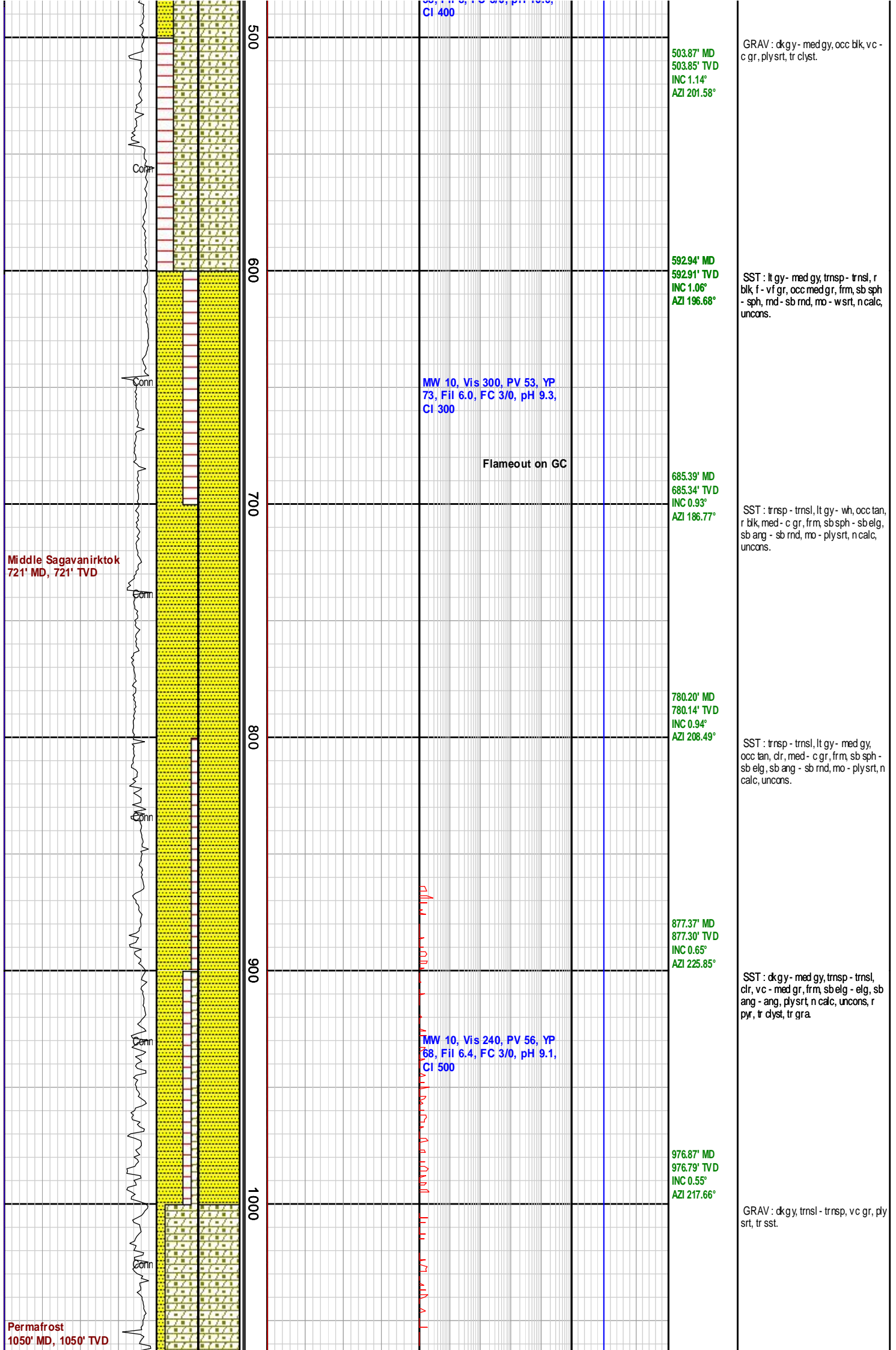
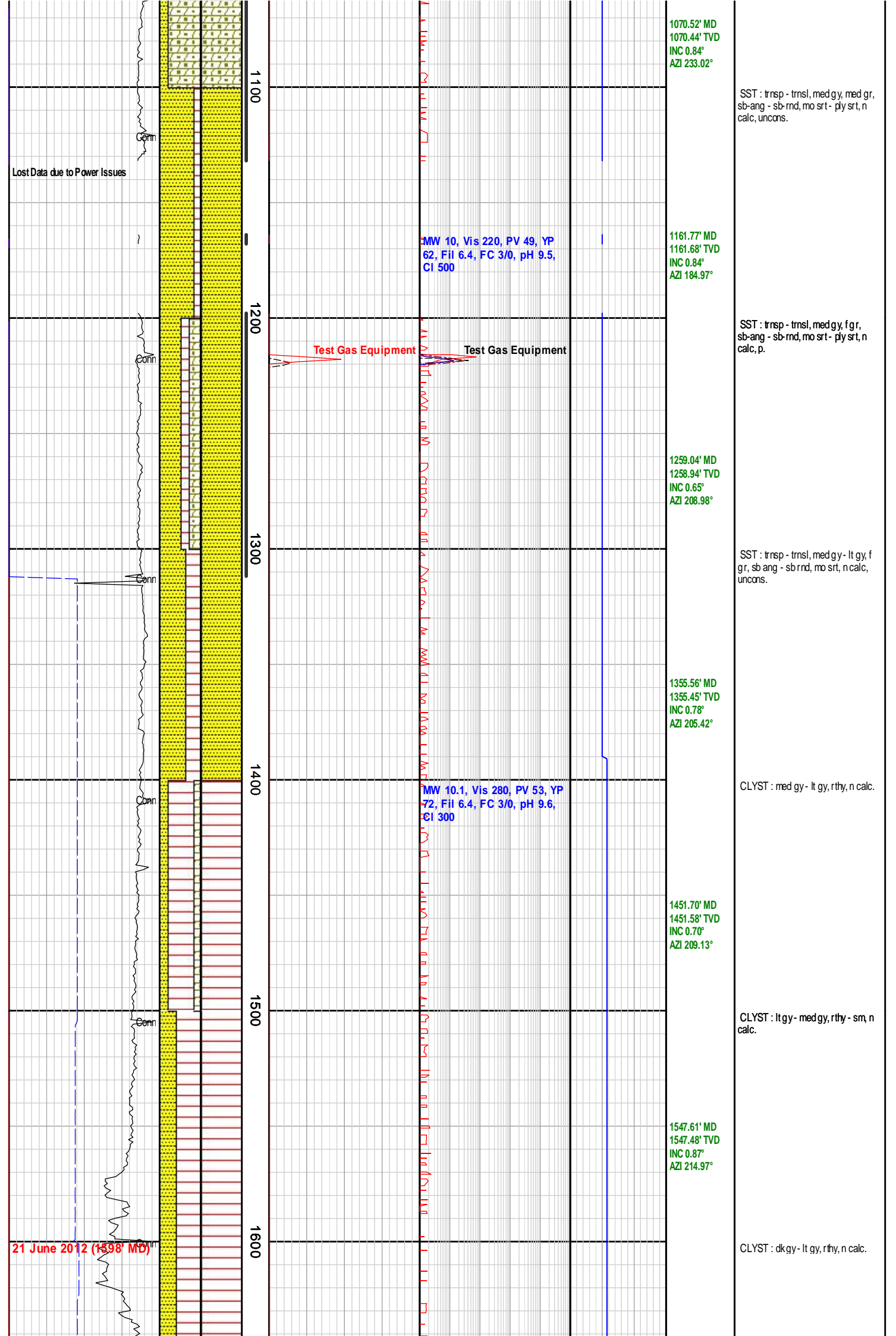


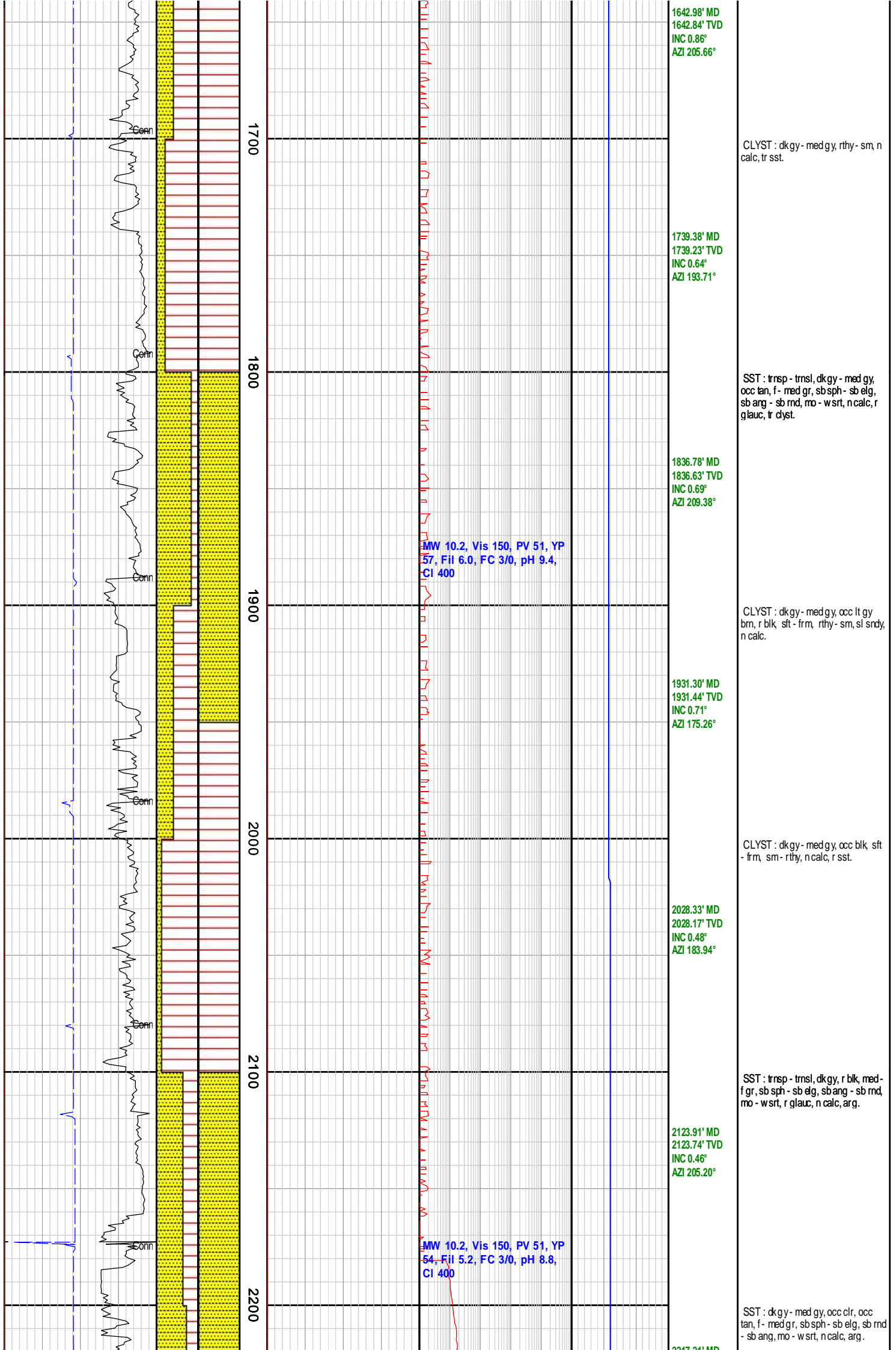
HALLIBURTON   Sperry Drilling									
Surface Data Logging									
2" TVD Formation Evaluation Log									
1 : 600									
Country : USA		Field : Exploration		Location : Lat: 69° 59' 26.11" North Long: 148° 40' 40.99" West		Well : Alcor 1		Company : Great Bear Petroleum, LLC	
Permanent Datum : Mean Sea Level		Company : Great Bear Petroleum, LLC		Rig : Nabors 105E		Well : Alcor 1		Field : Exploration	
Log Measured From : Drill Floor		Company : Nabors 105E		Country : USA		API Number : 50-223-20026-00-00		Elevation : 0.00 ft	
Drilling Measured From : Drill Floor		LOCATION		Latitude : 69° 59' 26.11" North Longitude : 148° 40' 40.99" West UTM Easting = 665,672.48 ft UTM Northing = 5,847,838.30 ft		Other Services		Elev. KB 0.00 ft DF 186.00 ft GL 163.70 ft WD 0.00 ft	
Permanent Datum : Mean Sea Level		Elevation : 0.00 ft		186.00 ft Above Permanent Datum		TVD LOG		Unit No. : 117	
Date Logged : 16-Jun-12 To 09-Aug-12		Plot Type : Final		Job No. : AK-AM-0009285348		Plot Date : 28-Aug-12		Total Depth MD : 10,812.00 ft	
Spud Date : 16-Jun-12		Borehole Record (TVD)		Run No.		Size		Borehole Record (TVD)	
Run No.		Size		From		To		Run No.	
100		12.250 in		102.00 ft		2,509.82 ft		1300	
200		8.500 in		2,509.82 ft		6,363.62 ft		1400	
300		8.500 in		6,363.62 ft		8,319.41 ft			
400		6.125 in		8,319.41 ft		8,347.36 ft			
500		6.125 in		8,347.36 ft		8,636.91 ft			
600		6.125 in		8,636.91 ft		8,672.36 ft			
800		6.125 in		8,672.36 ft		10,003.31 ft			
900		6.125 in		10,003.31 ft		10,093.24 ft			
1000		6.125 in		10,093.24 ft		10,564.07 ft			
1100		6.125 in		10,564.07 ft		10,594.06 ft			
1200		6.125 in		10,594.06 ft		10,662.06 ft			

