



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1150276
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

- New Well Re-Entry Workover
- Oil WSW SWD SIOW
- Gas D&A ENHR SIGW
- OG GSW Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____



1150276

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____ Liner Run: Yes No

Date of First, Resumed Production, SWD or ENHR: _____ Producing Method:
 Flowing Pumping Gas Lift Other *(Explain)* _____

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: _____ _____
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#1 Weber 15 Unit

2520' FSL & 2400' FWL

210'N & 90'E of NE NE SW Section 15-13S-31W

Gove County, Kansas

API# 15-063-22091-0000

Elevation: 2908' GL, 2913' KB

Sample Tops			Ref. Well
Anhydrite	2399'	+514	-1
B/Anhydrite	2425'	+488	-4
Heebner	3933'	-1020	-5
Toronto	3958'	-1045	-6
Lansing	3975'	-1062	-5
Muncie Shale	4126'	-1213	-6
Stark Shale	4213'	-1300	-4
Hush. Shale	4247'	-1334	-2
BKC	4278'	-1365	+3
Marmaton	4309'	-1396	-2
Altamont	4343'	-1430	-3
Pawnee	4408'	-1495	-3
Myrick	4440'	-1527	-2
Fort Scott	4459'	-1546	-1
Cherokee Shale	4485'	-1572	flat
Johnson	4526'	-1613	+2
Mississippian	4573'	-1660	+7
RTD	4720'	-1807	



CONSOLIDATED
Oil Well Services, LLC

PO Box 884, Chanute, KS 66720
620-431-9210 or 800-467-8676

257399

TICKET NUMBER 39481
LOCATION Oakley Ks
FOREMAN Kelly Gable
Walt Diakel

FIELD TICKET & TREATMENT REPORT
CEMENT

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
3-16-13	7193	Weiber 15 Unit #1	15	13	31	Boone
CUSTOMER Ritchie Explorations			Oakley south to Boone			
MAILING ADDRESS			TRUCK #	DRIVER	TRUCK #	DRIVER
CITY			5E	405		Damon Miller
STATE			15	460		Mike Ferris
ZIP CODE			6.5			

JOB TYPE Prod HOLE SIZE 7 7/8 HOLE DEPTH 4720' CASING SIZE & WEIGHT 5 1/2 - 15.5
CASING DEPTH 4719' DRILL PIPE _____ TUBING _____ OTHER P.C. @ 2396'
SLURRY WEIGHT 14.2 SLURRY VOL _____ WATER gal/sk _____ CEMENT LEFT In CASING 21.37
DISPLACEMENT 112 DISPLACEMENT PSI _____ MIX PSI _____ RATE 6 BPM

REMARKS: Safety Meeting, Rig up on L1W #2, run casing + equipment
Turbocut, 1, 3, 5, 10, 15, 17, 53, 55 + Baskets @ 7, 54, 69, 89, 95
Port Collar on 54, circ. 45 min on bottom, mix 30 sks in Rth, 20 sks in Mth
Pump 500 gal Mud Flush, 200 sks OWC, 5# Kolsol, .25% CDI-26,
Clear Pump + Lines, release Plug + Displace 10, 1002 H₂O @ 950#
Landed Plug @ 1500#, released Pressure, slight bleed, pressure to 500#
Shut in For 15 min

Thank You
Kelly - Walt + crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5401c	1	PUMP CHARGE	3,020.00	3,020.00
5406	15	MILEAGE	5.00	75.00
1126	250 sks	OWC	22.55	5,637.50
1110A	1250 #	Kolsol	1.56	700.00
1137	59 #	CDI-26	9.69	571.71
5407	11.75	Tan mileage Delivery	1.62	410.00
4203	1	5 1/2" Guide Shoe	19.30	19.30
4228B	1	5 1/2" AFU insert	206.00	206.00
4285	1	5 1/2" Port Collar	2,075.00	2,075.00
4136	8	5 1/2" Turalizers	72.00	576.00
4104	5	5 1/2" Baskets	276.00	1,380.00
4406	1	5 1/2" Rubber Plug	88.00	88.00
1144 G	500 gal	mud Flush	1.00	500.00
				15,432.21
		less 10% Disc		1543.22
				13,888.99
		SALES TAX		960.14
		ESTIMATED TOTAL		14,849.13

Ravin 3737

AUTHORIZATION Kelly Gable TITLE _____ DATE _____

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.

Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802



Phone: 316-337-6200
Fax: 316-337-6211
<http://kcc.ks.gov/>

Mark Sievers, Chairman
Thomas E. Wright, Commissioner
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

July 02, 2013

John Niernberger
Ritchie Exploration, Inc.
8100 E 22ND ST N # 700
BOX 783188
WICHITA, KS 67278-3188

Re: ACO1
API 15-063-22091-00-00
Weber 15 Unit 1
SW/4 Sec.15-13S-31W
Gove County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,
John Niernberger

Adam Eldani Geo-Log/Report

WellSight Systems

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

Measured Depth Log

Well Name: #1 WEBER 15 UNIT
Location: SEC 15- twp 13S- rge 31W GOVE COUNTY
License Number: API 15-063-22091
Spud Date: 03/07/2013
Surface Coordinates: 2520' FSL 2400' FWL
Region: Kansas (C.K.U.)
Drilling Completed: 03/16/2013

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

Coordinates:

Ground Elevation (ft): 2908 K.B. Elevation (ft): 2913

Logged Interval (ft): 3600 To: 4722 Total Depth (ft): 4720

Formation: Mississippian

Type of Drilling Fluid: Mud-Co Chemical

Printed by WellSight Log Viewer from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Ritchie Exploration Inc. (drilled by WW RIG#2)
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:**SAMPLE TOPS:**

Anhydrite 2399'+514	Anhydrite 2399'+514
B/Anhydrite 2425'+488	B/Anhydrite 2424'+489
Heebner 3933'-1020	Heebner 3930'-1017
Toronto 3958'-1045	Toronto 3952'-1039
Lansing 3975'-1062	Lansing 3970'-1057
Muncie Shale 4126'-1213	Muncie Shale 4127'-1214
Stark Shale 4213'-1300	Stark Shale 4214'-1301
Hush. Shale 4247'-1334	Hush. Shale 4248'-1335
BKC 4278'-1365	BKC 4282'-1369
Marmaton 4309'-1396	Marmaton 4312'-1399
Altamont 4343'-1430	Altamont 4348'-1435
Pawnee 4408'-1495	Pawnee 4409'-1496
Myrick 4440'-1527	Myrick 4439'-1526
Fort Scott 4459'-1546	Fort Scott 4460'-1547
Cherokee Sh 4485'-1572	Cherokee Sh 4487'-1574
Johnson 4526'-1613	Johnson 4531'-1618
Mississippian 4573'-1660	Mississippian 4582'-1669
RTD 4720'-1807	LTD 4722'-1809

DAILY DRILLING REPORT:

3/07 spud
 3/08 1200'
 3/09 2955'
 3/10 3960'
 3/11 4028'
 3/12 4095'
 3/13 4242'
 3/14 4372'
 3/15 4525'
 3/16 4620'
 3/17 4720'

Misc. Field Info.

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

RIG: WW DRILLING CO. RIG#2
 DRILLPIPE: 4-1/2" XH

TOOLPUSHER: Lonnie Lang
 MUD: MUDCO (REID ATKINS)
 GAS DETECTOR: NONE
 DRILL STEM TESTS: TRILOBITE TESTING
 LOGS: NABORS

OFFICE: PETER FIORINI

Comments

SURFACE Casing: 8 5/8" @ 225'

Moved in and rigged up. Spud at 12:30 p.m. Ran 5 jts new 23# 8-5/8" surface casing. Tally at 217.77', set at 225'. Cemented with 165 sacks common, 3% cc, 2% gel. Cement circulated. Plug down at 4:00 p.m. Drilled out plug at 12:00 a.m. on 3/8/13.

STRUCTURALLY: This Well ran Lower to Offset.

After the evaluation of electrical logs, and drill stem test results; Ritchie Exploration, Inc. determined to run 5 1/2" production casing on #1 Weber Unit for further commercial testing oil and gas.

Ran 5-1/2" 15.5# new production casing, set at 4717'. Port collar at 2396'. Insert at 4695'. Pumped 500 gallons mud flush. Cemented casing with 225 sacks OWC, 10% salt, 2% gel, 1/4% CDI-26 and 5 1/4% Kol-Seal. Plug down at 7:48 a.m. Insert did not hold. Plugged rat hole with 30 sacks and mouse hole with 20 sack of cement.








































































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	 Sltst	
 Cht	 Gyp	 Salt	 Ss	

ACCESSORIES

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

OTHER SYMBOLS

POROSITY	 Vuggy	ROUNDING	 Spotted	 Dst_alt
 Earthy	SORTING	 Rounded	 Ques	EVENT
 Fenest	 Well	 Subrnd	 Dead	 Rft
 Fracture	 Moderate	 Subang	INTERVAL	 Sidewall
 Inter	 Poor	 Angular	 Core	
 Moldic		OIL SHOW	 Dst	
 Organic		 Even	 Dst	
 Pinpoint				

Curve Track 1

ROP (min/ft)



New Track

Depth
Lithology

Geological Descriptions

ROP (min/ft) 0 10

33



2350

3350

NO SAMPLES AVA.

