



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1200909
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: _____

1200909

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 <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
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:				

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> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Falcon Exploration, Inc.
Well Name	SCHMIDT 1-10(SE)
Doc ID	1200909

All Electric Logs Run

MEL
DIL
BHCS
CNL/CDL



Cement Report

Customer	Falcon Exploration	Lease No.		Date	1-8-14
Lease	Schmidt	Well #	110	Service Receipt	04994
Casing	8 5/8 24" Depth 1862'	County	Gray	State	KS
Job Type	742-85/8	Formation	SS force	Legal Description	10-28-30

Pipe Data		Perforating Data		Cement Data
Casing size	8 5/8 24	Tubing Size		Lead
Depth	1862'	Depth	From To	Tail in
Volume	116 bbl	Volume	From To	
Max Press	1000 #	Max Press	From To	
Well Connection	TD 1862'	Annulus Vol.	From To	
Plug Depth	421	Packer Depth	From To	

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
5:00					on loc-site assessment
5:15					spot trucks - rig up
6:00					start csg & float equip
8:00					csg on bit, break circ
8:00					safety meeting - TSA
8:30					pressure test 2000 #
8:30			241	5	mix & pump 460 slc A-Cem @ 11.4 #
9:20			36	5	switch to tail 100 slc Class C @ 14.8 #
9:30			0	5	drop plug, disp csg
9:50			95	3	slow rate
9:55			105	2	slow rate
10:00			116	0	land plug, float held
					job complete
					circ 30 bbl cement to sweep

Service Units	3472e	27462			
Driver Names	A. Allen	Entwistle			

C. Curtz
Customer Representative

J. Burnett
Station Manager

A. Allen
Cementer



Cement Report

Customer	Falcon Exploration	Lease No.		Date	1-20-14
Lease	Schmidt	Well #	L10	Service Receipt	04999
Casing	4 1/2" DIP	County	Gray	State	KS
Job Type	242-PTA	Formation		Legal Description	10-28-30

Pipe Data		Perforating Data		Cement Data
Casing size	Tubing Size	Shots/Ft		Lead 170 sk
Depth	Depth	From	To	60/40 Poz
Volume	Volume	From	To	
Max Press	Max Press	From	To	Tail in
Well Connection	Annulus Vol.	From	To	
Plug Depth	Packer Depth	From	To	

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
3:00					on log site assessment
3:15					spot trucks rtg up
3:30					safety meeting - CISA
5:00					pressure test 3000#
3:05	100		10	4	CRC @ 1890'
5:10	100		13.4	4	mix & pump 50 sk 60/40 Poz @ 13.5 ppz - 1.50 #3/sk
5:45	0		23.4	4	disp balanced plug
6:30	100		10		CRC @ 780'
6:45	100		13.4	4	mix & pump 50 sk 60/40 Poz @ 13.5 ppz - 1.50 #3/sk
7:00	0		7.6	4	disp balanced plug
7:00	50		10	3	CRC @ 60'
7:00	50		5.3	3	mix & pump 20 sk 60/40 Poz @ 13.5 ppz - 1.50 #3/sk
7:00					CRC cont' for surface
7:00			8	2	plug rat hole w/ 30 sk
7:00			5.3	2	plug mouse hole w/ 20 sk

Service Units	34720	27462	1435537125		
Driver Names	A Owen	B Owen	M Hosner		

Leon _____ Customer Representative
 O Bennett _____ Station Manager
 A Owen _____ Cementer

DIAMOND TESTING

General Information Report

General Information

Company Name FALCON EXPLORATION, INC.
Contact JASON MITCHELL
Well Name SCHMIDT #1-10 (SE)
Unique Well ID DST #1, STOTLER, 3477-3547
Surface Location SEC 10-28S-30W, GRAY CO. KS.
Field WILDCAT
Well Type Vertical
Test Type CONVENTIONAL
Formation DST #1, STOTLER, 3477-3547
Well Fluid Type 02 Gas

Representative TIM VENTERS
Well Operator FALCON EXPLORATION, INC.
Report Date 2014/01/12
Prepared By TIM VENTERS
Qualified By DAVE WILLIAMS

Start Test Date 2014/01/12
Final Test Date 2014/01/12

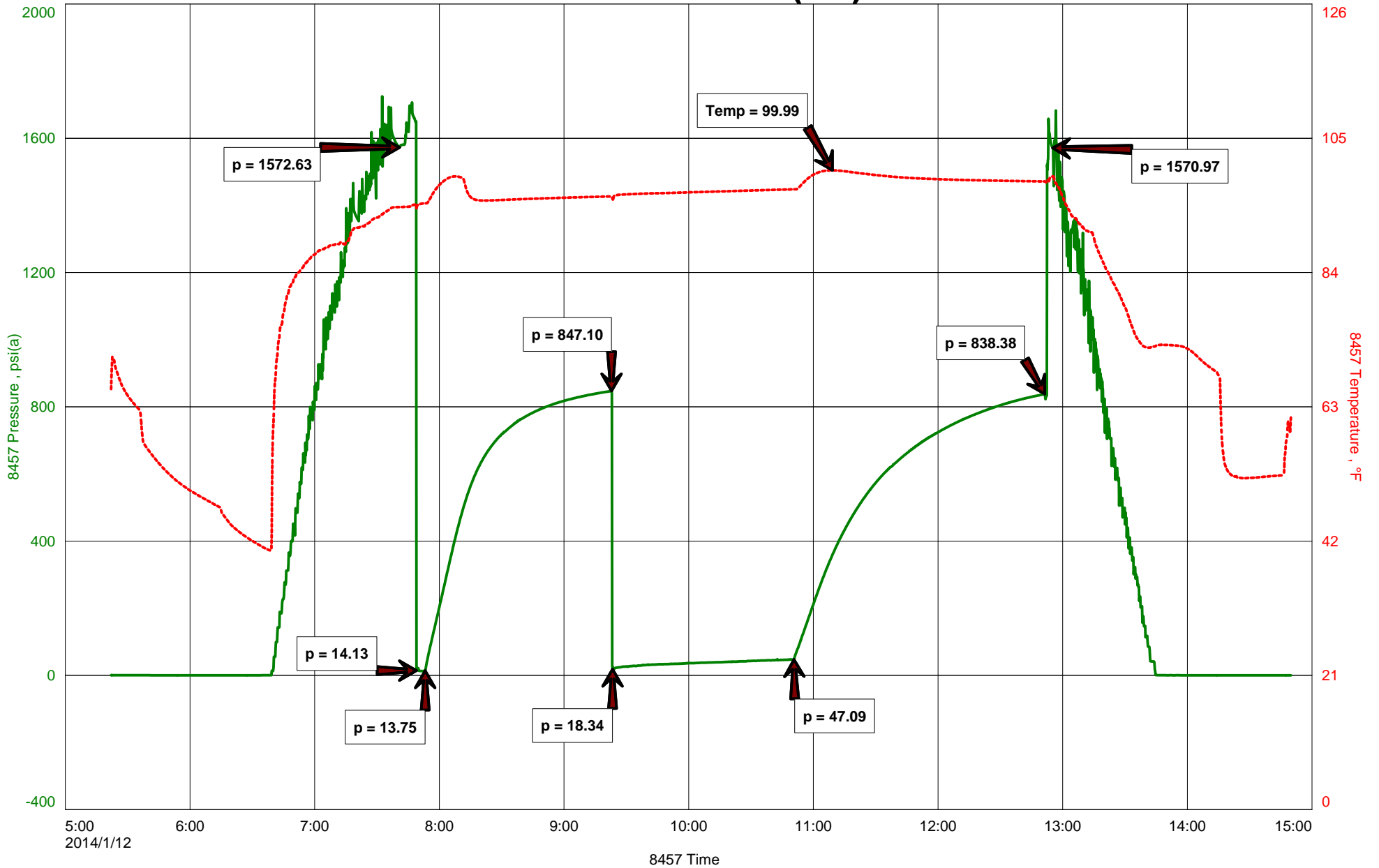
Start Test Time 05:22:00
Final Test Time 14:51:00

Test Recovery:

RECOVERED: 95' MUD

TOOL SAMPLE: 100% MUD

SCHMIDT #1-10 (SE)





DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313
DRILL-STEM TEST TICKET
FILE: SCHMIDT1-10SEDST1

TIME ON: 05:22
TIME OFF: 14:51

Company FALCON EXPLORATION, INC. Lease & Well No. SCHMIDT #1-10 (SE)
Contractor VAL ENERGY, INC. RIG #2 Charge to FALCON EXPLORATION, INC.
Elevation 2817 KB Formation STOTLER Effective Pay _____ Ft. Ticket No. T304
Date 1-12-14 Sec. 10 Twp. _____ 28 S Range _____ 30 W County GRAY State KANSAS
Test Approved By DAVE WILLIAMS Diamond Representative TIMOTHY T. VENTERS

Formation Test No. 1 Interval Tested from 3477 ft. to 3547 ft. Total Depth 3547 ft.
Packer Depth 3472 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
Packer Depth 3477 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 3458 ft. Recorder Number 8457 Cap. 10,000 P.S.I.
Bottom Recorder Depth (Outside) 3544 ft. Recorder Number 11029 Cap. 5,025 P.S.I.
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type CHEMICAL Viscosity 48 Drill Collar Length _____ ft. I.D. 2 1/4 in.
Weight 9.0 Water Loss 10.0 cc. Weight Pipe Length _____ ft. I.D. 2 7/8 in.
Chlorides 3,000 P.P.M. Drill Pipe Length 3444 ft. I.D. 3 1/2 in.
Jars: Make STERLING Serial Number 2 Test Tool Length 33 ft. Tool Size 3 1/2-IF in.
Did Well Flow? NO Reversed Out NO Anchor Length 38 ft. Size 4 1/2-FH in.
Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. ^{32' DP IN ANCHOR} Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: WEAK 1/2 INCH BLOW, BUILDING, REACHING BOB 3 MIN. (NO BB)
2nd Open: VERY STRONG BLOW, HITTING BOB INSTANTANEOUSLY. (NO BB)

Recovered 95 ft. of MUD
Recovered _____ ft. of _____
Recovered _____ ft. of _____
Recovered _____ ft. of _____
Recovered _____ ft. of _____

Price Job
Other Charges
Insurance
Total

Remarks: WE BLEED LINE OFF 10 MIN. INTO FINAL FLOW AND IT TOOK 4 1/2 MIN. TO GET BACK TO BOTTOM.
TOOL SAMPLE: 100% MUD

Time Set Packer(s) 7:47 AM A.M. P.M. Time Started Off Bottom 12:50 PM A.M. P.M. Maximum Temperature 100 deg.
Initial Hydrostatic Pressure..... (A) 1573 P.S.I.
Initial Flow Period..... Minutes 5 (B) 14 P.S.I. to (C) 14 P.S.I.
Initial Closed In Period..... Minutes 90 (D) 847 P.S.I.
Final Flow Period..... Minutes 88 (E) 18 P.S.I. to (F) 47 P.S.I.
Final Closed In Period..... Minutes 120 (G) 838 P.S.I.
Final Hydrostatic Pressure..... (H) 1571 P.S.I.

Diamond Testing shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statement or opinion concerning the result of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

DIAMOND TESTING

General Information Report

General Information

Company Name FALCON EXPLORATION, INC.
Contact JASON MITCHELL
Well Name SCHMIDT #1-10 (SE)
Unique Well ID DST #2, TARKEO, 3577-3620
Surface Location SEC 10-28S-30W, GRAY CO. KS.
Field WILDCAT
Well Type Vertical
Test Type CONVENTIONAL
Formation DST #2, TARKEO, 3577-3620
Well Fluid Type 02 Gas

Representative TIM VENTERS
Well Operator FALCON EXPLORATION, INC.
Report Date 2014/01/13
Prepared By TIM VENTERS
Qualified By DAVE WILLIAMS

Start Test Date 2014/01/13
Final Test Date 2014/01/13

Start Test Time 02:00:00
Final Test Time 13:09:00

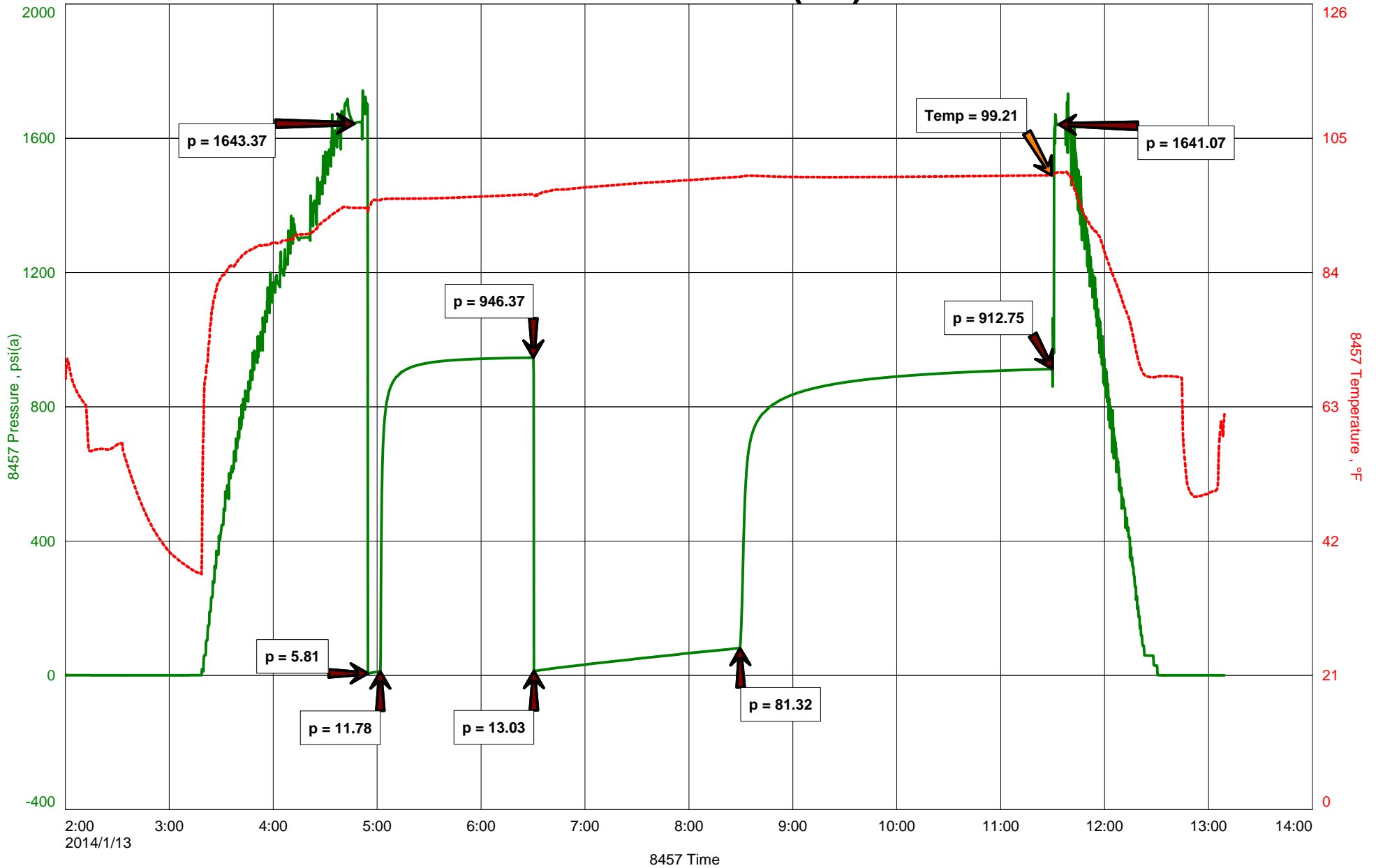
Test Recovery:

**RECOVERED: 10' WCM, 35% WATER, 65% MUD
125' MCW, 81% WATER, 19% MUD
135' TOTAL FLUID**

TOOL SAMPLE: 84% WATER, 16% MUD

**CHLORIDES: 40,000 ppm
PH: 8.5
RW: .20 @ 75 deg.**

SCHMIDT #1-10 (SE)





DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313
DRILL-STEM TEST TICKET
FILE: SCHMIDT1-10SEDST2

TIME ON: 02:00
TIME OFF: 13:09

Company FALCON EXPLORATION, INC. Lease & Well No. SCHMIDT #1-10 (SE)
Contractor VAL ENERGY, INC. RIG #2 Charge to FALCON EXPLORATION, INC.
Elevation 2817 KB Formation TARKEO Effective Pay _____ Ft. Ticket No. T305
Date 1-13-14 Sec. 10 Twp. _____ 28 S Range _____ 30 W County GRAY State KANSAS
Test Approved By DAVE WILLIAMS Diamond Representative TIMOTHY T. VENTERS

Formation Test No. 2 Interval Tested from 3577 ft. to 3620 ft. Total Depth 3620 ft.
Packer Depth 3572 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
Packer Depth 3577 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____
Top Recorder Depth (Inside) 3558 ft. Recorder Number 8457 Cap. 10,000 P.S.I.
Bottom Recorder Depth (Outside) 3617 ft. Recorder Number 11029 Cap. 5,025 P.S.I.
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type CHEMICAL Viscosity 45 Drill Collar Length _____ ft. I.D. 2 1/4 in.
Weight 9.0 Water Loss 10.8 cc. Weight Pipe Length _____ ft. I.D. 2 7/8 in.
Chlorides 4,000 P.P.M. Drill Pipe Length 3544 ft. I.D. 3 1/2 in.
Jars: Make STERLING Serial Number 2 Test Tool Length 33 ft. Tool Size 3 1/2-IF in.
Did Well Flow? NO Reversed Out NO Anchor Length 43 ft. Size 4 1/2-FH in.
Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: WEAK SURFACE BLOW, BUILDING TO 1 1/2 INCHES. (NO BB)
2nd Open: WEAK SURFACE BLOW, BUILDING, REACHING BOB 96 1/2 MIN. (NO BB)

Recovered 10 ft. of WCM, 35% WATER, 65% MUD
Recovered 125 ft. of MCW, 81% WATER, 19% MUD
Recovered 135 ft. of TOTAL FLUID

Recovered _____ ft. of _____	CHLORIDES: 40,000 ppm	Price Job
Recovered _____ ft. of _____	PH: 8.5	Other Charges
Remarks: _____	RW: .20 @ 75 deg.	Insurance
TOOL SAMPLE: 84% WATER, 16% MUD		Total

Time Set Packer(s) 4:54 AM A.M. P.M. Time Started Off Bottom 11:29 AM A.M. P.M. Maximum Temperature 99 deg.

Initial Hydrostatic Pressure..... (A) 1643 P.S.I.
Initial Flow Period..... Minutes 5 (B) 6 P.S.I. to (C) 12 P.S.I.
Initial Closed In Period..... Minutes 90 (D) 946 P.S.I.
Final Flow Period..... Minutes 120 (E) 13 P.S.I. to (F) 81 P.S.I.
Final Closed In Period..... Minutes 180 (G) 913 P.S.I.
Final Hydrostatic Pressure..... (H) 1641 P.S.I.

Diamond Testing shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statement or opinion concerning the result of any test. Tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

DIAMOND TESTING

General Information Report

General Information

Company Name FALCON EXPLORATION, INC.
Contact JASON MITCHELL
Well Name SCHMIDT #1-10 (SE)
Unique Well ID DST #3, MISS. ST. L.. "B", 5232-5320
Surface Location SEC 10-21S-30W, GRAY CO. KS.
Field WILDCAT
Well Type Vertical
Test Type CONVENTIONAL
Formation DST #3, MISS. ST. L. "B", 5232-5320
Well Fluid Type 01 Oil

Representative TIM VENTERS
Well Operator FALCON EXPLORATION, INC.
Report Date 2014/01/18
Prepared By TIM VENTERS
Qualified By DAVE WILLIAMS

Start Test Date 2014/01/18
Final Test Date 2014/01/18

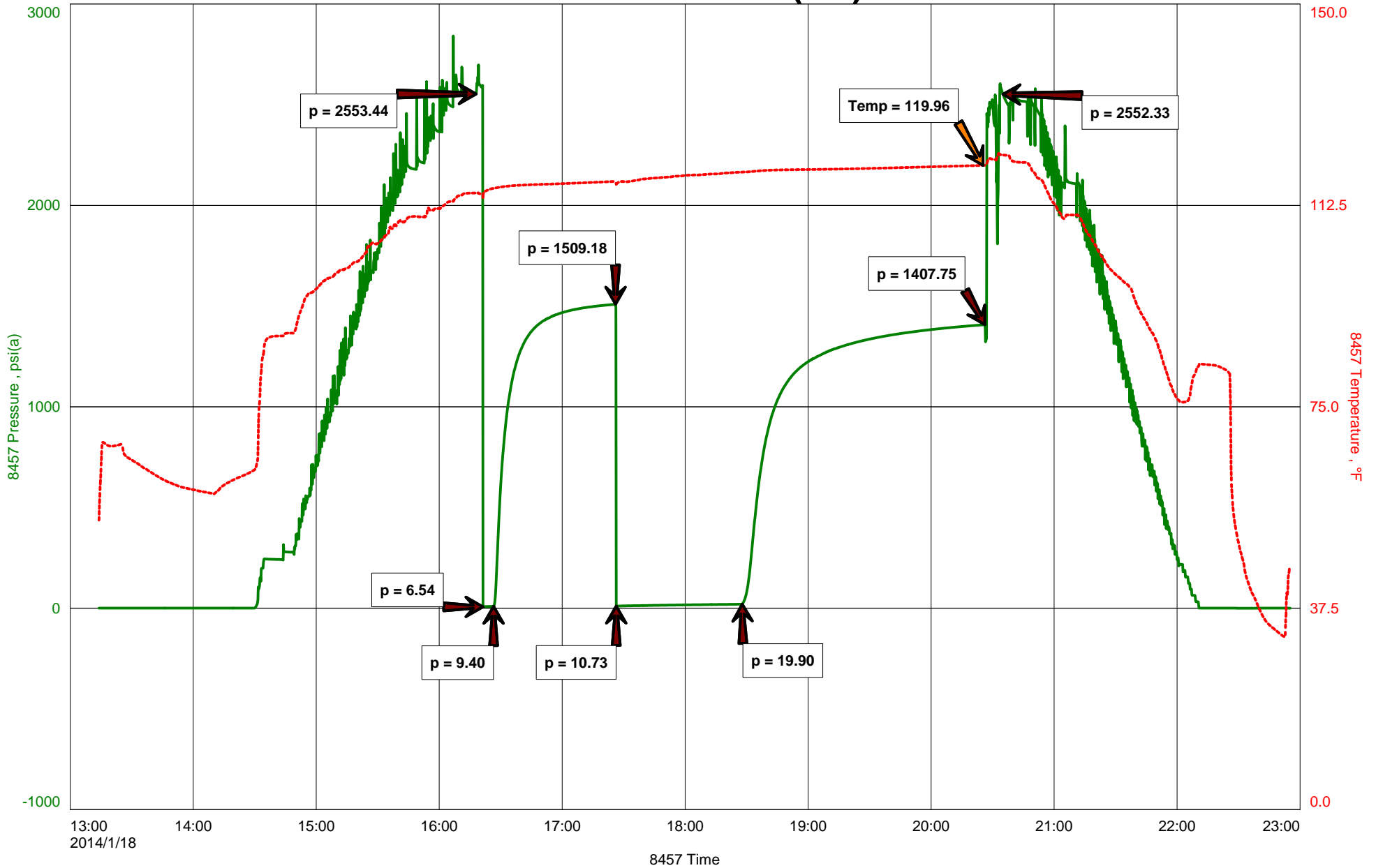
Start Test Time 13:14:00
Final Test Time 22:57:00

Test Recovery:

RECOVERED: 20' MUD

TOOL SAMPLE: 100% MUD

SCHMIDT #1-10 (SE)





DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313
DRILL-STEM TEST TICKET
FILE: SCHMIDT1-10SEDST3

TIME ON: 13:14
TIME OFF: 22:57

Company FALCON EXPLORATION, INC. Lease & Well No. SCHMIDT #1-10 (SE)
Contractor VAL ENERGY, INC. RIG #2 Charge to FALCON EXPLORATION, INC.
Elevation 2817 KB Formation MISS. ST. LOUIS "B" Effective Pay _____ Ft. Ticket No. T306
Date 1-18-14 Sec. 10 Twp. _____ 28 S Range _____ 30 W County GRAY State KANSAS
Test Approved By DAVE WILLIAMS Diamond Representative TIMOTHY T. VENTERS

Formation Test No. 3 Interval Tested from 5232 ft. to 5320 ft. Total Depth 5320 ft.

Packer Depth 5227 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Packer Depth 5232 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 5213 ft. Recorder Number 8457 Cap. 10,000 P.S.I.

Bottom Recorder Depth (Outside) 5367 ft. Recorder Number 11029 Cap. 5,025 P.S.I.

Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type CHEMICAL Viscosity 52 Drill Collar Length _____ 0 ft. I.D. 2 1/4 in.

Weight 9.3 Water Loss 8.4 cc. Weight Pipe Length _____ 0 ft. I.D. 2 7/8 in

Chlorides 5,700 P.P.M. Drill Pipe Length 5199 ft. I.D. 3 1/2 in

Jars: Make STERLING Serial Number 2 Test Tool Length 33 ft. Tool Size 3 1/2-IF in

Did Well Flow? NO Reversed Out NO Anchor Length 26 ft. Size 4 1/2-FH in

Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. ^{62' DP IN ANCHOR} Surface Choke Size 1 in. Bottom Choke Size 5/8 in

Blow: 1st Open: WEAK SURFACE BLOW, BUILDING TO 1/4 INCH. (NO BB)

2nd Open: VERY WEAK SURFACE BLOW THROUGHOUT PERIOD. (NO BB)

Recovered 20 ft. of MUD

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Remarks: _____

TOOL SAMPLE: 1005 mud

Time Set Packer(s) 4:21 PM ^{A.M.}/_{P.M.} Time Started Off Bottom 8:26 PM ^{A.M.}/_{P.M.} Maximum Temperature 120 deg.

Initial Hydrostatic Pressure..... (A) 2553 P.S.I.

Initial Flow Period..... Minutes 5 (B) 7 P.S.I. to (C) 9 P.S.I.

Initial Closed In Period..... Minutes 60 (D) 1509 P.S.I.

Final Flow Period..... Minutes 60 (E) 11 P.S.I. to (F) 20 P.S.I.

Final Closed In Period..... Minutes 120 (G) 1408 P.S.I.

Final Hydrostatic Pressure..... (H) 2552 P.S.I.

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Price Job
Other Charges
Insurance
Total



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

Well Name: SCHMIDT # 1-10 (SE)
Location: NE-SE-NW-SE of SEC. 10 -T. 28 S. - R. 30 W.
License Number: A.P.I. # 15-069-20,458-00-00
Spud Date: 01/07/2014
Surface Coordinates: 1850' FSL & 1450' FEL

Region: Gray County, Ks.
Drilling Completed: 1/20/2014

**Bottom Hole
Coordinates:**
Ground Elevation (ft): 2807' **K.B. Elevation (ft):** 2817'
Logged Interval (ft): 1865' **To:** 5509' **Total Depth (ft):** 5509'
Formation: MISSISSIPPIAN "SALEM (SPERGEN)"
Type of Drilling Fluid: CHEMICAL/POLYMER/GEL. & MUD DISPLACEMENT @ '.

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

OPERATOR

Company: FALCON EXPLORATION, INC. KCC LIC. # 5316
Address: 125 N. MARKET, STE. #1252
WICHITA, KANSAS 67202

GEOLOGIST

Name: DAVID P. WILLIAMS
Company: DW ENERGY, LLC (DWE)
Address: 312 NORTH BROADVIEW STREET
WICHITA, KANSAS 67208

CASING & DEVIATION

Spudded at 12:30 p.m on 01/07/2014.

Surface Casing: Ran 44 jts new 24# 8-5/8" surface casing. Set at 1862'. Basic Energy cemented with 460 sx A Conn, 3% CC, 1/4# pf, 8 5/8" set at 1865' with 150 sx premium plus, 2% CC, 1/4# pf. Cement did circulate. Plug down at 10:00 P.M.

Deviation Survey's Taken: @ 1865' = 1 3/4 degree; @ 3547' - 1 degree; @ 5320' = 3/4 degree; @ 5505' = 1

DSTs

~~ DST #1~~ 3477'-3547'. Times: 5"-90"-88"-120".

Blow: IF= Strong Blow- BOB/3"; FF BOB/Instant.

Recovery: 95' Mud.

Pressures: IH=11573#; FH=1571#; IF=14-14#; FF=18-47#; ISIP=847#; FSIP=878#; Temp = 100 degrees F..

~~ DST # 2~~ 3577'-3620'. Times: 5"-90"-120"-180".

Blow: IF= Weak Blow/1.5" Slow Build; FF= Weak Inc to BOB/96.5".

Recovery: 135' TF: 10' WCM & 125' MCW (81% W; 19% M).

Pressures: IH=1643 #; FH=1641#; IF= 6-12#; FF=13-81#; ISIP= 946#; FSIP=913#; Temp= 99 degrees F..

~~DST # 3~~ 5031'-5079'. Times: 5"-60"-60"-120"

Blow: IF V. Weak Surface= 1/4"; FF Weak Surface/1/4".

Recovery: 20' M;

Pressures: IH =2553#; FH =2552#; IF =7-9#; FF=11-20#; ISIP =1509#; FSIP=1408#; Temp = 120 degrees F.


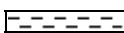

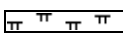
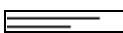
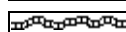




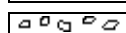







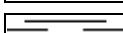
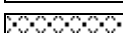

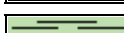


Comments

After review of all geologic samples as examined, structural correlation to offsetting prior drilled wells, combined with the fluid and pressures results from the drill stem test taken and electric log analysis, it was determined by all parties that this well appears to be non-commercial and should be plugged and abandoned.