LEGEND					
Abbreviations and Symbols			Lithology Symbols		
Drilling Data		Mud Data			
BG	Background Gas	Cl-	Chloride Ion Conc	Rm	Mud Resistivity
BHT	Bottomhole Temp	FC	Filter Cake	Rmf	Filtrate Resistivity
C	Carbide Test	FL	Filtrate Loss	S	Solids Content
CB	Core Bit	G	Gels	Vis	Funnel Viscosity
CG	Connection Gas	pH	Hydrogen Ion Content	MW	Mud Weight
CKF	Check For Flow	PV	Plastic Viscosity	YP	Yield Point
CO	Circulate Out				
DB	Diamond Bit				
DC	Depth Correction				
DS	Direction Survey				
DST	Drillstem Test				
FLT	Flowline Temp.				
LAT	Logged After Trip				
NB	New Bit				
NR	No Returns				
PDC	Polycrystalline Diamond				
	Compound Bit				
PR	Partial Returns				
RPM	Revs Per Minute				
RRB	Rerun Bit				
STG	Short Trip Gas				
TB	Turbo Drill				
TG	Trip Gas				
U	Gas Units				
WOB	Weight On Bit				

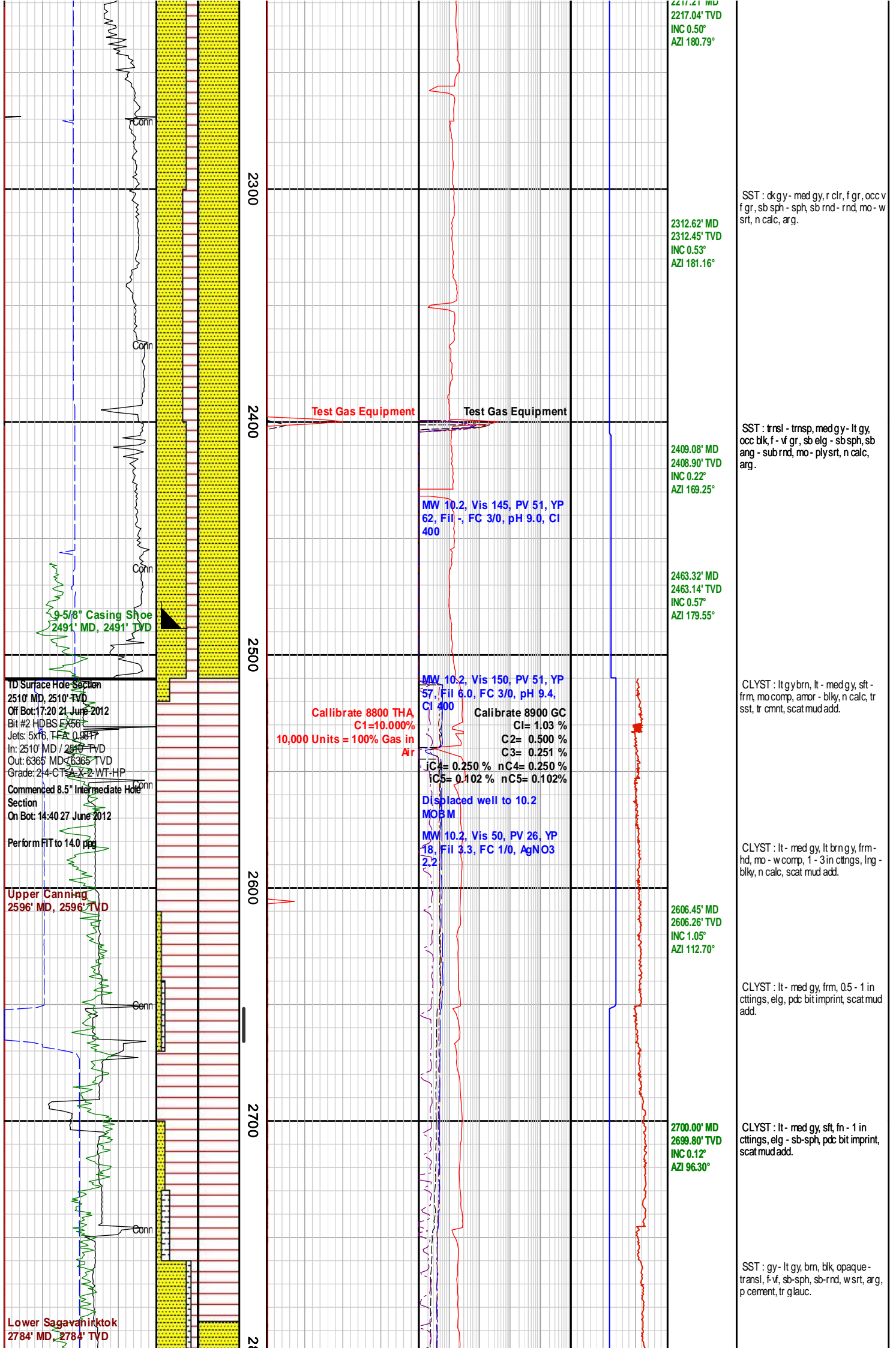
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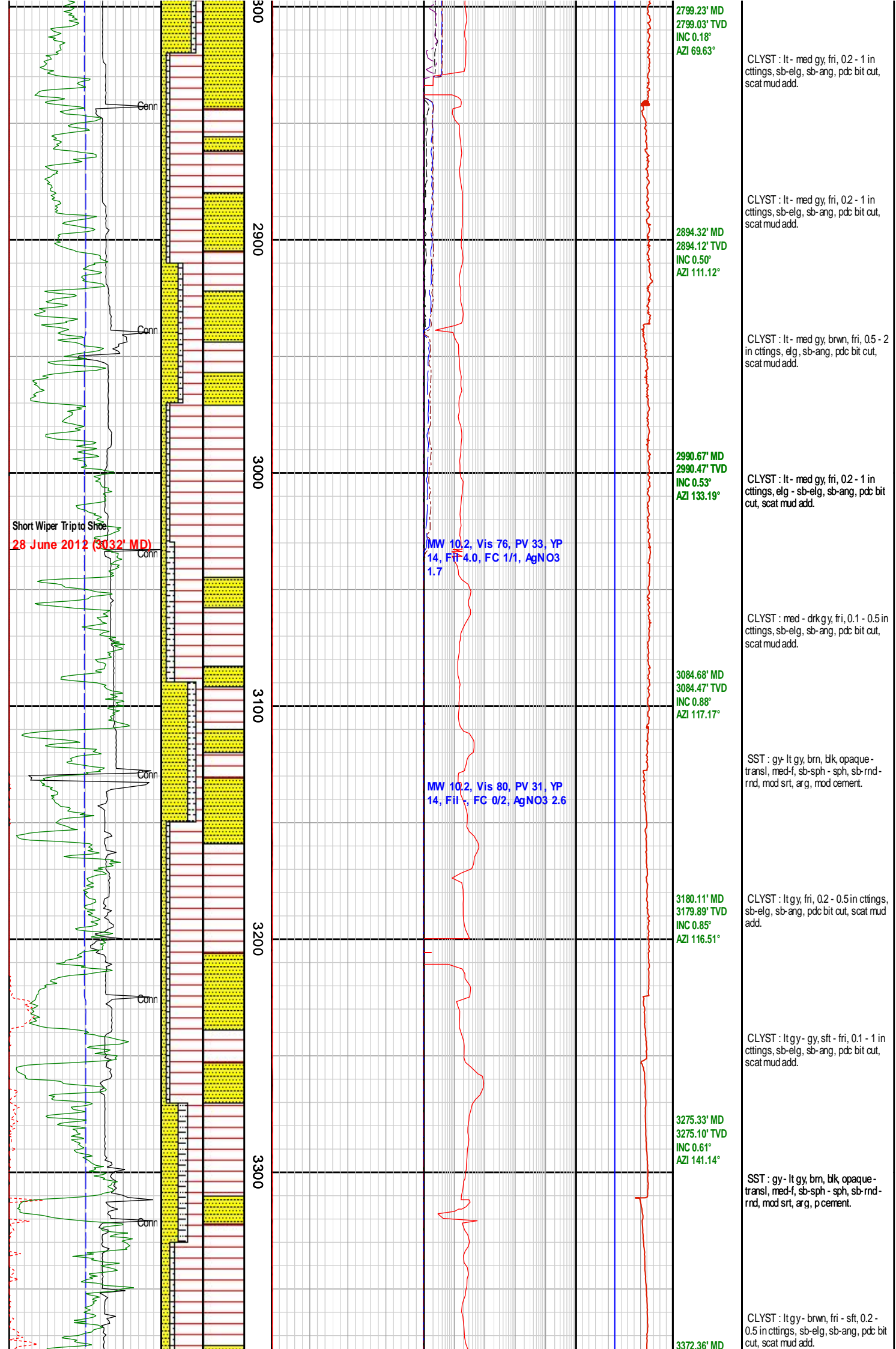


