

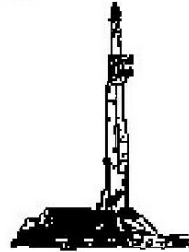
GOOLSBY BROTHERS
and associates, inc.

575 Union Blvd, Suite 208
Lakewood, CO 80228
303-945-2860 Office



Geological Wellsite
Supervision

www.goolsbybrothers.com



Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name: Front Range Farms 37C-14HZ
API: 05123394350000
Location: Section 11, T1N, R68W
License Number: Region: Wattenberg, DJ Basin
Spud Date: December 29, 2014 Drilling Completed: December xx, 2014
Surface Coordinates: NWSE Sec 11 T1N R68W; 2441' FSL & 701' FEL
Lat N 40.065219 Long W -104.963697
Bottom Hole SESE Sec 14 T1N R68W; 199'FSL & 269.62'FEL
Coordinates:
Ground Elevation (ft): 5067' K.B. Elevation (ft): 5083'
Logged Interval (ft): 7000' To: 15137' Total Depth (ft): 15137'
Formation: Pierre Shales/Sands, Niobrara Target
Type of Drilling Fluid: Water & Poly to 7000', LSND 7000'-15137'

Printed by HORIZONTAL.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Kerr-McGee Oil & Gas Onshore LP
Address: Granite Tower - 1099 18th St, Ste 1800
Denver, CO 80202
CO Geologist, Ian Harris

GEOLOGIST

Name: Brian Spitzmiller & Andrew Krueger
Company: Goolsby Brothers & Assoc. (GBA), Inc. (www.goolsbybrothers.com)
Address: 575 Union Blvd.
Suite 208,
Lakewood CO. 80228

E-logs

MWD GR 7035-15087'

Casing

9 5/8" Surface Casing set @ 1339' MD


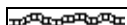
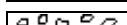
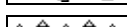
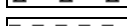
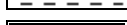
7" Intermediate Casing set @ 8028' MD






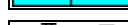
4 1/2" Production Liner hung 1/8/2015, landed @ 15130'




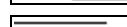

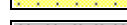
Comments




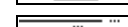
- 1) Drilling Contractor: Xtreme Drilling, Rig #20
Toolpusher: Joseph Contreras & Jared Glass
- 2) Company Man: Marvin Hackworth & Jerry Bell
- 3) Mud Company : AES
Engineer: Gober Howell
- 4) Directional Drilling: Baker Hughes
Pulse Tool
Drillers: Travis Wilcox & Adam Schlenz
MWD: Brian Severson & Ramnik Singh
- 5) Gas Equipment: Pason Systems
- 6) Wellsite Geology: Goolsby Brothers & Associates
Geologists: Brian Spitzmiller & Andrew Krueger

ROCK TYPES

	Anhy
	Bent
	Brec
	Cht
	Clyst
	Coal

	Oil sat.
	Congl
	Dol
	Gyp
	Lmst
	Mrlst

	Salt
	Shale
	Shcol
	Shgy
	Ss
	Sltst

	Ss
	Chalk
	Carb sh
	Sltly sh

ACCESSORIES

MINERAL

	Anhy
	Arggrn
	Arg
	Bent
	Bit
	Brecfrag
	Calc
	Carb
	Chtdk
	Chtlit
	Dol
	Feldspar
	Ferrpel
	Ferr
	Glau
	Gyp
	Hvymin
	Kaol
	Marl

	Minxl
	Nodule
	Phos
	Pyr
	Salt
	Sandy
	Silt
	Sil
	Sulphur
	Tuff

FOSSIL

	Algae
	Amph
	Belm
	Bioclst
	Brach
	Bryozoa
	Cephal
	Coral

	Crin
	Echin
	Fish
	Foram
	Fossil
	Gastro
	Oolite
	Ostra
	Pelec
	Pellet
	Pisolite
	Plant
	Strom

STRINGER

	Chlkstg
	Anhy
	Arg
	Bent
	Coal

	Dol
	Gyp
	Ls
	Mrst
	Sltstrg
	Ssstrg

TEXTURE

	Boundst
	Chalky
	Cryxln
	Earthy
	Finexln
	Grainst
	Lithogr
	Microxln
	Mudst
	Packst
	Wackest

OTHER SYMBOLS

OIL SHOWS

	Even
	Spotted
	Ques
	Dead
	Vspotty
	near even

POROSITY TYPE

	Earthy
	Fenest
	Fracture
	Inter
	Moldic
	Organic

	Pinpoint
	Vuggy

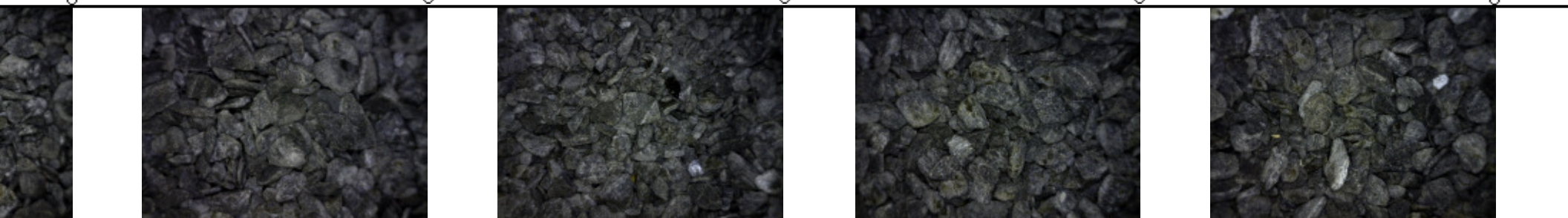
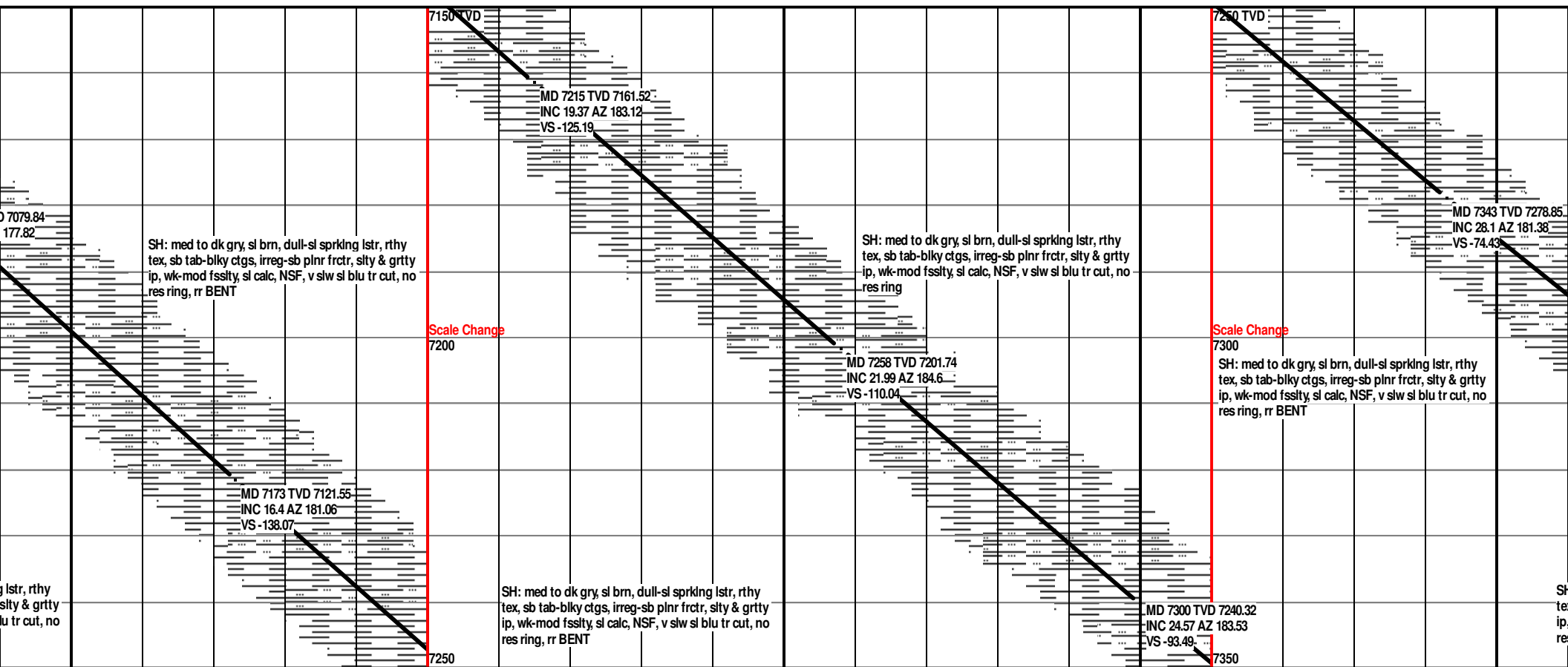
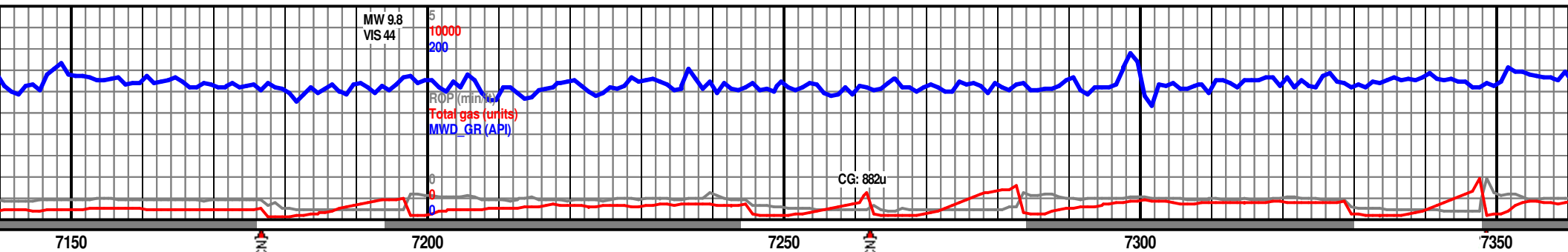
ROUNDING

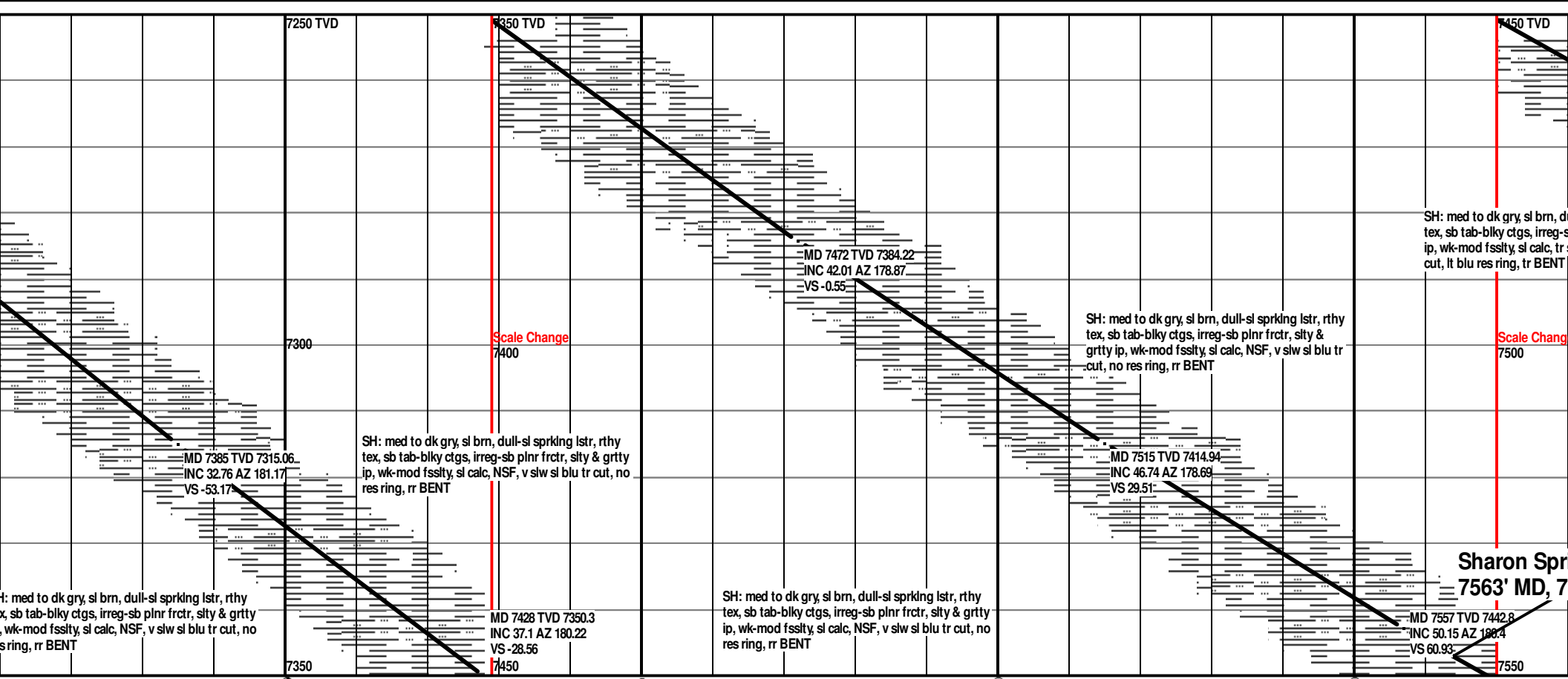
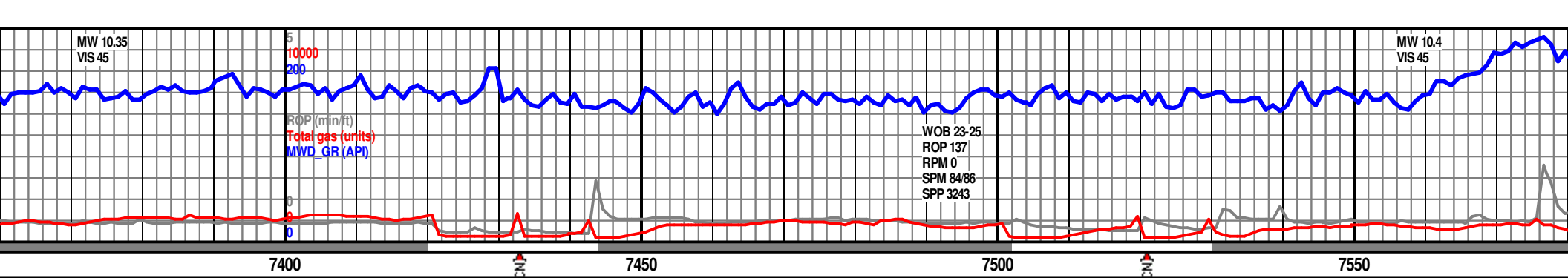
	Rounded
	Subrnd
	Subang

