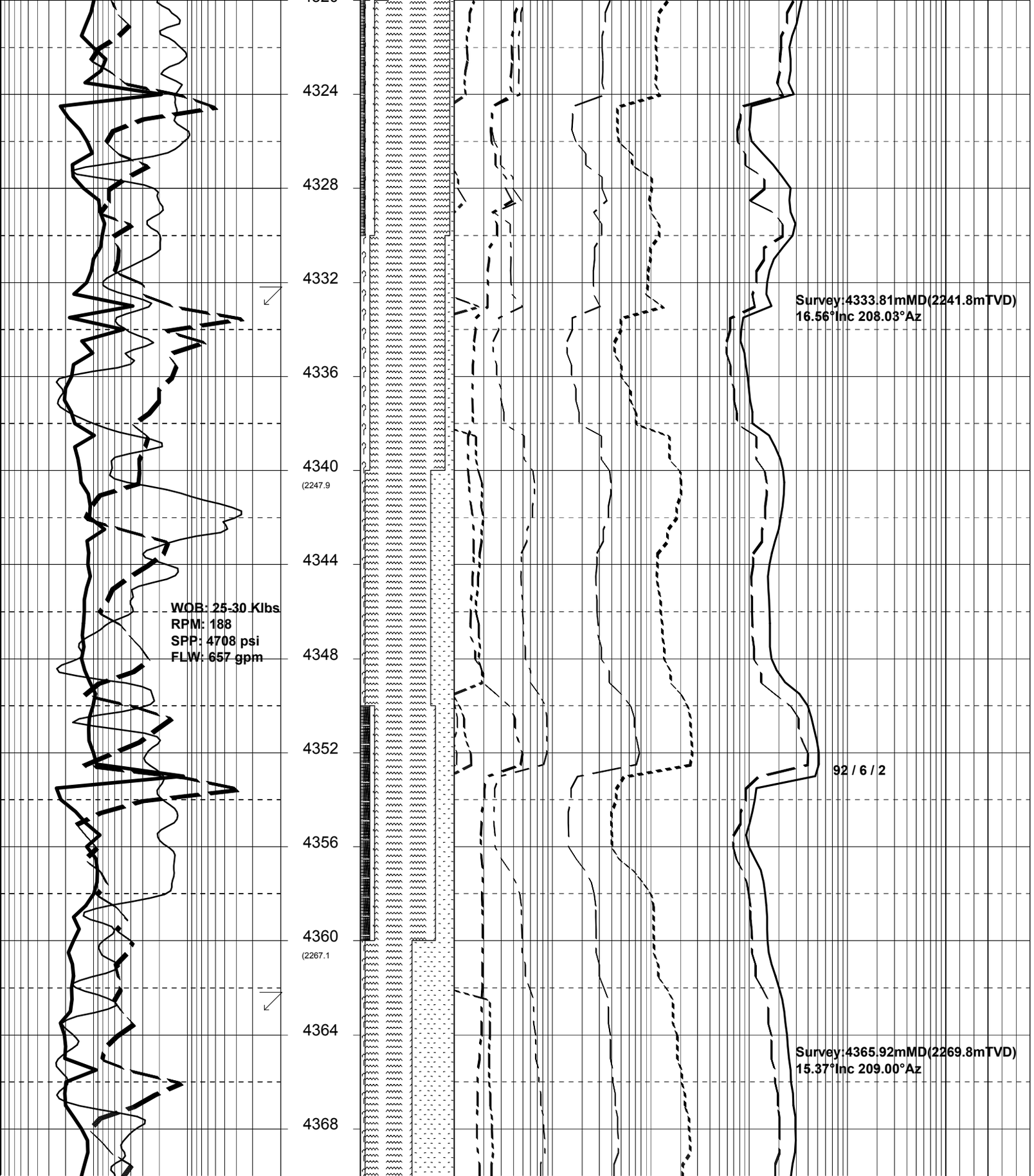


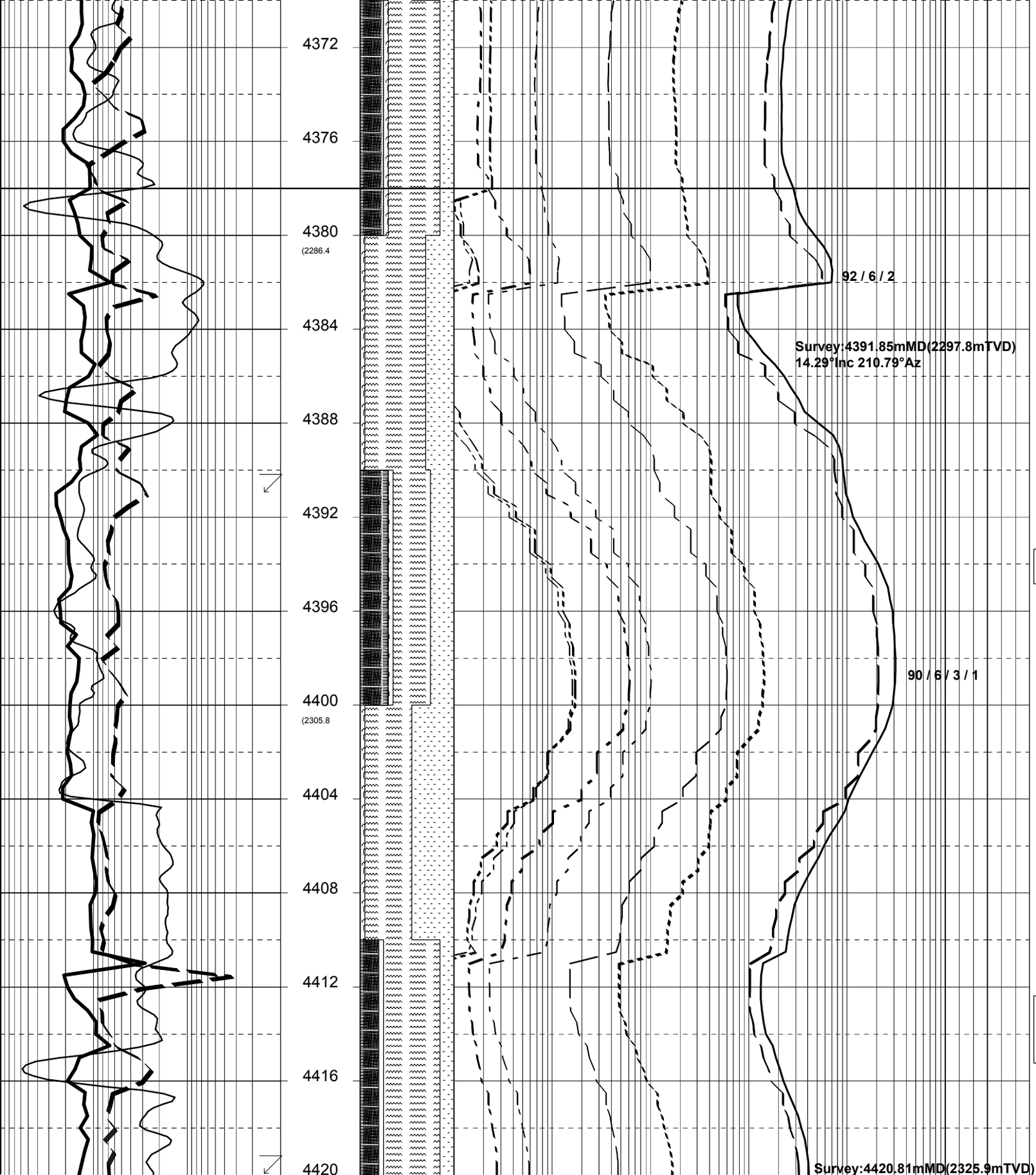
COAL:gysh blk-gnsh blk,v slty g/t g/t CARB SLTST,dll,mod hd, sbfiss,uneven.

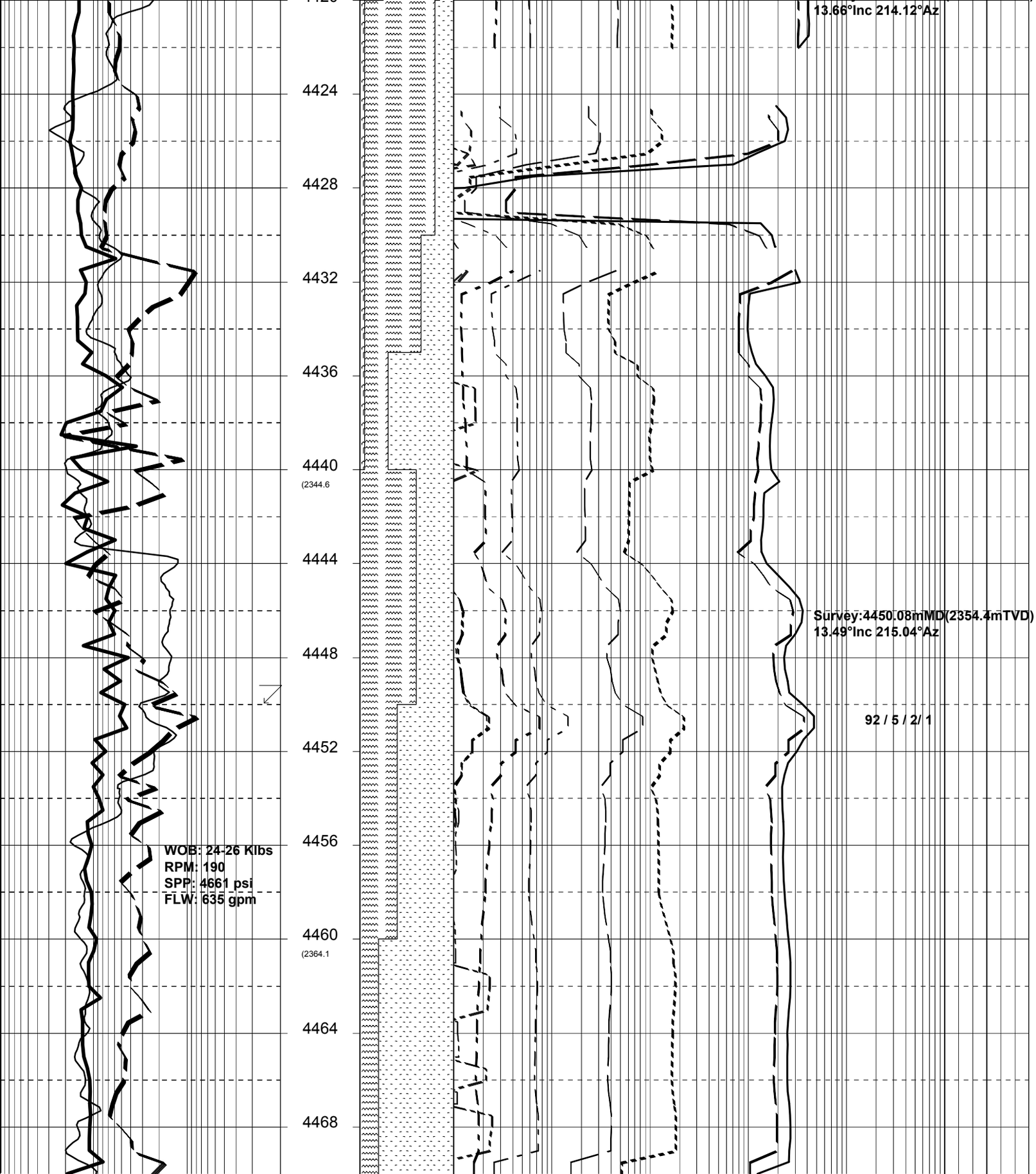
CLAYSTONE:off wh-pl gy-med bn, slty i/p,tr carb spks & incl,sft-frm, sbblky-blky.