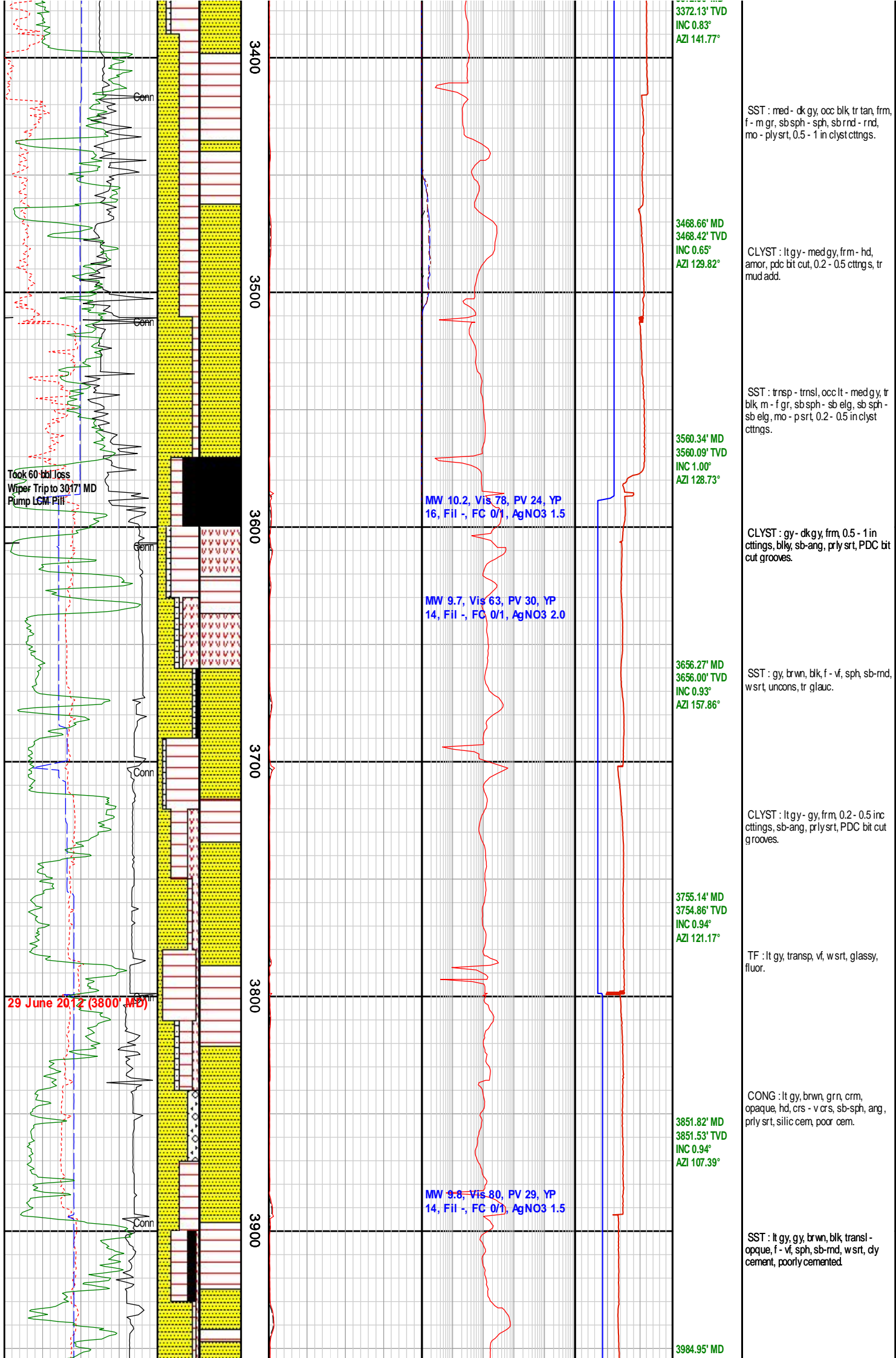




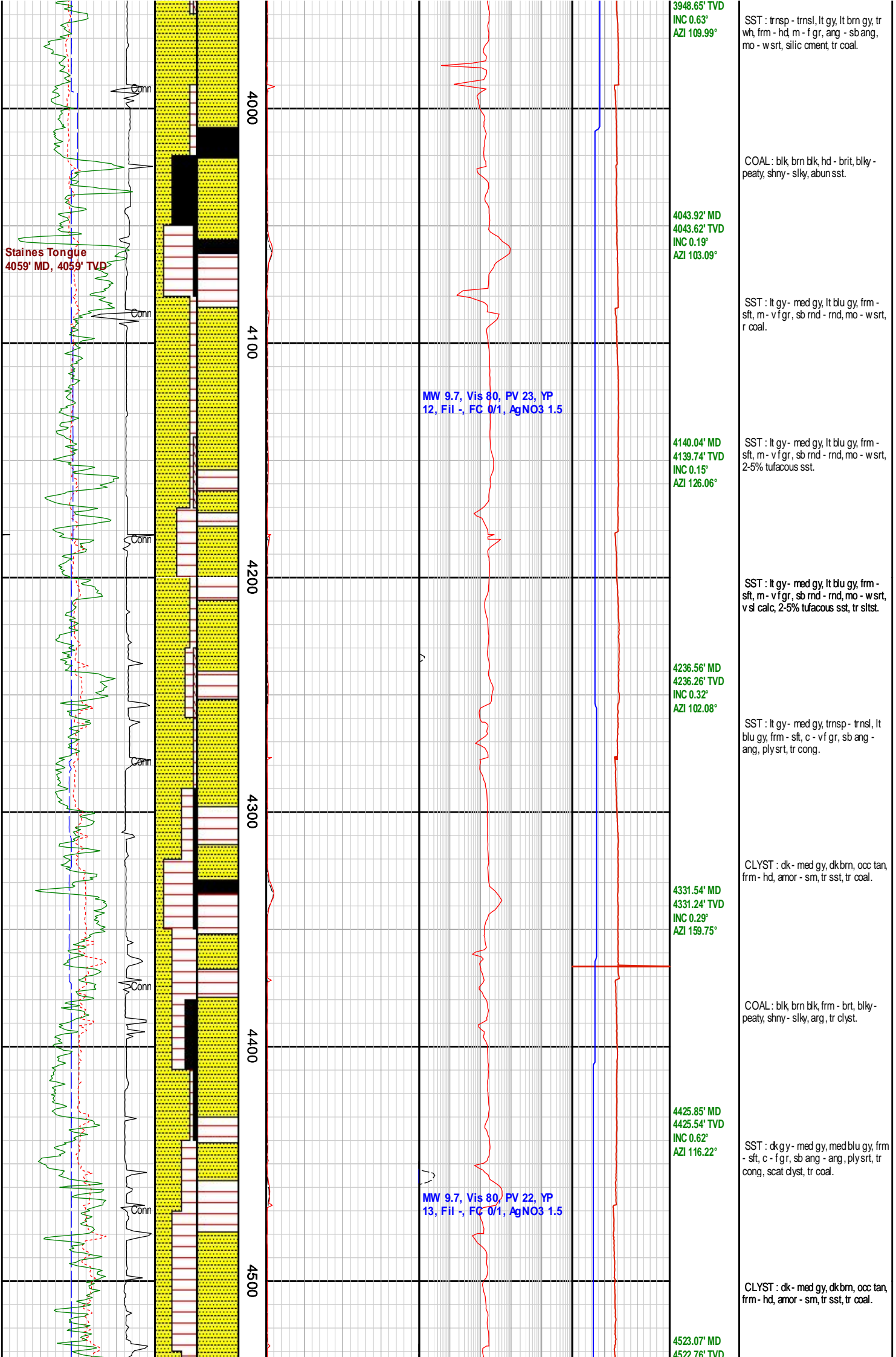


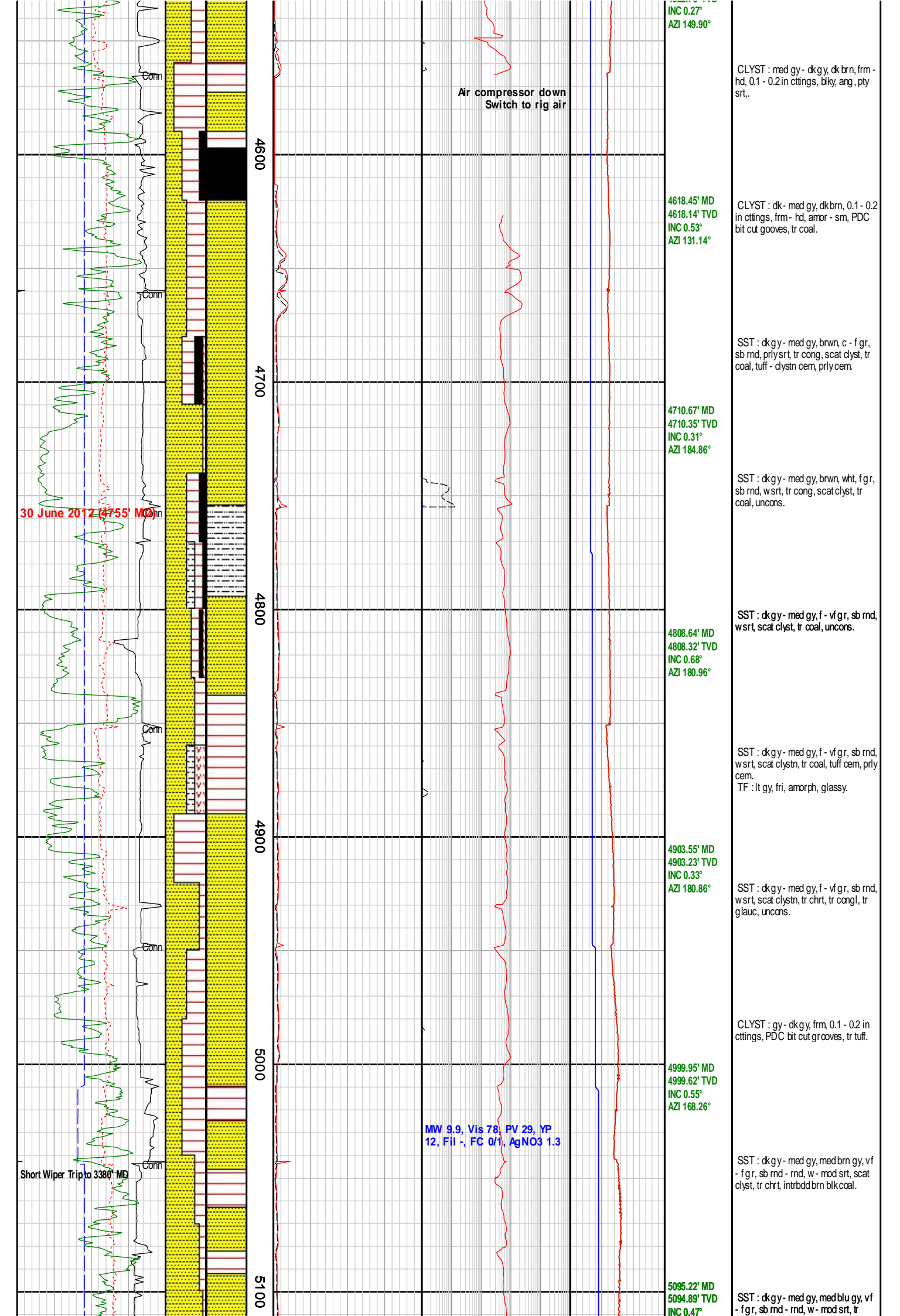


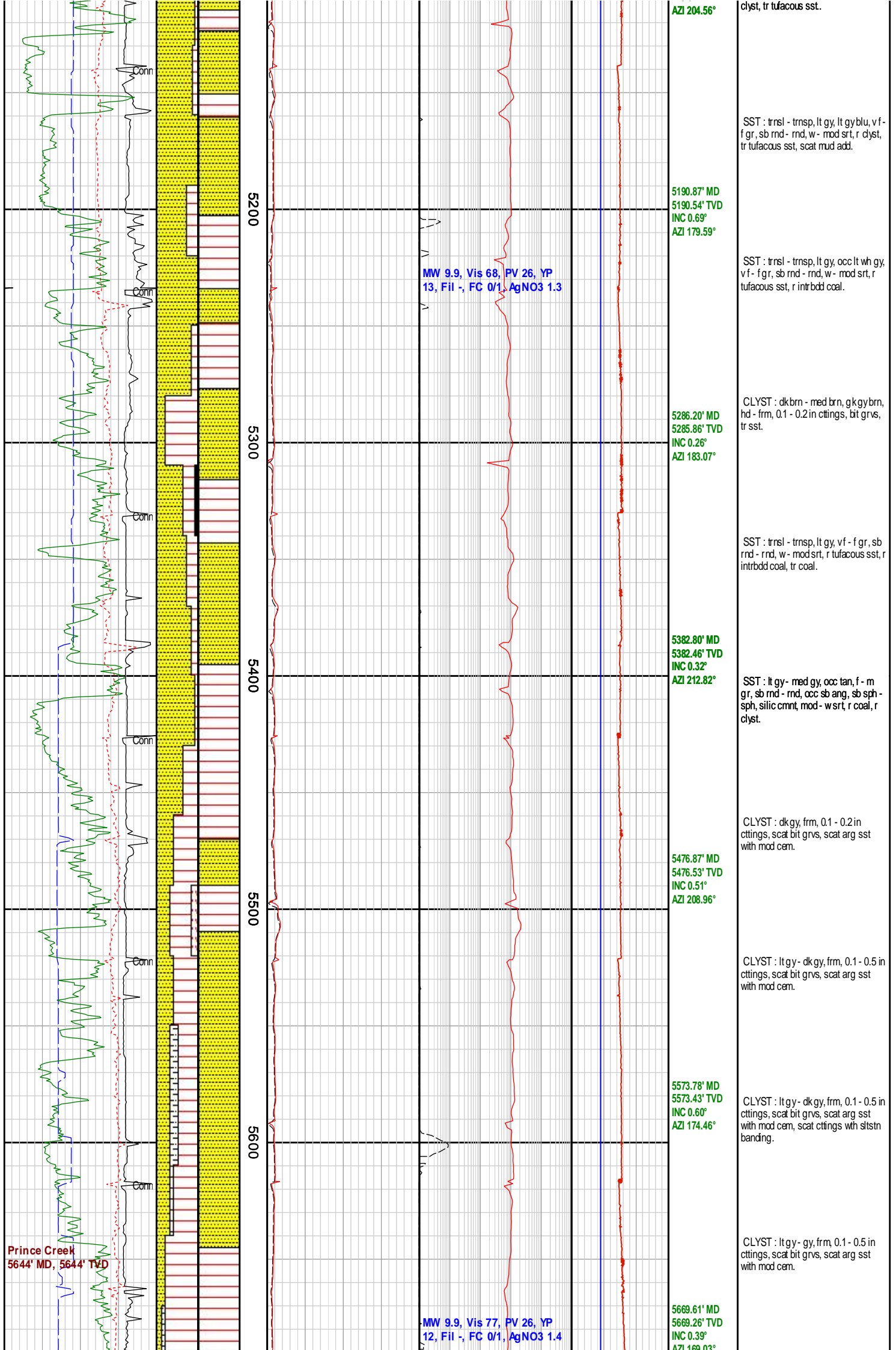












AZI 204.56°

5190.87' MD  
5190.54' TVD  
INC 0.69°  
AZI 179.59°

5286.20' MD  
5285.86' TVD  
INC 0.26°  
AZI 183.07°