Respectfully submitted,

David P. Williams, P.G

ROCK TYPES

	Anhy		Clyst		Gry shale		Mrlst		Shgy
	Bent		Coal		Gyp		Red shale		Sltst
	Brec		Congl		Igne		Salt		Ss
	Carb sh		Dol		Lmst		Shale		Till
	Cht		Grn sh		Meta		Shcol		

ACCESSORIES

- MINERAL**
- Anhy
 - Arggrn
 - Arg
 - Bent
 - Bit
 - Breclrag
 - 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
- Fuss
- Gastro
- Oolite
- Oomold
- Ostra
- Pelec

- Pellet
- Pisolite
- Plant
- Strom

- STRINGER**
- Anhy
 - Arg
 - Bent
 - Coal
 - Dol
 - Grysh
 - Gyp
 - Ls
 - Mrst
 - Sltstrg
 - 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

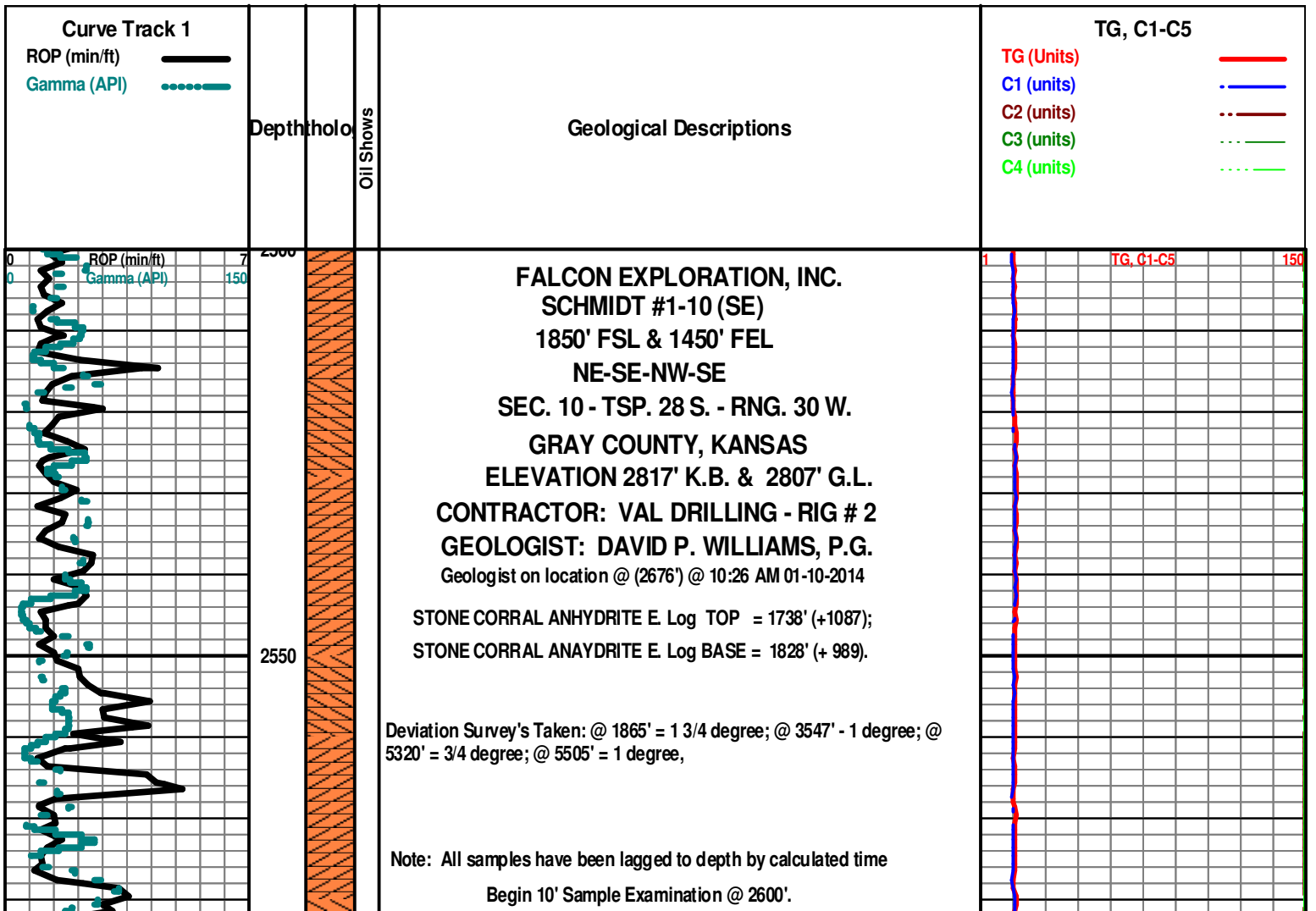
- ROUNDING**
- Rounded
 - Subrnd
 - Subang
 - Angular

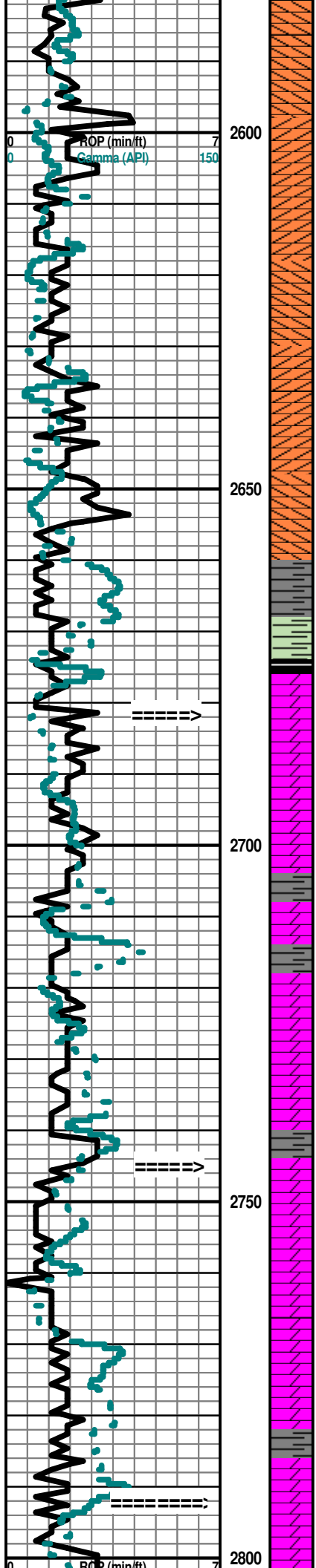
- Even
- Spotted
- Ques
- Dead

- EVENT**
- Rft
 - Sidewall

- OIL SHOW**
- Gas show

- INTERVAL**
- Dst
 - Dst_alt





2600

2650

2700

2750

2800

ROP (min/ft)
Gamma (API)

CHASE GROUP 2681' (+136)

Dolo Wht-Crm FxIn Fair-Med Sucrosic Por w/ Sm-Med Vug Leaching w/ Fair-Good Show Gas Faint Scatt Flor (Pale-Lt Grn) tr ? Gilsonitic Residue No Odor ? Strn

WINFIELD 2745' (+72)

Dolo Wht-Crm FxIn Fair-Med Sucrosic Por w/ Sm-Med Vug Leaching w/ Fair-Dec Show Gas Faint Scatt Flor (Pale-Lt Grn) Tr ? Gilsonitic Fos Plant Residue No Odor ? Stn Lt Grn Scatt Dec Flor

Dolo Wht-Crm FxIn Poor-Fair Sucrosic Por w/ Tr. Sm-Med Vug Leaching w/ Dec-NS Gas Dec Faint Scatt Flor (Pale-Lt Grn) Tr ? Dec Gilsonitic Fos Plant Residue No Odor ? V Sli Stn (Lt Gr) Inc Barron FxIn NS

TOWANDA 2792' (+37)

TG, C1-C5

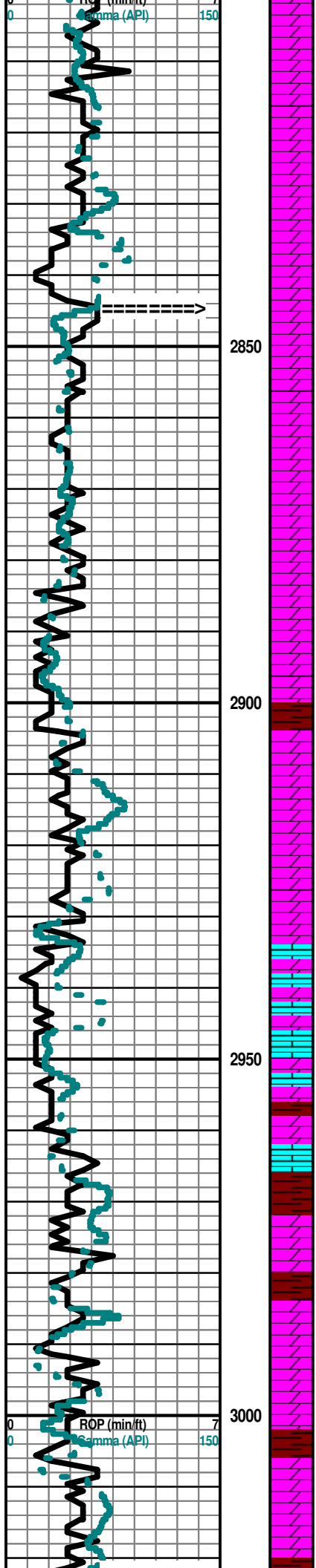
@ 2672' LAG DEPTH
GAS TEST
EXTRACTOR .

GAS KICK =
36 UNITS

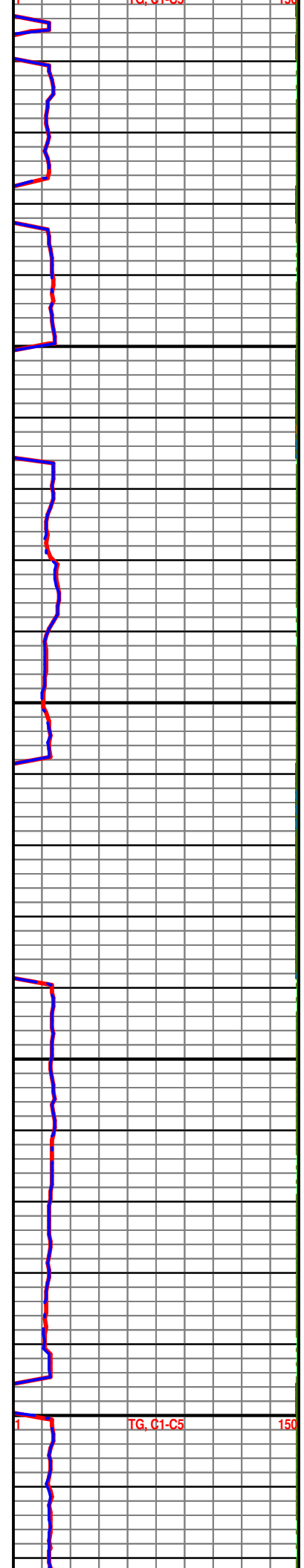
Mud Ck @ 2702 @ 11:30
AM 1/09/14
Vis = 28;
Wt = 9.5#; PV =
NC;
YP = NC;
WL = NC;
Cake = NC;
Chl = 80000;
Cal = HVY;
Sol = 3.8;
LCM = 0#;
DMC = \$ 3814.10
CMC = \$ 5389.75

GAS KICK = 55
UNITS

TG, C1-C5



FORT RILEY 2844' (+ 29')



WREFOED 3022 (-205)

BASE CHASE GROUP 3046' (-229)

BADER 3074' (-257)

COTTONWOOD 3088' (-271)

NEVA 3168' (-351)

@ 3220' Start Sample Examination - 20' Interval Wet & Dry

Poor Sample Ls Wht FxIn Tr Poor Gran lXIn Por Micrite Dns Sh Abd
Red-Gry-Grn Fissil No Odor No Stn No Flor NS

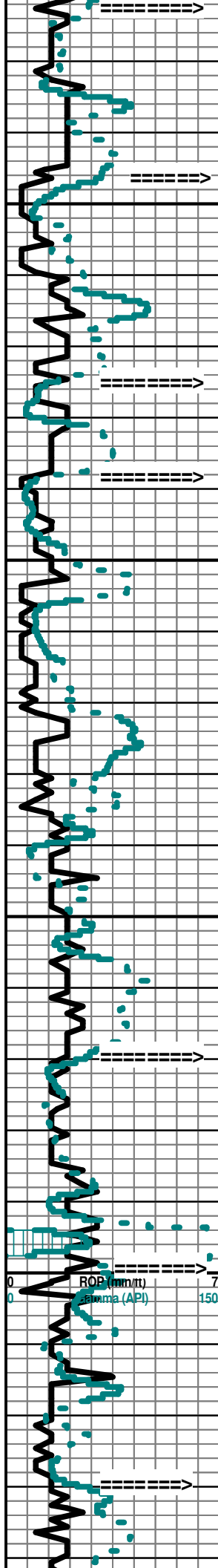
DISPLACE MUD SYSTEM @ 3200'

RED EAGLE 3199' (-382')

Poor Sample Ls Wht FxIn Tr Poor Gran lXIn Por Micrite Dns Sh Abd
Red-Gry-Grn Fissil No Odor No Stn No Flor NS

BASE COUNCIL GROVE 3230' (-413)

Ls Wht-Crm-Gry FxIn Tr Poor lXIn-Igran Por Chalk Abd Sh Red-Gry-Grn
Fissil Dec No Odor No Stn NS



3050

3100

3150

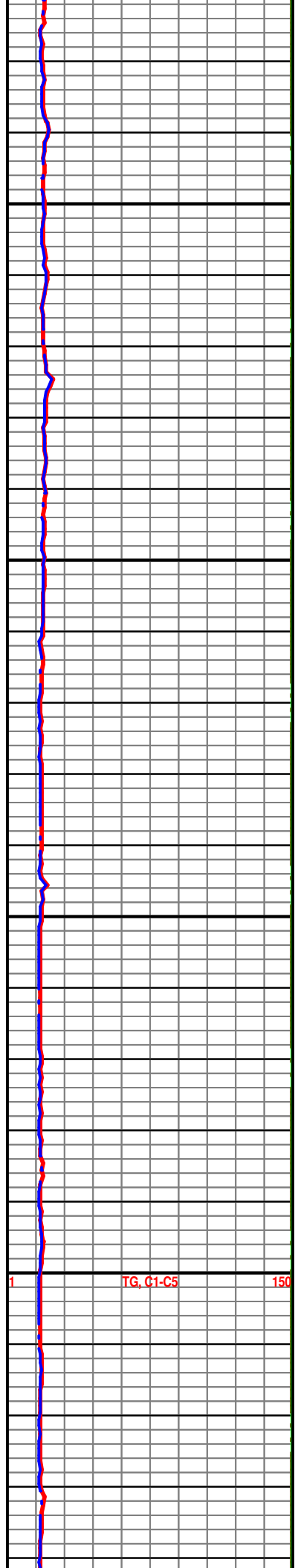
3200

FX

FX

FX

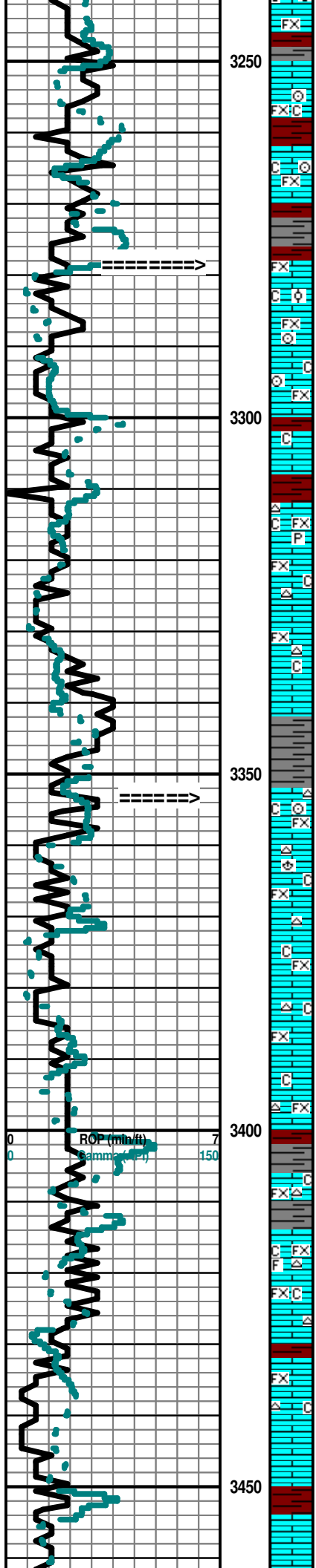
FX



1

TG, C1-C5

150



Ls Wht-Crm-Gry Fxln Tr Poor lxn-Igran Por Cht Wht Op Vit Shp Fos (Crin)
Chalk Abd Sh Red-Gry-Grn-Aqua Soft-Fissil Dec No Odor No Stn NS

Ls Wht-Crm-Gry Fxln Tr Poor lxn-Igran Por Cht Wht Op Vit Shp Fos (Crin)
Chalk Abd Sh Red-Gry-Grn Soft-Fissil Dec No Odor No Stn NS

FORAKER 3278' (- 461)

Ls Wht-Crm-Gry Fxln Tr Poor lxn-Igran Por Grad Tr Fair OOL Por (w/Small
OOids in pl) Poor-Fair Dissolu Poor-Fair Develop Cht Wht Op Vit Shp Fos
(Crin) Chalk Abd Sh Red-Gry-Grn Soft-Fissil Dec No Odor No Stn NS

Ls Wht-Crm-Tan Fxln Tr Poor lxn Por Cht Wht-Peach Translu-Op Vit Shp
Chalk Abd Sh Maroon (w/Pyr Includ)-Gry-Grn Soft-Fissil Dec No Odor No
Stn NS

Ls Wht-Crm-Tan Fxln Tr Poor lxn-Igran Por Grad Fair OOL Por (w/Small
OOids in pl) Poor-Fair Dissolu Poor-Fair Develop Cht Wht Op Vit Shp Chalk
Abd Sh Red-Gry-Grn Soft-Fissil No Odor No Stn NS