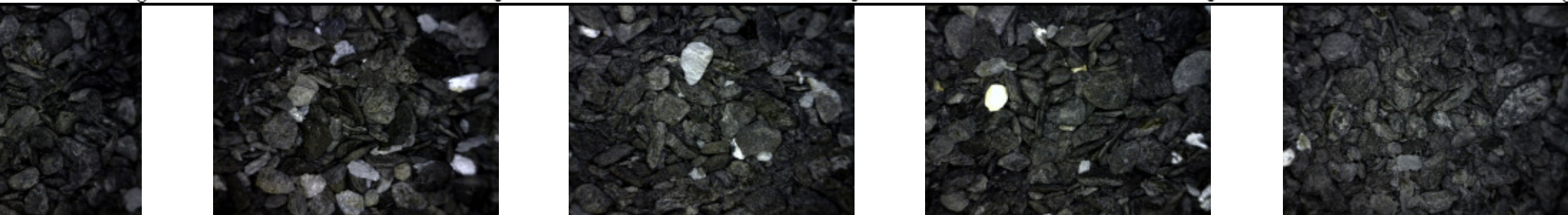
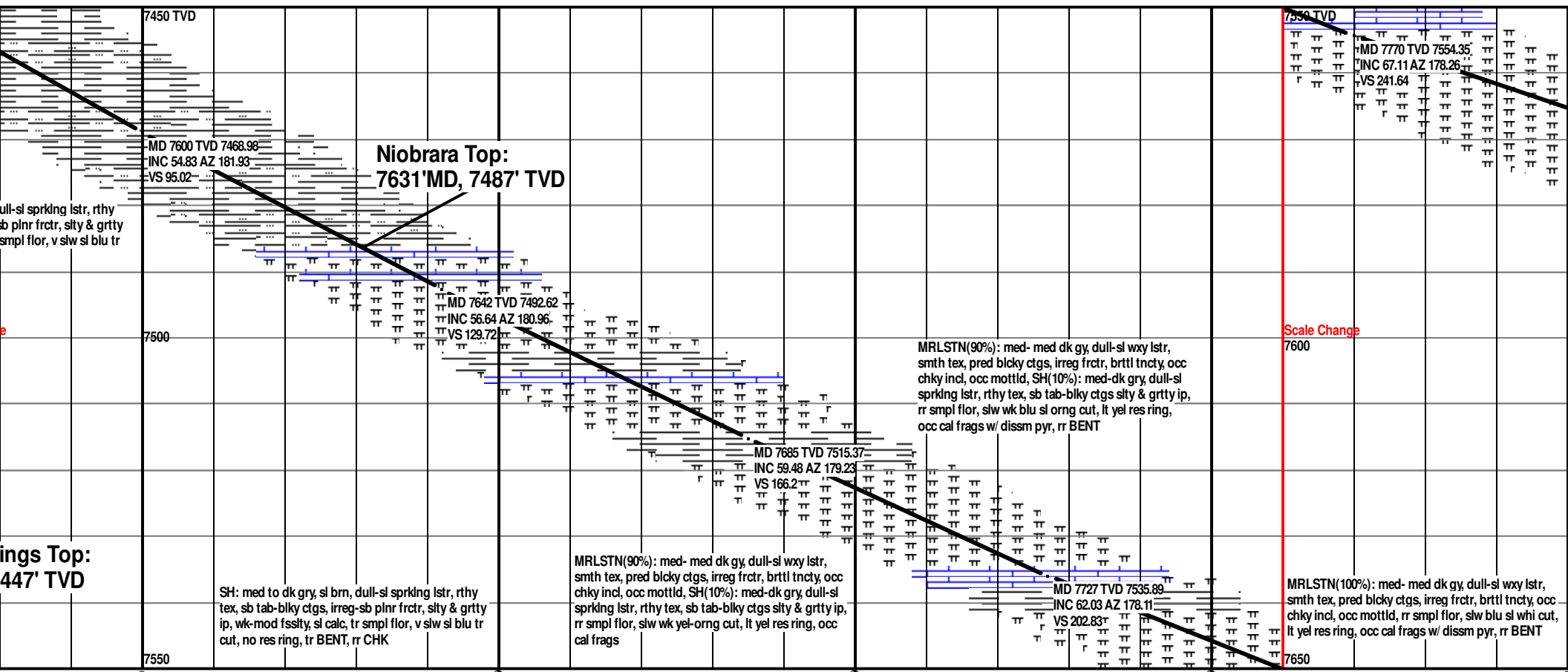
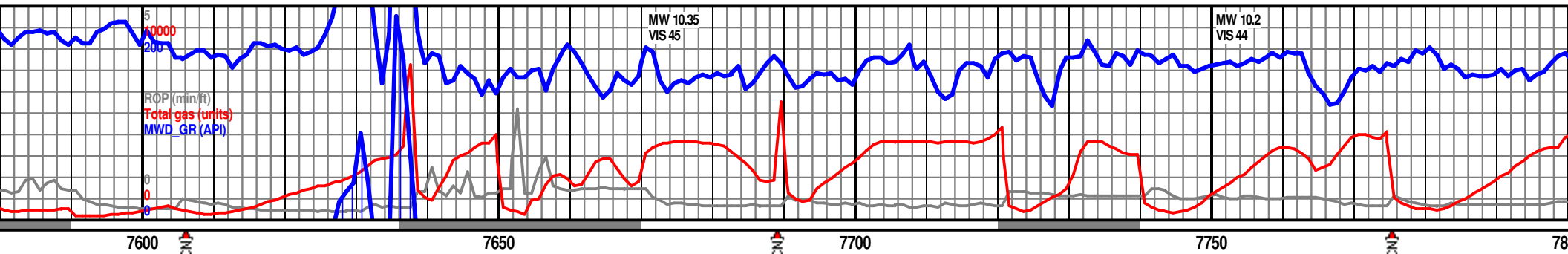
	Angular
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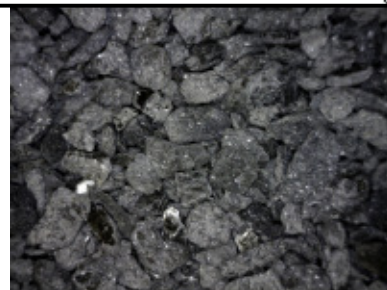
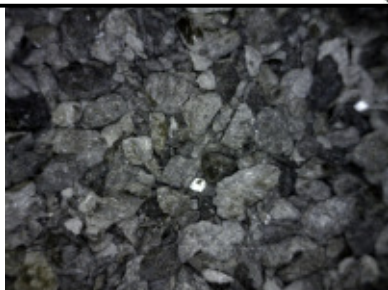
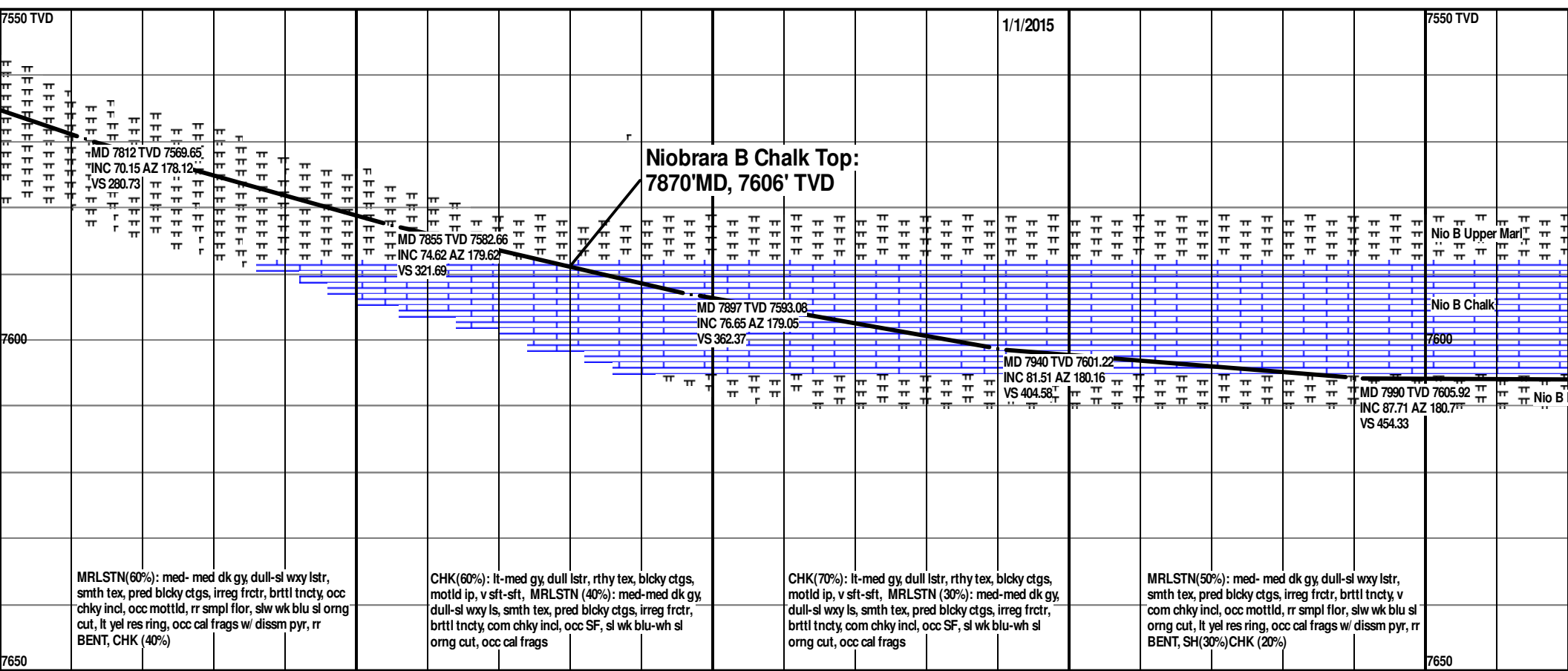
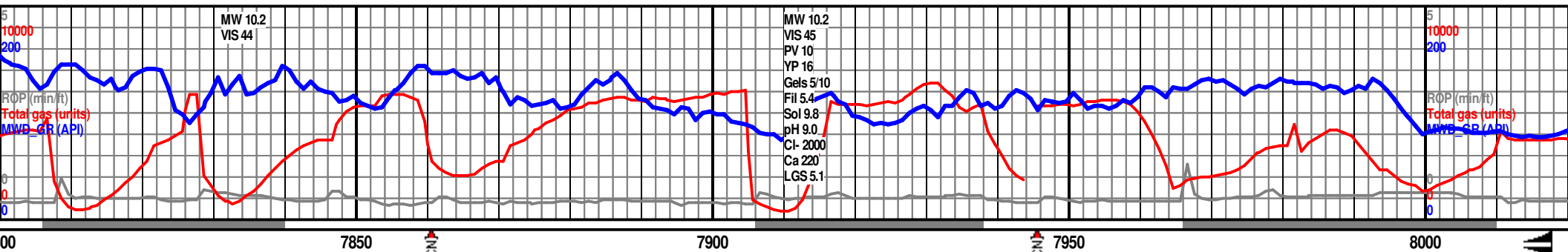
SORTING

