



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1160851  
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 Date Reached TD Completion Date or  
Recompletion Date Recompletion Date

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: \_\_\_\_\_



1160851

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](mailto: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

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <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> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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# Adam Eldani Geo-Log/Report

## WellSight Systems

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

Measured Depth Log

Well Name: #1 S. ZIMMERMAN

Location: SEC 4-TOWNSHIP 28S- RANGE 23W FORD COUNTY

License Number: API 15-057-20898

Region: KANSAS

Spud Date: 6/20/2013

Drilling Completed: 7/1/2013

Surface Coordinates: 335' FSL & 335' FWL

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

Coordinates:

Ground Elevation (ft): 2481

K.B. Elevation (ft): 2493

Logged Interval (ft): 3400 To: 5277

Total Depth (ft): 5275

Formation: Mississippian

Type of Drilling Fluid: Mud-Co Chemical

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://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

## Tops & Drill Report

### TOPS: DRILLING REPORT

#### Sample Tops:

Anhydrite: 1500'+993	Anhydrite: 1492'+1001
B/Anhydrite: 1541'+952	B/Anhydrite: 1526'+967
Stotler: 3578'-1085	Stotler: 3579'-1086
Heebner: 4253'-1760	Heebner: 4253'-1760
Lansing: 4400'-1907	Lansing: 4392'-1899
Muncie Sh: 4576'-2103	Muncie Sh: 4576'-2103
Stark Sh: 4702'-2209	Stark Sh: 4702'-2209
Hush: 4748'-2255	Hush: 4748'-2255
BKC: 4786'-2393	BKC: 4788'-2295
Marmaton: 4802'-2309	Marmaton: 4802'-2309
Altamont: 4852'-2359	Altamont: 4854'-2361
Pawnee: 4925'2432	Pawnee: 4925'-2432
Cherokee Sh: 4992'-2499	Cherokee Sh: 4970'-2477
Morrow: 5063'-2570	Morrow: 5070'-2577
Mississippian: 5103'-2610	Mississippian: 5101'-2608
RTD: 5275'-2782	LTD: 5277'-2784

#### DAILY DRILLING REPORT:

##### DATE DEPTH:

6/20 351'  
6/21 1455'  
6/22 2432'  
6/23 2962'  
6/24 3550'  
6/25 4245'  
6/26 4635'  
6/27 4960'  
6/28 4977'  
6/29 5082'  
6/30 5148'  
7/1 5275

#### Misc.

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

RIG: SOUTHWIND RIG #70  
TOOL PUSHER: SAM STAGGS  
MUD: MUD CO. (JUSTIN WHITING)  
GAS DETECTOR: MBC

DRILL STEM TEST'S: TRILOBITE TESTING, INC.

LOGS: NABORS (IAN MABB)

OFFICE: GEO-MIKE

## Comments

Moved in and rigged up. Spud at 4:15 p.m. Ran 8 jts used 23# 8-5/8" surface casing. Tally at 351.08', set at 338'. Cemented with 225 sacks class A, 2% gel, 3% cc. Cement circulated. Plug down at 12:30 a.m. on 6/20/13.

**DUE TO THE RESULTS OF SAMPLE LOGGING, ELECTRIC LOGGING, AND ALL DST TESTS ANALYSIS & CALCULATIONS; IT WAS ELECTED TO P&A #1 S. ZIMMERMAN TEST WELL.**

Plug and Abandon. 1st plug set at 1530' with 50 sacks 60/40 Poz, 4% gel, 1/4# flocele; 2nd plug set at 570' with 80 sacks; 3rd plug set at 240' with 50 sacks; 4th plug set at 60' with 20 sacks; 200 total sacks. Plugged the rat hole with 30 sacks. Job complete at 3:30 p.m. Plugging orders by Eric MacLaren with the KCC.


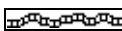
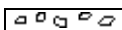

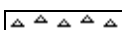
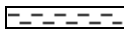


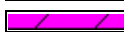




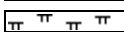

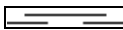



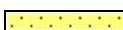

Well Log Surveys BY: NABORS. Compensated Denisty/ Neutron Log, Dual Induction.

SAMPLES WILL BE DEPOSITED WITH KANSAS GEOLOGICAL SURVEY.








































































RESPECTFULLY SUBMITTED

Adam M. A. Eldani



























## ROCK TYPES

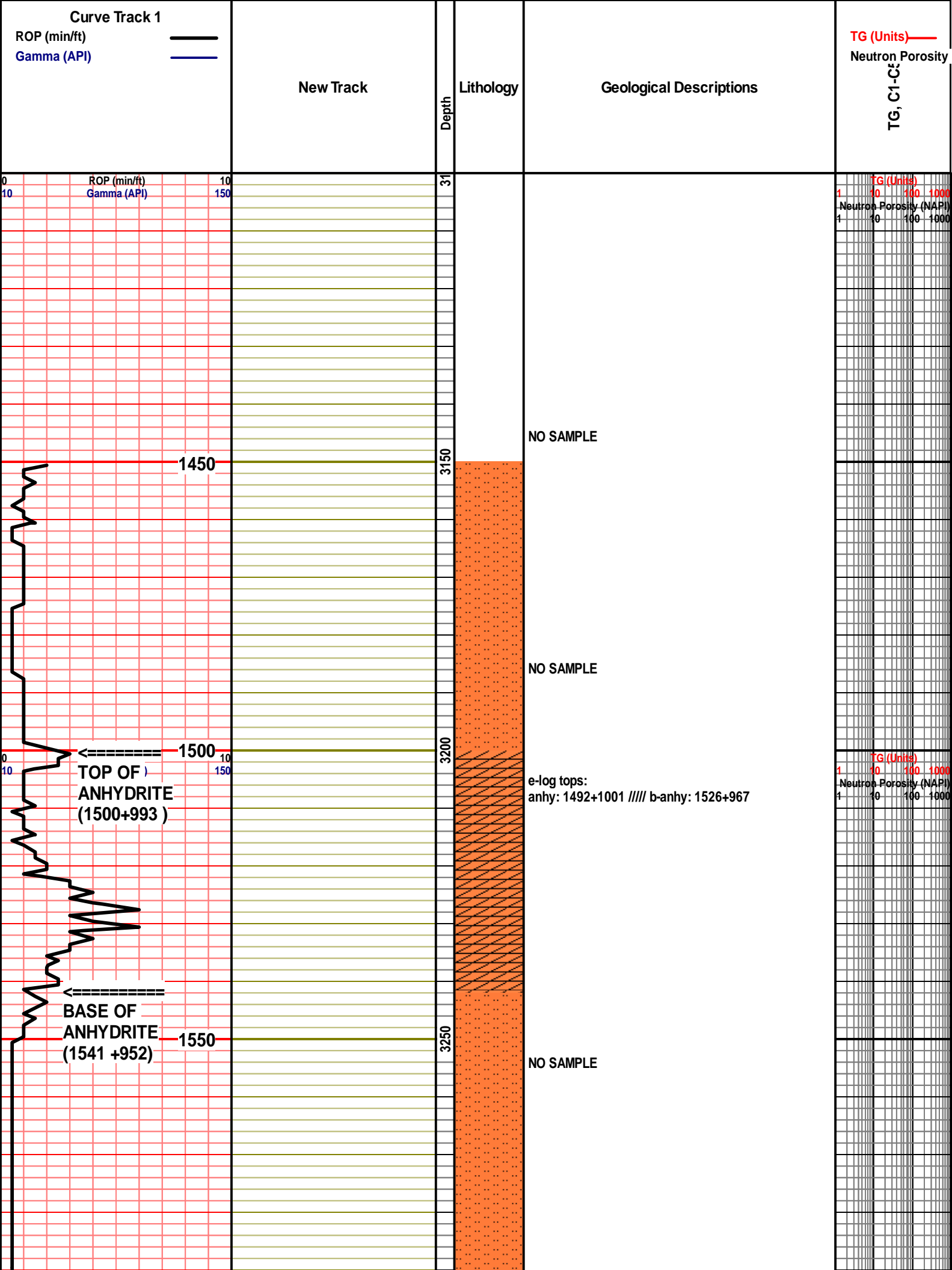
 Anhy  Bent  Brec  Carb sh  Cht	 Clyst  Coal  Congl  Dol  Gyp	 Igne  Lmst  Meta  Mrlst  Salt	 Shale  Shcol  Shgy  Sltst  Ss	 Till
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## ACCESSORIES