Ls Wht-Crm-Tan Fxln Tr Poor lxn-Igran Por Cht Wht-Peach-Gry Translu-Op Vit Shp Fos (Crin)
Chalk Abd Sh Red-Gry-Grn Soft-Fissil No Odor No Stn NS

ADMIRE GROUP 3353' (- 536)

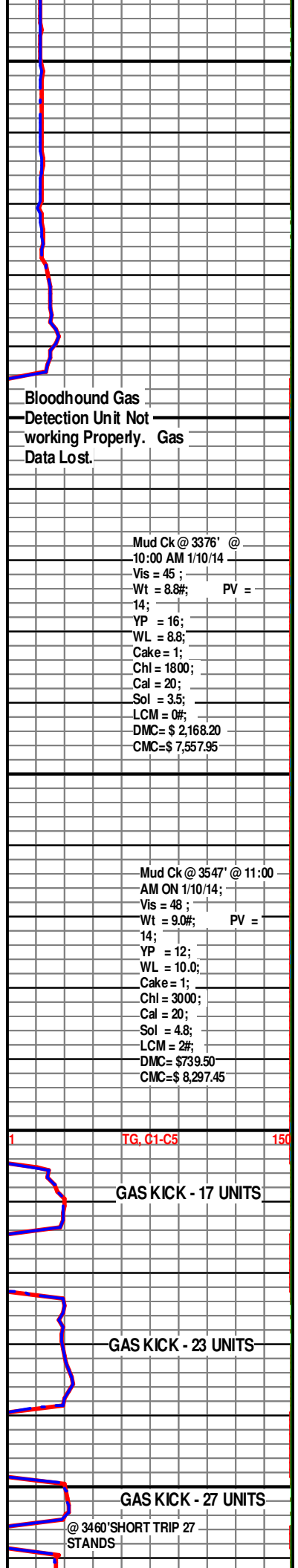
Ls Wht-Crm-Gry Fxln Tr Poor lxn-Igran Por Cht Wht-Peach Translu-Op Vit
Shp Fos (Brach) Chalk Sh Red-Gry-Grn Soft-Fissil No Odor No Stn NS

Ls Crm AA Tr Poor OOM Por w/OOL in pl Poor- No Dis Poor Devel Mostly
Fxln Chalk Cht GrySH Gry- Char Soft No Odor Sli Tr Min Flor AA No Stn NS

Ls Wht-Crm-Gry Fxln Tr Poor lxn-Igran Por Dns Micrite Cht Wht-Gry Fos
(w/Spicule Includ) Translu-Op Vit Shp Chalk Sh Red-Gry-Grn Soft-Fissil No
Odor No Stn NS

30" CFS @ 3460' Ls Wht-Crm-Gry Fxln Tr Poor lxn Dns Micrite grad Poor OOM Por (w.Small
OOL in pl) Cht Wht-Peach-Amber Translu-Op Vit Shp Fos (Fuss) Chalk Sh Char-Gry-Grn
Soft-Fissil No Odor ? Min Flor No Stn NS

60" CFS @ 3460' Sh Char-Gry-Grn Soft-Fissil "Ls Wht-Crm-Gry Fxln Tr Poor
lxn Dns Micrite grad Poor OOM Por (w.Small OOL in pl) Cht
Wht-Peach-Amber Translu-Op Vit Shp Fos (Fuss) Chalk No Odor ? Min Flor
No Stn NS



Mud Ck @ 3376' @
10:00 AM 1/10/14
Vis = 45 ;
Wt = 8.8#; PV =
14;
YP = 16;
WL = 8.8;
Cake = 1;
Chl = 1800;
Cal = 20;
Sol = 3.5;
LCM = 0#;
DMC = \$ 2,168.20
CMC = \$ 7,557.95

Mud Ck @ 3547' @ 11:00
AM ON 1/10/14;
Vis = 48 ;
Wt = 9.0#; PV =
14;
YP = 12;
WL = 10.0;
Cake = 1;
Chl = 3000;
Cal = 20;
Sol = 4.8;
LCM = 2#;
DMC = \$739.50
CMC = \$ 8,297.45

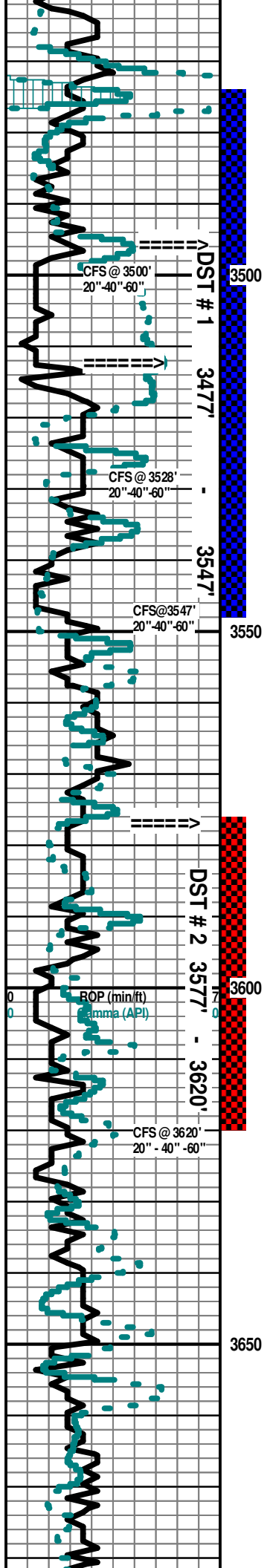
TG, C1-C5 150

GAS KICK - 17 UNITS

GAS KICK - 23 UNITS

GAS KICK - 27 UNITS

@ 3460' SHORT TRIP 27 STANDS



Ls Crm FxIn Poor IxIn Por Micritic Grad Ls FxIn Poor IxIn Por Fos (Fuss, Crin) Chalk ? Min Flor Sh Tr Red (Wash Red)-Char-Gry No Odor No Stn NS

ROOT SHALE 3495' (-665')

Sh Red- Gry-Char Abd Soft AA (Wash Red) Ls Crm AA Tr Poor OOM Por Poor Dis Poor Devel Chalk No Odor Sli Tr Min Flor AA No Stn NS

STOTLER 3515' (-678)

20" CFS @ 3547' Ls Crm FxIn Poor IxIn Por Micritic Ls Crm FxIn Poor IxIn Por Chalk Tr Inc Scatt ? Min Flor Sh Tr Red-Char-Gry No Odor No Stn NS

40" CFS @ 3547' Ls Crm FxIn Poor IxIn Por Micritic Grad Ls Gry (w/Small OOL in pl) Poor Dissolu Poor Develop Chalk Good Scat Flor (Lt Grn) Sh Red-Char-Gry No Odor No Stn NS

60" CFS @ 3547' Ls Wht FxIn Dns Micrite Grad Poor IxIn Pin-Pt Por Poor-Fair IxIn Por Good Scat Flor (Lt Grn) No Odor No Stn ? SG

Ls Wht-Gry FxIn Poor IxIn Por Micritic Abd Chalk Scat Flor (Lt Grn) No Odor No Stn Sli Flor NS

TARKIO 3576' (-759)

Ls Wht-Gry FxIn Poor IxIn Por Micritic Abd Chalk Scat Flor (Lt Grn) No Odor No Stn Sli Flor NS

20" CFS @ 3620' Ls Wht-Gry FxIn Poor IxIn Por Micritic Grad FxIn-MicroxIn Por (w/Glacu Includ) Fos (Crin) Chalk Cht Wht-Gry Op Shp Vit Scat Flor (Lt Grn) No Odor Sli Flor ? SSG

40" CFS @ 3620' Ls Wht-Gry FxIn Poor IxIn Por Micritic Grad FxIn-MicroxIn Por (w/Glacu Includ) Fos (Crin) Chalk Cht Wht-Gry Op Shp Vit Scat Flor (Lt Grn) No Odor Sli Flor ? SSG

60" CFS @ 3620' Ls Wht-Gry FxIn Poor IxIn Por Micritic Grad FxIn-MicroxIn Por (w/Glacu Includ) Fos (Crin) Chalk Cht Wht-Gry Op Shp Vit Scat Flor (Lt Grn) No Odor Sli Flor ? SSG

START 10' WET & DRY SAMPLE EXAMINATION @ 3620'

Sh Char-Gry Soft Grad Fissil Ls Crm FxIn Dns Micritic V Abd Chalk No Odor No Flor No Stn NS

Ls Crm-Gry FxIn Poor IxIn Por Grad MicroxIn Cht Wht-Drk Gry Op Shp Vit Fos (Bry) Chalk Sh Char-Gry- Maroon Soft-Fissil No Flor No Odor No Flor No Stn NS

Ls Crm-Gry FxIn Poor IxIn Por Grad MicroxIn Chalk Sh Char-Gry- Maroon Soft-Fissil No Odor No Flor No Stn NS

Ls Crm-Gry FxIn Poor IxIn Por Grad MicroxIn Chalk Sh Char-Gry- Maroon Soft-Fissil No Odor No Flor No Stn NS

Ls Crm-Gry FxIn Poor IxIn Por Grad MicroxIn Chalk Sh Char-Gry- Maroon Soft-Fissil No Odor No Flor No Stn NS

Ls Crm-Gry FxIn Poor IxIn Por Grad MicroxIn Chalk Sh Char-Gry- Maroon Soft-Fissil No Odor No Flor No Stn NS

~ DST #1 ~
3477'-3547'

Times:
5'-90"-88"-120"
Blow: IF= Strong
Blow- BOB/3"; FF
BOB/Instant.
Recovery: 95' Mud.

Pressures:
IH = 11573#; FH
= 1571#;
IF = 14-14#;
FF = 18-47#;
ISIP = 847#;
FSIP = 878#;
Temp = 100
degrees F..

PIPE STRAP = <0.40>
SHORT TO BOARD.

? TRIP GAS

Mud Ck @ 3620' @
6:30 AM ON 1/11/14;

Vis = 45;
Wt = 9.0#; PV
= 14;
YP = 14;
WL = 10.8;
Cake = 1;
Chl = 4000;
Cal = 40;
Sol = 6.2;
LCM = 2#;
DMC = \$ 542.60
CMC = \$ 8,840.05

GAS
KICK =
47 UNITS

GAS KICK = 47
UNITS

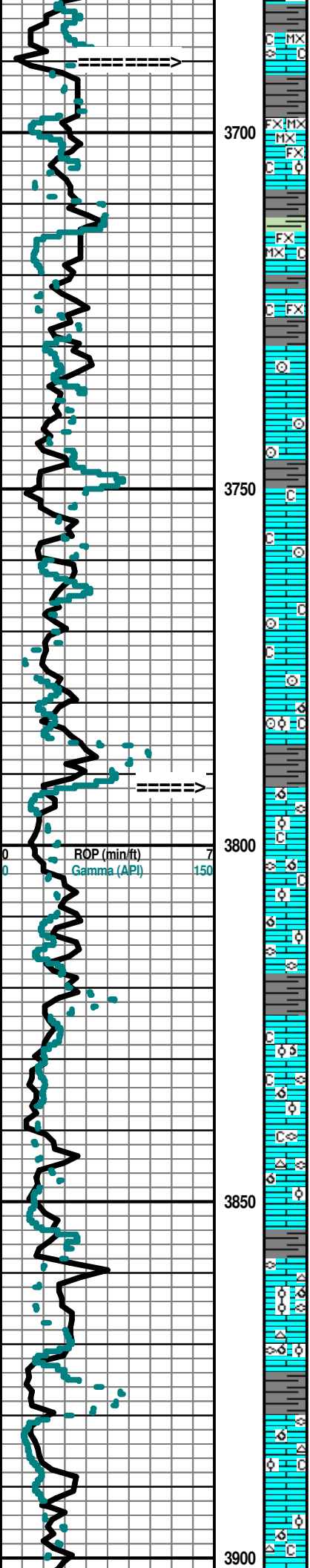
GAS KICK = 43
UNITS

GAS KICK = 43
UNITS

~ DST #2 ~
3577'-3620'

Times:
5'-90"-120"-180"
Blow: IF= Weak
Blow/1.5" Slow
Build; FF= Weak
Inc to BOB/96.5".
Recovery: 135' TF:
10' WCM & 125'
MCW (81% W; 19%
M).

Pressures:
IH = 1643 #;
FH = 1641#;
IF = 6-12#;
FF = 13-81#;
ISIP = 946#;
FSIP = 913#;
Temp = 99 degrees



No Flor No Stn NS

BERN 3690' (- 873)

Ls Gry FxIn Poor IxIn Por Grad MicroxIn Fos (Fuss) Abd Chalk Sh Char-Gry Soft-Fissil No Odor No Flor No Stn NS

Ls Gry-Crm FxIn-MicroxIn Poor IxIn Por Micrite Grad Pin-Pt IxIn Por Barren Grad Poor OOL Por (w/Small OOLs in p) Poor Develop Poor leaching Barren Chalk Sh Char-Gry Soft-Fissil No Flor No Odor No Flor No Stn NS

Ls Wht-Gry FxIn Poor IxIn Por Grad MicroxIn Chalk Sh Char-Gry Soft-Fissil No Odor No Flor No Stn NS

Ls Wht-Gry FxIn Poor IxIn Por Grad MicroxIn Chalk Sh Char-Gry Soft-Fissil No Odor No Flor No Stn NS

Ls Wht FxIn Poor IxIn Por Dns Micritic (w/Fos (Crin) Includ) Sh Char-Gry Tr ? Min Flor (Dull Gm-Wht) No Odor NS

Ls Wht FxIn Poor IxIn Por Dns Micritic (w/Fos (Crin) Includ) Sh Char-Gry Tr ? Min Flor (Dull Gm-Wht) No Odor NS

Ls Wht FxIn Poor IxIn Por Dns Micritic (w/Fos (Crin) Includ) Sh Char-Gry Tr ? Min Flor (Dull Gm-Wht) No Odor NS

Ls Wht FxIn Poor IxIn Por Dns Micritic (w/Fos (Crin) Includ) Sh Char-Gry Tr ? Min Flor (Dull Gm-Wht) No Odor NS

Ls Wht FxIn Poor IxIn Por Dns Micritic (w/Fos (Crin) Includ) Sh Char-Gry Tr ? Min Flor (Dull Gm-Wht) No Odor NS

Ls Crm-Wht-Gry FxIn Poor-Fair IxIn Por Dns Micritic (w/Fos (Crin) Includ) Grad Fair OOM Por (w/Small OOL in p) Poor Dissolu Poor Develop Sh Char-Gry Dec ? Min Flor (Dull Gm-Wht) No Odor No Stn NS

TOPEKA 3792' (- 975)

Ls Crm-Wht-Gry FxIn Poor-Fair IxIn Por Dns Micritic (w/Fos (Fuss) Grad Fair OOM Por (w/Small OOL in p) Poor Dissolu Poor Develop Cht Gry Op Shp Vit Sh Char-Gry No Flor No Odor No Stn NS

Ls Crm-Wht-Gry FxIn Poor-Fair IxIn Por Dns Micritic (w/Fos (Fuss) Grad Fair OOM Por (w/Small OOL in p) Poor Dissolu Poor Develop Cht Gry Op Shp Vit Sh Char-Gry No Flor No Odor No Stn NS

Ls Crm-Wht-Gry FxIn Poor-Fair IxIn Por Dns Micritic (w/Fos (Fuss) Grad Fair OOM Por (w/Small OOL in p) Poor Dissolu Poor Develop Cht Gry Op Shp Vit Chalk V Abd Sh Char-Gry No Flor No Odor No Stn NS

Ls Crm-Wht-Gry FxIn Poor-Fair IxIn Por Dns Micritic (w/Fos (Fuss) Grad Fair OOM Por (w/Small OOL in p) Poor Dissolu Poor Develop Cht Gry Op Shp Vit Chalk V Abd Sh Char-Gry No Flor No Odor No Stn NS

Ls Crm-Wht-Gry FxIn Poor-Fair IxIn Por Dns Micritic (w/Fos (Fuss) Grad Fair OOM Por (w/Small OOL in p) Poor Dissolu Poor Develop Cht Gry Op Shp Vit Chalk V Abd Sh Char-Gry No Flor No Odor No Stn NS