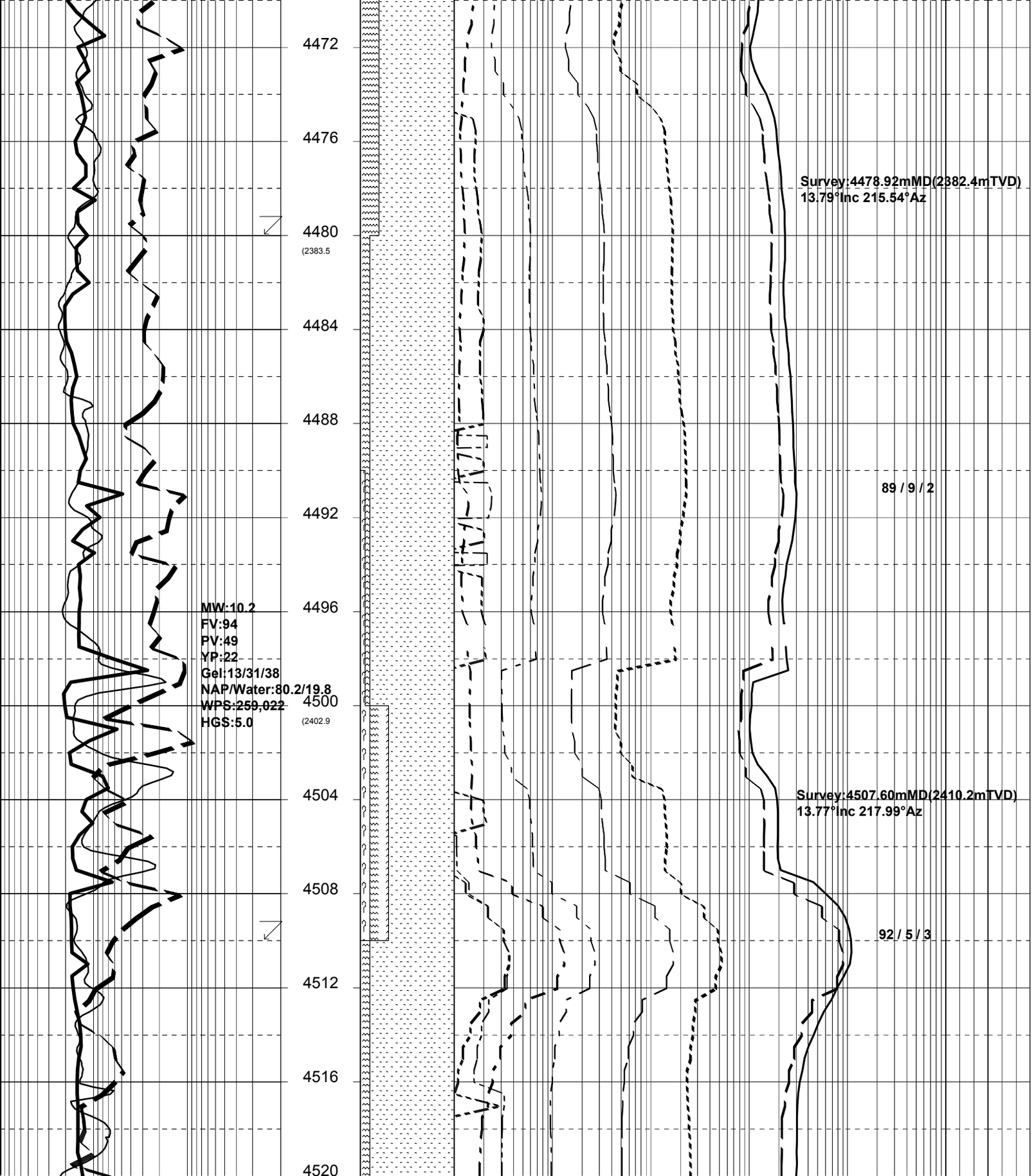
SANDSTONE:clr-trnsl,f occ v crs, pr srt,sa-sr,wh pyr cmt,rr pyr nods, gen cln,pred lse,pr-fr inf por,no fluor.

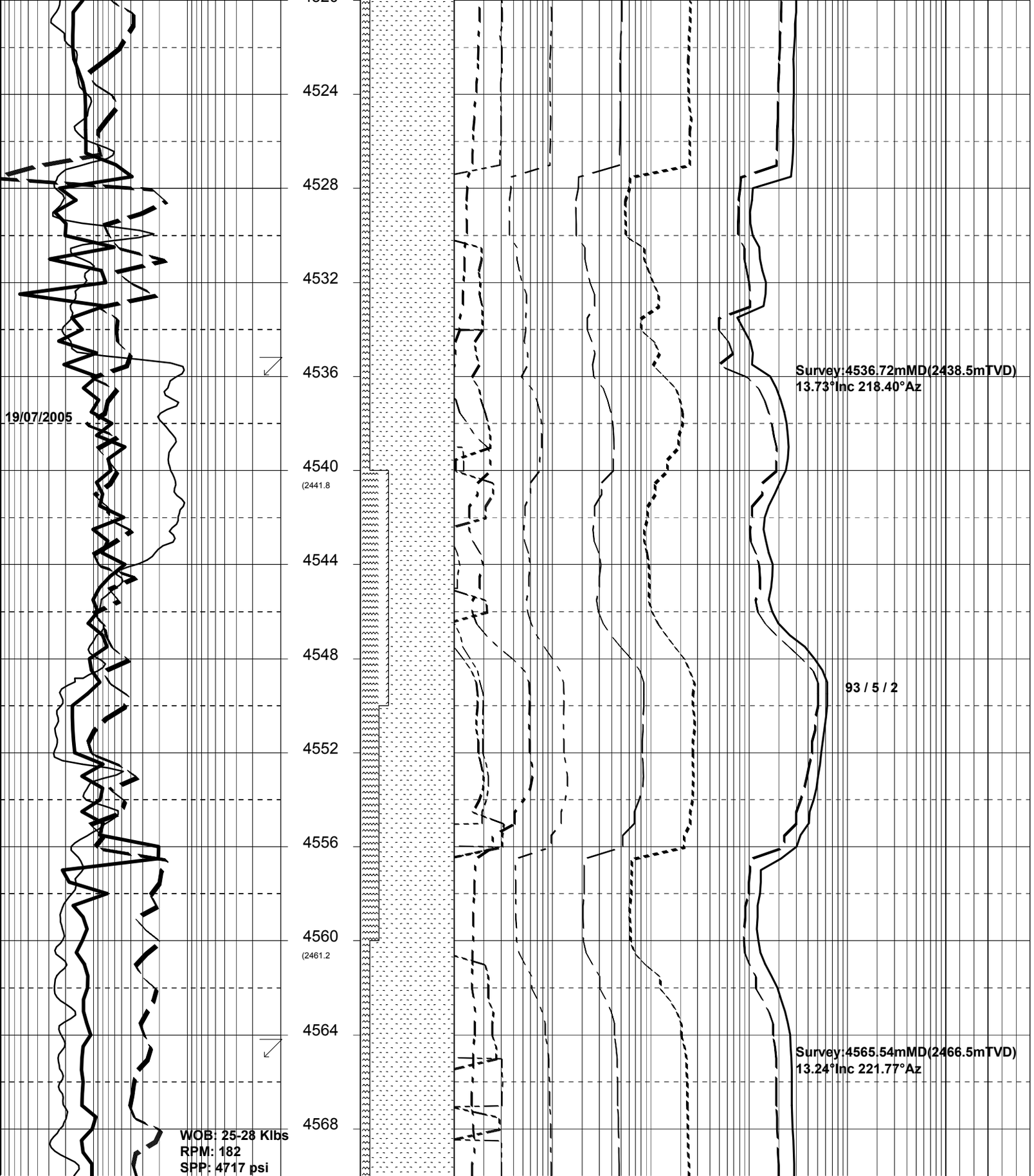
CLAYSTONE:off wh-pl gy-med bn, slty i/p,tr carb spks & incl,sft-frm, sbblky-blky.