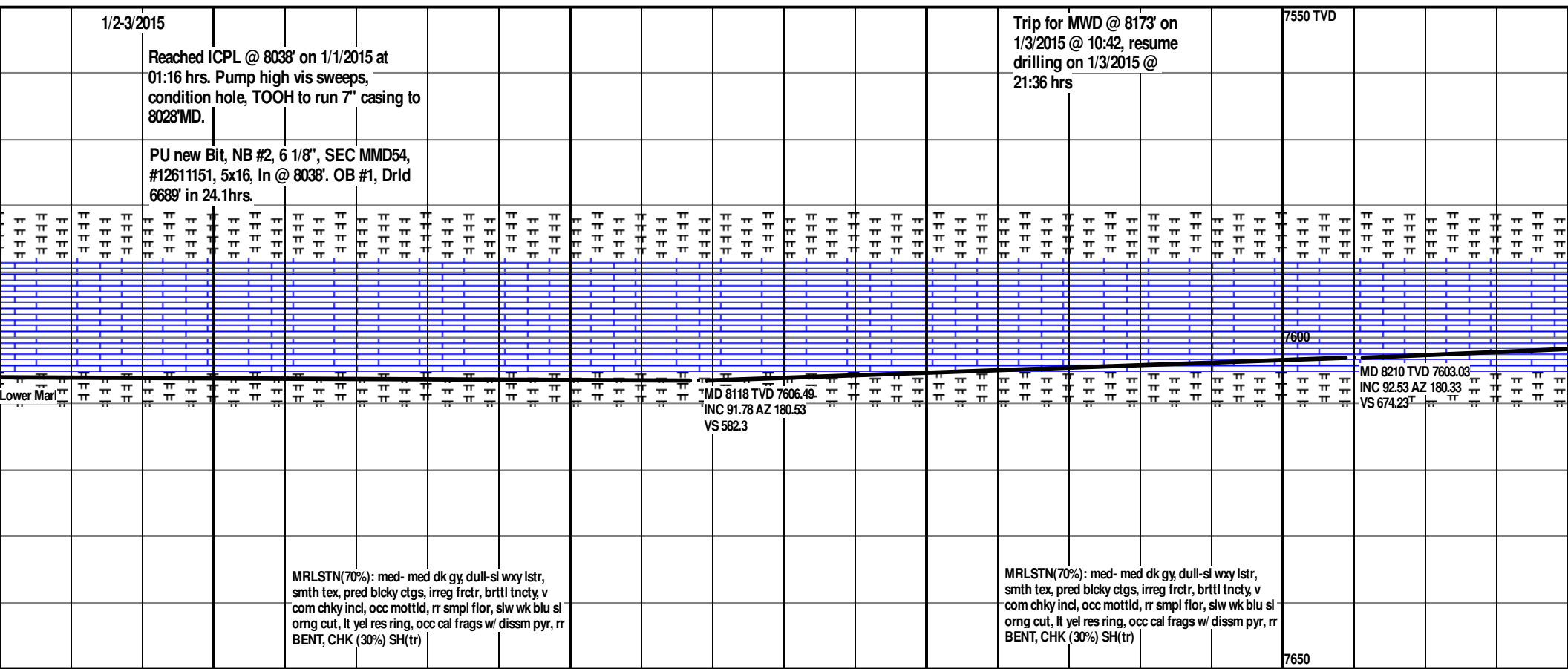
	Well
	Moderate
	Poor

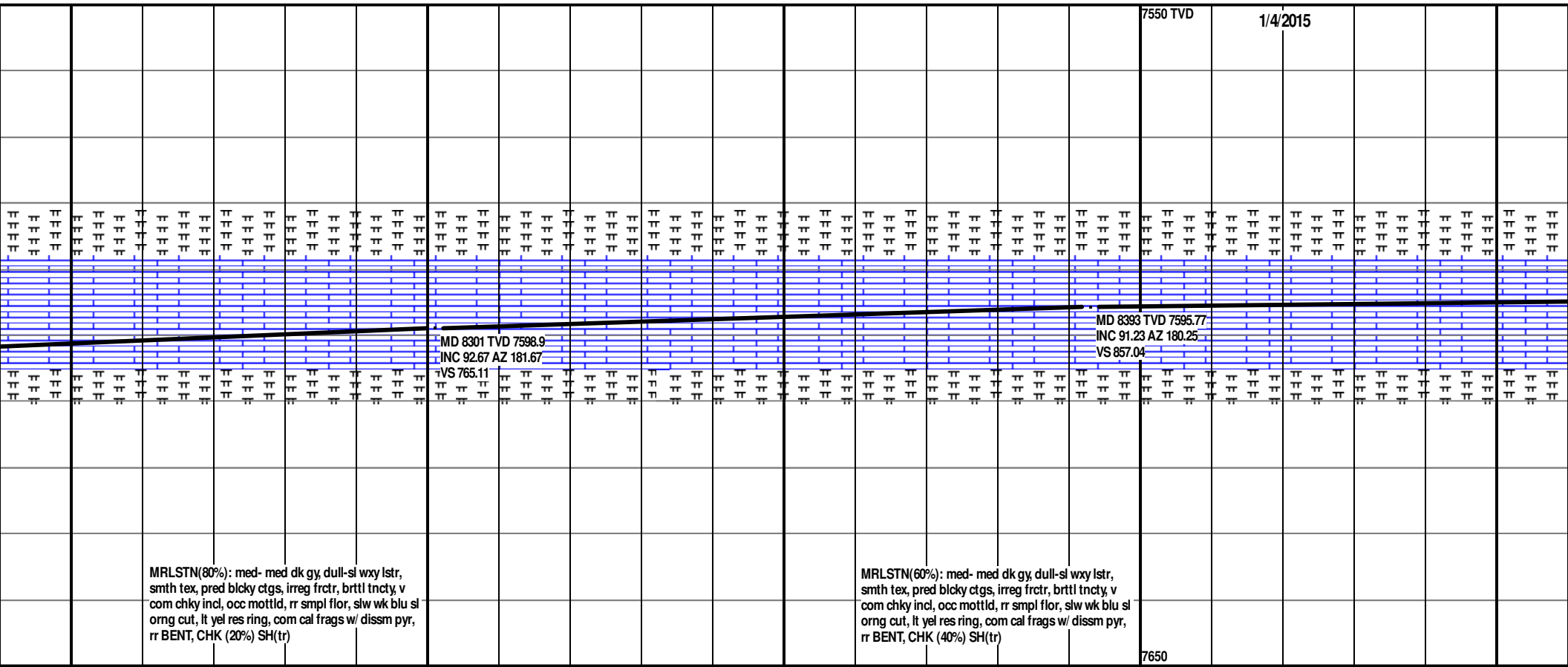


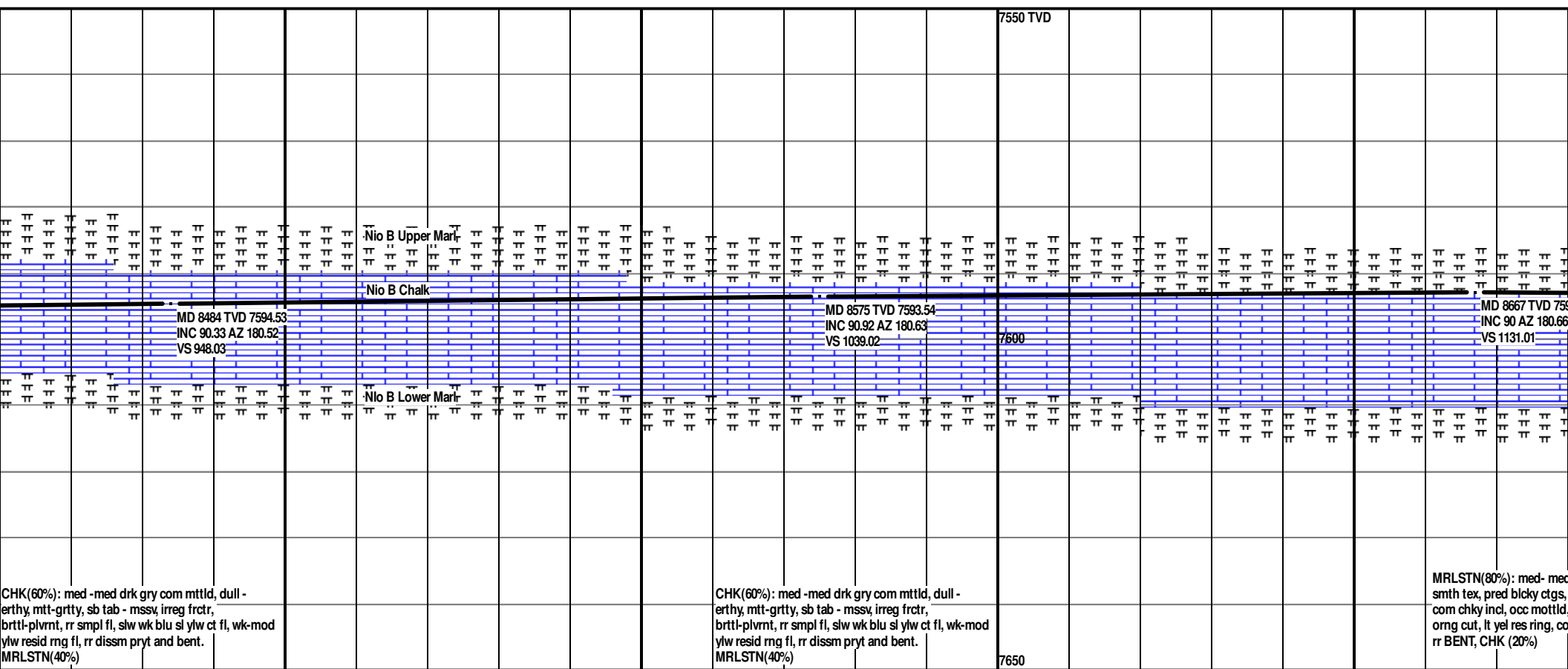
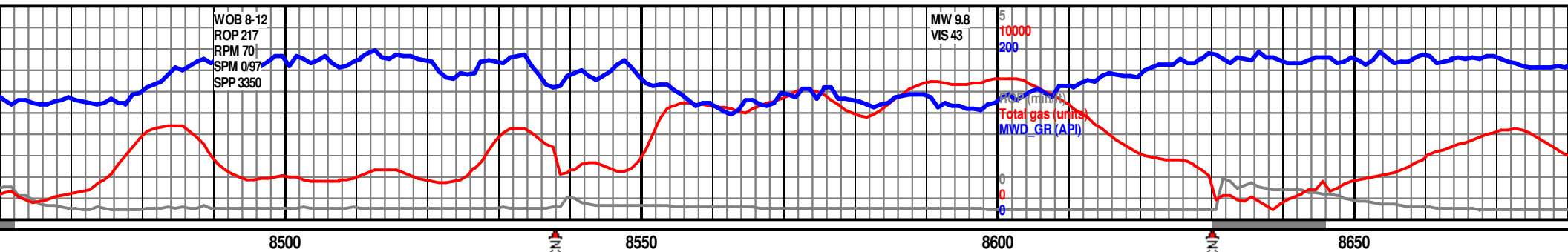


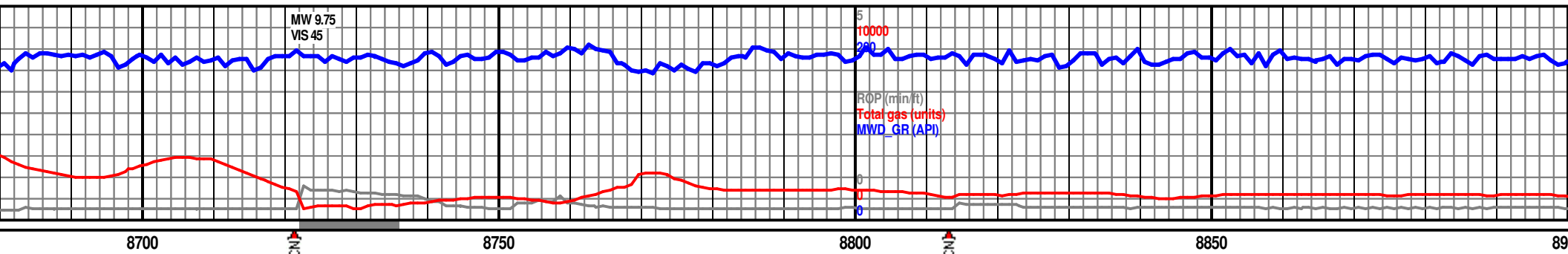




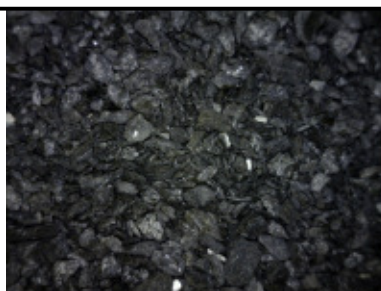


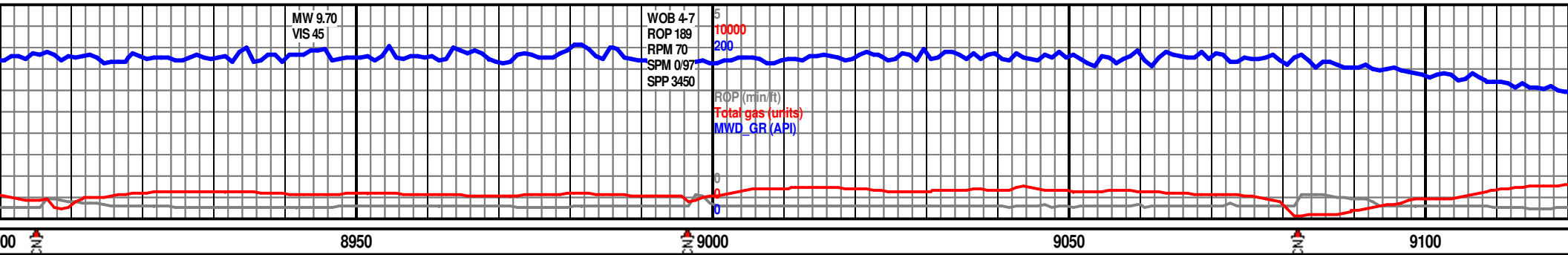






<p>MD 8758 TVD 7593.47 INC 89.16 AZ 180.28 VS 1222</p>		<p>MD 8850 TVD 7594.74 INC 89.25 AZ 180.13 VS 1313.99</p>	
<p>dk gy, dull-sl wxy lstr, irreg frctr, brttl tncy, v rr smpl flor, slw wk blu sl om cal frags w/ dissim pyr,</p>	<p>MRLSTN(80%): med- med dk gy, dull-sl wxy lstr, smth tex, pred blkcy ctgs, irreg frctr, brttl tncy, v com chky incl, occ mottld, rr smpl flor, slw wk blu sl org cut, lt yel res ring, com cal frags w/ dissim pyr, rr BENT, CHK (20%)</p>		<p>MRLSTN(80%): med- med dk gy, dull-sl wxy lstr, smth tex, pred blkcy ctgs, irreg frctr, brttl tncy, v com chky incl, occ mottld, rr smpl flor, slw wk blu sl org cut, lt yel res ring, com cal frags w/ dissim pyr, rr BENT, CHK (20%)</p>





7550 TVD									
Nio B Upper Marl									
7600									
Nio B Chalk									
7650									
Nio B Lower Marl									
7650									