Ls Crm-Wht-Gry FxIn Poor-Fair IxIn Por Dns Micritic (w/Fos (Fuss) Cht Gry Op Shp Vit Chalk Dec Sh Char-Gry No Flor No Odor No Stn NS

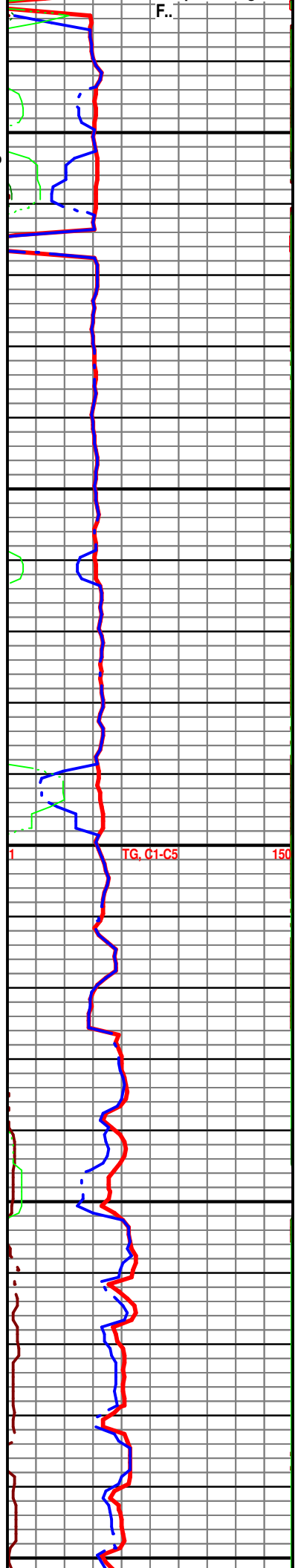
Ls Crm-Wht-Gry FxIn Poor-Fair IxIn Por Dns Micritic (w/Fos (Fuss) Grad Fair OOM Por (w/Small OOL in p) Poor Dissolu Poor Develop Cht Gry Op Shp Vit Chalk V Abd Sh Char-Gry No Flor No Odor No Stn NS

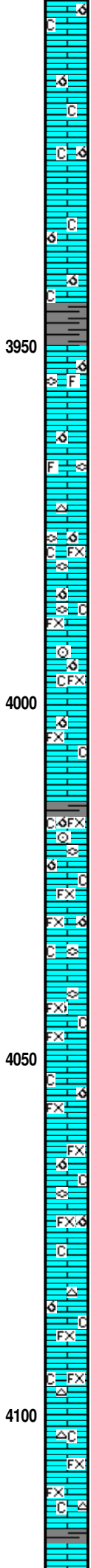
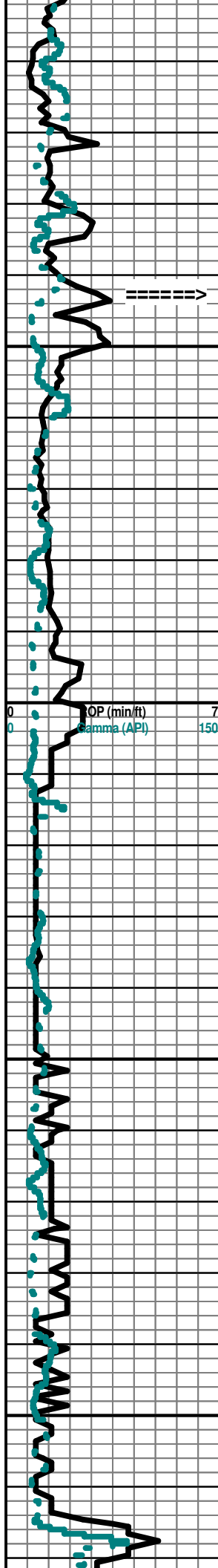
Ls Crm-Wht-Gry FxIn Poor-Fair IxIn Por Dns Micritic (w/Fos (Fuss) Grad Fair OOM Por (w/Small OOL in p) Poor Dissolu Poor Develop Cht Gry Op Shp Vit Chalk V Abd Sh Char-Gry No Flor No Odor No Stn NS

Ls Crm-Wht-Gry FxIn Poor-Fair IxIn Por Dns Micritic (w/Fos (Fuss) Grad Fair OOM Por (w/Small OOL in p) Poor Dissolu Poor Develop Cht Gry Op Shp Vit Chalk V Abd Sh Char-Gry No Flor No Odor No Stn NS

Ls Crm-Wht-Gry FxIn Poor-Fair IxIn Por Dns Micritic (w/Fos (Fuss) Grad Fair OOM Por (w/Small OOL in p) Poor Dissolu Poor Develop Cht Gry Op Shp Vit Chalk V Abd Sh Char-Gry No Flor No Odor No Stn NS

Ls Crm-Wht-Gry FxIn Poor-Fair IxIn Por Dns Micritic (w/Fos (Fuss) Grad Fair OOM Por (w/Small OOL in p) Poor Dissolu Poor Develop Cht Gry Op Shp Vit Chalk V Abd Sh Char-Gry No Flor No Odor No Stn NS





Ls Wht FxIn Fair-Med IxIn Gran Por Grad Fair-Med OOM Por (w/Poor-Fair Dis Poor Devel) Chalk Sh Red-Grn-Char Fissil Scat ? Min Flor (Dull Wht-Grn) No Odor NS

Ls Wht FxIn Fair-Med IxIn Gran Por Grad Fair-Med OOM Por (w/Poor-Fair Dis Poor Devel) Chalk Sh Red-Grn-Char Fissil Scat ? Min Flor (Dull Wht-Grn) No Odor NS

Ls Wht FxIn Fair-Med IxIn Gran Por Grad Fair-Med OOM Por (w/Poor-Fair Dis Poor Devel) Chalk Sh Red-Grn-Char Fissil Scat ? Min Flor (Dull Wht-Grn) No Odor NS

Ls Wht FxIn Fair-Med IxIn Gran Por Grad Fair-Med OOM Por (w/Poor-Fair Dis Poor Devel) Chalk Sh Red-Grn-Char Fissil Scat ? Min Flor (Dull Wht-Grn) No Odor NS

LECOMPTON 3942 (- 1125)

Ls Wht FxIn Fair-Med IxIn Gran Por Grad Fair-Med OOM Por (w/Poor-Fair Dis Poor Devel) Chalk Sh Red-Grn-Char Fissil Scat ? Min Flor (Dull Wht-Grn) No Odor NS

Ls Wht-Gry FxIn Fair-Med IxIn Gran Por Grad Fair-Med OOM Por (w/Poor-Fair Dissolu & Poor Develop) Fos (Fuss, Spicule) Chalk Sh Grn-Char Fissil Scat ? Min Flor (Dull Wht-Grn) No Odor NS

Ls Wht-Gry FxIn Fair-Med IxIn Gran Por Grad Fair-Med OOM Por (w/Poor-Fair Dissolu & Poor Develop) Fos (Fuss, Spicule) Chalk Sh Grn-Char Fissil Scat ? Min Flor (Dull Wht-Grn) No Odor NS

Ls Wht-Gry FxIn Fair-Med IxIn Gran Por Grad Fair-Med OOM Por (w/Poor-Fair Dissolu & Poor Develop) Cht Wht Op Shp Vit (w/ Fos (Fuss) Includ) Sh Char-Gry Fissil Scat ? Min Flor (Dull Wht-Grn) No Odor NS

Ls Wht-Gry FxIn Fair-Med IxIn Gran Por Grad Fair-Med OOM Por (w/Poor-Fair Dissolu & Poor Develop) Fos (Fuss) Chalk Sh Grn-Char Fissil Scat ? Min Flor (Dull Wht-Grn) No Odor NS

Ls Wht-Gry AA FxIn Fair-Med IxIn Gran Por Grad Fair-Med OOM Por (w/Poor-Fair Dissolu & Poor Develop) Fos (Crin) Chalk Sh Char Fissil Scat ? Min Flor (Dull Wht-Grn) No Odor NS

Ls Wht-Gry FxIn Fair-Med IxIn Gran Por Grad Fair-Med OOM Por (w/Poor-Fair Dissolu & Poor Develop) Fos (Crin) Chalk Sh Char Fissil Scat ? Min Flor (Dull Wht-Grn) No Odor NS

Ls Wht-Gry AA FxIn Fair-Med IxIn Gran Por Grad Fair-Med OOM Por (w/Poor-Fair Dissolu & Poor Develop) Fos (Crin) Chalk Sh Char Fissil Scat ? Min Flor (Dull Wht-Grn) No Odor NS

Ls Wht-Gry FxIn Fair-Med IxIn Gran Por Grad Fair-Med OOM Por (w/Poor-Fair Dissolu & Poor Develop) Fos (Fuss) Chalk Sh Char Fissil Scat ? Min Flor (Dull Wht-Grn) No Odor NS

Ls Wht-Gry FxIn Fair-Med IxIn Gran Por Grad Fair-Med OOM Por (w/Poor-Fair Dissolu Poor Develop) Fos (Fuss) Chalk Sh Char Fissil Scat ? Min Flor (Dull Wht-Grn) No Odor NS

Ls Wht-Gry FxIn Fair-Med IxIn Gran Por Grad Fair-Med OOM Por (w/Poor-Fair Dissolu Poor Develop) Fos (Fuss) Chalk Sh Char Fissil Scat ? Min Flor (Dull Wht-Grn) No Odor NS

Ls Wht-Gry FxIn Fair-Med IxIn Gran Por Grad Fair-Med OOM Por (w/Poor-Fair Dissolu Poor Develop) Fos (Fuss) Chalk Sh Char Fissil Scat ? Min Flor (Dull Wht-Grn) No Odor NS

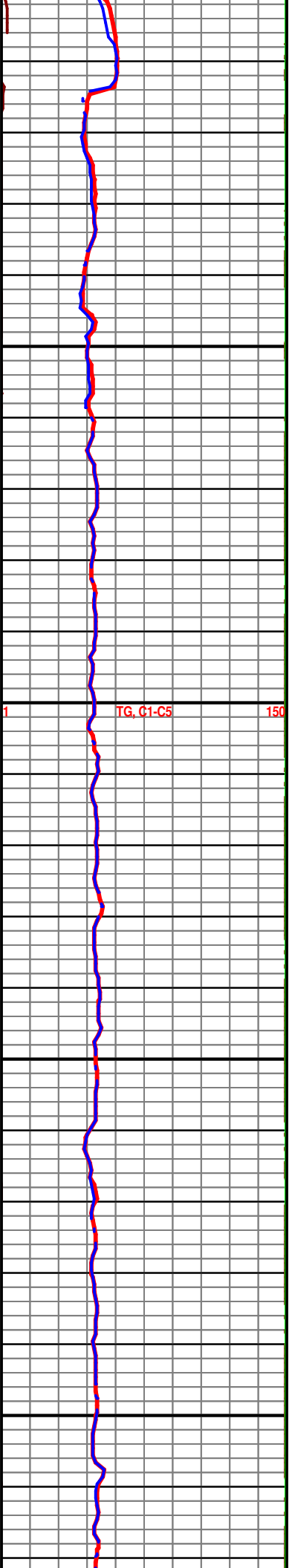
Ls Wht-Gry FxIn Fair-Med IxIn Gran Por Grad Fair-Med OOM Por (w/Poor-Fair Dissolu Poor Develop) Fos (Fuss) Chalk Sh Char Fissil Scat ? Min Flor (Dull Wht-Grn) No Odor NS

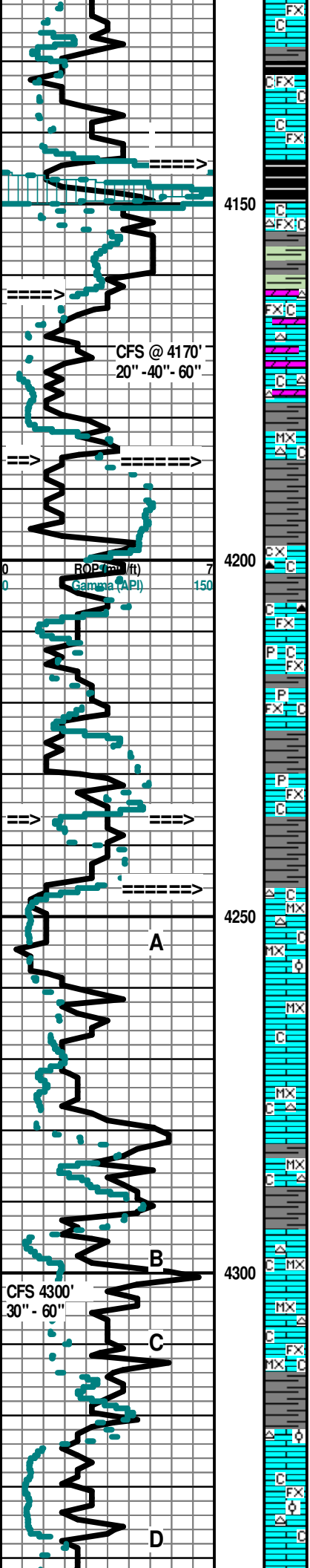
Ls Wht-Gry FxIn Fair-Med IxIn Gran Por Grad Fair-Med OOM Por (w/Poor-Fair Dissolu Poor Develop) Fos (Fuss) Chalk Sh Char Fissil Scat ? Min Flor (Dull Wht-Grn) No Odor NS

Ls Wht-Crm-Gry FxIn Poor Gran IxIn Por Cht Wht-Gry Op Shp Vit Chalk Sh Char-Gry Soft Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Gry FxIn Poor Gran IxIn Por Cht Wht-Gry Op Shp Vit Chalk Sh Char-Gry Soft Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Gry FxIn Poor Gran IxIn Por Cht Wht-Gry Op Shp Vit Chalk Sh Char-Gry Soft Fissil No Odor No Stn No Flor NS





Ls Wht-Crm-Gry FxIn Poor Gran IxIn Por Chalk Sh Blk Carb (1r Only)
Char-Gry-Aqua Soft Fissil No Odor No Stn No Flor NS

20" CFS @ 4170' Ls Wht-Crm-Gry FxIn Poor Gran IxIn Por Chalk Sh Blk Carb-Char-Gry-Aqua Soft Fissil No Odor No Stn No Flor NS

HEEBNER 4144' (-1327)

40" CFS @ 4170' Sh Blk Carb Fissil Abd Ls Wht-Lt Gry FxIn Poor IxIn Por Grad Micrite Barreen Cht Wht Op Shp Vit Chalk No Odor No Stn No Flor NS

TORONTO 4162' (-1345')

60" CFS @ 4170' Ls Wht/Dolo Lt Gry FxIn-MicroIxIn Poor IxIn Por Grad Micrite Barren Cht Wht-Gry Op Shp Vit Chalk Sh Char Fissil Abd No Odor No Stn No Flor NS

30" CFS @ 4195' Ls Wht/Dolo Lt Gry FxIn-MicroIxIn Poor IxIn Por Grad Micrite Barren Cht Wht-Gry Op Shp Vit Chalk Sh Char Fissil Abd No Odor No Stn No Flor NS

DOUGLAS 4184' (-1367)

60" CFS @ 4195' Ls Tan/Dolo Lt Gry FxIn-MicroIxIn Poor IxIn Por Grad Micrite Barren Cht Gry Op Shp Vit Chalk Sh Char (wPyr Includ) Fissil Abd No Odor No Stn No Flor NS

Sh Char-Gry-Blk Carb Fissil Ls Tan-Lt Gry MicroIxIn Poor IxIn Por Grad Micrite Barren Cht Drk-Gry Op Shp Vit Chalk Fissil Abd No Odor No Stn No Flor NS

Ls Wht-Crm-Lt Gry FxIn Poor IxIn Granu Por Grad Micrite Barren Cht Gry Op Shp Vit Chalk Sh Char Fissil (Tr Only) No Odor No Stn No Flor NS

Ls Wht-Crm-Lt Gry FxIn Poor IxIn Granu Por Grad Micrite Barren Cht Gry Op Shp Vit Chalk Sh Char (w/Pyr Includ) Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Lt Gry FxIn Poor IxIn Granu Por Grad Micrite Barren Chalk Sh Char (w/Pyr Includ) Fissil No Odor No Stn No Flor NS