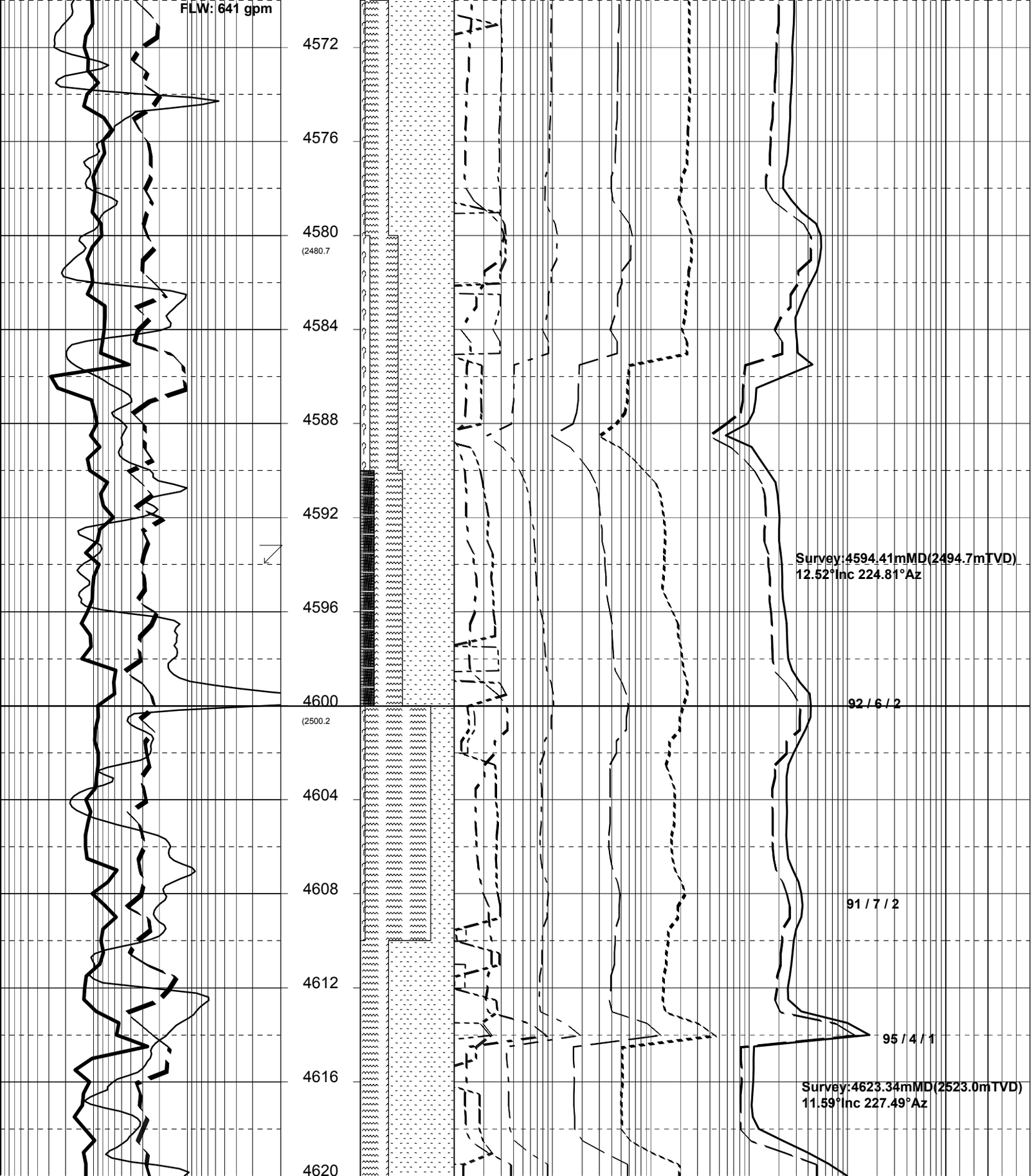

4324
4328
4332
4336
4340
(2247.9
4344
4348
4352
4356
4360
(2267.1
4364
4368
WOB: 25-30 Klbs
RPM: 188
SPP: 4708 psi
FLW: 657 gpm
Survey:4333.81mMD(2241.8mTVD)
16.56°Inc 208.03°Az
92 / 6 / 2
Survey:4365.92mMD(2269.8mTVD)
15.37°Inc 209.00°Az
SILTSTONE:dk yellsh bn-gysh bn,
v aren g/t vf SST,com pell glauc,
tr micmic,mod hd-hd,sbblky-blky.
SANDSTONE:clr-trnsl,f occ v crs,
com v crs qtz grns,pr srt,sa-sr,wh
pyr cmt,rr pyr nods,gen cln,dom lse,
pr-fr inf/vis por,no fluor.
SANDSTONE:clr-trnsl,f-occ v crs,
dom med,mod srt,sa-sr,occf qtz grns,
wk pyr cmt,rr pyr nods,gen cln,dom
lse,fr inf & vis por,no fluor.
COAL:blk,sbvit,brit,ang,com
qtz inc,sbblky.

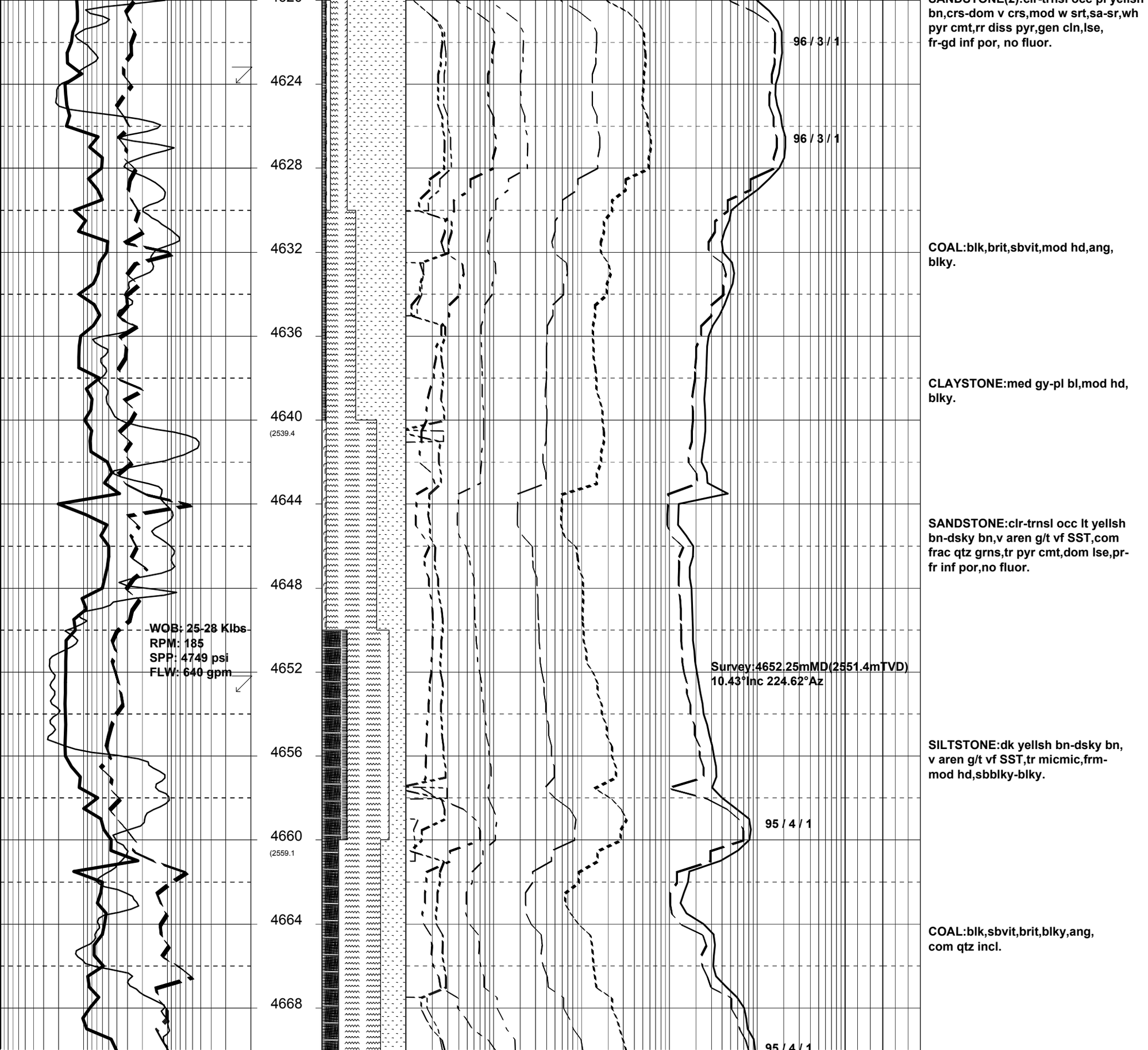

4372
4376
4380
(2286.4
4384
4388
4392
4396
4400
(2305.8
4404
4408
4412
4416
4420
SANDSTONE:clr-trnsl,dom f-med,occ crs,mod w srt,sa-sr,wk pyr cmt,rr pyr nod,gen cln,dom lse,fr vis & inf por, no fluor.
COAL:blk,sbvit,brit,ang,com qtz inc,sbblky.
92 / 6 / 2
Survey:4391.85mMD(2297.8mTVD) 14.29°Inc 210.79°Az
SILTSTONE:dk yellsh bn-gysh bn, v aren g/t vf SST,com pell glauc, tr micmic,mod hd-hd,sbblky-blky.
L2 COAL
4378.0mMDRT 2284.4mTVDRT
90 / 6 / 3 / 1
COAL:blk,sbvit,brit,ang,com qtz inc,sbblky.
SWIVEL PACKER FAILURE @ 4431mMDRT. LAG DATA RECOVERED AFTER TRIP
4410.5m - 4430.5m
Survey:4420.81mMD(2325.9mTVD)