2400

3400

NO SAMPLES AVA.

←===== TOP OF ANHYDRITE (2399 +514)

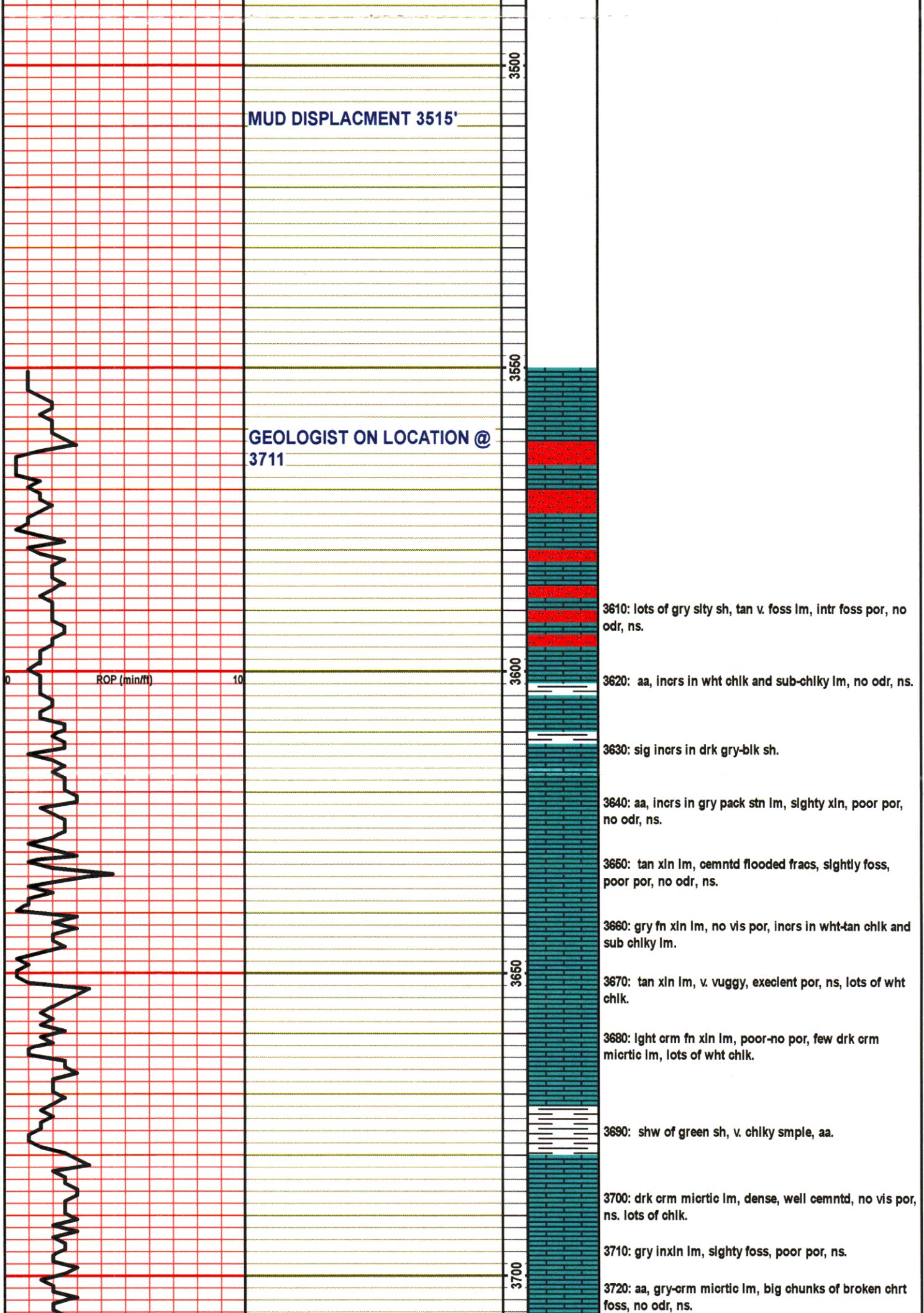
e-log anhy-b/anhy tops:
2399' +514
2424' +489