<b>MINERAL</b>  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	<b>FOSSIL</b>  Algae  Amph	 Belm  Bioclst  Brach  Bryozoa  Cephal  Coral  Crin  Echin  Fish  Foram  Fossil  Fuss  Gastro  Oolite  Oomold  Ostra  Pelec	 Pellet  Pisolite  Plant  Strom	<b>TEXTURE</b>  Boundst  Chalky  Cryxln  Earthy  Finexln  Grainst  Lithogr  Microxln  Mudst  Packst  Wackest	<b>STRINGER</b>  Anhy  Arg  Bent  Coal  Dol  Gyp  Ls  Mrst  Sltstrg  Ssstrg
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## OTHER SYMBOLS

<b>POROSITY</b>  Earthy  Fenest  Fracture  Inter  Moldic  Organic  Pinpoint	 Vuggy	<b>SORTING</b>  Well  Moderate  Poor	<b>ROUNDING</b>  Rounded  Subrnd  Subang  Angular	 Even  Spotted  Ques  Dead	 Dst_alt  Dst	<b>EVENT</b>  Rft  Sidewall	<b>OIL SHOW</b>  aiming_1	<b>INTERVAL</b>  Core  Dst
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0 10 150  
 ROP (min/ft)  
 Gamma (API)

31  
 3150  
 3200  
 3250

1450

1500

1550

NO SAMPLE

NO SAMPLE

e-log tops:  
 anhy: 1492+1001 // b-anhy: 1526+967

NO SAMPLE

TOP OF ANHYDRITE  
 (1500+993)

BASE OF ANHYDRITE  
 (1541 +952)

1 10 100 1000  
 TG (Units)  
 Neutron Porosity (NAPI)

1 10 100 1000  
 TG (Units)  
 Neutron Porosity (NAPI)

1550

3300

NO SAMPLE

3350

NO SAMPLES AVA.

3400

ROP (min/ft)  
Gamma (API)

10  
150

PUMP PRESSURE: 850+

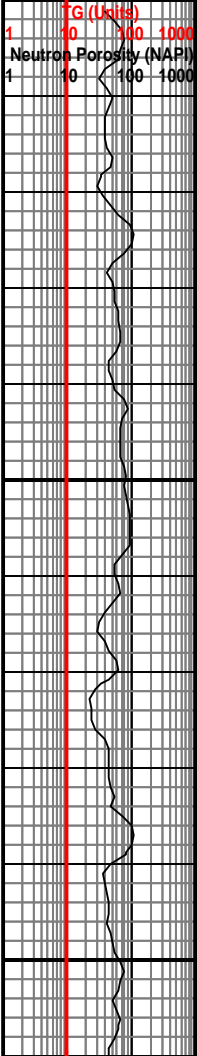
3450

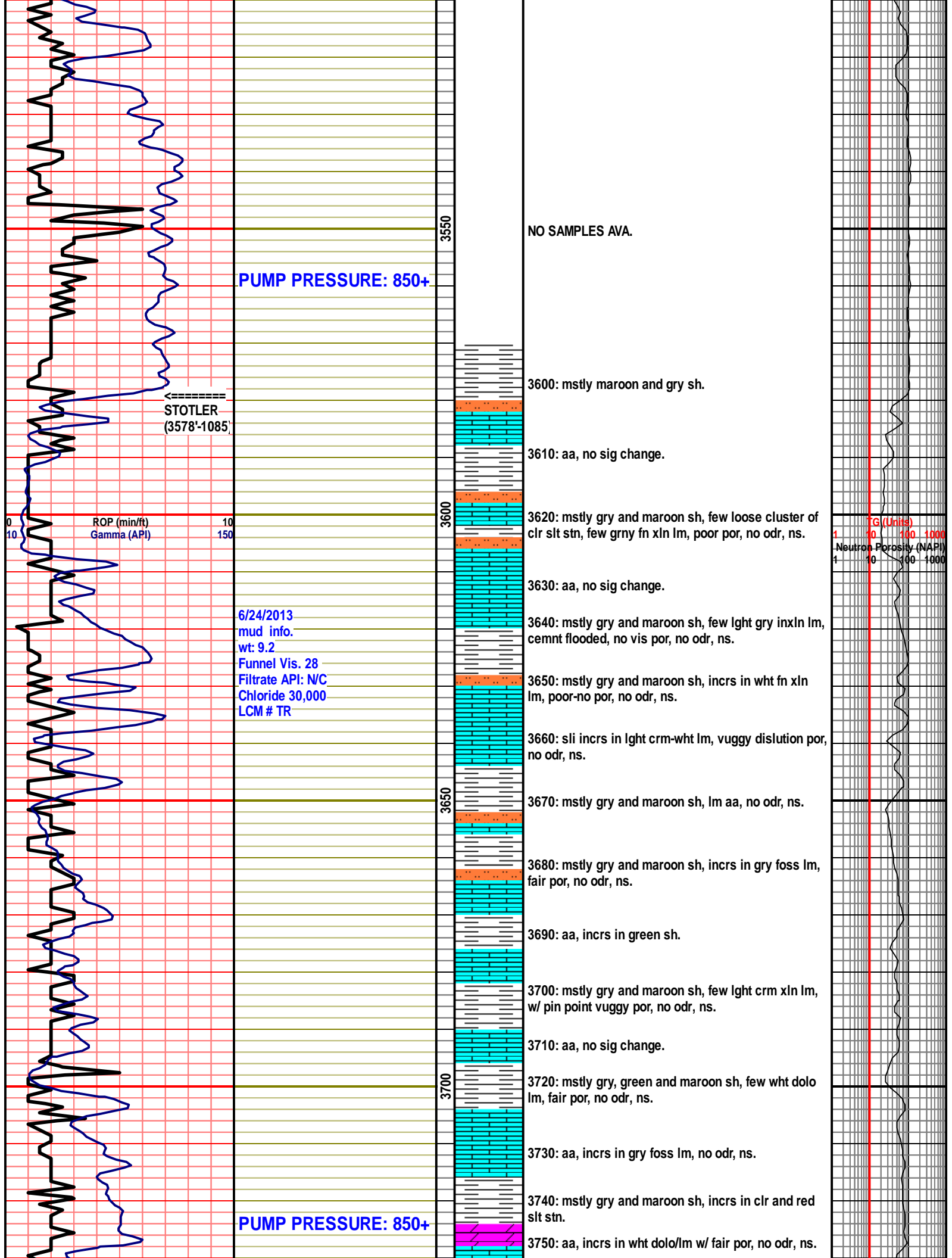
NO SAMPLES AVA.

