

Adam Eldani Geo-Log/Report

WellSight Systems

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

Measured Depth Log

Well Name: #1 IMEL 8AD-NAU

Location: Sec. 8- Township 26S- Range 22W FORD COUNTY, KANSAS

License Number: API 15-063-22091

Region: Kansas (Western, Ks)

Spud Date: 04/30/2013

Drilling Completed: 05/11/2013

Surface Coordinates: 335' FNL 2510' FEL

Bottom Hole Deviation Surveys are detailed through out the Geo-Report.

Coordinates:

Ground Elevation (ft): 2427

K.B. Elevation (ft): 2439

Logged Interval (ft): 3400 To: 5020

Total Depth (ft): 5020

Formation: Mississippian

Type of Drilling Fluid: Mud-Co Chemical

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

OPERATOR

Company: Ritchie Exploration Inc. (drilled by SOUTHWIND RIG# 70)

Address: 8100 E. 22nd ST. N. #700

Wichita, KS, 67278-3188

GEOLOGIST

Name: Adam M.A. Eldani

Company: Ritchie Exploration Inc.

Address: 8100 E. 22nd ST. N. #700

Wichita, KS, 67278-3188

Sample & Log Tops/ Daily Drilling Report

TOPS:

E-LOG:

Anhydrite 1492'+947
B/Anhydrite 1524'+915
Stotler 3493'-1054
Heebner 4118'-1679
Lansing 4229'-1790
Muncie Shale 4407'-1968
Stark Shale 4512'-2073
Hush 4570'-2131
BKC 4607'-2166
Marmaton 4631'-2194
Altamont 4664'-2225
Pawnee 4737'-2298
Fort Scott 4766'-2327
Cherokee Sh. 4786'-2347
L. Cherokee Sh. 4818'-2379
Huck 4849'-2410
Atoka 4862'-2423
Mississippian 4894'-2455

SAMPLE TOPS:

Anhydrite 1494'+945
B/Anhydrite 1520'+919
Stotler 3493'-1059
Heebner 4118'-1679
Lansing 4427'-1788
Muncie Shale 4405'-1966
Stark Shale 4508'-2069
Hush 4565'-2126
BKC 4605'-2164
Marmaton 4626'-2187
Altamont 4660'-2221
Pawnee 4734'-2295
Fort Scott 4766'-2327
Cherokee Shale 4784'-2345
L. Cherokee Sh. 4818'-2479
Huck 4850'-2411
Atoka 4864'-2425
Mississippian 4897'-2458

DAILY DRILLING REPORT:

4/30 spud
5/01 358'
5/02 1220'
5/03 2066'
5/03 2790'
5/04 3450'
5/05 4130'
5/06 4418'
5/07 4670'
5/08 4670'
5/09 4709'
5/10 4872'
5/11 5020'

Misc. Field Info.

All DST's info. are NEAR the correct log depth.

RIG: SOUTHWIND DRILLING RIG#70

DRILLPIPE: 4-1/2" XH

TOOLPUSHER: SAM STAGGS

MUD: MUDCO (JUSTIN WHITING)

GAS DETECTOR: NONE

DRILL STEM TESTS: SUPERIOR TESTING

LOGS: NABORS

Comments

SURFACE Casing: 8 5/8" @ 371'

Moved in and rigged up. Spud at 8:15 p.m. Ran 8 jts used 23# 8-5/8" surface casing. Tally at 358.48', set at 371'. Cemented with 220 sacks class A, 2% gel, 3% cc. Cement circulated. Plug down at 5:30 a.m. on 5/1/13.

Well Log Surveys BY NABORS: Compensated Denisty/ Neutron Log, & Dual Induction.

STRUCTURALLY: This Well ran Flat & Lower to Offset.


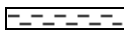






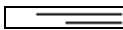
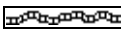


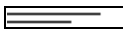
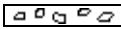

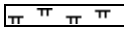

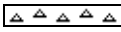

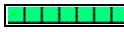

After the evaluation of electrical logs, and drill stem test results; Ritchie Exploration, Inc. determined to run 4 1/2" production casing on #1 Imel 8AD-nau for further commerical testing oil and gas.

RTD 5020'. Ran Electric Log. LTD 5020'. Ran 4-1/2" 10.5# new production casing, set at 5001'. Port collar at 1465'. Insert at 4958'. Pumped 500 gallons mud flush. Cemented casing with 200 sacks OWC, 10% salt, 2% gel, 5# per sack of Kolseal and ¼% of CDI-26. Plug down at 12:45 p.m. on 05/12/13. Plugged rat hole with 30 sacks and mouse hole with 20 sacks.








































































Samples will be deposited with KANSAS GEOLOGICAL SURVEY.

RESPECTFULLY SUBMITTED;
 Adam M. A. Eldani
 Petroleum Geologist.

ROCK TYPES

 Carb sh	 Clyst	 Igne	 Shale	 Till
 Anhy	 Coal	 Lmst	 Shcol	
 Bent	 Congl	 Meta	 Shgy	
 Brec	 Dol	 Mrlst	 Slstst	
 Cht	 Gyp	 Salt	 Ss	

ACCESSORIES

MINERAL		FOSSIL	
 Anhy	 Gyp	 Algae	 Ostra
 Arggrn	 Hvymin	 Amph	 Pelec
 Arg	 Kaol	 Belm	 Pellet
 Bent	 Marl	 Bioclst	 Pisolite
 Bit	 Minxl	 Brach	 Plant
 Brecfrag	 Nodule	 Bryozoa	 Strom
 Calc	 Phos	 Cephal	
 Carb	 Pyr	 Coral	STRINGER
 Chtdk	 Salt	 Crin	 Anhy
 Chtlt	 Sandy	 Echin	 Arg
 Dol	 Silt	 Fish	 Bent
 Feldspar	 Sil	 Foram	 Coal
 Ferrpel	 Sulphur	 Fossil	 Dol
 Ferr	 Tuff	 Gastro	 Gyp
 Glau		 Oolite	 Ls
			 Mrst
			 Slststrg
			 Ssstrg
			TEXTURE
			 Boundst
			 Chalky
			 Cryxln
			 Earthy
			 Finexln
			 Grainst
			 Lithogr
			 Microxln
			 Mudst
			 Packst
			 Wackest

