



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1104643
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
-----------------------------------	-----------------	---

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: _____



1104643

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

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

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

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

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
--	---

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: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR. _____	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
---	--

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <input type="checkbox"/> Commingled <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Falcon Exploration, Inc.
Well Name	JAMES KOEHN 1-31(NW)
Doc ID	1104643

All Electric Logs Run

DIL
MEL
BHCS
CNL/CDL

Form	ACO1 - Well Completion
Operator	Falcon Exploration, Inc.
Well Name	JAMES KOEHN 1-31(NW)
Doc ID	1104643

Tops

Name	Top	Datum
STOTLER	3542	-700
TARKIO	3608	-766
LANSING	4260	-1418
MARMATON	4777	-1935
CHEROKEE	4916	-2074
MORROW SH	5136	-2294
MORROW SS	5159	-2317
ST GEN	5294	-2452
ST LOUIS	5347	-2505

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

December 13, 2012

CYNDE WOLF
Falcon Exploration, Inc.
125 N MARKET STE 1252
WICHITA, KS 67202-1719

Re: ACO1
API 15-069-20393-00-00
JAMES KOEHN 1-31(NW)
NW/4 Sec.31-28S-30W
Gray 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,
CYNDE WOLF

DIAMOND TESTING

General Information Report

General Information

Company Name FALCON EXPLORATION, INC.
Contact MIKE MITCHELL
Well Name JAMES KOEHN #1-31 (NW)
Unique Well ID DST #1, COTTONWOOD, 3125-3220
Surface Location SEC 31-28S-30W, GRAY CO. KS.
Field WILDCAT
Well Type Vertical
Test Type STRADDLE
Formation DST #1, COTTONWOOD, 3125-3220
Well Fluid Type 02 Gas

Representative TIM VENTERS
Well Operator FALCON EXPLORATION, INC.
Report Date 2012/09/10
Prepared By TIM VENTERS
Qualified By DAVE WILLIAMS

Start Test Date 2012/09/09
Final Test Date 2012/09/10

Start Test Time 20:31:00
Final Test Time 06:57:00

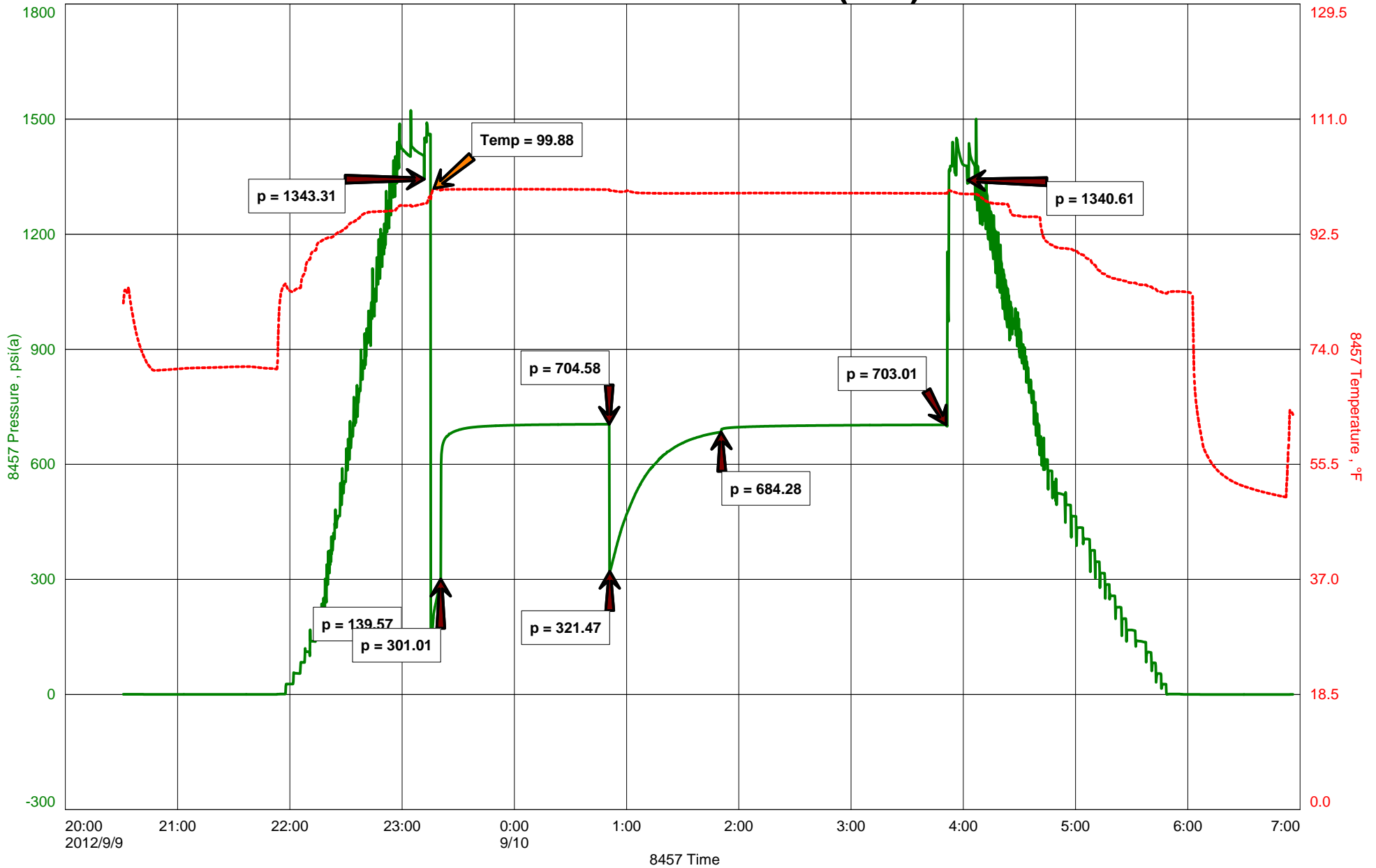
Test Recovery:

RECOVERED: 175' HWCM, 47% WATER, 53% MUD
765' MCW, 77% WATER, 23% MUD
370' VSMCW, 98% WATER, 2% MUD
1310' TOTAL FLUID

TOOL SAMPLE: 2% GAS, 4% OIL, 72% WATER, 22% MUD

CHLORIDES: 116,000 ppm
PH: 6.5
RW: .07 @ 79 deg.

JAMES KOEHN #1-31 (NW)





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

TIME ON: _____
 TIME OFF: _____

Company _____ Lease & Well No. _____
 Contractor _____ Charge to _____
 Elevation _____ Formation _____ Effective Pay _____ Ft. Ticket No. _____
 Date _____ Sec. _____ Twp. _____ S Range _____ W County _____ State **KANSAS**
 Test Approved By _____ Diamond Representative _____

Formation Test No. _____ Interval Tested from _____ ft. to _____ ft. Total Depth _____ ft.
 Packer Depth _____ ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
 Packer Depth _____ ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
 Depth of Selective Zone Set _____

Top Recorder Depth (Inside) _____ ft. Recorder Number _____ Cap. _____ P.S.I.
 Bottom Recorder Depth (Outside) _____ ft. Recorder Number _____ Cap. _____ P.S.I.
 Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type _____ Viscosity _____ Drill Collar Length _____ ft. I.D. 2 1/4 in.
 Weight _____ Water Loss _____ cc. Weight Pipe Length _____ ft. I.D. 2 7/8 in.
 Chlorides _____ P.P.M. Drill Pipe Length _____ ft. I.D. 3 1/2 in.
 Jars: Make STERLING Serial Number _____ Test Tool Length _____ ft. Tool Size 3 1/2-IF in.
 Did Well Flow? _____ Reversed Out _____ Anchor Length _____ ft. Size 4 1/2-FH in.
 Main Hole Size 7 7/8 Tool Joint Size 4 1/2 in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: _____
 2nd Open: _____

Recovered _____ ft. of _____	Price Job Other Charges Insurance Total
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	
Remarks: _____	

Time Set Packer(s) _____ A.M. P.M. Time Started Off Bottom _____ A.M. P.M. Maximum Temperature _____
 Initial Hydrostatic Pressure..... (A) _____ P.S.I.
 Initial Flow Period..... Minutes _____ (B) _____ P.S.I. to (C) _____ P.S.I.
 Initial Closed In Period..... Minutes _____ (D) _____ P.S.I.
 Final Flow Period..... Minutes _____ (E) _____ P.S.I. to (F) _____ P.S.I.
 Final Closed In Period..... Minutes _____ (G) _____ P.S.I.
 Final Hydrostatic Pressure..... (H) _____ 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 MIKE MITCHELL
Well Name JAMES KOEHN #1-31 (NW)
Unique Well ID DST #2, KC "SWOPE", 4648-4680
Surface Location SEC 31-28S-30W, GRAY CO. KS.
Field WILDCAT
Well Type Vertical
Test Type CONVENTIONAL
Formation DST #2, KC "SWOPE", 4648-4680
Well Fluid Type 01 Oil

Representative TIM VENTERS
Well Operator FALCON EXPLORATION, INC.
Report Date 2012/09/13
Prepared By TIM VENTERS
Qualified By DAVE WILLIAMS