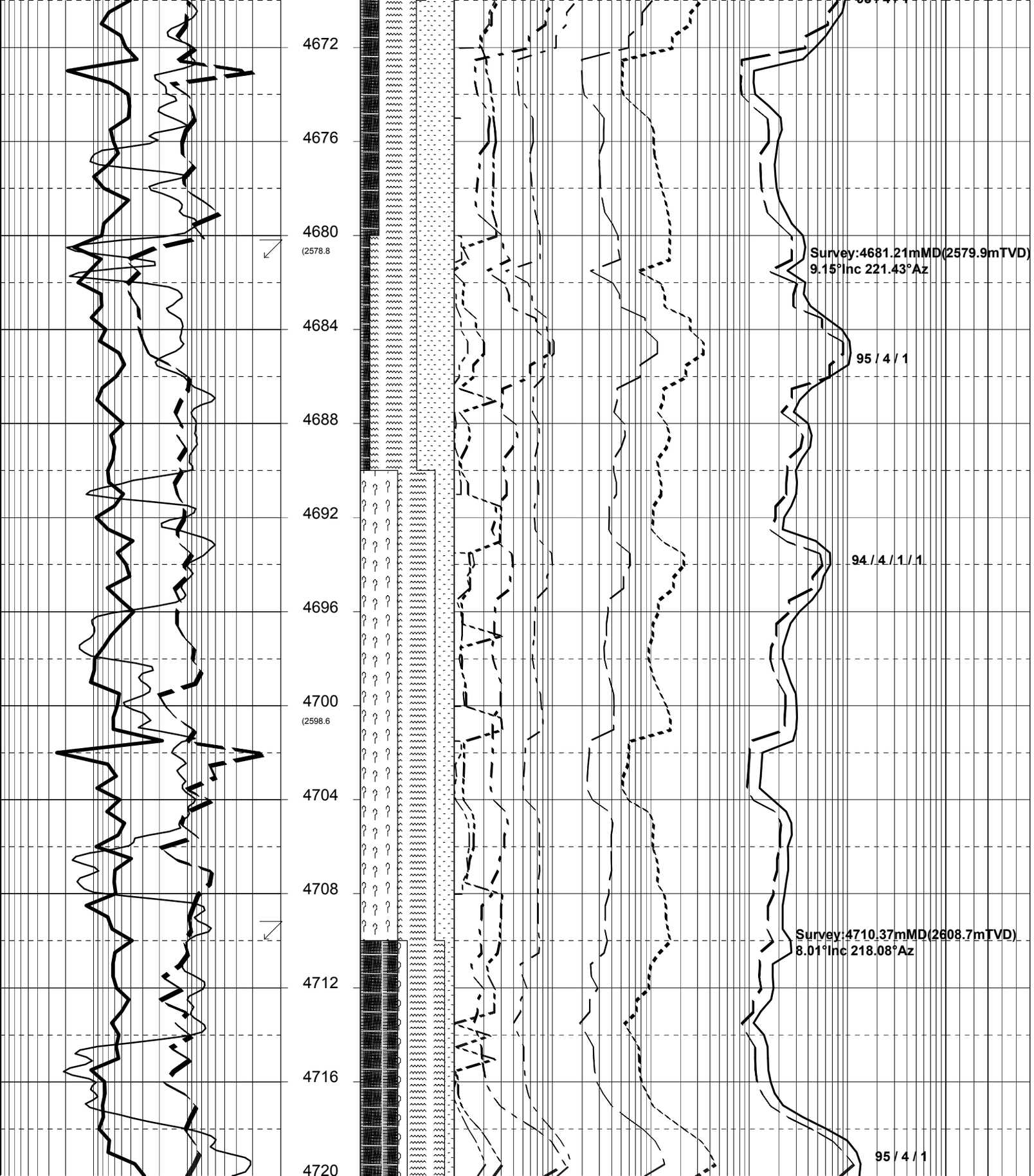

13.66°Inc 214.12°Az
4424
4428
4432
4436
4440
(2344.6
4444
Survey:4450.08mMD(2354.4mTVD)
13.49°Inc 215.04°Az
4448
92 / 5 / 2/ 1
4452
4456
WOB: 24-26 Klbs
RPM: 190
SPP: 4661 psi
FLW: 635 gpm
4460
(2364.1
4464
4468
SILTSTONE:dk yellsh bn-dusky bn,
v aren g/t vf SST,tr micmic,
frm-mod hd,sbblky-blky.
SANDSTONE:clr-trnsl,dom f-med,
mod w srt,sa-sr,gen cln,dom lse,
tr fri aggs,pr-fr inf por,
no fluor.
SANDSTONE:clr-trnsl,dom vf-f,rr crs
frac grns,mod w srt,sa-sr,str off wh-
lt brn arg mtx,fri aggs,p-vpr inf por,
no fluor.
CLAYSTONE:v lt gy-blsh gy,frm-
mod hd,sbblky-blky.

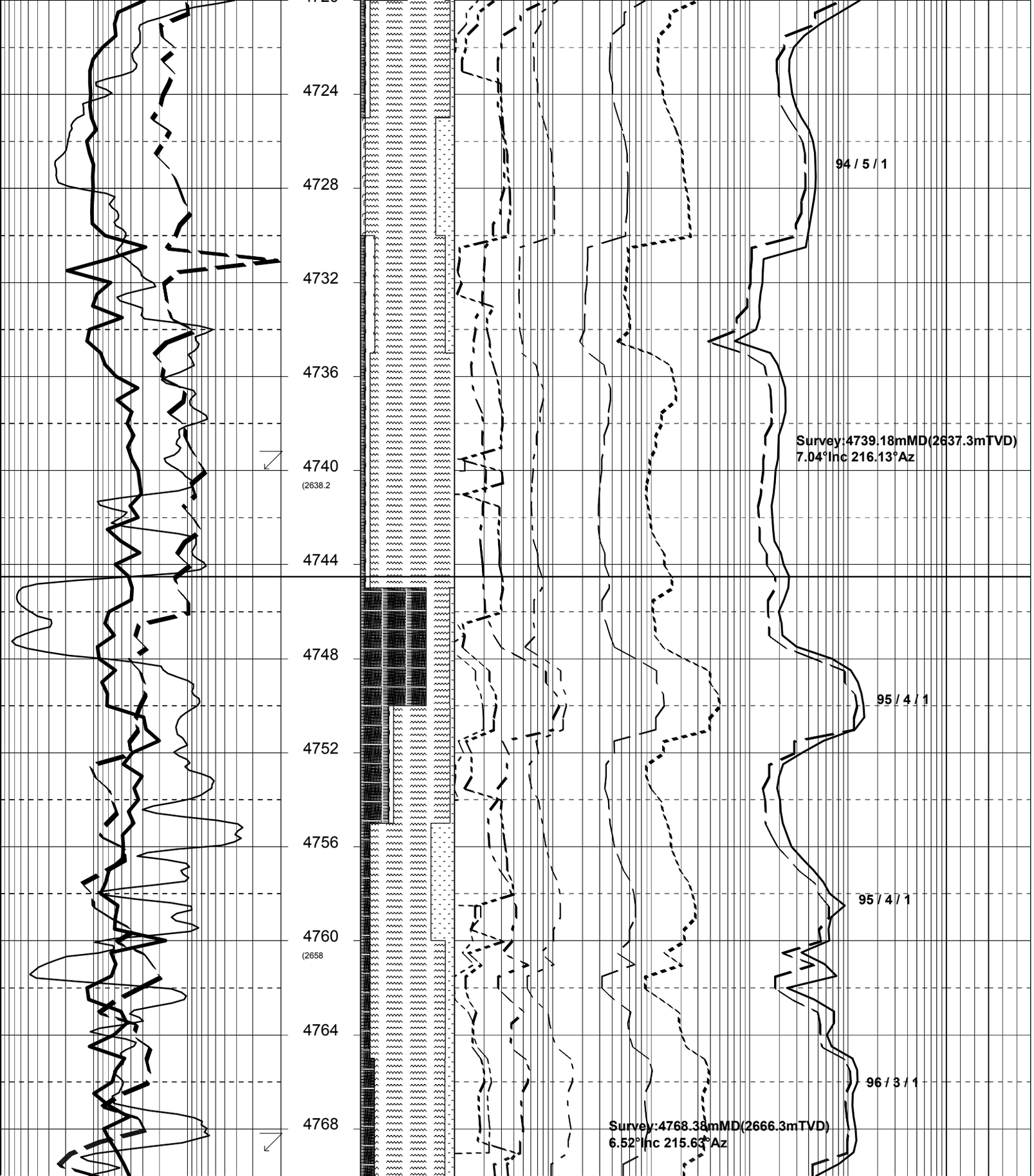

4472
4476
4480
(2383.5
4484
4488
4492
4496
4500
(2402.9
4504
4508
4512
4516
4520
MW:10.2
FV:94
PV:49
YP:22
Gel:13/31/38
NAP/Water:80.2/19.8
WPS:259,022
HGS:5.0
Survey:4478.92mMD(2382.4mTVD)
13.79°Inc 215.54°Az
89 / 9 / 2
Survey:4507.60mMD(2410.2mTVD)
13.77°Inc 217.99°Az
92 / 5 / 3
SILTSTONE:dk yellsh bn-dusky bn, v aren g/t vf SST,tr micmic,frm-mod hd,sbblky-blky.
SANDSTONE:clr-trnsl,dom vf-f occ med,mod w srt,sa-sr,strg off wh lt bn arg mtx,fri aggs,pr-v pr inf/vis por,no fluor.
SANDSTONE(1):clr-trnsl,dom vf-f occ med,mod w srt,sa-sr,strg off wh lt bn arg mtx,fri aggs,pr-v pr inf/vis por,no fluor.
SANDSTONE(2):clr-trnsl occ pl yellsh bn,crs-dom v crs,mod w srt,sa-sr,wh pyr cmt,rr diss pyr,gen cln,lse, fr-gd inf por, no fluor.
CLAYSTONE:v lt gy-blsh gy,frm-mod hd,sbblky-blky.