OTHER SYMBOLS

- POROSITY**
- Earthy
 - Fenest
 - Fracture
 - Inter
 - Moldic
 - Organic
 - Pinpoint

Vuggy

- SORTING**
- Well
 - Moderate
 - Poor

- ROUNDING**
- Rounded
 - Subrnd
 - Subang
 - Angular

OIL SHOW

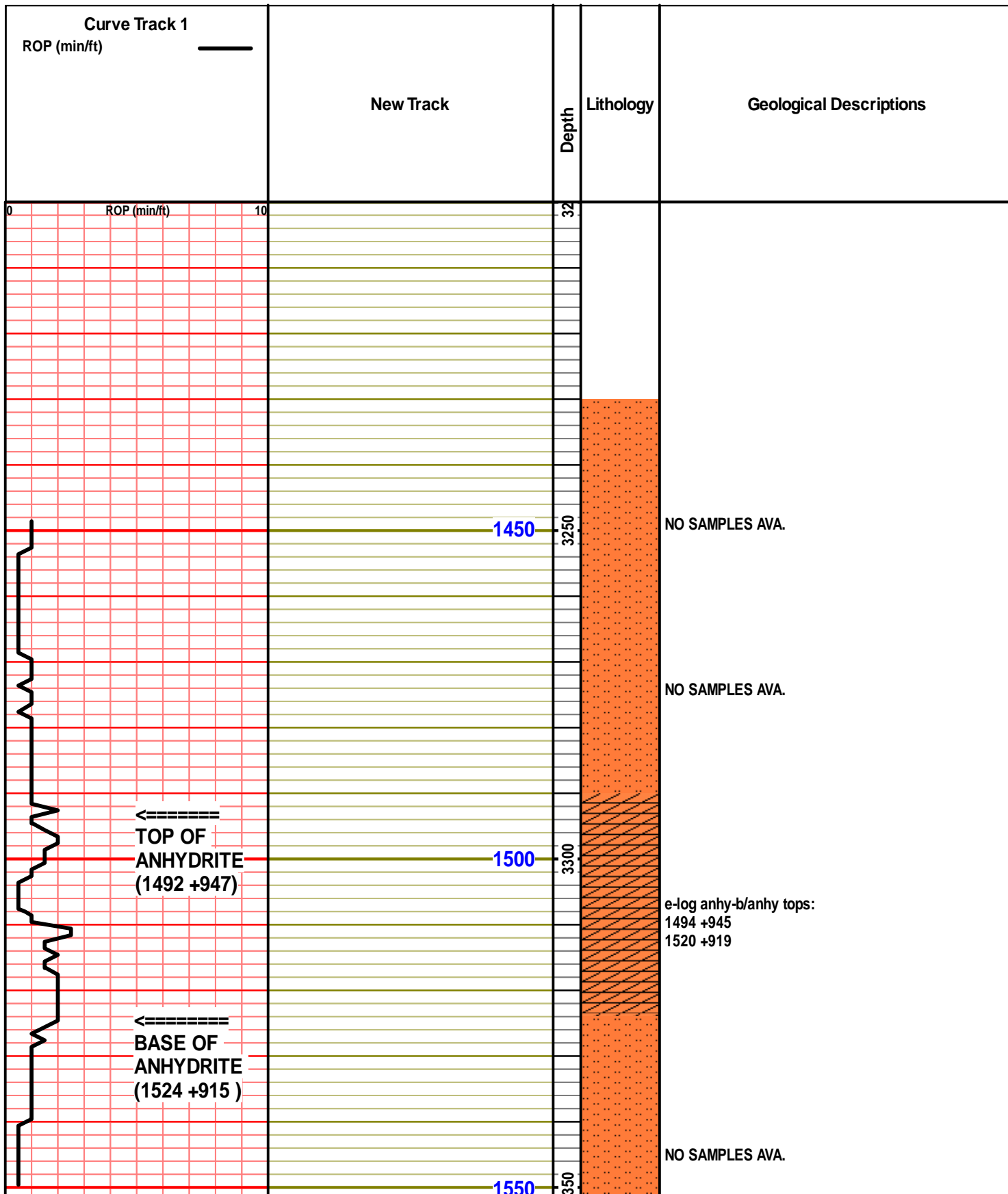
- Even

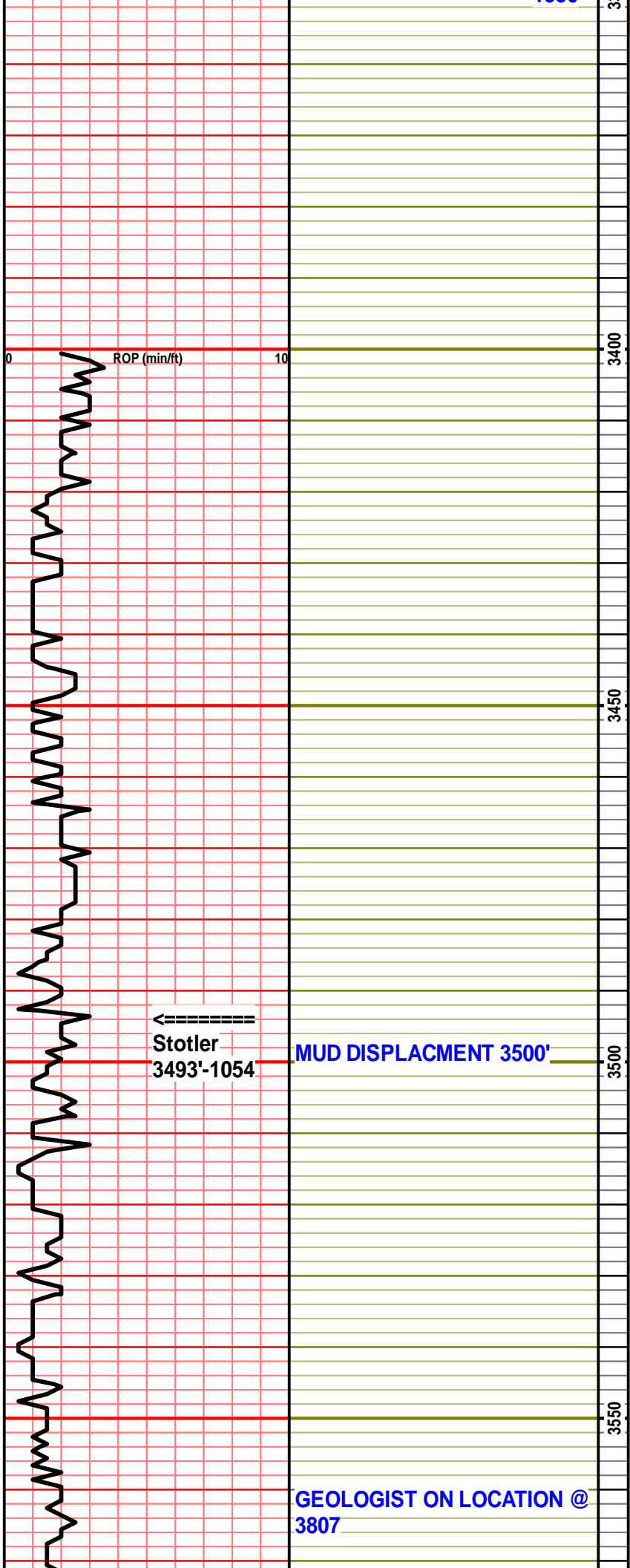
- Spotted
- Ques
- Dead

- INTERVAL**
- Core
 - Dst
 - Dst

Dst_alt

- EVENT**
- Rft
 - Sidewall





ROP (min/ft)