5382.80' MD  
5382.46' TVD  
INC 0.32°  
AZI 212.82°

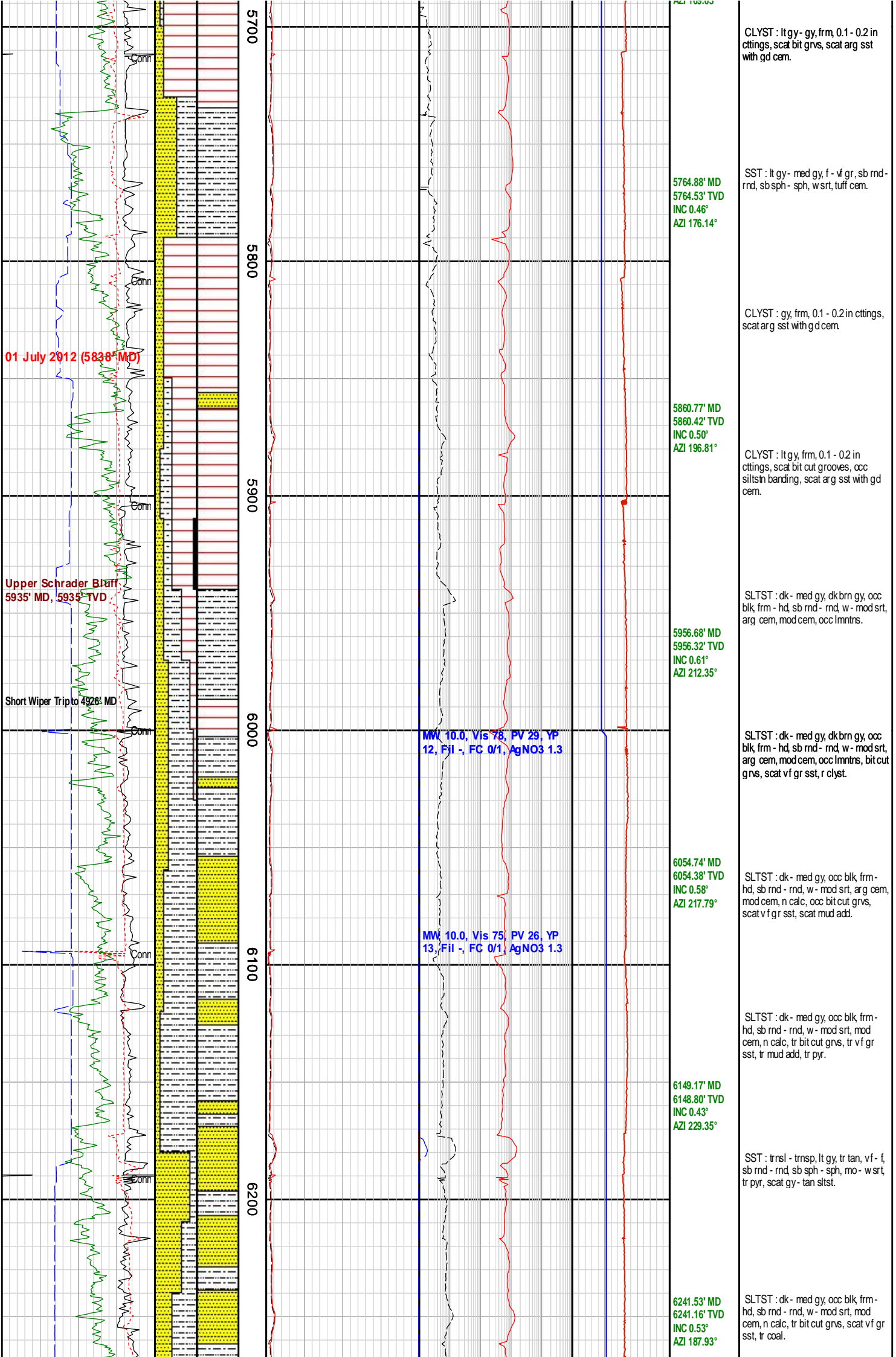
5476.87' MD  
5476.53' TVD  
INC 0.51°  
AZI 208.96°

5573.78' MD  
5573.43' TVD  
INC 0.60°  
AZI 174.46°

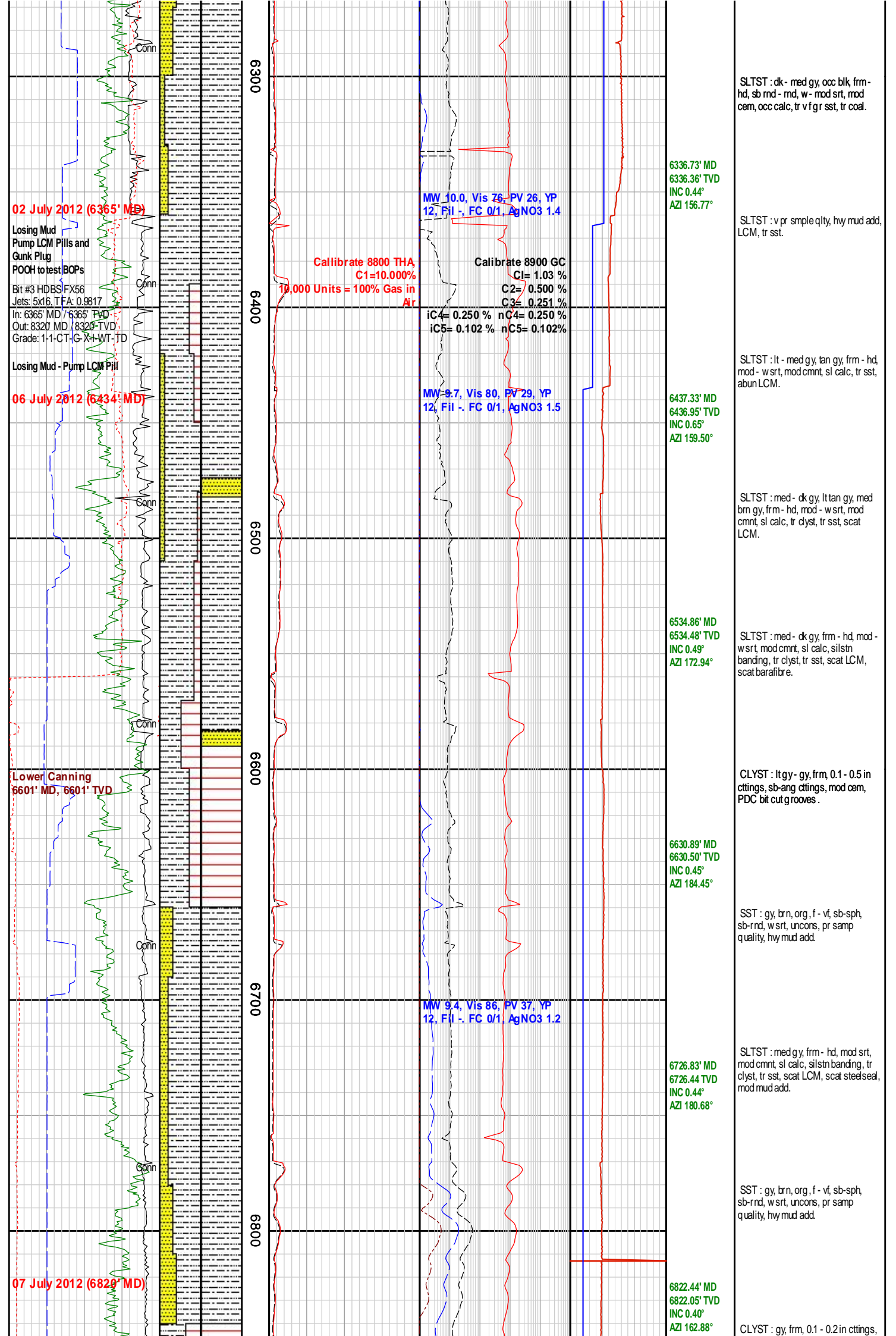
5669.61' MD  
5669.26' TVD  
INC 0.39°  
AZI 169.03°

