OPERATOR:	**Bill Barrett Corp**		
WELL NAME:	**Anschutz State 5-62-22-1609B2**	SCALE:	5" = 100'
FIELD NAME:	Wattenberg	SURFACE HOLE:	660 FNL, 375 FWL
DRILLING RIG:	Cade 24		
API #:	05-123-41811	LOCATION:	NWNW Sec 22, T5N, R62W

esa

Earth Science Agency, LLC

|	
COUNTY:	Weld
STATE:	Colorado
GROUND ELEVATION:	4730'
KELLY BUSHING:	4746'
DRILLING FLUID:	LSND
TVD VS. MD:	6297' / 16391'
SPUD DATE:	
BEGIN LOGGING:	4500'; October 22, 2015
TD DATE:	October 28, 2015
DATES LOGGED:	October 22, 2015 - October 28, 2015
DEPTHS LOGGED:	4500' - 16391'
LOGGER:	Blue Spikes, Joe Coon, Tyson Barnes

LEGEND

- CHALK
- LIMESTONE
- SHALY LIMESTONE
- MARLSTONE
- CALCAREOUS SHALE
- DOLOMITE
- SHALE
- SILTY SHALE
- SHALY SILTSTONE
- SHALY SANDSTONE
- SANDSTONE
- ANHYDRITE

◀ FORMATION ⋈ CONNECTION △ MIDNIGHT 🏛 NEW BIT ☼ GAS SHOW ⊿ FAULT

Track headers

MEASURED DEPTH (FT)

PHOTOS

MUDLOGGER INTERP

GEOSTEERING INTERP
— TARGET TOP & BASE

TVD ft
6500 — 0

GAMMA api
0 — 200

OIL SHOWS F < B

GAS units
0 — 1000

WETNESS %
0 — 100

MUD VOL. 800 bbl

ROP ft/hr
0 — 800

WOB klbs
0 — 100

SLIDES SYMBOLS

COMMENTS

CUTTINGS %

SAMPLE DESCRIPTION

Depth column / Comments / Descriptions

COMMENTS:

-4500 Suface preset. Spud and drilled out from surface at 808' MD at 0400 hrs on 10/22/2015; Bit #1 - Ulterra U519S, 5x18, 8.75"

-4522 INC 6.04, AZM 239.54, TVD 4493.13

-4540 WT 8.9, VIS 30

-4600 WT 8.8, VIS 30

SAMPLE DESCRIPTION:

-4550 SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; NSFOC

-4600 SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; NSFOC

-4650 SS: wh, mlky, lt gy, lt

-4610
-4620
-4630
-4640
-4650
-4660
-4670
-4680
-4690
-4700
-4710
-4720
-4730
-4740
-4750
-4760
-4770
-4780
-4790
-4800
-4810

0	100	200	0	50	100	0	500	1000	0	50	100	0	400	800
6500	3250	0												

-4616 INC 7.11, AZM 235.49, TVD 4586.51

-4700 WT 8.8, VIS 30

-4710 INC 6.77, AZM 229.49, TVD 4679.82

-4804 INC 6.48, AZM 227.68, TVD 4773.19

brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; NSFOC

-4700 SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; NSFOC

-4750 SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; NSFOC

-4800 SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; NSFOC

-4850 SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl

0	100	200	0	50	100	0	500	1000	0	400	800
6500	3250	0									

Depth track (left):

- -4820
- -4830
- -4840
- -4850
- -4860
- -4870
- -4880
- -4890
- -4900
- -4910
- -4920
- -4930
- -4940
- -4950
- -4960
- -4970
- -4980
- -4990
- -5000
- -5010
- -5020

Deviation/survey annotations (center):
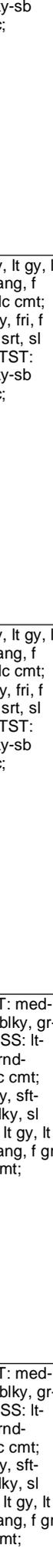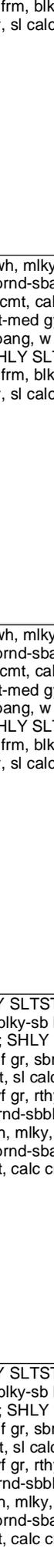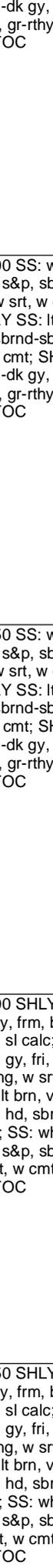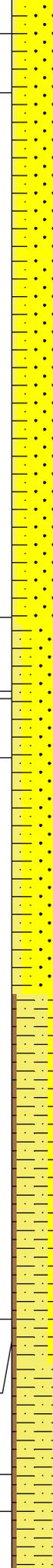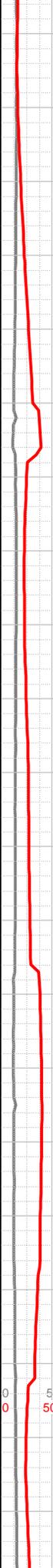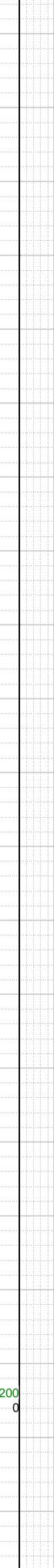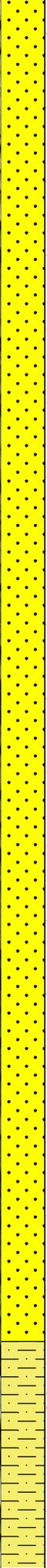
- -4820 WT 8.8, VIS 30
- -4899 INC 6.65, AZM 227.65, TVD 4867.57
- -4910 WT 8.8, VIS 30
- -4994 INC 4.88, AZM 220.73, TVD 4962.09
- -4997 Top Shannon Formation; 4965' TVD
- -5020 WT 8.8, VIS 30

Curve scale values (bottom):

- Green: 0 — 100 — 200 / 6500 — 3250 — 0
- Red/Gray: 0 — 50 — 100 / 0 — 500 — 1000
- Brown/Blue: 0 — 50 — 100 / 0 — 400 — 800

Lithology descriptions (right):

med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; NSFOC

-4900 SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; NSFOC

-4950 SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; NSFOC

-5000 SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SH: lt brn, vf gr, rthy, sft-mod hd, sbrnd-sbblky, sl calc; SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; NSFOC

-5050 SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SH: lt brn, vf gr, rthy, sft-mod hd, sbrnd-sbblky, sl calc; SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; NSFOC

Depth scale (left): -5030, -5040, -5050, -5060, -5070, -5080, -5090, -5100, -5110, -5120, -5130, -5140, -5150, -5160, -5170, -5180, -5190, -5200, -5210, -5220, -5230, -5240

Curve scales (bottom):
0 — 100 — 200 / 6500 — 3250 — 0
0 — 50 — 100 / 0 — 500 — 1000
0 — 50 — 100 / 0 — 400 — 800
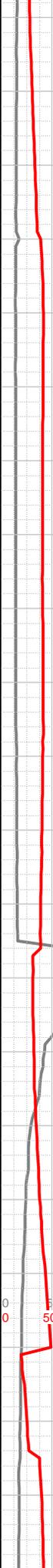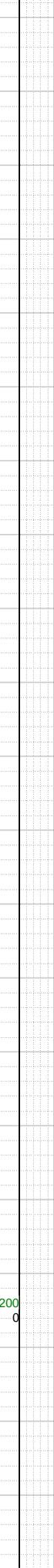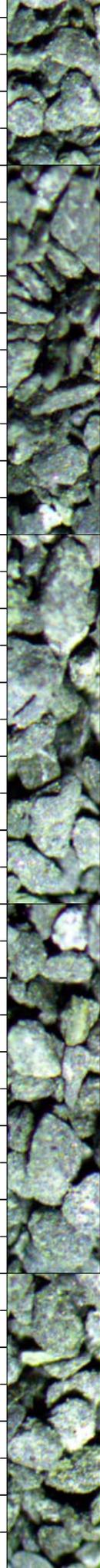
-5089 INC 2.75, AZM 211.28, TVD 5056.87

-5100 WT 9.7, VIS 33

-5183 INC 1.52, AZM 195.11, TVD 5150.81

-5200 WT 9.7, VIS 33

-5100 SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SH: lt brn, vf gr, rthy, sft-mod hd, sbrnd-sbblky, sl calc; SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; NSFOC

-5150 SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SH: lt brn, vf gr, rthy, sft-mod hd, sbrnd-sbblky, sl calc; NSFOC

-5200 SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SH: lt brn, vf gr, rthy, sft-mod hd, sbrnd-sbblky, sl calc; NSFOC

-5250 SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; NSFOC

0	100	200		
6500	3250	0		
			0	50	100	0	50	100
			0	500	1000	0	400	800

Depth track (ft): -5240, -5250, -5260, -5270, -5280, -5290, -5300, -5310, -5320, -5330, -5340, -5350, -5360, -5370, -5380, -5390, -5400, -5410, -5420, -5430, -5440, -5450

-5278 INC 0.93,
AZM 166.02,
TVD 5245.79

-5300 WT 9.7,
VIS 33

-5373 INC 0.96,
AZM 161.16,
TVD 5340.77

-5400 WT 9.7,
VIS 33

-5300 SHLY SLTST: med-
dk gy, frm, blky-sb blky, gr-
rthy, sl calc; SHLY SS: lt-
med gy, fri, f gr, sbrnd-
sbang, w srt, sl calc cmt;
SS: wh, mlky, lt gy, lt brn,
s&p, sbrnd-sbang, f gr, w
srt, w cmt, calc cmt; SH: lt
brn, vf gr, rthy, sft-mod hd,
sbrnd-sbblky, sl calc;
NSFOC

-5350 SHLY SLTST: med-
dk gy, frm, blky-sb blky, gr-
rthy, sl calc; SHLY SS: lt-
med gy, fri, f gr, sbrnd-
sbang, w srt, sl calc cmt;
SS: wh, mlky, lt gy, lt brn,
s&p, sbrnd-sbang, f gr, w
srt, w cmt, calc cmt; SH: lt
brn, vf gr, rthy, sft-mod hd,
sbrnd-sbblky, sl calc;
NSFOC

-5400 SHLY SLTST: med-
dk gy, frm, blky-sb blky, gr-
rthy, sl calc; SHLY SS: lt-
med gy, fri, f gr, sbrnd-
sbang, w srt, sl calc cmt;
SS: wh, mlky, lt gy, lt brn,
s&p, sbrnd-sbang, f gr, w
srt, w cmt, calc cmt;
NSFOC

-5450 SHLY SLTST: med-
dk gy, frm, blky-sb blky, gr-
rthy, sl calc; SHLY SS: lt-
med gy, fri, f gr, sbrnd-
sbang, w srt, sl calc cmt;
SS: wh, mlky, lt gy, lt brn,
s&p, sbrnd-sbang, f gr, w
srt, w cmt, calc cmt;
NSFOC

-5500 SHLY SLTST: med-

Depth scale (left): -5460, -5470, -5480, -5490, -5500, -5510, -5520, -5530, -5540, -5550, -5560, -5570, -5580, -5590, -5600, -5610, -5620, -5630, -5640, -5650, -5660

Survey / annotation column:
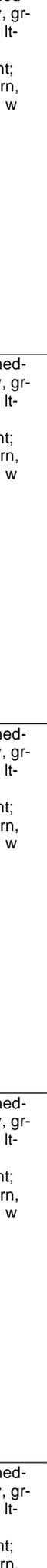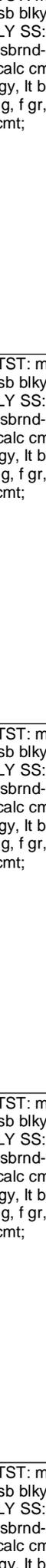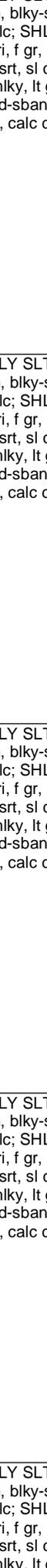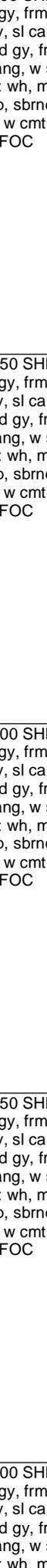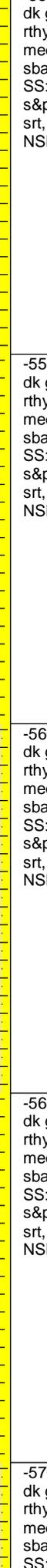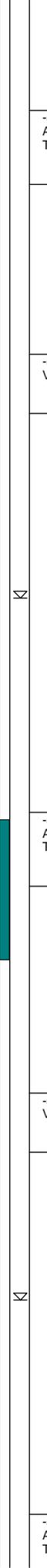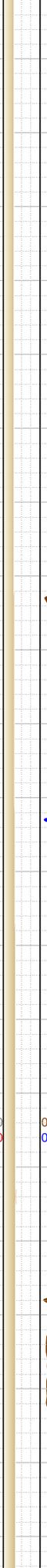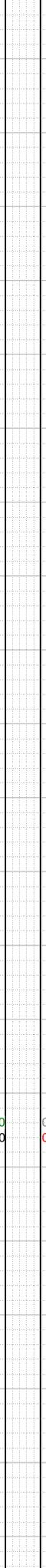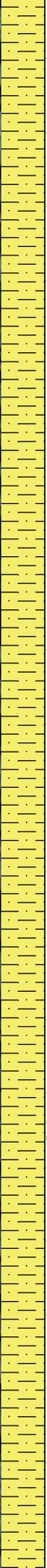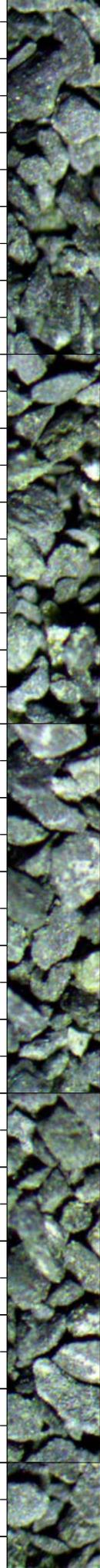
-5467 INC 1.02, AZM 138.71, TVD 5434.76

-5500 WT 9.8, VIS 34

-5562 INC 1.13, AZM 140.33, TVD 5529.74

-5600 WT 9.8, VIS 34

-5657 INC 0.71, AZM 153.44, TVD 5624.73

Curve scale values:

0	100	200	0	50	100	0	50	100
6500	3250	0	0	500	1000	0	400	800

Lithologic descriptions (right column):

dk gy, frm, blky-sb blky, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; NSFOC

-5550 SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; NSFOC

-5600 SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; NSFOC

-5650 SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SS: wh, mlky, lt gy, lt brn,

-5700 SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SS: wh, mlky, lt gy, lt brn,

Depth scale (left): -5670, -5680, -5690, -5700, -5710, -5720, -5730, -5740, -5750, -5760, -5770, -5780, -5790, -5800, -5810, -5820, -5830, -5840, -5850, -5860, -5870

Curve scale values:
0	100	200	0	50	100	0	50	100
6500	3250	0	0	500	1000	0	400	800

Right column (drilling notes):
-5700 WT 9.8, VIS 34

-5751 INC 0.41, AZM 161, TVD 5718.73

-5800 WT 9.8, VIS 34

-5846 INC 0.19, AZM 84.27, TVD 5813.72

-5848 TOOH for curve assembly at 5848' MD at 2330 hrs on 10/22/2015. Bit #2 - Ulterra U611S, 6x20, 8.75", 5848'

-5848 0000 hrs

Far right column (lithology descriptions):
SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; NSFOC

-5750 SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; NSFOC

-5800 SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; NSFOC

-5850 SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; NSFOC

-5900 SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; NSFOC

Drilling notes:
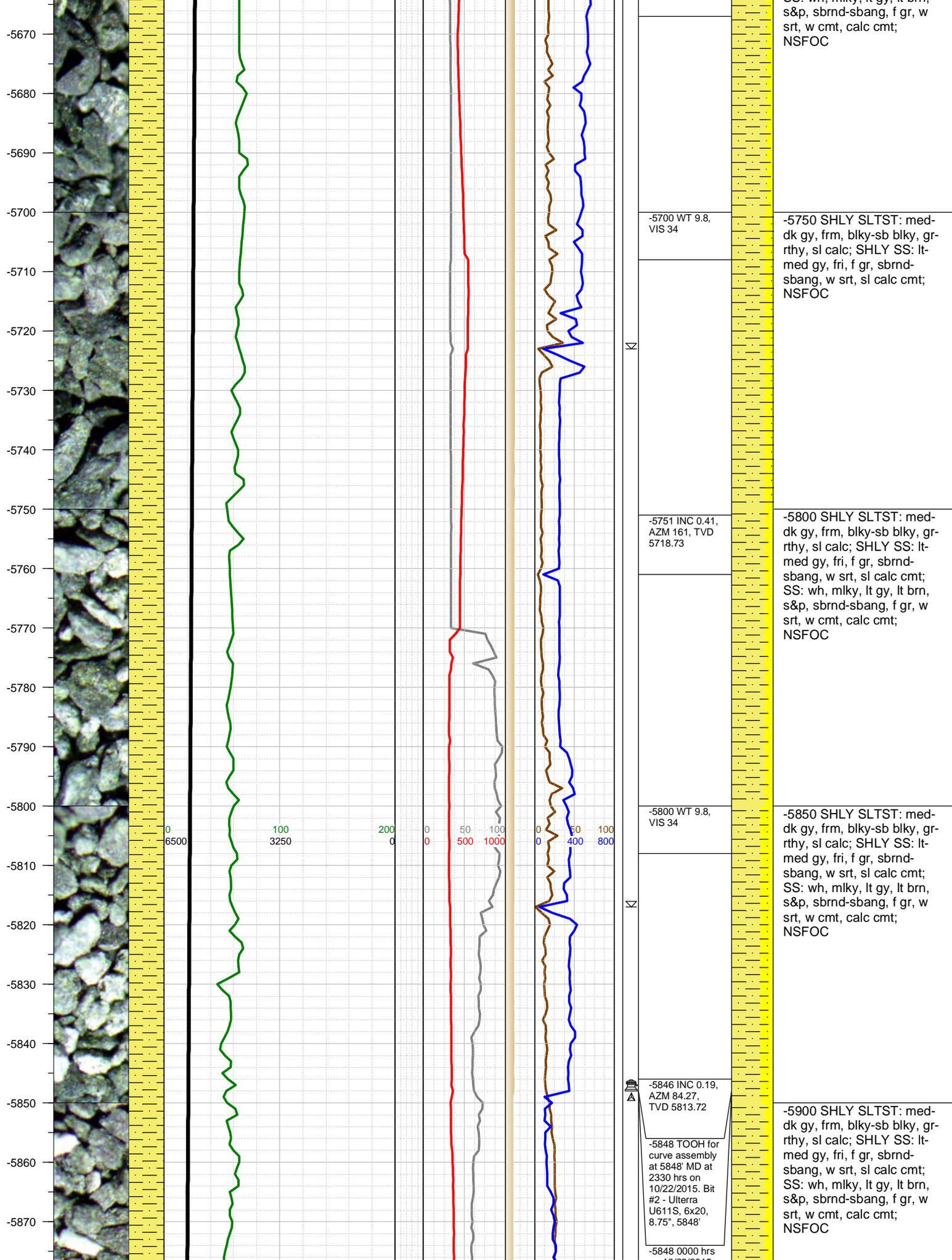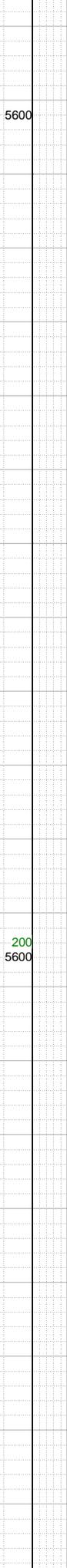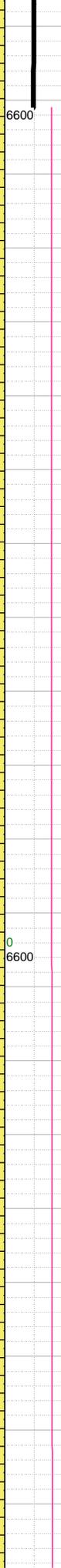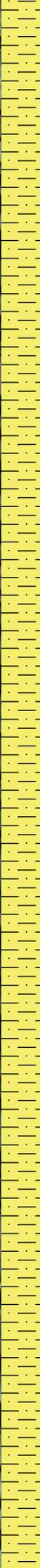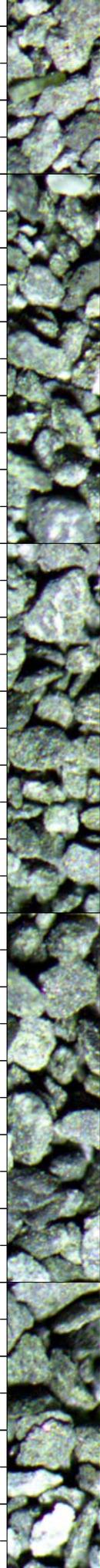
- on 10/23/2015
- -5891 Reached KOP at 5891' MD, 5,859' TVD at 0720 hrs on 10/23/2015 and began drilling the curve.
- -5891 Change TVD Scale
- -5930 WT 10.1, VIS 42
- -5941 INC 7.83, AZM 58.96, TVD 5908.42
- -6000 WT 10.1, VIS 42
- -6035 INC 20.87, AZM 69.13, TVD 5999.3