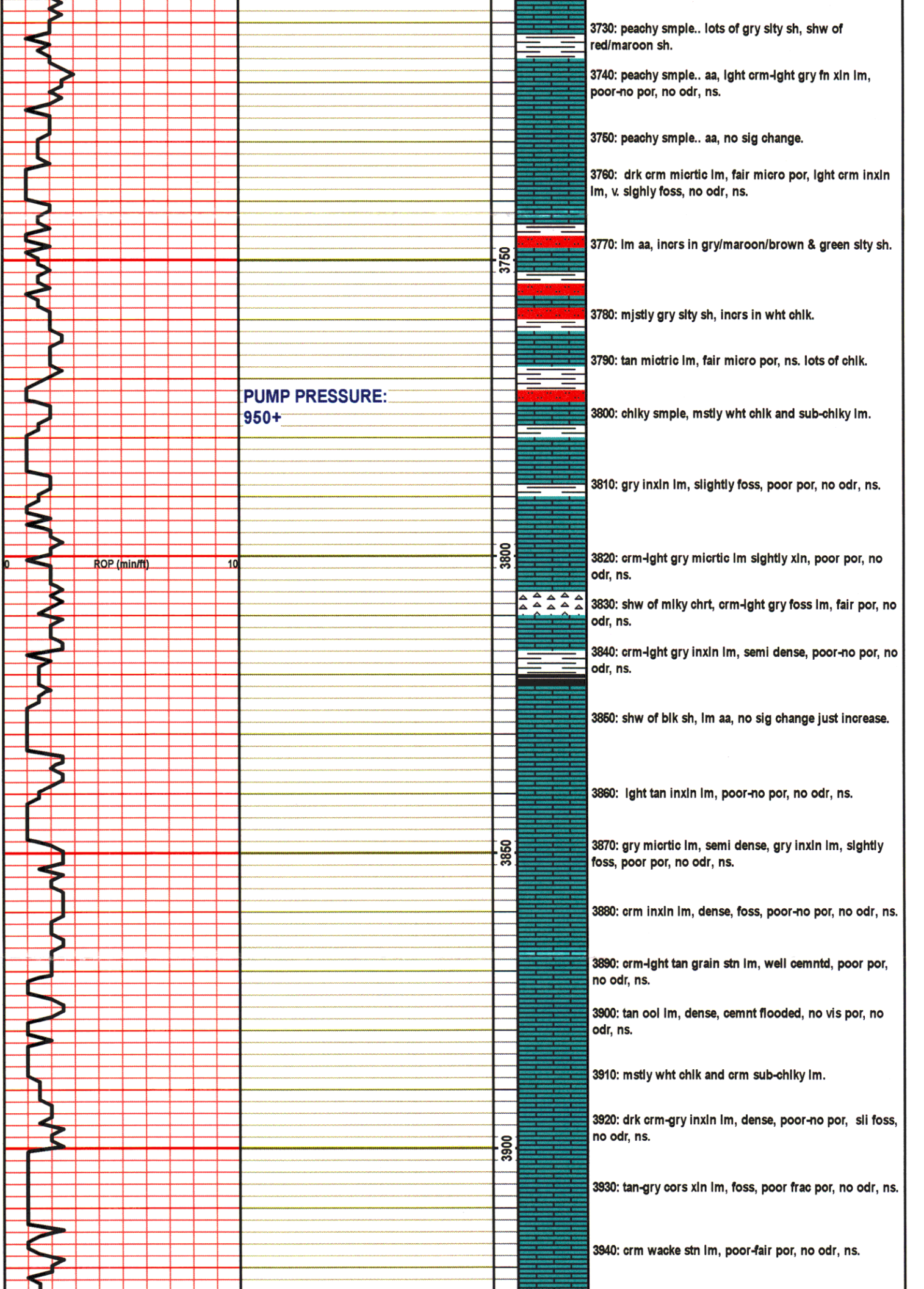
←===== BASE OF ANHYDRITE (2425 +488)

2450

3450

NO SAMPLES AVA.





3730: peachy smple.. lots of gry sity sh, shw of red/maroon sh.

3740: peachy smple.. aa, lght crm-lght gry fn xln lm, poor-no por, no odr, ns.

3750: peachy smple.. aa, no sig change.

3760: drk crm micrtic lm, fair micro por, lght crm inxln lm, v. slghly foss, no odr, ns.

3750

3770: lm aa, incrs in gry/maroon/brown & green sity sh.

3780: mjtly gry sity sh, incrs in wht chlk.

3790: tan micrtic lm, fair micro por, ns. lots of chlk.

**PUMP PRESSURE:
950+**

3800: chiky smple, mstly wht chlk and sub-chiky lm.

3810: gry inxln lm, slightly foss, poor por, no odr, ns.

3800

3820: crm-lght gry micrtic lm slightly xln, poor por, no odr, ns.

3830: shw of mlky chrt, crm-lght gry foss lm, fair por, no odr, ns.