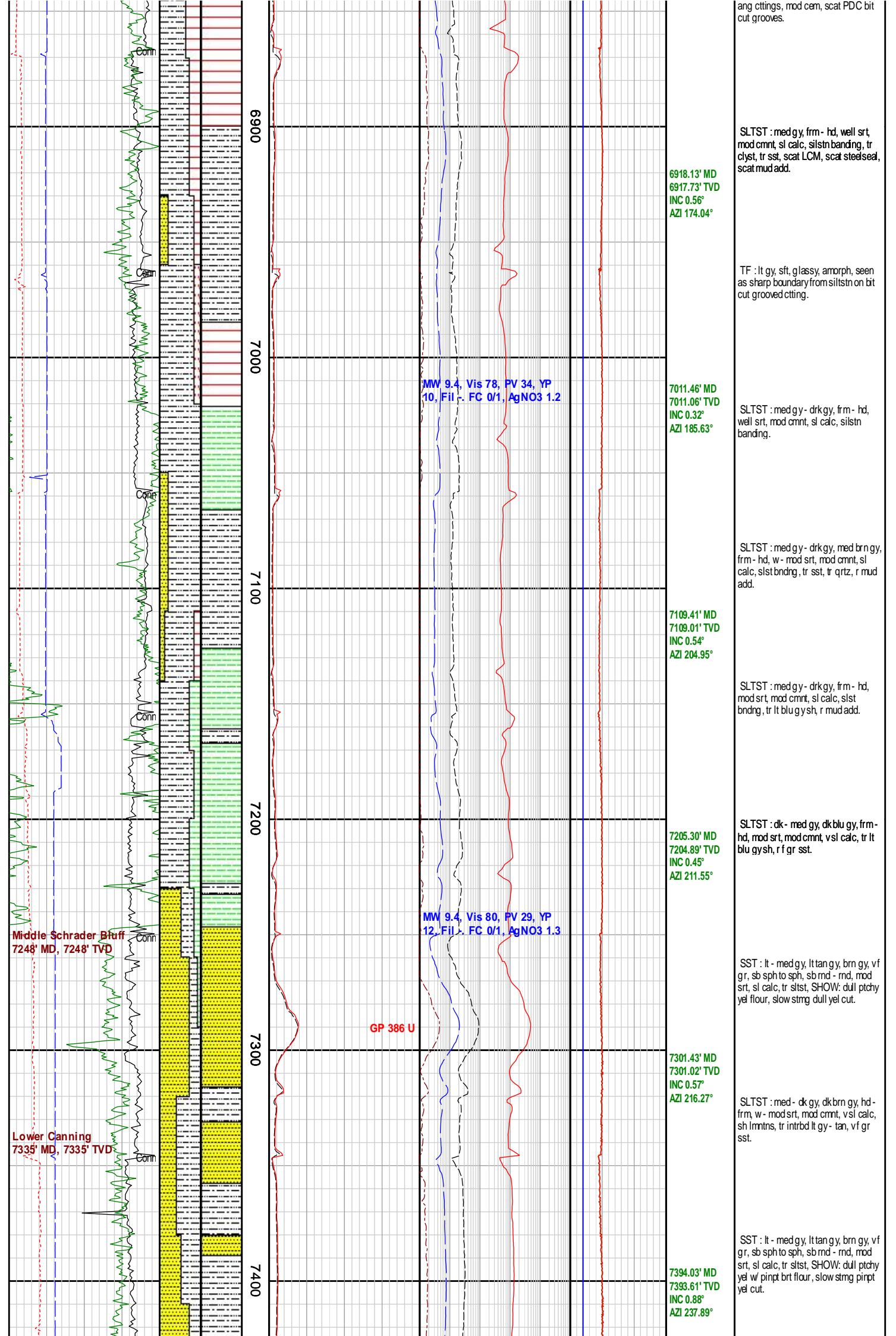
Prince Creek  
5644' MD, 5644' TVD











ang cuttings, mod cem, scat PDC bit cut grooves.

SLTST : med gy, frm - hd, well srt, mod cmnt, sl calc, silstn banding, tr clyst, tr sst, scat LCM, scat steelseal, scat mud add.

TF : lt gy, sft, glassy, amorph, seen as sharp boundary from silstn on bit cut grooved cting.

SLTST : med gy - drkgy, frm - hd, well srt, mod cmnt, sl calc, silstn banding.

SLTST : med gy - drkgy, med brn gy, frm - hd, w - mod srt, mod cmnt, sl calc, slst bndng, tr sst, tr qrtz, r mud add.

SLTST : med gy - drkgy, frm - hd, mod srt, mod cmnt, sl calc, slst bndng, tr lt blu gy sh, r mud add.

SLTST : dk - med gy, dk blu gy, frm - hd, mod srt, mod cmnt, vsi calc, tr lt blu gy sh, r f gr sst.

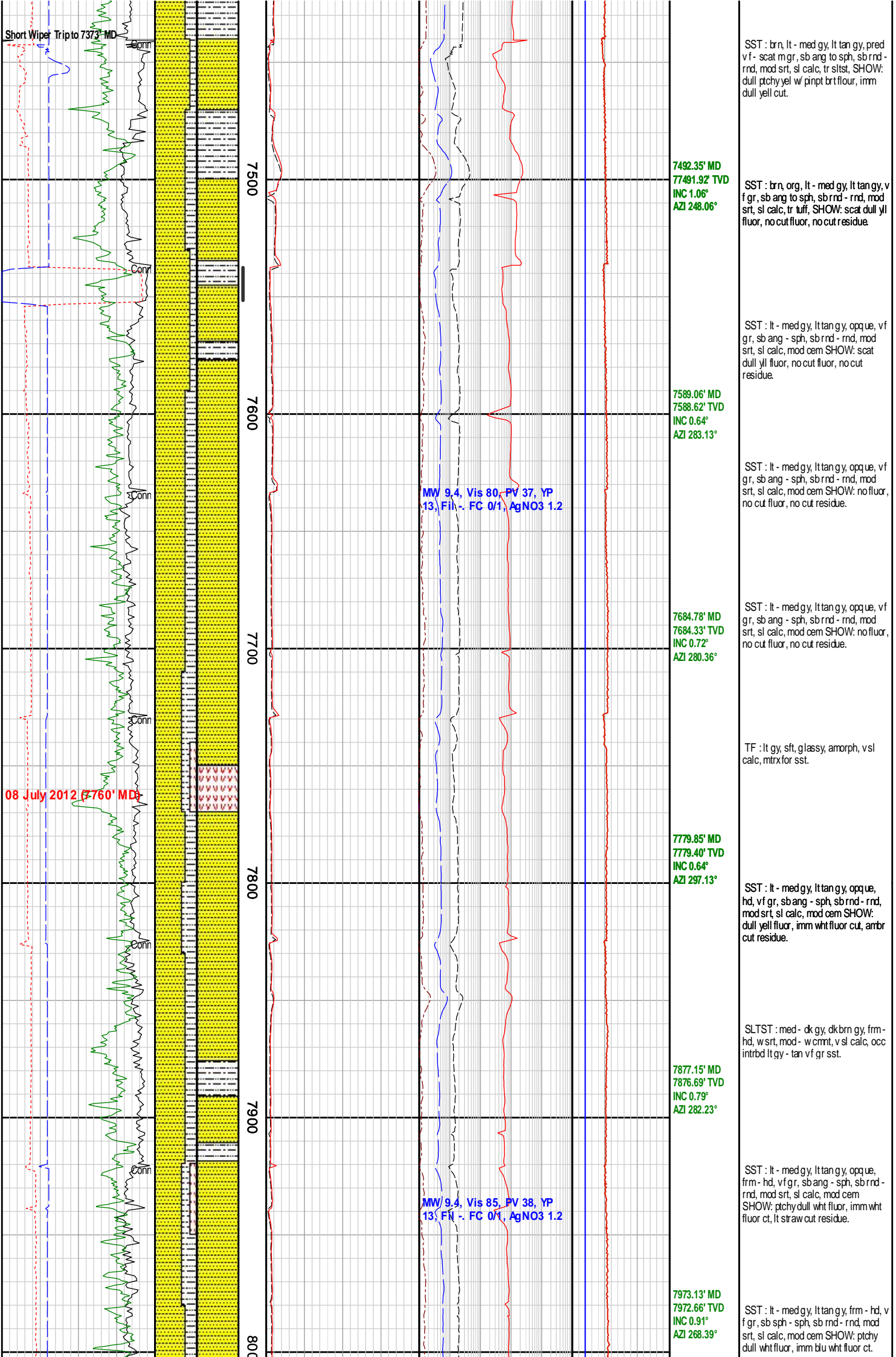
SST : lt - med gy, lt tangy, brn gy, vf gr, sb sph to sph, sb rnd - rnd, mod srt, sl calc, tr slst, SHOW: dull ptchy yel flour, slow stmg dull yel cut.

SLTST : med - dk gy, dk brn gy, hd - frm, w - mod srt, mod cmnt, vsi calc, sh lmtns, tr intrbd lt gy - tan, vf gr sst.