Start Test Date 2012/09/13
Final Test Date 2012/09/13

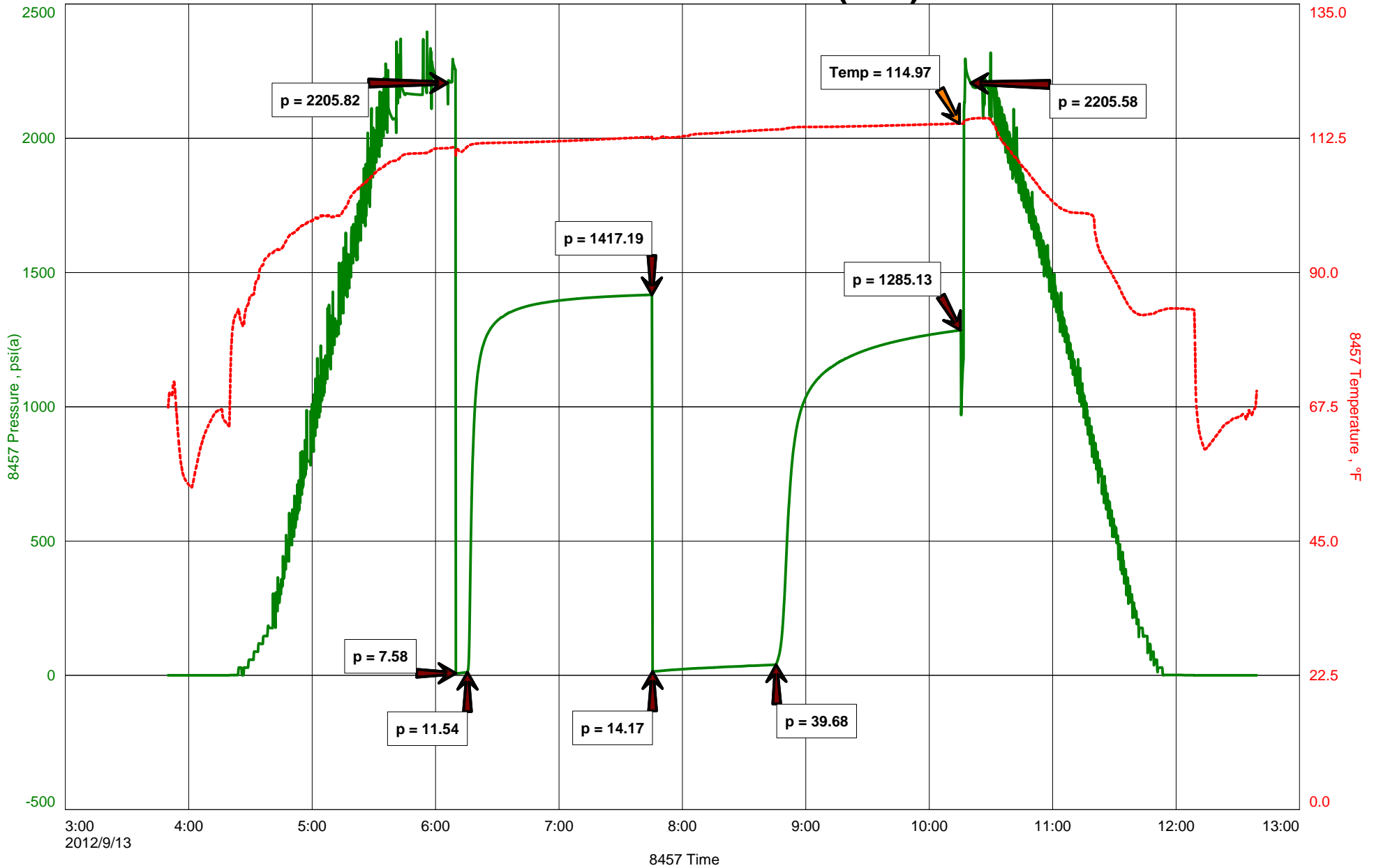
Start Test Time 03:50:00
Final Test Time 12:39:00

Test Recovery:

RECOVERED: 60' MUD

TOOL SAMPLE: 100% MUD

JAMES KOEHN #1-31 (NW)





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

TIME ON: _____
TIME OFF: _____

Company _____ Lease & Well No. _____
Contractor _____ Charge to _____
Elevation _____ Formation _____ Effective Pay _____ Ft. Ticket No. _____
Date _____ Sec. _____ Twp. _____ S Range _____ W County _____ State **KANSAS**
Test Approved By _____ Diamond Representative _____

Formation Test No. _____ Interval Tested from _____ ft. to _____ ft. Total Depth _____ ft.
Packer Depth _____ ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
Packer Depth _____ ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
Depth of Selective Zone Set _____

Top Recorder Depth (Inside) _____ ft. Recorder Number _____ Cap. _____ P.S.I.
Bottom Recorder Depth (Outside) _____ ft. Recorder Number _____ Cap. _____ P.S.I.
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type _____ Viscosity _____ Drill Collar Length _____ ft. I.D. 2 1/4 in.
Weight _____ Water Loss _____ cc. Weight Pipe Length _____ ft. I.D. 2 7/8 in.
Chlorides _____ P.P.M. Drill Pipe Length _____ ft. I.D. 3 1/2 in.
Jars: Make STERLING Serial Number _____ Test Tool Length _____ ft. Tool Size 3 1/2-IF in.
Did Well Flow? _____ Reversed Out _____ Anchor Length _____ ft. Size 4 1/2-FH in.
Main Hole Size 7 7/8 Tool Joint Size 4 1/2 in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: _____
2nd Open: _____

Recovered _____ ft. of _____	Price Job Other Charges Insurance Total
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	
Remarks: _____	

Time Set Packer(s) _____ A.M. P.M. Time Started Off Bottom _____ A.M. P.M. Maximum Temperature _____
Initial Hydrostatic Pressure..... (A) _____ P.S.I.
Initial Flow Period..... Minutes _____ (B) _____ P.S.I. to (C) _____ P.S.I.
Initial Closed In Period..... Minutes _____ (D) _____ P.S.I.
Final Flow Period..... Minutes _____ (E) _____ P.S.I. to (F) _____ P.S.I.
Final Closed In Period..... Minutes _____ (G) _____ P.S.I.
Final Hydrostatic Pressure..... (H) _____ P.S.I.

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DIAMOND TESTING

General Information Report

General Information

Company Name FALCON EXPLORATION, INC.
Contact MIKE MITCHELL
Well Name JAMES KOEHN #1-31 (NW)
Unique Well ID DST #3, MORROW, 5138-5175
Surface Location SEC 31-28S-30W, GRAY CO. KS.
Field WILDCAT
Well Type Vertical
Test Type CONVENTIONAL
Formation DST #3, MORROW, 5138-5175
Well Fluid Type 01 Oil

Representative TIM VENTERS
Well Operator FALCON EXPLORATION, INC.
Report Date 2012/09/15
Prepared By TIM VENTERS
Qualified By DAVE WILLIAMS

Start Test Date 2012/09/15
Final Test Date 2012/09/15

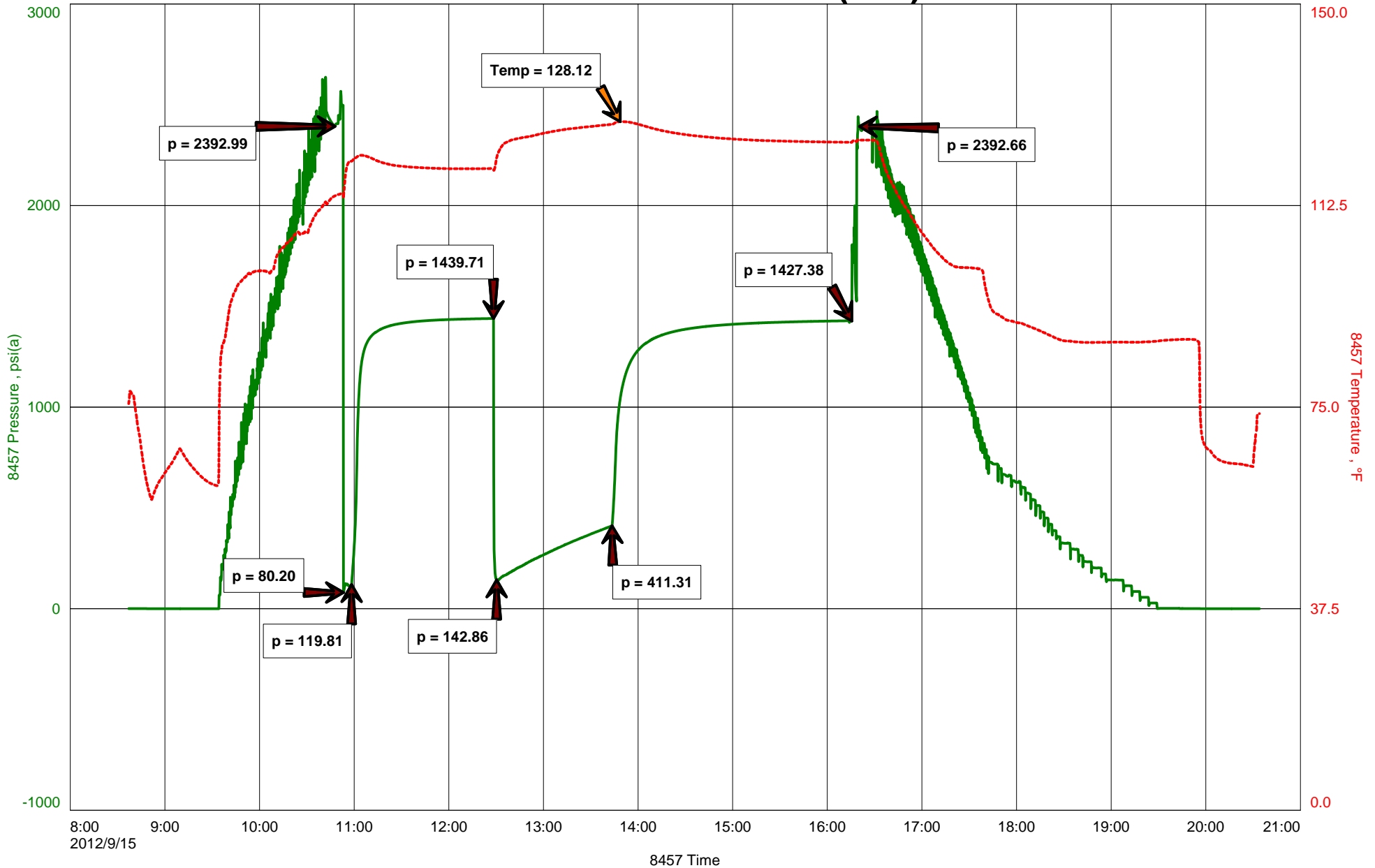
Start Test Time 08:37:00
Final Test Time 20:34:00