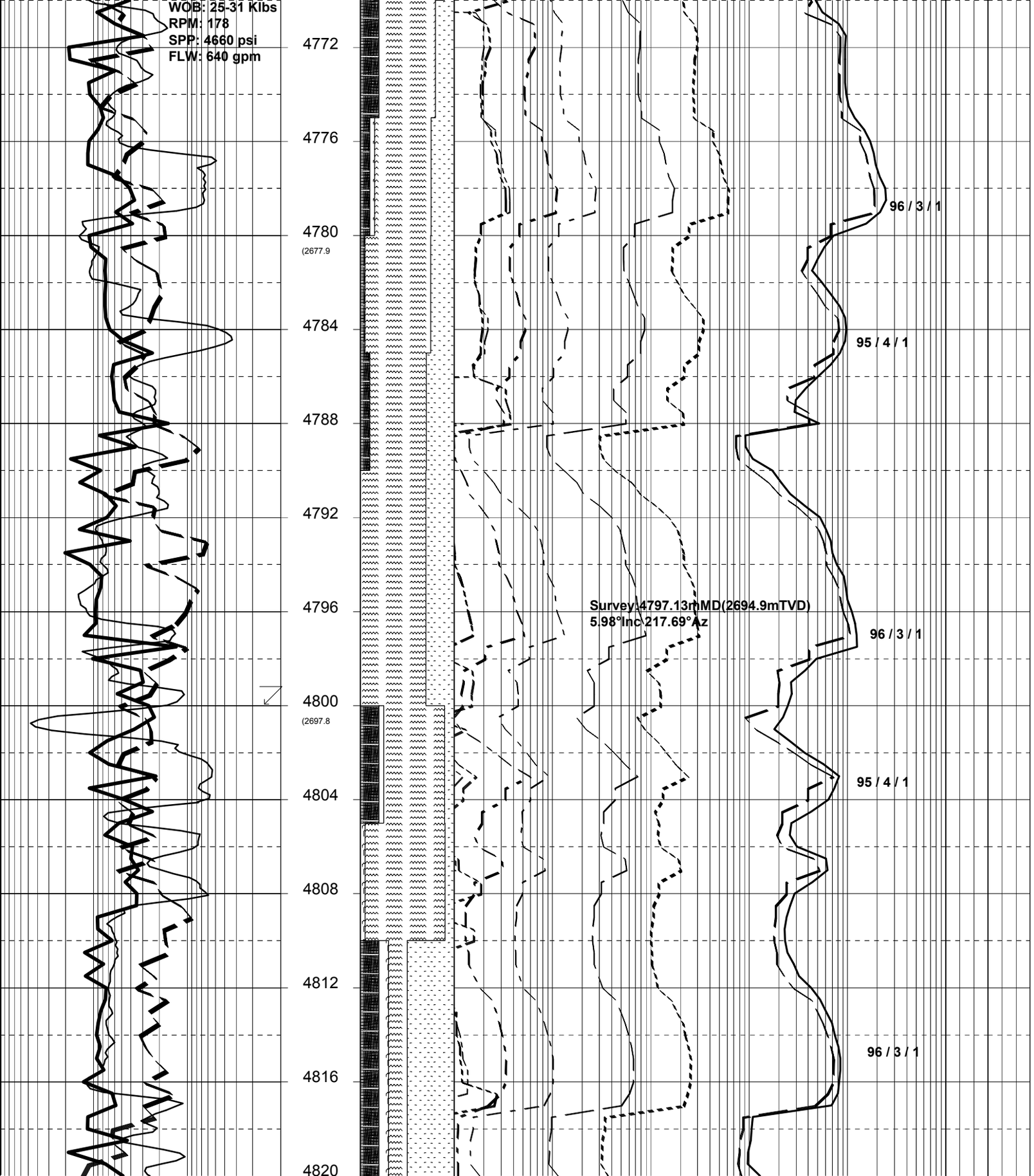

4524
4528
4532
4536
4540
4544
4548
4552
4556
4560
4564
4568
19/07/2005
(2441.8
(2461.2
Survey:4536.72mMD(2438.5mTVD)
13.73°Inc 218.40°Az
93 / 5 / 2
Survey:4565.54mMD(2466.5mTVD)
13.24°Inc 221.77°Az
WOB: 25-28 Klbs
RPM: 182
SPP: 4717 psi
SANDSTONE:clr-trnsl,dom vf-f occ med,mod w srt,sa-sr,strg off wh lt bn arg mtx,fri aggs,pr-v pr inf/vis por,no fluor.
SILTSTONE:dk yellsh bn-dsky bn, v aren g/t vf SST,tr micmic,frm-mod hd,sbblky-blky.
SANDSTONE(1):clr-trnsl,dom vf-f occ med,mod w srt,sa-sr,strg off wh lt bn arg mtx,fri aggs,pr-v pr inf/vis por,no fluor.
SANDSTONE(2):clr-trnsl occ pl yellsh bn,crs-dom v crs,mod w srt,sa-sr,wh pyr cmt,rr diss pyr,gen cln,lse, fr-gd inf por, no fluor.

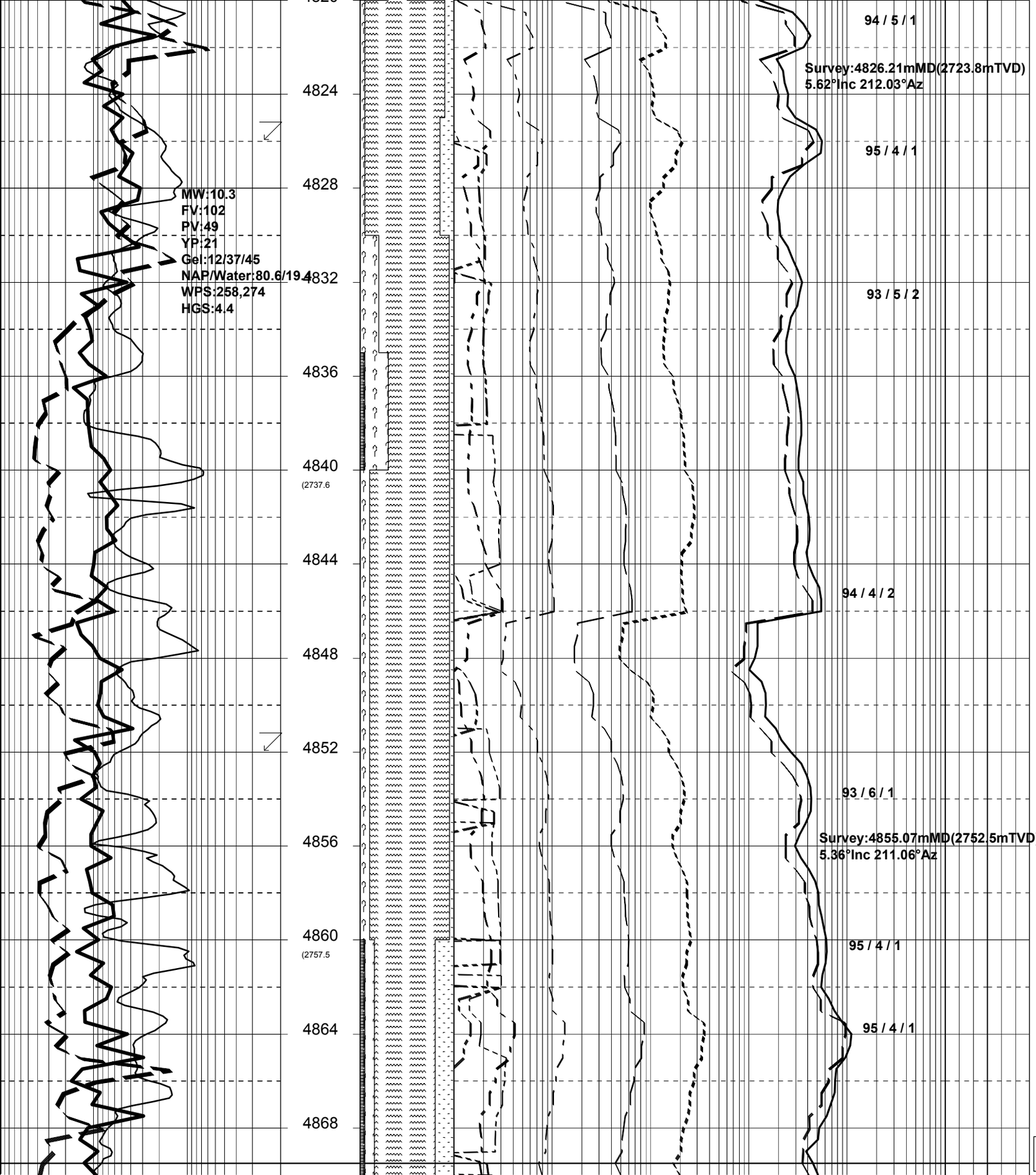

FLW: 641 gpm
4572
4576
4580
(2480.7
4584
4588
4592
4596
4600
(2500.2
4604
4608
4612
4616
4620
SILTSTONE:dk yellsh bn-dsky bn, v aren g/t vf SST,tr micmic,frm-mod hd,sbblky-blky.
COAL:bnsh blk-blk,dll,mod hd-hd,sbbly,uneven.
Survey:4594.41mMD(2494.7mTVD)
12.52°Inc 224.81°Az
92 / 6 / 2
CLAYSTONE:v lt gy-blsh gy,frm-mod hd,sbblky-blky.
L-1 Gas Sand
4600.0mMDRT 2500.0mTVDRT
91 / 7 / 2
SANDSTONE(1):clr-trnsl,dom vf-f occ med,mod w srt,sa-sr,strg off wh lt bn arg mtx,fri aggs,pr-v pr inf/vis por,no fluor.
95 / 4 / 1
Survey:4623.34mMD(2523.0mTVD)
11.59°Inc 227.49°Az