3500

IG (K/g)  
Neutron Porosity (NAPI)

10 100 1000  
10 100 1000





PUMP PRESSURE: 850+

STOTLER  
(3578'-1085')

ROP (min/ft)  
Gamma (API)

6/24/2013  
mud info.  
wt: 9.2  
Funnel Vis. 28  
Filtrate API: N/C  
Chloride 30,000  
LCM # TR

NO SAMPLES AVA.

3600: mstly maroon and gry sh.

3610: aa, no sig change.

3620: mstly gry and maroon sh, few loose cluster of clr slt stn, few gry fn xln lm, poor por, no odr, ns.

3630: aa, no sig change.

3640: mstly gry and maroon sh, few lght gry inxln lm, cemnt flooded, no vis por, no odr, ns.

3650: mstly gry and maroon sh, incrs in wht fn xln lm, poor-no por, no odr, ns.

3660: sli incrs in lght crm-wht lm, vuggy dislution por, no odr, ns.

3670: mstly gry and maroon sh, lm aa, no odr, ns.

3680: mstly gry and maroon sh, incrs in gry foss lm, fair por, no odr, ns.

3690: aa, incrs in green sh.

3700: mstly gry and maroon sh, few lght crm xln lm, w/ pin point vuggy por, no odr, ns.

3710: aa, no sig change.

3720: mstly gry, green and maroon sh, few wht dolo lm, fair por, no odr, ns.

3730: aa, incrs in gry foss lm, no odr, ns.

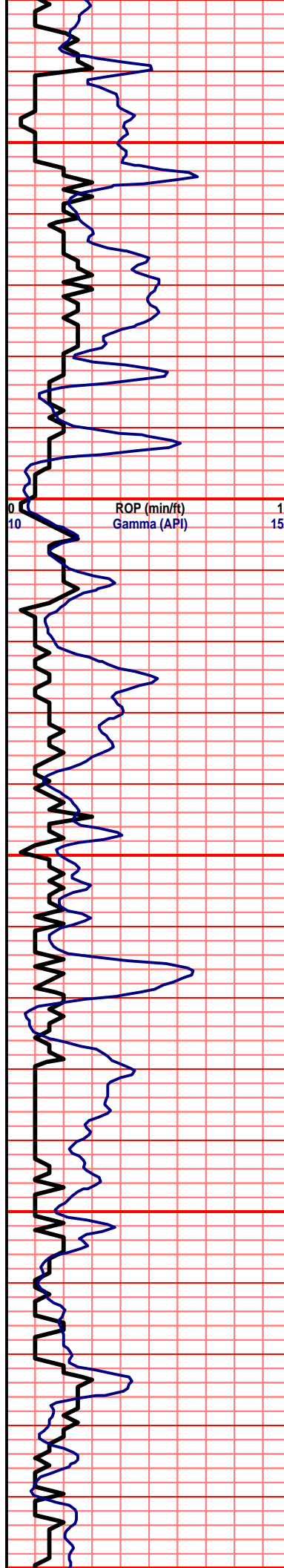
PUMP PRESSURE: 850+

3740: mstly gry and maroon sh, incrs in clr and red slt stn.

3750: aa, incrs in wht dolo/lm w/ fair por, no odr, ns.

TG (Units)  
Neutron Porosity (NAPI)





**GEOLOGIST ON LOCATION @ 3777'**

**MUD DISPLACEMENT @ 3822**



3760: mstly green, gry and maroon sh.

3770: aa, incrs in lght gry inxln lm, dense, no vis por, no odr, ns.

3780: mstly gry and maroon sh.

3790: incrs in gry inxln lm, no vis por, no odr, ns.

3800: (POOR SAMPLE) v. fn buff dolo, fair por, no odr, ns.

3810: mstly green and maroon sh, lots of lght crm xln lm, poor-no por, no odr, ns.

3820: aa, no sig change.

3830: msly gr and maroon sh, lots of clr slt stn, no odr, ns.

3840: aa, no sig change.

3850: mstly gry and maroon sh, clr slt stn, incrs in lght crm chrtly lm, no vis por, no odr, ns.

3860: aa, incrs in v. lght crm xln lm, prtly chlky, no odr, ns.

3870: mstly green and maroon sh.

3880: sh aa, drk tan ool lm, cemnt flooded, no vis por, no odr, ns.

3890: drk crm fn xln lm, dense, no vis por, no odr, ns.

3900: incrs in drk crm fn xln lm, lots of marcsite flooded fracs, no odr, ns.

3910: mstly crm fn xln lm, poor-no por, no odr, ns.

3920: drty crm chrtly lm, poor-no por, no odr, ns.

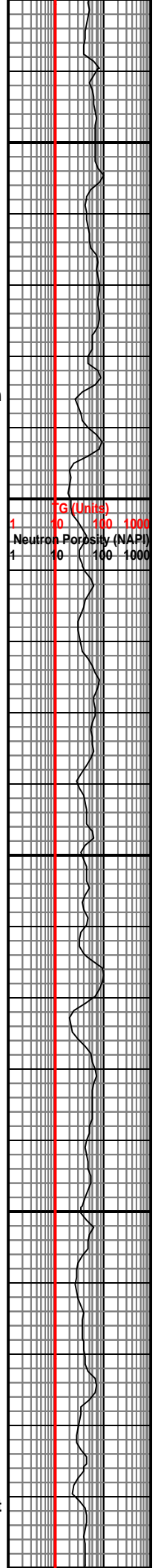
3930: gry-crm inxln lm, semi dense, poor-no por, incrs in wht chl.

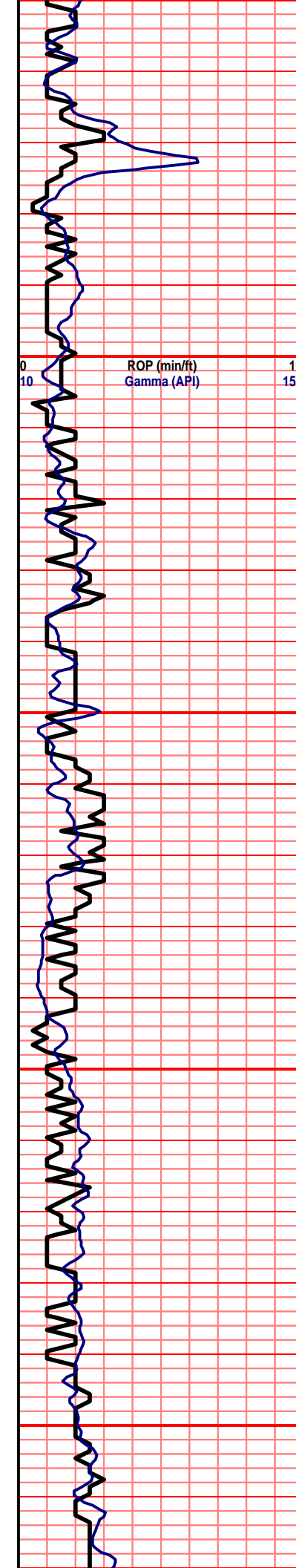
3940: crm-tan lm, sli foss, dense, poor por, no odr, ns.