Test Recovery:

RECOVERED: 3650 GAS IN PIPE
1210' G,SMCO, 7% GAS, 87% OIL, GRAVITY: 24, 6% MUD
245' G,MCO, 9% GAS, 61% OIL, 30% MUD
1455' TOTAL FLUID

TOOL SAMPLE: GAS BLEW OUT

JAMES KOEHN #1-31 (NW)





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

TIME ON: _____
TIME OFF: _____

Company _____ Lease & Well No. _____
Contractor _____ Charge to _____
Elevation _____ Formation _____ Effective Pay _____ Ft. Ticket No. _____
Date _____ Sec. _____ Twp. _____ S Range _____ W County _____ State **KANSAS**
Test Approved By _____ Diamond Representative _____

Formation Test No. _____ Interval Tested from _____ ft. to _____ ft. Total Depth _____ ft.
Packer Depth _____ ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
Packer Depth _____ ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
Depth of Selective Zone Set _____

Top Recorder Depth (Inside) _____ ft. Recorder Number _____ Cap. _____ P.S.I.
Bottom Recorder Depth (Outside) _____ ft. Recorder Number _____ Cap. _____ P.S.I.
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type _____ Viscosity _____ Drill Collar Length _____ ft. I.D. 2 1/4 in.
Weight _____ Water Loss _____ cc. Weight Pipe Length _____ ft. I.D. 2 7/8 in.
Chlorides _____ P.P.M. Drill Pipe Length _____ ft. I.D. 3 1/2 in.
Jars: Make STERLING Serial Number _____ Test Tool Length _____ ft. Tool Size 3 1/2-IF in.
Did Well Flow? _____ Reversed Out _____ Anchor Length _____ ft. Size 4 1/2-FH in.
Main Hole Size 7 7/8 Tool Joint Size 4 1/2 in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: _____
2nd Open: _____

Recovered _____ ft. of _____	Price Job Other Charges Insurance Total
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	
Remarks: _____	

Time Set Packer(s) _____ A.M. P.M. Time Started Off Bottom _____ A.M. P.M. Maximum Temperature _____
Initial Hydrostatic Pressure..... (A) _____ P.S.I.
Initial Flow Period..... Minutes _____ (B) _____ P.S.I. to (C) _____ P.S.I.
Initial Closed In Period..... Minutes _____ (D) _____ P.S.I.
Final Flow Period..... Minutes _____ (E) _____ P.S.I. to (F) _____ P.S.I.
Final Closed In Period..... Minutes _____ (G) _____ P.S.I.
Final Hydrostatic Pressure..... (H) _____ P.S.I.

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DIAMOND TESTING

General Information Report

General Information

Company Name FALCON EXPLORATION, INC.
Contact MIKE MITCHELL
Well Name JAMES KOEHN #1-31 (NW)
Unique Well ID DST #4, LOWER MORROW, 5175-5224
Surface Location SEC 31-28S-30W, GRAY CO. KS.
Field WILDCAT
Well Type Vertical
Test Type CONVENTIONAL
Formation DST #4, L. MORROW, 5175-52224
Well Fluid Type 01 Oil

Representative TIM VENTERS
Well Operator FALCON EXPLORATION, INC.
Report Date 2012/09/16
Prepared By TIM VENTERS
Qualified By DAVE WILLIAMS

Start Test Date 2012/09/16
Final Test Date 2012/09/16

Start Test Time 10:36:00
Final Test Time 22:25:00

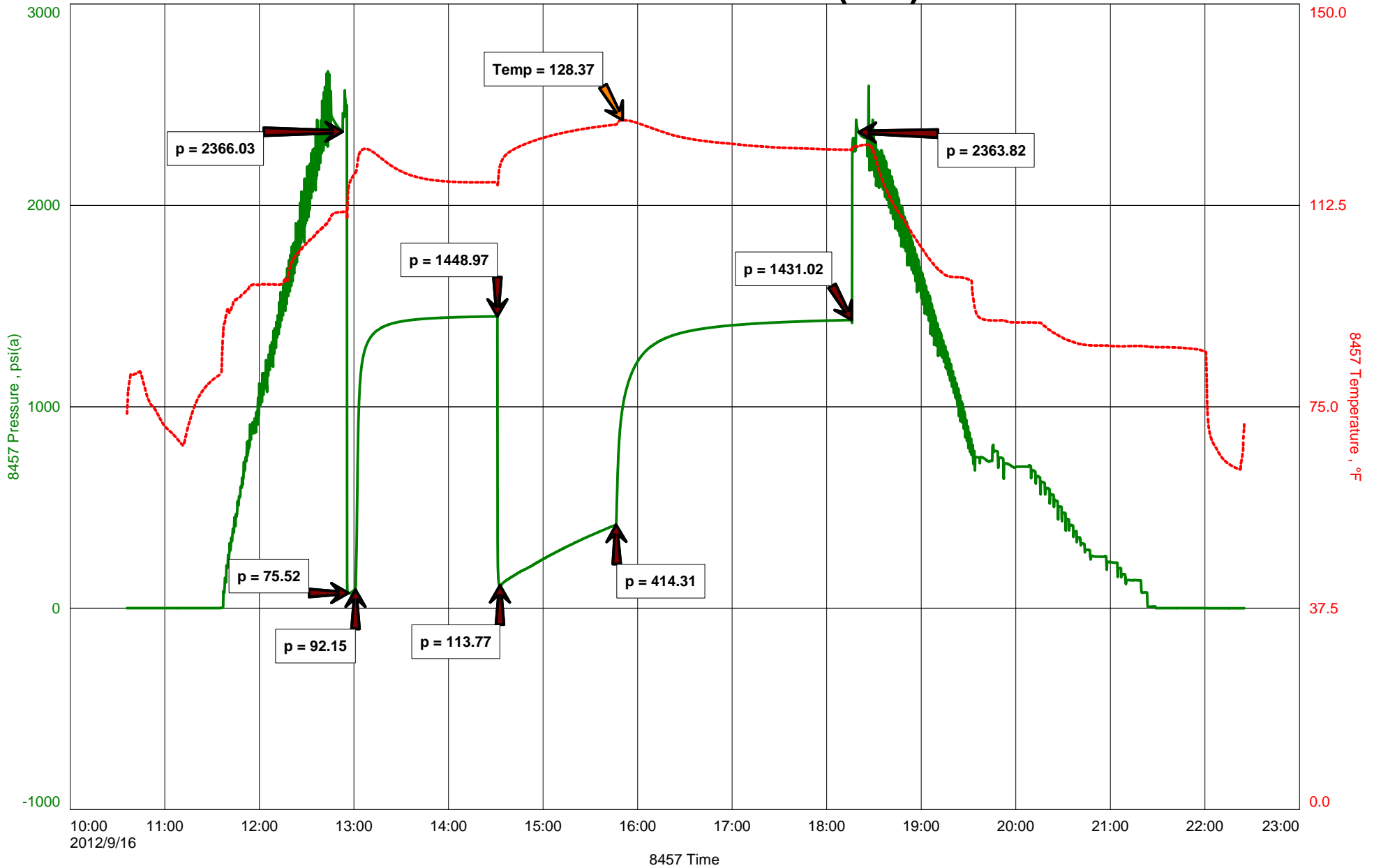
Test Recovery:

RECOVERED: 3560' GAS IN PIPE
1465' G,VSMCO, 9% GAS, 88% OIL, GRAVITY: 25, 3% MUD
60' G,SW&MCO, 5% GAS, 88% OIL, 2% WATER, 5% MUD
60' G,O&WCM, 20% GAS, 16% OIL, 21% WATER, 43% MUD
1585' TOTAL FLUID

TOOL SAMPLE: 89% OIL, 3% WATER, 8% MUD

CHLORIDES: 19,000 ppm
PH: 7.0
RW: .34 @ 68 deg.

JAMES KOEHN #1-31 (NW)





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

TIME ON: _____
TIME OFF: _____

Company _____ Lease & Well No. _____
Contractor _____ Charge to _____
Elevation _____ Formation _____ Effective Pay _____ Ft. Ticket No. _____
Date _____ Sec. _____ Twp. _____ S Range _____ W County _____ State **KANSAS**
Test Approved By _____ Diamond Representative _____

Formation Test No. _____ Interval Tested from _____ ft. to _____ ft. Total Depth _____ ft.
Packer Depth _____ ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
Packer Depth _____ ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
Depth of Selective Zone Set _____

Top Recorder Depth (Inside) _____ ft. Recorder Number _____ Cap. _____ P.S.I.
Bottom Recorder Depth (Outside) _____ ft. Recorder Number _____ Cap. _____ P.S.I.
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type _____ Viscosity _____ Drill Collar Length _____ ft. I.D. 2 1/4 in.
Weight _____ Water Loss _____ cc. Weight Pipe Length _____ ft. I.D. 2 7/8 in.
Chlorides _____ P.P.M. Drill Pipe Length _____ ft. I.D. 3 1/2 in.
Jars: Make STERLING Serial Number _____ Test Tool Length _____ ft. Tool Size 3 1/2-IF in.
Did Well Flow? _____ Reversed Out _____ Anchor Length _____ ft. Size 4 1/2-FH in.
Main Hole Size 7 7/8 Tool Joint Size 4 1/2 in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: _____
2nd Open: _____

Recovered _____ ft. of _____	Price Job Other Charges Insurance Total
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	
Remarks: _____	

Time Set Packer(s) _____ A.M. P.M. Time Started Off Bottom _____ A.M. P.M. Maximum Temperature _____
Initial Hydrostatic Pressure..... (A) _____ P.S.I.
Initial Flow Period..... Minutes _____ (B) _____ P.S.I. to (C) _____ P.S.I.
Initial Closed In Period..... Minutes _____ (D) _____ P.S.I.
Final Flow Period..... Minutes _____ (E) _____ P.S.I. to (F) _____ P.S.I.
Final Closed In Period..... Minutes _____ (G) _____ P.S.I.
Final Hydrostatic Pressure..... (H) _____ P.S.I.