3840: crm-lght gry inxln lm, semi dense, poor-no por, no odr, ns.

3850: shw of blk sh, lm aa, no sig change just increase.

3860: lght tan inxln lm, poor-no por, no odr, ns.

3850

3870: gry micrtic lm, semi dense, gry inxln lm, slightly foss, poor por, no odr, ns.

3880: crm inxln lm, dense, foss, poor-no por, no odr, ns.

3890: crm-lght tan grain stn lm, well cemntd, poor por, no odr, ns.

3900: tan ool lm, dense, cemnt flooded, no vis por, no odr, ns.

3910: mstly wht chlk and crm sub-chiky lm.

3900

3920: drk crm-gry inxln lm, dense, poor-no por, sli foss, no odr, ns.

3930: tan-gry cors xln lm, foss, poor frac por, no odr, ns.

3940: crm wacke stn lm, poor-fair por, no odr, ns.

HEEBNER
3930-1017

LANSING
3970-1057

ROP (min/ft)

cfs @
3972

cfs @
4004

cfs @
4012

cfs @
4028

cfs @
4057

cfs @
4070

MUNCIE
4126-1213

30MIN: tan-grysh green xln lm, dense, no vis por, no odr, ns. 60MIN: incrs in wht chlk, tan ool lm, mod cemnt, poor-fair por, no odr, ns.

DST #1: 3993' - 4028' (LKC "C & D")
REC: 300' GIP, 210' GO (10%G, 90%O), 123' MCO (40%M, 60%O).
IFP:20-76#/30"ISIP:1211#/45"
FFP:85-119#/45"FSIP:1199#/60"

30MIN: incrs in gry and aqua sh, lots of mlky chrt, tan ool lm, mod cemntd, fair-poor por, ssfo, fair odr. 60MIN: lots of gry, maroon and aqua sh, brwn ool lm mod cemnt, fair por, sfo, crm xln lm, w/ pin point vuggy por, sfo.

30MIN: crm xln lm, lots of pin point vuggy por, slightly ool, ssfo, fair-weak odr. 60MIN: lots of gry and maroon sh, crm inxln lm, w/ fair pin point por, decrease of sfo, weak odr.

30MIN: mstly crm/tan sub-chlky lm, few wht chrty/lm w/ strng pyrztion. 60MIN: crm inxln lm, poor-no inxln por, chlk aa, few drk tan fn xln lm, no por, no odr, ns.

30MIN: incrs in wht chlk, tan pack stn lm, semi xln fair-poor intr prtcl por, shw of drk brwn oil, fair-mod odr. 60MIN: incrs in wht/mlky chrt, tan pack stn lm, prtly xln, fair intr prtcl por, lots of shw of brwn oil, mod-strng odr.

30MIN: incrs in chlk and sub-chlky lm, incrs in gry sh, lots ool lm, cemnt flooded, no vis por, no odr, ns. 60MIN: lots of chlk, crm inxln lm, poor inxln por, lots of peach chrty lm, no vis por, no odr, ns.

DST #2: 4043' - 4070' (LKC "E & F") Recovered 30' mud cut oil (40% mud, 60% oil).
IFP:15-24#/30"ISIP:1075#/45"
FFP:24-36#/45"FSIP:1129#/60"

3950: shw of blk carb sh.

3960: mstly slty gry and maroon sh.

3970: mstly chlk, lght crm inxln lm, dense, no vis por, few tan chrt, lots of tan micrtic lm, semi dense, no odr, ns.

3980: tan grain stn lm, fair por, lots of tan-gry inxln lm, dense, no vis por, no odr, ns.

3990: incrs in gry and maroon sh, crm-gry fn xln lm, no vis por, dense, hrd to brk, no odr, ns.

4000: v. lght crm ixln lm, poor inxln por, lots of crm sub-chlky lm, no odr, ns.

4010: crm xln lm slightly ool, lots fair pin point por, shw of free drk brwn oil, fair-strng odr.

4020: tan fn xln lm, no vis por, hrd to brk, shw of oil aa, weak odr.

4030: lm aa, incrs in maroon and drk green sh.

4040: lots of gry, aqua & maroon sh, lots of pyrnt, crm-buff fn xln lm, no vis por, no odr, ns.

4050: mstly lght crm inxln lm, poor inxln por, no odr, ns.

4060: aa, drker crm color, no sig change.

4070: tan ool lm, cemnt flooded, no vis por, few chps w/ shw aa, weak-no odr.

4080: mstly gry and maroon sh, lots gry to aqua slt stn.

4090: mstly crm-tan inxln lm, poor inxln por, no odr, ns.