Lithology descriptions:

-5950 SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; NSFOC

-6000 SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; NSFOC

-6050 SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; NSFOC

-6100 SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; NSFOC

Depth scale (left axis): -6090, -6100, -6110, -6120, -6130, -6140, -6150, -6160, -6170, -6180, -6190, -6200, -6210, -6220, -6230, -6240, -6250, -6260, -6270, -6280, -6290, -6300

Gas/TGas scale: 0 1000 2000

Curve scales (bottom):
- 0 100 200 (green) / 6600 6100 5600 (black)
- 0 50 100 (grey) / 0 1000 2000 (red)
- 0 50 100 / 0 400 800 (blue/brown)

Annotation column (center):
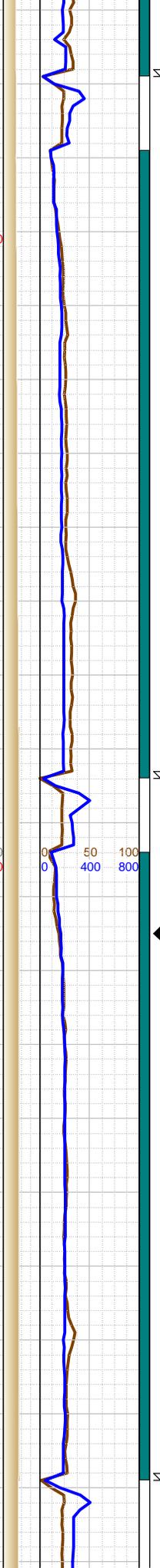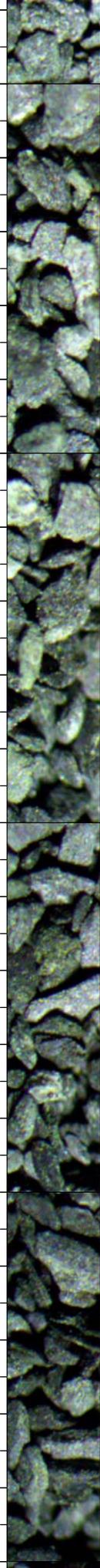
-6100 WT 10.1, VIS 42

-6120 Change TGas Scale

-6130 INC 29.53, AZM 83.68, TVD 6085.26

-6200 WT 9.8, VIS 33

-6215 Top Sharon Springs Formation; 6155' TVD

-6225 INC 40.79, AZM 92.83, TVD 6162.85

-6300 WT 9.8

Lithology description column (right):

-6150 SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; SHLY SS: lt-med gy, fri, f gr, sbrnd-sbang, w srt, sl calc cmt; SS: wh, mlky, lt gy, lt brn, s&p, sbrnd-sbang, f gr, w srt, w cmt, calc cmt; NSFOC

-6200 SHLY SLTST: med-dk gy, frm, blky-sb blky, gr-rthy, sl calc; SLTY SH: med-dk gy, sbfrm-frm, sbplty-plty, lam, fis, arg, sl calc; NSFOC

-6250 SLTY SH: med-dk gy, sbfrm-frm, sbplty-plty, lam, fis, arg, sl calc; SHLY SLTST: med gy, frm, blky-sb blky, gr-rthy, sl calc; fnt cut flor;

-6300 SLTY SH: med-dk gy, sbfrm-frm, sbplty-plty, lam, fis, arg, sl calc; fnt cut flor;

-6350 SLTY SH: med-dk

Depth scale (left): -6310, -6320, -6330, -6340, -6350, -6360, -6370, -6380, -6390, -6400, -6410, -6420, -6430, -6440, -6450, -6460, -6470, -6480, -6490, -6500, -6510

Curve scale values (mid-log):
- 0 100 200 (green)
- 6600 6100 5600 (black)
- 0 50 100 / 0 1000 2000 (red)
- 0 50 100 / 0 400 800 (blue/brown)

Annotation column (center):

-6300 WT 9.8, VIS 33

-6320 INC 50.41, AZM 93.04, TVD 6229.24

-6371 Top Niobrara Formation; 6260' TVD

-6400 WT 9.7, VIS 36

-6414 INC 56.67, AZM 92.86, TVD 6285.08

-6435 Top A Chalk Formation; 6295' TVD

-6464 Top A Marl Formation; 6309' TVD

-6500 WT 9.7, VIS 36

-6509 INC 65.03, AZM

Lithology description column (right):

-6350 SLTY SH: med-dk gy, sbfrm-frm, sbplty-plty, lam, fis, arg, sl calc; tr bent; fair cut flor w/streaming; dull med blu res cut;

-6400 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; tr fos frags; tr pyr; fair cut flor; dull med blu res cut;

-6450 CHK: lt-med gy, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent, tr fos frags; bri cut flor w/streaming; bri lt blu res cut;

-6500 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg, CHK: med gy, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr fos frags, tr pyr; mod bri cut flor w/streaming; bri lt blu res cut;

-6550 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg, CHK: med gy, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent, tr

-6520
-6530
-6540
-6550
-6560
-6570
-6580
-6590
-6600
-6610
-6620
-6630
-6640
-6650
-6660
-6670
-6680
-6690
-6700
-6710
-6720

86.86, TVD 6331.34

pyr; mod bri cut flor; dull med res cut;

-6600 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg, CHK: med gy, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr fos frags, tr pyr; mod bri cut flor; dull med res cut;

0   100   200
6600   6100   5600
0   50   100
0   1000   2000
0   50   100
0   400   800

-6603 INC 81.07, AZM 85.75, TVD 6358.67

-6650 CHK: lt-med gy, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg, tr fos frags; tr bent; tr pyr; bri cut flor; bri lt blu res cut;

-6620 WT 9.7, VIS 34

-6634 INC 86.87, AZM 86.57, TVD 6361.92

-6647 Top Payzone - B Chalk Formation; 6361' TVD

-6700 CHK: lt-med gy, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg, tr fos frags; tr pyr;bri cut flor; bri lt blu res cut;

6500   6350   6200

-6697 Reached landing point at 6697' MD, 6363' TVD at 1500 hrs on 10/23/2015; Drilled out in the lateral at 2300 hrs on 10/24/2015; Bit #3 - Ulterra PDC, 4x20 1x18, 6.125"

-6750 CHK: lt-med gy, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg, tr fos frags; tr bent sme w/ dissm pyr;bri cut flor; bri lt blu res cut;

Depth axis (left): -6730, -6740, -6750, -6760, -6770, -6780, -6790, -6800, -6810, -6820, -6830, -6840, -6850, -6860, -6870, -6880, -6890, -6900, -6910, -6920, -6930

Curve scales:
- 0 — 100 — 200 (green)
- 6500 — 6350 — 6200 (black)
- 0 — 50 — 100 (gray)
- 0 — 1000 — 2000 (red)
- 0 — 400 — 800 (blue)
- 0 — 2000 — 4000 (red, bottom)

Center annotation column:
- -6697 Change TVD Scale
- -6697 0000 hrs on 10/24/2015
- -6700 INC 91.19, AZM 88.25, TVD 6363.04
- -6750 WT 8.4, VIS 28
- -6795 INC 89.96, AZM 89.65, TVD 6362.09
- -6810 WT 8.4, VIS 28
- -6890 INC 90.04, AZM 89.92, TVD 6362.09
- -6900 WT 8.4, VIS 28
- -6920 0000 hrs on 10/25/2015
- -6930 Change TGas Scale

Lithology description column (right):
- -6800 CHK: lt-med gy, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr fos frags; bri cut flor; bri lt blu res cut;
- -6850 CHK: lt-med gy, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr fos frags; bri cut flor; bri lt blu res cut;
- -6900 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; v tr fos frags; bri cut flor; bri lt grn res cut;
- -6950 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; v tr fos frags; v tr forams; bri cut flor; bri lt grn res cut;

Depth					
	0	100	200		
	6500	6350	6200		
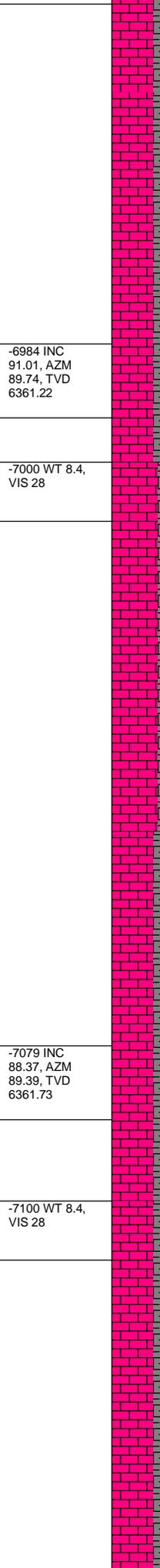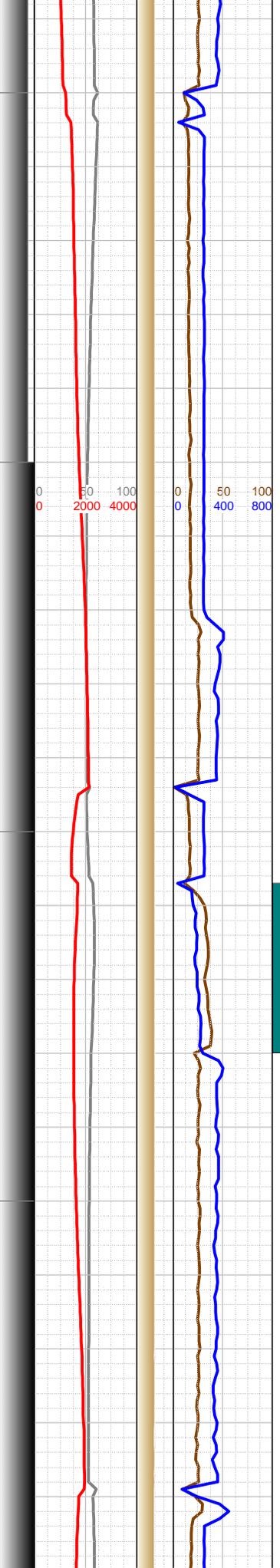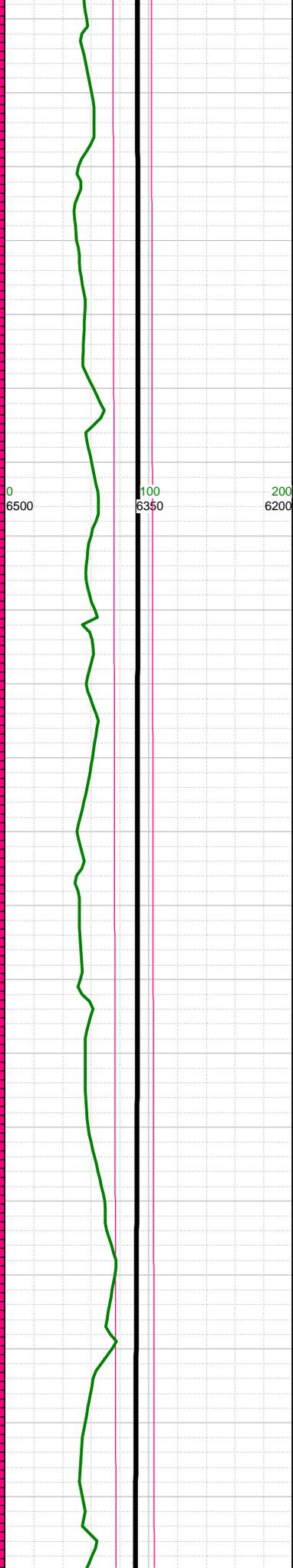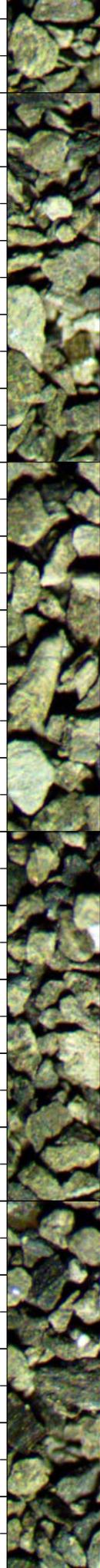
-6984 INC
91.01, AZM
89.74, TVD
6361.22

-7000 WT 8.4,
VIS 28

-7079 INC
88.37, AZM
89.39, TVD
6361.73

-7100 WT 8.4,
VIS 28

-7000 CHK: lt-med gy-brn,
sft-sbfrm, sbblky, mot, v
calc, rthy lstr; MARL: dk
gy-blk, sbblky-sbplty, sft-
sbfrm, mod calc, sl arg; v tr
fos frags; tr forams; bri cut
flor; bri lt grn res cut;

-7050 CHK: lt-med gy-brn,
sft-sbfrm, sbblky, mot, v
calc, rthy lstr; MARL: dk
gy-blk, sbblky-sbplty, sft-
sbfrm, mod calc, sl arg; v tr
fos frags; tr forams; v bri
cut flor w/streaming; v bri lt
blu res cut;

-7100 CHK: lt-med gy-brn,
sft-sbfrm, sbblky, mot, v
calc, rthy lstr; MARL: dk
gy-blk, sbblky-sbplty, sft-
sbfrm, mod calc, sl arg; tr
fos frags; tr forams; v bri
cut flor w/streaming; v bri lt
blu res cut;

-7150 CHK: lt-med gy-brn,
sft-sbfrm, sbblky, mot, v
calc, rthy lstr; MARL: dk
gy-blk, sbblky-sbplty, sft-
sbfrm, mod calc, sl arg; tr
fos frags; tr forams; v bri
cut flor w/streaming; v bri lt
blu res cut;

Depth track (left, ft): -7150, -7160, -7170, -7180, -7190, -7200, -7210, -7220, -7230, -7240, -7250, -7260, -7270, -7280, -7290, -7300, -7310, -7320, -7330, -7340, -7350, -7360
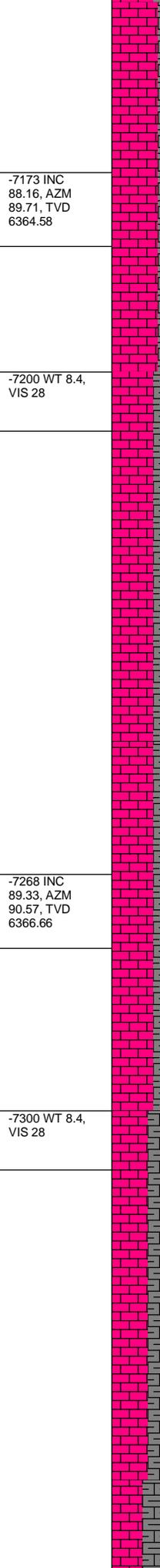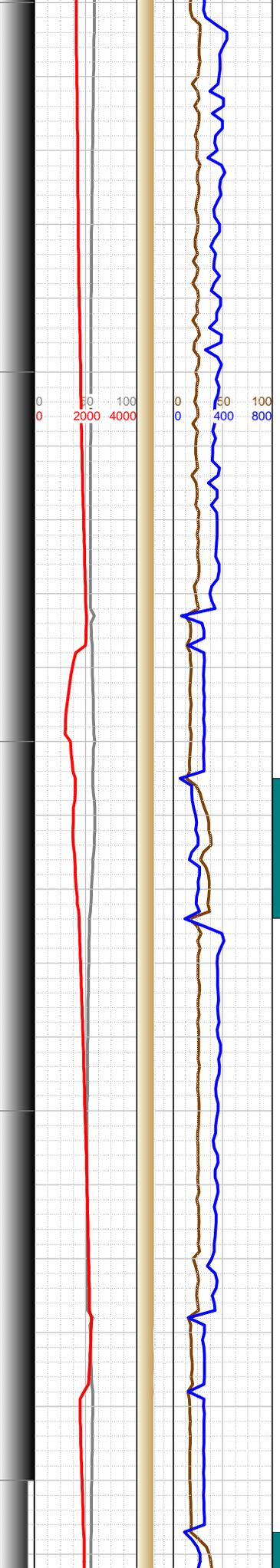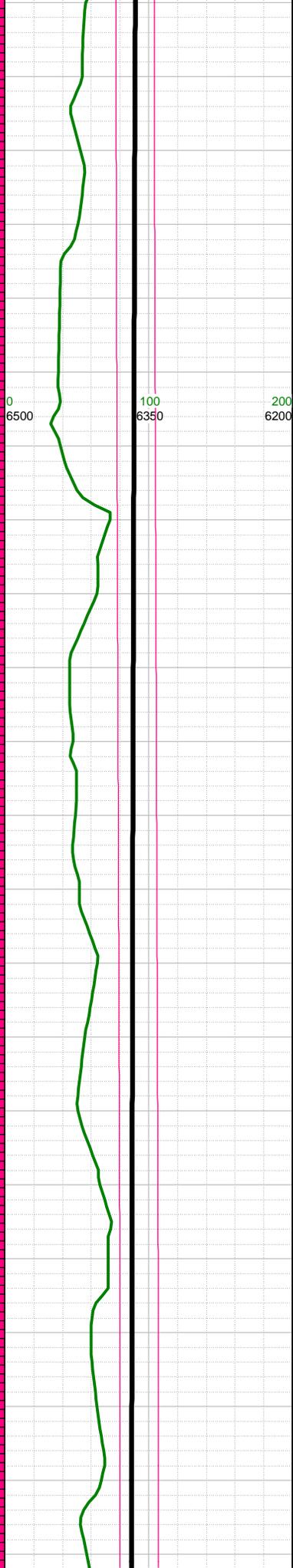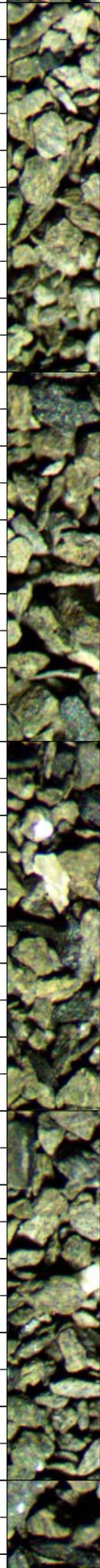
Curve scales:
- 0 — 100 — 200 (green) / 6500 — 6350 — 6200 (black)
- 0 — 50 — 100 (gray) / 0 — 2000 — 4000 (red)
- 0 — 50 — 100 (brown) / 0 — 400 — 800 (blue)

Survey annotations (center):
- -7173 INC 88.16, AZM 89.71, TVD 6364.58
- -7200 WT 8.4, VIS 28
- -7268 INC 89.33, AZM 90.57, TVD 6366.66
- -7300 WT 8.4, VIS 28

Lithology descriptions (right column):

-7200 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr fos frags; tr forams; v bri cut flor w/streaming; v bri lt blu res cut;

-7250 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr fos frags; tr forams; v bri cut flor w/streaming; v bri lt blu res cut;

-7300 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr fos frags; mod forams; v bri cut flor w/streaming; v bri lt blu res cut;

-7350 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr fos frags; mod forams; tr bent; v bri cut flor w/streaming; v bri lt blu res cut;

-7400 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr

Depth scale (left track): -7370, -7380, -7390, -7400, -7410, -7420, -7430, -7440, -7450, -7460, -7470, -7480, -7490, -7500, -7510, -7520, -7530, -7540, -7550, -7560, -7570

Curve scales:
- 0 — 100 — 200
- 6500 — 6350 — 6200
- 0 — 50 — 100
- 0 — 2000 — 4000
- 0 — 50 — 100
- 0 — 400 — 800

Survey / annotation column:
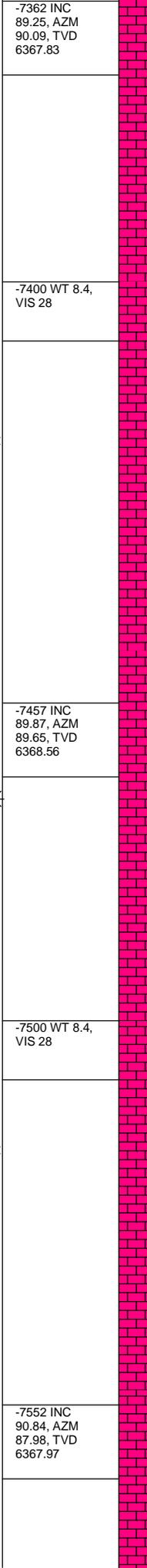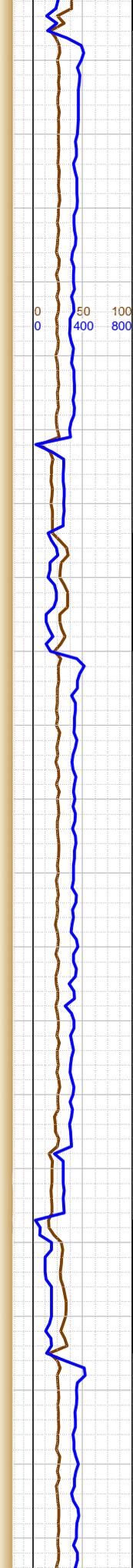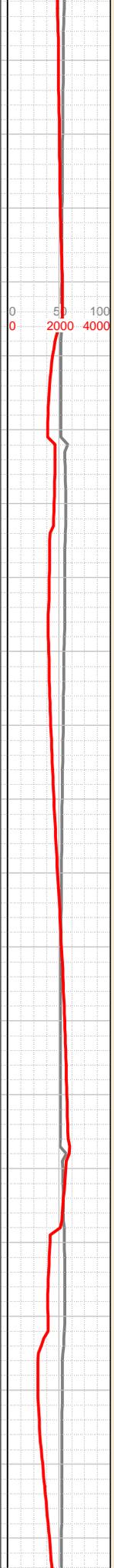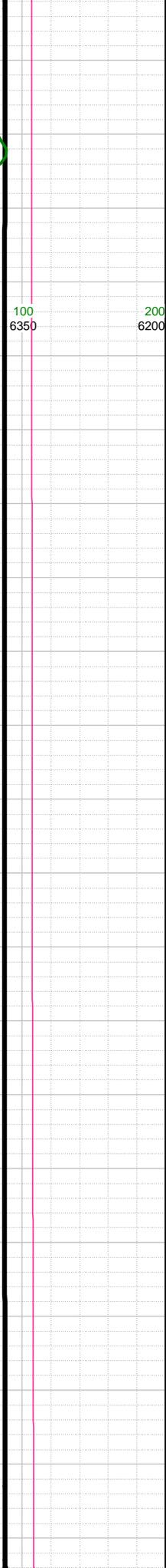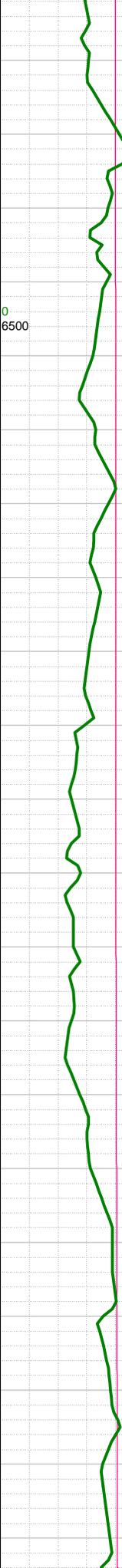
-7362 INC 89.25, AZM 90.09, TVD 6367.83