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DIAMOND TESTING

General Information Report

General Information

Company Name	FALCON EXPLORATION, INC.	Representative	TIM VENTERS
Contact	MIKE MITCHELL	Well Operator	FALCON EXPLORATION, INC.
Well Name	JAMES KOEHN #1-31 (NW)	Report Date	2012/09/18
Unique Well ID	DST #5, ST. LOUIS "B", 5390-5418	Prepared By	TIM VENTERS
Surface Location	SEC 31-28S-30W, GRAY CO. KS.	Qualified By	DAVE WILLIAMS
Field	WILDCAT		
Well Type	Vertical		
Test Type	CONVENTIONAL		
Formation	DST #5, ST. LOUIS "B", 5390-5418		
Well Fluid Type	01 Oil		
Start Test Date	2012/09/18	Start Test Time	00:54:00
Final Test Date	2012/09/18	Final Test Time	10:25:00

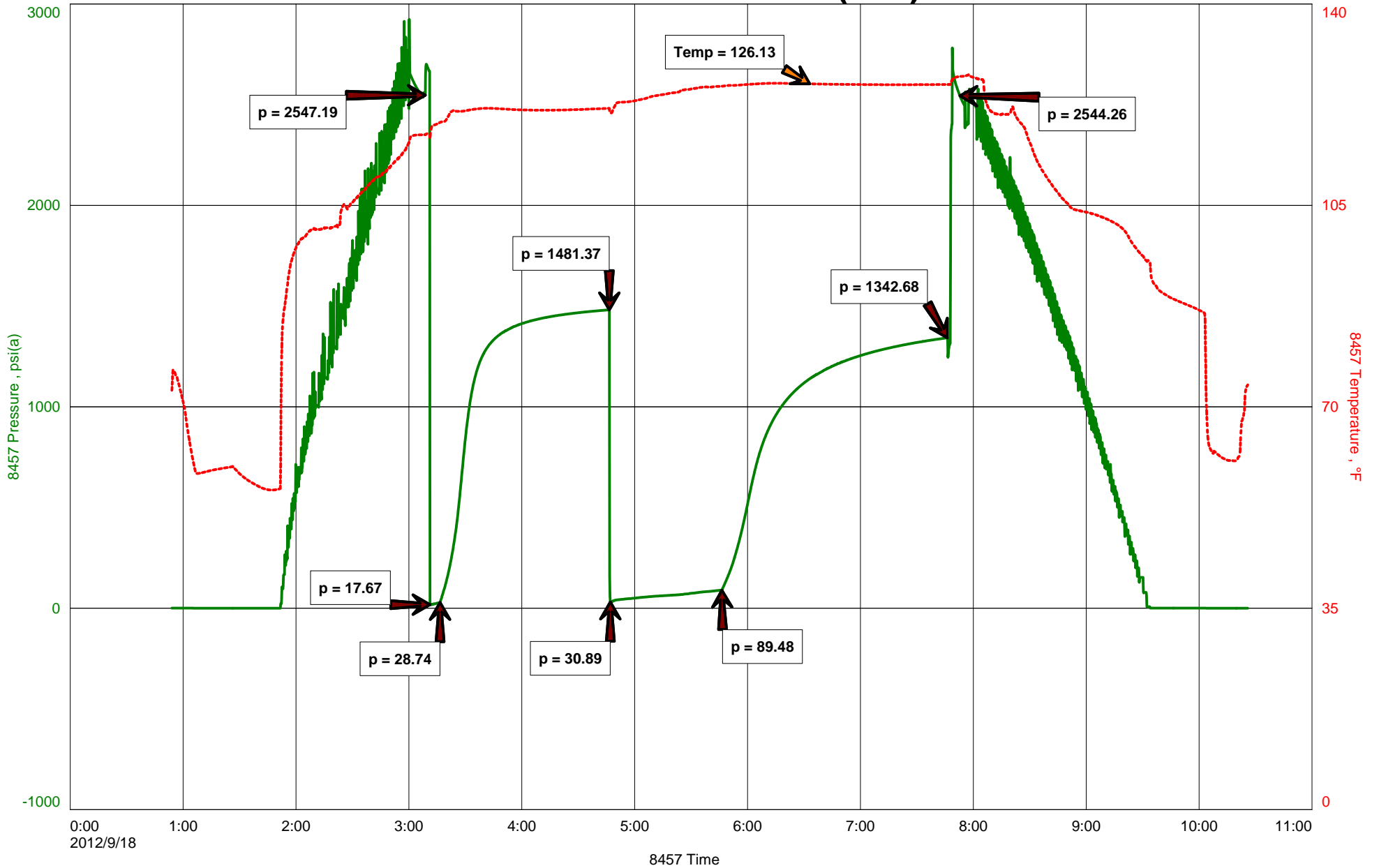
Test Recovery:

RECOVERED: 1010' GAS IN PIPE
5' CLEAN OIL, 100% OIL, GRAVITY: 24
65' GO, 7% GAS, 93% OIL
60' G,VSOCM, 17% GAS, 2% OIL, 81% MUD
60' G,W&MCO, 25% GAS, 42% OIL, 11% WATER, 22% MUD
190' TOTAL FLUID

TOOL SAMPLE: 3% GAS, 69% OIL, 12% WATER, 16% MUD

CHLORIDES: 35,000 ppm
PH: 7.0
RW: .18 @ 81 deg.

JAMES KOEHN #1-31 (NW)





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

TIME ON: _____
TIME OFF: _____

Company _____ Lease & Well No. _____
Contractor _____ Charge to _____
Elevation _____ Formation _____ Effective Pay _____ Ft. Ticket No. _____
Date _____ Sec. _____ Twp. _____ S Range _____ W County _____ State **KANSAS**
Test Approved By _____ Diamond Representative _____

Formation Test No. _____ Interval Tested from _____ ft. to _____ ft. Total Depth _____ ft.
Packer Depth _____ ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
Packer Depth _____ ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
Depth of Selective Zone Set _____

Top Recorder Depth (Inside) _____ ft. Recorder Number _____ Cap. _____ P.S.I.
Bottom Recorder Depth (Outside) _____ ft. Recorder Number _____ Cap. _____ P.S.I.
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type _____ Viscosity _____ Drill Collar Length _____ ft. I.D. 2 1/4 in.
Weight _____ Water Loss _____ cc. Weight Pipe Length _____ ft. I.D. 2 7/8 in.
Chlorides _____ P.P.M. Drill Pipe Length _____ ft. I.D. 3 1/2 in.
Jars: Make STERLING Serial Number _____ Test Tool Length _____ ft. Tool Size 3 1/2-IF in.
Did Well Flow? _____ Reversed Out _____ Anchor Length _____ ft. Size 4 1/2-FH in.
Main Hole Size 7 7/8 Tool Joint Size 4 1/2 in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: _____
2nd Open: _____

Recovered _____ ft. of _____	
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	Price Job
Recovered _____ ft. of _____	Other Charges
Remarks: _____	Insurance
	Total

Time Set Packer(s) _____ A.M. P.M. Time Started Off Bottom _____ A.M. P.M. Maximum Temperature _____
Initial Hydrostatic Pressure..... (A) _____ P.S.I.
Initial Flow Period..... Minutes _____ (B) _____ P.S.I. to (C) _____ P.S.I.
Initial Closed In Period..... Minutes _____ (D) _____ P.S.I.
Final Flow Period..... Minutes _____ (E) _____ P.S.I. to (F) _____ P.S.I.
Final Closed In Period..... Minutes _____ (G) _____ P.S.I.
Final Hydrostatic Pressure..... (H) _____ 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.



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

Well Name: JAMES KOEHN #1-31 (NW)
Location: E2-SW-SE-NW 1/4 SEC. 31 - 28 S. - 30 W.
License Number: 15-069-20393-00-00
Spud Date: 09/05/12
Surface Coordinates: 2310' FNL & 1670' FWL

Region: Gray Co., KS.
Drilling Completed: 9/19/12

Bottom Hole
Coordinates:
Ground Elevation (ft): 2829' K.B. Elevation (ft): 2842'
Logged Interval (ft): Surface Cs>To: 5548' Total Depth (ft): 5525'
Formation: Mississippian
Type of Drilling Fluid: Chemical Mud

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

OPERATOR

Company: Falcon Exploration, Inc.
Address: 125 North Market Street, Ste. #1252
Wichita, Kansas 67202

GEOLOGIST

Name: David P. Williams
Company: DW Energy, LLC
Address: 312 North Broadview Street
Wichita, Kansas 67208

Casing & Deviation Survey's

Spud on 09/05/12. Ran 44 joints of new 24#, 8-5/8" casing. Tallied 1858'. Set at 1839' KB. Welded straps on GS & bottom 3 joints, then tack welded all collars. Float insert in 1st collar. Centralizers (3) 14-23-33. Baskets (3) 1-19-42. Cemented with 450 sks Class A; 2% Gel; 2% Gyp; 2% MTTSA & 1/4# FS; Tailed wiith 150 sks Class C; 2% CC. Cement did circulate to pit. Allied Cementing ticket #52685.

Deviation Survey's Taken: @ 1863' = 1/2 degree; @ 3338' = 1 degree; @ 4680' = 1 degree; @ 5175' = 1 1/2 degrees; @ 5418' = 1 degree; @ 5550' = 3/4 degree.