0

10

3400

3450

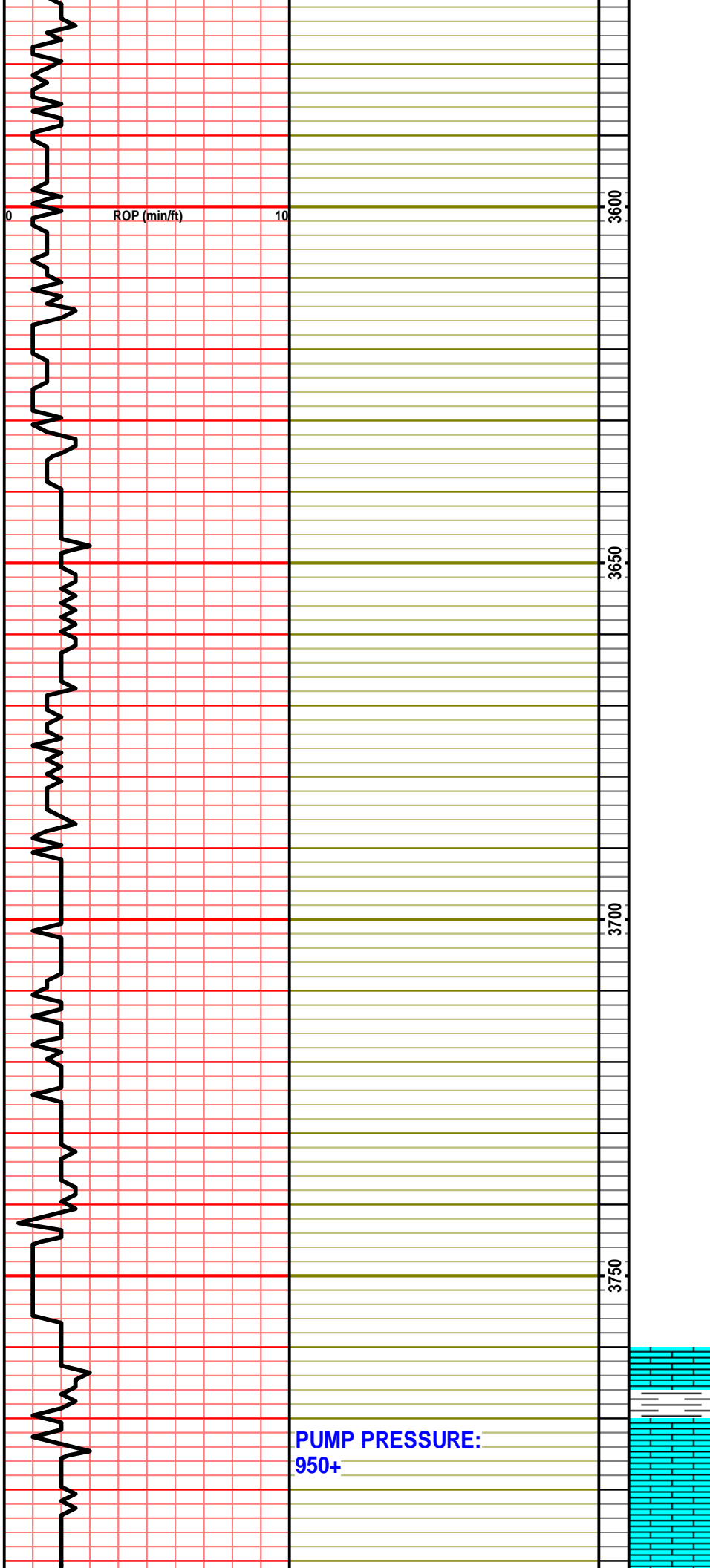
3500

3550

← Stotler
3493'-1054

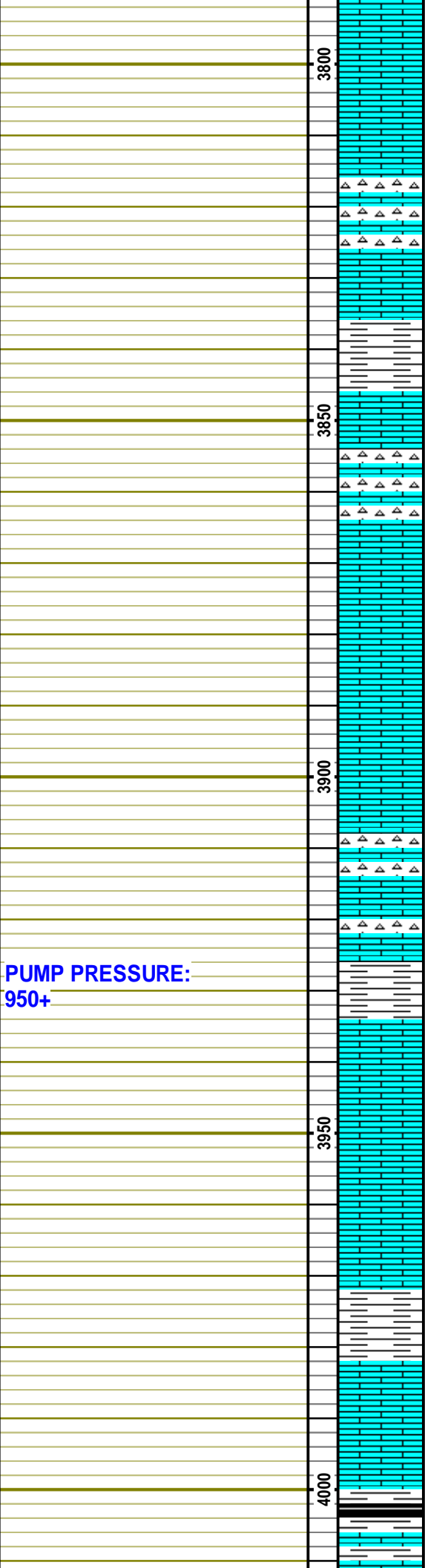
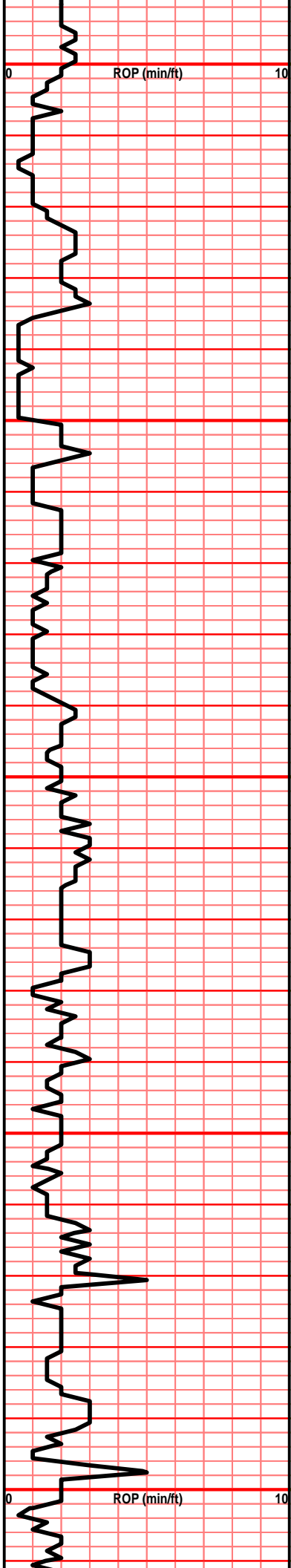
MUD DISPLACEMENT 3500'

GEOLOGIST ON LOCATION @
3807



3800: gry-maroon sh, dirty tan foss lm, gry fn xln lm, dense, no shw, no odr.

3810: incrs in chlk nd chlky lm, gry fn xln lm, dense, v. foss, no o vis por, no odr, ns.



3820: aa, incrs in tan inxln lm, lm, poor inxln por, no odr, ns.

3830: greenish chlky lm, tan-gry xln lm, sli foss, poor por, no odr, ns.

3840: incrs in wht chlk, tan fn xln lm, dense, no odr, ns.

3850: lots of wht chlk, clr chrt & tan chrt lm, no odr, ns.

3860: aa, mstly chlk and chrt.

3870: incrs in gry sh & shly lm, gry chrt, no odr, ns.