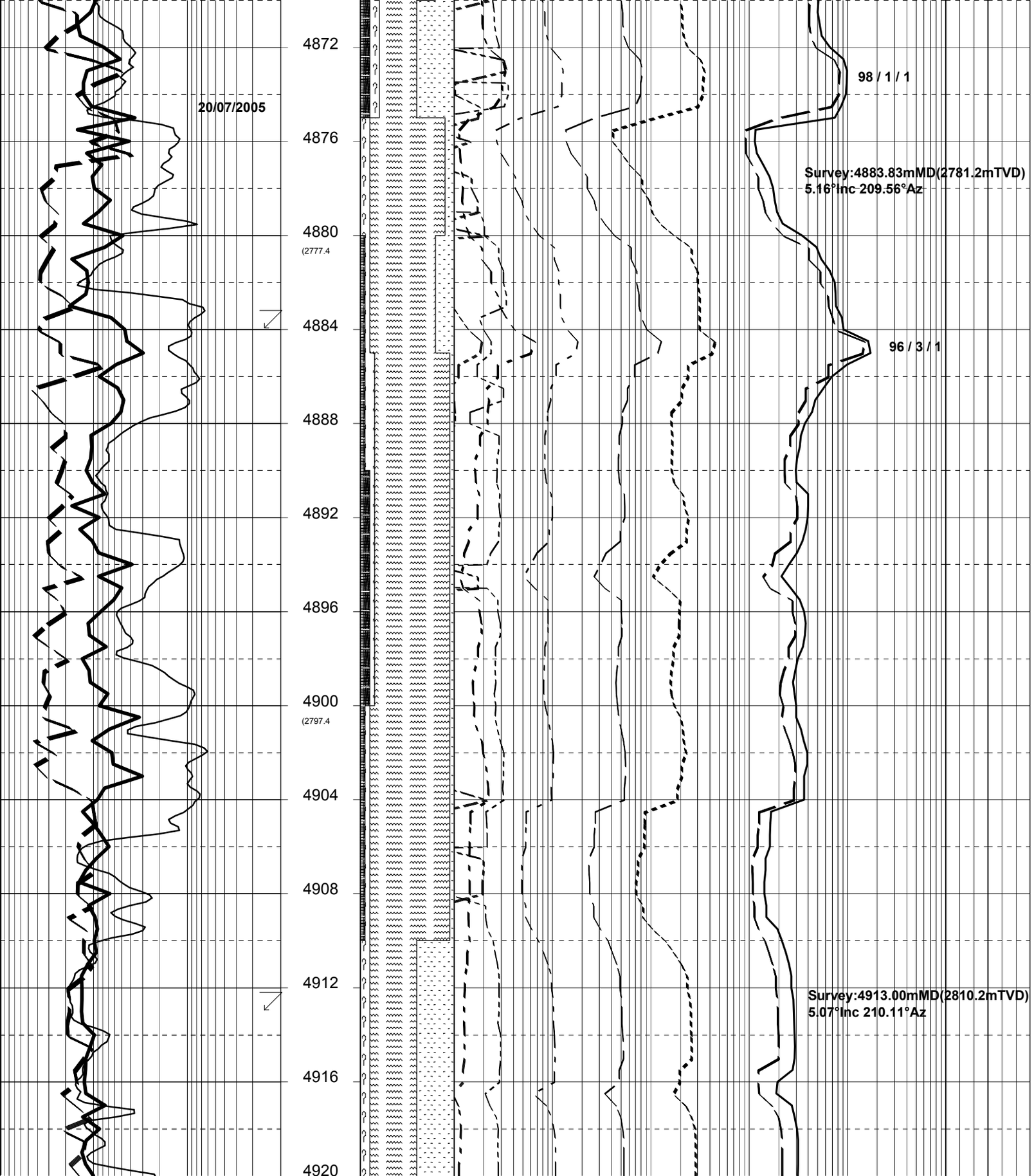

4624
4628
4632
4636
4640
(2539.4
4644
4648
4652
4656
4660
(2559.1
4664
4668
WOB: 25-28 Klbs
RPM: 185
SPP: 4749 psi
FLW: 640 gpm
96 / 3 / 1
96 / 3 / 1
Survey:4652.25mMD(2551.4mTVD)
10.43°Inc 224.62°Az
95 / 4 / 1
95 / 4 / 1
SANDSTONE(2):clr-trnsl occ pl yellsh bn,crs-dom v crs,mod w srt,sa-sr,wh pyr cmt,rr diss pyr,gen cln,lse, fr-gd inf por, no fluor.
COAL:blk,brit,sbvit,mod hd,ang, blky.
CLAYSTONE:med gy-pl bl,mod hd, blky.
SANDSTONE:clr-trnsl occ lt yellsh bn-dsky bn,v aren g/t vf SST,com frac qtz grns,tr pyr cmt,dom lse,pr-fr inf por,no fluor.
SILTSTONE:dk yellsh bn-dsky bn, v aren g/t vf SST,tr micmic,frm-mod hd,sbblky-blky.
COAL:blk,sbvit,brit,blky,ang, com qtz incl.

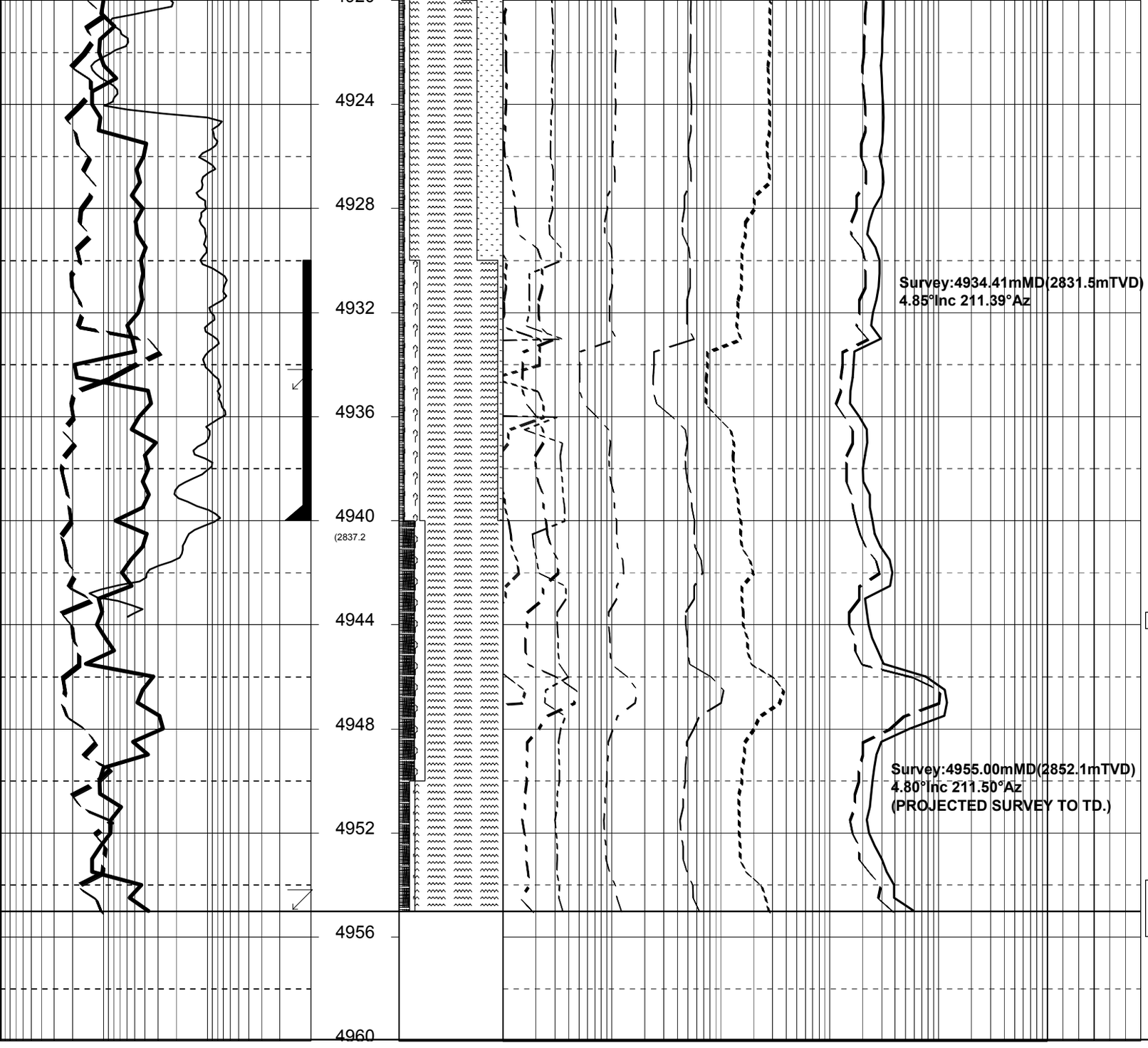

4672
4676
4680
(2578.8
4684
4688
4692
4696
4700
(2598.6
4704
4708
4712
4716
4720
Survey:4681.21mMD(2579.9mTVD)
9.15°Inc 221.43°Az
95 / 4 / 1
94 / 4 / 1 / 1
Survey:4710.37mMD(2608.7mTVD)
8.01°Inc 218.08°Az
95 / 4 / 1
SANDSTONE:clr-trnsl occ lt yellsh bn-dsky bn,v aren g/t vf SST,com frac qtz grns,tr pyr cmt,dom lse,pr-fr inf por,no fluor.
CLAYSTONE:lt blsh gy-pl bn, slty i/p,mod hd,frm,sbblky-blky.
SILTSTONE:dk yellsh bn-dsky red, v aren g/t vf SST,tr micmic,frm-mod hd,sbblky-blky.
SANDSTONE:clr-trnsl,f-occ crs,pr srt,sa-sr,wk pyr cmt,rr pyr nod,cln, dom lse,pr-fr inf por,no fluor.


4724
4728
4732
4736
4740
(2638.2
4744
4748
4752
4756
4760
(2658
4764
4768
94 / 5 / 1
Survey:4739.18mMD(2637.3mTVD)
7.04°Inc 216.13°Az
95 / 4 / 1
95 / 4 / 1
96 / 3 / 1
Survey:4768.38mMD(2666.3mTVD)
6.52°Inc 215.63°Az
COAL:blk,sbvit,brit,blky,ang.
SILTSTONE:dk yellsh bn-dsky red, v aren g/t vf SST,tr micmic,frm-mod hd,sbblky-blky.
J COAL
4744.5mMDRT 2642.6mTVDRT
COAL:blk,sbvit,brit,blky,ang.
SILTSTONE:gysh bn-dsky,v aren g/t vf SST,tr micmic,i/bedded coal, frm-mod hd,sbblky.
SANDSTONE:clr-trnsl,com lt yell bn,med-crs,mod wl srt,sa-sr,com frac qtz grns,coal mtx,dom lse, pr-fr inf por,no fluor.


WOB: 25-31 Klbs
RPM: 178
SPP: 4660 psi
FLW: 640 gpm
4772
4776
4780
(2677.9
4784
4788
4792
4796
4800
(2697.8
4804
4808
4812
4816
4820
96 / 3 / 1
95 / 4 / 1
Survey 4797.13mMD(2694.9mTVD)
5.98°Inc 217.69°Az
96 / 3 / 1
95 / 4 / 1
96 / 3 / 1
COAL:blk,sbvit,brit,blky,ang, com qtz inc.
SANDSTONE:clr-trnsl,vf-med,dom f, mod w srt,sa-sr,abdt lt bn slty mtx, fri aggs,v pr-pr inf por,no fluor.
CIRCULATE @ 4787m WHILST REPAIRING PRS
SILTSTONE:gysh bn-dsky,v aren g/t vf SST,tr micmic,frm-mod hd, sbblky.
COAL:blk-brnsh blk,sbvit-ea, brit-slty, i/p g/t CARB SLTST, ang-blky.
CLAYSTONE:lt gy-lt blush gy, mod hd-hd,sbblky-blky.
SANDSTONE:trnsl-pl yellsh bn, crs-dom v crs,mod w srt,sa-sr,com frac qtz grns,gen cln,dom lse,pr-fr inf por, no fluor.