5 1/2"

DSTs

DST # 1 3125'-3220'. Straddle w/118' Tail. Times: 5"- 90"- 60"- 120"; Blow: IF= Strong/ BOB/1" Sli. Surface Blow Back During ISIP. FF= Strong Blow BOB/2". Recovery: 1310' SW:(175'HWCM; 765' MCW; 370' VSMCWM). Tool Spl: 2% G; 4% O; 72%W & 22% M. Pressures: IH= 1343#; FH= 1341#; IF= 140-301#; FF= 321-684#; ISIP= 705#; FSIP= 703#; Temp= 100 degrees F. Chl.= 116,000 Ppm. RW= .07 @ 79 degrees F.

DST # 2 4948'-4680'. Times: 5"- 90"- 60"- 90"; Blow: IF= Weak 1/4""; FF= Weak 1/2". Recovery: 60' M: Pressures: IH = 2206#; FH= 2206#; IF= 8-12#; FF= 14-40#; ISIP= 1417#; FSIP= 1285#; Temp= 115 degrees F.

DST # 3 5138'-3175'. Times: 5"- 90"- 75"-150". Blow: IF= Strong/ BOB / 2". Sli. Surface Blow Back During ISIP. FF= Strong Blow BOB / Instant With GTS @ 15" into FF TSTM. Strong Blow Back During FSIP. Rec: 3650' GIP: 1455' TF: (1210' GSMCO (7% G; 89% O; 6% M)); (245' GMCO (9% G; 61% O; 30% M)). Tool Spl: NA (Gas Blew It Out). Pressures: IH= 2393#; FH= 2393#; IF = 80-120#; FF = 143-411#; ISIP=1440#; FSIP=1427#; T=128 deg. F; API Grv.= 24 degrees.

DST # 4 5175'-5224'. Times: 5"-90"-75"-150"; Blow: IF=Strong/ BOB / 45 Sec.. 1.5" Surface Blow Back During ISIP. FF= Strong Blow BOB / 15 Sec. With GTS @ 9" Into FF= TSTM. BOB Blow Back During FSIP. (See Gas Gauge Below). Rec: 3560' GIP: 1585' TF: (1465' GVSMCO (9% G; 88% O; 3% M)); (60' GSWMCO (5% G; 88% O; 5% M' 2% Wtr)); 60" GOWCM (20% G; 16% O; 43% M; 21% Wtr)). Tool Spl: (39% O; 8% M/ 3% Wtr). Chl.= 19,000 Ppm; PH=7.0; RW=.34 @ 68 degrees F. Pressures: IH= 2366#; FH= 2364#; IF = 76-92#; FF = 114-414#; ISIP = 1449#; FSIP = 1431#; T.=128 deg. F. API Grv.= 25 degrees. FF Gas Gauge: @ 20" = 43.9 Mcf; @ 30" = 14.3 Mcf; @ 40" = 11.02 Mcf; @ 50" = 2.76 Mcf; @ 60" = 3.92 Mcf; @ 70" = 4.42 Mcf; @ 75" 4.42 Mcf.

DST # 5 5390'-5418'. Times: 5"-90"-60"-120"; Blow: IF= Strong/ BOB / 9". Bled Off Surface Blow Back During ISIP. FF= Strong Blow BOB / 15 Sec.No Blow Back During FSIP. Rec: 1010" GIP: 190' TF: (5' CO (100% O); 65' GO (7% G; 93% O); 60" VSOCM (17% G; 2% O; 81% M); 60' GCMCO: (25% G; 42% O; 22% M; 11% Wtr). Tool Spl: (3% G; 69% O; 16% M; 11% Wtr). Chl.= 35,000 Ppm; PH=7.0; RW=.34 @ 81 degrees F. API Grv= 24 degrees. Pressures: IH= 2547#; FH= 2544#; IF = 18-29#; FF = 31-89#; ISIP = 1481#; FSIP = 1343#;


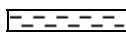



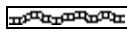




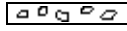


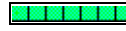




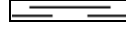

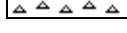


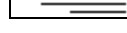
Comments

After review of all geologic samples as examined, combined with the fluid and pressures results from all drill stem tests taken and analysis from the electric logs run, it was determined by all parties that production casing should be run in order to further evaluate this well.

Respectfully submitted,

David P. Williams, P.G

ROCK TYPES

	Anhy		Clyst		Gry shale		Mrlst		Shgy
	Bent		Coal		Gyp		Red shale		Slstst
	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

- Anhyt
- Arg
- Bent
- Coal
- Dol
- Gryslt
- Grysh
- Gyp
- Ls
- Mrst
- Sandylms

- Sltstrg
- Ssstrg

TEXTURE

- Boundst
- Chalky
- Cryxln
- Earthy
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackst

OTHER SYMBOLS

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

- Vuggy
- SORTING**
- Well
 - Moderate
 - Poor

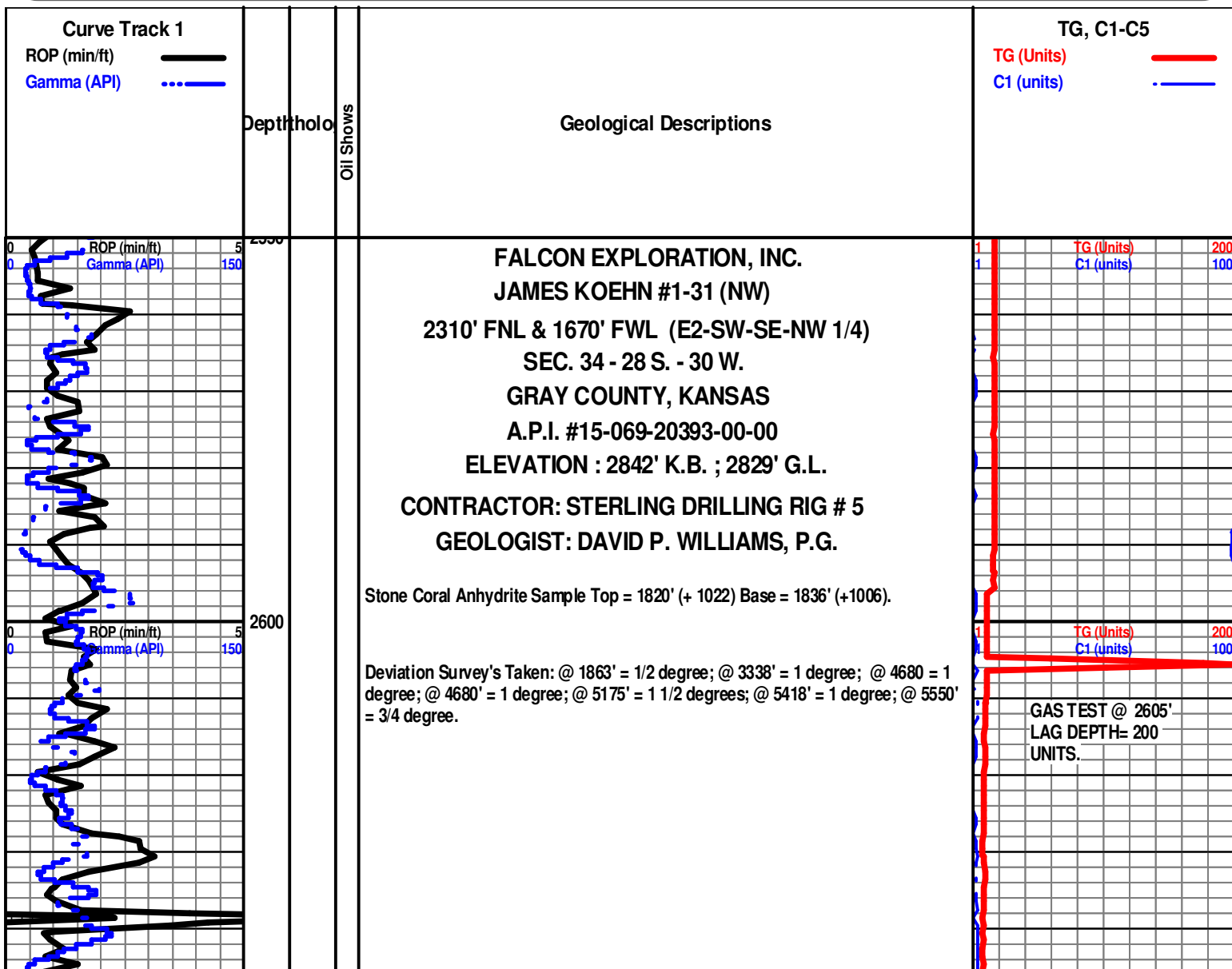
- ROUNDING**
- Rounded
 - Subrnd
 - Subang
 - Angular