-7400 WT 8.4, VIS 28

-7457 INC 89.87, AZM 89.65, TVD 6368.56

-7500 WT 8.4, VIS 28

-7552 INC 90.84, AZM 87.98, TVD 6367.97

Description column:

sbfrm, mod calc, sl arg; tr fos frags; mod forams; tr bent; bri cut flor; bri lt blu res cut;

-7450 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr fos frags; mod forams; tr bent; bri cut flor; bri lt blu res cut;

-7500 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr fos frags; mod forams; bri cut flor; bri lt blu res cut;

-7550 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr fos frags; frq forams; tr bent; bri cut flor; bri lt blu res cut;

-7600 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr fos frags; mod forams; tr bent; bri cut flor; bri lt blu res cut;

Depth scale (ft): -7580, -7590, -7600, -7610, -7620, -7630, -7640, -7650, -7660, -7670, -7680, -7690, -7700, -7710, -7720, -7730, -7740, -7750, -7760, -7770, -7780

Curve scales:
- Green: 0 — 100 — 200
- Black: 6500 — 6350 — 6200
- 0 — 50 — 100
- Red: 0 — 2000 — 4000
- Brown: 0 — 50 — 100
- Blue: 0 — 400 — 800
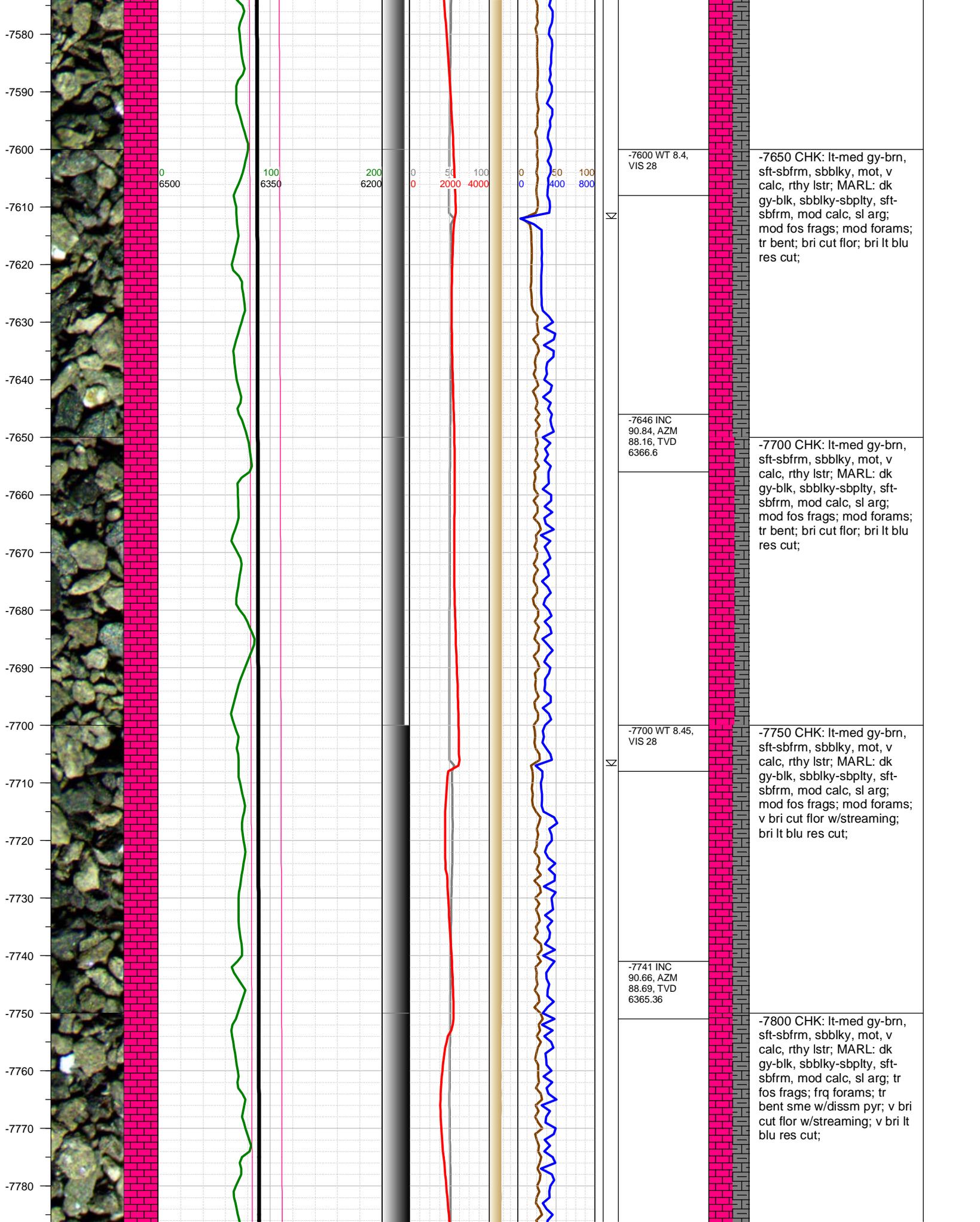
Survey / mud data:
- -7600 WT 8.4, VIS 28
- -7646 INC 90.84, AZM 88.16, TVD 6366.6
- -7700 WT 8.45, VIS 28
- -7741 INC 90.66, AZM 88.69, TVD 6365.36

Sample descriptions:
- -7650 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; mod forams; tr bent; bri cut flor; bri lt blu res cut;
- -7700 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; mod forams; tr bent; bri cut flor; bri lt blu res cut;
- -7750 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; mod forams; v bri cut flor w/streaming; bri lt blu res cut;
- -7800 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr fos frags; frq forams; tr bent sme w/dissm pyr; v bri cut flor w/streaming; v bri lt blu res cut;

Depth scale (left): -7790, -7800, -7810, -7820, -7830, -7840, -7850, -7860, -7870, -7880, -7890, -7900, -7910, -7920, -7930, -7940, -7950, -7960, -7970, -7980, -7990

Curve scales:
0 — 100 — 200
6500 — 6350 — 6200
0 — 50 — 100
0 — 2000 — 4000
0 — 50 — 100
0 — 400 — 800
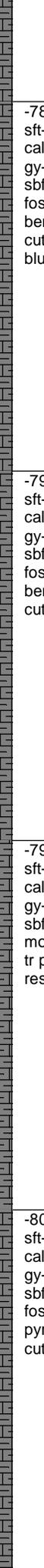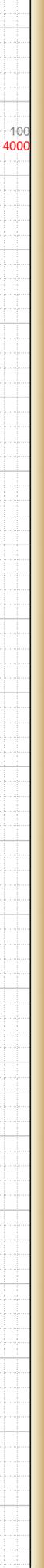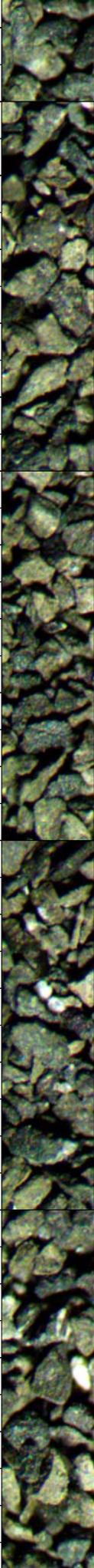
-7800 WT 8.45, VIS 28

-7835 INC 91.1, AZM 89.22, TVD 6363.92

-7900 WT 8.45, VIS 28

-7930 INC 91.98, AZM 89.92, TVD 6361.37

-7850 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr fos frags; frq forams; tr bent sme w/dissm pyr; bri cut flor w/streaming; bri lt blu res cut;

-7900 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr fos frags; frq forams; tr bent sme w/dissm pyr; bri cut flor; bri lt blu res cut;

-7950 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; mod forams; tr pyr; bri cut flor; bri lt blu res cut;

-8000 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; frq fos frags; mod forams; tr pyr; bri cut flor; bri lt blu res cut;

Depth scale (left track): -8000, -8010, -8020, -8030, -8040, -8050, -8060, -8070, -8080, -8090, -8100, -8110, -8120, -8130, -8140, -8150, -8160, -8170, -8180, -8190, -8200, -8210

Curve scale headers:
- 0 100 200 / 6500 6350 6200
- 0 50 100 / 0 2000 4000
- 0 50 100 / 0 400 800

Annotation column (center-right):
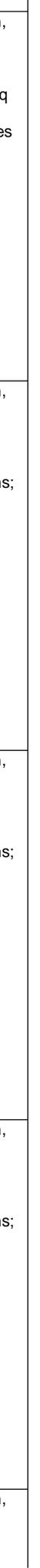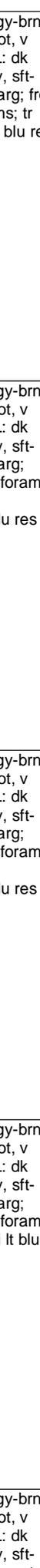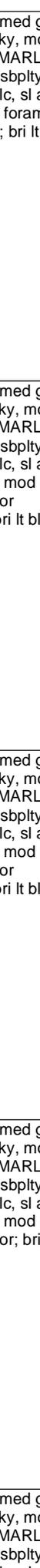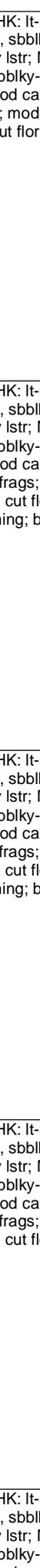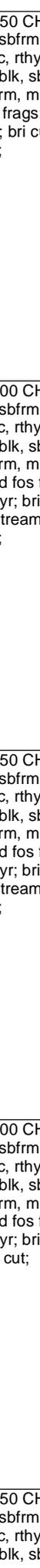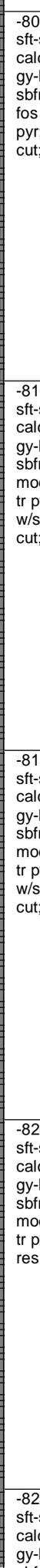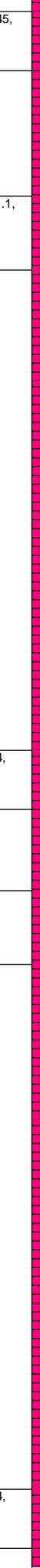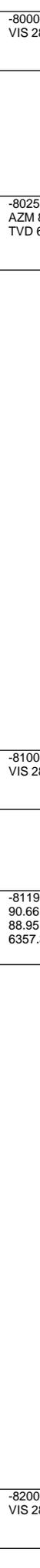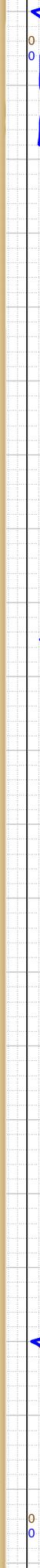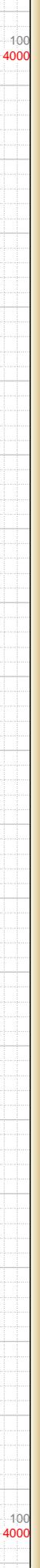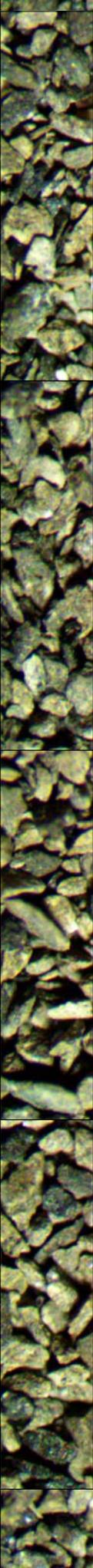
-8000 WT 8.45, VIS 28

-8025 INC 91.1, AZM 88.51, TVD 6358.82

-8100 WT 8.4, VIS 28

-8119 INC 90.66, AZM 88.95, TVD 6357.38

-8200 WT 8.4, VIS 28

Lithology descriptions (right column):

-8050 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; frq fos frags; mod forams; tr pyr; bri cut flor; bri lt blu res cut;

-8100 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; mod forams; tr pyr; bri cut flor w/streaming; bri lt blu res cut;

-8150 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; mod forams; tr pyr; bri cut flor w/streaming; bri lt blu res cut;

-8200 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; mod forams; tr pyr; bri cut flor; bri lt blu res cut;

-8250 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-

Depth track (left):
-8220
-8230
-8240
-8250
-8260
-8270
-8280
-8290
-8300
-8310
-8320
-8330
-8340
-8350
-8360
-8370
-8380
-8390
-8400
-8410
-8420

Survey / annotation track:

-8212 INC 89.87, AZM 89.3, TVD 6356.95

-8306 INC 88.99, AZM 89.39, TVD 6357.89

-8320 WT 8.4, VIS 28

-8401 INC 89.43, AZM 88.6, TVD 6359.2

-8420 WT 8.4, VIS 28

Lithology descriptions (right track):

sbfrm, mod calc, sl arg; tr fos frags; mod forams; tr bent; bri cut flor; bri lt blu res cut;

-8300 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; mod forams; tr bent; mod bri cut flor; bri lt blu res cut;

-8350 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; mod forams; tr bent; mod bri cut flor; bri lt blu res cut;

-8400 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; tr forams; bri cut flor; mod bri grn res cut;

-8450 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; tr forams; tr pyr; bri cut flor; mod bri grn res cut;

Curve scale values (bottom):
0
6500
100
6350
200
6200
0   50   100
0   2000   4000
0   50   100
0   400   800

Depth scale (left): -8430, -8440, -8450, -8460, -8470, -8480, -8490, -8500, -8510, -8520, -8530, -8540, -8550, -8560, -8570, -8580, -8590, -8600, -8610, -8620, -8630

Curve scales (bottom):
| 0 | 100 | 200 | 0 | 50 | 100 | 0 | 50 | 100 |
| 6500 | 6350 | 6200 | 0 | 2000 | 4000 | 0 | 400 | 800 |

Survey / mud annotations:
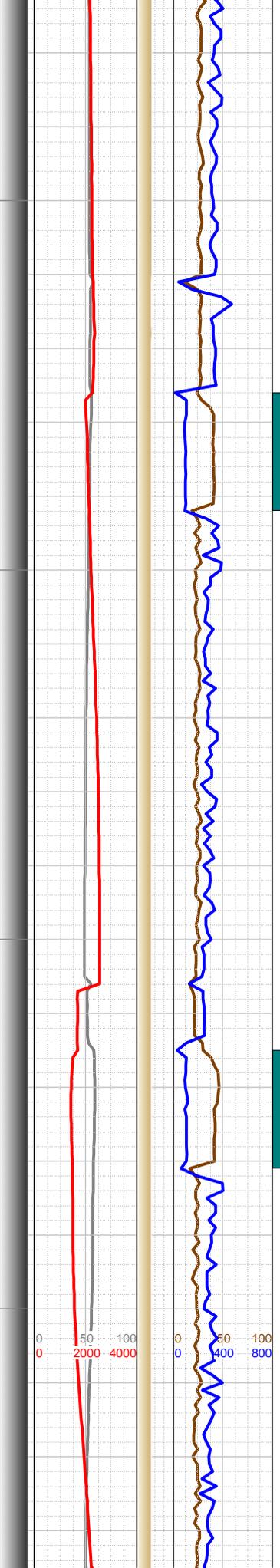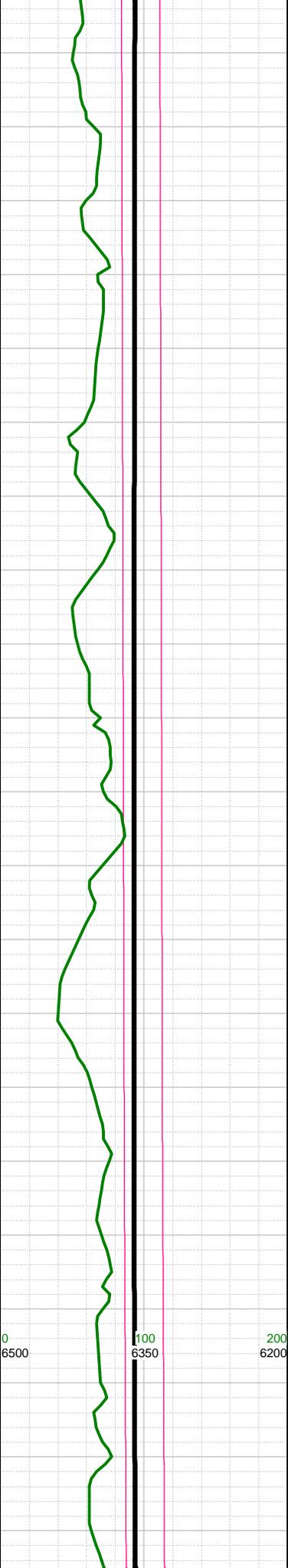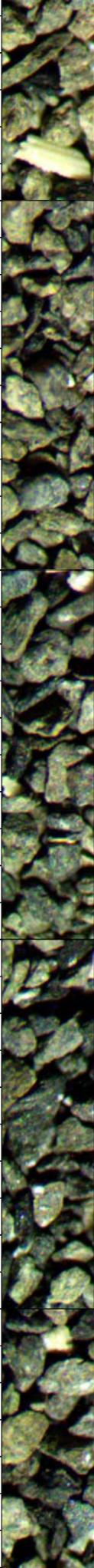
VIS 28

-8496 INC 89.6, AZM 88.95, TVD 6360

-8510 WT 8.4, VIS 28

-8589 INC 90.22, AZM 89.65, TVD 6360.14

-8600 WT 8.4, VIS 28

Lithology descriptions (right column):
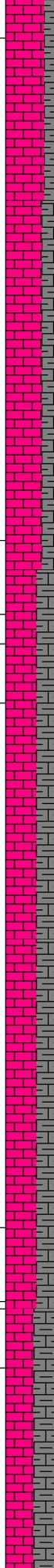
-8500 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr fos frags; tr forams; tr pyr; bri cut flor w/streaming; bri lt blu res cut;

-8550 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; abndt fos frags; frq forams; bri cut flor; bri lt blu res cut;

-8600 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; mod fos frags; tr forams; bri cut flor w/streaming; bri lt blu res cut;

-8650 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; frq forams; bri cut flor w/streaming; bri lt blu res cut;

Depth scale (left axis): -8640, -8650, -8660, -8670, -8680, -8690, -8700, -8710, -8720, -8730, -8740, -8750, -8760, -8770, -8780, -8790, -8800, -8810, -8820, -8830, -8840