MD 8941 TVD 7595.9
INC 89.29 AZ 180.65
VS 1404.98

MD 9026 TVD 7596.57
INC 89.81 AZ 180.35
VS 1489.97

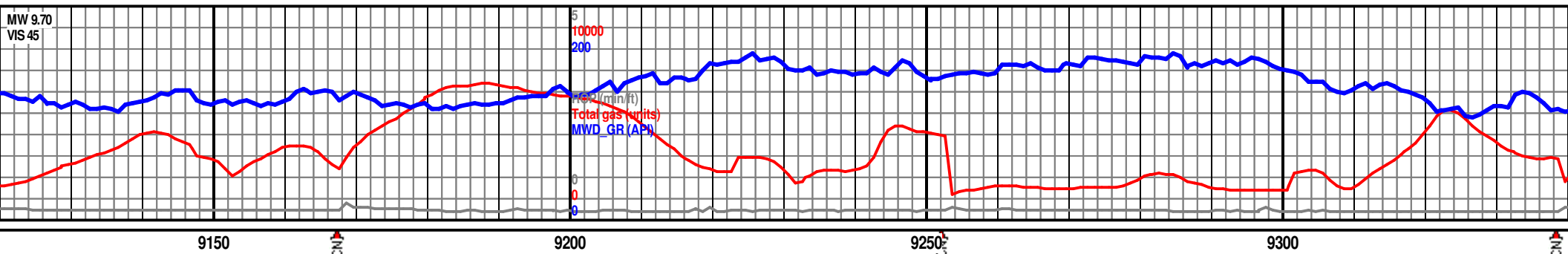
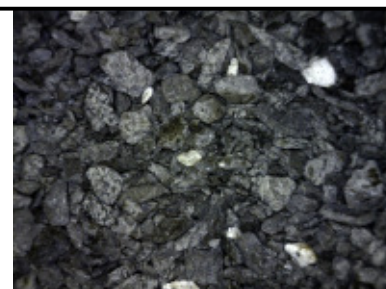
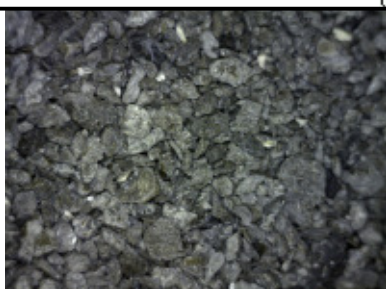
MD 9111 TVD
INC 89.56 AZ
VS 1574.97

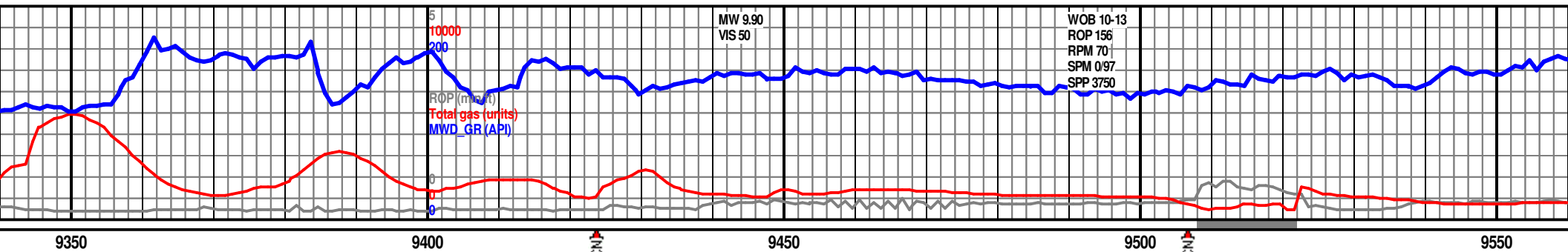
MRLSTN(80%): med- med dk gy, dull-sl wxy lstr, smth tex, pred bcky ctgs, irreg frctr, brttl tncy, v com chky incl, occ mottld, rr smpl flr, slw wk blu sl orng cut, lt yel res ring, com cal frags w/ dissim pyr, rr BENT, CHK (20%)

CHK(70%): med -med drk gry com mttld, dull -erthy, mtt-grtty, sb tab - mssv, irreg frctr, brttl-plvmt, rr smpl fl, slw wk blu sl ylw ct fl, wk-mod ylw resid mg fl, rr dissim pryt and bent. MRLSTN(30%)

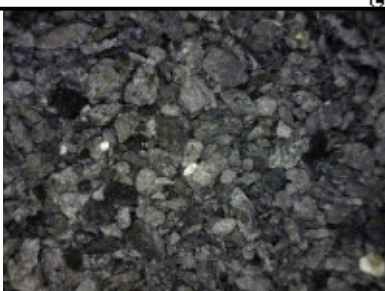


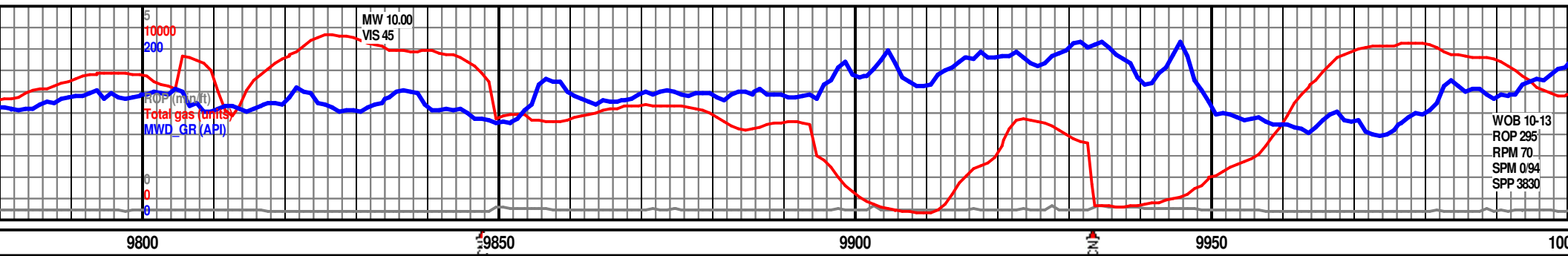
MW 9.70
VIS 45

[illegible]



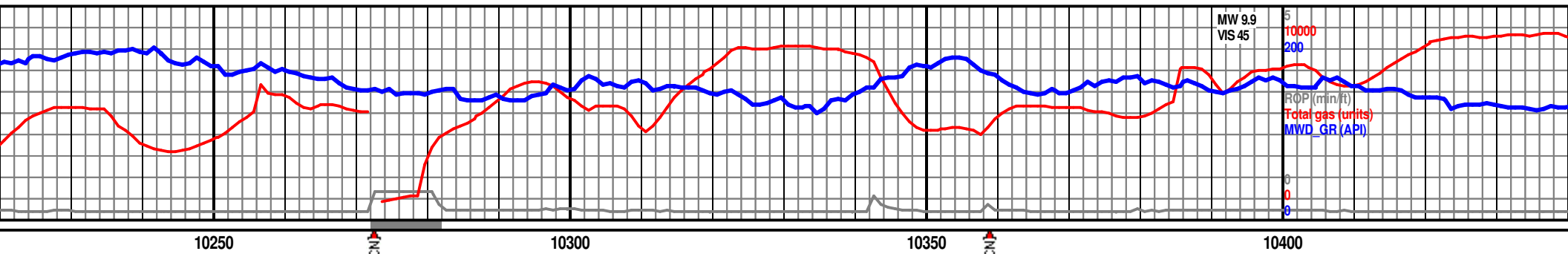
7550 TVD																			
MD 9367 TVD 7596.07 INC 90.83 AZ 179.93 VS 1830.96																			
7600																			
MD 9452 TVD 7594.73 INC 90.98 AZ 180.49 VS 1915.95																			
MD 9538 TVD 7594.72 INC 89.03 AZ 179.67 VS 2001.94																			
7650																			
CHK(70%): med-med drk gry com mttld, dull - erthy, mtt-grtty, sb tab - mssv, irreg frctr, brttl-plvmt, rr smpl fl, slw wk blu sl ylw ct fl, wk-mod ylw resid rng fl, rr dissim pryt and bent. MRLSTN(30%)																			



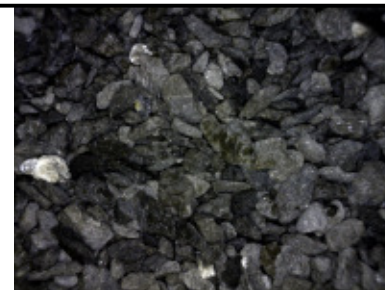
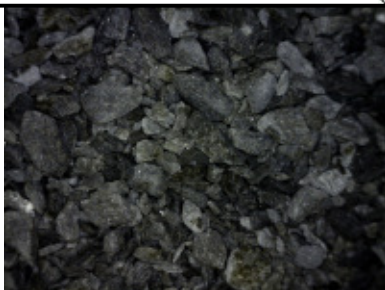


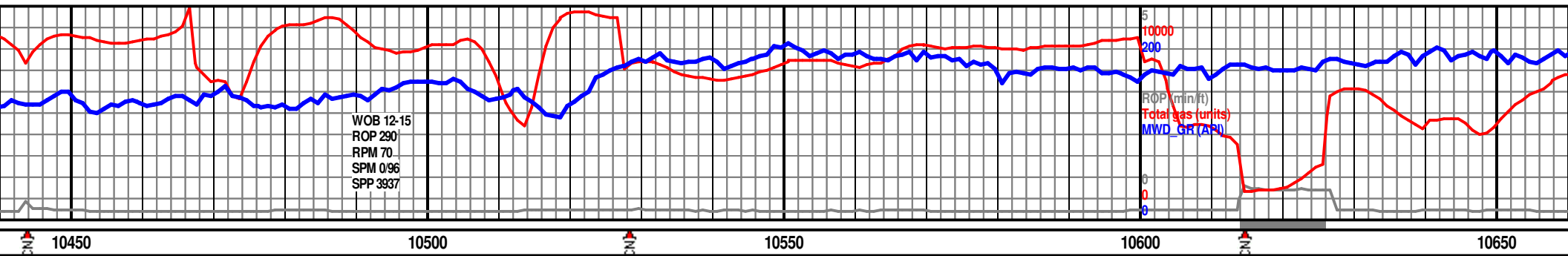
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MD 9792 TVD 7598.92 INC 90.03 AZ 179.51 VS 2255.89									
MD 9877 TVD 7598.56 INC 90.46 AZ 179.65 VS 2340.89									
MD 9962 TVD 7597.58 INC 90.86 AZ 178.86 VS 2425.88									
CHK(90%): med -med drk gry com mttld, dull -erthy, mtt-grtty, sb tab - mssv, irreg frctr, brttl-plvrnt, rr smpl fl, slw wk blu sl ylw ct fl, wk-mod ylw resid rng fl, rr dissn pryt and bent. MRLSTN(10%)									
CHK(90%): med -med drk gry com mttld, dull -erthy, mtt-grtty, sb tab - mssv, irreg frctr, brttl-plvrnt, rr smpl fl, slw wk blu sl ylw ct fl, wk-mod ylw resid rng fl, rr dissn pryt and bent. MRLSTN(10%)									





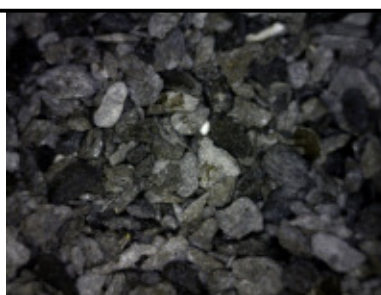
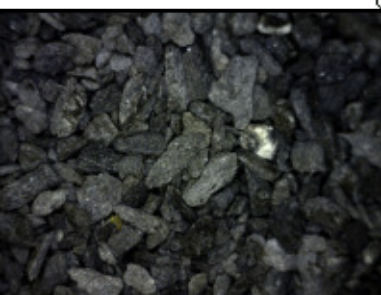
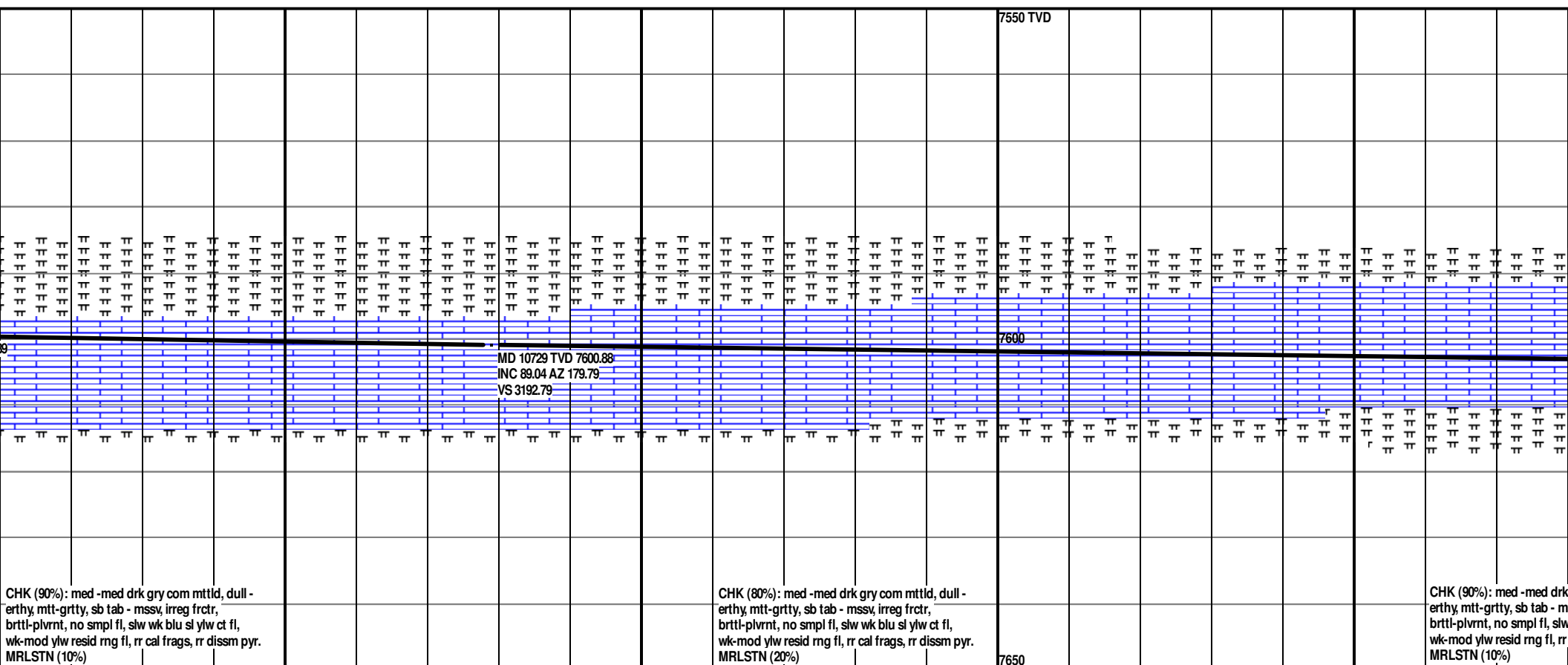
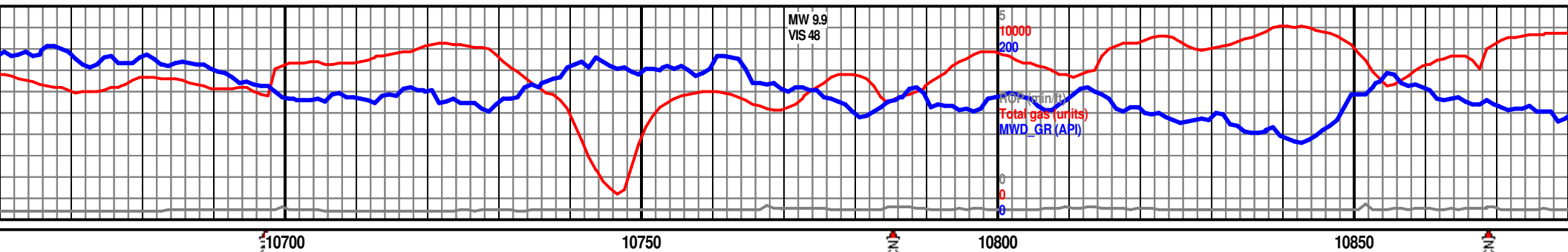
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TVD																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							