3950: tan cors xln lm, sli foss, poor por, lots of wht chlky lm.

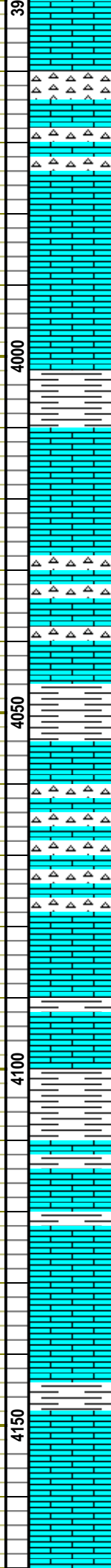
3960: aa, incrs in buff dolo, fn grn, fair intr prtcl por, no odr, ns.

3970: tan-gry inxln lm, dense, poor-no por, shw of wht foss chrt, lots of chl & chlky lm.

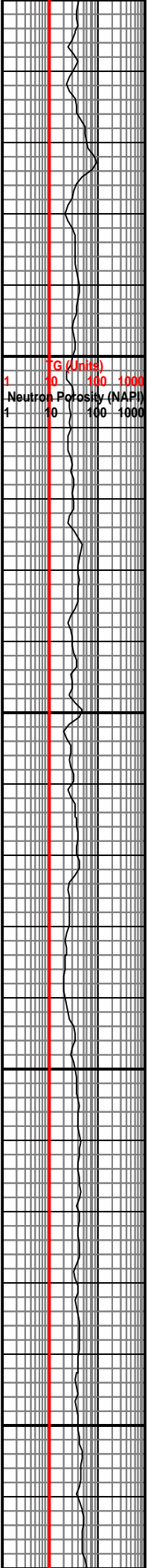


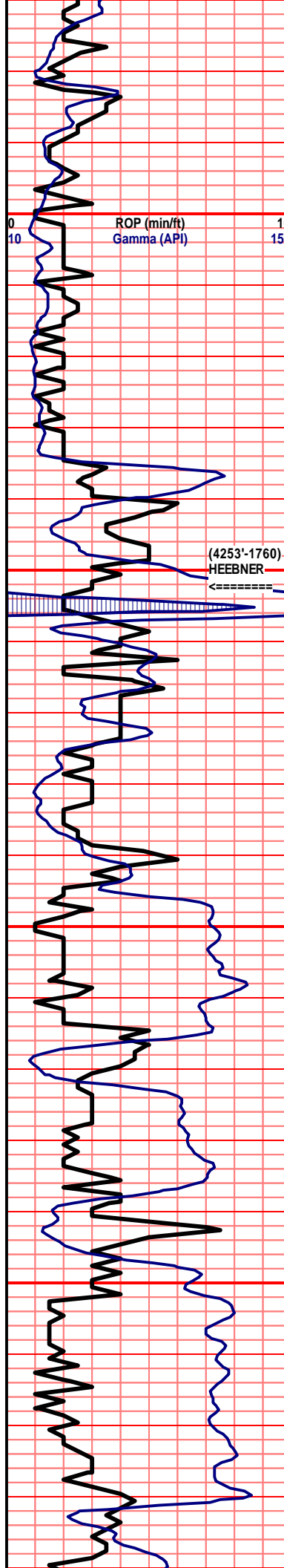


Gas reader malfunctioned for several hundred feet during drilling... MBC was immediately notified



3980: gry foss lm, dense, poor por, no odr, ns.  
 3990: drk crm micrtic lm, poor por, few lght gry inxln lm, dense, no odr, ns.  
 4000: dense buff micrtic lm, poor-no por, dirty wht chrt and chrty lm, no vis por, no odr, ns.  
 4010: crm inxln lm, poor por, no odr, ns.  
 4020: crm fn-med grn lm, poor-fair intr prtcl por, few gry inxln lm, dense, poor-no por, no odr, ns.  
 4030: incrs in maroon sh, crm fn-cors cln lm, poor por, no odr, ns.  
 4040: crm-gry xln lm, dense, poor-no por, no odr, ns.  
 4050: aa, incrs in tan ool cast lm, exclnt por, no odr, ns.  
 4060: mstly chlky & chlky lm, incrs in mlky chert, no odr, ns.  
 4070: incrs in gry sh, crm xln lm, semi dense, poor por, no odr, ns.  
 4080: mstly crm-gry micrtic lm, dense, no odr, ns.  
 4090: few tan ool lm, cemnt flooded, incrs in tan/wht cherty lm, dense, no odr, ns.  
 4100: incrs in maroon and green sh, mstly lght crm micrtic lm, dense, no odr, ns.  
 4110: mstly lght gry-wht chrty lm, poor-no por, no odr, ns.  
 4120: crm-drty gry xln lm, sli foss, well cmntd, poor-no por, no odr, ns.  
 4130: incrs in maroon and gry sh, crm micrtic lm, well cmntd, hrd to brk, no odr, ns.  
 4140: aa, incrs in lght gry fn xln lm, no vis por, no odr, ns.  
 4150: crm foss lm, cemnt flooded, no vis por, no odr, ns.  
 4160: crm semi xln lm, v. cemnt flooded, incrs in chlky lm, no odr, ns.  
 4170: gry inxln lm, dense, poor por, no odr, ns.  
 4180: aa, no sig change.





6/25/2013  
mud info.  
wt: 9.05  
Funnel Vis. 47  
Filtrate API: 11.2  
Chloride 6,100  
LCM # 2

(4253'-1760)  
HEEBNER



4190: tan med-cors grn lm, pack stn, well cemntd, sli foss, no odr, ns.

4200: crm-lght gry xln lm, cemnt flooded fracs, no odr, ns.

4210: aa, incrs in maroon sh.

4220: tan pack stn lm prtly xln cemnt flooded, no odr, ns.

4230: gry inxln lm, v. dense, no vis por, no odr, ns.

4240: aa, incrs in tan micrtic lm, dense, no odr, ns.

4250: aa, incrs in chlk and chlky lm, no odr, ns.

4260: drk crm-lght gry inxln lm, dense, poor-no por, no odr, ns.

4270: shw of blk carb sh, incrs in tan micrtic lm, prtly xln, poor por, no odr, ns.

4280: incrs in gry & blk carb sh, incrs in chlky lm, shw of tan inxln lm, poor inxln por, no odr, ns.

4290: incrs in green & maroon sh, crm-tan cors grn lm, v. cemnt flooded/ overgrowth, poor por, no odr, ns.

4300: aa, crm-gry xln lm, fn-cors xln, sli foss, poor por, no odr, ns.

4310: incrs in gry & maroon sh, crm micrtic lm, well cemntd, lots of crm-gry cors xln lm w/ big fuss foss, no odr, ns.

