



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

Well Name: Lansdown State 4C-21HZ (Curve & Horizontal Hole Section)
Location: Section 21, T2N, R66W, Weld County, CO..
License Number: API: 05-123-39043
Spud Date: May 5, 2014
Surface Coordinates: SWSW Sec 21 T2N R66W; 919' FSL 622' FWL
Lat N 40.118871 Long W -104.789475
Bottom Hole Coordinates: NENW Sec 21 T2N R66W; 20' FNL; 650' FWL

Ground Elevation (ft): 4934'
Logged Interval (ft): 7200'
Formation: Pierre Shales/Sands, Niobrara, Codell Target
Type of Drilling Fluid: Water & Poly to 6925', LSND 6925'-12510'

To: 12510'

K.B. Elevation (ft): 4950'
Total Depth (ft): 12510' DMTD

Region: Wattenberg, DJ Basin
Drilling Completed: May 10, 2014

OPERATOR

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

GEOLOGIST

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

E-logs

MWD GR 1242' - 12455'


Casing

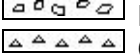
9 5/8" Surface Casing set @ 1242' MD
7" Intermediate Casing set @ 7868' MD
4 1/2" Production Liner hung 05/12/2014, landed @ 12,496'


Comments

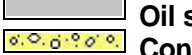
1) Drilling Contractor: Xtreme Drilling, Rig #20
Toolpusher: Shaun Cox
2) Company Man: Charlie Daigle & Wade Mullican
3) Mud Company : AES
Engineer: Gober Howell
4) Directional Drilling: Baker Hughes
Pulse Tool
Drillers: Travis Wilcox & Barry Combs
MWD: Adam Schlenz & Greg Dore
5) Gas Equipment: Pason Systems
6) Wellsite Geology: Goolsby Brothers & Associates
Geologists: Ian Harris & Andrew Krueger