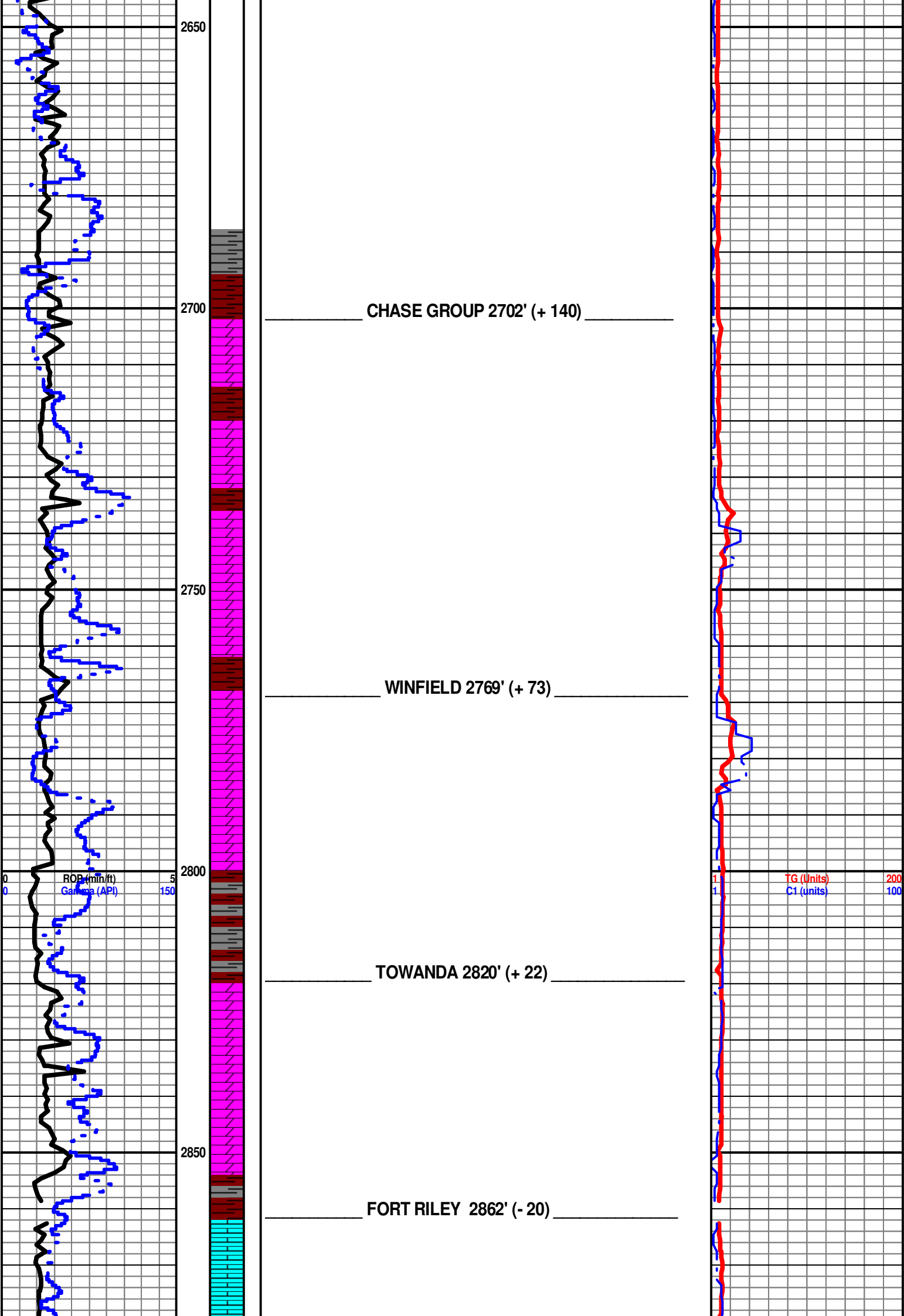
- OIL SHOW**
- Gas show

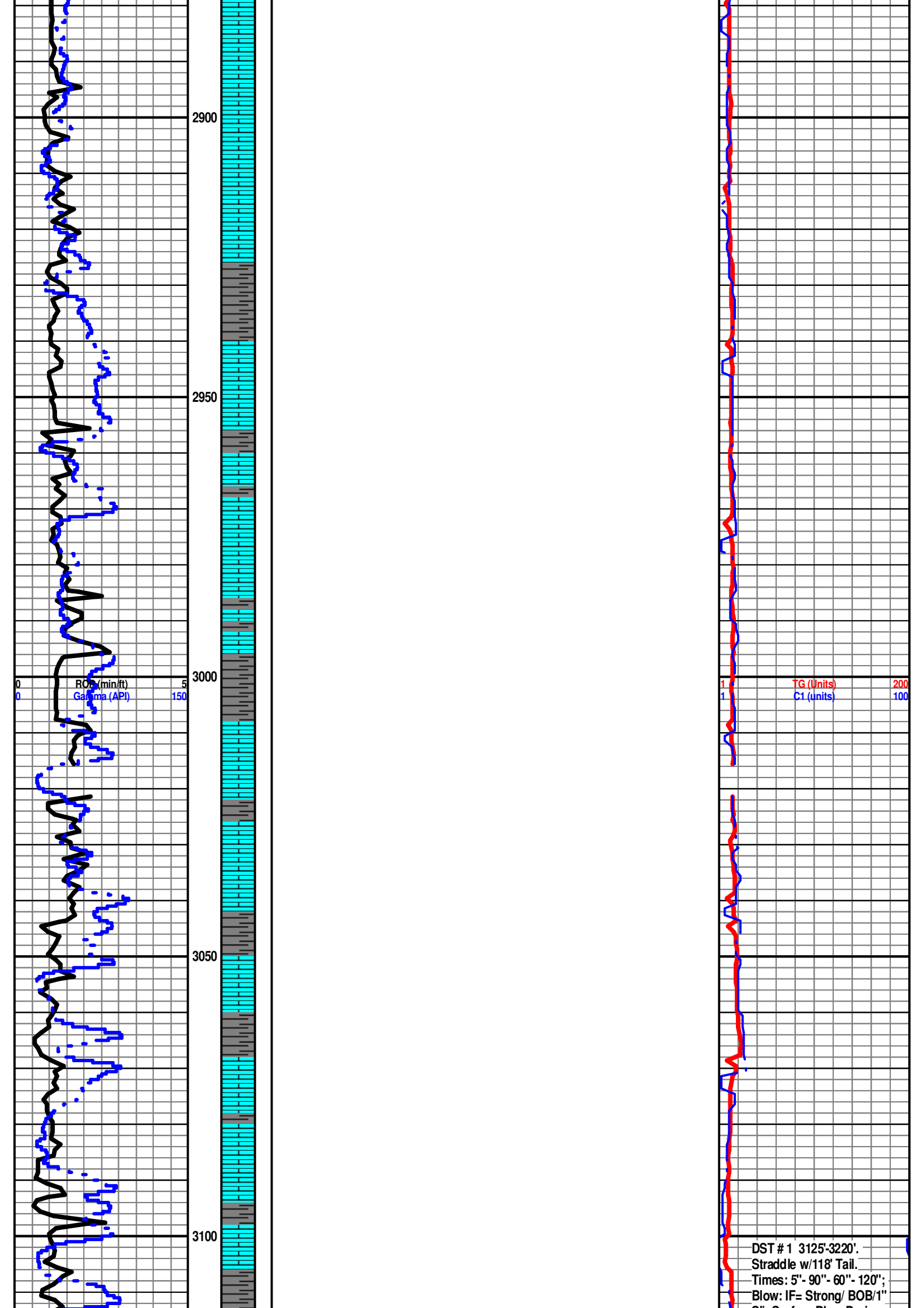
- Even
- Spotted
- Ques
- Dead

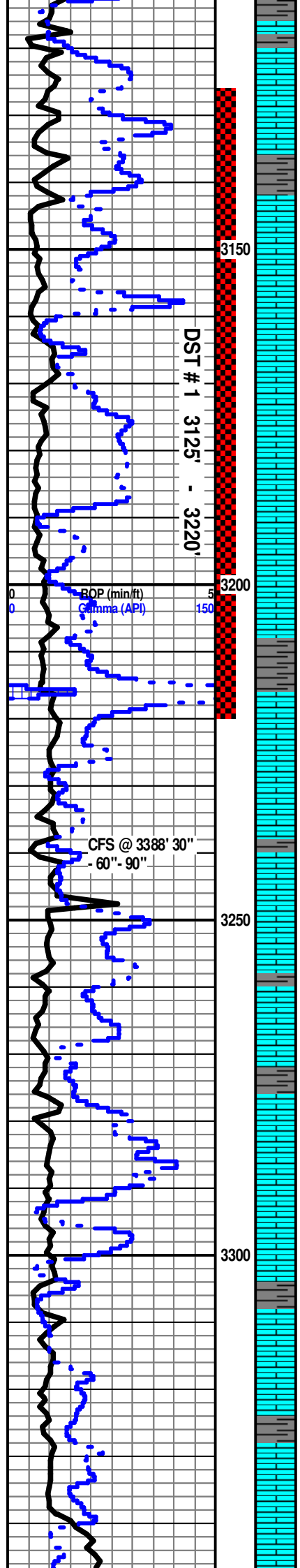
- INTERVAL**
- Dst
 - Dst_alt

- Core
- EVENT**
- Rft
 - Sidewall









COTTONWOOD 3144' (-304)

NEVA 3196' (-354)

FORAKER 3308' (-466)

Sil. Surface Blow During
 ISIP. FF= Strong Blow
 BOB/2'.
 Recovery: 1310' SW:
 (175'HWCM; 765' MCW; 370'
 VSMCWM). Tool Spl: 2% G;
 4% O; 72% W & 22% M.
 Pressures:
 IH= 1343#;
 FH= 1341#;
 IF= 140-301#;
 FF= 321-684#;
 ISIP= 705#; FSIP=
 703#;
 Temp= 100 degrees F.
 Chl.= 116,000 Ppm.
 RW= .07 @ 79 degrees F.

GAS KICK =
 174 UNITS
 GAS RECYCLE =
 110 UNITS

Mudco Ck @
 3227'
 10:45 AM
 9/09/12
 Vis 50;
 WT= 8.55;
 PV= 16;
 YP= 18;
 WL= NC;
 Cake= 1;
 Chl= 3400;
 Cal = 2;
 Sol= 2.0%.
 LCM= 2#;
 DMC=\$
 3559.60;
 CMC=\$
 10,289.30

Scale Change
 TG (Units) 100
 C1 (units) 100

Geologist: David P. Williams on location @ 11:15 PM 9-09-12 @ 3338'

@ 3388' Change PCD
 to TriCone Bit.

Note: All samples have been lagged to depth by calculated time.

Begin 10' Sample Examination @ 3400'.