4320: aa, incrs in wht chlk, & crm sub-chlky lm, no odr, ns.

4330: mstly crm papck stn lm, prtly xln, lots of maroon sh, no odr, ns.

4340: brwnsh/gry ool lm, weakly cemntd, poor-fair por, incrs in mlky chrt, no odr, ns.

4350: incrs in maroon & gry sh, crm fn xln lm w/ lots of pyrt, dense, no vis por, no odr, ns.

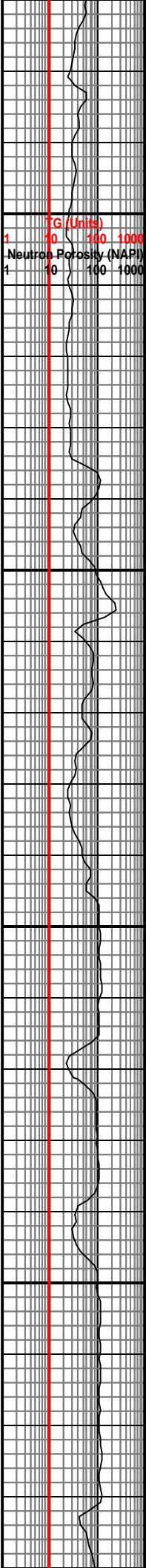
4360: gry foss lm, well cemntd, hrd to brk, no vis por, no odr, ns.

4370: crm fn xln lm, dense, no vis por, no odr, ns.

4380: gry-crm micrtic lm, well cemntd, gry ool lm, poorly cemntd, poor-fair por, no odr, ns.

4390: mstly gry sh.

4400: aa no sig change, incrs in gry inxln lm, v. dense, no vis por, no odr, ns.

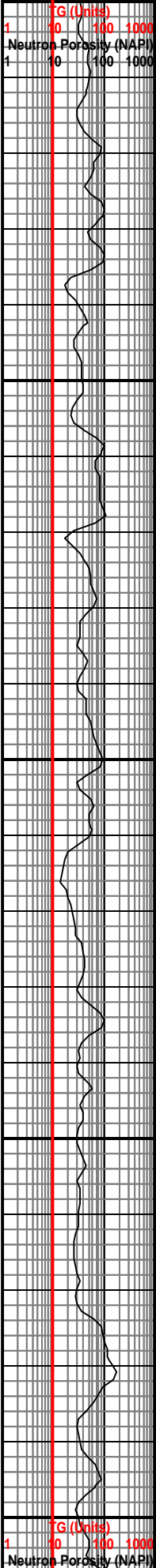


LANSING  
(4392'-1899)



4400  
4450  
4500  
4550  
4600

4410: mstly gry, green, & maroon sh, incrs in crm-drk crm xln lm, semi foss, no odr, ns.  
4420: lots of gry sh, incrs in crm micrtic lm, incrs in chlky lm, no odr, ns.  
4430: incrs in crmy chrt & chrtly lm, incrs in crm sub-chlky lm, no odr, ns.  
4440: crm fn xln lm, v. poor vuggy por, no odr, ns.  
4450: incrs in blk & gry slty sh, shw of gry-blk chrt, incrs in gry inxln lm, poor por, no odr, ns.  
4460: incrs in crm inxln lm, poor-no por, no odr, ns.  
4470: crm micrtic lm, sli xln w/ pin point vuggy por, no odr, ns.  
4480: aa, incrs in chlky and chlk lm.  
4490: gry xln lm prtly micrtic, well cemntd, no odr, ns.  
4500: crm-tan inxln lm, dense, no vis por, lots of gry-brwn chrt, no odr, ns.  
4510: crm-gry inxln lm, dense, poor-no por, lots of crm chrt, no odr, ns.  
4520: tan-gry inxln lm, dense, poor inxln por, no odr, ns.  
4530: lght crm inxln lm, dense, no vis por, no odr, ns.  
4540: aa, incrs in gry sh, incrs in drty wht chrt, no odr, ns.  
4550: lght-drk tan dense inxln lm, no vis por, no odr, ns.  
4560: lght crm inxln lm, dense, lots of wht & crm chrt, no odr, ns.  
4570: aa, incrs in chlky.  
4580: crm, wht & gry chrt and chrtly lm, lots of sub-chlky lm, ns.  
4590: aa, no sig change.  
4600: crm-tan xln lm, no vis por, lots of crm sub-chlky lm, no odr, ns.  
4610: incrs in gry and maroon sh, crm micrtic lm, well cemntd, incrs in gry and wht chrt, no odr, ns.  
4620: lots crm sub-chlky lm, dense, lots of chlky lm, ns.



(4576'-2103)  
MUNCIE

6/26/2013  
mud info.  
wt: 9.4  
Funnel Vis. 53  
Filtrate API: 13.2  
Chloride 8,800

LCM # 2

bit change total time spent on tripping: 5 hours.

sure shot; straight hole survey. 3/4 degree.

(4699'-2206) STARK SH. ←

PUMP PRESSURE 900+

PUMP PRESSURE 900+

MBC representative on site repairing gas sniffer.

4630: aa, incrs chlk and chlky lm.

4640: tan-dirty crm xln lm, sli foss, poor por, no odr, ns.

4650: incrs in gry and maroon sh, incrs in crm chlky lm, lm aa, no odr, ns.

4660: aa, incrs in tan cors xln lm, no odr, ns.

4670: incrs in gry sh, incrs lght gry inxln lm, dense, no vis por, incrs in gry-brwn foss chrt, no odr, ns.

4680: mstly crm xln lm, dense, poor-no por, lots of tan foss lm, well cemntd, no odr, ns.

4690: aa, shw of drk tan ool lm, cemnt flooded, no odr, ns.

4700: incrs in gry sh, mstly lght crm sub-chlky lm, no odr, ns.

4710: mstly gry sh, lots of drk crm inxln lm, semi dense, poor-no por, no odr, ns.

4720: incrs in drk gry sh, lots of tan sli foss xln lm, dense, no vis por, no odr, ns.

4730: aa w/ a few chps of blk sh.

4740: v. gummy sample, mstl gry sh & crm sub-chlky lm.

4750: incrs in blk sh, mstly drk tan xln lm, poor por, no odr, ns.

4760: mstly gry dense inxln lm, no vis por, few drk tan ool lm, cemnt flooded, no odr, ns.

4770: lm aa, lots of blk carb sh, lots of drk gry chrt, no odr, ns.

4780: lots of blk carb sh, crm inxln lm, dense, lots of crm chrt - chrtly lm, no odr, ns.

4790: lght gry-brwn fn xln lm, no vis por, no odr, ns.

4800: aa, incrs in wht chlk.

4810: lots of wht chlk, incrs in blk carb sh & blk chrt.