4100: lots of crm inxln lm, poor-no inxln por, lots of lght crm sub-chlky lm.

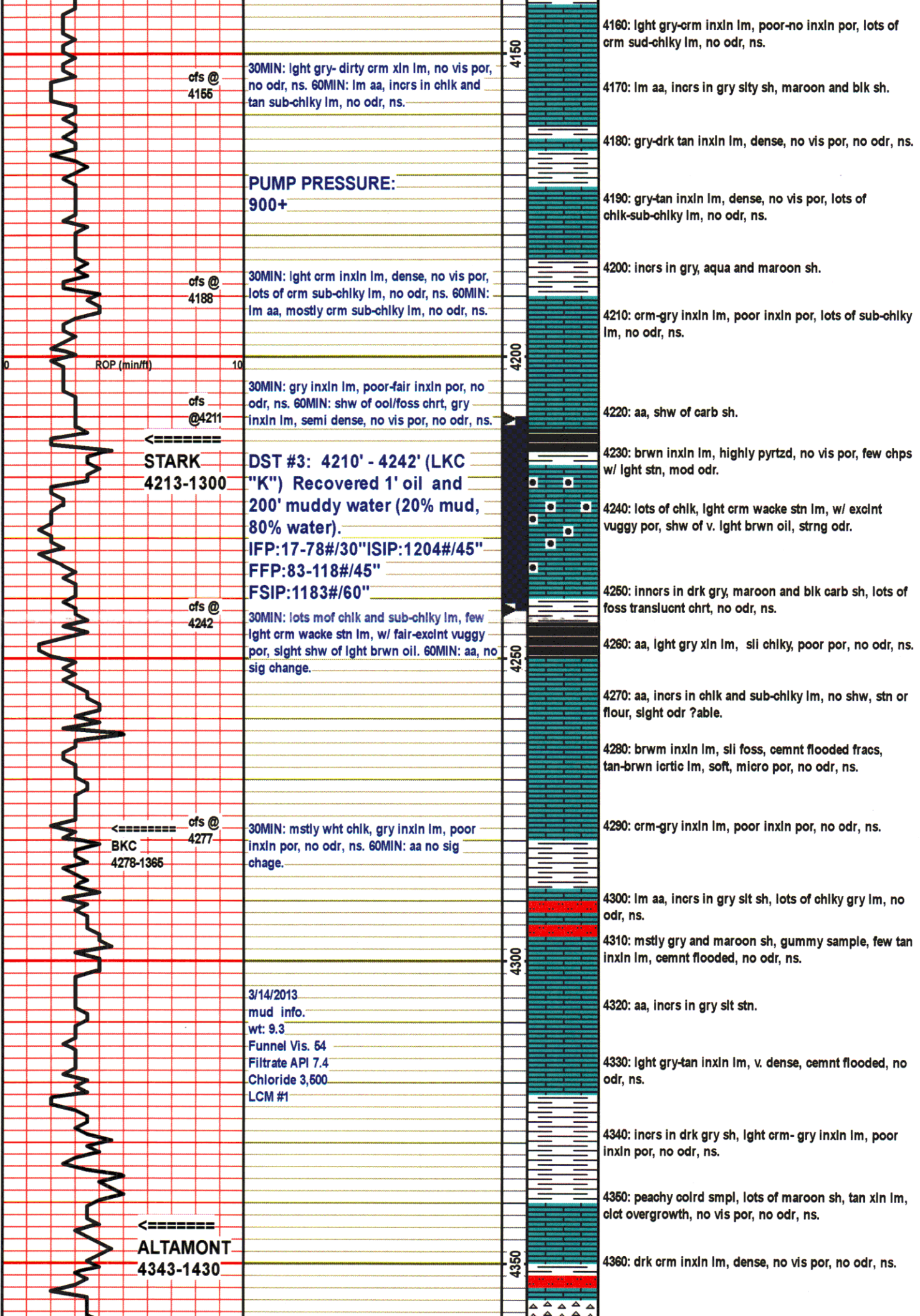
4110: aa, lght gry inxln lm, no vis por, no odr, ns.

4120: aa, mstly chlk and sub-chlky lm, no odr, ns.

4130: crm-lght gry inxln lm, por inxln por, no odr, ns.

4140: shw of carb sh, crm-gry xln lm semi chrty, dense, no vis por, no odr, ns.

4150: lots of gry gummy chlk, lm aa, lots of gry/greensh & maroon sh.



cfs @
4155

30MIN: lght gry- dirty crm xln lm, no vis por, no odr, ns. 60MIN: lm aa, incrs in chlk and tan sub-chlky lm, no odr, ns.