3880: mstly chlk, lots of crm micrtic lm, fn intr prtcl por, no odr, ns.

3890: lots of gry foss chrt, tan pack stn lm, fn-med grn, poor por, no odr, ns.

3900: mstly wht chlk, tan-buff micrtic lm, fn grn, micro intr prtcl por, no odr, ns.

3910: aa, v. chlky sample try.

3920: crm xln lm prtly chlky, crm-gry micrtic lm, v. fn grn, micro xln, no odr, ns.

3930: incrs in gry foss chrt, gry inxln lm, v. dense, no vis por no odr, ns.

3940: aa, incrs in crm chrt and crm inxln lm, dense, no vis por, no odr, ns.

3950: aa, no sig change.

3960: green sh, incrs in wht-crm chlk and chlky lm.

3970: v. gummy sample, crm pack stn lm, fn grn sed. no odr, ns.

3980: aa, v. chlky, gry-crm cors xln lm, dense, poor frac por, no odr, ns.

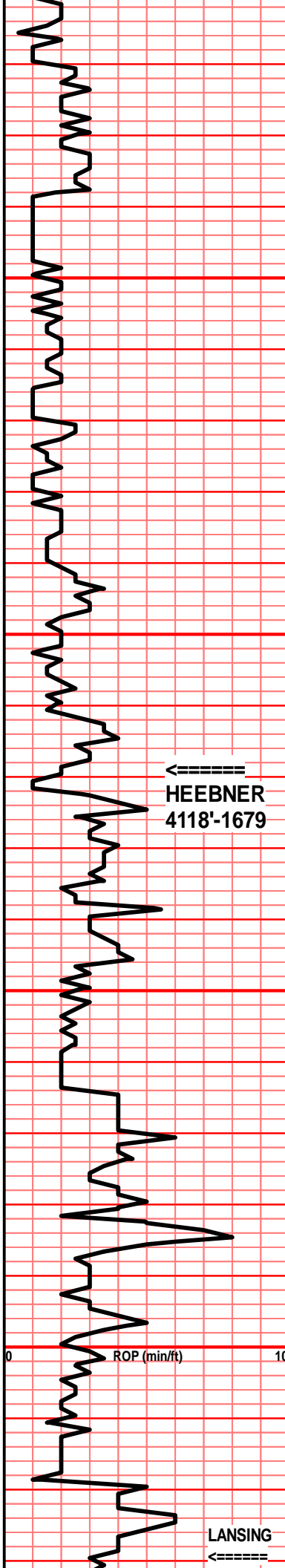
3990: aa, no sig change.