IATAN 4280' (-1413)

Ls Wht-Crm-Lt Gry FxIn Poor IxIn Granu Por Grad Micrite Barren Chalk Abd Sh Char (w/Pyr Includ)-Gry-Aqua Fissil No Odor No Stn No Flor NS

LANSING 4246' (-1429)

Ls Wht-Crm MicroIxIn-FxIn Poor IxIn Por Grad Micrite Barren Cht Wht-Crm-Tan-Gry (Banded) Op Shp Vit Chalk Sh Char-Gry Fissil No Odor No Stn No Flor NS

Ls Wht-Crm MicroIxIn-FxIn Poor IxIn Por Micritic Grad Poor OOL Por (w/Small OOL in pl) Poor Dissolu Poor Develop Poor Leaching Barren Cht Wht-Crm-Tan-Gry (Banded) Op Shp Vit Chalk Sh Char-Gry-Aqua Fissil No Odor No Stn No Flor NS

Sh Char-Gry-Aqua Fissil Ls Wht-Crm MicroIxIn-FxIn Poor IxIn Por Micritic Barren Cht Wht-Crm-Tan-Gry (Banded) Op Shp Vit Chalk No Odor No Stn No Flor NS

30" CFS @ 4300' Ls Csm-Lt Gry MicroIxIn Dns Micrite Grad Poor IxIn OOM Por (w/ Tr (2 Pcs) Scatt Lt Bm Stn in Frac Por) No-Poor Vis Por Cht Wht Op Shp Vit Sh Char-Gry Fissil Chalk No Odor No Flor ? Min Flor (6 Pcs in Tray) NS

60" CFS @ 4300' Ls Csm-Lt Gry MicroIxIn Dns Micrite Grad Poor IxIn Gran Pin-Pt Por Barren Cht Wht Op Shp Vit Chalk Sh Char-Gry Fissil No Odor No Flor ? Min Flor NS

Ls Csm-Lt Gry MicroIxIn Dns Micrite Grad Poor IxIn Gran Pin-Pt Por Barren Cht Wht Op Shp Vit Chalk Sh Char-Gry Fissil No Odor No Flor ? Min Flor NS

Ls Csm-Lt Gry MicroIxIn Dns Micrite Grad Poor IxIn Gran Pin-Pt Por Barren Cht Wht Op Shp Vit Chalk Sh Char-Gry Fissil No Odor No Flor ? Min Flor NS

Ls Csm-Gry FxIn Poor IxIn Por Micritic (w/Tr Pyr Includ) Chalk Cht Wht (w/OOL Includ) Op Shp Op Vit Sh Char No Odor No Flor NoStn NS

Ls Csm-Gry FxIn Poor IxIn Por Micritic (w/Tr Pyr Includ) Chalk Cht Wht (w/OOL Includ) Op Shp Op Vit Sh Char No Odor No Flor NoStn NS

SH GASKICK = 88 UNITS

TG, C1-C5

A

B

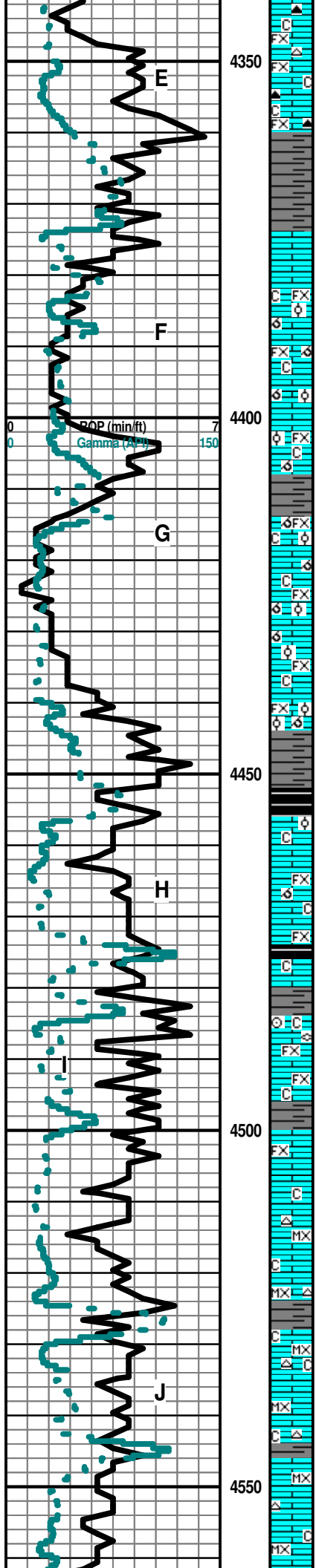
C

D

CFS 4300' 30" - 60"

CFS @ 4170' 20" - 40" - 60"

ROP (m) (ft) 7 150
Gamma (API) 150



Ls Crm-Gry FxIn Poor IxIn Por Micritic Chalk Cht Whit- Blk-Gry (w/ OOL Includ) Op Shp Op Vit Sh Char No Odor No Flor NoStn NS

Ls Crm-Gry FxIn Poor IxIn Por Micritic Chalk Cht Blk-Gry Wht (w/ OOL Includ) Op Shp Op Vit Sh Char No Odor No Flor NoStn NS

Ls Crm-Gry FxIn Poor IxIn Por Micritic Chalk Cht Blk-Gry Wht (w/ OOL Includ) Op Shp Op Vit Sh Char No Odor No Flor NoStn NS

Sh Char-Blk Carb Fissil Ls Wht FxIn Poor-Fair IxIn Gran Por (w/Poor OOM Por w/Poor Dissolu Poor Devellop) Chalk Poor ? Min Flor (Dull Wht-Grn) No Odor No Stn NS

Ls Wht-Crm FxIn Poor IxIn Gran Por (w/Tr Poor OOM Por w/Poor Dissolu Poor Devellop) Chalk ABD Sh Char-Blk Carb Fissil No Flor No Odor No Stn NS

Ls Wht-Crm FxIn Poor IxIn Gran Por Grad Poor-Fair OOM Por (w/Small OOids in pl & Poor Dissolu Poor Devellop) Chalk Sh Char-Gry Fissil No Flor No Odor No Stn NS

Ls Wht-Crm FxIn Poor IxIn Gran Por Grad Poor-Fair OOM Por (w/Small OOids in pl & Poor Dissolu Poor Devellop) Chalk Sh Char-Gry Fissil No Flor No Odor No Stn NS

Ls Crm-Brn Abd FxIn Med-Good OOM Por (w/ Med OOL in pl) Med-Good Dissolu Med-Good Develop Good Vug Leaching Por Barren Chalk Dec Sh Char No Flor No Odor No Stn NS

Ls Crm-Brn Abd FxIn Med-Good OOM Por (w/ Med OOL in pl) Med-Good Dissolu Med-Good Develop Good Vug Leaching Por Barren Chalk Dec Sh Char No Flor No Odor No Stn NS

Ls Crm-Brn Abd FxIn Med-Good OOM Por (w/ Med OOL in pl) Med-Good Dissolu Med-Good Develop Good Vug Leaching Por Barren Chalk Dec Sh Char No Flor No Odor No Stn NS

Ls Wht V FxIn w/Poor IxIn Por Micritic Sh Char-Grn-Gry No Odor No Flor NoStn NS

Ls Crm -Gry FxIn (w/ Med-Good OOM Por w/ OOL in pl) Med-Good Dissolu Med-Good Develop Good Vug Leaching Por Grad Mostly FxIn Por (w/Poor IXIn Por) Barren Chalk Abd Sh Char-Grn-Gry Fissil No Flor No Odor No Stn NS

Ls Wht FxIn w/Poor IxIn Por Micritic Grad Ls Gry w/Poor OOM Por Poor-No Dissolu Poor Develop Cht Char-Gry-Blk Op Shp Vit Chalk Sh Char-Grn-Gry No Odor No Flor NoStn NS

Ls Wht V FxIn w/Poor IxIn Por Micritic Grad Ls Gry Poor OOM Por Poor-No Dissolu Poor Develop Cht Char-Gry-Blk Op Shp Vit Chalk Sh Char -Grn-Gry No Odor No Flor NoStn NS

Ls Wht V FxIn Poor IxIn Por Micritic Grad Ls Gry w/ (Few Pcs) OOL Fair Por (w/ Abd OOL in pl) Poor Dissolu Poor-Fair InterOOL Por (w/ Poor-Fair Leaching Por Fair-Good Develop) Cht Gry-Smokey-Gry Op Vit Shp Fos (Crin, Fuss) Sh Char-Grn-Gry No Odor No Flor NoStn NS

Ls Wht V FxIn w/Poor IxIn Por Micritic Sh Char-Grn-Gry No Odor No Flor NoStn NS

Ls Wht V FxIn w/Poor IxIn Por Micritic Sh Char-Grn-Gry No Odor No Flor NoStn NS

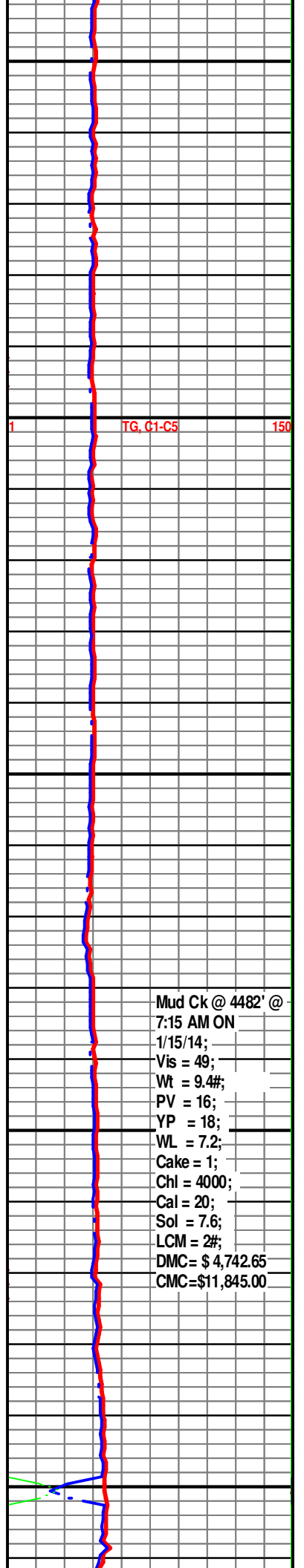
Ls Crm-Tan MicroxIn Poor IxIn Por Micritic Cht Gry Op Shp Vit Chalk Abd Sh Char-Grn-Gry No Odor No Flor NoStn NS

Ls Crm-Tan MicroxIn Poor IxIn Por Micritic Cht Gry Op Shp Vit Chalk Abd Sh Char-Grn-Gry No Odor No Flor NoStn NS

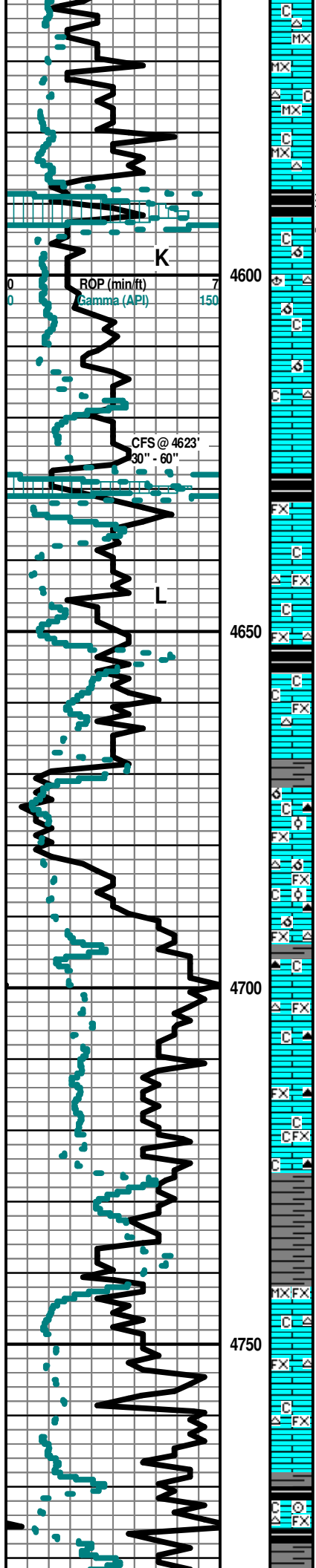
Ls Crm-Tan MicroxIn Poor IxIn Por Micritic Cht Gry Translu-Op Shp Vit Chalk Sh Char-Grn-Gry No Odor No Flor NoStn NS

Ls Crm-Tan MicroxIn Poor IxIn Por Micritic Cht Gry Op Shp Vit Chalk Sh Char-Grn-Gry No Odor No Flor NoStn NS

Ls Crm-Tan MicroxIn Poor IxIn Por Micritic Cht Gry Op Shp Vit Chalk Sh Char-Grn-Gry No Odor ? Sli Faint Flor (1 Pc w/ Sli ? Min Flor) NoStn NS



Mud Ck @ 4482' @
 7:15 AM ON
 1/15/14;
 Vis = 49;
 Wt = 9.4#;
 PV = 16;
 YP = 18;
 WL = 7.2;
 Cake = 1;
 Chl = 4000;
 Cal = 20;
 Sol = 7.6;
 LCM = 2#;
 DMC = \$ 4,742.65
 CMC = \$11,845.00



Ls Crm-Tan MicroxIn Poor IxIn Por Micritic Cht Gry Op Shp Vit Chalk Abd Sh Char-Grn-Gry No Odor No Flor NoStn NS

Ls Crm-Tan MicroxIn Poor IxIn Por Micritic Cht Gry Op Shp Vit Chalk Abd Sh Char-Grn-Gry No Odor No Flor NoStn NS

STARK SHALE 4588' (- 1771)

KANSAS CITY "SWOPE (K)" 4592' (-1775)

Sh Blk Carb Fissil Ls Crm-Brn FxIn (w/Poor OOM Por & Poor-Fair InterOOM Por) Poor Leaching Por Chalky No Flor Faint Odor ? Sli SG

30" CFS @ 4623' Ls Crm-Brn FxIn (w Poor OOM Por Poor-Fair Inter OOM Por) Poor Leaching Poor Develop Grad Micritic Cht Lt Gry Op Shp Vit Fos (Brach) Chalky Sh Blk Carb Fissil (w/GSG) ? Faint Odor No Flor No Stn Sli SG in Blk Sh

60" CFS @ 4623' Ls Crm-Brn FxIn (w Poor OOM Por Poor-Fair Inter OOM Por) Poor Leaching Poor Develop Grad Micritic Cht Wht-Lt Gry Op Shp Vit Chalky Sh Blk Carb Fissil ? Faint Odor No Flor No Stn NS

HUSHPUCKNEY SHALE 4628 (-1811)

KANSAS CITY "HERTHA (L)" 4631' (- 1814)

Sh Blk Carb Fissil Ls Crm-Gry FxIn Grad Micritic Chalky V Abd No Odor No Flor No Stn NS

Ls Wht FxIn Poor IxIn Por Micritic Gran Por Poor Igran Por Dns Micrite Barren Chalk Cht Smoky Gry Op Vit Shp Sh Char Fissil No Stn No Flor No Odor NS

Ls Wht FxIn Poor IxIn Por Micritic Gran Por Poor Igran Por Dns Micrite Barren Chalk Cht Smoky Gry Op Vit Shp Sh Char Fissil No Stn No Flor No Odor NS

Ls Wht FxIn Poor IxIn Por Micritic Gran Por Poor Igran Por Dns Micrite Barren Chalk Cht Smoky Gry Op Vit Shp Sh Char Fissil No Stn No Flor No Odor NS

Ls Wht-Gry FxIn Poor IxIn Por Micritic Grad Med-Good OOM Por (w/ Fair-Med InterOOM Por (w/Small-Med OOids in pl) Chalk Cht Char-Drk Gry Op Vit Shp No Stn No Flor No Odor NS

Ls Wht-Gry FxIn Poor IxIn Por Micritic Grad Good OOM Por (w/ Good InterOOM Por (w/Large OOids in pl) Chalk Cht Drk-Gry Op Vit Shp No Stn No Flor No Odor NS