ROCK TYPES


Anhy Bent


Brec Cht

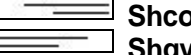
Clyst Coal

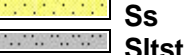
Oil sat. Congl


Dol Gyp


Lmst Mrlst

Salt Shale


Shcol Shgy


Ss Sltst


Ss Chalk


Carb sh Sltly sh


MINERAL


Anhy


Arggrn


Arg


Bent


Bit


Brecfrag


Calc


Carb


Chtdk


Chtlt


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

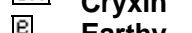
Sltstrg


Ssstrg


TEXTURE


Boundst


Chalky


Cryxln


Earthy


Finexln


Grainst

Lithogr


Microxln


Mudst


Packst


Wackest


OIL SHOWS


Even

Spotted


Ques


Dead


Vspotty


near even


POROSITY TYPE


Earthy


Fenest


Fracture

Inter

Moldic


Organic


Pinpoint


Vuggy


OTHER SYMBOLS

ROUNDING


Rounded


Subrnd


Subang

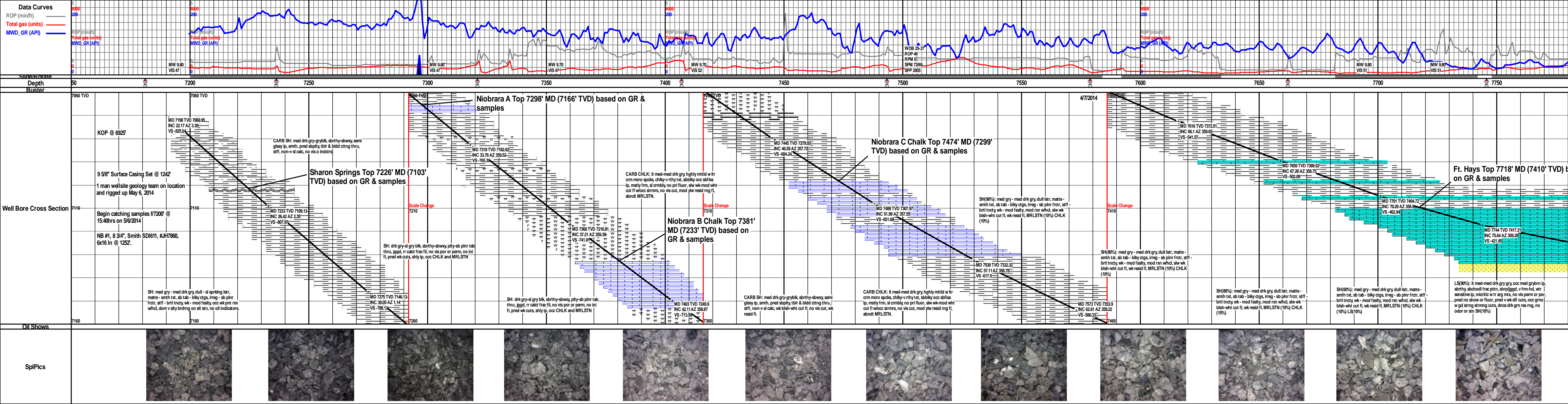
Angular

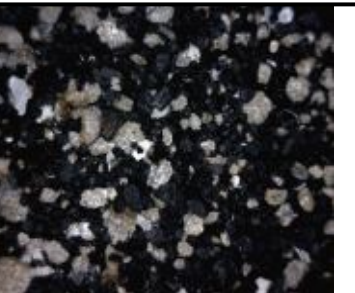
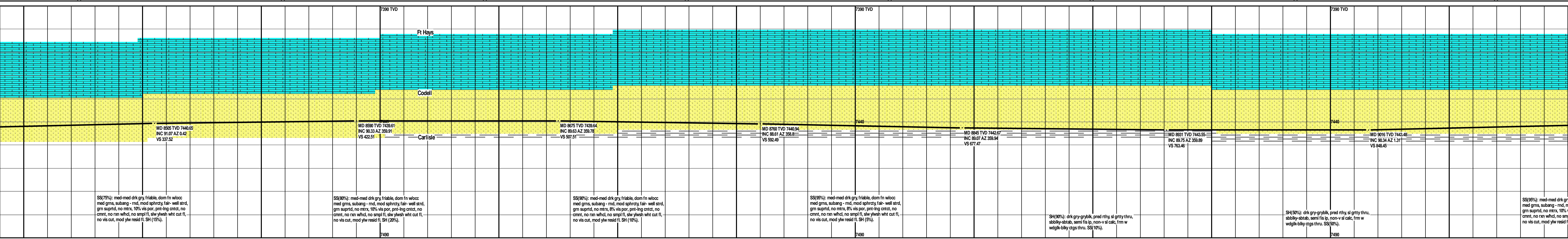
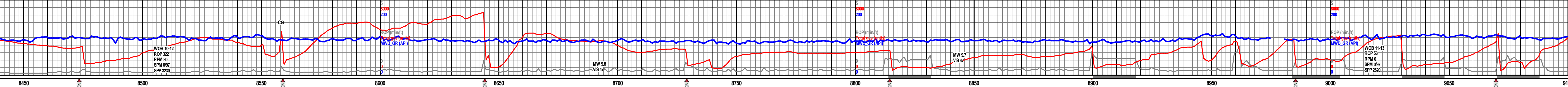
SORTING

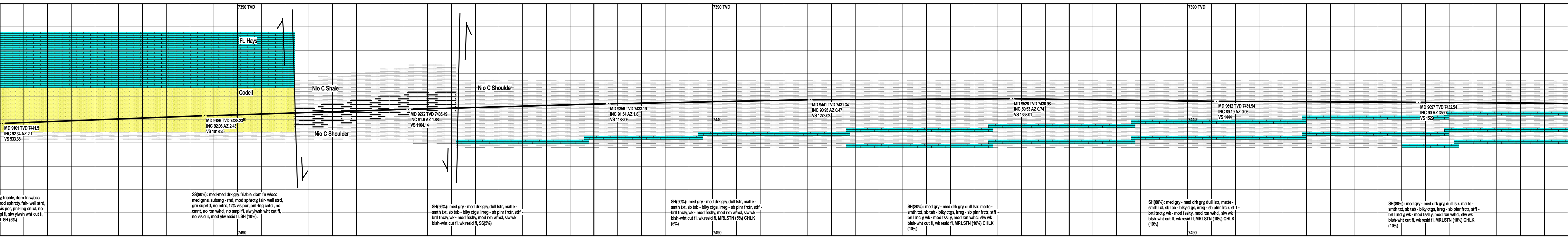
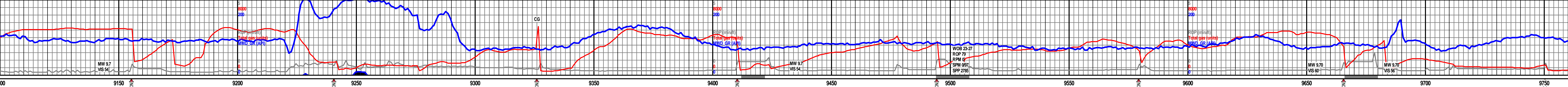
Well