4000: incrs in gry sh, crm xln lm, dense, crm chrt, sli foss, no odr, ns.

4010: crm xln lm, no vis por, no shw, no odr.

4020: incrs in chlk and chlky lm, tan-crm lm, xln cemnt flooded pors, v. dense, no odr, ns.

4030: aa, incrs in blk carb sh.



PUMP PRESSURE:
950+

←=====
HEEBNER
4118'-1679

05/06/2013
Mud Info.
wiegth: 9.3
Vis. 56
Chloride: 4,200
LCM: 2

PUMP PRESSURE:
950+

←=====
LANSING



- 4040: mstly chlk w/ gry-blk sh.
- 4050: incrs in gry sh, lots of wht chlk & chlky lm, no odr, ns.
- 4060: incrs in brwn sh, drk tan-brwn inxln lm, semi dense, poor por, no odr, ns.
- 4070: aa, incrs in v. lght crm fn xln lm, no vis por, no odr, ns.
- 4080: incrs in maroon, green, and blk/gry sh, tan xln lm, no odr, ns.
- 4090: incrs in wht chlk, lots of gry-green sh, tan xln lm, cemnt filled fracs, no odr, ns.
- 4100: mstly chlk & gry-blk sh, tan lm micrtic, non odr, ns.
- 4110: tan lm, well cemntd, no vis por, no odr, ns.
- 4120: gry-blk sh, tan-crm lm fn xln, no vis por, no odr, ns.
- 4130: lots of blk sh, gr-crm chrt, no odr, ns.
- 4140: tan-gry inxln lm, dense, no vis por, no odr, ns.
- 4150: fn xln lm crm-gry, poor-no por, lots of gry sh.
- 4160: lots of fn xln gry lm, dense, no vis por, no odr, ns.
- 4170: incrs in gry and gry sh, tan, gry & brwn lm cors xln, cemnt flooded, poor-no por, no odr, ns.
- 4180: mstly gry inxln lm, dense, sli foss, no odr, ns.
- 4190: incrs in gry sh and slt stn, gry v. foss lm (highly pyrtzd), no odr, ns.
- 4200: incrs in chlk, lght crm fn xln lm, no vis por, no odr, ns.
- 4210: gry-brwn inxln lm, dense, sli foss, no odr, ns.
- 4220: incrs in gry and green sh, crm fn xln lm, no vis por, no odr, ns.
- 4230: mstly grny and green sh, few buff dolo/lm, fair por, no odr, ns.
- 4240: aa, no sig change, mstly gry sh.

4229'
-1790

BIT TRIP @ 4245 DUE TO VERY SLOW DRILLING.

Straight Hole: .75 degrees

**PUMP PRESSURE:
1000+**

←
**MUNCIE
4407' -1968**

cfs @
4438

30MIN: lots of chlk, lots of tan ool cast lm, execlnt ool cast por, tan-lght gry fn xln lm, no vis por, no odr, ns. 60MIN: aa, no sig change, incrs in lght gry fn xln lm, no vis por, no odr, ns.

4250: greater incrs in gry, green & maroon sh, srk tan inxln lm, dense, no vis por, no odr, ns

4260: lght-drk gry chrt, sli foss, lght crm xln lm, fn xln in prt, no vis por, no odr, ns.

4270: aa, no sig change.

4280: incrs in gry sh, mstly lght crm xln lm, cors xln in prt, no vis por, no odr, ns.

4290: aa, sig incrs in lght crm sub-chlky lm.

4300: mstly chlk and lght crm sub-chlky lm.

4310: incrs in gry sh, gry inxln lm, foss, poor por, no odr, ns.

4320: incrs in tan chrt, mstly tan chrty/lm, poor-no por, no odr, ns.

4330: aa, incrs in crm sub-chlky lm & wht chlk.

4340: incrs in mlky chrt, lght crm inxln lm, poor por, no odr, ns.

4350: lots of chrt, brwn-gry inxln lm, sli foss, no vis por, no odr, ns.

4360: v. lght gry inxln lm, poor-no inxln por, no odr, ns.

4370: incrs in wht chlk, mstly tan chrty/lm poor-no frac por, no odr, ns.

4380: aa, greater incrs in chlk, few chps ool chrt flooded lm, no por, ns.

4390: aa, mstly chlk, v. chlky sample.

4400: aa, few cors xln gry lm, no vis por, no odr, ns.

4410: aa, incrs in lght gry fn xln lm, no vis por, few brwn ool cast lm, great ool cast por, no odr, ns,