Annotations (center track):
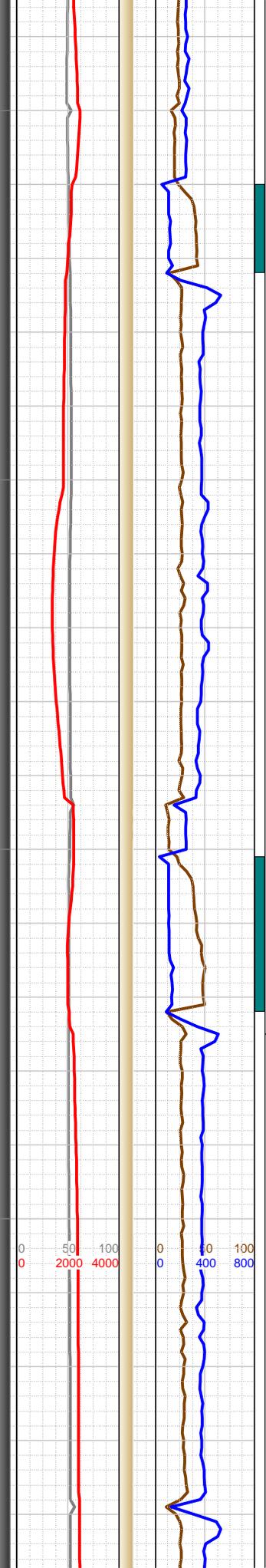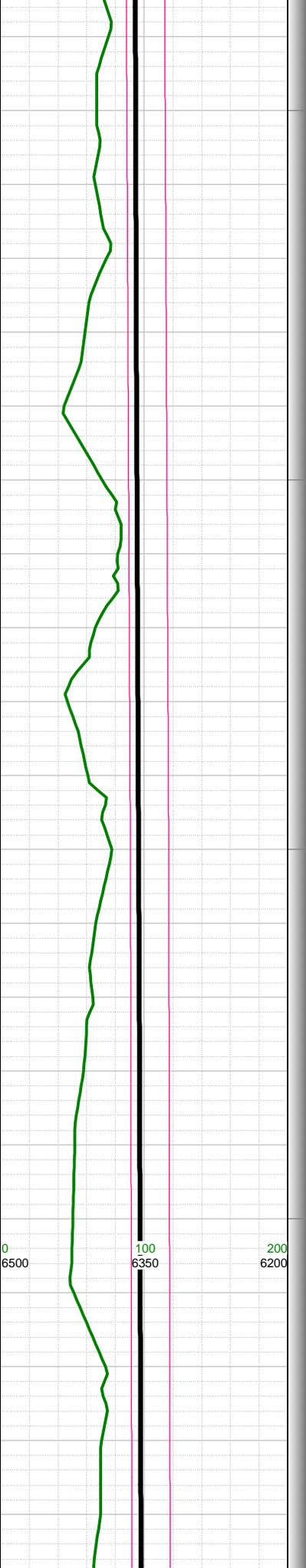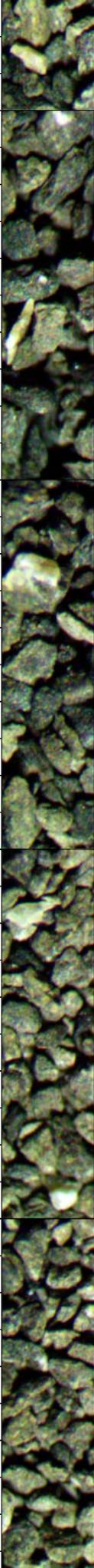
-8683 INC 92.42, AZM 90.45, TVD 6357.98

-8700 WT 8.4, VIS 28

-8778 INC 91.54, AZM 88.07, TVD 6354.7

-8800 WT 8.4, VIS 28

Log curve scales (bottom):
0 | 100 | 200
6500 | 6350 | 6200
0 | 50 | 100
0 | 2000 | 4000
0 | 50 | 100
0 | 400 | 800

Lithology descriptions (right track):

-8700 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; mod forams; bri cut flor; bri lt blu res cut;

-8750 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; mod fos frags; mod forams; bri cut flor; bri lt blu res cut;

-8800 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; frq forams; bri cut flor; bri lt blu res cut;

-8850 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; frq forams; bri cut flor w/streaming; bri lt blu res cut;

Depth scale (left): -8850, -8860, -8870, -8880, -8890, -8900, -8910, -8920, -8930, -8940, -8950, -8960, -8970, -8980, -8990, -9000, -9010, -9020, -9030, -9040, -9050

Survey/annotations (center column):

-8872 INC 91.1, AZM 88.07, TVD 6352.54

-8900 WT 8.7, VIS 27

-8968 INC 91.01, AZM 88.86, TVD 6350.77

-9000 WT 8.7, VIS 27

Curve scale labels:

0 — 100 — 200

6500 — 6350 — 6200

0 — 50 — 100

0 — 2000 — 4000

0 — 50 — 100

0 — 400 — 800

Lithology descriptions (right column):

-8900 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent w/dissm pyr; tr fos frags; mod forams; bri cut flor; bri lt blu res cut;

-8950 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent w/dissm pyr; tr fos frags; mod forams; bri cut flor; bri lt blu res cut;

-9000 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent w/dissm pyr; tr fos frags; frq forams; bri cut flor; bri lt blu res cut;

-9050 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent w/dissm pyr; mod fos frags; frq forams; bri cut flor; bri lt blu res cut;

-9100 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-

gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent w/dissm pyr; frq fos frags; frq forams; bri cut flor; bri lt blu res cut;

-9060 INC 91.1, AZM 88.51, TVD 6349.07

-9100 WT 8.7, VIS 29

-9150 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent w/dissm pyr; mod fos frags; mod forams; bri cut flor; bri lt blu res cut;

-9155 INC 90.57, AZM 88.86, TVD 6347.69

-9200 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent w/dissm pyr; mod fos frags; mod forams; bri cut flor w/streaming; bri lt blu res cut;

-9200 WT 8.6, VIS 28

-9250 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; tr forams; v bri cut flor w/streaming; bri lt blu res cut;

-9251 INC 89.43, AZM 88.78, TVD 6347.69

-9300 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; mod forams; tr pyr; bri cut flor; bri lt blu res cut;

Scale axes:
- Green: 0 / 100 / 200 ; 6500 / 6350 / 6200
- 0 / 50 / 100
- Red: 0 / 2000 / 4000
- Brown/Blue: 0 / 400 / 800

Depths: -9060, -9070, -9080, -9090, -9100, -9110, -9120, -9130, -9140, -9150, -9160, -9170, -9180, -9190, -9200, -9210, -9220, -9230, -9240, -9250, -9260, -9270

Depth track (left): -9280, -9290, -9300, -9310, -9320, -9330, -9340, -9350, -9360, -9370, -9380, -9390, -9400, -9410, -9420, -9430, -9440, -9450, -9460, -9470, -9480

Curve scales:
- Green: 0 — 100 — 200
- Black: 6500 — 6350 — 6200
- Red: 0 — 50 — 100 / 0 — 2000 — 4000
- Blue: 0 — 50 — 100 / 0 — 400 — 800

Survey/mud annotations (center right track):
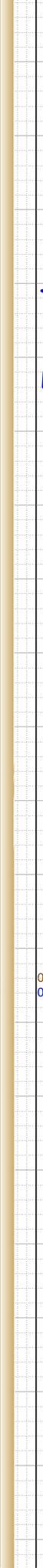
-9300 WT 8.6, VIS 28

-9345 INC 90.4, AZM 88.95, TVD 6347.83

-9400 WT 8.6, VIS 28

-9439 INC 90.92, AZM 89.57, TVD 6346.75

Lithology descriptions (right column):

-9350 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; frq fos frags; frq forams; tr bent; bri cut flor; bri lt blu res cut;

-9400 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; frq fos frags; frq forams; bri cut flor; bri lt blu res cut;

-9450 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; frq fos frags; frq forams; tr bent sme w/dissm pyr; bri cut flor; bri lt blu res cut;

-9500 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; frq fos frags; frq forams; bri cut flor; bri lt blu res cut;

Depth scale (left track)

-9490, -9500, -9510, -9520, -9530, -9540, -9550, -9560, -9570, -9580, -9590, -9600, -9610, -9620, -9630, -9640, -9650, -9660, -9670, -9680, -9690

Curve scales

0	100	200	0	50	100	0	50	100
6500	6350	6200	0	2000	4000	0	400	800

Annotations (center track)
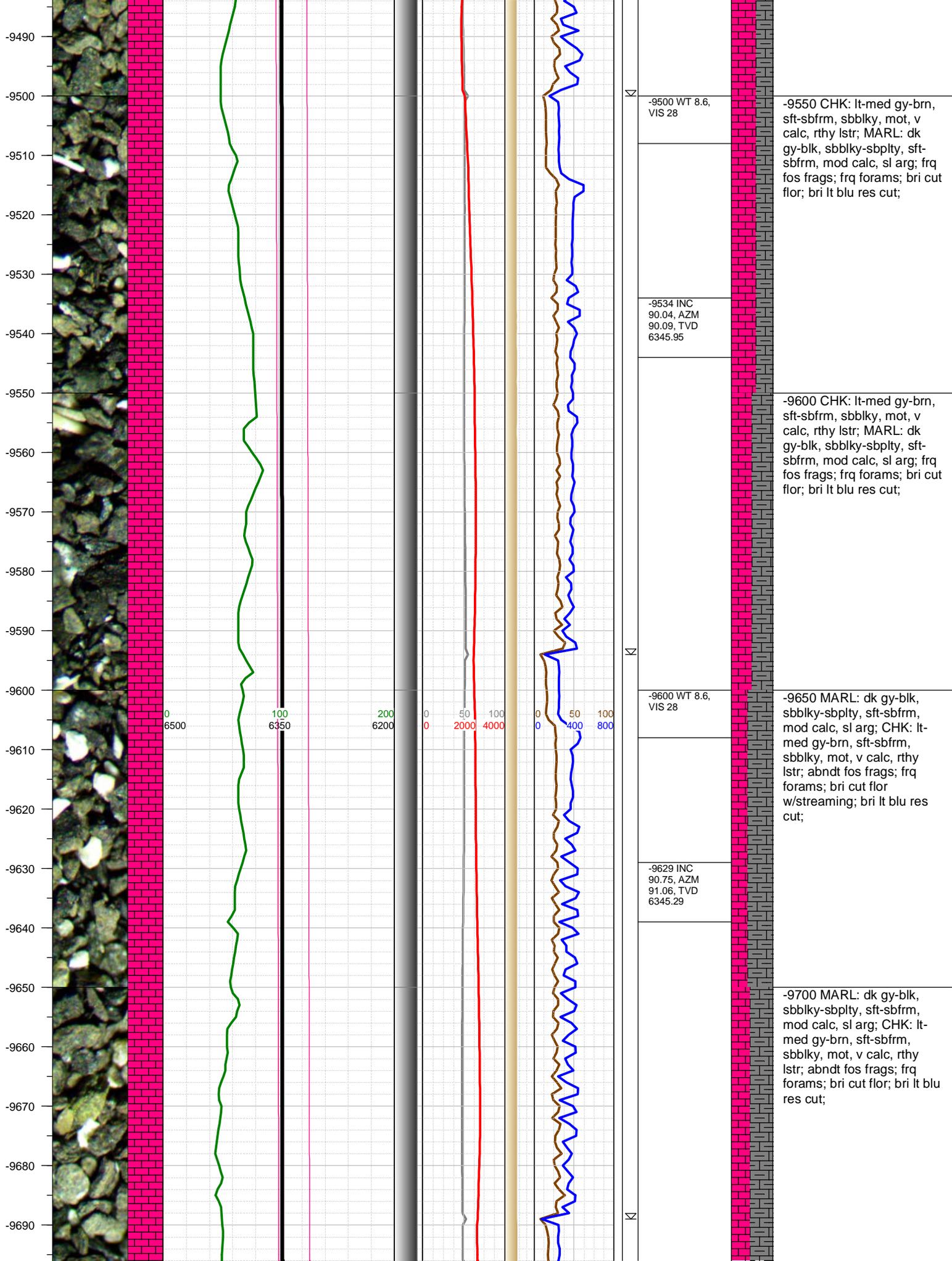
-9500 WT 8.6, VIS 28

-9534 INC 90.04, AZM 90.09, TVD 6345.95

-9600 WT 8.6, VIS 28

-9629 INC 90.75, AZM 91.06, TVD 6345.29

Descriptions (right track)

-9550 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; frq fos frags; frq forams; bri cut flor; bri lt blu res cut;

-9600 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; frq fos frags; frq forams; bri cut flor; bri lt blu res cut;

-9650 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; abndt fos frags; frq forams; bri cut flor w/streaming; bri lt blu res cut;

-9700 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; abndt fos frags; frq forams; bri cut flor; bri lt blu res cut;

Depth markers (left track):
-9700, -9710, -9720, -9730, -9740, -9750, -9760, -9770, -9780, -9790, -9800, -9810, -9820, -9830, -9840, -9850, -9860, -9870, -9880, -9890, -9900

Scale values (mid-log):

0	100	200	0	50	100	0	50	100
6500	6350	6200	0	2000	4000	0	400	800

Annotation column:

-9700 WT 8.7, VIS 28

-9723 INC 89.34, AZM 88.69, TVD 6345.22

-9800 WT 8.7, VIS 28

-9800 WT 8.7, VIS 28

-9818 INC 90.92, AZM 87.55, TVD 6345

-9900 WT 8.7, VIS 28

Lithology descriptions (right column):

-9750 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; frq fos frags; frq forams; bri cut flor; bri lt blu res cut;

-9800 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; frq fos frags; frq forams; bri cut flor; bri lt blu res cut;

-9850 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; frq forams; bri cut flor; bri lt blu res cut;

-9900 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent w/dissm pyr; frq fos frags; frq forams; mod bri cut flor; bri lt blu res cut;

-9950 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-

Depth scale (left): -9910, -9920, -9930, -9940, -9950, -9960, -9970, -9980, -9990, -10000, -10010, -10020, -10030, -10040, -10050, -10060, -10070, -10080, -10090, -10100, -10110, -10120

Survey / annotation column:
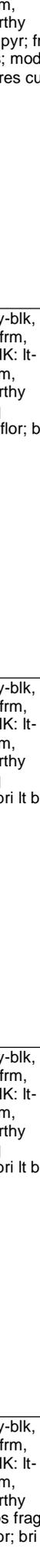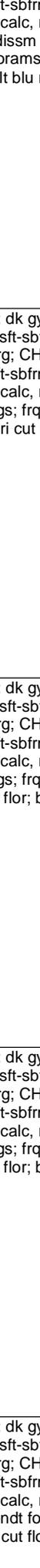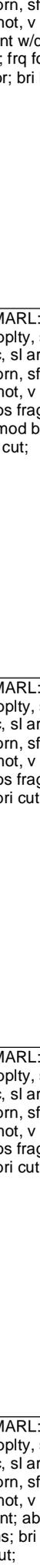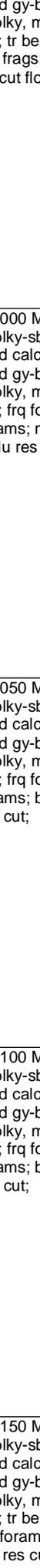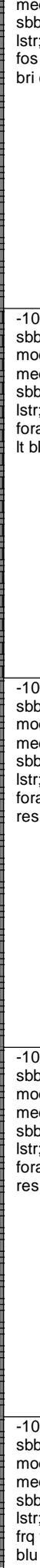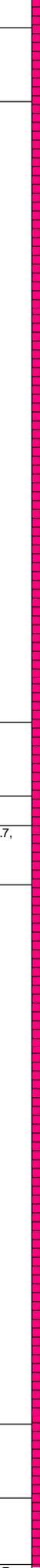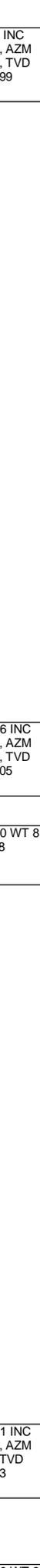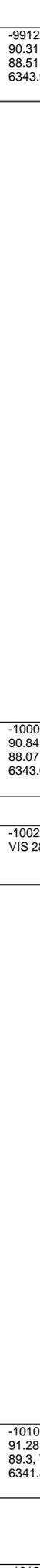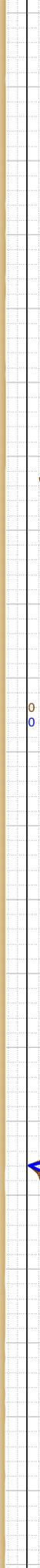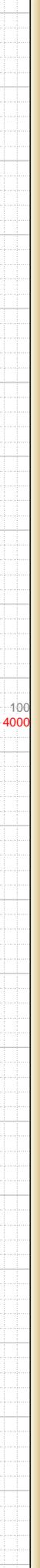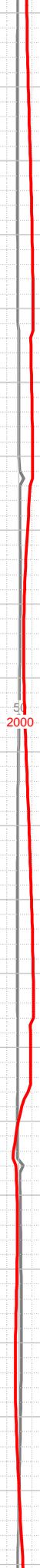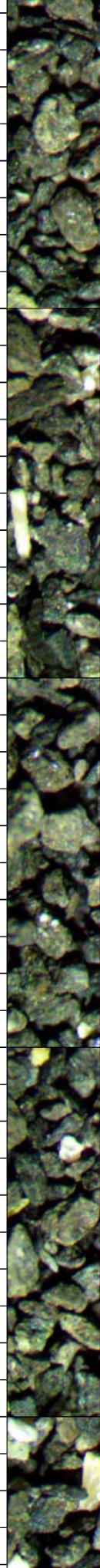
-9912 INC 90.31, AZM 88.51, TVD 6343.99

-10006 INC 90.84, AZM 88.07, TVD 6343.05

-10020 WT 8.7, VIS 28

-10101 INC 91.28, AZM 89.3, TVD 6341.3

Curve scales:

0 — 100 — 200
6500 — 6350 — 6200

0 — 50 — 100
0 — 2000 — 4000

0 — 50 — 100
0 — 400 — 800

Lithology descriptions (right column):

med gy-brn, sft-sbfrm, v calc, rthy lstr; tr bent w/dissm pyr; frq fos frags; frq forams; mod bri cut flor; bri lt blu res cut;

-10000 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; frq fos frags; frq forams; mod bri cut flor; bri lt blu res cut;

-10050 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; frq fos frags; frq forams; bri cut flor; bri lt blu res cut;

-10100 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; frq fos frags; frq forams; bri cut flor; bri lt blu res cut;

-10150 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; abndt fos frags; frq forams; bri cut flor; bri lt blu res cut;

Depth
-10120
-10130
-10140
-10150
-10160
-10170
-10180
-10190
-10200
-10210
-10220
-10230
-10240
-10250
-10260
-10270
-10280
-10290
-10300
-10310
-10320
-10330

Curve scales:
0 — 100 — 200
6500 — 6350 — 6200
0 — 50 — 100
0 — 2000 — 4000
0 — 400 — 800

-10120 WT 8.7, VIS 28

-10195 INC 90.75, AZM 89.83, TVD 6339.65

-10210 WT 8.7, VIS 28

-10289 INC 90.48, AZM 93.08, TVD 6338.64

-10300 WT 8.7, VIS 28

-10200 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; abndt fos frags; frq forams; bri cut flor; bri lt blu res cut;

-10250 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; abndt fos frags; frq forams; bri cut flor; bri lt blu res cut;

-10300 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; abndt fos frags; frq forams; bri cut flor; bri lt blu res cut;

-10350 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent w/dissm pyr; abndt fos frags; frq forams; bri cut flor; bri lt blu res cut;

Depth scale (ft):
-10340, -10350, -10360, -10370, -10380, -10390, -10400, -10410, -10420, -10430, -10440, -10450, -10460, -10470, -10480, -10490, -10500, -10510, -10520, -10530, -10540

Track scales:
- 0 / 100 / 200
- 6500 / 6350 / 6200
- 0 / 50 / 100
- 0 / 2000 / 4000
- 0 / 50 / 100
- 0 / 400 / 800

Survey / mud annotations:
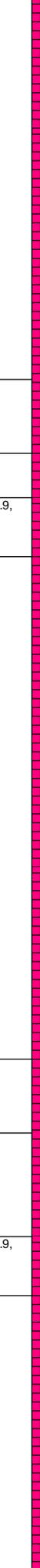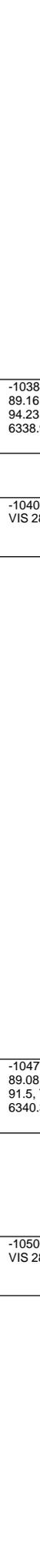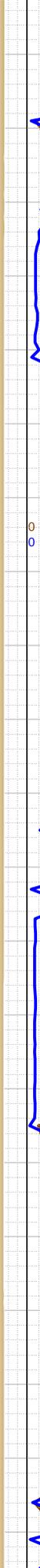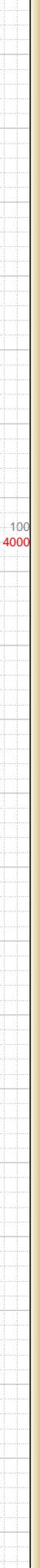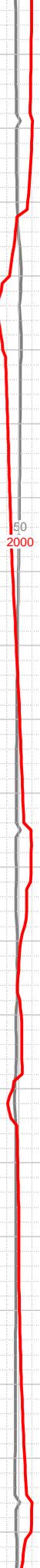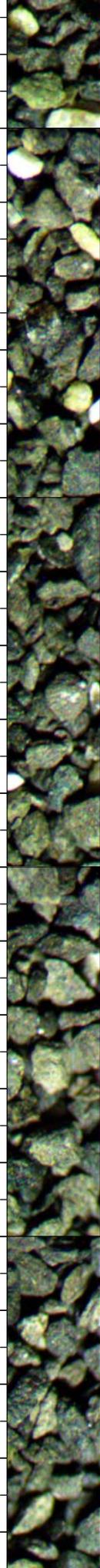
-10384 INC 89.16, AZM 94.23, TVD 6338.93

-10400 WT 8.9, VIS 28

-10476 INC 89.08, AZM 91.5, TVD 6340.34

-10500 WT 8.9, VIS 28

Lithology descriptions:

-10400 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent w/dissm pyr; abndt fos frags; mod forams; bri cut flor; bri lt blu res cut;

-10450 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent w/dissm pyr; mod fos frags; mod forams; bri cut flor w/streaming; bri lt blu res cut;

-10500 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent w/dissm pyr; mod fos frags; mod forams; bri cut flor; bri lt blu res cut;

-10550 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent w/dissm pyr; mod fos frags; mod forams; bri cut flor; bri lt blu res cut;