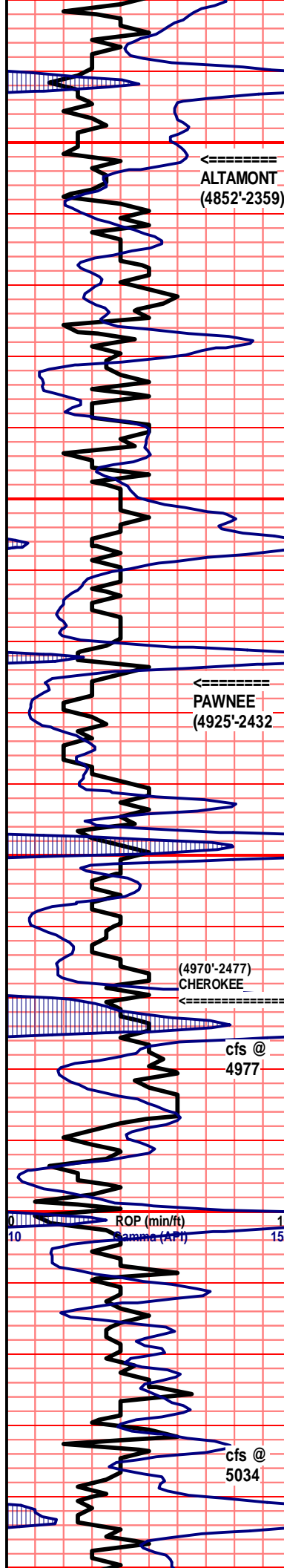
4820: decse in blk sh, mstly tan-gry inxln lm, v. dense, lots of gry chrt, no odr, ns.

4830: gry-tan inxn lm, dense, no vis por, no odr, ns.

4840: aa, incrs in gry sh.

ROP (min/ft) 0 10  
Gamma (API) 10 150

TG (U238) 1 10 100 1000  
Neutron Porosity (NAPI) 1 10 100 1000



6/27/2013  
mud info.  
wt: 9.35  
Funnel Vis. 54  
Filtrate API: 10.0  
Chloride 8,900  
LCM # 2

6/28/2013  
mud info.  
wt: 9.4  
Funnel Vis. 47  
Filtrate API: 10.6  
Chloride 10,000  
LCM # 2

6/29/2013  
mud info.  
wt: 9.2  
Funnel Vis. 45  
Filtrate API: 10.8  
Chloride 9,000  
LCM # 2

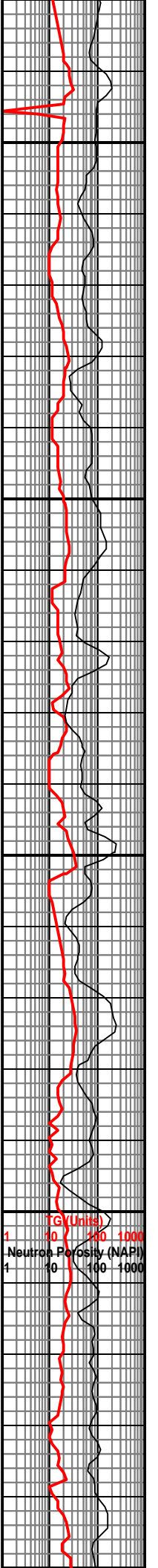
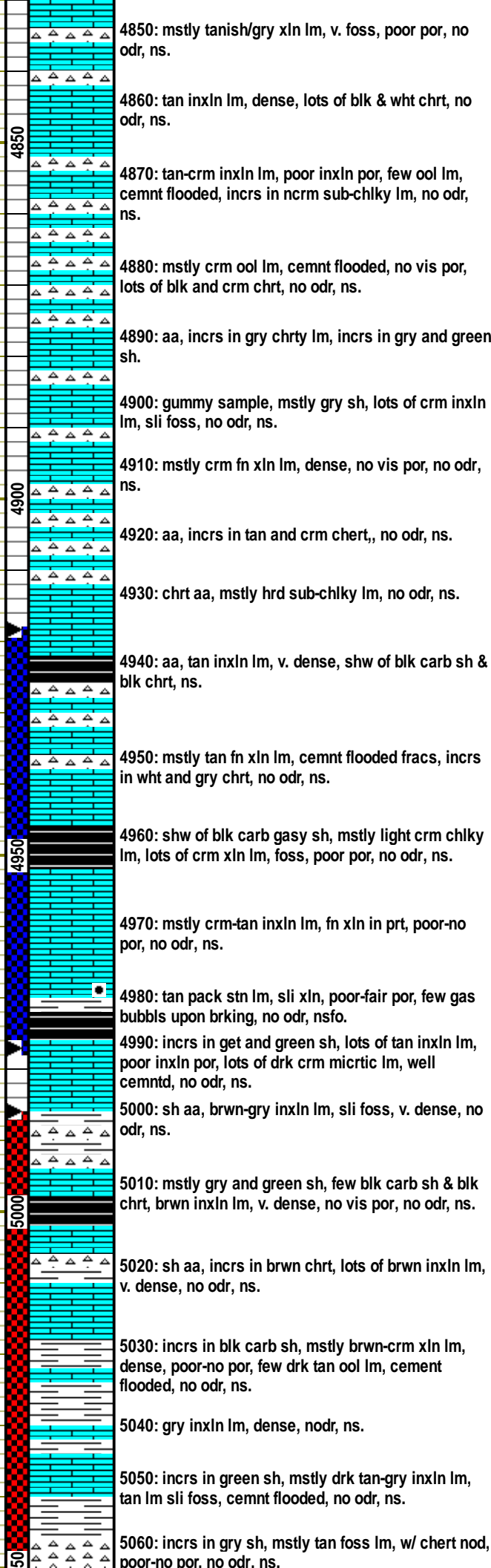
**DST #1: 4918' - 4977'**  
**(Pawnee)**  
**30-30-30-30**  
**Recovered 72' mud cut water (30% mud, 70% water).**  
**IFP: 40-92 FFP: 69-86**  
**SIP: 1380-1343/**

30MIN: crm-brwn foss lm, cemnt flooded, poor-no por, lots of gry semi chrt lm, no odr, nsfo. 60MIN: mstly crm fn xln lm, lots gry to brwn inxln lm, sli foss, cemnt flooded, no vis por, no odr.

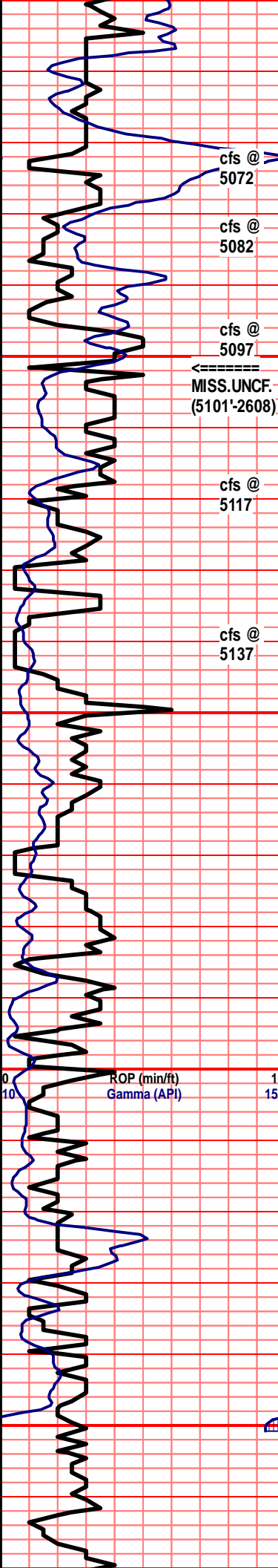
**DST #2: 4986' - 5082'**  
**(Cherokee/Huck) GTS**  
**immediately on second open.**  
**1/4" choke.**

Initial flow period 30". Gauged N/A  
Final flow period 60" Gauged: 45 mcf/10", 45 mcf/20", 38 mcf/30", 35 mcf/40", 35 mcf/50", 35 mcf/60".  
Recovered 4873' gas in pipe and 104' gas cut mud (2% gas, 98% mud).  
IFP:88-88#/30" ISIP:1199#/45"  
FFP:90-100#/60" FSIP:1264#/60"

30MIN: lots of gry and blk carb sh, mstly brwn fn xln lm, no vis por, gry inxln lm, w/ poor-no por, no odr, ns. 60MIN: incrs in gry foss chrt, incrs in grysh/green sh, lm as 30 min sample, no odr, ns.