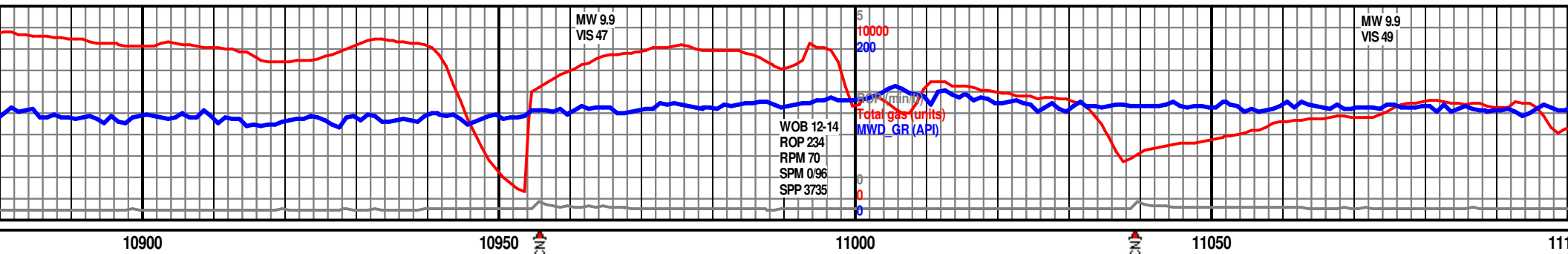




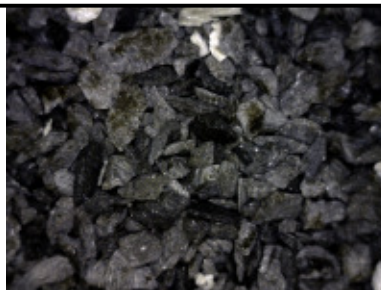
Nio B Upper Marl.										Nio B Chalk										Nio B Lower Marl.									
MD 10474 TVD 7598.91 INC 89.72 AZ 179.92 VS 2937.81										MD 10559 TVD 7598.87 INC 90.34 AZ 180.03 VS 3022.81										MD 10644 TVD 7599.3 INC 88.95 AZ 179.5 VS 3107.81									
CHK(80%): med -med drk gry com mttld, dull - erthy, mtt-grtty, sb tab - mssv, irreg frctr, brttl-plvmt, no smpl fl, slw wk blu sl ylw ct fl, wk-mod ylw resid rng fl, rr cal frags. MRLSTN (20%)										CHK(80%): med -med drk gry com mttld, dull - erthy, mtt-grtty, sb tab - mssv, irreg frctr, brttl-plvmt, no smpl fl, slw wk blu sl ylw ct fl, wk-mod ylw resid rng fl, rr cal frags, rr dissim pyr. MRLSTN (20%)																			

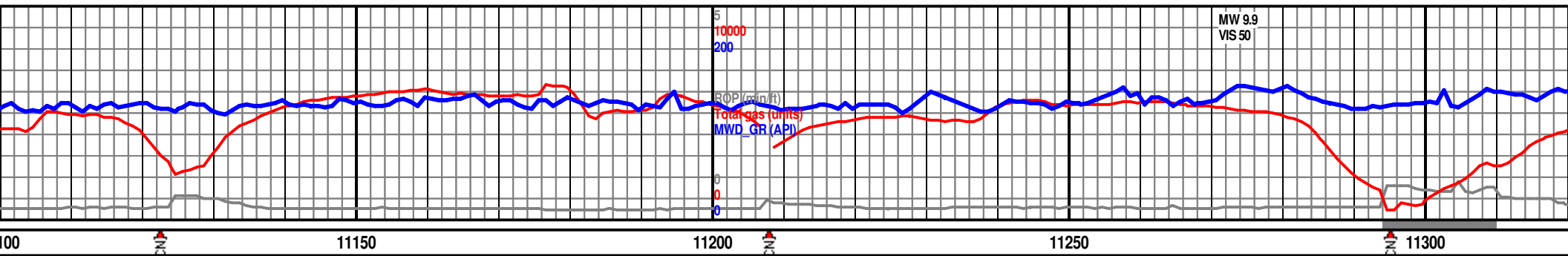






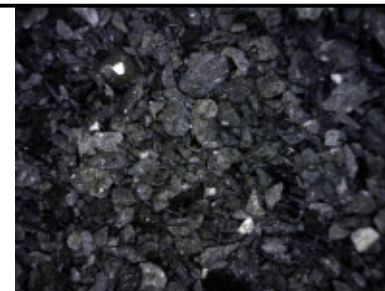
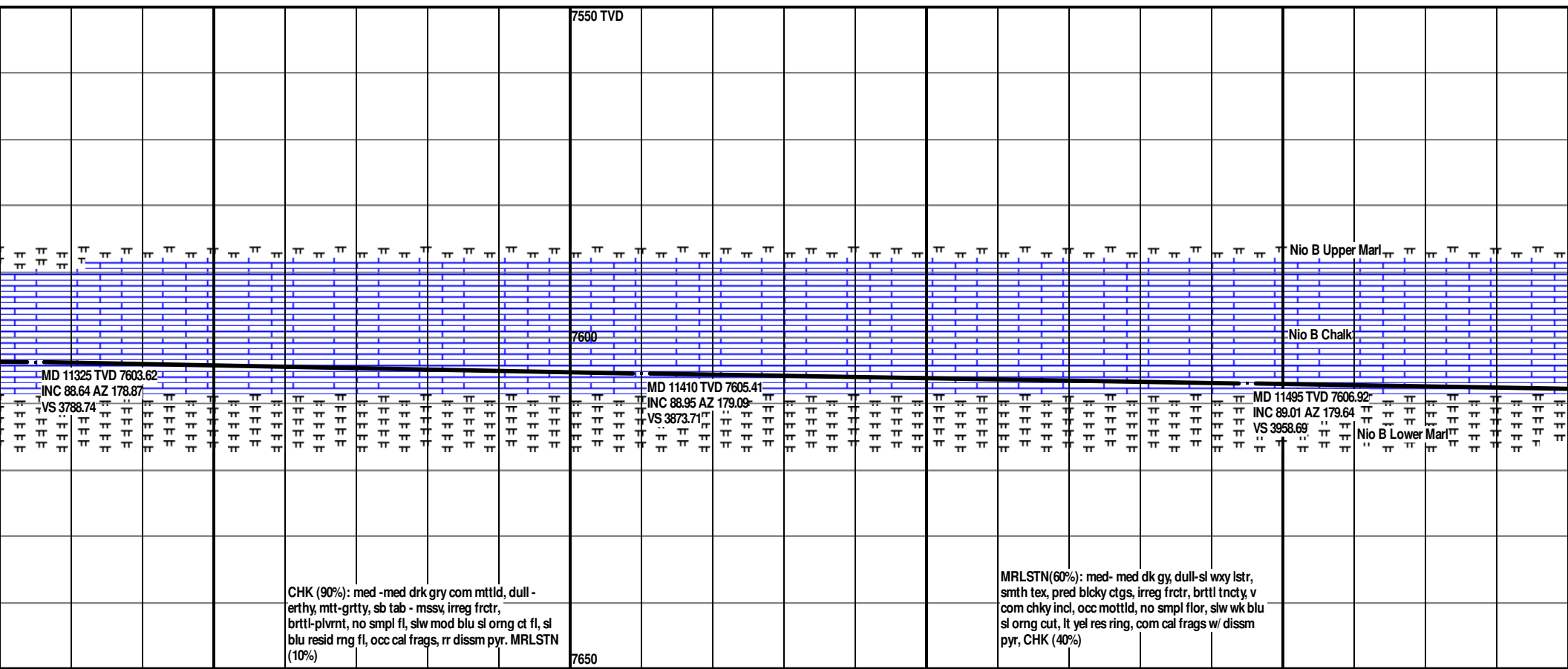
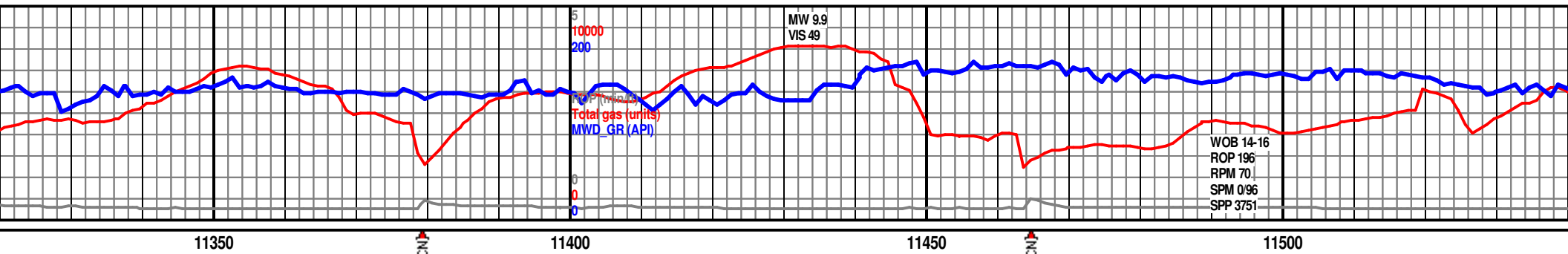
MD 10899 TVD 7603.18 INC 89.41 AZ 180.16 VS 3362.78										MD 11069 TVD 7603.97 INC 90.06 AZ 179.91 VS 3532.77									
gry com mttld, dull - ssv, irreg frctr, wk blu sl ylw ct fl, cal frags, rr dissim pyr.										CHK (70%): med -med drk gry com mttld, dull - erthy, mtt-grtty, sb tab - mssv, irreg frctr, brttl-plvrnt, no smpl fl, slw mod blu sl orng ct fl, sl blu resid rng fl, rr cal frags, rr dissim pyr. MRLSTN (20%)									