Depth scale (left margin)

-10550
-10560
-10570
-10580
-10590
-10600
-10610
-10620
-10630
-10640
-10650
-10660
-10670
-10680
-10690
-10700
-10710
-10720
-10730
-10740
-10750

Curve scales

0 — 100 — 200
6500 — 6350 — 6200
0 — 50 — 100
0 — 2000 — 4000
0 — 50 — 100
0 — 400 — 800

Center annotations
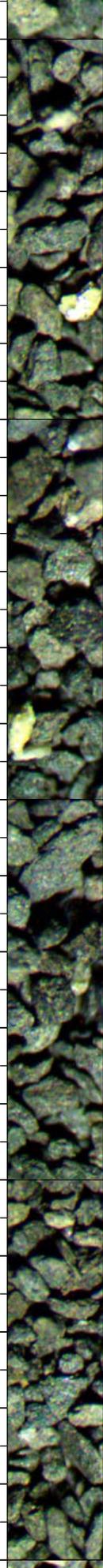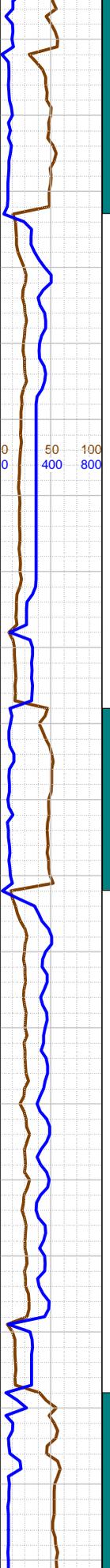
-10568 INC 88.99, AZM 89.74, TVD 6341.89

-10600 WT 8.9, VIS 28

-10638 0000 hrs on 10/26/2015

-10659 INC 88.9, AZM 87.46, TVD 6343.57

-10700 WT 8.9, VIS 28

-10751 INC 90.22, AZM 86.14, TVD 6344.57

Lithology descriptions (right column)
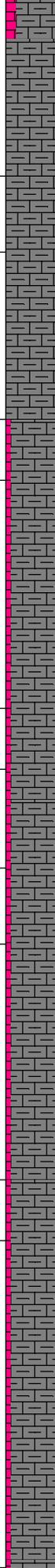
-10600 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent w/dissm pyr; mod fos frags; mod forams; bri cut flor; bri lt blu res cut;

-10650 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent w/dissm pyr; mod fos frags; mod forams; bri cut flor; dull lt blu res cut;

-10700 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent w/dissm pyr; mod fos frags; tr forams; mod bri cut flor; dull lt blu res cut;

-10750 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent w/dissm pyr; mod fos frags; tr forams; bri cut flor; dull lt blu res cut;

-10800 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-
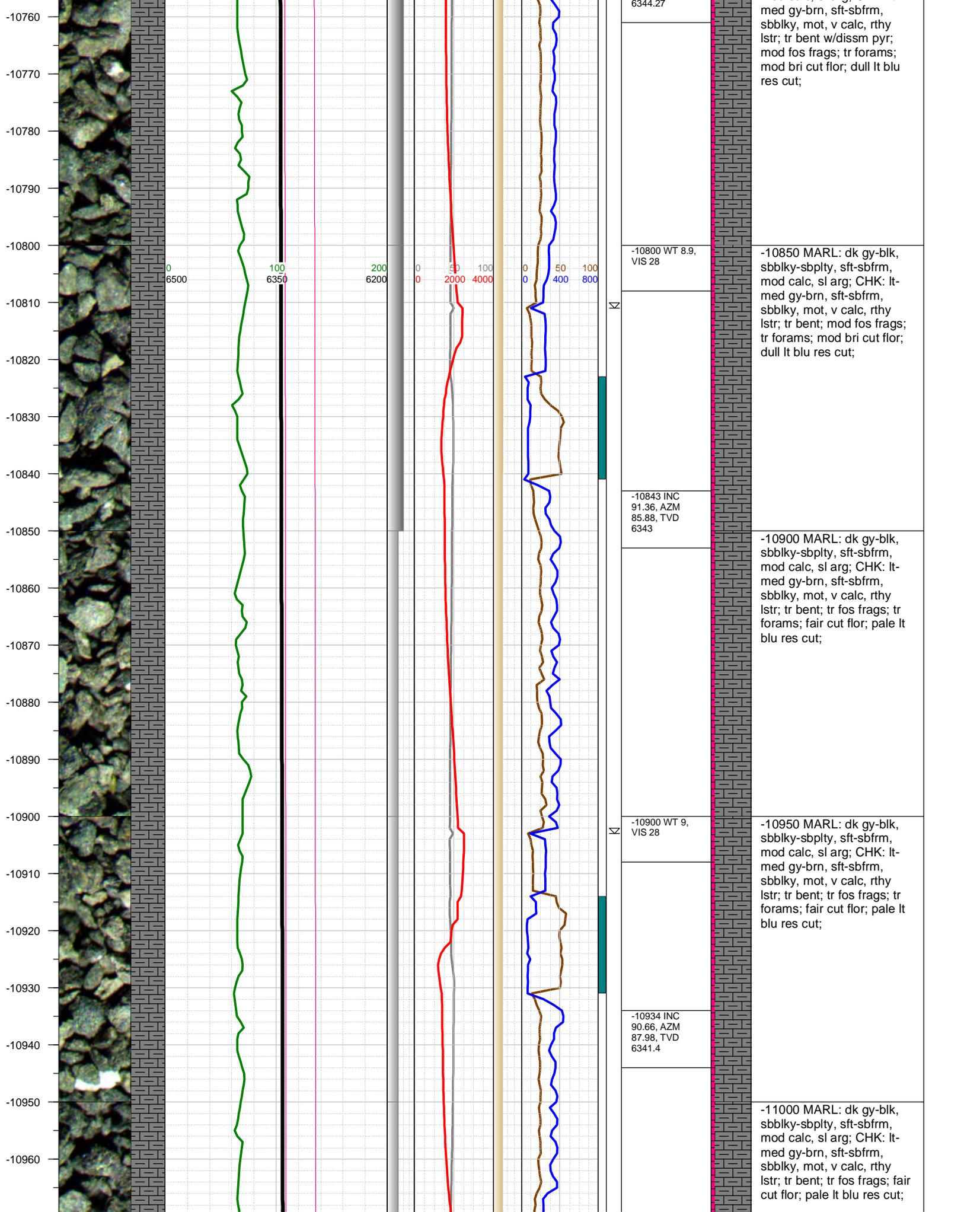
Depth scale (left axis): -10760, -10770, -10780, -10790, -10800, -10810, -10820, -10830, -10840, -10850, -10860, -10870, -10880, -10890, -10900, -10910, -10920, -10930, -10940, -10950, -10960

Curve scale labels:
- 0 / 100 / 200 (green)
- 6500 / 6350 / 6200 (black)
- 0 / 50 / 100 (gray/red)
- 0 / 2000 / 4000 (red)
- 0 / 50 / 100 (brown)
- 0 / 400 / 800 (blue)

6344.27

-10800 WT 8.9, VIS 28

-10843 INC 91.36, AZM 85.88, TVD 6343

-10900 WT 9, VIS 28

-10934 INC 90.66, AZM 87.98, TVD 6341.4

med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent w/dissm pyr; mod fos frags; tr forams; mod bri cut flor; dull lt blu res cut;

-10850 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; mod fos frags; tr forams; mod bri cut flor; dull lt blu res cut;

-10900 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; tr fos frags; tr forams; fair cut flor; pale lt blu res cut;

-10950 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; tr fos frags; tr forams; fair cut flor; pale lt blu res cut;

-11000 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; tr fos frags; fair cut flor; pale lt blu res cut;

Depth scale (left track): -10970, -10980, -10990, -11000, -11010, -11020, -11030, -11040, -11050, -11060, -11070, -11080, -11090, -11100, -11110, -11120, -11130, -11140, -11150, -11160, -11170, -11180

Curve scales:
- 0 — 100 — 200 (green)
- 6500 — 6350 — 6200 (black)
- 0 — 50 — 100 (gray)
- 0 — 2000 — 4000 (red)
- 0 — 50 — 100 (brown)
- 0 — 400 — 800 (blue)
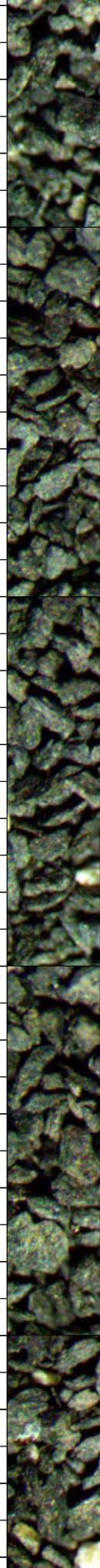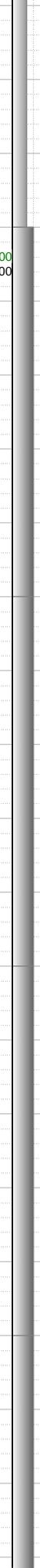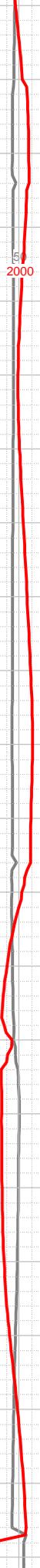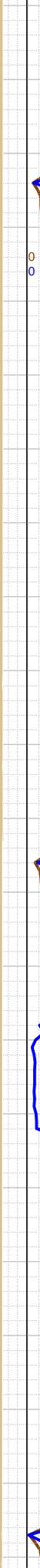
Annotations (center track):
- -11000 WT 9, VIS 28
- -11026 INC 90.22, AZM 87.9, TVD 6340.69
- -11100 WT 9, VIS 28
- -11117 INC 91.28, AZM 87.37, TVD 6339.5

Lithology descriptions (right track):

-11050 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr fos frags; tr forams; mod bri cut flor; dull lt blu res cut;

-11100 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr fos frags; tr forams; mod bri cut flor; dull lt blu res cut;

-11150 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr fos frags; tr forams; mod bri cut flor; dull lt blu res cut;

-11200 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; mod fos frags; mod forams; mod bri cut flor; dull lt blu res cut;

Depth scale: -11190, -11200, -11210, -11220, -11230, -11240, -11250, -11260, -11270, -11280, -11290, -11300, -11310, -11320, -11330, -11340, -11350, -11360, -11370, -11380, -11390

Track scales:
- 0 — 100 — 200
- 6500 — 6350 — 6200
- 0 — 50 — 100
- 0 — 2000 — 4000
- 0 — 50 — 100
- 0 — 400 — 800
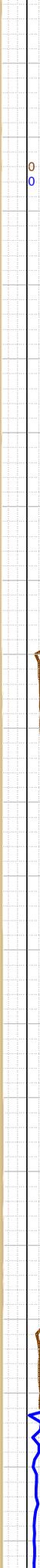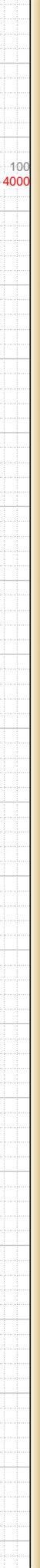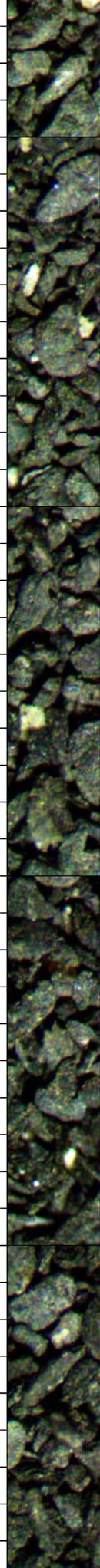
Annotations:
-11200 WT 9, VIS 28

-11209 INC 91.19, AZM 87.28, TVD 6337.53

-11301 INC 90.57, AZM 85, TVD 6336.12

-11320 WT 9, VIS 28

-11200 INC

Descriptions:

-11250 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; mod fos frags; mod forams; mod bri cut flor; dull lt blu res cut;

-11300 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; mod fos frags; mod forams; fair cut flor; dull lt blu res cut;

-11350 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod bent; frq fos frags; mod forams; fair cut flor; dull lt blu res cut;

-11400 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod bent; frq fos frags; mod forams; mod bri cut flor; dull lt blu res cut;

Depth scale (left):
-11400, -11410, -11420, -11430, -11440, -11450, -11460, -11470, -11480, -11490, -11500, -11510, -11520, -11530, -11540, -11550, -11560, -11570, -11580, -11590, -11600

Curve scales (top):
0 — 100 — 200 (green)
6500 — 6350 — 6200 (black)
0 — 50 — 100 (grey)
0 — 2000 — 4000 (red)
0 — 50 — 100 (brown)
0 — 400 — 800 (blue)
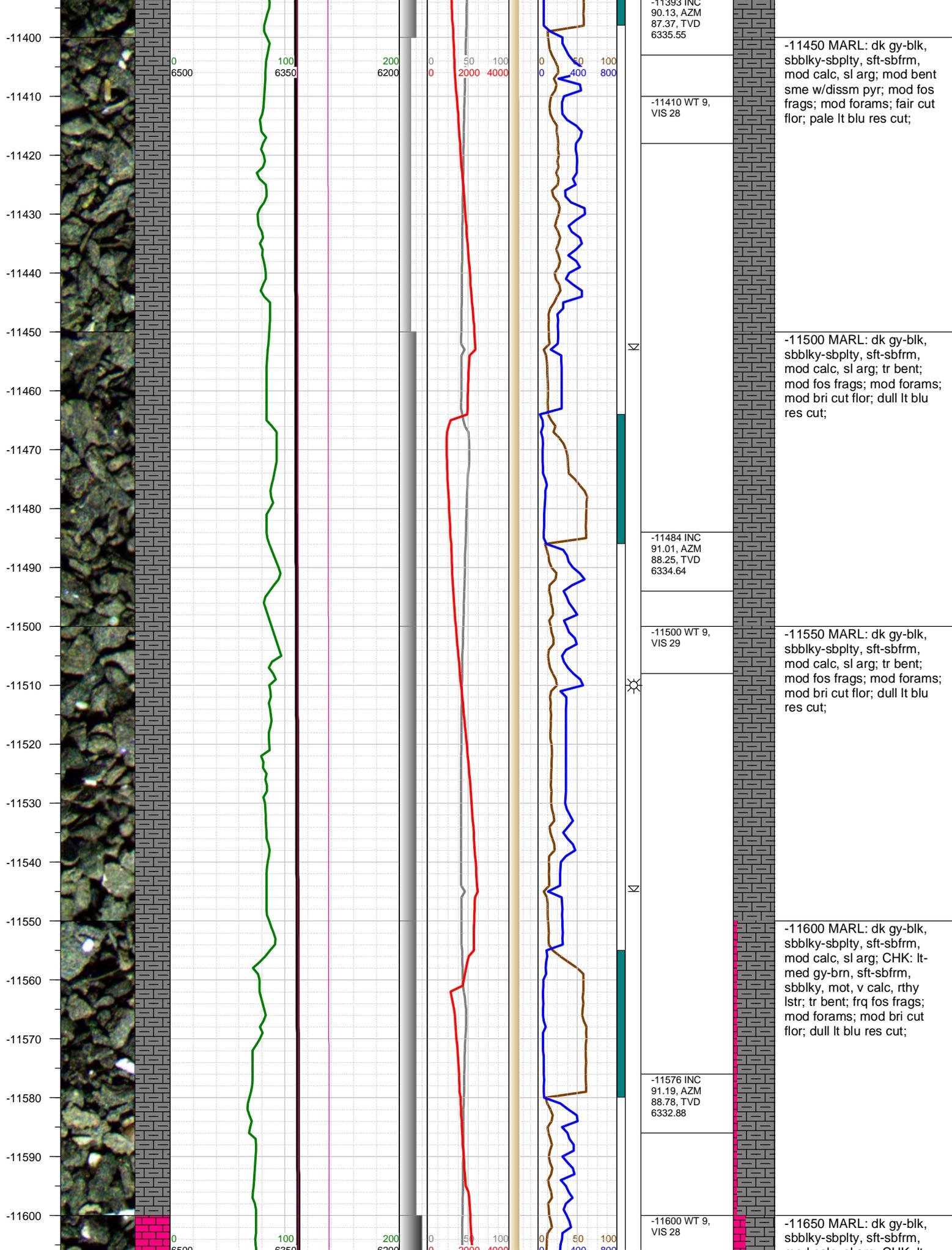
Middle annotations:
-11393 INC 90.13, AZM 87.37, TVD 6335.55

-11410 WT 9, VIS 28

-11484 INC 91.01, AZM 88.25, TVD 6334.64

-11500 WT 9, VIS 29

-11576 INC 91.19, AZM 88.78, TVD 6332.88

-11600 WT 9, VIS 28

Lithology descriptions (right):

-11450 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod bent sme w/dissm pyr; mod fos frags; mod forams; fair cut flor; pale lt blu res cut;

-11500 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; mod fos frags; mod forams; mod bri cut flor; dull lt blu res cut;

-11550 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; mod fos frags; mod forams; mod bri cut flor; dull lt blu res cut;

-11600 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; frq fos frags; mod forams; mod bri cut flor; dull lt blu res cut;

-11650 MARL: dk gy-blk, sbblky-sbfrm,

Depth scale (left track): -11610, -11620, -11630, -11640, -11650, -11660, -11670, -11680, -11690, -11700, -11710, -11720, -11730, -11740, -11750, -11760, -11770, -11780, -11790, -11800, -11810

Curve track headers (top): 6500, 6350, 6200, 0, 2000, 4000, 0, 400, 800

Curve track footers (bottom): 0, 100, 200, 0, 50, 100, 0, 50, 100; 6500, 6350, 6200, 0, 2000, 4000, 0, 400, 800

Annotation column (center right):
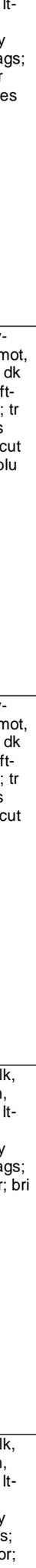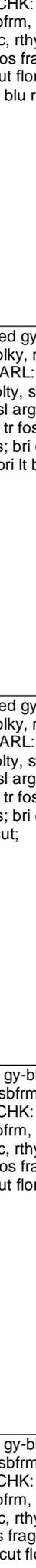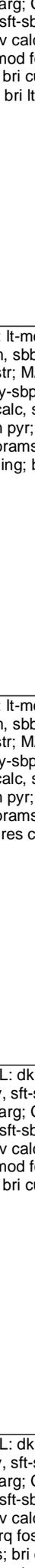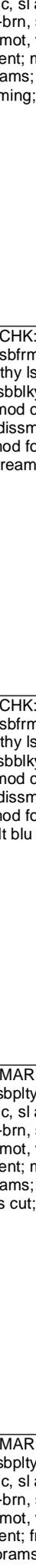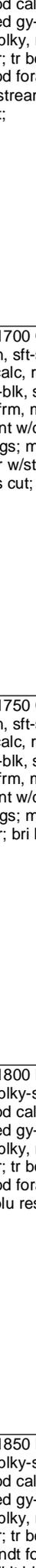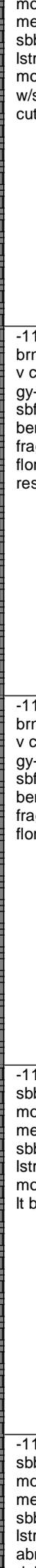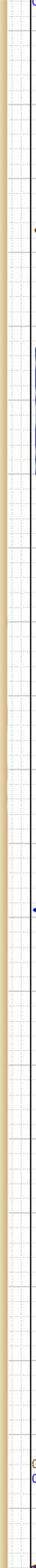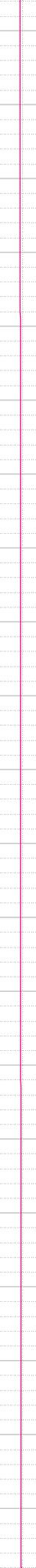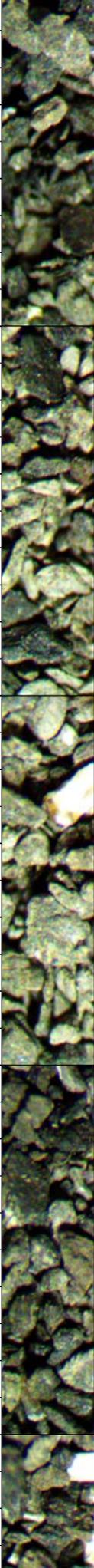
-11668 INC 91.36, AZM 90.8, TVD 6330.83

-11700 WT 9, VIS 28

-11759 INC 90.84, AZM 90.27, TVD 6329.09

-11800 WT 9, VIS 28

Lithology description column (right):

mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; mod fos frags; mod forams; bri cut flor w/streaming; bri lt blu res cut;

-11700 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent w/dissm pyr; tr fos frags; mod forams; bri cut flor w/streaming; bri lt blu res cut;

-11750 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent w/dissm pyr; tr fos frags; mod forams; bri cut flor; bri lt blu res cut;

-11800 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; mod fos frags; mod forams; bri cut flor; bri lt blu res cut;

-11850 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; frq fos frags; abndt forams; bri cut flor;

Depth (ft): -11820, -11830, -11840, -11850, -11860, -11870, -11880, -11890, -11900, -11910, -11920, -11930, -11940, -11950, -11960, -11970, -11980, -11990, -12000, -12010, -12020, -12030