PUMP PRESSURE:
900+

cfs @
4188

30MIN: lght crm inxln lm, dense, no vis por, lots of crm sub-chlky lm, no odr, ns. 60MIN: lm aa, mostly crm sub-chlky lm, no odr, ns.

ROP (min/ft) 0 10

cfs @
4211

30MIN: gry inxln lm, poor-fair inxln por, no odr, ns. 60MIN: shw of ool/foss chrt, gry inxln lm, semi dense, no vis por, no odr, ns.

←-----
STARK
4213-1300

DST #3: 4210' - 4242' (LKC "K") Recovered 1' oil and 200' muddy water (20% mud, 80% water).

**IFP:17-78#/30"ISIP:1204#/45"
FFP:83-118#/45"
FSIP:1183#/60"**

cfs @
4242

30MIN: lots of chlk and sub-chlky lm, few lght crm wacke stn lm, w/ fair-exclnt vuggy por, sight shw of lght brwn oil. 60MIN: aa, no sig change.

←----- cfs @
BKC 4277
4278-1365

30MIN: mstly wht chlk, gry inxln lm, poor inxln por, no odr, ns. 60MIN: aa no sig chage.

←-----
ALTAMONT
4343-1430

3/14/2013
mud info.
wt: 9.3
Funnel Vis. 54
Filtrate API 7.4
Chloride 3,500
LCM #1

4160: lght gry-crm inxln lm, poor-no inxln por, lots of crm sud-chlky lm, no odr, ns.

4170: lm aa, incrs in gry slty sh, maroon and blk sh.

4180: gry-drk tan inxln lm, dense, no vis por, no odr, ns.

4190: gry-tan inxln lm, dense, no vis por, lots of chlk-sub-chlky lm, no odr, ns.

4200: incrs in gry, aqua and maroon sh.

4210: crm-gry inxln lm, poor inxln por, lots of sub-chlky lm, no odr, ns.

4220: aa, shw of carb sh.

4230: brwn inxln lm, highly pyrtzd, no vis por, few chps w/ lght stn, mod odr.

4240: lots of chlk, lght crm wacke stn lm, w/ exclnt vuggy por, shw of v. lght brwn oil, strng odr.

4250: inners in drk gry, maroon and blk carb sh, lots of foss translucent chrt, no odr, ns.

4260: aa, lght gry xln lm, sli chlky, poor por, no odr, ns.

4270: aa, incrs in chlk and sub-chlky lm, no shw, stn or flour, sight odr ?able.

4280: brwm inxln lm, sli foss, cemnt flooded fracs, tan-brwn iortic lm, soft, micro por, no odr, ns.

4290: crm-gry inxln lm, poor inxln por, no odr, ns.

4300: lm aa, incrs in gry slit sh, lots of chlky gry lm, no odr, ns.

4310: mstly gry and maroon sh, gummy sample, few tan inxln lm, cemnt flooded, no odr, ns.