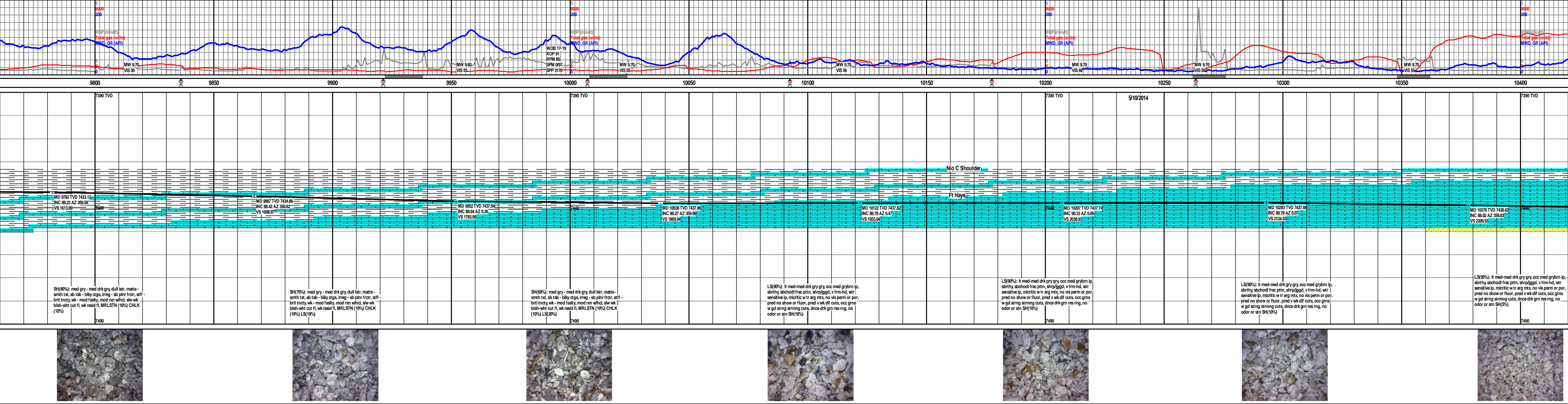
Moderate

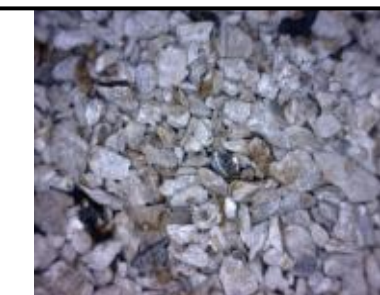
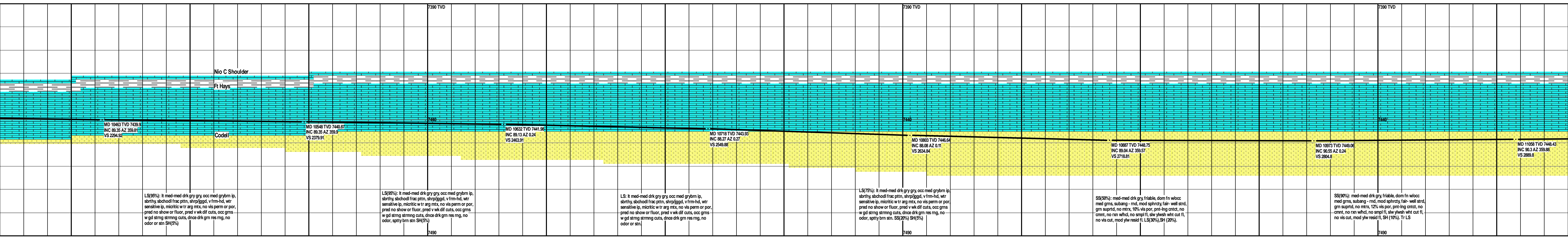
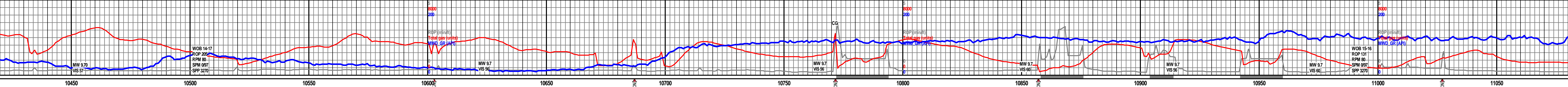
Poor