Scale values:
0 100 200
6500 6350 6200
0 50 100
0 2000 4000
0 50 100
0 400 800

Annotations:
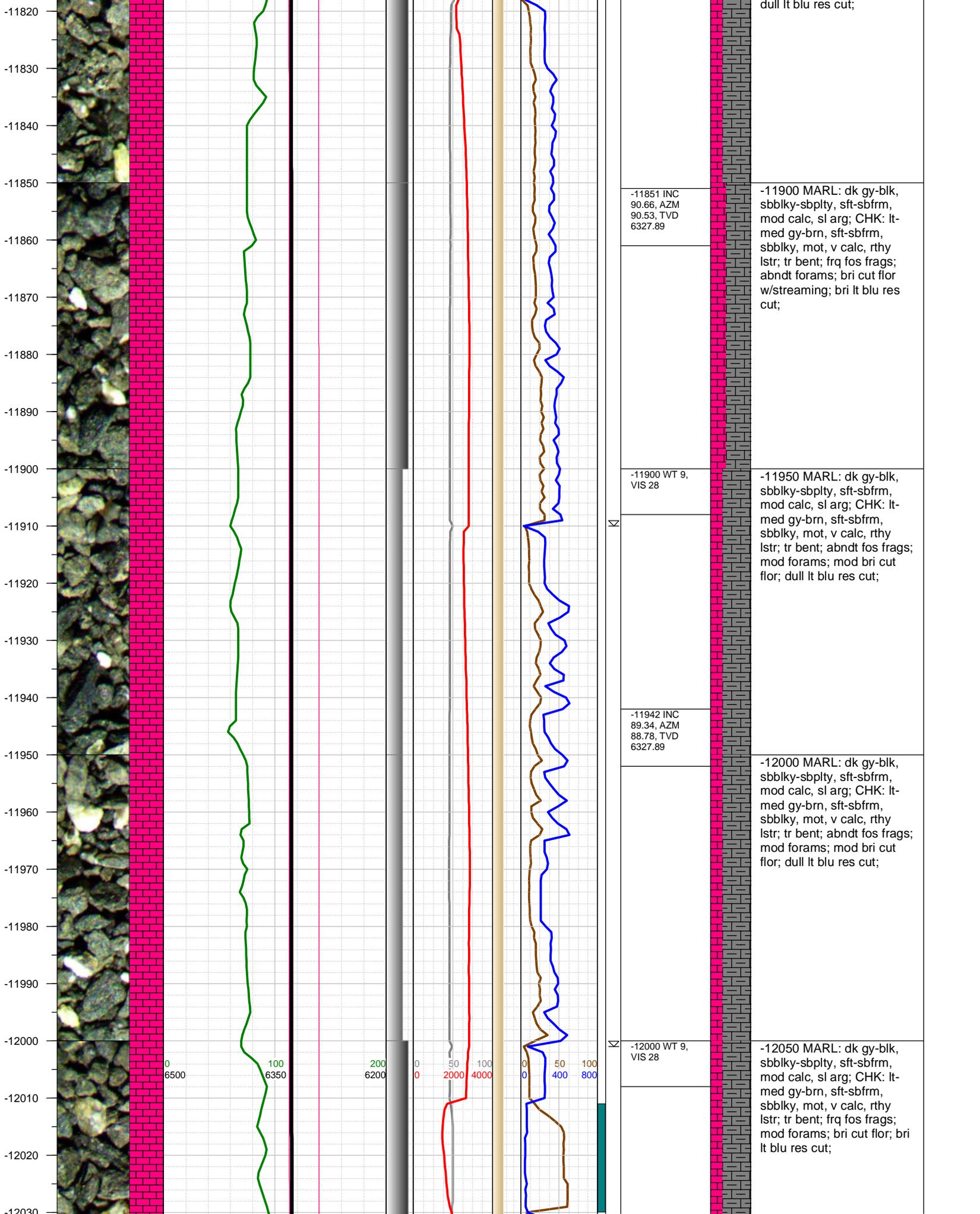
-11851 INC 90.66, AZM 90.53, TVD 6327.89

-11900 WT 9, VIS 28

-11942 INC 89.34, AZM 88.78, TVD 6327.89

-12000 WT 9, VIS 28

Lithology descriptions:

dull lt blu res cut;

-11900 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; frq fos frags; abndt forams; bri cut flor w/streaming; bri lt blu res cut;

-11950 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; abndt fos frags; mod forams; mod bri cut flor; dull lt blu res cut;

-12000 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; abndt fos frags; mod forams; mod bri cut flor; dull lt blu res cut;

-12050 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; frq fos frags; mod forams; bri cut flor; bri lt blu res cut;

Depth scale (left): -12030, -12040, -12050, -12060, -12070, -12080, -12090, -12100, -12110, -12120, -12130, -12140, -12150, -12160, -12170, -12180, -12190, -12200, -12210, -12220, -12230, -12240

Annotation column:
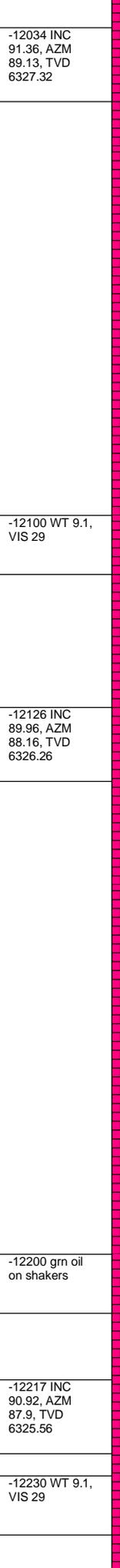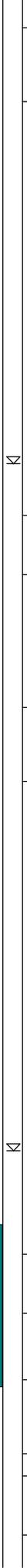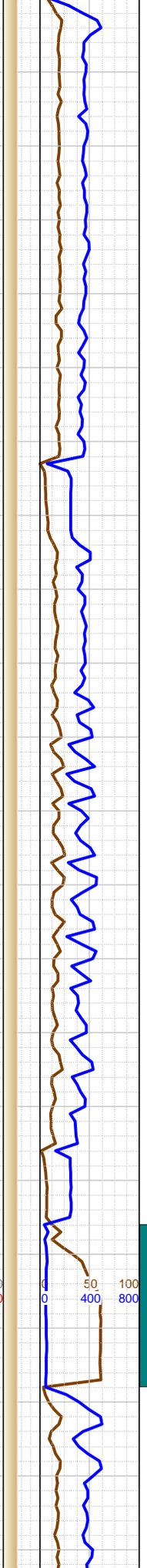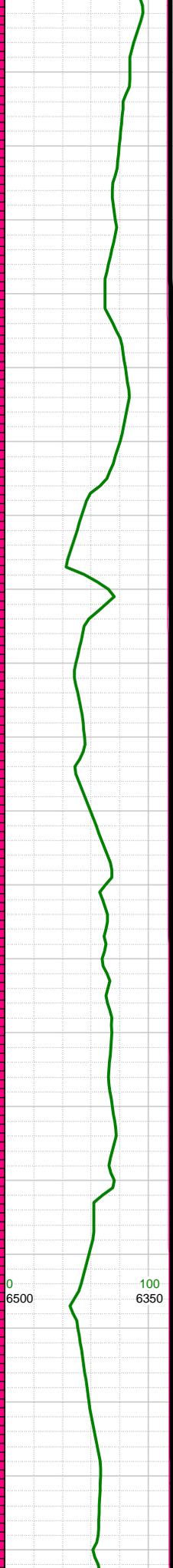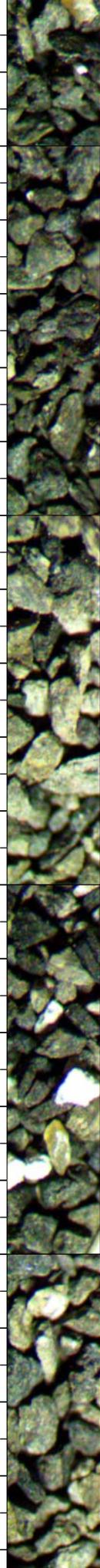
-12034 INC 91.36, AZM 89.13, TVD 6327.32

-12100 WT 9.1, VIS 29

-12126 INC 89.96, AZM 88.16, TVD 6326.26

-12200 grn oil on shakers

-12217 INC 90.92, AZM 87.9, TVD 6325.56

-12034 INC

-12230 WT 9.1, VIS 29

Lithology descriptions (right column):

-12100 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; mod fos frags; mod forams; bri cut flor w/streaming; bri lt blu res cut;

-12150 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; tr forams; bri cut flor w/streaming; bri lt blu res cut;

-12200 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr fos frags; tr forams; bri cut flor; bri lt blu res cut;

-12250 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr fos frags; tr forams; bri cut flor w/streaming; bri lt blu res cut;

Track scale values:
0 100 200 (green) 6500 6350 6200
0 50 100 (red) 0 2000 4000
0 50 100 (blue) 0 400 800

-12250
-12260
-12270
-12280
-12290
-12300
-12310
-12320
-12330
-12340
-12350
-12360
-12370
-12380
-12390
-12400
-12410
-12420
-12430
-12440
-12450

| 0 | | 100 | | 200 |
| 6500 | | 6350 | | 6200 |

| 0 | 50 | 100 |
| 0 | 2000 | 4000 |

| 0 | 50 | 100 |
| 0 | 400 | 800 |
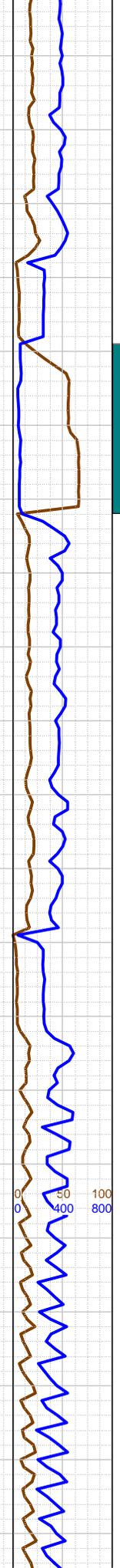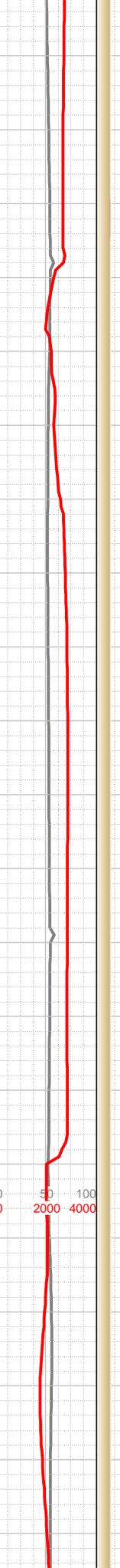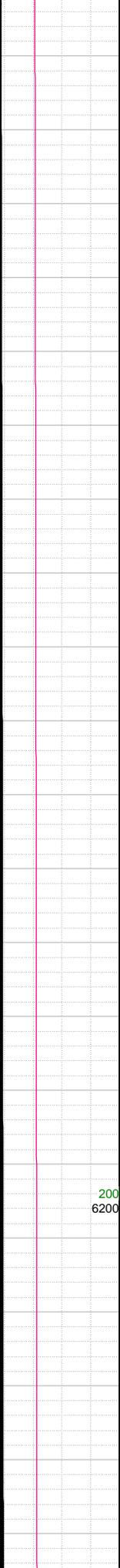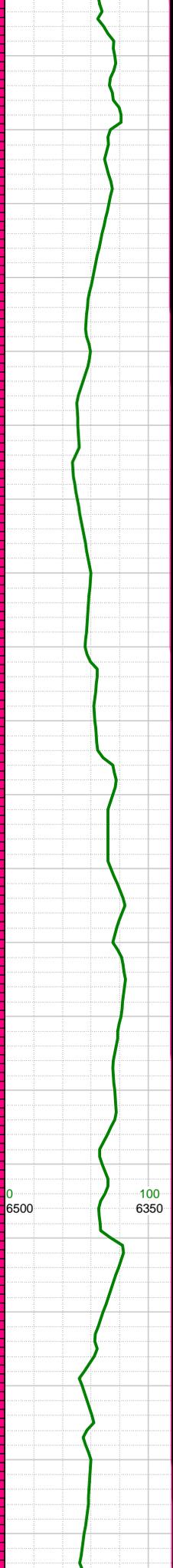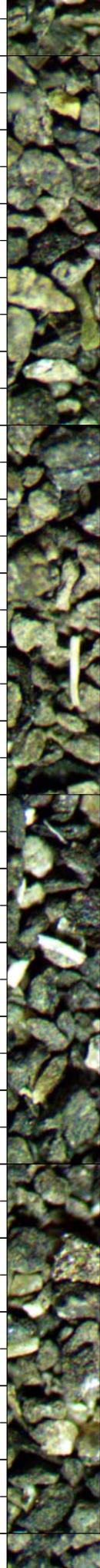
-12300 WT 9.1, VIS 29

-12309 INC 90.84, AZM 88.95, TVD 6324.15

-12401 INC 90.22, AZM 89.22, TVD 6323.3

-12420 WT 9.1, VIS 29

-12300 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr fos frags; mod forams; bri cut flor; bri lt blu res cut;

-12350 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr fos frags; tr forams; mod bri cut flor; bri lt blu res cut;

-12400 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; frq fos frags; tr forams; mod bri cut flor; bri lt blu res cut;

-12450 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; frq fos frags; mod forams; bri cut flor; bri lt blu res cut;

-12500 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm,

This is a geological well log display with depth track, lithology columns, curve tracks, and descriptive text.

Depth values (left track): -12460, -12470, -12480, -12490, -12500, -12510, -12520, -12530, -12540, -12550, -12560, -12570, -12580, -12590, -12600, -12610, -12620, -12630, -12640, -12650, -12660

Curve scale values (mid-page):

0	100	200	0	50	100	0 50 100
6500	6350	6200	0	2000 4000		0 400 800

Deviation/survey annotations (right of curves):

- -12492 INC 90.92, AZM 89.39, TVD 6322.4
- -12510 WT 9.1, VIS 29
- -12584 INC 90.48, AZM 89.83, TVD 6321.27
- -12600 WT 9.1, VIS 29

Lithology descriptions (right column):

mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; abndt fos frags; mod forams; bri cut flor; bri lt blu res cut;

-12550 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; abndt fos frags; mod forams; mod bri cut flor; bri lt blu res cut;

-12600 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; tr forams; bri cut flor; bri lt blu res cut;

-12650 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; tr forams; mod bri cut flor; bri lt blu res cut;

-12700 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; abndt fos frags; mod forams; bri cut flor; bri lt blu

Depth track (left): -12670, -12680, -12690, -12700, -12710, -12720, -12730, -12740, -12750, -12760, -12770, -12780, -12790, -12800, -12810, -12820, -12830, -12840, -12850, -12860, -12870

Survey/notes column:

-12676 INC 89.52, AZM 89.13, TVD 6321.27

-12700 WT 9.1, VIS 29

-12768 INC 91.1, AZM 89.22, TVD 6320.77

-12800 WT 9.1, VIS 29

-12860 INC 91.01, AZM 89.83, TVD 6319.08

Curve scale labels:

0 100 200 | 0 50 100 | 0 50 100
6500 6350 6200 | 0 2000 4000 | 0 400 800

Lithology description column (right):

forams; bri cut flor; bri lt blu res cut;

-12750 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; abndt fos frags; mod forams; bri cut flor; bri lt blu res cut;

-12800 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; mod forams; bri cut flor; bri lt blu res cut;

-12850 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr fos frags; mod forams; bri cut flor; bri lt blu res cut;

-12900 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; abndt fos frags; mod forams; bri cut flor; bri lt blu res cut;

Depth scale (ft): -12880, -12890, -12900, -12910, -12920, -12930, -12940, -12950, -12960, -12970, -12980, -12990, -13000, -13010, -13020, -13030, -13040, -13050, -13060, -13070, -13080, -13090

Curve scales:
- 0 / 100 / 200 (green); 6500 / 6350 / 6200
- 0 / 50 / 100 (red); 0 / 2000 / 4000
- 0 / 50 / 100 (blue); 0 / 400 / 800
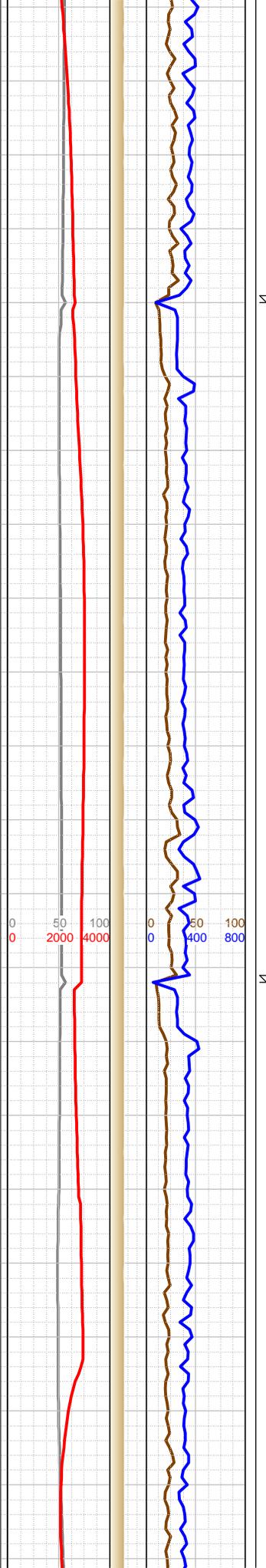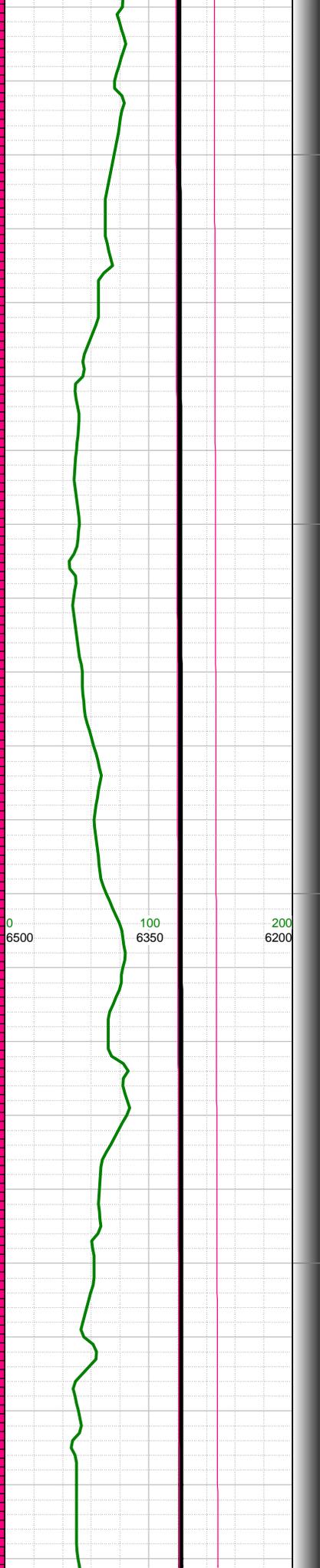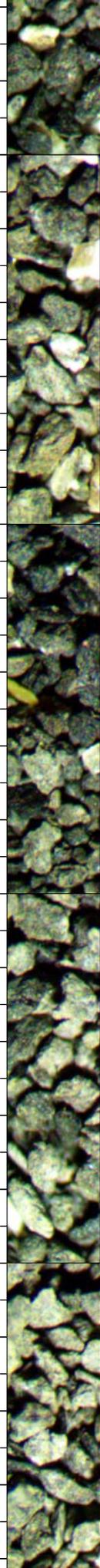
Survey/mud annotations:
- -12900 WT 9.1, VIS 29
- -12951 INC 91.01, AZM 89.57, TVD 6317.47
- -13000 WT 9.1, VIS 29
- -13043 INC 90.31, AZM 88.86, TVD 6316.41

Sample descriptions:

-12950 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; mod forams; bri cut flor; bri lt blu res cut;

-13000 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; mod fos frags; mod forams; bri cut flor; bri lt blu res cut;

-13050 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; mod forams; bri cut flor; bri lt blu res cut;

-13100 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; tr fos frags; tr forams; bri cut flor; bri lt blu res cut; grn oil on shakers

Depth (ft): -13100, -13110, -13120, -13130, -13140, -13150, -13160, -13170, -13180, -13190, -13200, -13210, -13220, -13230, -13240, -13250, -13260, -13270, -13280, -13290, -13300