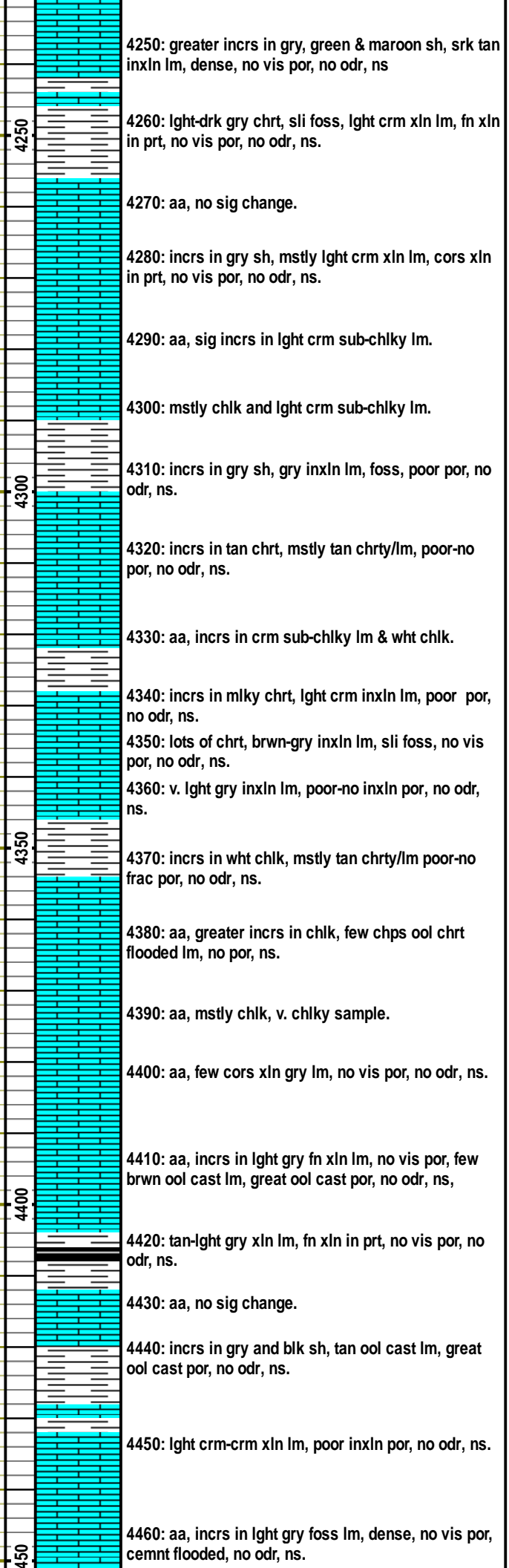
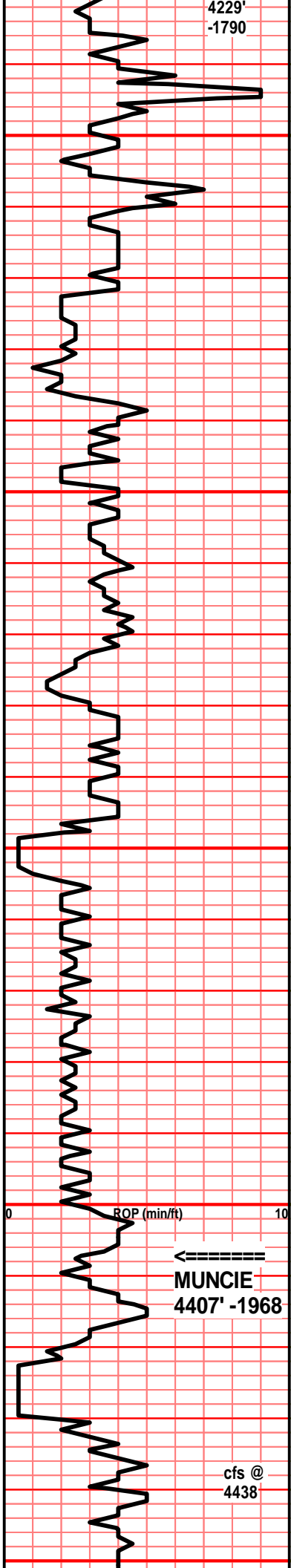
4420: tan-lght gry xln lm, fn xln in prt, no vis por, no odr, ns.

4430: aa, no sig change.

4440: incrs in gry and blk sh, tan ool cast lm, great ool cast por, no odr, ns.

4450: lght crm-crm xln lm, poor inxln por, no odr, ns.

4460: aa, incrs in lght gry foss lm, dense, no vis por, cemnt flooded, no odr, ns.





PUMP PRESSURE:
950+

05/07/2013
Mud Info.
weight: 9.35
Vis. 64
Chloride: 3,200
LCM: 1

←-----
STARK
4512'-2073

PUMP PRESSURE:
1050+

←-----
BKC
4605'-2164

←-----
ALTAMONT
4660'-2221

DST #1 4649-4709
REC: 390' MUD

4470: lght-drk gry chrt lm, poor-no por, no odr, ns.

4480: incrs in tan ool cast lm, few buff dolo/lm fair intr prtcl por, one chp w/ ?able stn (no cut in lighter fluid), no flour, no odr, ns.

4490: incrs in gry and maroon sh.

4500: incrs in mlky chrt, tan inxln lm, sli foss, poor por, few clr ool cast lm, no odr, ns.

4510: incrs in gry and maroon sh, incrs in wht chlk, tan inxln lm, poor por, no odr, ns.

4520: aa, incrs in wht chlk and sub-chlky lm.

4530: incrs in gry, green and blk carb sh.

4540: mstly chlk and crm sub-chlky lm, incrs in lght crm cors xln lm, poor xln por, sli foss, no odr, ns.

4550: lots of lght crm sub-chlky lm, mstly v. lght crm fn xln lm, prtly inxln, no vis por, no odr, ns.

4560: NO SAMPLE

4570: mstly crm sub-chlky lm, lght crm inxln lm, poor-no inxln por, no odr, ns.

4580: incrs in gry sh, lght crm inxln lm, poor inxln por, no odr, ns.

4590: decrse in sh, aa, no sig change.

4600: lght crm/grysh fn xln lm, no vis por, lots of chlky/lm, no odr, ns.

4610: aa, no sig change.

4620: incrs in gry and blk carb sh, tan cors xln lm, poor frac por, no odr, ns.

4630: lght brwn inxln lm, sli pyrtzd, no vis por, no odr, ns.

4640: incrs in translucnt chrt, brwn cors xln lm, dense, no vis p[or], no odr, ns.

4650: incrs in mlky chrt, incrs in gry & green sh, crm inxln lm, dense, no odr, ns.

4660: incrs in blk chrt, gry-brwn cors xln lm, dense, no vis por, no odr, ns.

4670: incrs in gry sh, mstly gry chrt sli foss, lm aa, no odr, ns.

4680: mstly gry cors xln lm, poor frac por, no odr, ns.