94 / 5 / 1
Survey:4826.21mMD(2723.8mTVD)
5.62°Inc 212.03°Az
4824
95 / 4 / 1
4828
MW:10.3
FV:102
PV:49
YP:21
Gel:12/37/45
NAP/Water:80.6/19.4
WPS:258,274
HGS:4.4
4832
93 / 5 / 2
CLAYSTONE:lt gy-lt blush gy, mod hd-hd,sbblky-blky.
4836
4840
(2737.6
SILTSTONE:gysh bn-dsky,v aren g/t vf SST,tr micmic,frm-mod hd, sbblky.
4844
94 / 4 / 2
4848
SANDSTONE:trnsl-pl yellsh bn, crs-dom v crs,mod w srt,sa-sr,com frac qtz grns,gen cln,dom lse,pr-fr inf por, no fluor.
4852
93 / 6 / 1
4856
Survey:4855.07mMD(2752.5mTVD)
5.36°Inc 211.06°Az
4860
(2757.5
95 / 4 / 1
COAL:blk-brnsh blk,sbvit-ea, brit-slty, i/p g/t CARB SLTST, ang-blky.
4864
95 / 4 / 1
4868
L-1.18 Gas Sand
4869.5mMDRT 2766.9mTVDRT


20/07/2005
4872
4876
4880
(2777.4
4884
4888
4892
4896
4900
(2797.4
4904
4908
4912
4916
4920
98 / 1 / 1
Survey:4883.83mMD(2781.2mTVD)
5.16°Inc 209.56°Az
96 / 3 / 1
Survey:4913.00mMD(2810.2mTVD)
5.07°Inc 210.11°Az
SANDSTONE:clr-trnsl,f occ crs, dom f-med,mod w srt,sa-sr,wk pyr cmt,rr pyr nods,gen cln,dom lse, fr inf/vis por,no fluor.
SILTSTONE:gysh bn-dsky,v aren g/t vf SST,tr micmic,frm-mod hd, sbblky.
COAL:blk,sbvit,brit,ang,blky, com pyr incl.
CLAYSTONE:lt gy-lt blsh gy,mod hd-hd,sbblky-blky.
SANDSTONE:clr-trnsl,f occ crs, dom f-med,mod w srt,sa-sr,wk pyr cmt,rr pyr nods,gen cln,dom lse, fr inf/vis por,no fluor.


4924
4928
4932
4936
4940
(2837.2
4944
4948
4952
4956
4960
SILTSTONE:mod bn-gysh bn,v-aren g/t vf SST,tr micmic,tr diss pyr, mod hd-hd,sbblky-blky.
Survey:4934.41mMD(2831.5mTVD)
4.85°Inc 211.39°Az
CLAYSTONE:lt gy-lt blsh gy,mod hd-hd,sbblky-blky.
SILTSTONE:dsky bn,aren i/p,tr diss pyr,tr micmic,mod hd-hd, sbblky-blky.
7" CASING SET @ 4940mMDRT
COAL:blk,sbvit,brit,ang,blky, com pyr incl.
Survey:4955.00mMD(2852.1mTVD)
4.80°Inc 211.50°Az
(PROJECTED SURVEY TO TD.)
BMB-B17 TD AT 4955.0 mMDRT
2852.1 mTVDRT AT 03:30 HRS
ON 20-07-2005

APPENDIX 4b

BREAM B17

Well Completion Log

ESSO AUSTRALIA RESOURCES LTD.

WELL COMPLETION LOG

Scale - 1:200

BREAM B17

Gippsland Basin, Victoria
Concession: VIC/L13

POST-DRILL LOCATION:	Latitude:	38º 31' 07.362" S	**COMPILED BY:**	Sheryl Sazenis
	Longitude:	147º 48' 17.430" E		
N-1	AMG X:	570,162.84 mE	**DRAFTED BY:**	Arnaldo Ribeiro
	AMG Y:	5,736,323.39 mN		
	Depth:	3796.0m MDRT (-1823.6m TVDSS)	**DRILLED BY:**	ENSCO 102
ELEVATION:	G.L.:	-61.00 m		
	R.T.:	47.17 m	**TOTAL DEPTH:**	4955.0 m MDRT / 2852.1 mTVDRT
	Water Depth:	61.00 m		
			PLUGGED BACK T.D.:	4940.0 m MDRT
DATES:	Kicked off:	06/07/2005		
	Rig Released:	24/07/2005	**CLASSIFICATION:**	Gas Development
	I.P. Established:	Not producing yet		
	(Initial production)		**STATUS:**	Cased and completed

SERVICE COMPANIES:

DRILLING CONTRACTOR:	ENSCO International Rig 102	PRODUCTION TESTING:	n/a
MWD/DIRECT. DRLG:	Schlumberger Anadrill	ROV:	Total Marine Services
GYRO SURVEYING:	n/a	MUD LOGGING:	Geoservices Overseas S.A.
CORING:	n/a	PRESSURE RECORDING:	n/a
CEMENTING:	Halliburton	WELL VELOCITY SURVEY:	n/a
CASING:	Weatherford	MUD ENGINEERING:	Baroid
WIRELINE LOGGING:	n/a	LINER:	n/a

LEGEND

2.7m NOS
Ø = 17%
Sw = 32%

No Rec.
CORE
Rec.

PERFORATED INTERVAL

PLUG

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

LOG ANALYSIS DATA
NS - Net Sand
NOS - Net Oil Sand
NGS - Net Gas Sand
Sw - Water Saturation

MUD DATA
Ø - Porosity
Snd - Sand
MW - Mud Weight
FV - Funnel Velocity
PV - Plastic Velocity
YP - Yield Point
Gel - Gel Strength
pH - Acidity/Alkalinity
WL - Water Loss
Cl - Chloride
Ca - Calcium
Sol - Solids
H2O - Water
Oil -Oil

SHOW OR STAIN
HYDROCARBON CUT
FLUORESCENCE
GAS SHOW
OIL PRODUCTIVE
GAS PRODUCTIVE
INTERPRETED OIL PRODUCTION
INTERPRETED GAS PRODUCTION
INTERPRETED WATER PRODUCTION
WATER PRODUCTIVE
CONDENSATE PRODUCTION
INTEPRETED CONDENSATE BEARING
DSTG DST WITH GAS RECOVERED
DSTO DST WITH OIL RECOVERED
SURVEY POINT
13-3/8" CASING SHOE
MUD

LITHOLOGICAL SYMBOLS

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

Grain Limestone			Gastropods
Skeletal Limestone		Pyrite	Cephalopods

LOGGING AND SURVEYING

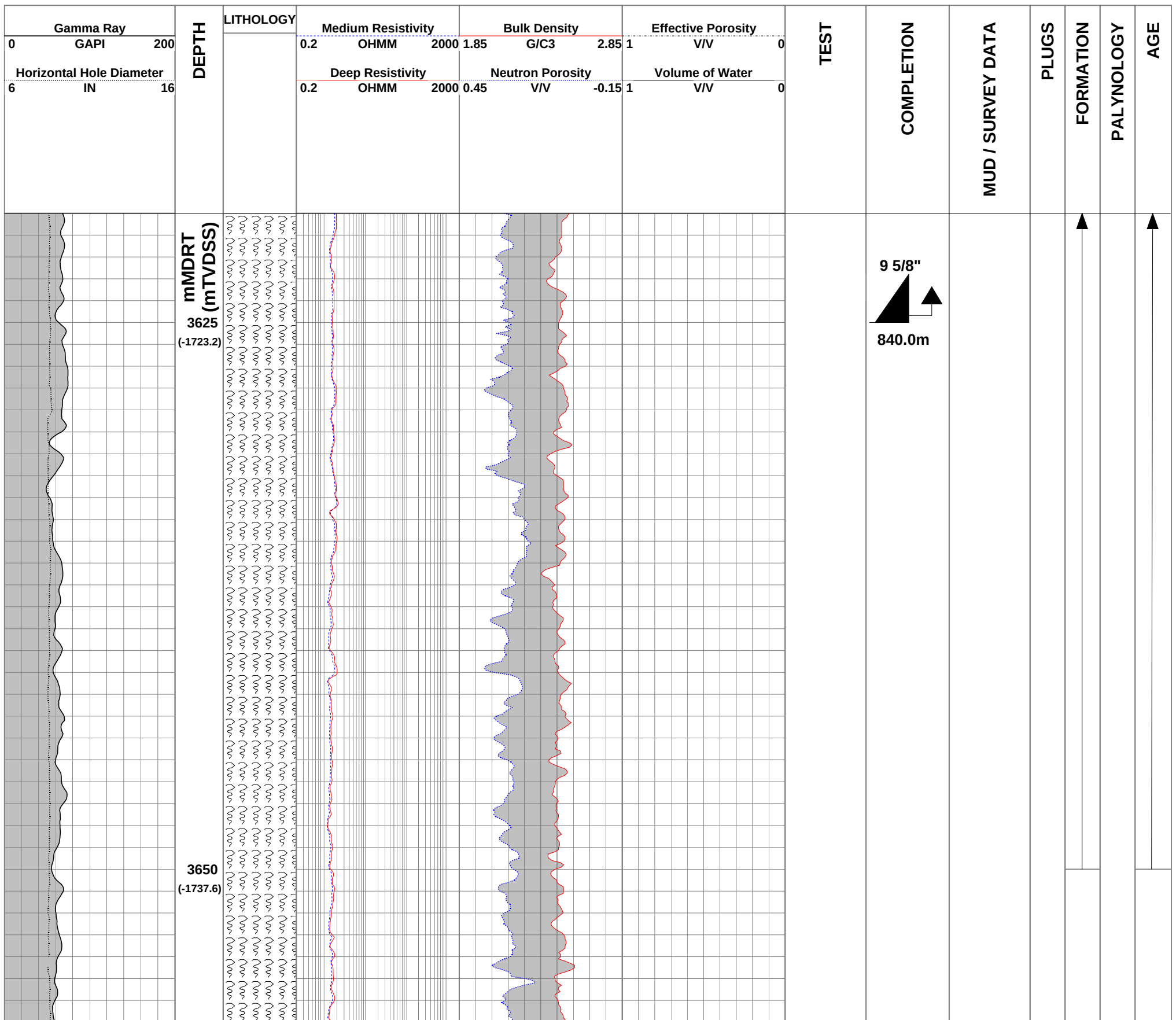
Company/Log	Interval (mMDRT)		
Schlumberger Anadrill/ Powerpulse (Dir)	107.5 – 4934.41 mMDRT		
Schlumberger Anadrill/ RAB6 (Res & GR)	845.0 - 4955.0 mMDRT		
Schlumberger Anadrill/ ADN6 (Dens & Neutron)	845.0 - 4955.0 mMDRT		