Ls Gry-Tr Crm FxIn Poor IxIn Grad Micrite Cht-Wht-Drk Gry Op (w/Fos Includ) Shp Vit Fos (Fuss) No Odor no Stn No Flor NS

Ls Crm FxIn IxIn Por Cht Gry Op Shp Vit Sh Char-Drk Gry Fissil Chalky No Odor No Stn No Flor NS

Ls Crm-Gry-Wht MxIn Grad OOM Por Fair-Med Dissolu Fair-Med Leaching Cht Drk Gry Op Shp Vit Chalky Sh Char-Gry Fissil No Odor No Stn No Flor NS

Ls Crm-Gry-Wht MxIn Grad OOM Por Fair-Med Dissolu Fair-Med Leaching Cht Drk Gry Op Shp Vit Chalky Sh Char-Gry Fissil No Odor No Stn No Flor NS

Ls Crm-Gry-Wht MxIn Grad OOM Por Fair-Med Dissolu Fair-Med Leaching Cht Gry Op Shp Vit Fos (Fuss) Abd Chalky Sh Char-Gry Fissil No Odor No Stn No Flor NS

Ls Crm-Gry-Wht MxIn Grad OOM Por Fair-Med Dissolu Fair-Med Leaching Cht Gry Op Shp Vit Chalky Sh Char-Gry Fissil No Odor No Stn No Flor NS

FALL CITY 3441' (- 599)

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

Ls Crm-Gry-Wht FxIn Grad Micritic Por Cht Gry Op Shp Vit Fos (Fuss) Chalky Sh Char-Gry Fissil No Odor No Stn No Flor NS

Ls Crm-Gry-Wht FxIn Grad Micritic Por Cht Gry Op Shp Vit Fos (Fuss) Chalky Sh Char-Gry Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Gry FxIn Grad Pin-Pt Por Fair-Med IxIn Por Grad Poor OOM Por Poor Dissolu Poor Leaching Cht Gry Op Shp Vit Fos (Fuss) Chalky Sh Char-Gry Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Gry FxIn-MxIn Grad Pin-Pt Por Fair-Med IxIn Por Grad Poor OOM Por Poor Dissolu Poor Leaching Cht Gry Op Shp Vit Fos (Fuss) Chalky Sh Char-Gry Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Gry FxIn-MxIn Grad Pin-Pt Por Fair-Med IxIn Por Grad Poor OOM Por Poor Dissolu Poor Leaching Cht Gry Op Shp Vit Fos (Fuss) Chalky Sh Char-Gry Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Gry FxIn-MxIn Grad Pin-Pt Por Fair-Med IxIn Por Grad Poor OOM Por Poor Dissolu Poor Leaching Cht Gry Op Shp Vit Fos (Fuss) Chalky Sh Char-Gry Fissil No Odor No Stn No Flor NS

LS Crm-Gry FxIn IxIn Por Micritic Dsn No Vis Por Barren Sh Grn-Red Soft Fissil Dec Fos (Brach, Fuss) Chalk Wht Abd No Odor No Flor No Stn Fair ? Min Flor (Lt Grn) NS

ROOT SHALE 3527' (- 685)

Sh Red-Gry Fissil-Soft V Abd (Spl Wash Red) LS Crm-Gry FxIn Micritic AA Poor IxIn Por No Odor No Stn ? Min Flor AA NS

Sh Red-Gry Fissil-Soft V Abd (Spl Wash Red) LS Crm-Gry FxIn Micritic AA Poor IxIn Por No Odor No Stn ? Min Flor AA NS

STOTLER 3542' (- 700)

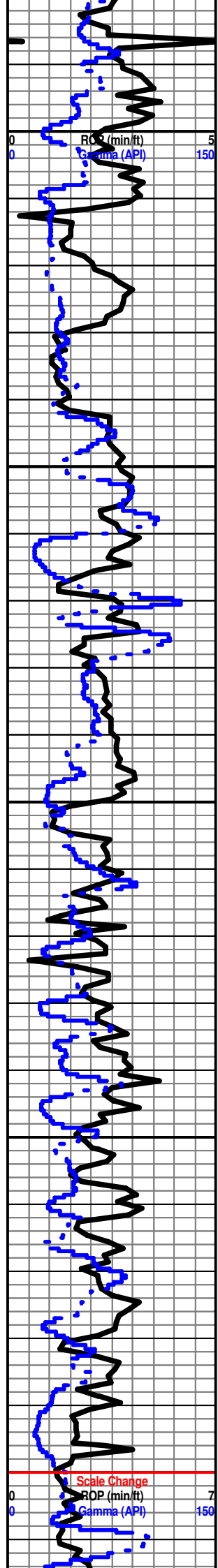
LS Wht-Crm-Gry MicroxIn-FxIn IxIn Por Micritic Dsn Barren Tr/Fair-Med OOM Por w/OOL in pl (Small-Med) Poor-Fair InterOOM/OOL Por Fair Leaching Fair Disolu Sh Grn-Red Soft Chalk Wht Abd No Odor Fair Flor (Lt Grn-Wht) No Stn NS

LS Wht-Crm-Gry MicroxIn-FxIn IxIn Por Micritic Dsn Barren Grad Tr/Fair OOM Por w/OOL (Small) in pl Fair InterOOM/OOL Por Fair Leaching Fair Disolu Sh Grn-Red Soft Fos (Brach) Chalk Wht Abd No Odor Med-Good Flor No Stn NS

LS Wht-Crm-Gry MicroxIn-FxIn IxIn Por Micritic Dsn Barren Grad Tr/Fair OOM Por w/OOL (Small) in pl Fair InterOOM/OOL Por Fair Leaching Fair Disolu Sh Grn-Red Soft Fos Chalk Wht Abd No Odor Med-Good Flor (Lt Wht) No Stn NS

TG (Units) 100
C1 (units) 100

Mudco Ck @
3444'
12:50 PM
9/10/12
Vis 47;
WT= 8.8;
PV= 15;
YP= 16;
WL= 8.8;
Cake= 1;
Chl= 4300;
Cal = 2;
Sol= 3.4%.
LCM= 2#;
DMC=\$
1684.80;
CMC=\$
11937.10



LS Gry-Crm MicroXln-Fxln Ixln Por Micritic Dsn Barren Chalk Wht Abd Fos (Crin, Fuss) Sh Gry Soft No Odor Tr/ Min Flor (Lt Wht) No Stn NS

LS Wht-Crm-Gry MicroXln-Fxln Ixln Por Micritic Dsn Barren Chalk Wht V Abd Sh Gry Soft No Odor Min Flor (Lt Wht) AA No Stn NS

TARKIO 3608' (- 766)

LS Wht-Crm-Gry MicroXln-Fxln Ixln Por Micritic Dsn Barren Chalk Wht V Abd Sh Gry-Char-Tr/Aqua Soft-Fissil No Odor ? Med Min Flor (Lt Wht) No Stn NS

Ls Wht-Crm Fxln Ixln Por Grad Fair OOM Pow/OOL in pl w/Fair-Med InterOOM Por Poor Leaching Poor Disolu Sh Gm-Red-Char Soft Fissil Cht Wht Op Shp Vit Chalk Wht Soft No Odor No Stn Med Flor (Lt Grn-Lt Wht) NS

Ls Wht-Crm Fxln Ixln Por Grad Fair OOM Pow/OOL in pl w/Fair-Med InterOOM Por Poor Leaching Poor Disolu Sh Gm-Red-Char Soft Fissil Cht Wht Op Shp Vit Chalk Wht Soft No Odor No Stn Med Flor (Lt Grn-Lt Wht-25% of Spl) Dec NS

Ls Wht-Gry MicroXln-Fxln Ixln Por Micritic Dsn Barren Chalk Wht V Abd Cht Crm-Gry Op Shp Fos (Fuss) Sh Gry-Char-Red Soft No Odor ? Med Min Flor (Lt Wht) No Stn NS

Ls Crm-Gry MicroXln-Fxln Ixln Por Micritic Dsn Barren Chalk Wht V Abd Cht Crm-Gry Op-Transl Shp Vit Fos (Crin, Fuss) Sh Gry-Char Soft No Odor ? Med Min Flor (Lt Wht) No Stn NS

Ls Wht-Crm-Gry MicroXln-Fxln Ixln Por Micritic Grad Poor Pin-Pt Xln Por Cht Gry Op-Shp-Vit Chalk Wht V Abd Sh Gry-Char-Blk Carb Fissil Soft No Odor ? Med Min Flor (Lt Wht) No Stn NS

Ls Wht-Gry MicroXln-Fxln Ixln Por Micritic Dsn Barren Chalk Wht Abd Cht Gry Op-Shp-Vit Sh Gry-Char-Brn Soft No Odor ? Med Min Flor Dec No Stn NS

Ls Wht-Crm MicroXln-Fxln Ixln Por Micritic Dsn Barren Grad Tr/Poor OOM Por w/OOL (Small) in pl Poor InterOOM Por Poor Leaching Poor-No Disolu Sh Char-Brn Soft Fos (Crin) Chalk Wht Abd No Odor ? Min Flor (Dull Wht) Inc No Stn NS

BERN 3695' (- 853)

Ls Wht-Gry Fxln Ixln Pin-Pt Por Mostly Micritic AA Dsn Barren Chalk Wht Abd Sh Gry-Char-Tr/ Blk-Carb FissilGry-Char Soft No Odor No Flor No Stn NS

Ls Wht-Crm-Gry Fxln Ixln Pin-Pt Por Mostly Micritic AA Dsn Barren Chalk Wht Abd Sh Char-Gry Fissi No Odor No Flor No Stn NS

Ls Wht-Crm-Gry Fxln Tr/Poor Ixln Por Mostly Micritic AA Dsn Barren Chalk Wht V Abd Cht-Wht-Tan Op Shp Vit Sh Gry-Char Soft No Odor No Flor No Stn NS