Ls Wht-Gry FxIn Poor IxIn Por Micritic G) Chalk Cht Drk-Gry (w/OOL Includ) Op Vit Shp No Stn No Flor No Odor NS

Sh Char-Gry-Blk Carb Abd Fissil Ls Wht-Gry FxIn Poor IxIn Por Micritic Cht Char Op Vit Shp No Stn No Flor No Odor NS

Sh Char-Gry Abd Fissil Ls Wht-Gry FxIn Poor IxIn Por Micritic Cht Char Op Vit Shp No Stn No Flor No Odor NS

BASE KANSAS CITY 4726' (- 1909)

Sh Char-Gry-Aqua Fissil V Abd Fissil Ls Wht-Gry MicroxIn Poor IxIn Por Dns Micritic Cht Char Op Vit Shp No Stn No Flor No Odor NS

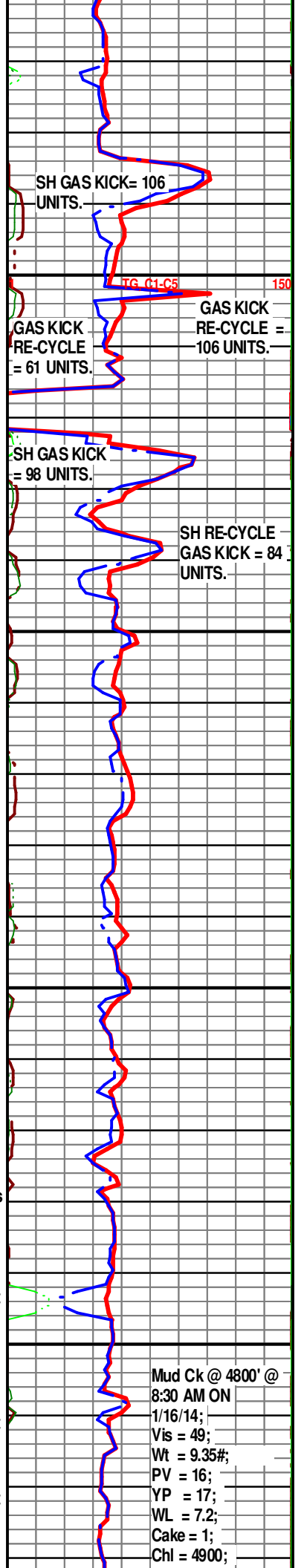
MARMATON 4742' (- 1925)

Ls Wht-Crm FxIn Poor IxIn Por Dns Micritic Chalk Cht Wht-Tan Transl-Op Vit Shp Sh Char-Gry-Aqua Fissil No Flor No Stn No Odor NS

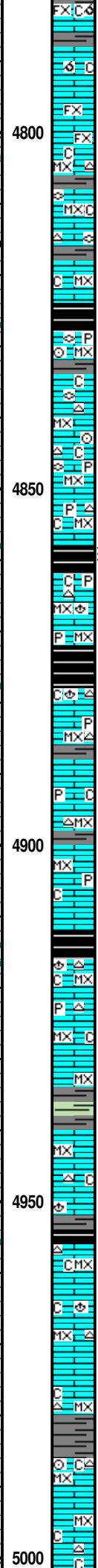
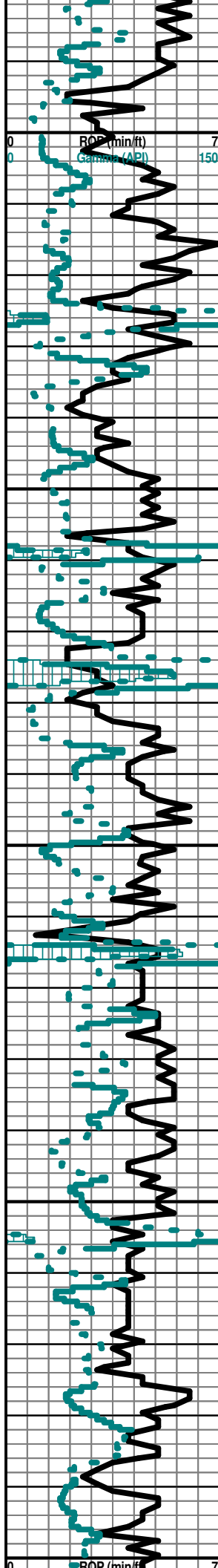
LLs Wht-Crm FxIn Poor IxIn Por Dns Micritic Chalk Cht Wht-Tan Transl-Op Vit Shp Sh Char-Gry-Aqua Fissil No Flor No Stn No Odor NS

Ls Wht-Crm FxIn Poor IxIn Por Dns Micritic Chalk Cht Wht-Tan Transl-Op Vit Shp Sh Blk Carb Char-Gry-Aqua Fissil No Flor No Stn No Odor NS

Ls Wht-Crm FxIn Poor IxIn Por Dns Micritic Chalk Cht Wht-Tan Transl-Op Vit Shp Fos (Crin Abd) Sh Char-Gry-Aqua Fissil No Flor No Stn No Odor NS



Mud Ck @ 4800' @
 8:30 AM ON
 1/16/14;
 Vis = 49;
 Wt = 9.35#;
 PV = 16;
 YP = 17;
 WL = 7.2;
 Cake = 1;
 Chl = 4900;



Ls Wht-Crm Fxln Poor Ixln Por Micritic Grad OOM Por Poor InterOOM Por (w/Smal OOL in pl & Poor Dissolu Poor Develop No Leaching) Chalk Abd Sh Char-Gry-Aqua Fissil No Stn No Flor No Odor NS

Ls Wht-Crm-Tan Fxln-Microxln Dns Barren Micrite Cht-Lt Gry Op Shp Vit Fos (Fuss) Chalky Sh Blk Carb-Char Soft-Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Tan Fxln-Microxln Dns Barren Micrite (w/Pyr Includ) Grad Fxln Poor-Fair Pin-Pt Inter Gran Por Cht-Lt Gry Op Shp Vit Fos (Fuss) Chalky Sh Blk Carb-Char Soft-Fissil No Odor No Stn Fair ? Min Flor NS

Ls Wht-Crm-Tan-Lt Gry Microxln Dns Barren Micrite Cht-Lt Gry Op Shp Vit Fos (Fuss) Chalky Sh Blk Carb-Char Soft-Fissil No Odor No Stn ? Min Flor Dec NS

PAWNEE 4825' (- 2008)

Ls Wht-Crm-Tan-Lt Gry Microxln Dns Barren Micrite Cht Wht-Lt Gry Op Shp Vit Fos (Crin, Fuss) Chalky Sh Blk Carb-Char-Grn (w/Pyr Includ) Soft-Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Tan-Lt Gry Microxln Dns Barren Micrite Cht Wht-Lt Gry Op Shp Vit Fos (Crin, Fuss) Chalky Sh Blk Carb-Char-Grn (w/Pyr Includ) Soft-Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Tan-Lt Gry Microxln Dns Barren Micrite Cht Wht-Gry (w/Wht Includ) Op Shp Vit Fos (Brach) Chalky Sh Blk Carb-Char-Grn (w/Pyr Includ) Soft-Fissil No Odor No Stn No Flor NS

FORT SCOTT 4859' (- 2042)

Sh Blk Carb-Char-Aqua/Grn (w/Pyr Includ) Ls Wht-Crm-Gry Microxln Dns Micrite Cht Wht-Lt Gry-Tan (w/Wht OOid Includ) Fos (Brach) Chalk No Odor No Stn No Flor NS

CHEROKEE SHALE 4872' (- 2055)

Sh Blk Carb-Char-Aqua/Grn (w/Pyr Includ) Ls Wht-Crm-Gry Microxln Dns Micrite Cht Wht-Lt Gry-Tan (w/Wht OOid Includ) Fos (Brach) Chalk No Odor No Stn No Flor NS

Ls Wht-Crm-Gry Microxln Dns Micrite Cht Wht-Lt Gry-Tan (w/Wht OOid Includ) Chalk Sh Blk Carb-Char-Aqua/Grn (w/Pyr Includ) No Odor No Stn No Flor NS

Ls Wht-Crm-Gry Microxln Dns Micrite Cht Wht-Lt Gry-Tan (w/Wht OOid Includ) Chalk Sh Blk Carb-Char-Aqua/Grn (w/Pyr Includ) No Odor No Stn No Flor NS

Ls Wht-Crm-Gry Microxln Dns Micrite Cht Wht-Lt Gry-Tan (w/Wht OOid Includ) Chalk Sh Blk Carb-Char-Aqua/Grn (w/Pyr Includ) No Odor No Stn No Flor NS

Second Cherokee Shale 4913 (- 2096)

Sh Blk Carb-Char-Aqua/Grn Ls Crm-Tan Microxln Dns Micrite Cht Wht Op Shp Vit Fos (Brach) Chalk Sh Blk Carb-Char-Aqua/Grn (w/Pyr Includ) No Odor No Stn No Flor NS

Ls Crm-Tan Microxln Dns Micrite (w/Pyr Includ) No Vis Por Cht Wht Op Shp Vit Chalk Sh Blk Carb-Char-Aqua/Grn (w/Pyr Includ) No Odor No Stn No Flor NS

Ls Crm-Tan Microxln Dns Micrite No Vis Por Chalk Sh Blk Carb-Char-Aqua No Odor No Stn No Flor NS

Ls Crm-Tan Microxln Dns Micrite No Vis Por Grad Fxln Poor Igran Por Cht Amber-Wht-Tan Translu-Op Shp Vit Chalk Sh Blk Carb - Char- Aqua No Odor No Stn No Flor NS

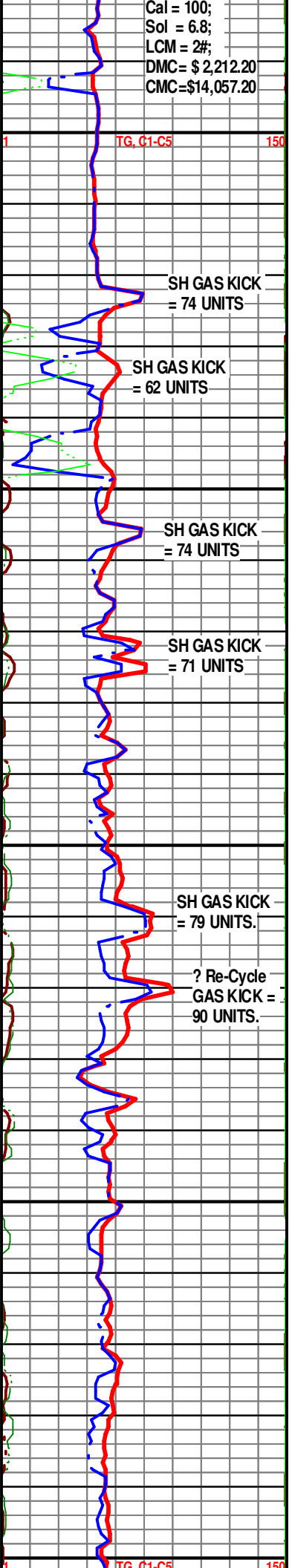
Ls Crm-Tan Microxln Dns Micrite No Vis Por Cht Amber-Wht-Tan Translu-Op Shp Vit Fos (Brach) Chalk Sh Char (Tr Only) No Odor No Stn No Flor NS

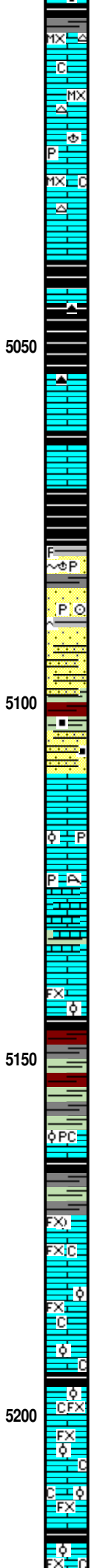
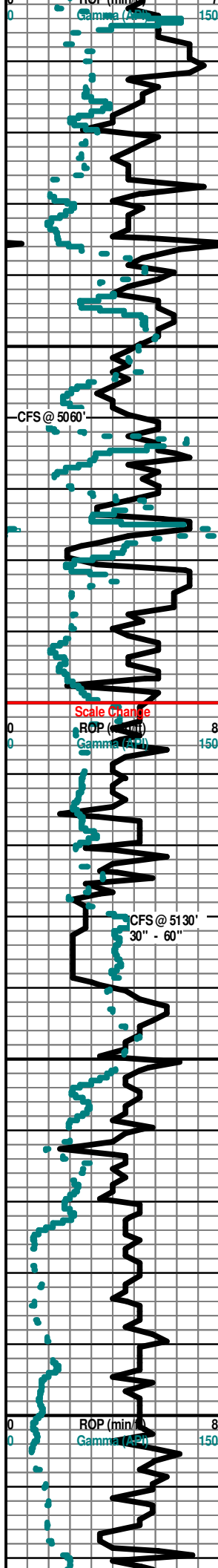
Ls Crm-Tan Microxln Dns Micrite No Vis Por Fos (Brach) Chalk Sh Blk Carb (Tr Only) No Odor No Stn No Flor NS

Ls Tan-Crm Microxln Dns Micrite No Vis Por Cht Tan-Amber Translu-Op Shp Vit Chalk Sh Char (Tr Only) No Odor No Stn No Flor NS

Ls Tan-Crm Microxln Dns Micrite No Vis Por Cht Tan-Amber Translu-Op Shp Vit Fos (Crin) Chalk Sh Blk Carb-Char (Tr Only) No Odor No Stn No Flor NS

Ls Tan-Crm Microxln Dns Micrite No Vis Por Cht Tan-Amber Translu-Op Shp Vit Chalk Sh Blk Carb-Char (Tr Only) No Odor No Stn No Flor NS





Ls Tan-Crm Microxn Dns Micrite No Vis Por Cht Tan-Amber Translu-Op Shp Vit Chalk Sh Blk Carb-Char (Tr Only) No Odor No Stn No Flor NS

Sh Blk Carb-Char-Gry-Aqua (All w/Pyr Includ) Soft-Fissil Ls Tan-Crm Microxn Dns Micrite Cht Amber-Wht (Banded) Drk-Gry Fos (Brach) Chalk Pyr Mass No Odor No Stn No Flor NS

Ls Tan-Crm Microxn Dns Micrite No Vis Por Cht Tan-Amber Translu-Op Shp Vit Chalk Sh Blk Carb-Char (Tr Only) No Odor No Stn No Flor NS

ATOKA SHALE 5028' (-2211)

Sh Blk Carb-Char-Drab Grn/Gry-Aqua Soft-Fissil Ls Tan-Crm Microxn Dns Micrite Cht Amber-Wht (Banded) Drk-Gry Chalk No Odor No Stn No Flor NS

30" CFS @ 5060' Sh Blk Carb-Char-Gry Soft-Fissil V Abd Ls Crm- Gry Microxn Dns Micrite Cht Drk-Gry Op Shp Vit No odor No Stn No Flor NS

60" CFS @ 5060' Sh Blk Carb-Char-Gry Soft-Fissil V Abd Ls Crm- Gry Microxn Dns Micrite Inc Cht Drk-Gry Op Shp Vit No Odor No Stn No Flor NS

MORROW SHALE 5070' (-2253)

Sh Blk Carb-Char-Gry-Drab Grn Soft-Fissil V Abd Ls Crm- Gry Microxn Dns Micrite Inc Cht Drk-Gry Op Shp Vit No Odor No Stn No Flor NS

MORROW SAND 5076' (- 2259)

Qtz Ss Stringers Wht-Brn-Gry VFGm Ang-Sub Ang Poor-Fair Igran Clusters Clear-Sli Frosted Grns (w/ Gillsonitic & Pyr Includ) Friable Well Sorted Hvy CaCO3 Matrix (w/SSG & SSO Under Heat in Wtr) Fos (Brach, Crin) Cht Amber Translu Shp Vit Sh Blk Carb -Char- Gry- Drab Grn- Aqua Abd Soft-Fissil No Flor No Odor Sli Lt Brn Stn Sli SG/SO