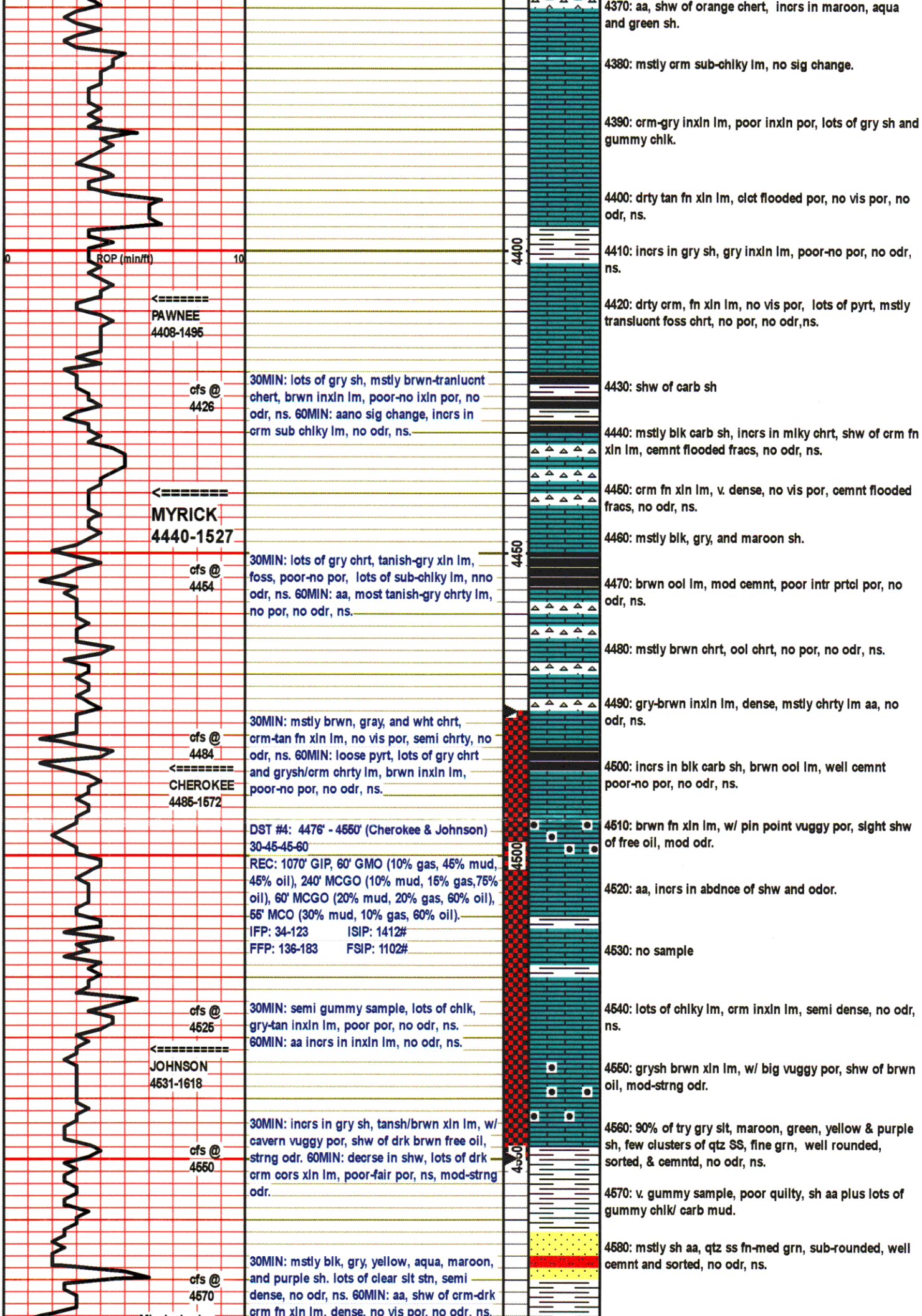
4320: aa, incrs in gry slit stn.

4330: lght gry-tan inxln lm, v. dense, cemnt flooded, no odr, ns.

4340: incrs in drk gry sh, lght crm- gry inxln lm, poor inxln por, no odr, ns.

4350: peachy colrd smpl, lots of maroon sh, tan xln lm, clct overgrowth, no vis por, no odr, ns.

4360: drk crm inxln lm, dense, no vis por, no odr, ns.



Mississippian
4582-1669

cfs @
4584

ROP (min/ft)

0

10

4600

4650

4700

4750

30MIN: lots of green sh, mstly crm lm, grain st, fn grns, well cemntd, poor por, no odr, ns. 60MIN: aa, no sig change in lithology.

3/16/2013
mud info.
wt: 9.2
Funnel Vis. 60
Filtrate API 8.4
Chloride 12,500
LCM #1

DEVIATION SURVEY: 1.0 DEGREE. STRAIT HOLE.

30MIN: v. chiky/gummy smple, mstly grysh-crm shly lm, poor-micro por, no odr, ns. 60MIN: no sig change in the sample.

4590: crm grain stn, fn grn carb sed, poor-fair por, lots of mineral stn, no odr, ns.

4600: aa, incrs in gry & green sh, incrs in wht chlk.

4610: lots of chlk, incrs in gry-wht slit stn, drk crm ool lm, xln, no vis por, no odr, ns.

4620: incrs in ool xln lm, mstly drk tan inxln lm, dense, no vis por, no odr, ns.

4630: gummy sample, inxln lm aa finer xln, mstly gummy chlk.

4640: incrs in gry and green sh, lots of chlk, tan fn xln lm, no vis por, no odr, ns.

4650: crm xln lm, poor por, one chp buff dolo w/ a sfo, no odr.

4660: crm ixln lm, w/ poor-fair por, v. slight shw of free tary oil, v. weak odr.

4670: shw of wht-crm chrt, lots of gry ool lm, well cemntd, no odr, ns.

4680: aa, no sig change, incrs in chrt.

4690: gry ool lm, well cemntd, poor-no por, no odr, ns.

4700: incrs in gry sity sh, mstly gry ool lm, v. well cemntd, hrd to brk, no odr, ns.

4710: v. chiky smple, lots of gry-tan ool lm, semi dense, no odr, ns.

4720: aa, brwn xln lm, poor por, no odr, ns.

RTD 4720
-1807'