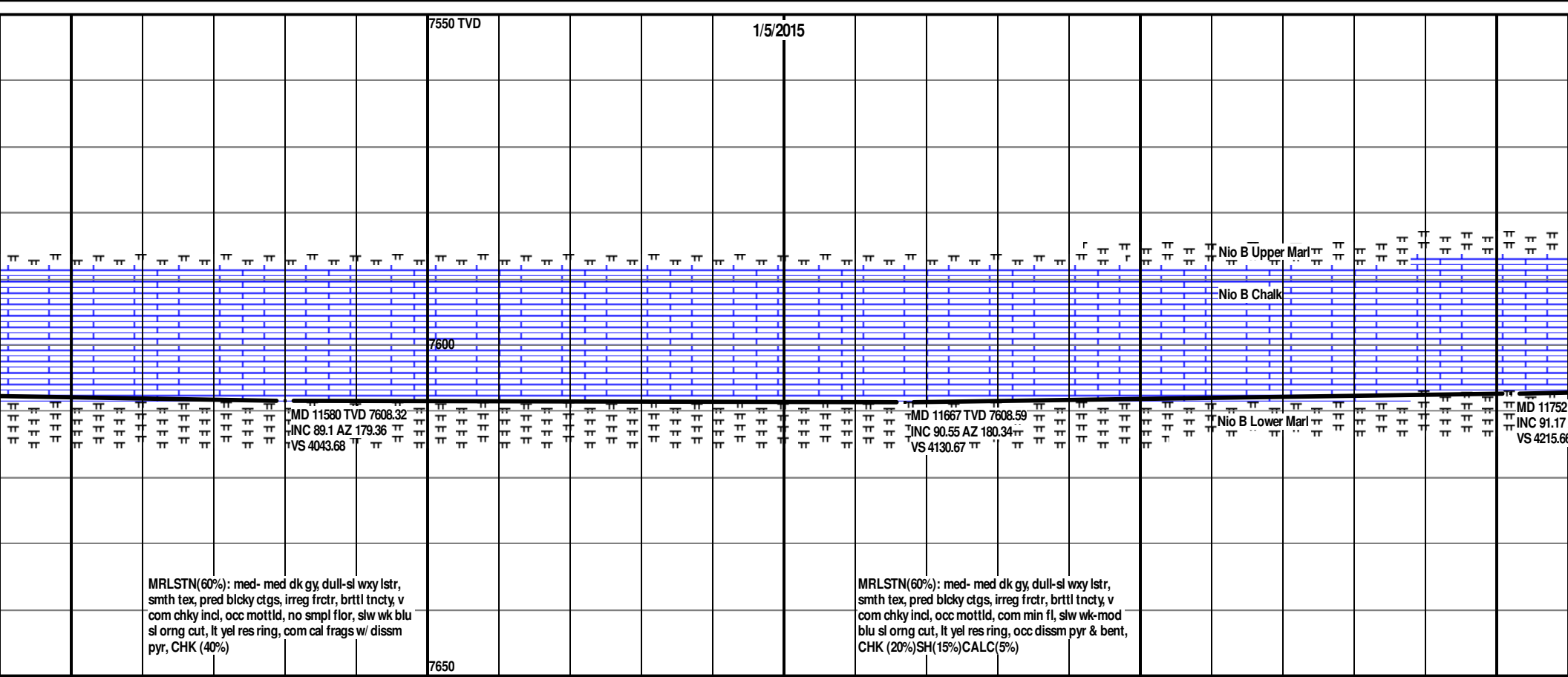
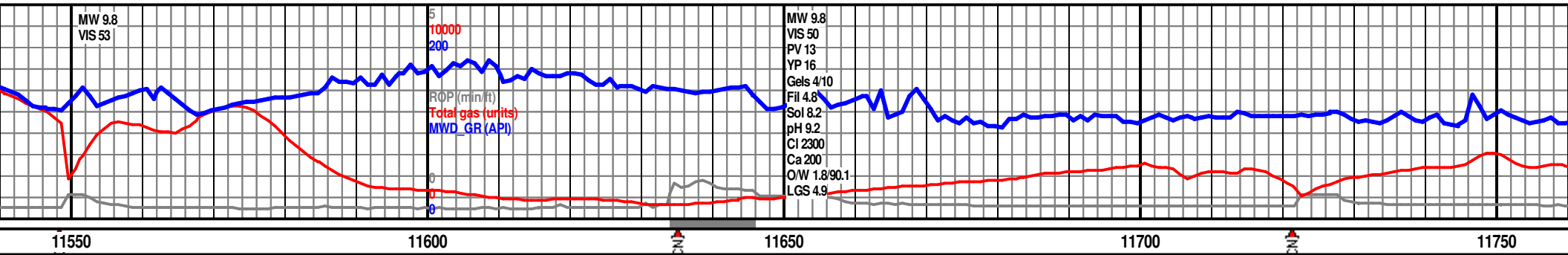


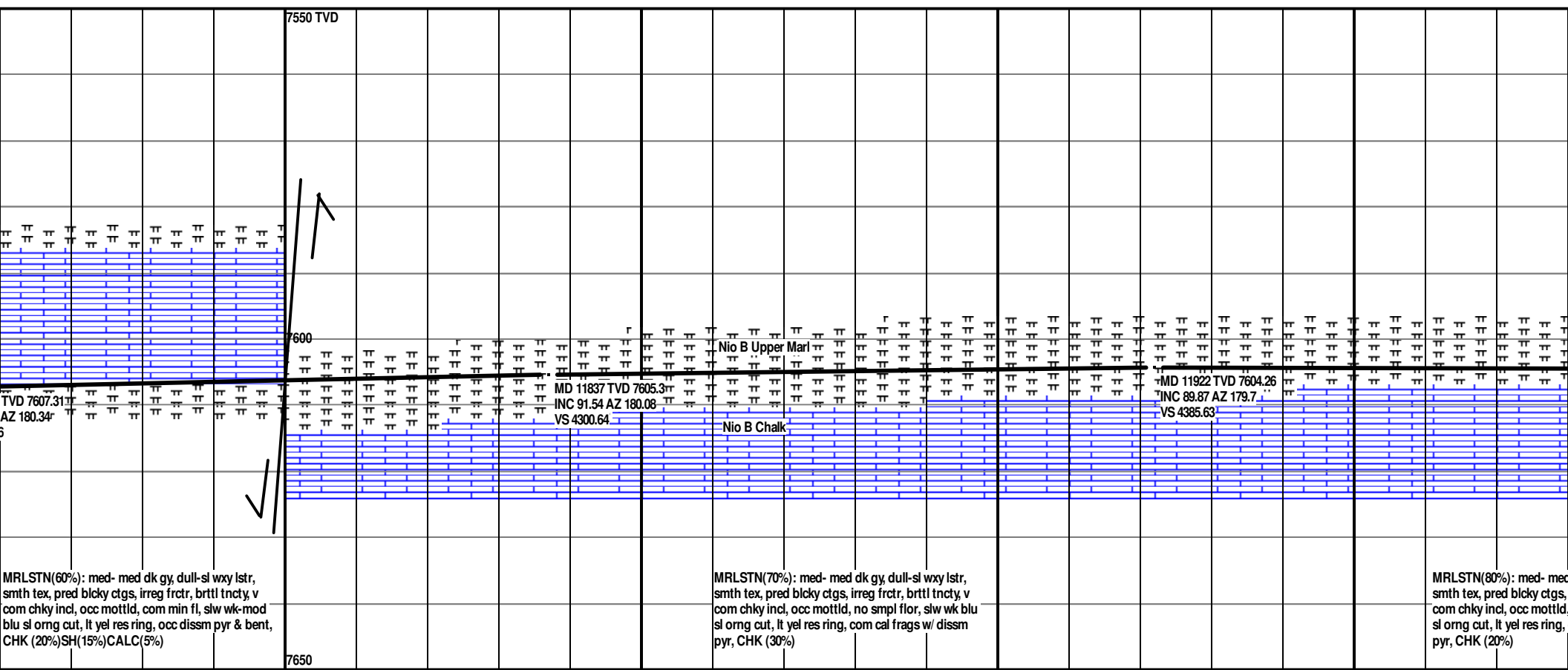
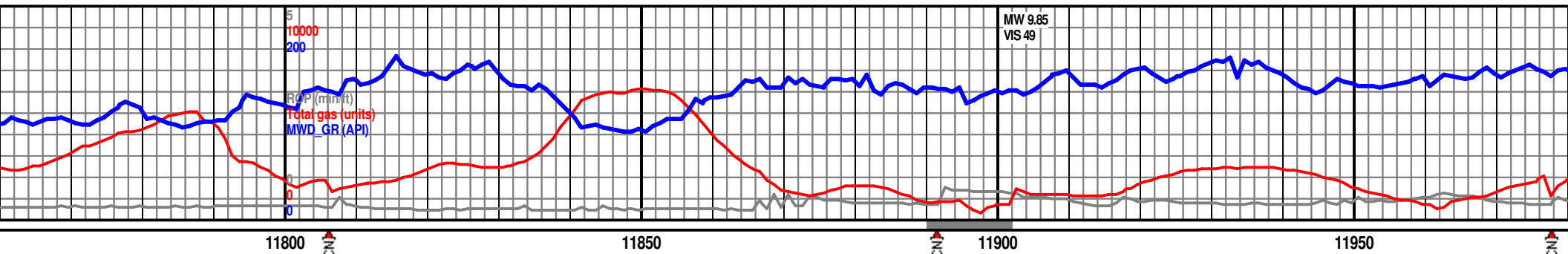


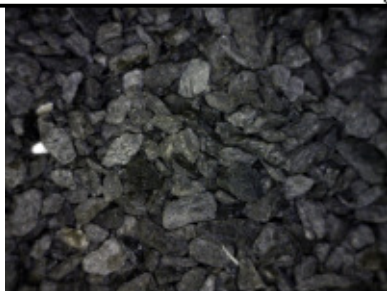
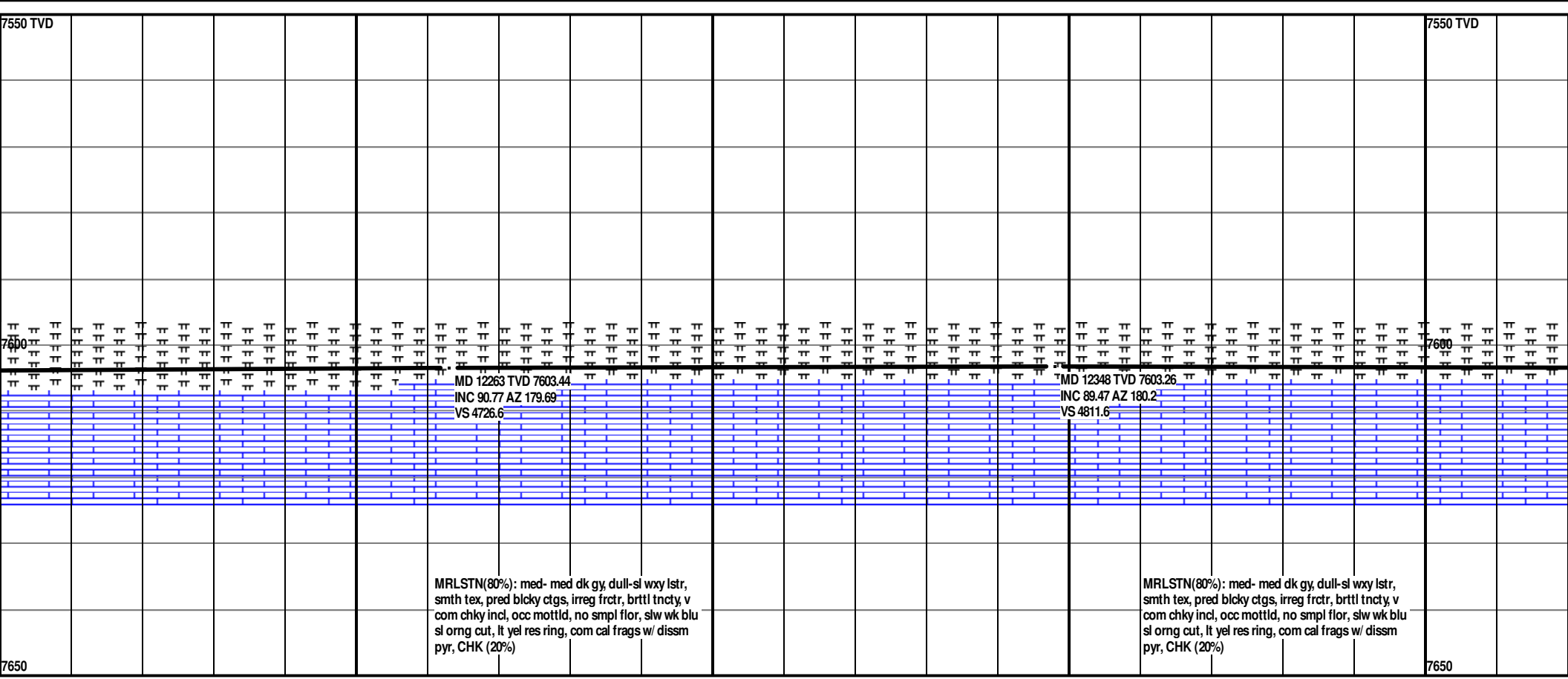
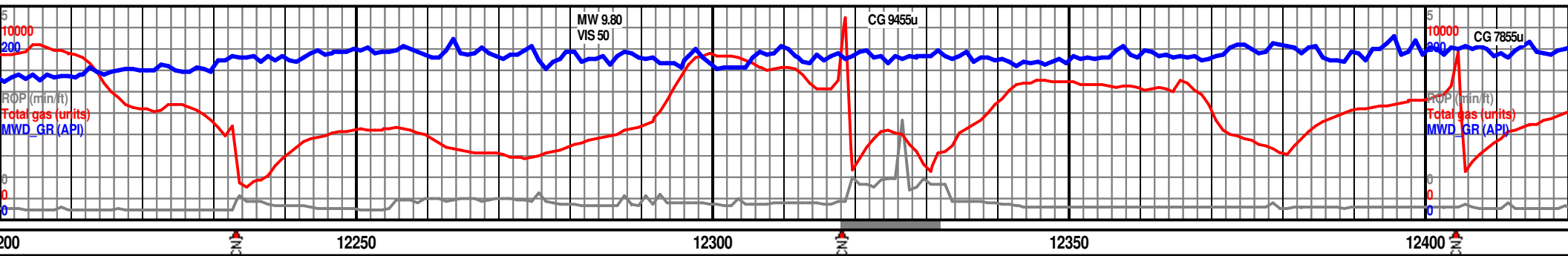
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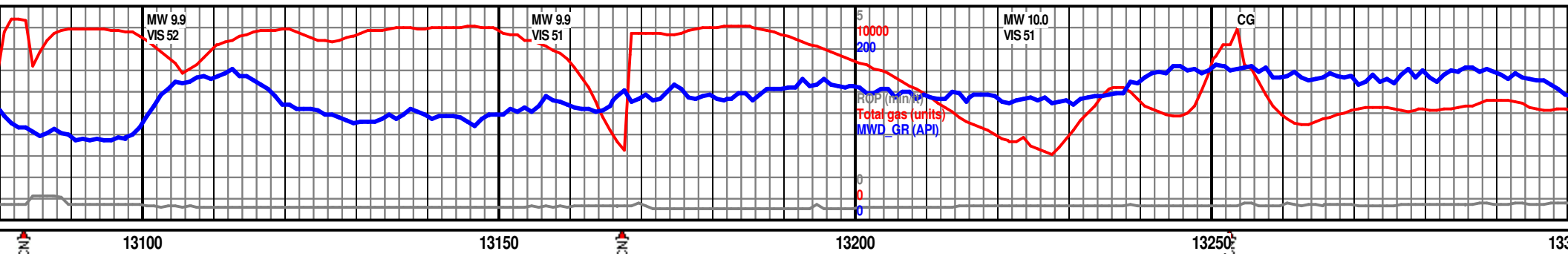