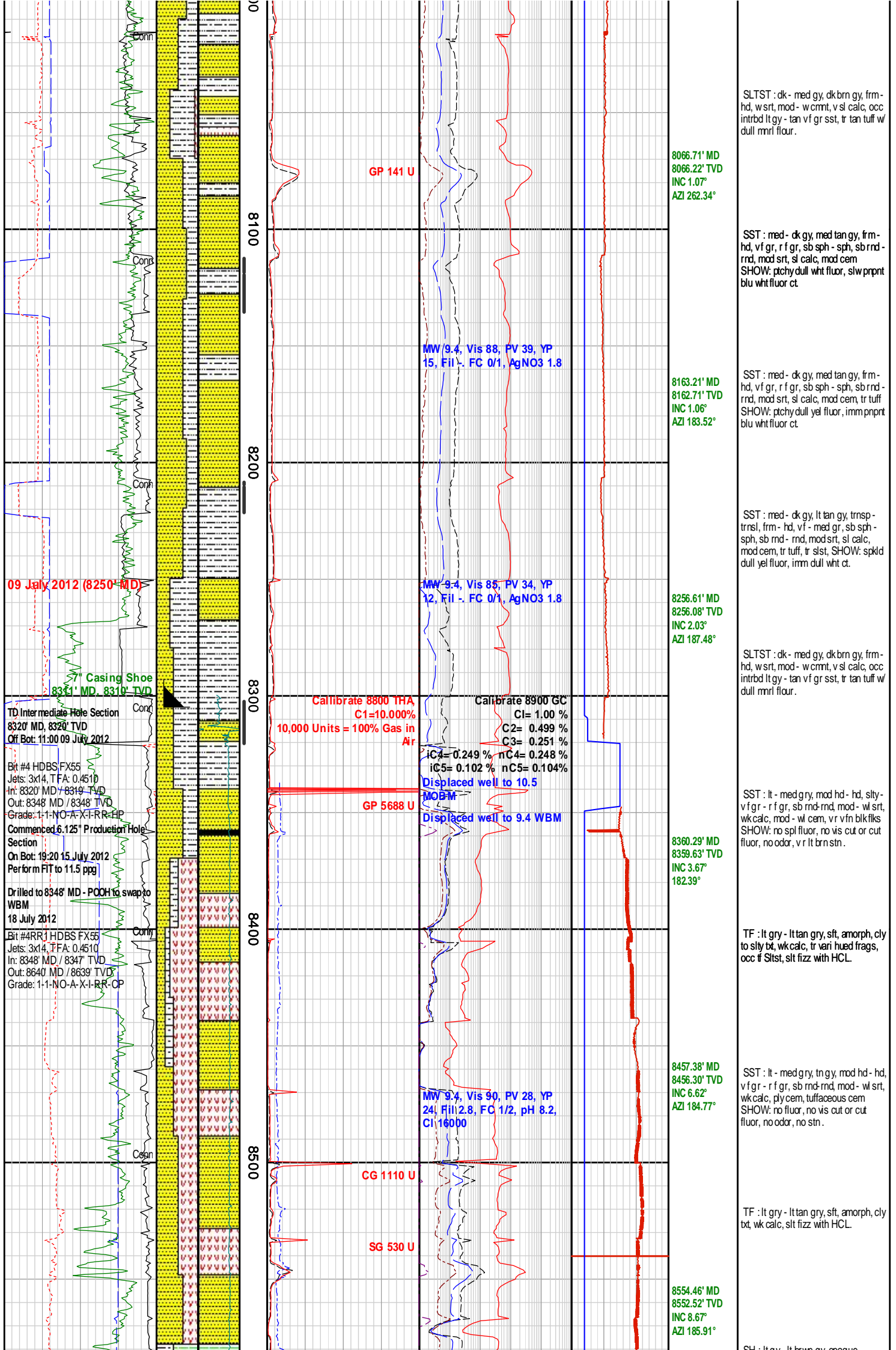
SST : lt - med gy, lt tangy, brn gy, vf gr, sb sph to sph, sb rnd - rnd, mod srt, sl calc, tr slst, SHOW: dull ptchy yel w/ pinpt brt flour, slow stmg pinpt yel cut.

Short Wiper Tripto 7373' MD

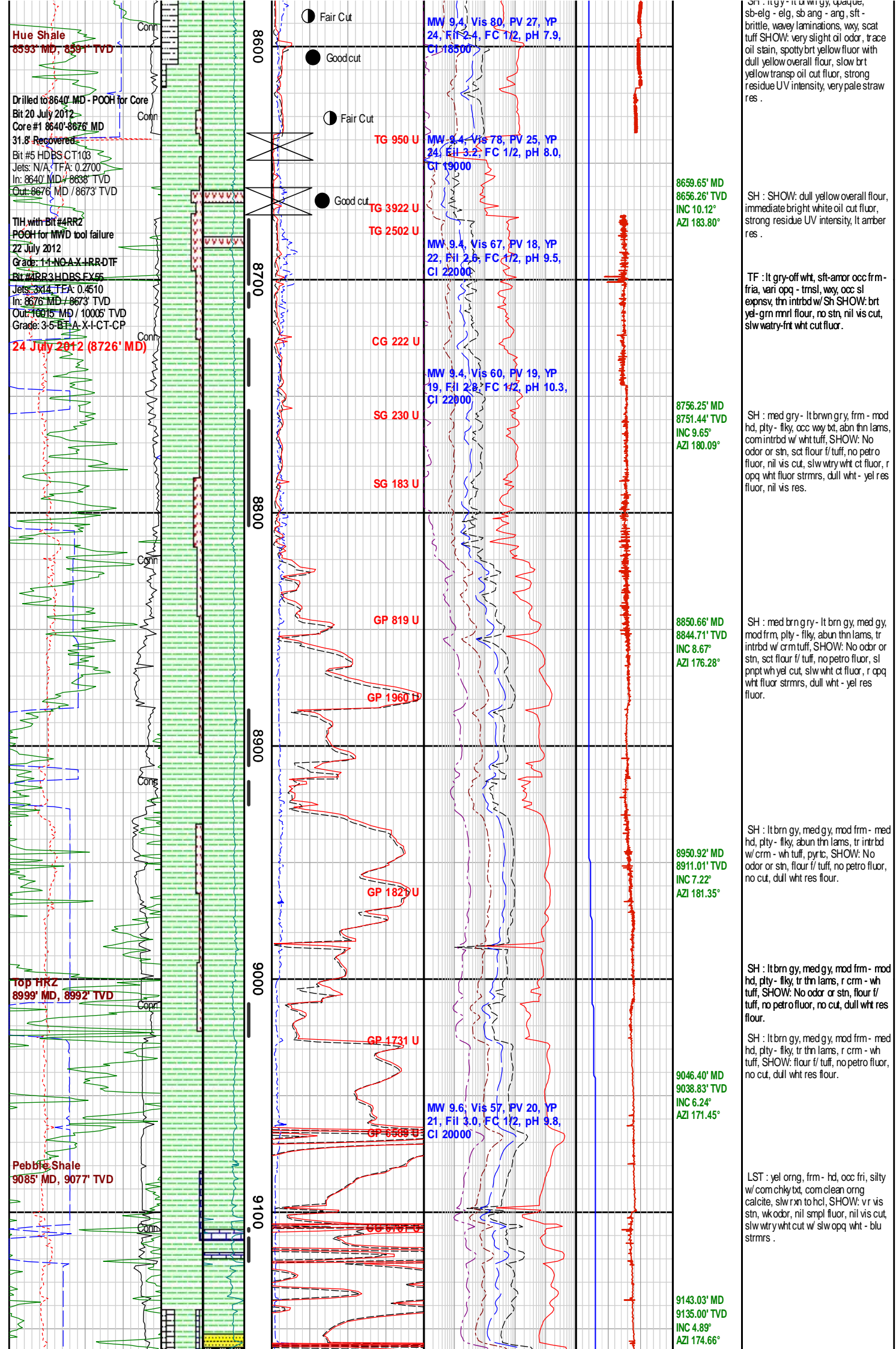
08 July 2012 (7760' MD)









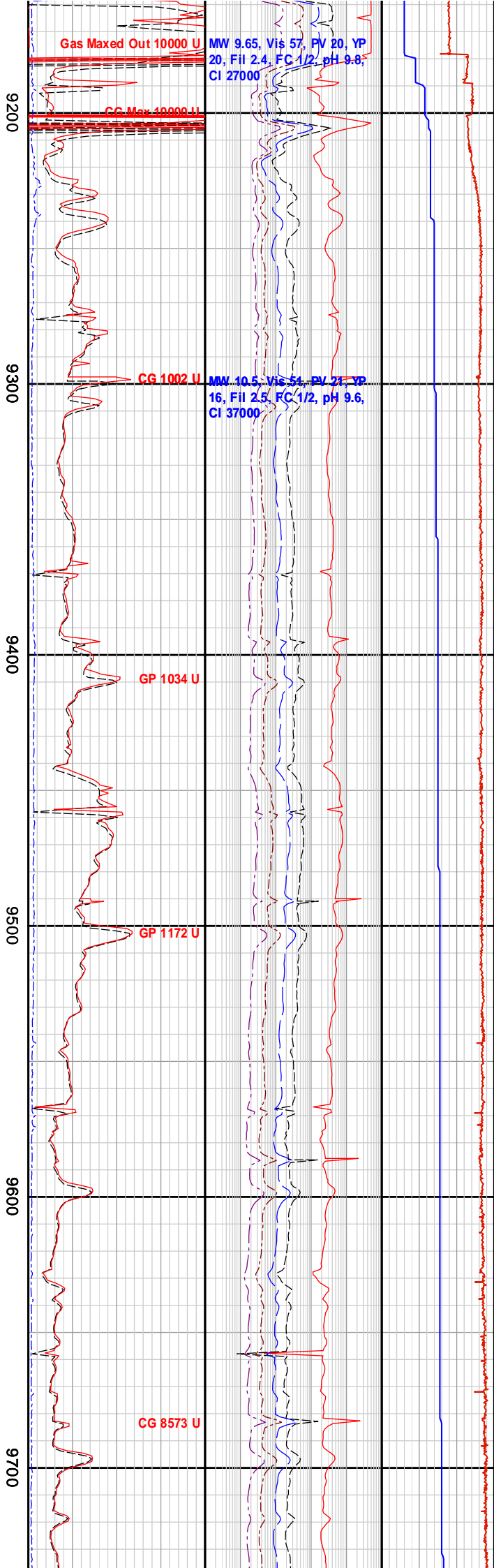


25 July 2012 (9186' MD)

Kuparuk C (Basal Zone)  
9218' MD, 9210' TVD  
Kuparuk B  
9230' MD, 9222' TVD  
Kuparuk A  
9243' MD, 9235' TVD

Miluveach  
9294' MD, 9285' TVD

Upper Kingak  
9540' MD, 9531' TVD



9240.11' MD  
9231.75' TVD  
INC 4.61°  
AZI 172.51°

9335.90' MD  
9327.25' TVD  
INC 4.22°  
AZI 173.94°

9431.91' MD  
9423.03' TVD  
INC 3.88°  
AZI 174.51°

9527.21' MD  
9518.13' TVD  
INC 3.48°  
AZI 174.68°

9622.34' MD  
9613.10' TVD  
INC 3.15°  
AZI 176.04°

9719.33' MD  
9709.96' TVD  
INC 3.03°  
AZI 174.83°

SLTST : Silty Sh, lt gry - lt brn gry, firm, pty - flky, occ sub resn lstr, tr dirty sltysd and loose sd, tr glauc, tr pyr. SHOW: nil petro fluor, nil vis cut, slw opq wht-blu fluor strrms, wk odor, r strn on sltysd.

SST : trnsp - trnsl, frm - hd, fgr w/ tr med gr, sb sph - sph, rnd - sb rnd, w- mo srt, scat pyr, r glauc, abun mud add, abun slst, r clyst, tr tuft w/ mnrl flour, SHOW: wk odor, v r pnpt petro flour, slw pnpt strrng wh yel cut, brt wh blu res.