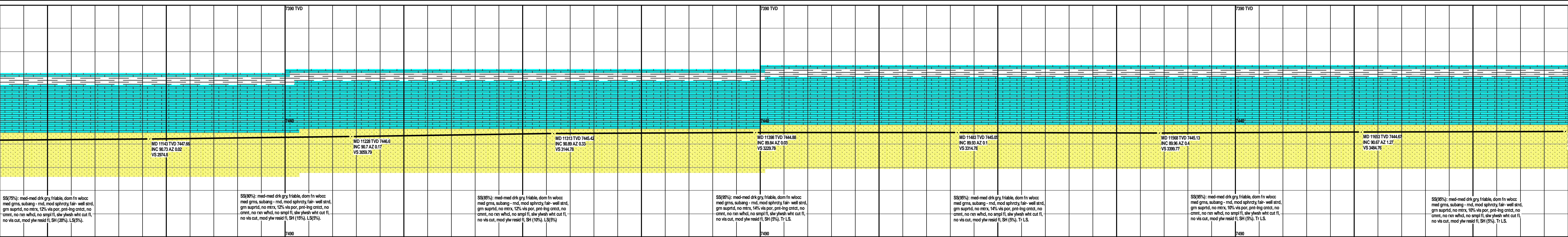
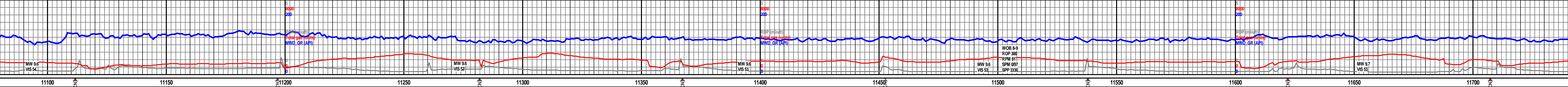


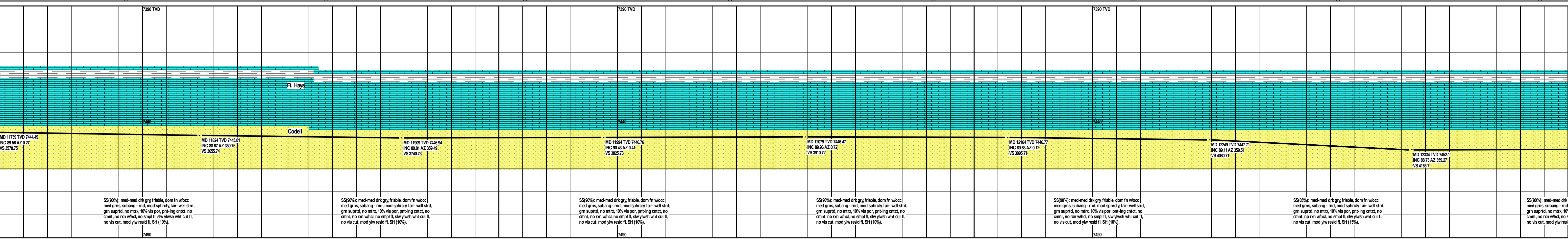
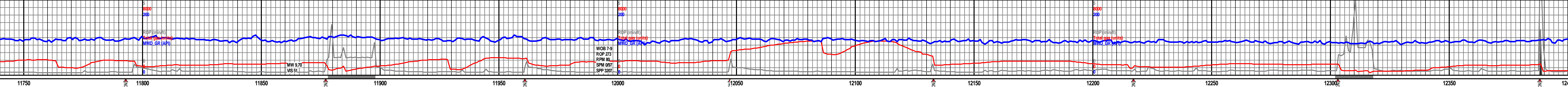












SS(90%): med-med drk gry, friable, dom fn w/occ med grns, subang - rnd, mod sphrcty, fair- well strd, grn suptrd, no mtrx, 10% vis por, pnt-ling cntct, no cmnt, no rxn whcl, no smpl fl, slw ylwsh wht cut fl, no vis cut, mod ylw resid fl, SH (10%).