IFP: 246-249#/
FFP: 248-252#/
ISIP: 378#/
FSIP: 337#

05/08/2013
Mud Info.
weight: 9.4
Vis: 54
Chloride: 3,300
LCM: 2

30MIN: lots of gry sh, brwn inxln lm, w/
poor frame work por, drk tary oil stn some
chps w/ ssfo, v. slight odr, incrs in chrt
ool lm. 60MIN: incrs in gry & blk sh,
decrse in shw, brwn inxln lm, chlky in prt,
w/ stn two chps w/ poor ssfo, no odr.

DST #2 4723-4792
REC: 8' MUD
IFP: 61-63#/
FFP: 64-66#/
ISIP: 402#/
FSIP: 153#

←-----
PAWNEE
4734'-2295

30MIN: decrs in sh, few tan-drk brwn chrt,
mstly lght-drk tan inxln lm, dense, no por,
no odr, ns. 60MIN: mstly crm inxln lm, poor
inxln por, one chp lght gry inxln lm, w/
poot pin point vuggy por, w/ fresh brwn
stn, v. lght odr.

05/09/2013
Mud Info.
weight: 9.35
Vis: 47
Chloride: 3,900
LCM: 3

←-----
CHEROKEE
4784'-2345

30MIN: mstly blk carb sh, incrs in clr/mlky
chrt, crm sub-chlky lm, lght crm inxln lm,
cemnt flooded, no odr, ns. 60MIN: aa, ni
sig change from 30min sample.

DST #3 4781-4872
REC: 90' OGCM (30%G, 30%O,
40%M)
IFP: 75-88#/
FFP: 89-109#/
ISIP: 535#/
FSIP: 529#

05/10/2013
Mud Info.
weight: 9.35
Vis: 51
Chloride: 4,500
LCM: 2
Viscosity was not stable during
Drilling.

30MIN: brwn-crm fn xln lm w/ pin point
vuggy por, slight shw of free brwn oil,
fair-mod odr. 60MIN: aa, decrse in oil
shws, decrse in order, one cluster of qtz
ss, fn grn, sub-rounded, well sortd, well
cemntd, poor por.

cfs @
4872

4690: lght crm inxln lm, no vis por, lots of drk gru
chrt, no odr, ns.

4700: incrs in gry nand green sh, crm-gry cors xln
lm, sli foss, poor por, no odr, ns.

4710: lght crm pack stn lm, sli chlky, poor-fair por,
strng tary oil stn, sli odr.

4720: mstly gry sh, few crm fn xln lm, no vis por, no
odr, ns.

4730: aa, crm inxln lm, sli foss, no odr, ns.

4740: mstly drk gry-green sh, incrs in pyrt and mlky
chrt, mstly crm-drk tan inxln lm, dense, poor inxln
por, no odr, ns.

4750: tan fn xln lm, w/ big vuggy disloution por, ssfo,
light odr.

4760: tan fn xln lmm w/ vuggy disloution por, ssfo,
lght odr, lots of drk gry sh, incrs in drk inxln lm, ns.

4770: brwn- crm xln lm, foss, cemnt flooded, no vis
por, no odr, ns.

4780: incrs in gry-drk sh, incrs in chlky and lsub-chlky
lm, mstly lght crm highly foss lm, cemnt flooded, no
vis por, no odr, ns.

4790: shw of blk carb sh, mstly chlky & lm aa, no odr,
ns.

4800: mastly blk and gry sh, few clumps of chlky, poor
sample overall.

4810: lght crm-drk tan inxln lm, dense, no vis por, no
odr, ns.

4820: brwn-lght gry xln lm, v. dense, no vis por, no
odr, ns.

4830: lm aa, incrs in green sh, incrs in crm chrt and
pyrt, no odr, ns.

4840: brwn inxln lm, dense, no vis por, gry ool lm,
cemnt flooded, no stn ns, fair-mod odr of hydro
carbons.

4850: incrs in gry sh, brwn fn xln lm, gry inxln lm,
poor-no por, one chp w/ stn, fair odor.

4860: tan cors xln lm, w/ cemnt flooded fracs, no vis
por, ns, fair odr.

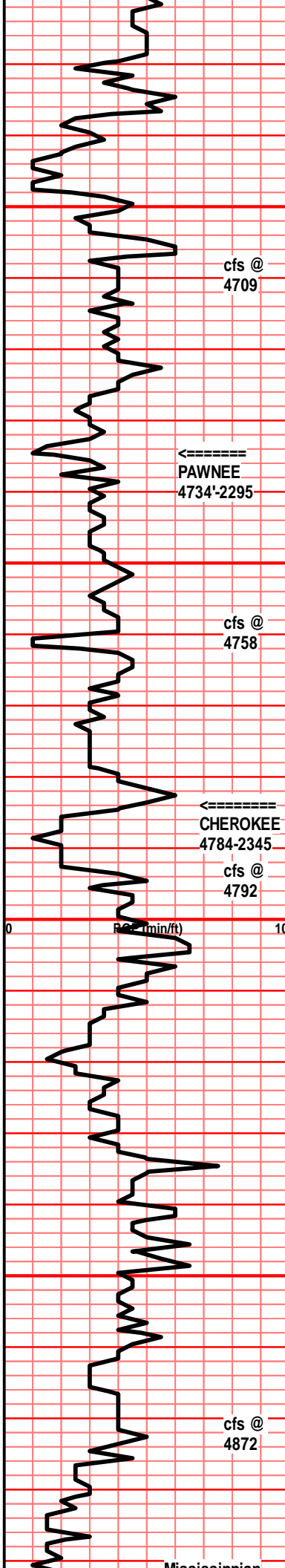
4870: lght gry inxln lm, poor inxln por, lm aa, no stns
or shw poor-fair odor.

4880: mstly gry gry, blk and green sh, lots of loose
clusters of pyrt, fn xln crem lm, no vis por, no odr, ns.

4890: aa, incrs in maroon sh, incrs in brwn chrt and
chrt lm, no odr, ns.

4900: incrs in in wht, yellow, gold, & green chrt, few
gry slit stn clusters, no odr, ns.