Curve scales:
- Green: 0 100 200 / 6500 6350 6200
- Red: 0 50 100 / 0 2000 4000
- Blue: 0 50 100 / 0 400 800
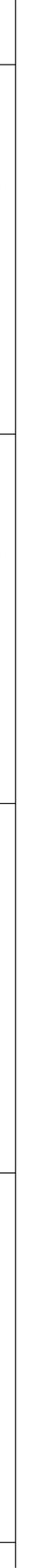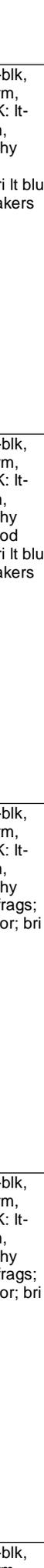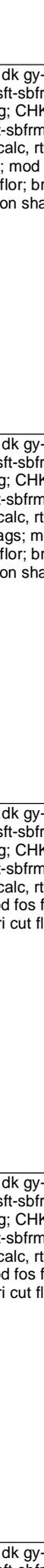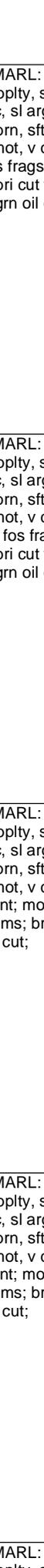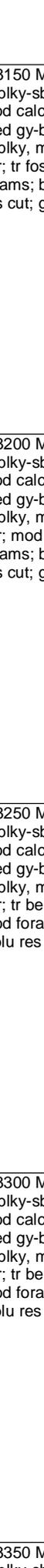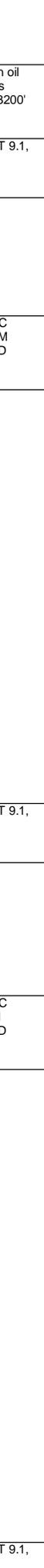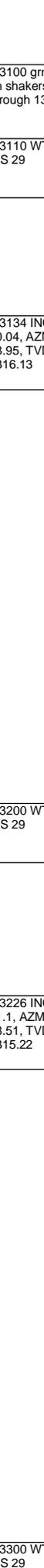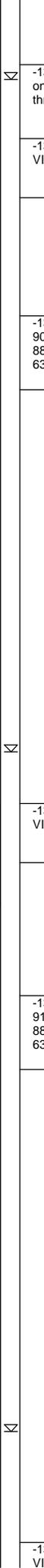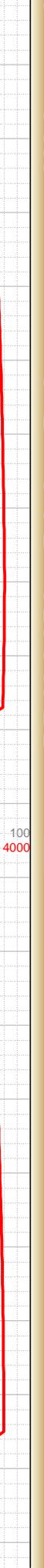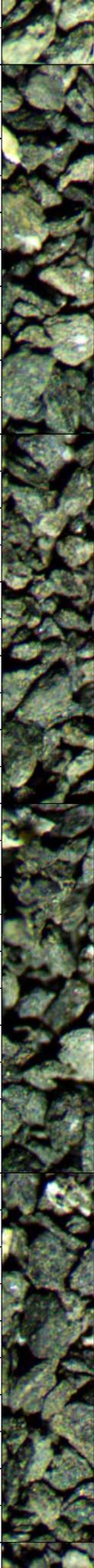
Annotation column:
-13100 grn oil on shakers through 13200'

-13110 WT 9.1, VIS 29

-13134 INC 90.04, AZM 88.95, TVD 6316.13

-13200 WT 9.1, VIS 29

-13226 INC 91.1, AZM 88.51, TVD 6315.22

-13300 WT 9.1, VIS 29

Description column:
-13150 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr fos frags; mod forams; bri cut flor; bri lt blu res cut; grn oil on shakers

-13200 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod fos frags; mod forams; bri cut flor; bri lt blu res cut; grn oil on shakers

-13250 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; mod fos frags; mod forams; bri cut flor; bri lt blu res cut;

-13300 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; mod fos frags; mod forams; bri cut flor; bri lt blu res cut;

-13350 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm,

Depth track (ft): -13310, -13320, -13330, -13340, -13350, -13360, -13370, -13380, -13390, -13400, -13410, -13420, -13430, -13440, -13450, -13460, -13470, -13480, -13490, -13500, -13510

Curve scale labels:

0	100	200
6500	6350	6200

0	50	100
0	2000	4000

0	50	100
0	400	800

Survey / annotations:
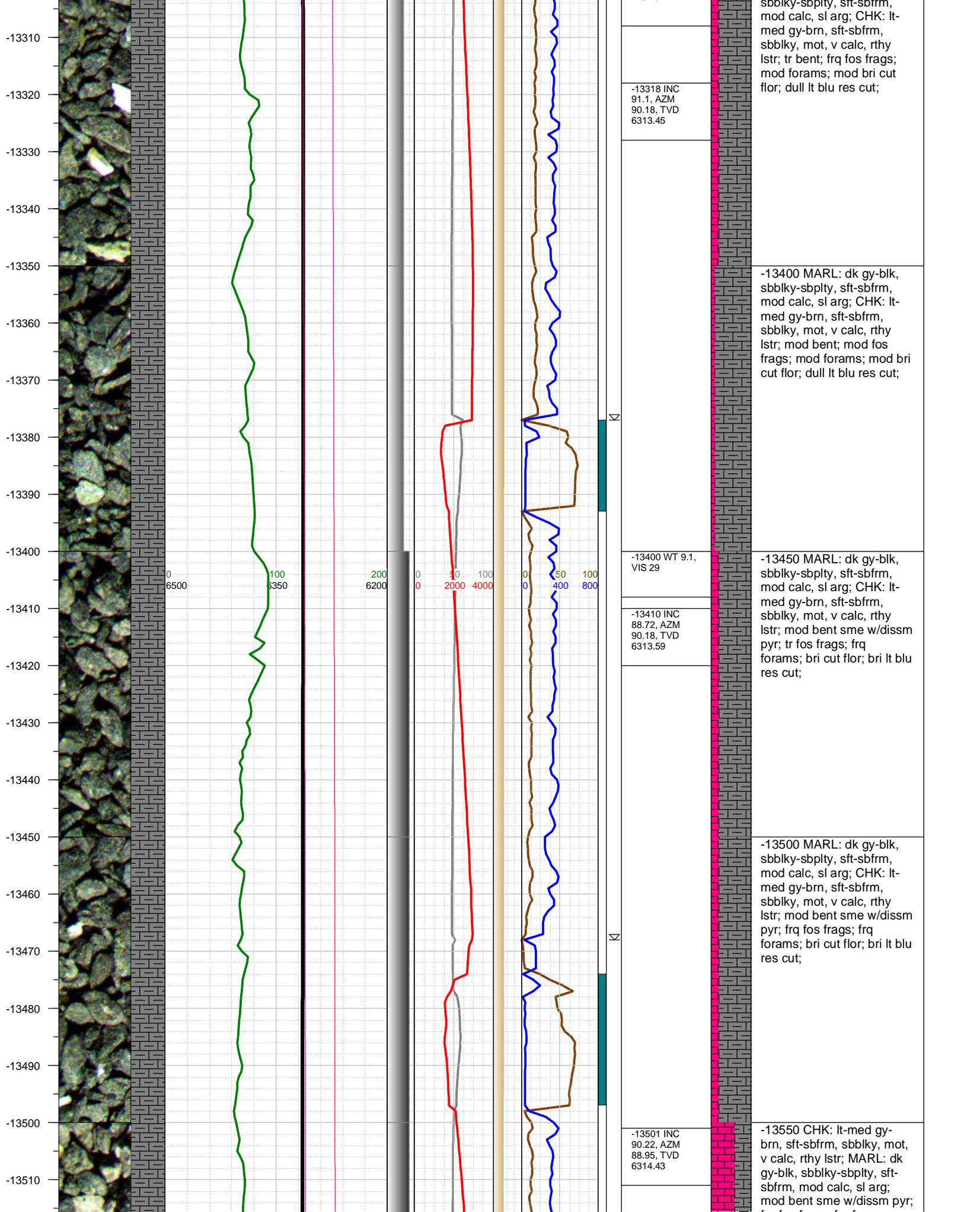
-13318 INC 91.1, AZM 90.18, TVD 6313.45

-13400 WT 9.1, VIS 29

-13410 INC 88.72, AZM 90.18, TVD 6313.59

-13501 INC 90.22, AZM 88.95, TVD 6314.43

Lithology descriptions:

sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; frq fos frags; mod forams; mod bri cut flor; dull lt blu res cut;

-13400 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod bent; mod fos frags; mod forams; mod bri cut flor; dull lt blu res cut;

-13450 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod bent sme w/dissm pyr; tr fos frags; frq forams; bri cut flor; bri lt blu res cut;

-13500 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod bent sme w/dissm pyr; frq fos frags; frq forams; bri cut flor; bri lt blu res cut;

-13550 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod bent sme w/dissm pyr;

Depth scale (ft): -13520, -13530, -13540, -13550, -13560, -13570, -13580, -13590, -13600, -13610, -13620, -13630, -13640, -13650, -13660, -13670, -13680, -13690, -13700, -13710, -13720

Curve scale labels:
- 0 — 100 — 200
- 6500 — 6350 — 6200
- 0 — 50 — 100
- 0 — 2000 — 4000
- 0 — 50 — 100
- 0 — 400 — 800

Annotations (center column):
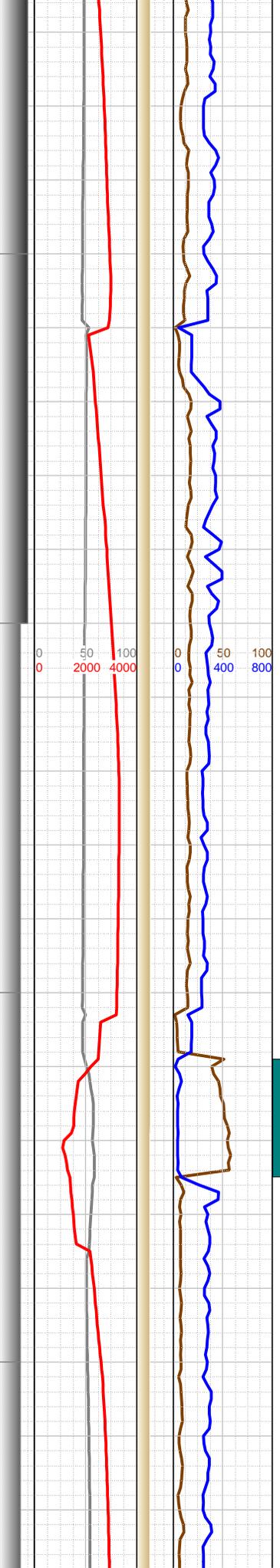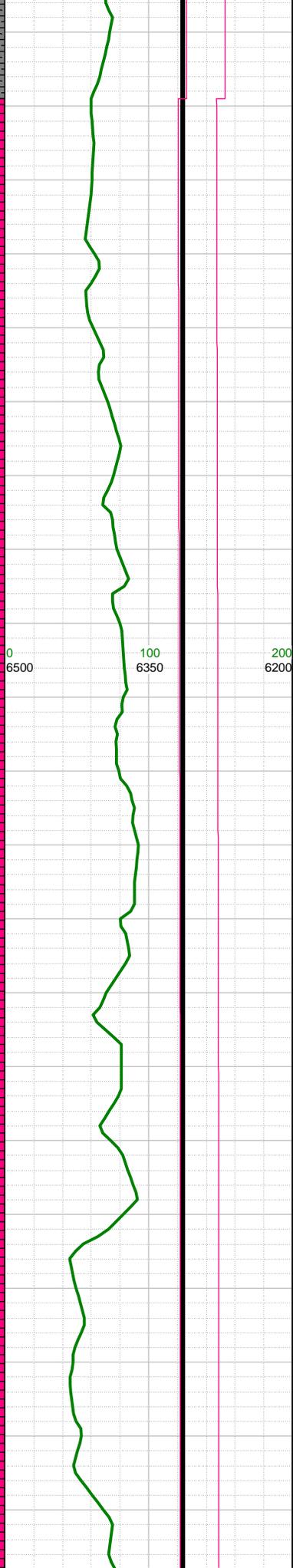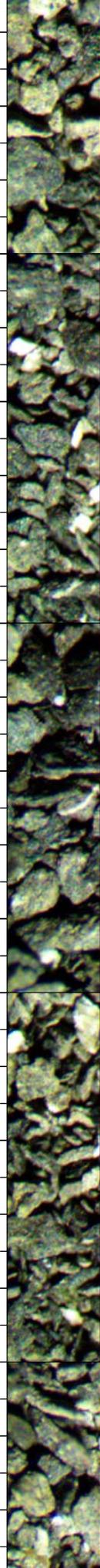
- -13520 WT 9.1, VIS 29
- -13529 Fault: 9' down-throw, B Marl to B Chalk; gas increased and grn oil on shakers
- -13550 grn oil on shakers
- -13593 INC 89.6, AZM 88.6, TVD 6314.57
- -13610 WT 9.1, VIS 29
- -13684 INC 90.4, AZM 88.6, TVD 6314.57
- -13700 WT 9.1, VIS 29

Lithology descriptions (right column):

...frq fos frags; frq forams; bri cut flor w/streaming; bri lt blu res cut; grn oil on shakers

-13600 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod bent sme w/dissm pyr; frq fos frags; frq forams; bri cut flor w/streaming; bri lt blu res cut; grn oil on shakers

-13650 MARL: dk gy-blk, sbblky-sbplty, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod bent sme w/dissm pyr; frq fos frags; mod forams; mod bri cut flor; bri lt blu res cut;

-13700 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; mod fos frags; frq forams; mod bri cut flor w/streaming; bri lt blu res cut;

-13750 CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; tr fos frags; mod forams; mod bri cut flor; bri lt blu res cut;

Depth scale (left axis):
-13730, -13740, -13750, -13760, -13770, -13780, -13790, -13800, -13810, -13820, -13830, -13840, -13850, -13860, -13870, -13880, -13890, -13900, -13910, -13920, -13930, -13940

Curve scale labels:
0	100	200	0	50	100	0	50	100
6500	6350	6200	0	2000	4000	0	400	800

Annotation column:

-13776 INC 89.34, AZM 89.04, TVD 6314.78

-13800 grn oil on shakers

-13810 WT 9.1, VIS 29

-13858 0000 hrs on 10/27/2015

-13867 INC 90.04, AZM 87.63, TVD 6315.27

-13900 WT 9.2, VIS 31

Lithology description column:
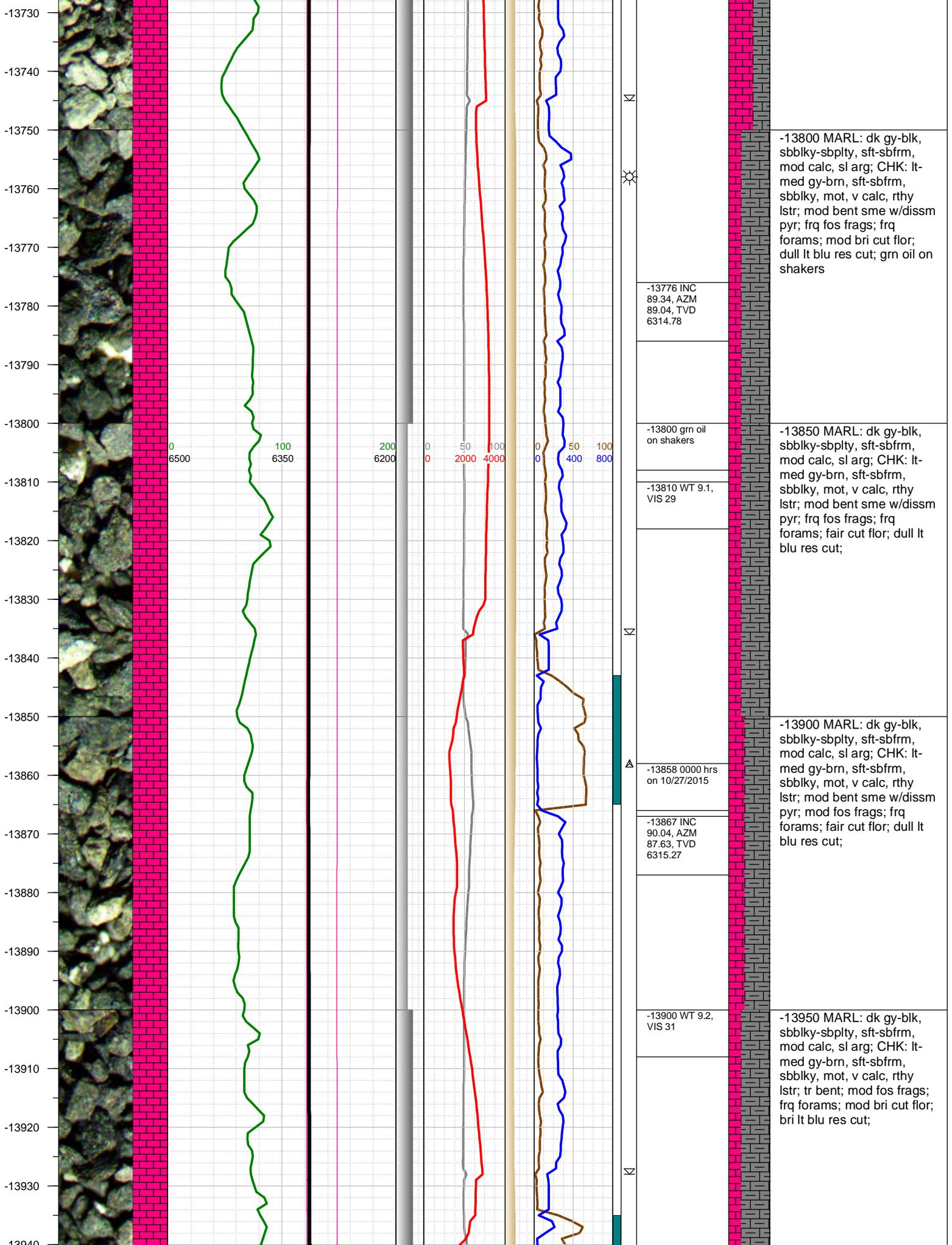
-13800 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod bent sme w/dissm pyr; frq fos frags; frq forams; mod bri cut flor; dull lt blu res cut; grn oil on shakers

-13850 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod bent sme w/dissm pyr; frq fos frags; frq forams; fair cut flor; dull lt blu res cut;

-13900 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod bent sme w/dissm pyr; mod fos frags; frq forams; fair cut flor; dull lt blu res cut;

-13950 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; mod fos frags; frq forams; mod bri cut flor; bri lt blu res cut;

Depth markers: -13940, -13950, -13960, -13970, -13980, -13990, -14000, -14010, -14020, -14030, -14040, -14050, -14060, -14070, -14080, -14090, -14100, -14110, -14120, -14130, -14140, -14150

Curve scales:
- Green: 0 / 100 / 200 ; 6500 / 6350 / 6200
- Black/pink: 0 / 50 / 100
- Red: 0 / 2000 / 4000
- Brown/Blue: 0 / 50 / 100 ; 0 / 400 / 800

Notes column:
- -13959 INC 92.33, AZM 87.98, TVD 6313.37
- -14000 WT 9.2, VIS 31
- -14011 Fault: 10' up-throw, B Chalk to B Marl
- -14050 INC 91.63, AZM 87.46, TVD 6310.22
- -14100 WT 9.2, VIS 31
- -14142 INC 91.8, AZM 87.11, TVD 6307.47

Lithology descriptions:
- -14000 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod fos frags; mod forams; mod bri cut flor; bri lt blu res cut;

- -14050 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod fos frags; mod forams; bri cut flor; bri lt blu res cut;

- -14100 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent w/dissm pyr; mod fos frags; mod forams; bri cut flor; bri lt blu res cut;

- -14150 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr fos frags; mod forams; bri cut flor w/streaming; bri lt blu res cut;

- -14200 MARL: dk gy-blk,

Depth										Description

-14160

-14170

-14180

-14190

-14200

-14210

-14220

-14230

-14240

-14250

-14260

-14270

-14280

-14290

-14300

-14310

-14320

-14330

-14340

-14350

-14360

Scale labels:

0	100	200
6500	6350	6200
0	50	100
0	2000	4000
0	400	800
0	50	100

Annotations column:

-14200 WT 9.2, VIS 31

-14234 INC 90.66, AZM 87.98, TVD 6305.5

-14300 WT 9.2, VIS 30

-14325 INC 90.04, AZM 88.6, TVD 6304.94

Description column:

sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod fos frags; mod forams; bri cut flor w/streaming; bri lt blu res cut;

-14250 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod fos frags; mod forams; bri cut flor; bri lt blu res cut;

-14300 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod bent sme w/dissm pyr; mod fos frags; mod forams; bri cut flor; bri lt blu res cut;

-14350 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod fos frags; mod forams; bri cut flor; dull lt blu res cut;

-14400 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod fos frags; mod

Depth scale (left): -14370, -14380, -14390, -14400, -14410, -14420, -14430, -14440, -14450, -14460, -14470, -14480, -14490, -14500, -14510, -14520, -14530, -14540, -14550, -14560, -14570
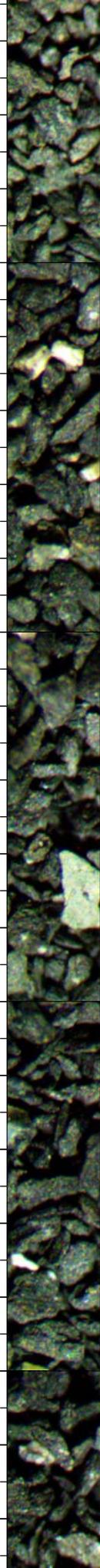
Curve scales:
- 0 — 100 — 200 (green)
- 6500 — 6350 — 6200
- 0 — 50 — 100 (gray/red)
- 0 — 2000 — 4000 (red)
- 0 — 50 — 100 (brown)
- 0 — 400 — 800 (blue)
- 0 — 1000 — 2000 (red, bottom)

Annotation column:

-14400 WT 9.2, VIS 31

-14417 INC 90.57, AZM 90.01, TVD 6304.44

-14500 WT 9.2, VIS 31

-14508 INC 89.69, AZM 89.22, TVD 6304.23

-14573 TOOH for new MWD

Lithology descriptions (right):
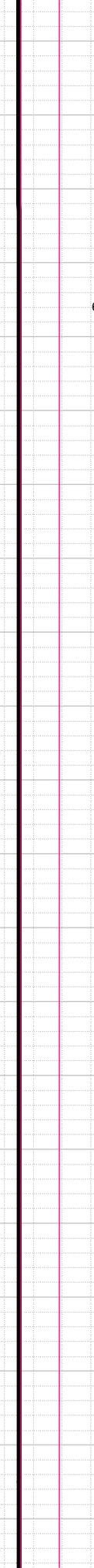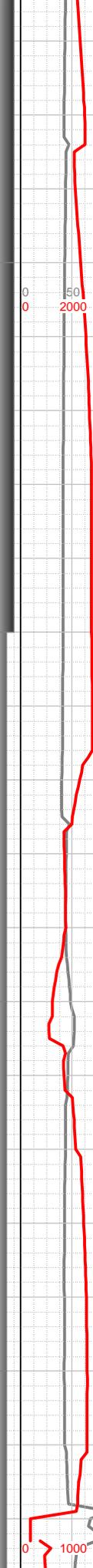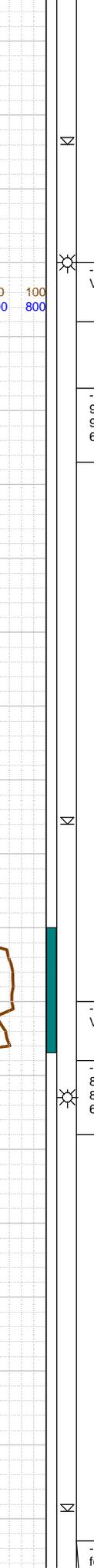
forams; bri cut flor; dull lt blu res cut;

-14450 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod fos frags; mod forams; bri cut flor; bri lt blu res cut;

-14500 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; mod fos frags; mod forams; mod bri cut flor; bri lt blu res cut;

-14550 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; mod fos frags; mod forams; mod bri cut flor; bri lt blu res cut;

-14600 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; mod fos frags; mod forams; mod bri cut flor; bri lt blu res cut;

Depth scale (left): -14580, -14590, -14600, -14610, -14620, -14630, -14640, -14650, -14660, -14670, -14680, -14690, -14700, -14710, -14720, -14730, -14740, -14750, -14760, -14770, -14780

Track scale labels:
- 0 ... 100 ... 200 (green)
- 6500 6350 6200
- 0 ... 50 ... 100 / 0 1000 2000 (red)
- 0 ... 50 ... 100 / 0 400 800 (blue)

Annotation column (center):

tools at 0800 hrs on 10/27/15; resumed drilling at 2100 hrs on 10/27/15

-14573 Change TGas Scale

-14600 INC 90.13, AZM 89.39, TVD 6304.37

-14610 WT 9.2, VIS 29

-14691 INC 90.4, AZM 90.89, TVD 6303.96

-14710 WT 9.1, VIS 31

-14783 INC 89.08, AZM 89.83, TVD

Description column (right):

-14650 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; mod fos frags; mod forams; mod bri cut flor; bri lt blu res cut;

-14700 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; mod fos frags; mod forams; fair cut flor; dull lt blu res cut;

-14750 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; mod fos frags; mod forams; fair cut flor; dull lt blu res cut;

-14800 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; mod fos frags; mod forams; fair cut flor; dull lt blu res cut;

Depth scale (ft): -14790, -14800, -14810, -14820, -14830, -14840, -14850, -14860, -14870, -14880, -14890, -14900, -14910, -14920, -14930, -14940, -14950, -14960, -14970, -14980, -14990, -15000

Curve scales: 0 / 100 / 200 · 6500 / 6350 / 6200 · 0 / 50 / 100 · 0 / 1000 / 2000 · 0 / 50 / 100 · 0 / 400 / 800
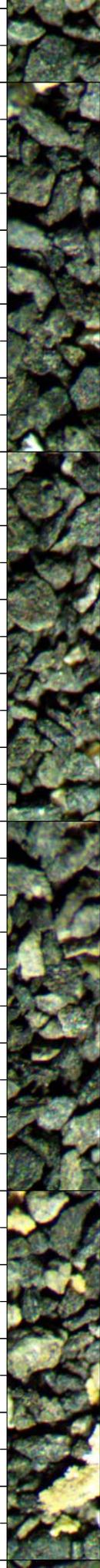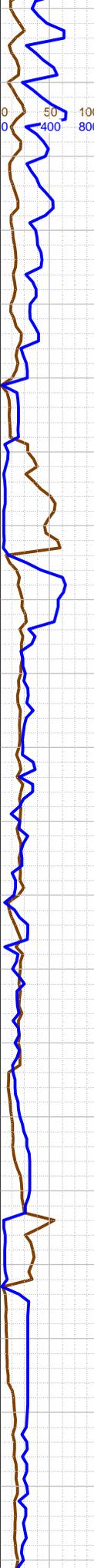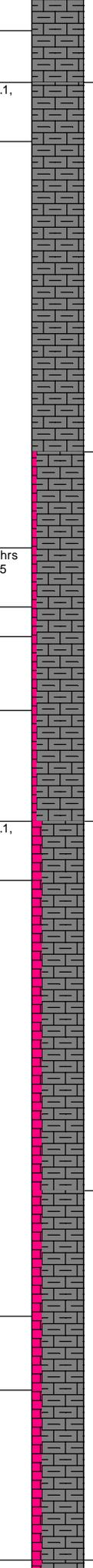
Annotations (center track):
- 6304.38
- -14800 WT 9.1, VIS 31
- -14863 0000 hrs on 10/28/2015
- -14875 INC 89.34, AZM 88.51, TVD 6305.65
- -14900 WT 9.1, VIS 30
- -14967 INC 90.66, AZM 87.72, TVD 6305.65
- -15000 WT 9

Lithology descriptions (right column):

-14850 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg, tr bent; mod fos frags; mod forams; mod bri cut flor; dull lt blu res cut;

-14900 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; mod fos frags; mod forams; mod bri cut flor; dull lt blu res cut;

-14950 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; mod fos frags; mod forams; mod bri cut flor; dull lt blu res cut;

-15000 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; tr fos frags; mod bri cut flor; dull lt blu res cut;

-15000 WT 9 · -15050 MARL: dk gy-blk

Depth												
-15010												
-15020												
-15030												

Curve scales (top):
- 0 — 100 (green)
- 6500 — 6350
- 200 (green)
- 6200
- 0 50 100 (red)
- 0 1000 2000 (red)
- 0 50 100 (blue)
- 0 400 800 (blue)

Depth track values (top to bottom): -15010, -15020, -15030, -15040, -15050, -15060, -15070, -15080, -15090, -15100, -15110, -15120, -15130, -15140, -15150, -15160, -15170, -15180, -15190, -15200, -15210

Mid-column annotations:
- -15050 WT 9, VIS 30
- -15058 INC 91.28, AZM 87.81, TVD 6304.11
- -15100 WT 9, VIS 30
- -15150 INC 92.24, AZM 86.84, TVD 6301.29
- -15200 WT 8.6, VIS 32

Right description column:

-15050 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; tr fos frags; mod forams; mod bri cut flor; dull lt blu res cut;

-15100 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; tr fos frags; mod forams; bri cut flor; bri lt blu res cut;

-15150 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod bent sme w/dissm pyr; mod fos frags; mod forams; bri cut flor; mod bri lt blu res cut;

-15200 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; frq bent sme w/dissm pyr; mod fos frags; mod forams; mod bri cut flor; dull lt blu res cut;

-15250 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy

-15241 INC 90.75, AZM 89.04, TVD 6298.92

-15300 WT 8.6, VIS 32

-15333 INC 90.22, AZM 88.16, TVD 6298.14

-15400 WT 8.6, VIS 32

lstr; frq bent sme w/dissm pyr; mod fos frags; mod forams; mod bri cut flor; dull lt blu res cut;

-15300 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; frq bent sme w/dissm pyr; mod fos frags; mod forams; mod bri cut flor; dull lt blu res cut;

-15350 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; frq bent sme w/dissm pyr; mod fos frags; mod forams; mod bri cut flor; dull lt blu res cut;

-15400 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; frq bent sme w/dissm pyr; mod fos frags; mod forams; mod bri cut flor; dull lt blu res cut;

-15450 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod bent sme w/dissm pyr; mod fos frags; mod forams; bri cut flor; bri lt blu-grn res cut;

Depth: -15220, -15230, -15240, -15250, -15260, -15270, -15280, -15290, -15300, -15310, -15320, -15330, -15340, -15350, -15360, -15370, -15380, -15390, -15400, -15410, -15420

Scale values:
0 100 200
6500 6350 6200
0 50 100
0 1000 2000
0 50 100
0 400 800

Depth track (left axis):
-15430, -15440, -15450, -15460, -15470, -15480, -15490, -15500, -15510, -15520, -15530, -15540, -15550, -15560, -15570, -15580, -15590, -15600, -15610, -15620, -15630

Curve scale labels (bottom):
- 0 — 100 — 200 (green)
- 6500 — 6350 — 6200 (black)
- 0 — 50 — 100 (gray)
- 0 — 1000 — 2000 (red)
- 0 — 50 — 100 (brown)
- 0 — 400 — 800 (blue)

Annotation track (center-right):

-15425 INC 90.75, AZM 89.3, TVD 6297.36
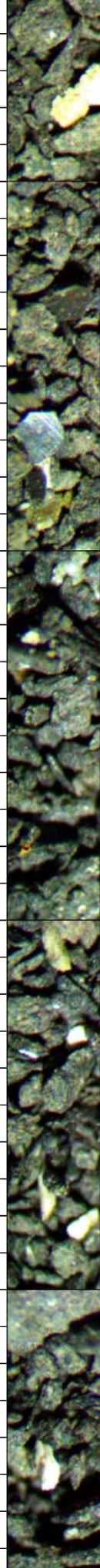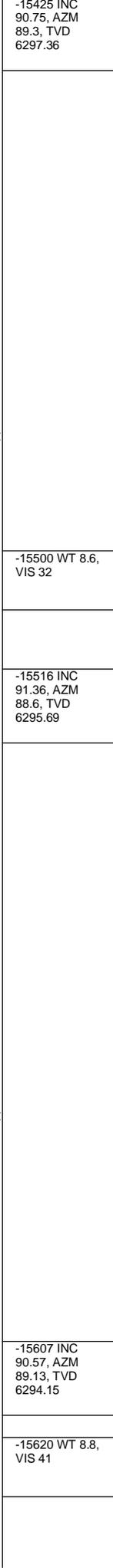
-15500 WT 8.6, VIS 32

-15516 INC 91.36, AZM 88.6, TVD 6295.69

-15425 INC

-15607 INC 90.57, AZM 89.13, TVD 6294.15

-15620 WT 8.8, VIS 41

Lithology description column (right):
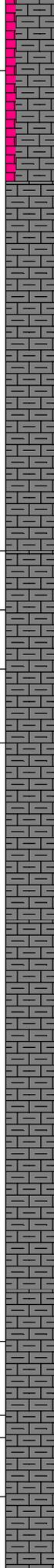
-15500 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent sme w/dissm pyr; frq fos frags; mod forams; bri cut flor; dull lt blu res cut;

-15550 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent sme w/dissm pyr; frq fos frags; mod forams; fair cut flor; dull lt blu res cut;

-15600 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent sme w/dissm pyr; frq fos frags; mod forams; fair cut flor; dull lt blu res cut;

-15650 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; mod fos frags; mod forams; fair cut flor; dull lt blu res cut;

Depth track (left): -15640, -15650, -15660, -15670, -15680, -15690, -15700, -15710, -15720, -15730, -15740, -15750, -15760, -15770, -15780, -15790, -15800, -15810, -15820, -15830, -15840, -15850
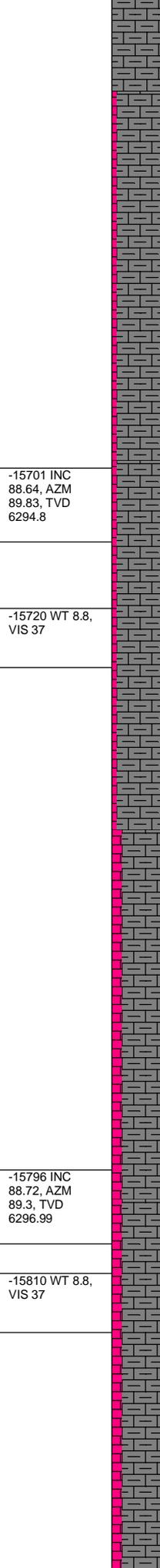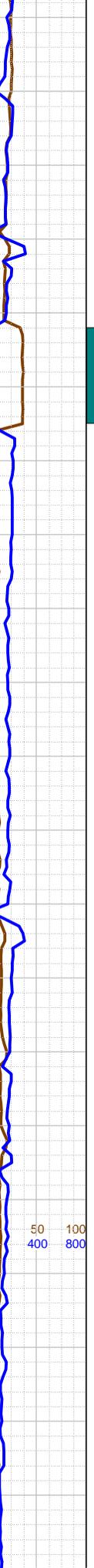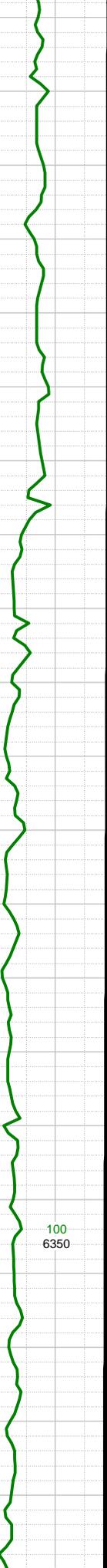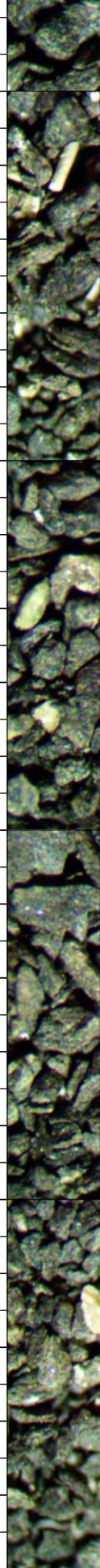
Curve scale labels:

0		100		200	0		50	100	0		50	100
6500		6350		6200	0		1000	2000	0		400	800

Annotation track (center):

-15701 INC 88.64, AZM 89.83, TVD 6294.8

-15720 WT 8.8, VIS 37

-15796 INC 88.72, AZM 89.3, TVD 6296.99

-15810 WT 8.8, VIS 37

Lithology descriptions (right):

-15700 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; tr bent; abndt fos frags; frq forams; mod bri cut flor; dull lt blu res cut;

-15750 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod bent sme w/dissm pyr; mod fos frags; mod forams; mod bri cut flor; dull lt blu res cut;

-15800 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod bent sme w/dissm pyr; mod fos frags; mod forams; fair cut flor; dull lt blu res cut;

-15850 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod bent sme w/dissm pyr; mod fos frags; mod forams; fair cut flor; dull lt blu res cut;

Depth scale (left): -15850, -15860, -15870, -15880, -15890, -15900, -15910, -15920, -15930, -15940, -15950, -15960, -15970, -15980, -15990, -16000, -16010, -16020, -16030, -16040, -16050, -16060

Curve scales (bottom):
- Green: 0 — 100 — 200; 6500 — 6350 — 6200
- Red/gray: 0 — 50 — 100; 0 — 1000 — 2000
- Brown/blue: 0 — 50 — 100; 0 — 400 — 800

Survey / mud annotations (center column):

-15891 INC 89.25, AZM 88.78, TVD 6298.66

-15910 WT 8.8, VIS 37

-15985 INC 90.75, AZM 87.81, TVD 6298.66

-16000 WT 8.9, VIS 38

Lithology descriptions (right column):

-15900 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod bent sme w/dissm pyr; mod fos frags; mod forams; mod bri cut flor; dull lt blu res cut;

-15950 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod bent sme w/dissm pyr; mod fos frags; mod forams; mod bri cut flor; dull lt blu res cut;

-16000 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod bent sme w/dissm pyr; mod fos frags; mod forams; bri cut flor; bri lt blu res cut;

-16050 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; mod fos frags; mod forams; mod bri cut flor; bri lt blu res cut;

-16100 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; mod fos frags; mod forams; bri cut flor w/streaming; bri

Depth scale (left track): -16070, -16080, -16090, -16100, -16110, -16120, -16130, -16140, -16150, -16160, -16170, -16180, -16190, -16200, -16210, -16220, -16230, -16240, -16250, -16260, -16270

Survey/annotation column:
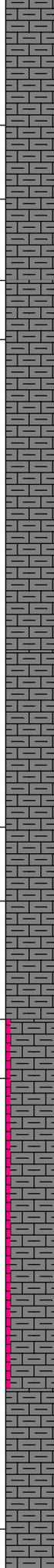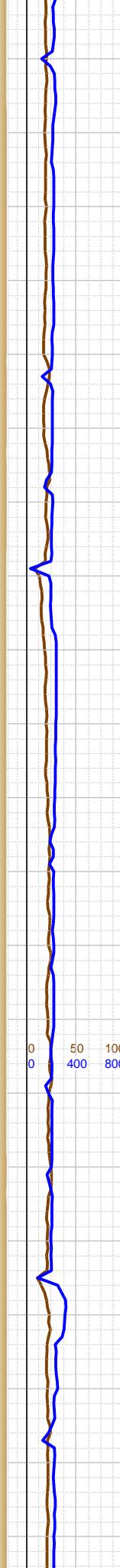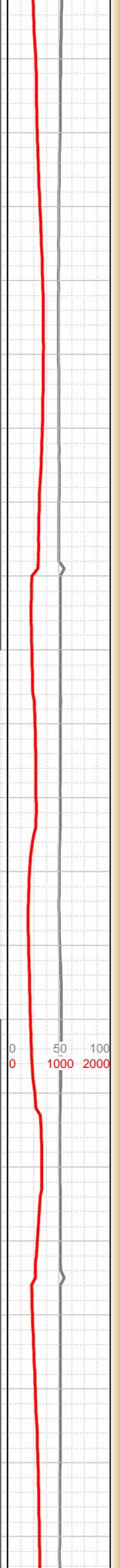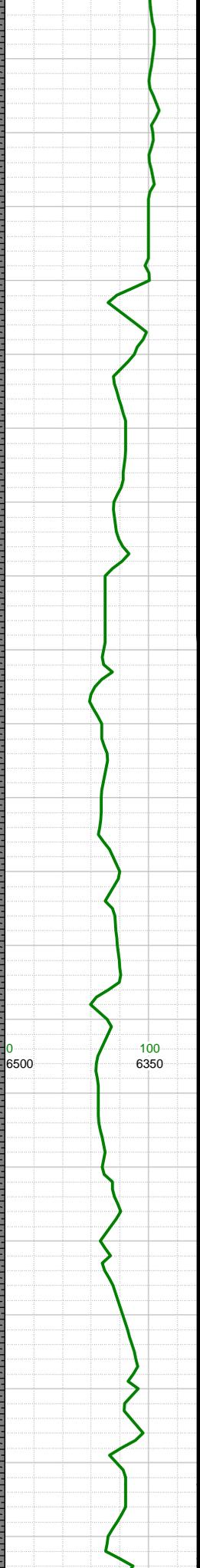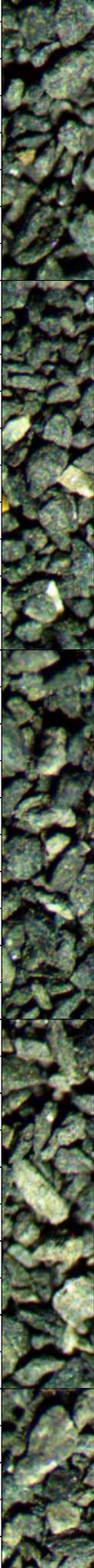
-16079 INC 90.4, AZM 87.81, TVD 6297.73

-16100 WT 8.9, VIS 38

-16174 INC 90.04, AZM 87.72, TVD 6297.36

-16200 WT 8.9, VIS 37

-16269 INC 90.22, AZM 87.28, TVD

Curve scales:

| 0 | 100 | 200 | 0 | 50 | 100 | 0 | 50 | 100 |
| 6500 | 6350 | 6200 | 0 | 1000 | 2000 | 0 | 400 | 800 |

Lithology description (right column):

lt blu res cut;

-16150 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; mod fos frags; mod forams; bri cut flor; bri lt blu res cut;

-16200 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; mod fos frags; mod forams; mod bri cut flor; bri lt blu res cut;

-16250 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; CHK: lt-med gy-brn, sft-sbfrm, sbblky, mot, v calc, rthy lstr; mod fos frags; mod forams; bri cut flor w/streaming; bri lt blu res cut;

-16300 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; tr bent; mod fos frags; mod forams; bri cut flor; bri lt blu res cut;

Depth scale (left axis): -16280, -16290, -16300, -16310, -16320, -16330, -16340, -16350, -16360, -16370, -16380, -16390, -16400, -16410, -16420

-16297.14

-16300 WT 8.9, VIS 37

-16332 INC 89.78, AZM 87.19, TVD 6297.14

-16391 WT 8.9, VIS 37

-16391 Reached horizontal TD at 16391' MD, 6297.14' TVD at 1740 hrs on 10/28/2015.

-16350 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; mod forams; bri cut flor; bri lt blu res cut;

-16391 MARL: dk gy-blk, sbblky-sbplty, sft-sbfrm, mod calc, sl arg; mod fos frags; mod forams; bri cut flor; bri lt blu res cut;

TOTAL DEPTH =   16391'

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