**sure shot; straight hole survey. 1 3/4 degree.**



cfs @ 5072

cfs @ 5082

cfs @ 5097

MISS. UNCF. (5101'-2608')

cfs @ 5117

cfs @ 5137

30MIN: tan xln lm, w/ pin point vuggy por, ssfo, faint odr, lots of drk dead oil stns, mstly crm sub-chlky lm. 60MIN: mstly crm sub-chlky lm, few tan xln lm w/ poor frac por, drk dead oil stn, v. faint odr.

30MIN: incrs in green and gry sh, few cluster gry slt stn, lots tan-crm inxln lm, poor-no por, few chps lght yellow chrt, sli wthrd, sfo, no odr. 60MIN: incrs in yellow wethrd chert, ssfo, v. faint odor.

30MIN: mstly drk gry-green sh, brwn xln lm, poor-no por, lots of crm-tan chrt-chrty lm, fair vuggy por, gas bubbles and vsso, deade stns, fair odr. 60MIN: sh aa, lots of wht-crm wthrd chrt, lots of dead stn, gas bubbles, & ssfo, faint-no odr.

30MIN: mstly lght crm sub-chlky lm, lots of maroon & green sh, few lght tan inxln lm, poor inxln por, three chps wthrd wht chrt, deade stns, fair odr, nsfo. 60MIN: mstly chlky lm, fe green & maroon sh, lots of wht-crm chrty lm, no vis por, three tan micrtic lm, w/ micro intr prtcl por, shw of brwn free oil.

30MIN: mstly wht chlky-chlky lm, crm micrtic lm, poor-fair micro intr prtcl por, one chp w/ a v. weak shw, faint odr. 60MIN: mstly chlky-chlky lm, buff dolo, fair por, shw of brwn oil, faint odor.

**DST #3: 5078' - 5097' (Morrow) GTS 18 minute on initial open. 1/4" choke.**

Initial flow period 30". Gauged 35 mcf/20"

42 mcf/30"

Final flow period 60". Gauged 43 mcf/10"

45 mcf/20"

46 mcf/30"

46 mcf/40"

46 mcf/50"

46 mcf/60"

Recovered 5022' gas in pipe and 50' mud.

IFP:37-43#/30" ISIP:1425#/45"

FFP:30-53#/60" FSIP:1406#/90"

**DST #4: 5098' - 5148' (Mississippian) Packer Failure.**

**DST #5: 5108' - 5148' (Mississippian) Recovered 355' mud cut water (50% mud, 50% water) and 1240' water. Chlorides 5,400.**

Total Recovery: 1595'

IFP:90-397#/30" ISIP:1457#/45"

FFP:409-729#/45" FSIP:1413#/60"

6/30/2013 mud info. wt: 9.2 Funnel Vis. 48 Filtrate API: 10.0 Chloride 10,000 LCM # 2

7/1/2013 mud info. wt: 9.1 Funnel Vis. 58 Filtrate API: 12.0 Chloride 15,000 LCM # 2



5070: aa, incrs in crm sub-chlky lm, shw of lght crm ool lm, cemnt flooded, no odr, ns.

5080: mstly crm inxln lm, sli foss, cemnt flooded, poor por, no odr, ns.

5090: mstly green, gry and blk carb sh, lots of tan xln lm, prtly chlky, w/ dead oil stns in fracs, no odr, nsfo.

5100: sh aa, brwn inxln lm, fn xln in prt, decrse in stns, no odr, nsfo.

5110: mstly maroon, green, & drk gry sh, orange & yellow chrt, no por, few wht-green chrt w/ dead oil stns, v. poor-no por, no odr, nsfo.

5120: sh aa, tan micrtic lm, fair micro intr prtcl por, shw of lght brwn oil & gas bubbles, few v. lght chrt, w/ shw brwn oil a& dead stns.

5130: mstly crm inxln lm, poor inxln por, lots of wht chrt w/ blk min stn, a coupl chps of tan pack stn lm, fair intr prtcl por, shw of brwn oil, fair-strng odr.

5140: incrs in gry sh, tan pack stn lm, fn-med grn, fair intr prtcl por, shw of brwn oil, strng odr.

5150: mstly crm chlky lm, lght brwn dolo, fair por, some chps w/ shw aa, no odr.

5160: mstly gry sh & gry slt stn, tan xln lm, foss, poor por, no odr, ns.

5170: mstly gry sh & gry slt stn, tan-crm xln lm, sli chrty, v. foss, poor por, no odr, ns.

5180: aa, incrs in lght brwn dolo, fair intr prtcl por, no odr, ns.

5190: incrs in sub-chlky lm, crm-tan inxln lm, poor-no inxln por, buff dolo/lm well cemntd, poor por, no odr, ns.

5200: lght crm xln lm, sli foss, lots of crm sub chlky lm, lght brwn fn sycrosc dolo, fair por, no odr, ns.

5210: crm inxln lm, poor-no inxln por, crm chrty-chrty lm sli foss, sli ool, no vis por, no odr, ns.

5220: mstly crm sub-chlky lm, ncrs in crm xln dolo/lm, poor-fair por, few mlky chrt chps, no odr, ns.

5230: aa, mstly crm sycrosc dolo, fair intr prtcl por, no odr, ns.

5240: dolo aa, incrs in lght brwn fn grn dolo, v. well cemntd, poor-no por, no odr, ns.

5250: aa, incrs in lght brwn, xln dolo, incrs in crm inxln lm, no odr, ns.

5260: mstly mlky chrt, lots crm sub-chlky lm, no odr, ns.

5270: aa, incrs in pyrt, no sig change.

TC (Units)  
Neutron Porosity (NAP)

RTD 5275'

30MIN: mstly crm sub-chlky lm, wht mlky  
chert, tan-crm inxln lm, dense, no odr, ns.  
60MIN: ni sig change from thirty min  
sample, no odr, ns.

sure shot; straight hole  
survey. 1 degree.