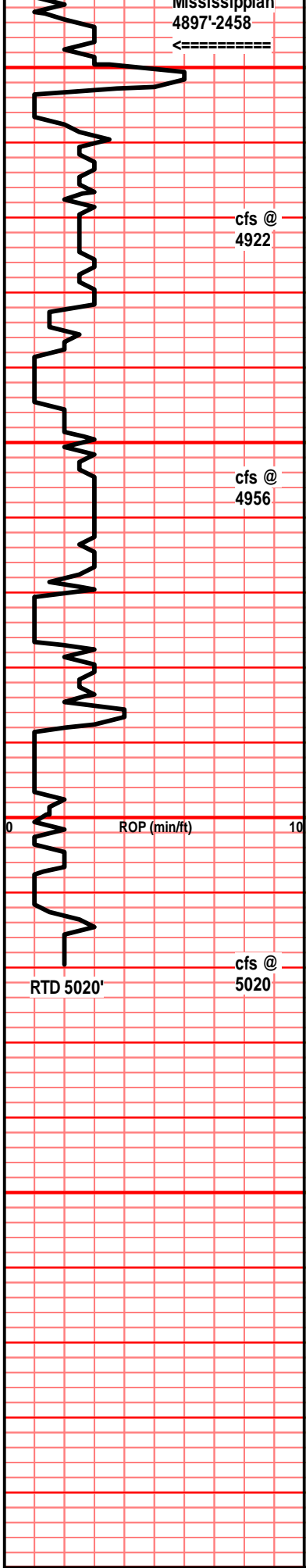
4910: aa, lots of gry sh and gry slit stn, wht pack stn



Mississippian

Mississippian
4897'-2458'

←-----



cfs @
4922

30MIN: lots of buff dolo/chrt, few v. lght crm grn stn lm, v. well cemntd, no vis por, lots of green, yellow, & orange chrt, lots of wht chlk, no odr, ns. 60MIN: aa, incrs in chlk and sub-chlky lm, no odr, ns.

cfs @
4956

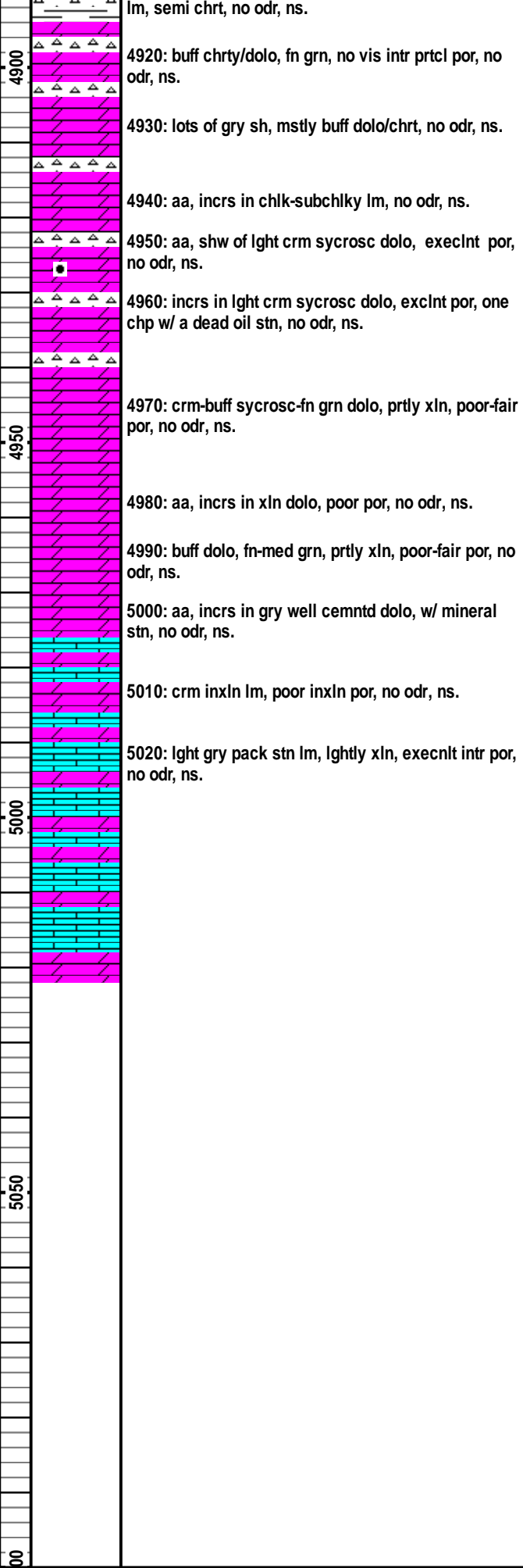
30MIN: yellow chrt, lots of chlk, buff chrty dolo, poor-no por, few lght crm syncosc dolo, excInt por, no odr, ns. 60MIN: decrse in chert, no sig change from 30min sample.

Straight Hole: .75 degrees

05/11/2013
Mud Info.
wiegth: 9.3
Vis. 64
Chloride: 2,600
LCM: 2

cfs @
5020

40MIN: mstly lght gry pack stn lm, prtly xln, excInt por, few chps w/ ?able stn and gas bubbles, no odr, ns.



4920: buff chrty/dolo, fn grn, no vis intr prtcl por, no odr, ns.

4930: lots of gry sh, mstly buff dolo/chrt, no odr, ns.

4940: aa, incrs in chlk-subchlky lm, no odr, ns.

4950: aa, shw of lght crm syncosc dolo, excInt por, no odr, ns.

4960: incrs in lght crm syncosc dolo, excInt por, one chp w/ a dead oil stn, no odr, ns.

4970: crm-buff syncosc-fn grn dolo, prtly xln, poor-fair por, no odr, ns.

4980: aa, incrs in xln dolo, poor por, no odr, ns.

4990: buff dolo, fn-med grn, prtly xln, poor-fair por, no odr, ns.

5000: aa, incrs in gry well cemntd dolo, w/ mineral stn, no odr, ns.

5010: crm inxln lm, poor inxln por, no odr, ns.

5020: lght gry pack stn lm, lghtly xln, excInt intr por, no odr, ns.