Ls Wht-Crm FxIn Dns Micrite Sh Varicolord Char- Drab Grn- Gry- Aqua - Olive Fissil Fos (Brach, Crin) Cht Gry Op Shp Vit Qts Ss Gry-Lt Brn (w/ Glacu Includ) Friable AA Pyr Mass No Odor No Flor No Stn NS

Sh Char-Gry (w/ Carb Includ) Drab Grn-Aqua-Olive Fissil V Abd Ls Crm-Wht Microxn Dns Micrite Pyr Mass No Odor No Stn No Flor NS

30" CFS @ 5130' Ls Wht FxIn Poor Igran OOL (w/Small OOL in pl) Por "Sandy Gran Por" Soft Grad Granular FxIn Poor-Fair Igran Por Sh Char-Red-Aqua Soft-Fissil Pry Mass (Sh Wash Red) No Odor No Flor No Stn NS

60" CFS @ 5130' Ls Wht FxIn Dns Micrite Grad Poor Igran OOL (w/Small OOL in pl) Por AA Pyr Mass Fos (Coral) (? Conglomerati Debris ?) Sh AA No Odor No Flor No Stn NS

Sh Char-Gry-Drab Grn-Red-Aqua Soft-Fissil V Abd Ls Crm-Gry Microxn Dns Micrite No Odor No Stn No Flor NS

MISSISSIPPIAN STE. GEN 5140' (-2323')

Ls Wht FxIn Poor Igran (w/V Small OOL in pl) Por "Sandy Gran Por" Poor IntOOL Por Soft Chalk Sh Char-Gry-Maroon-Aqua Abd Soft-Fissil No Odor No Flor No Stn NS

Ls Wht FxIn Poor Igran (w/V Small OOL in pl) Por "Sandy Gran Por" Poor IntOOL Por Soft Chalk Sh Char-Gry-Maroon-Aqua Abd Soft-Fissil No Odor No Flor No Stn NS

Ls Wht FxIn Poor Igran (w/V Small OOL & Pyr Includ in pl) Por "Sandy Gran Por" Poor IntOOL Por (w/Tr Lt Brn "Salt & Pepper" Poor Igran Por Tr/VSSO w/Broken) Mostly Barren Soft Chalk Pyr Mass Red Sil stone Sh Char -Gry -Maroon -Aqua -Olive Soft-Fissil No Odor No Flor ? Sli Lt Brn Stn VSSG & VSSO

Ls Wht-Lt Gry FxIn Poor Igran (w/V Small OOL & Pyr Includ in pl) Por "Sandy Gran Por" Poor IntOOL Por (w/Tr Only Lt Brn "Salt & Pepper" Poor Igran Por Tr/VSSO w/Broken) Barren Soft Chalk Sh Aqua-Char-Maroon Dec Soft-Fissil No Odor No Flor ? Sli Lt Brn Stn Dec VSSG & VSSO

Ls Wht-Lt Gry FxIn Poor Igran (w/V Small OOL in pl) Por "Sandy Gran Por" Poor IntOOL Por Barren Soft Chalk Sh Aqua-Char-Maroon Dec Soft-Fissil No Odor No Flor No Stn NS

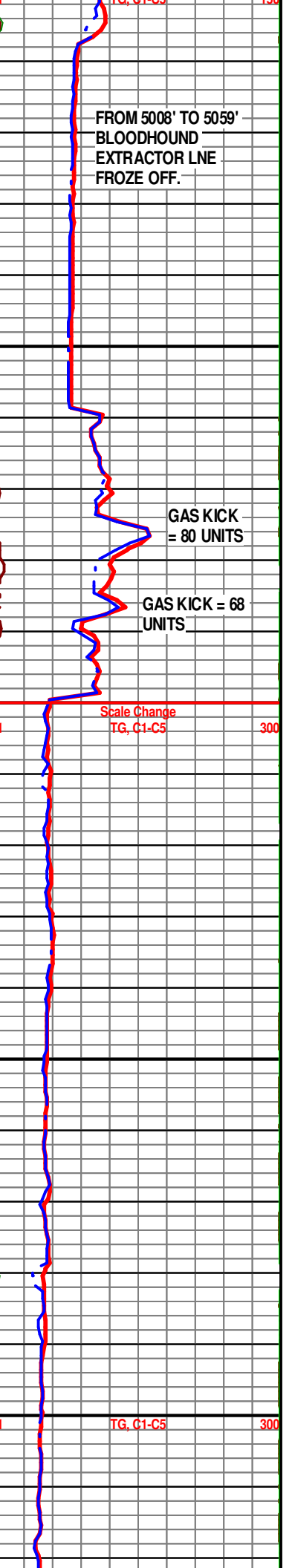
MISSISSIPPIAN ST. LOUIS 5195' (- 2378)

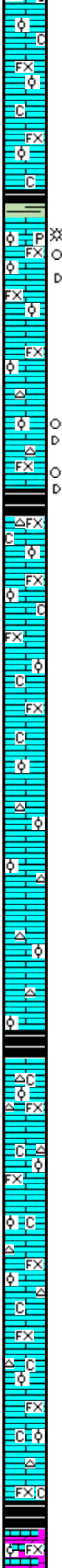
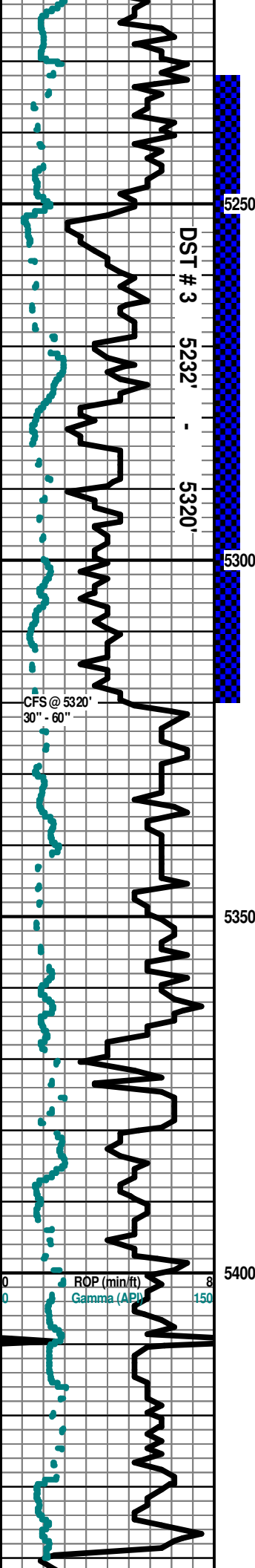
Ls Wht FxIn Poor-Fair Igran (w/Small-Med OOL in pl) Por "Sandy Gran Por" Poor-Fair IntOOL Por Barren Soft Chalk Sh Aqua-Char-Maroon Soft-Fissil No Odor No Flor No Stn NS

Ls Wht FxIn Poor-Fair Igran (w/Small-Med OOL in pl) Por "Sandy Gran Por" Poor-Fair IntOOL Por Barren Soft Chalk Sh Aqua- Char- Maroon Soft-Fissil No Odor No Flor No Stn NS

MISS. ST. LOUIS UPPER B 5218' (-2401)

Ls Wht FxIn Poor-Fair Igran (w/Small-Med OOL in pl) Por Poor InterOOL Por





Por Fair-Med Igrn (w/Small-Med OOL in pl) Por Poor InterOOL Por
 Poor Fair-Med Develop Poor Leaching Baren Soft Chalk Sh Aqua-Char
 Soft-Fissil No Odor No Flor No Stn NS

Ls Wht FxIn Poor-Fair Igrn (w/Small-Med OOL in pl) Por Poor InterOOL Por
 Poor Fair-Med Develop Poor Leaching Baren Soft Chalk Sh Aqua-Char
 Soft-Fissil No Odor No Flor No Stn NS

Ls Wht FxIn Poor-Fair Igrn (w/Small-Med OOL in pl) Por Fair InterOOL Por
 Baren Soft Chalk Sh Aqua-Char Soft-Fissil No Odor No Flor No Stn NS

St. Louis Lwr B Dense Cor. Marker 5252' (-2435)

Ls Wht FxIn Poor-Fair Igrn (w/Med OOL in pl) Por Fair-Med InterOOL Por (w/Pyr inclus) Good
 Develop Poor Leaching Por (w/SSG When Broken & Lt Stn (Lt Brn)) Soft Chalk Sh
 Aqua-Char-Maroon Soft-Fissil Faint Odor Sli ? Min Flor (5% of Tray) VSSG & Lt Brn Stn

Ls Wht FxIn Poor-Fair Igrn (w/Med OOL in pl) Por Fair-Med InterOOL Por (w/Pyr inclus) Good
 Develop Poor Leaching Por (w/Tr "Dead Oil Stn) Soft Chalk Sh Aqua-Char-Blk Carb Soft-Fissil
 ? Odor No Flor Lt Brn "Dead" Stn

Ls Wht FxIn Poor-Fair Igrn (w/Med OOL in pl) Por Fair-Med InterOOL Por (w/Pyr inclus) Good
 Develop Poor Leaching Por Cht Wht-Tan-Peach Transp-Op Shp Vit Soft Chalk Sh
 Aqua-Char-Blk Carb Soft-Fissil No Odor No Flor No Stn NS

Ls Wht FxIn Poor-Fair Igrn (w/Med-Lg OOL in pl) Por Med-Good InterOOL Por Good Develop
 Poor Leaching Por (w/Lt Stn (Lt-Drk Brn)) Soft Chalk Sh Aqua-Char Soft-Fissil Faint Odor No
 Flor VSS Stn

MISS. ST. LOUIS LOWER B 5290' (-2473)

Ls Wht FxIn Poor-Fair Igrn (w/Med-Lg OOL in pl) Por Med-Good InterOOL Por Good Develop
 Poor Leaching Por (w/Lt Stn (Lt-Drk Brn)) Soft Chalk Sh Aqua-Char Soft-Fissil Faint Odor No
 Flor VSS Stn

30" CFS @ 5320' Ls Wht FxIn Poor-Fair Igrn (w/Med-Lg OOL in pl) Por
 Med-Good InterOOL Por Good Develop Poor Leaching Por Soft Chalk Sh
 Aqua-Blk Carb Soft-Fissil No Odor No Flor NS

60" CFS @ 5320' Ls Wht FxIn Poor-Fair Igrn (w/Med-Lg OOL in pl) Por
 Med-Good InterOOL Por Good Develop Poor Leaching Por Soft Chalk Sh
 Aqua-Char Soft-Fissil No Odor No Flor NS

Ls Wht FxIn Poor-Fair Igrn (w/Med-Lg OOL in pl) Por Med-Good InterOOL
 Por Good Develop Poor Leaching Por Soft Chalk Sh Aqua-Char Soft-Fissil
 No Odor No Flor NS

Ls Wht FxIn Poor-Fair Igrn OOL Por Grad Dns Micrite Soft Chalk Sh
 Aqua-Char Soft-Fissil No Odor No Flor NS

Ls Wht FxIn Poor-Fair Igrn OOL Por Grad Dns Micrite Soft Chalk Sh
 Aqua-Char Soft-Fissil No Odor No Flor NS

Ls Wht FxIn Poor-Fair Igrn OOL Por Grad Dns Micrite Soft Chalk Sh
 Aqua-Char Soft-Fissil No Odor No Flor NS

Ls Wht FxIn Poor-Fair Igrn OOL Por Grad Dns Micrite Soft Chalk Sh
 Aqua-Char Soft-Fissil No Odor No Flor NS

MISSISSIPPIAN ST. LOUIS C 5372' (-2555)

Ls Wht- Crm FxIn Micritic Grad Poor OOL Por Chalk Cht Wht-Gry Op Shp
 Vit Sh Char-Fissil No Odor No Flor No Stn NS

Ls Wht- Crm FxIn Micritic Grad Poor OOL Por Chalk Cht Wht-Gry Op Shp
 Vit Sh Char-Fissil No Odor No Flor No Stn NS

Ls Wht- Crm FxIn Micritic Grad Poor OOL Por Chalk Cht Wht-Gry Op Shp
 Vit Sh Char-Fissil No Odor No Flor No Stn NS

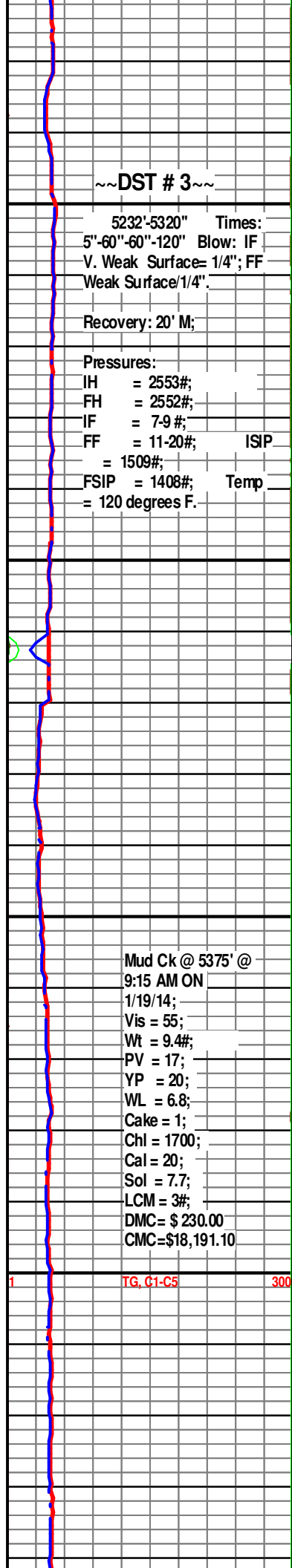
Ls Wht- Crm FxIn Micritic Grad Poor OOL Por Chalk Cht Wht-Gry Op Shp
 Vit Sh Char-Fissil No Odor No Flor No Stn NS

Ls Wht- Crm FxIn Micritic Grad Poor OOL Por Chalk Cht Wht-Gry Op Shp
 Vit Sh Char-Fissil No Odor No Flor No Stn NS

Ls Wht- Crm FxIn Micritic Grad Poor OOL Por Chalk Cht Wht-Gry Op Shp
 Vit Sh Char-Fissil No Odor No Flor No Stn NS

MISSISSIPPIAN SALEM 5439' (-2622)

Dolo Gry FxIn Dns Micritic Grad Poor OOL Por Baren Chalk Cht Wht Op
 Shp Vit Sh Char-Fissil No Odor No Flor No Stn NS



5450

5500

5550

5600



Dolo Gry FxIn Dns Micritic Grad Good Vug IxIn OOL Por Barren Chalk Cht
Wht Op Shp Vit Sh Char (w/Carb Inklus)-Aqua Fissil No Odor No Flor No
Stn NS

Dolo Gry FxIn Dns Micritic Grad Good Vug IxIn OOL Por Barren Chalk Cht
Wht Op Shp Vit Sh Aqua-Fissil No Odor No Flor No Stn NS

Dolo Gry FxIn Dns Micritic Grad Good Vug IxIn OOL Por Barren Chalk Cht
Wht Op Shp Vit Sh Aqua-Fissil No Odor No Flor No Stn NS

Dolo Tan FxIn Dns Micritic Grad Good Vug IxIn OOL Por Barren Chalk Cht
Wht-Gry Op Shp Vit Sh Aqua-Fissil No Odor No Flor No Stn NS

30" CFS @ 5505' Dolo Gry FxIn Dns Micritic Grad Good Vug IxIn OOL Por
Barren Chalk Cht Wht-Gry Op Shp Vit Sh Aqua-Fissil No Odor No Flor No
Stn NS

60" CFS @ 5505' Dolo Gry FxIn Dns Micritic Grad Good Vug IxIn OOL Por
Barren Chalk Cht Wht-Gry Op Shp Vit Sh Aqua-Fissil No Odor No Flor No
Stn NS

R.T.D. = 5505' (- 2866)
L.T.D. = 5509' (-2871)

Electric Logs Run: By Pioneer (LogTech) Logging:
Dual Induction; Compensated Density-Neutron; Sonic;
Microresistivity & Cased Hole Gamma Ray-Nutron Logs.

Geologist left Location @ 10:00 AM on 1-20-14