SS(90%): med-med drk gry, friable, dom fn w/occ med grns, subang - rnd, mod sphrcty, fair- well strd, grn suptrd, no mtrx, 10% vis por, pnt-ling cntct, no cmnt, no rxn whcl, no smpl fl, slw ylwsh wht cut fl, no vis cut, mod ylw resid fl, SH (10%).

SS(90%): med-med drk gry, friable, dom fn w/occ med grns, subang - rnd, mod sphrcty, fair- well strd, grn suptrd, no mtrx, 10% vis por, pnt-ling cntct, no cmnt, no rxn whcl, no smpl fl, slw ylwsh wht cut fl, no vis cut, mod ylw resid fl, SH (10%).

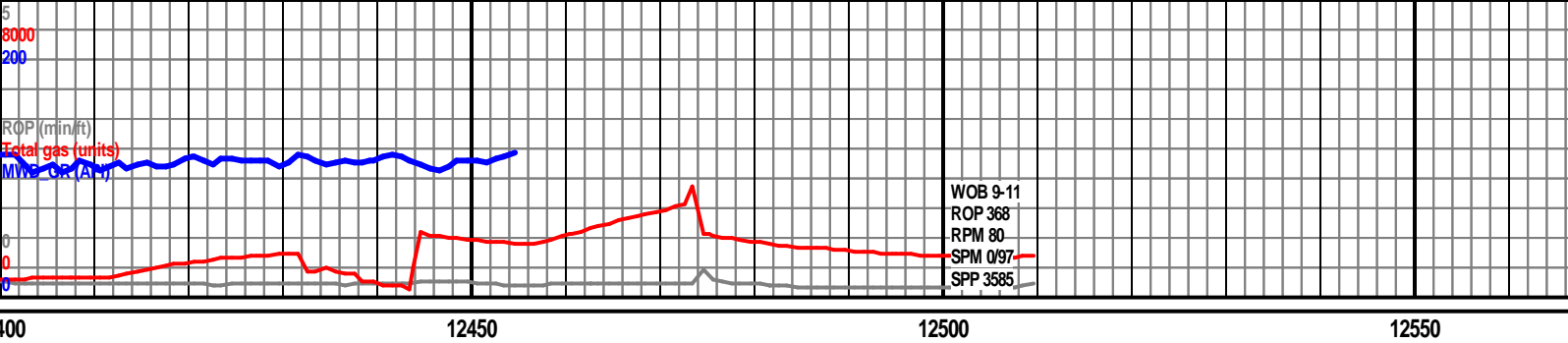
SS(90%): med-med drk gry, friable, dom fn w/occ med grns, subang - rnd, mod sphrcty, fair- well strd, grn suptrd, no mtrx, 10% vis por, pnt-ling cntct, no cmnt, no rxn whcl, no smpl fl, slw ylwsh wht cut fl, no vis cut, mod ylw resid fl, SH (10%).

SS(90%): med-med drk gry, friable, dom fn w/occ med grns, subang - rnd, mod sphrcty, fair- well strd, grn suptrd, no mtrx, 10% vis por, pnt-ling cntct, no cmnt, no rxn whcl, no smpl fl, slw ylwsh wht cut fl, no vis cut, mod ylw resid fl, SH (10%).

SS(85%): med-med drk gry, friable, dom fn w/occ med grns, subang - rnd, mod sphrcty, fair- well strd, grn suptrd, no mtrx, 10% vis por, pnt-ling cntct, no cmnt, no rxn whcl, no smpl fl, slw ylwsh wht cut fl, no vis cut, mod ylw resid fl, SH (15%).

SS(90%): med-med drk gry, friable, dom fn w/occ med grns, subang - rnd, mod sphrcty, fair- well strd, grn suptrd, no mtrx, 10% vis por, pnt-ling cntct, no cmnt, no rxn whcl, no smpl fl, slw ylwsh wht cut fl, no vis cut, mod ylw resid fl, SH (10%).



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