WELL DATA

Date	14 July 2005 - 21 July 2005			
Run	MWD2/LWD 1			
Log	Powerpulse-ARC6-ADN6			
Depth Driller	4955.0 mMDRT			
Depth Logger	4955.0 mMDRT			
Bottom Log Interval	4955.0 mMDRT			
Top Log Interval	845.0 mMDRT			
Casing Driller	840.0 mMDRT			
Casing Logger	840.0 mMDRT			
Casing Size	9 5/8"			
Casing Weight	47ppf			
Bit Size	8.5"			
Type of Fluid in Hole	Petrofree NAF			
Density	10.05 ppg			
Rm @ Measured Temp.	N/A			
Rmf @ Measured Temp.	N/A			
Rmc @ Measured Temp.	N/A			
Max. Recorded Temp.	120°C			
Equipment / Location	OLU-JA-9602/Sale			
Recorded By	J.Dolan, M.Y.Tan, D. Hastie.			
Witnessed By	T.Lobo			

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

CASING				PLUGS		
Size	Set @ (mMDRT)	SX Cmt	Formation	From (mMDRT)	To (mMDRT)	SXCmt
9.625"	840.0	---	Gippsland Limestone			
7”	4940.0	1021	Latrobe Group	--	--	--



OLIGOCENE - MIOCENE

LAKES ENTRANCE FM

3725.76
ANG 53.25
DIR 227.13
(-1782.44)

Top of Latrobe
3720.0m MDRT
(-1779.0m TVDSS)

3675
(-1752.2)

3700
(-1767.0)

3725
(-1782.0)

3750
(-1796.8)

3754.65
ANG 53.96
DIR 223.06
(-1799.58)

3775
(-1811.4)

TCC (Top N-1 Sand)
3791.5m MDRT
(-1821.0m TVDSS)

BWST (top porosity)
3796.0m MDRT
(-1823.5m TVDSS)

Gas Bearing
86.4 MD Net
46.8 TVD Net
∅ = 19. %
Sw= 27 %

3800
(-1825.8)

Green SB (GNSB)
3806.3m MDRT
(-1829.4m TVDSS)

Cobalt F2 (CbF2)
3818.2m MDRT
(-1836.1m TVDSS)

3825
(-1839.8)

Cobalt F1 (CbF1)
3825.9m MDRT
(-1840.3m TVDSS)

Cobalt SB (CBSB)
3832m MDRT
(-1843.7m TVDSS)

FLUORESCENCE:
3838-3878m, 2%-20%,
dll-mod bri gnsh yell evn
fluor, rapid blooming dir cut,
thn yelsh rng res.

Pink F2 (PKF2)
3839.0m MDRT
(-1847.5m TVDSS)

Pink F1 (PKF1)
3847.5m MDRT
(-1852.0m TVDSS)

3850
(-1853.4)

Pink SB (PKSB
3856.5m MDRT
(-1856.0m TVDSS)

3841.38
ANG 57.08
DIR 212.30
(-1848.8)

Mauve F2 (MVF2)
3859.0m MDRT
(-1858.2m TVDSS)

3875
(-1866.7)

Mauve SB (MVSB)
3877.6m MDRT
(-1868.1m TVDSS)

3900
(-1879.9)

Top P Coal (PCOL)
3912.8m MDRT
(-1886.8m TVDSS)

Top Lwr P Coal (TPCL)
3920.0m MDRT
(-1890.6m TVDSS)

Top Volc (Intrusives)
3923.0m MDRT
(-1892.3m TVDSS)

3925
(-1893.4)

3928.90
ANG 57.02
DIR 210.67
(-1895.45)

3950
(-1907.4)

4050
(-1965.6)

4025
(-1950.4)

4000
(-1935.8)

3975
(-1921.6)

(-1959m TVDSS)

Sub-Int Snd
4039.2m MDRT

(-1956.2m TVDSS)

Base Volc (BVOL)
4034.6m MDRT

4000.0
MW 10.05ppg
FV 84sec/qt
PV 49cP
YP 29

LATROBE GROUP

PALEOCENE - EARLY EOCENE

4075
(-1981.5)

4100
(-1998.1)

4125
(-2016.2)

4150
(-2035.2)

4073.26
ANG 50.24
DIR 207.64
(-1980.3)

4175
(-2055.0)

4200
(-2075.4)

F Coal
4209.0m MDRT
(-2082.8m TVDSS)

4225
(-2096.2)

4250
(-2117.7)

4188.95
ANG 34.73
DIR 205.10
(-2066.22)

4275
(-2139.9)

4300
(-2162.8)

4325
(-2162.8)

4350
(-2186.3)

4275.84
ANG 25.05
DIR 205.43
(-2140.62)

4362.92
ANG 15.37
DIR 209.00
(-2222.63)

4375
(-2210.2)

L2 Coal (coal_mkr_4)
4378.0m MDRT
(-2237.2m TVDSS)

L-2.2 Sand
4388.2m MDRT
(-2247.1m TVDSS)

Gas Bearing
8.6 MD Net
8.3 TVD Net
∅ = 15 %
Sw= 44 %

GWC
4397.7m MDRT
(-2256.3m TVDSS)

Water
∅ = 17 %
Sw=97 %

4400
(-2234.3)

4425
(-2258.5)

4450
(-2382.8)

4475
(-2307.1)

4500
(-2331.4)

L-2.5 Gas
4503m MDRT
(-2359m TVDSS)

Possible Gas
∅ = 8 %
Sw=69 %

4525
(-2355.7)

4550
(-2379.9)

4478.92
ANG 13.79
DIR 215.54
(-2335.17)

4495.0
MW **10.2ppg**
FV **94sec/qt**
PV **49cP**
YP **27**

4575
(-2404.2)

4600
(-2428.6)

L-1.0 Sand
4600.3m MDRT
(-2453.2m TVDSS)

4594.41
ANG 12.52
DIR 224.81
(-2447.48)

L-1.1 Sand
4609.9m MDRT
(-2462.6m TVDSS)

Gas Bearing
1.5 MD Net
1.5 TVD Net
∅ = 11 %
Sw= 34 %

L-1.2a Sand
4615.5m MDRT
(-2468.1m TVDSS)

Gas bearing
1.8 MD Net
1.8 TVD Net
∅ = 11 %
Sw= 37 %

L-1.2b Sand
4620.6m MDRT
(-2473.1m TVDSS)

Possible Gas
∅ = 12 %
Sw=74 %

4625
(-2453.0)

L-1.3 Sand
4648.7m MDRT
(-2500.7m TVDSS)

4650
(-2477.4)

4675
(-2501.9)

4700
(-2526.6)

L-1.6 Sand
4706.2m MDRT
(-2557.4m TVDSS)

4681.21
ANG 9.15
DIR 221.43
(-2532.69)

L-1.7 Sand
4723.3m MDRT
(-2574.3m TVDSS)

4725
(-2551.3)

L-1.8 Sand
4741.3m MDRT
(-2592.1m TVDSS)

J Coal
4744.5m MDRT
(-2595.4m TVDSS)

4750
(-2576.0)

L-1.10 Sand
4763.2m MDRT
(-2613.9m TVDSS)

Gas Bearing
0.6 MD Net
0.6 TVD Net
∅ = 11 %
Sw= 27 %

4775
(-2625.7)

L-1.11 Sand
4779.3m MDRT
(-2629.9m TVDSS)

Gas Bearing
0.6 MD Net
0.6 TVD Net
∅ = 9 %
Sw= 47 %

L-1.12 Sand
4792m MDRT
(-2642.6m TVDSS)

4800
(-2650.5)

Gas Bearing
0.2 MD Net
0.2 TVD Net
∅ = 8 %
Sw= 42 %

L-1.13 Sand
4809.3m MDRT
(-2659.8m TVDSS)

Gas Bearing
3.7 MD Net
3.6 TVD Net
∅ = 10 %
Sw= 72 %

GWC
4812.5m MDRT
(-2663.0m TVDSS)

Water
∅ = 13 %
Sw=99 %

4825
(-2675.4)

GWC
4832m MDRT
(-2682.4m TVDSS)

Gas Bearing
1.2 MD Net
1.1 TVD Net
∅ = 9 %
Sw= 76 %

Water
∅ = 13 %
Sw=100 %

4850
(-2700.3)

4797.13
ANG 5.98
DIR 217.69
(-2647.66)

4834.0
MW 10.3ppg
FV 102sec/qt
PV 49cP
YP 21

L-1.18 Sand
4869.5m MDRT
(-2719.7m TVDSS)

Gas Bearing
0.5 MD Net
0.5 TVD Net
∅ = 9 %
Sw= 36 %

L-1.19 Sand
4880.8m MDRT
(-2730.9m TVDSS)

Gas Bearing
1.2 MD Net
1.2 TVD Net
∅ = 12 %
Sw= 59 %

4855.07
ANG 5.36
DIR 211.06
(-2705.32)

4875
(-2725.2)

4900
(-2750.1)

4925
(-2775.0)

4950
(-2799.9)

7"

4940.0m

4934.41
ANG 4.85
DIR 211.39
(-2784.34)

TOTAL DEPTH 4955.0m MD (-2804.9mTVDSS)

GR_ARC Gamma Ray

HORD	Horizontal Hole Diameter	
P40H	Deep Resistivity	
P28H	Medium Resistivity	
ROBB	Bulk Density	Bream B17
TNPH	Thermal Neutron Porosity	To be put on Production
PIGN	Effective Porosity	January 2006
VUWA	Bulk Volume Water	