SLTST : med gy - med brn gy, firm - mod sft, tr pty - flky, occ blk, tr sltysd and loose sd, r glauc. SHOW: no odor, no petro fluor, sl strrng cldy wh yel cut, brt yel wh res.

SLTST : med gy - med brn gy, occ lt brn gy, mod firm - sft, tr pty, r blk, tr slty sh, tr tuft w/ mnrl flour. SHOW: no odor, no petro fluor, vsl pnpt brtyel cut, brt wh blu res.

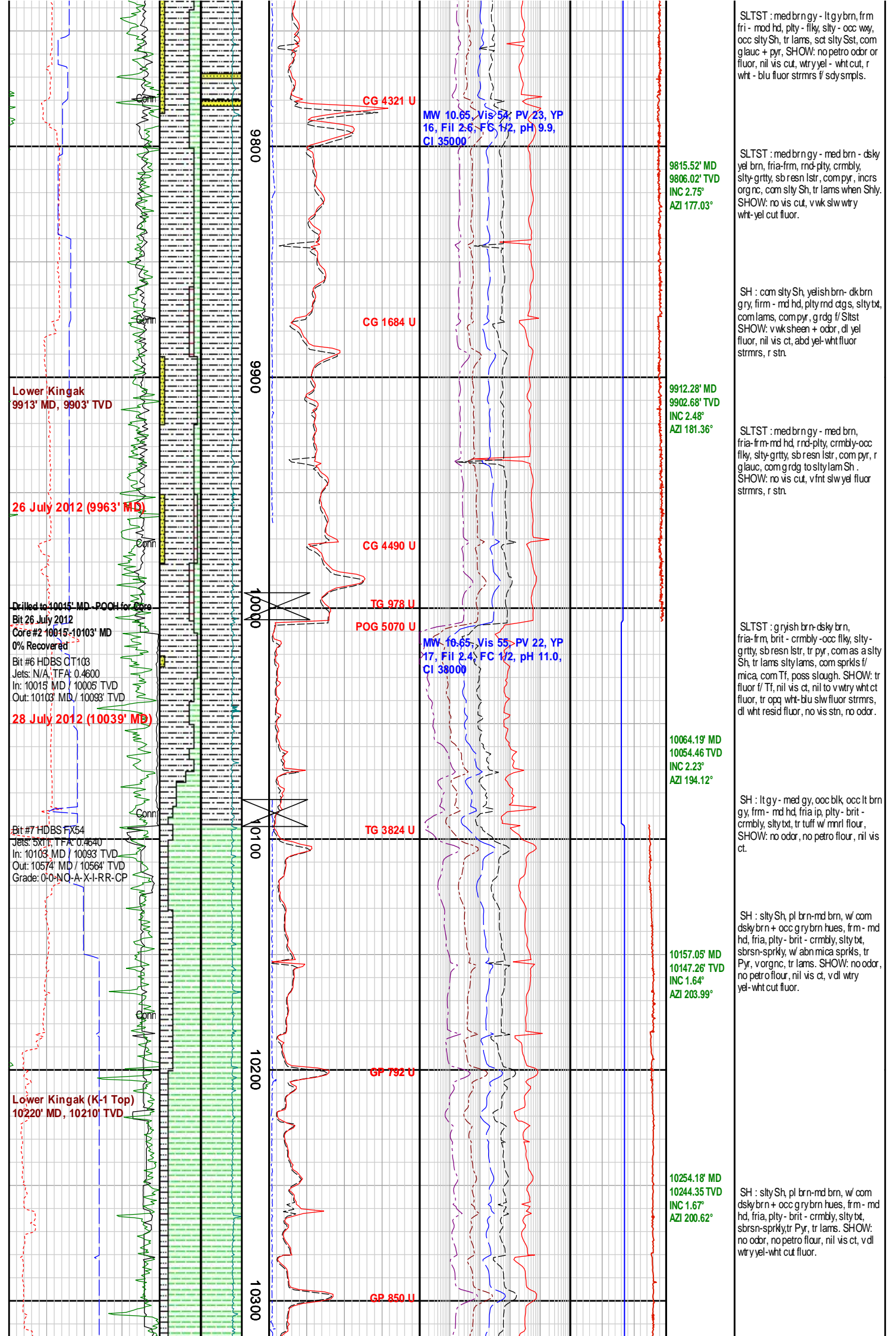
SLTST : med brn gy - dk gybrn, frm - mod hd, tr pty, r blk, tr slty sh, tr slty snd and lse fgr snd, SHOW: wk odor, no petro fluor, vsl pnpt dull wh yel cut, tr dull wh blu res.

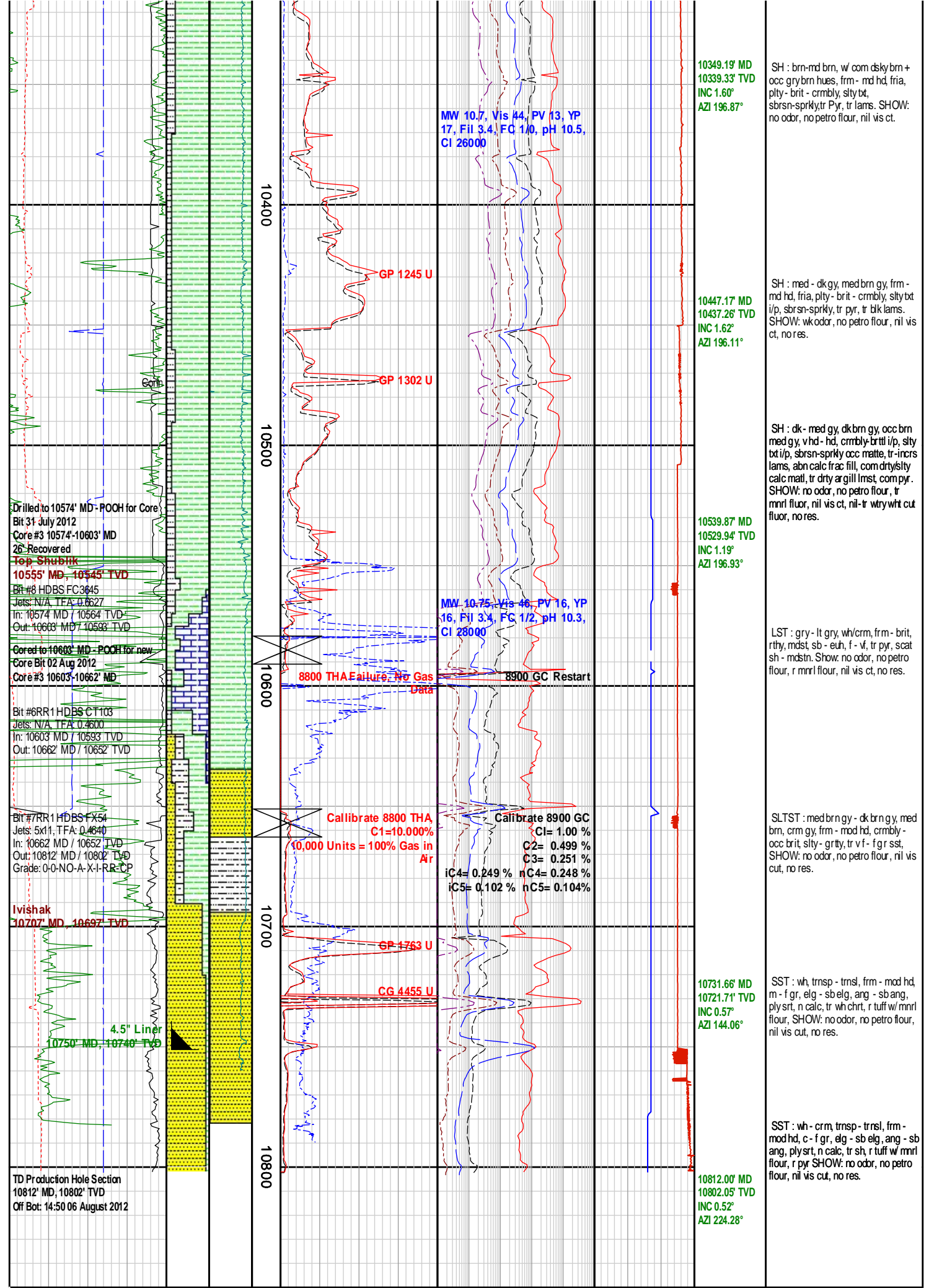
SLTST : med brn gy - dk gybrn, frm - mod hd, tr pty, sm - wxy, r blk, tr slty sh, tr clyst, SHOW: wk odor, no petro fluor, no vis cut, r dull wh blu res.

SLTST : med brn gy - dk gybrn, frm - mod hd, tr pty, sm - wxy, tr slty sh, occ clyst, SHOW: no petro fluor, no vis cut, wry wkyel - wht ct fluor, vdl yel - wht res.

SST : dmslty Sst, trnsl - lt gry, occ brnsh gry hues, fgr w/ occ loose med gr, tr glauc, com pyr, com grdf/ dirty Slst, SHOW: no odor, no vis str, nil vis cut, com wht-yel fluor strrms, d yel - wht res fluor.







ROP		Interpret Litho	DEPTH	Gas Max		Chromatograph	MW In	Deviation	Lithologic Descriptions
500	ft/hr			0	units				
Gamma		Cutt Litho	0	Gas Avg		Methane	9		
0	api			150	units	2K			
						Propane			



0	WOB kbs	40	Log	Log	MD	0	Resistivity ohms	50	Total Butane Total Pentane	9	ECD ppg	12	Surveys	Remarks
0	RPM rpm	200	Density 1 g/cc 3	Slide					10 100 1K 10K 100KM					