5300

50





**#1 S. Zimmerman**

335' FSL & 335' FWL

5' N & 5' E of C SW SW SW Section 4-28S-23W

Ford County, Kansas

API# 15-057-20898-0000

Elevation: 2481' GL, 2493' KB

Sample Tops			Ref. Well
Anhydrite	1500'	+993	+1
B/Anhydrite	1541'	+952	-6
Stotler	3578'	-1085	-2
Heebner	4253'	-1760	-5
Lansing	4408'	-1915	-25
Muncie Shale	4608'	-2115	-22
Stark Shale	4748'	-2255	-26
Hush	4792'	-2299	-26
BKC	4856'	-2363	-27
Marmaton	4876'	-2383	-28
Altamont	4897'	-2404	-28
Pawnee	4950'	-2457	-31
Cherokee Shale	4992'	-2499	-24
Morrow	5063'	-2570	+11
Mississippian	5103'	-2610	+13
RTD	5275'	-2782	

# ALLIED OIL & GAS SERVICES, LLC 060514

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999  
SOUTHLAKE, TEXAS 76092

SERVICE POINT:  
*Great Bend ks*

DATE <i>6-19-13</i>	SEC. <i>4</i>	TWP. <i>23</i>	RANGE <i>23</i>	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
LEASE <i>S Zimmerman</i>	WELL # <i>1</i>	LOCATION <i>Field N to Saddle Rd</i>			COUNTY <i>Ford</i>	STATE <i>KS</i>	
OLD OR NEW (Circle one)			West to 170 Rd, 15, E into				

CONTRACTOR <i>Southwind Drilling</i>	OWNER
TYPE OF JOB <i>Surface</i>	
HOLE SIZE <i>12 1/4</i>	T.D.
CASING SIZE <i>8 5/8</i>	DEPTH <i>351</i>
TUBING SIZE	DEPTH
DRILL PIPE <i>4 1/2</i>	DEPTH
TOOL	DEPTH
PRES. MAX	MINIMUM
MEAS. LINE	SHOE JOINT
CEMENT LEFT IN CSG. <i>15 ft</i>	
PERFS.	
DISPLACEMENT <i>21.40</i>	

CEMENT			
AMOUNT ORDERED	<i>225 sfs Class A 3% ac</i>		
	<i>2% gel</i>		
COMMON	<i>225</i>	@ <i>17.90</i>	<i>4,027.50</i>
POZMIX		@	
GEL	<i>4</i>	@ <i>23.40</i>	<i>93.60</i>
CHLORIDE	<i>8</i>	@ <i>64.00</i>	<i>512.00</i>
ASC		@	
		@	
		@	
		@	
		@	
		@	
		@	
		@	
HANDLING	<i>242.9</i>	@ <i>2.48</i>	<i>602.59</i>
MILEAGE	<i>11.09 x 45x</i>	@ <i>2.60</i>	<i>1,297.75</i>
TOTAL			<i>6,533.25</i>

EQUIPMENT

PUMP TRUCK	CEMENTER <i>Isaac</i>
# <i>366</i>	HELPER <i>Charles Kingon</i>
BULK TRUCK	
# <i>610</i>	DRIVER <i>Ben Newell</i>
BULK TRUCK	
#	DRIVER

REMARKS:

*Run 8 5/8 casing*  
*circulate with 100 gal mud*  
*pump 5 bbls ahead*  
*mix 225 sfs class A 3% ac cement*  
*displace 21.40 bbls freshwater*  
*shut in*  
*Cement did circulate 12:30 am*  
*Red down*

CHARGE TO: *Roche Exploration inc*

STREET \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

SERVICE

DEPTH OF JOB			
PUMP TRUCK CHARGE	<i>1512.25</i>		
EXTRA FOOTAGE	@		
MILEAGE	<i>140m 45</i>	@ <i>7.70</i>	<i>346.50</i>
MANIFOLD	@		
	<i>45m 45</i>	@ <i>4.40</i>	<i>198.00</i>
		@	
TOTAL			<i>2,056.75</i>

PLUG & FLOAT EQUIPMENT

	@		
	@		
	@		
	@		
	@		
TOTAL			

To: Allied Oil & Gas Services, LLC.  
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME *Sarah Strauss*

SIGNATURE *Sarah Strauss*

*Thank you so*

SALES TAX (If Any) \_\_\_\_\_

TOTAL CHARGES *8,590.00*

DISCOUNT *1,718.00* IF PAID IN 30 DAYS

*6,872.00*



# ALLIED OIL & GAS SERVICES, LLC 060524

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999  
SOUTHLAKE, TEXAS 76092

SERVICE POINT: Grant Beach

DATE <u>7-2-13</u>	SEC. <u>4</u>	TWP. <u>23</u>	RANGE <u>23</u>	CALLED OUT	ON LOCATION	JOB START <u>1:30 pm</u>	JOB FINISH <u>4:20 pm</u>
LEASE <u>2 Zimmerman</u>		WELL# <u>1</u>		LOCATION <u>N of Ford to saddle rd SW 13</u>		COUNTY <u>Ford</u>	STATE <u>KS</u>
OLD OR NEW (Circle one)							

CONTRACTOR <u>Southwest</u>	OWNER
TYPE OF JOB <u>Rotary Plug</u>	CEMENT
HOLE SIZE <u>12 1/4</u>	AMOUNT ORDERED <u>230 SKS Class A @ 10%</u>
CASING SIZE <u>8 5/8</u>	<u>10% plus 4% gel 14.50</u>
TUBING SIZE	
DRILL PIPE <u>4 1/2</u>	
TOOL	
PRES. MAX	COMMON <u>138</u> @ <u>17.90</u> <u>2,470.20</u>
MEAS. LINE	POZMIX <u>92</u> @ <u>9.35</u> <u>860.20</u>
CEMENT LEFT IN CSG. <u>44</u>	GEL <u>8</u> @ <u>23.40</u> <u>187.20</u>
PERFS.	CHLORIDE @
DISPLACEMENT <u>Freshwater</u>	ASC @

EQUIPMENT	
PUMP TRUCK CEMENTER <u>Josh Isaac</u>	
# <u>366</u> HELPER <u>Mike Scathorn</u>	
BULK TRUCK DRIVER <u>Josh Isaac</u>	
# <u>544-798</u> DRIVER <u>Kevin Weighous</u>	
BULK TRUCK DRIVER <u>Kevin Weighous</u>	
# <u>341</u>	
	HANDLING <u>247.19</u> @ <u>2.48</u> <u>613.94</u>
	MILEAGE <u>10.31 x 45</u> <u>2.60</u> <u>1207.32</u>
	TOTAL <u>5,510.22</u>

REMARKS:	SERVICE
<u>Fig 20</u>	
<u>#1 1530 ft - 50 SKT</u>	DEPTH OF JOB
<u>#2 570 - 60</u>	PUMP TRUCK CHARGE <u>2249.84</u>
<u>#3 240 - 50</u>	EXTRA FOOTAGE @
<u>#4 60 - 20</u>	MILEAGE <u>45</u> @ <u>7.70</u> <u>346.50</u>
<u>RW</u>	MANIFOLD @
<u>big down 4:30</u>	<u>45</u> @ <u>4.40</u> <u>198.00</u>
	TOTAL <u>2,794.34</u>

CHARGE TO: Hitchie Exploration

STREET \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

To: Allied Oil & Gas Services, LLC.  
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME X Squig 5144

SIGNATURE X Squig

SALES TAX (If Any) \_\_\_\_\_

TOTAL CHARGES 8,304.56

DISCOUNT 1,660.91 IF PAID IN 30 DAYS

6,643.64



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

October 01, 2013

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

Re: ACO1  
API 15-057-20898-00-00  
S. Zimmerman 1  
SW/4 Sec.04-28S-23W  
Ford 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