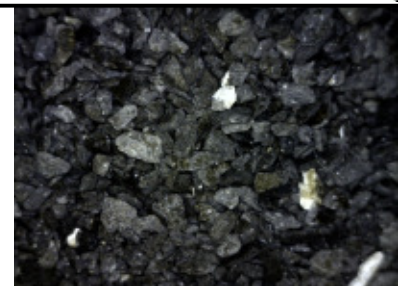
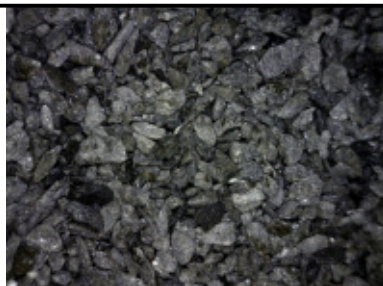


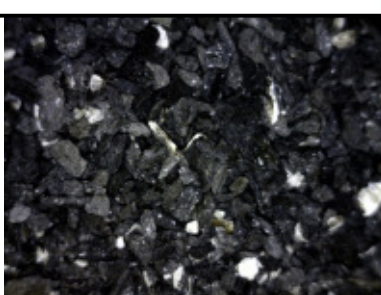
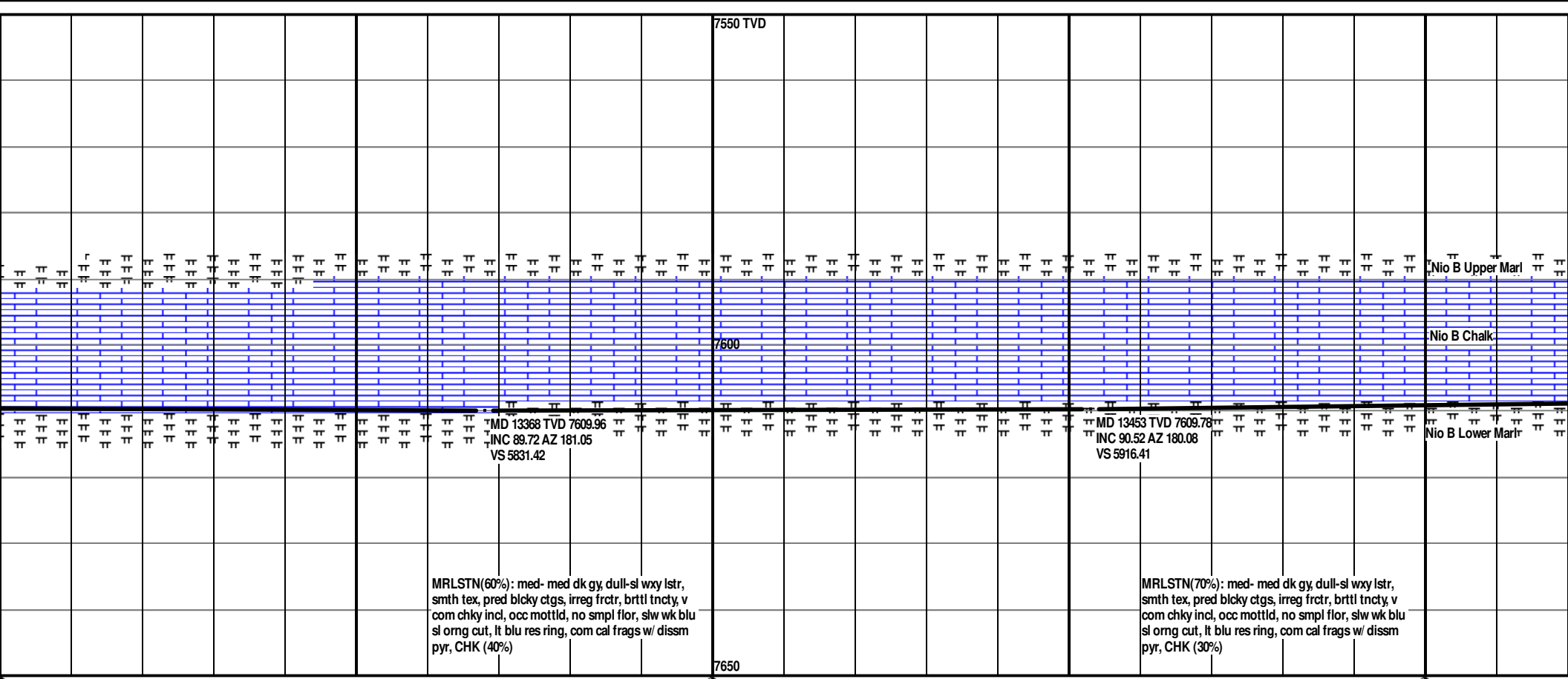
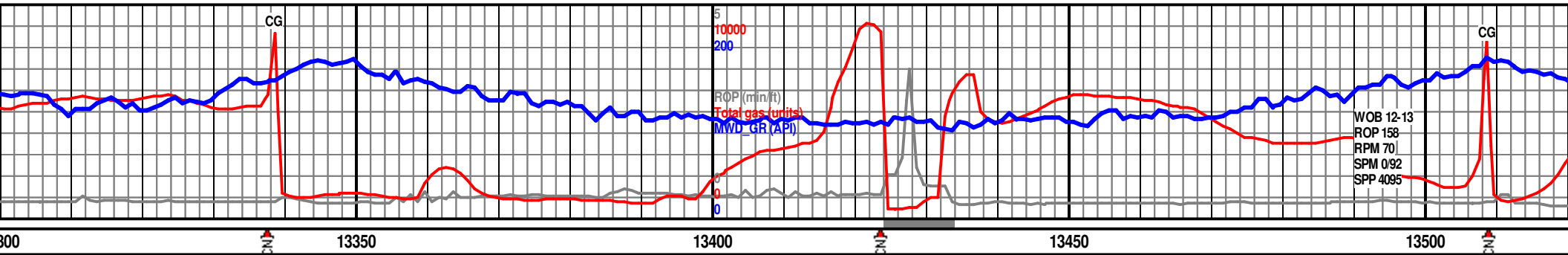


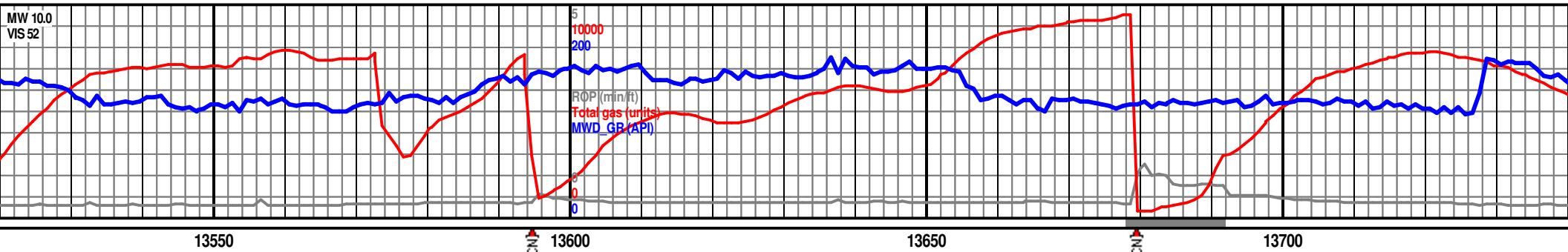




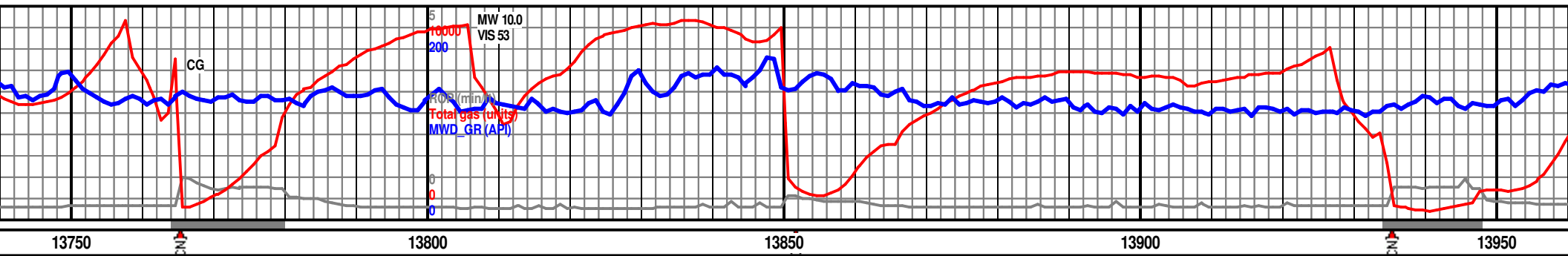
7550 TVD									
7600									
MD 13114 TVD 7608.17 INC 89.41 AZ 181.29 VS 5577.49									
MD 13283 TVD 7609.51 INC 89.68 AZ 181.25 VS 5746.44									
CHK (100%): med -med drk gry com mttld, dull -erthy, mtt-grtty, sb tab - mssv, irreg frctr, brttl-plvmt, no smpl fl, slw mod blu sl org ct fl, sl blu resid rng fl, occ cal frags. MRLSTN (tr)									
CHK (100%): med -med drk gry com mttld, dull -erthy, mtt-grtty, sb tab - mssv, irreg frctr, brttl-plvmt, no smpl fl, slw mod blu sl org ct fl, sl blu resid rng fl, occ cal frags. MRLSTN (tr)									
7650									





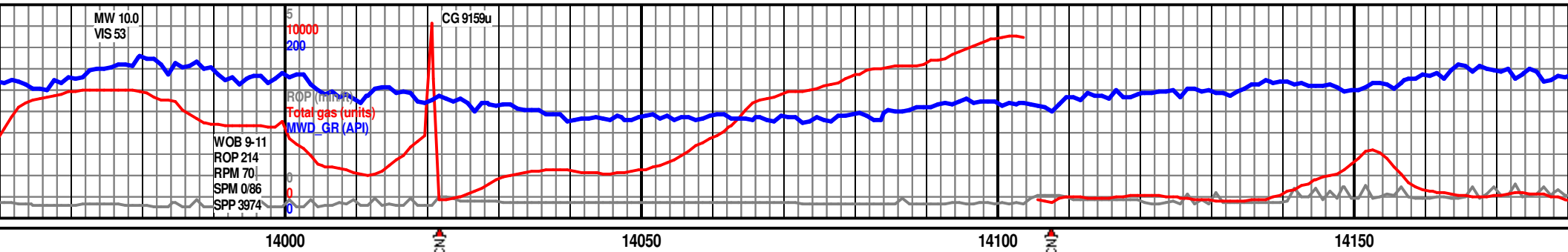


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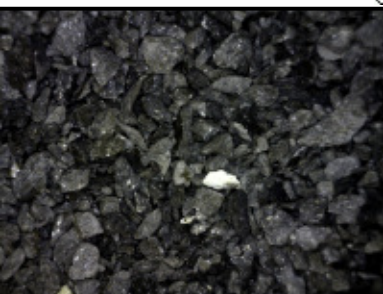


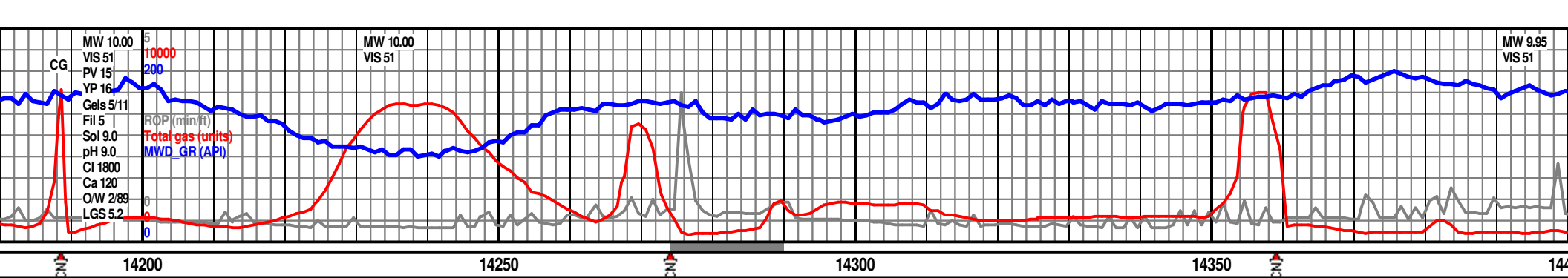
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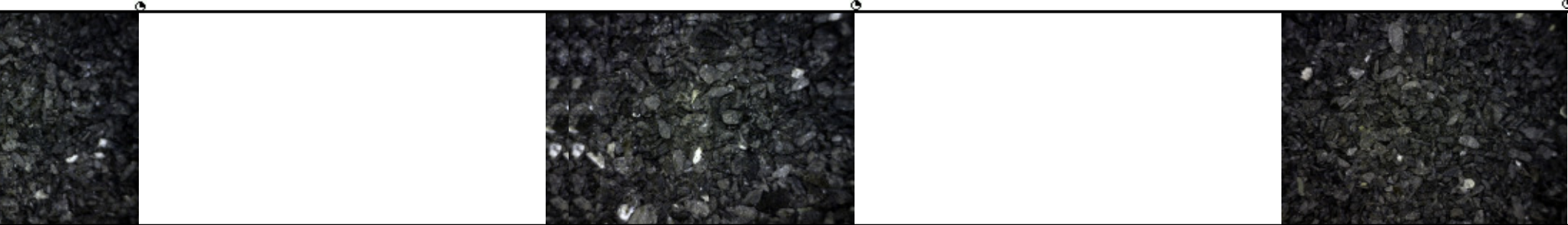