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## HALLIBURTON

### DIRECTIONAL SURVEY REPORT

Great Bear Petroleum, LLC

Alcor 1

Exploration

North Slope Borough Alaska

USA

AK-XX-0009285348

Measured Depth (feet)	Inclination (degrees)	Direction (degrees)	Vertical Depth (feet)	Latitude (feet)	Departure (feet)	Vertical Section (feet)	Dogleg (deg/100ft)
0.00	0.00	0.00	0.00	0.00 N	0.00 E	0.00	TIE-IN
139.03	0.37	207.79	139.03	0.40 S	0.21 W	0.24	0.27
231.15	0.19	271.35	231.15	0.66 S	0.50 W	0.32	0.36
322.39	0.46	261.45	322.39	0.71 S	1.01 W	0.11	0.30
416.62	0.80	219.77	416.61	1.27 S	1.81 W	0.19	0.58
503.87	1.11	201.58	503.85	2.52 S	2.51 W	0.93	0.49
592.94	1.04	196.68	592.90	4.10 S	3.06 W	2.02	0.13
685.39	0.95	186.77	685.34	5.66 S	3.39 W	3.21	0.21
780.20	0.94	208.49	780.14	7.13 S	3.85 W	4.25	0.38
877.37	0.65	225.85	877.30	8.21 S	4.63 W	4.80	0.38
976.87	0.55	217.66	976.79	8.98 S	5.33 W	5.12	0.13
1070.52	0.84	233.02	1070.44	9.75 S	6.15 W	5.37	0.37
1161.77	0.84	184.97	1161.68	10.82 S	6.74 W	6.00	0.75
1259.04	0.65	208.98	1258.94	12.01 S	7.07 W	6.87	0.37
1355.56	0.78	205.42	1355.45	13.09 S	7.62 W	7.53	0.14
1451.70	0.70	209.13	1451.58	14.19 S	8.18 W	8.20	0.10
1547.61	0.87	214.97	1547.48	15.30 S	8.89 W	8.81	0.20
1642.98	0.86	205.66	1642.84	16.54 S	9.61 W	9.52	0.15
1739.38	0.64	193.71	1739.23	17.71 S	10.05 W	10.31	0.28
1836.78	0.69	209.38	1836.63	18.75 S	10.47 W	11.01	0.19
1931.60	0.71	175.26	1931.44	19.84 S	10.70 W	11.83	0.43
2028.33	0.48	183.94	2028.17	20.84 S	10.68 W	12.71	0.25
2123.91	0.46	205.20	2123.74	21.58 S	10.87 W	13.26	0.18
2217.21	0.50	180.79	2217.04	22.33 S	11.04 W	13.82	0.22
2312.62	0.53	181.16	2312.45	23.19 S	11.05 W	14.56	0.03
2409.08	0.22	169.25	2408.90	23.82 S	11.02 W	15.11	0.33
2463.32	0.57	179.55	2463.14	24.19 S	11.00 W	15.45	0.66
2510.66	0.67	119.99	2510.48	24.56 S	10.76 W	15.89	1.31
2606.45	1.05	112.70	2606.26	25.18 S	9.47 W	17.07	0.41
2700.00	0.12	96.30	2699.80	25.52 S	8.58 W	17.81	1.00
2799.23	0.18	69.63	2799.03	25.48 S	8.33 W	17.90	0.09
2894.32	0.50	111.12	2894.12	25.58 S	7.80 W	18.25	0.40
2990.67	0.53	133.19	2990.47	26.03 S	7.08 W	19.00	0.21

3084.68	0.88	117.17	3084.47	26.66 S	6.13 W	20.03	0.42
3180.11	0.85	116.51	3179.89	27.31 S	4.84 W	21.23	0.03
3275.33	0.61	141.14	3275.10	28.02 S	3.89 W	22.32	0.41
3372.36	0.83	141.77	3372.12	28.97 S	3.13 W	23.53	0.23
3468.66	0.65	129.82	3468.42	29.87 S	2.28 W	24.73	0.25
3560.34	1.00	128.73	3560.09	30.71 S	1.26 W	25.96	0.38
3656.27	0.94	157.86	3656.00	31.96 S	0.31 W	27.52	0.51
3755.14	0.94	121.17	3754.86	33.13 S	0.69 E	29.04	0.60
3851.82	0.94	107.39	3851.53	33.78 S	2.13 E	30.32	0.23
3948.95	0.63	109.99	3948.65	34.20 S	3.39 E	31.31	0.32
4043.92	0.19	103.09	4043.62	34.41 S	4.03 E	31.82	0.47
4140.04	0.15	126.06	4139.74	34.52 S	4.29 E	32.04	0.08
4236.56	0.32	102.08	4236.26	34.65 S	4.66 E	32.34	0.20
4331.54	0.29	159.75	4331.23	34.93 S	5.00 E	32.75	0.31
4425.85	0.62	116.22	4425.54	35.38 S	5.54 E	33.41	0.48
4523.07	0.27	149.90	4522.76	35.81 S	6.13 E	34.08	0.43
4618.45	0.53	131.14	4618.14	36.30 S	6.57 E	34.72	0.30
4710.67	0.31	184.86	4710.35	36.83 S	6.87 E	35.33	0.46
4808.64	0.68	180.96	4808.32	37.67 S	6.84 E	36.05	0.38
4903.55	0.33	180.86	4903.23	38.51 S	6.83 E	36.76	0.37
4999.95	0.55	168.26	4999.62	39.24 S	6.92 E	37.44	0.25
5095.22	0.47	204.56	5094.89	40.04 S	6.85 E	38.10	0.34
5190.87	0.69	179.59	5190.53	40.98 S	6.69 E	38.83	0.35
5286.20	0.26	183.07	5285.86	41.77 S	6.68 E	39.51	0.45
5382.80	0.32	212.82	5382.46	42.21 S	6.52 E	39.82	0.17
5476.87	0.51	208.96	5476.53	42.80 S	6.18 E	40.15	0.20
5573.78	0.60	174.46	5573.43	43.68 S	6.02 E	40.84	0.35
5669.61	0.39	169.03	5669.26	44.50 S	6.13 E	41.60	0.22
5764.88	0.46	176.14	5764.53	45.20 S	6.22 E	42.25	0.09
5860.77	0.50	196.81	5860.41	45.98 S	6.12 E	42.88	0.18
5956.68	0.61	212.35	5956.32	46.82 S	5.73 E	43.41	0.19
6054.74	0.58	217.79	6054.37	47.65 S	5.14 E	43.84	0.07
6149.17	0.43	229.35	6148.80	48.26 S	4.58 E	44.08	0.19
6241.53	0.53	187.93	6241.16	48.91 S	4.26 E	44.48	0.38
6336.73	0.44	156.77	6336.35	49.68 S	4.34 E	45.19	0.29
6388.96	0.51	174.23	6388.58	50.09 S	4.44 E	45.61	0.31
6437.33	0.65	159.50	6436.95	50.57 S	4.56 E	46.07	0.42
6534.86	0.49	172.94	6534.48	51.50 S	4.81 E	47.00	0.21
6630.89	0.45	184.45	6630.50	52.28 S	4.83 E	47.69	0.11
6726.83	0.44	180.68	6726.44	53.03 S	4.79 E	48.32	0.03
6822.44	0.40	162.88	6822.05	53.71 S	4.89 E	48.96	0.14
6918.13	0.56	174.04	6917.73	54.50 S	5.04 E	49.71	0.19
7011.46	0.32	185.63	7011.06	55.21 S	5.06 E	50.34	0.27
7109.41	0.54	204.95	7109.01	55.90 S	4.84 E	50.83	0.27
7205.30	0.45	211.55	7204.89	56.63 S	4.45 E	51.27	0.11
7301.43	0.57	216.27	7301.02	57.34 S	3.97 E	51.64	0.13
7394.03	0.88	237.89	7393.61	58.09 S	3.09 E	51.85	0.44
7492.35	1.06	248.06	7491.92	58.83 S	1.61 E	51.75	0.25
7589.06	0.64	283.13	7588.62	59.04 S	0.25 E	51.26	0.67
7684.78	0.72	280.36	7684.33	58.81 S	0.86 W	50.50	0.09
7779.85	0.64	297.13	7779.40	58.46 S	1.92 W	49.67	0.22
7877.15	0.79	282.23	7876.69	58.07 S	3.06 W	48.76	0.24
7973.13	0.91	268.39	7972.66	57.95 S	4.47 W	47.95	0.25
8066.71	1.07	262.34	8066.22	58.09 S	6.07 W	47.27	0.20
8163.21	1.06	183.52	8162.71	59.10 S	7.02 W	47.67	1.40
8256.61	2.03	187.48	8256.08	61.60 S	7.29 W	49.70	1.04
8276.71	2.22	188.14	8276.16	62.34 S	7.39 W	50.29	0.95
8360.29	3.67	182.39	8359.63	66.62 S	7.73 W	53.82	1.77
8396.65	4.99	183.01	8395.88	69.36 S	7.86 W	56.13	3.63
8428.91	5.96	184.13	8428.00	72.43 S	8.06 W	58.70	3.02
8457.38	6.62	184.77	8456.30	75.54 S	8.30 W	61.27	2.33
8491.89	7.22	186.53	8490.55	79.68 S	8.71 W	64.64	1.84
8525.32	8.06	186.68	8523.69	84.09 S	9.23 W	68.21	2.51
8554.46	8.67	185.91	8552.52	88.30 S	9.69 W	71.63	2.13
8598.25	9.50	184.77	8595.76	95.19 S	10.33 W	77.27	1.94
8659.65	10.12	183.80	8656.26	105.62 S	11.11 W	85.92	1.04
8693.51	9.83	182.61	8689.61	111.48 S	11.44 W	90.82	1.05
8723.57	9.80	181.00	8719.23	116.60 S	11.60 W	95.18	0.92
8756.25	9.65	180.09	8751.44	122.12 S	11.65 W	99.93	0.66
8790.22	8.91	178.99	8784.96	127.60 S	11.61 W	104.70	2.24
8825.57	8.56	177.37	8819.90	132.96 S	11.44 W	109.43	1.21
8850.66	8.67	176.28	8844.71	136.71 S	11.23 W	112.78	0.78
8950.92	7.22	181.35	8944.01	150.55 S	10.89 W	124.94	1.60
9046.40	6.24	171.45	9038.83	161.68 S	10.26 W	134.89	1.59
9143.03	4.89	174.66	9135.00	170.98 S	9.10 W	143.52	1.43
9240.11	4.61	172.51	9231.75	178.07 S	8.20 W	150.89	0.34

9240.11	4.01	172.51	9231.75	178.97 S	8.20 W	150.89	0.34
9335.90	4.22	173.94	9327.25	186.29 S	7.33 W	157.66	0.42
9431.91	3.88	174.51	9423.03	193.03 S	6.64 W	163.85	0.36
9527.21	3.48	174.68	9518.13	199.12 S	6.07 W	169.41	0.42
9622.34	3.07	176.04	9613.10	204.54 S	5.62 W	174.32	0.44
9719.33	3.05	174.83	9709.96	209.70 S	5.21 W	179.00	0.07
9815.52	2.76	177.03	9806.02	214.56 S	4.86 W	183.38	0.32
9912.28	2.50	181.36	9902.68	219.00 S	4.79 W	187.26	0.34
10064.19	2.23	194.12	10054.46	225.18 S	5.59 W	192.21	0.39
10157.05	1.66	203.99	10147.27	228.16 S	6.58 W	194.30	0.71
10254.18	1.66	200.62	10244.36	230.76 S	7.65 W	196.02	0.10
10349.19	1.60	196.87	10339.33	233.32 S	8.52 W	197.80	0.13
10447.17	1.59	196.11	10437.27	235.93 S	9.29 W	199.68	0.02
10539.87	1.20	196.93	10529.94	238.09 S	9.93 W	201.23	0.42
10731.66	0.57	144.06	10721.71	240.79 S	9.95 W	203.55	0.51
10778.66	0.52	224.28	10768.71	241.13 S	9.97 W	203.84	1.50
10812.00	0.52	224.28	10802.05	241.35 S	10.18 W	203.92	0.00

CALCULATION BASED ON MINIMUM CURVATURE METHOD

SURVEY COORDINATES RELATIVE TO WELL SYSTEM REFERENCE POINT  
TVD VALUES GIVEN RELATIVE TO DRILLING MEASUREMENT POINT

VERTICAL SECTION RELATIVE TO WELL HEAD  
VERTICAL SECTION IS COMPUTED ALONG A DIRECTION OF 150.00 DEGREES (TRUE)  
A TOTAL CORRECTION OF 20.87 DEG FROM MAGNETIC NORTH TO TRUE NORTH HAS BEEN APPLIED

HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD.  
HORIZONTAL DISPLACEMENT(CLOSURE) AT 10812.00 FEET  
IS 241.56 FEET ALONG 182.41 DEGREES (TRUE)