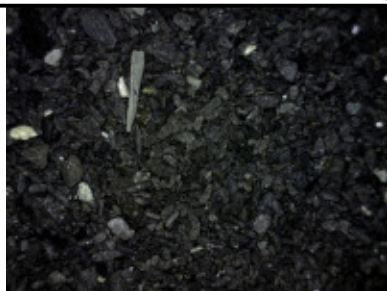
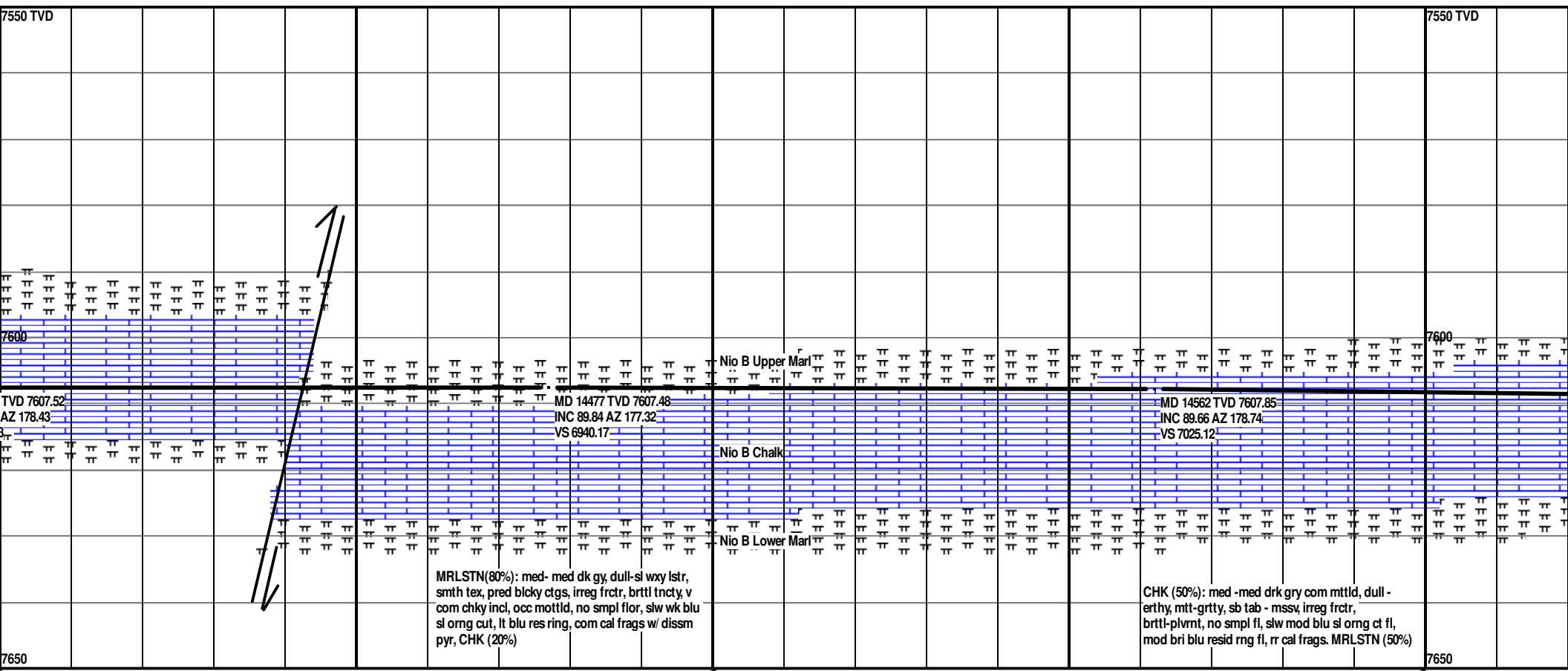
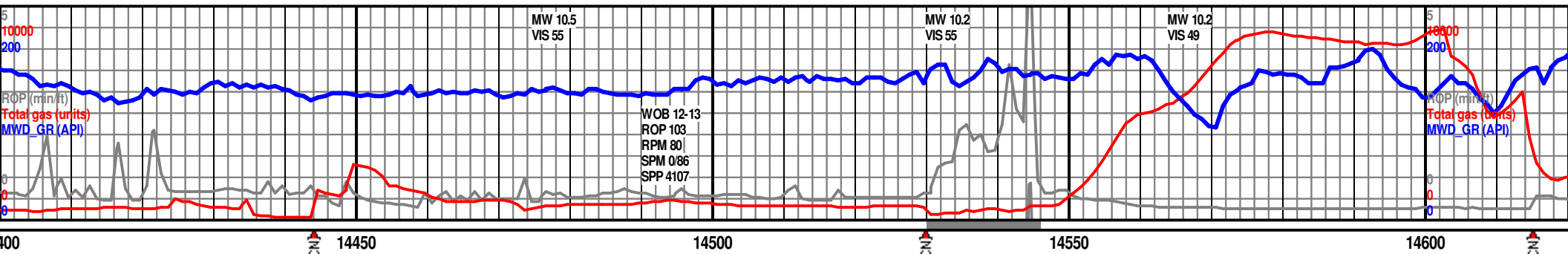
7550 TVD									
Nio B Upper Marl									
Nio B Chalk									
7600									
MD 13964 TVD 7604.58 INC 88.82 AZ 178.86 VS 6427.33									
Nio B Lower Marl									
MD 14051 TVD 7605.81 INC 89.56 AZ 179.4 VS 6514.32									
MD 14136 TVD 7606.48 INC 89.53 AZ 179.1 VS 6599.31									
CHK (80%): med -med drk gry com mttld, dull -erthy, mtt-grtty, sb tab - mssv, irreg frctr, brttl-plvrnt, no smpl fl, slw mod blu sl orng ct fl, mod bri blu resid rng fl, occ cal frags. MRLSTN (20%)									
CHK (90%): med -med drk gry com mttld, dull -erthy, mtt-grtty, sb tab - mssv, irreg frctr, brttl-plvrnt, no smpl fl, slw mod blu sl orng ct fl, mod bri blu resid rng fl, abndt cal frags. MRLSTN (10%)									
CHK (60%): med -med drk gry com mttld, dull -erthy, mtt-grtty, sb tab - mssv, irreg frctr, brttl-plvrnt, no smpl fl, slw mod blu sl orng ct fl, mod bri blu resid rng fl, abndt cal frags. MRLSTN (40%)									

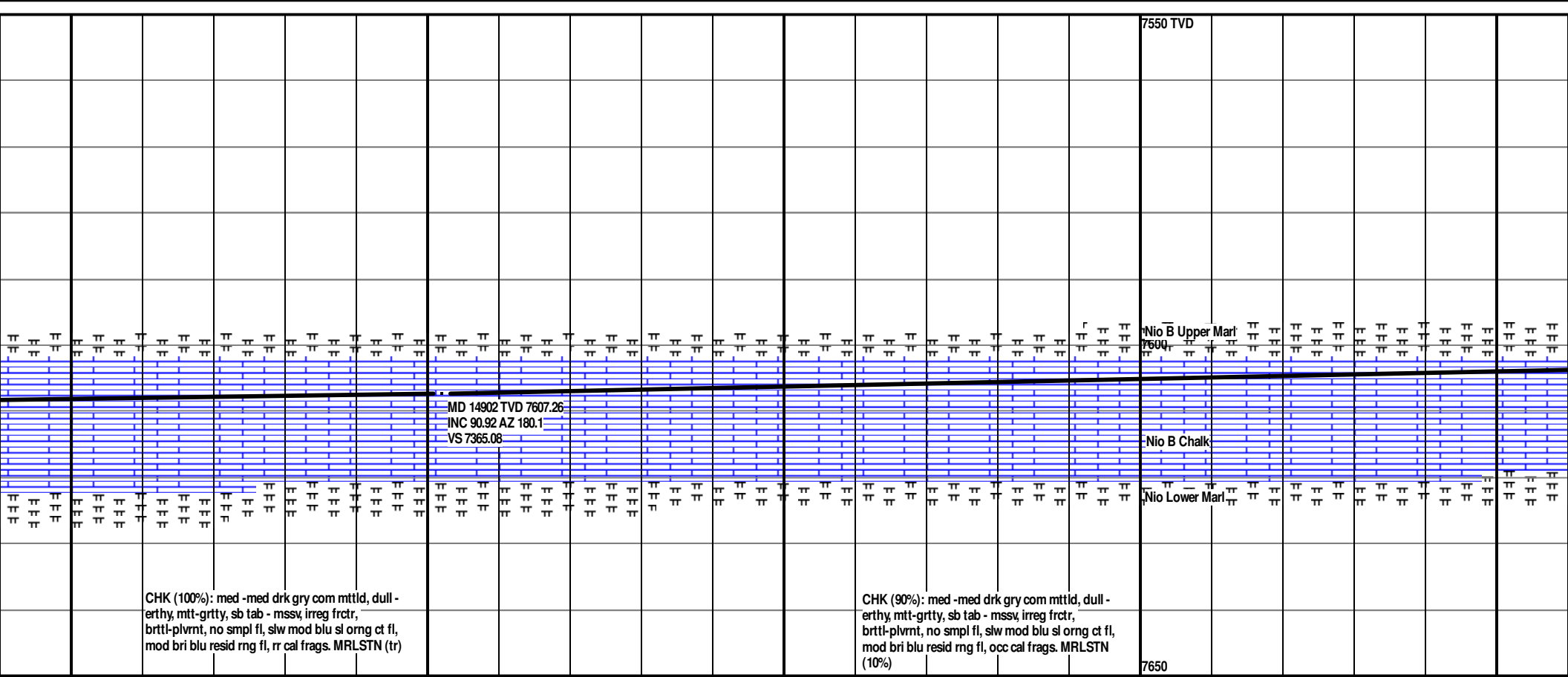
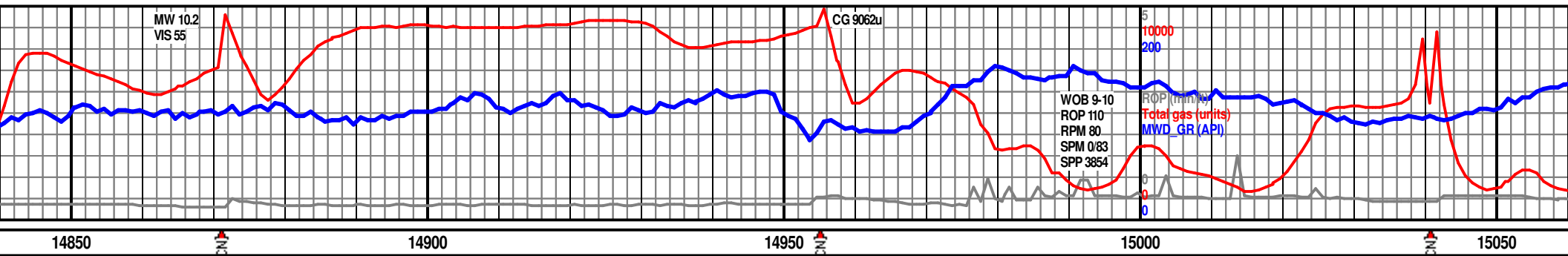


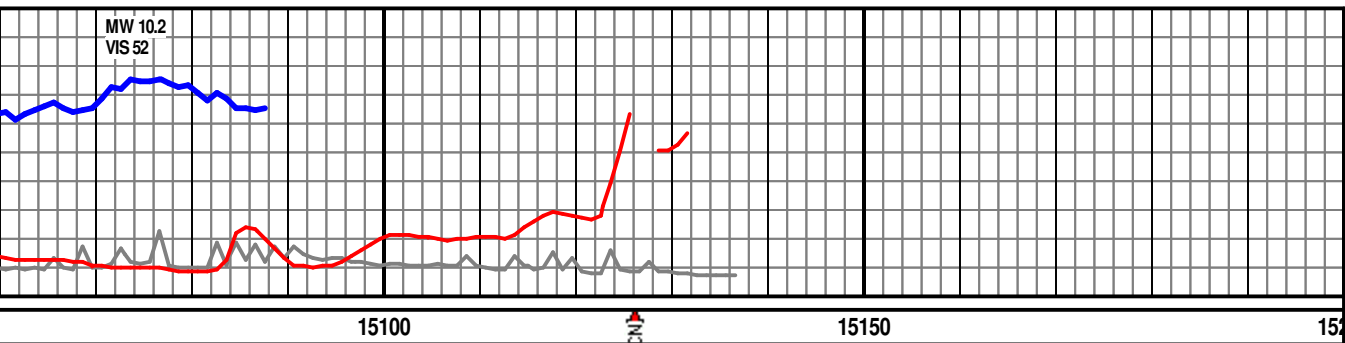


7550 TVD 1/6/2015									
7600									
MD 14221 TVD 7607.45 INC 89.16 AZ 178.31 VS 6684.28									
MD 14306 TVD 7607.88 INC 90.27 AZ 178.73 VS 6769.25									
MD 14392 INC 90.21 VS 6855.2									
CHK (60%): med -med drk gry com mtld, dull - erthy, mlt-grtty, sb tab - mssv, irreg frctr, brttl-plvnt, no smpl fl, slw mod blu sl orng ct fl, mod bri blu resid rng fl, abndt cal frags. MRLSTN (40%)									
CHK (60%): med -med drk gry com mtld, dull - erthy, mlt-grtty, sb tab - mssv, irreg frctr, brttl-plvnt, no smpl fl, slw mod blu sl orng ct fl, mod bri blu resid rng fl, abndt cal frags. MRLSTN (40%)									









	<p>DMTD reached @ 00:21 hrs on January 7, 2015</p> <p>Short Trip @ 15,137' DMTD, condition hole, hang 4 1/2" @ 7200.9' MD, production liner landed @ 15,130' MD on 1/8/2015.</p> <p>OB #2 Drilled 7,099' in 41.8hrs</p> <p>Wellsite Geologists Andrew Krueger and Brian Spitzmiller, GBA.</p>
<p>MD 15083 TVD 7603.28 INC 91.6 AZ 180.4 VS 7546.03</p>	<p>Projection to Bit MD 15137 TVD 7601.77 INC 91.6 AZ 180.4 VS 7600.01</p>
<p>CHK (50%): med-med drk gry com mttld, dull - erthy, mtt-grtty, sb tab - mssv, irreg frctr, brttl-plvrnt, no smpl fl, slw mod blu sl orng ct fl, mod bri blu resid rng fl, occ cal frags. MRLSTN (50%)</p>	<p>Geologic Tops picked by Ian Harris, Anadarko.</p> <p>Sharon Springs 7,447' (-2,364') Niobrara 7,487' (-2,404') Niobrara B Chalk 7,587' (-2,504')</p> <p>DMTD 15,137' Production csg 15,130'</p>