Ls Wht-Crm-Gry Fxln Tr/Poor Ixln Por Mostly Micritic AA Dsn Barren Chalk Wht Abd Sh Gry-Char Soft No Odor No Flor No Stn NS

Ls Wht-Crm-Gry Fxln Tr/Poor Ixln Por Mostly Micritic Granular Pin-Pt Por (Poor) Dsn Barren Cht Wht-Brn Op Shp Vit Chalk Wht-Brn Abd Sh Gry-Char Soft No Odor No Flor No Stn NS

Ls Wht-Crm-Gry Fxln Tr/Poor Ixln Por Mostly Micritic AA Dsn Barren Chalk Wht V Abd Sh Gry-Char Soft No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Tr/Poor Ixln Por Mostly Micritic AA Dsn Barren Chalk Wht Abd Fos (Fuss Sh Tr/ Char-Red Soft No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Tr/Poor Ixln Por Mostly Micritic AA Dsn Barren Chalk Wht Abd Cht Amber-Gry Transl-Op Shp Vit w/Fos (Fuss) Includ Sh Tr/ Char-Grn-Aqua Soft No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Tr/Poor Ixln Por Mostly Micritic AA Dsn Barren Chalk Wht Abd Char-Grn-Aqua Red Soft No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Tr/Poor Ixln Por Mostly Micritic AA Dsn Barren Chalk Wht Abd Cht Amber-Gry Transl-Op Shp Vit Sh Tr/ Char-Red Soft No Odor No Flor No Stn NS

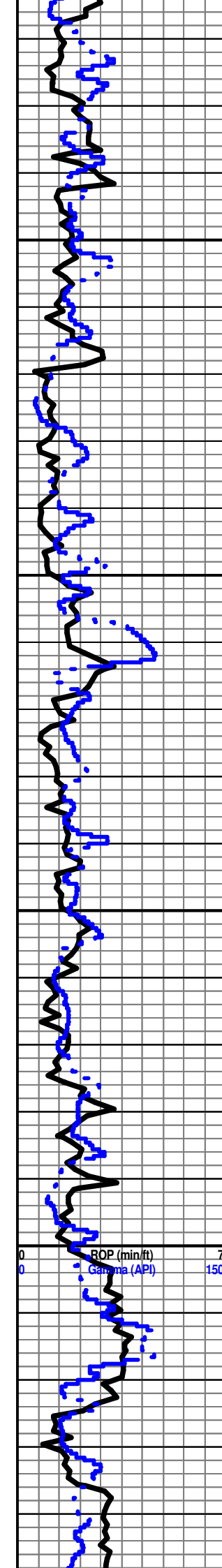
Ls Wht-Crm-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht Abd Cht Wht Op Shp Vit Sh Blk Carb-Char-Grn Fissil Soft No Odor No Flor No Stn NS

TOPEKA 3811' (- 969)

Ls Wht-Crm-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht Abd Cht

TG (Units) 100
C1 (Units) 100

TG (Units) 100
C1 (Units) 100



Wht Op Shp Vit Sh Char-Grn Fissil Soft No Odor No Flor No Stn NS

LS Wht-Crm-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht Abd Cht
Wht Op Shp Vit Sh Blk Carb-Char-Grn Fissil Soft No Odor No Flor No Stn NS

LS Wht-Crm-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht Abd Cht
Wht-Gry Op Shp Vit Fos (Fuss) Sh Blk Carb-Char Fissil Soft No Odor No Flor No
Stn NS

LS Wht w/Pyr Includ-Crm Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht
Abd Cht Wht-Gry Op Shp Vit Sh Char-Red Fissil Soft No Odor No Flor No Stn NS

LS Wht-Crm Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht V Abd Cht
Wht-Gry Transl- Op Shp Vit Sh Char-Red Fissil Soft No Odor No Flor No Stn NS

LS Wht-Crm Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht V Abd Cht
Wht-Gry Transl- Op Shp Vit Sh Char-Gry-Red Fissil Soft No Odor No Flor No Stn

LS Wht-Crm-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht Abd Sh
Char Fissil No Odor No Flor No Stn NS

LS Wht-Crm-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht Abd Sh
Char Fissil No Odor No Flor No Stn NS

LS Wht-Crm-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Fos (Fuss) Chalk
Wht Abd Sh Char-Grn Fissil No Odor No Flor No Stn NS

LS Wht-Crm-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Fos (Fuss) Chalk
Wht Abd Sh Char-Grn Fissil No Odor No Flor No Stn NS

LS Wht-Crm Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht V Abd Cht
Drk-Gry Transl-Op Shp Vit Fos (Fuss) Sh Char-Grn Fissil Soft No Odor No Flor No
Stn NS

LS Wht-Crm Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht V Abd Cht
Tan- Drk Gry Transl-Op Shp Vit Fos (Fuss) Sh Char-Grn Fissil Soft No Odor No
Flor No Stn NS

LS Wht-Crm Microxln-Fxln Ixln Por Micritic Dsn Barren Grad Tr/Poor OOM Por
Poor InterOOM Por Poor Leaching Poor-No Disolu Sh Char- Soft Chalk Wht Abd
No Odor No Flor No Stn NS

LS Wht-Crm Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht V Abd Cht
Tan- Drk Gry Transl-Op Shp Vit Sh Char-Grn Fissil Soft No Odor No Flor No Stn
NS

LS Wht-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht V Abd Cht
Tan- Drk Gry Transl-Op Shp Vit Sh Char-Grn Fissil Soft No Odor No Flor No Stn
NS

LS Wht-Crm Fxln-Mxln Poor Ixln Por Mostly Micritic Dsn Barren V Chalk Wht V Abd
Sh Char-Grn Fissil Soft No Odor No Flor No Stn NS

LS Wht-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht V Abd Cht
Gry Transl-Op Shp Vit Sh Char-Grn Fissil Soft No Odor No Flor No Stn NS

LS Wht-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht V Abd Cht
Gry-Drk Gry Op Shp Vit Sh Char-Gry Fissil Soft No Odor No Flor No Stn NS

LS Wht-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren (w/Pry Includ) Chalk
Wht Abd Cht Wht-Gry-Drk Gry Op Shp Vit Sh Char Fissil No Odor No Flor No Stn
NS

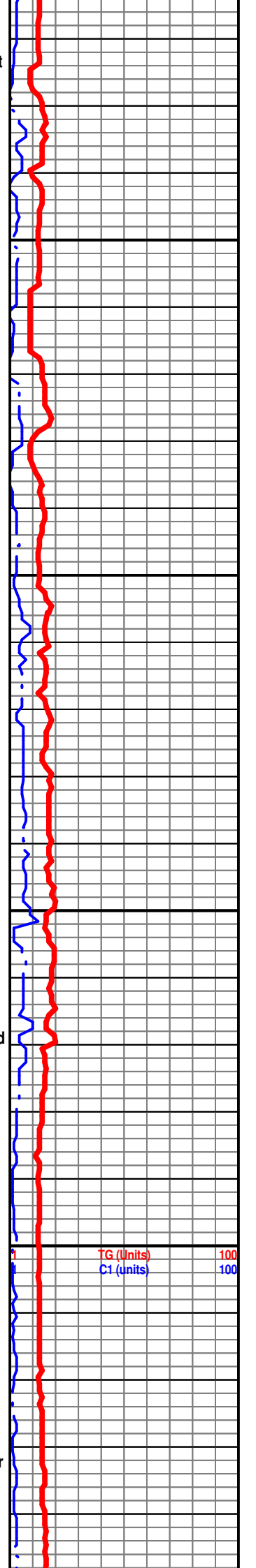
LS Wht-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht Abd Cht
Wht-Gry-Drk Gry Op Shp Vit Sh Char Fissil No Odor No Flor No Stn NS

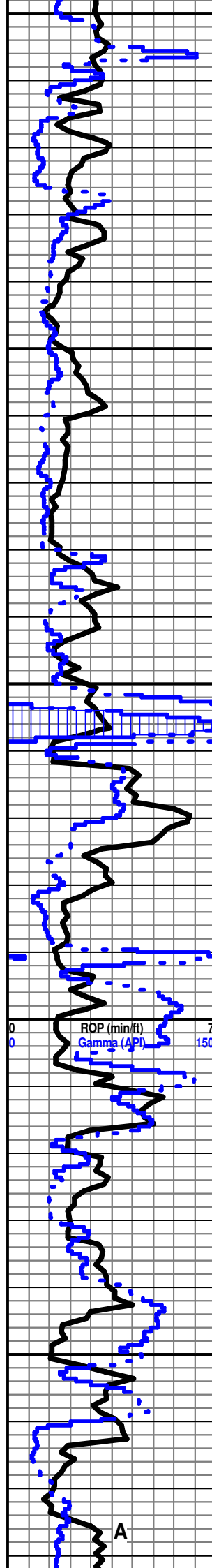
LeCOMPTON 3988' (- 1146)

LS Wht-Crm Fxln Poor-Fair Ixln Por Grad Chalk V Abd Wht Abd Sh Char Fissil No
Odor No Flor No Stn NS

LS Wht-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht Abd Sh Char
Fissil No Odor No Flor No Stn NS

LS Wht-Gry Fxln Poor Ixln Por Grad Mxln GrnStone P-F Ixln Por Chalk Wht Abd
Sh Char Fissil No Odor No Flor No Stn NS





LS Crm-Gry FxIn Poor IxIn Por Mostly Micritic Dsn Barren Chalk Wht Abd Sh Char Fissil No Odor No Flor No Stn NS

LS Wht-Crm FxIn Poor IxIn Por Mostly Micritic Dsn Barren Chalk Wht Abd Sh Char Fissil No Odor No Flor No Stn NS

LS Crm-Wht FxIn Poor-Fair IxIn Cht Wht-Gry Op Shp Vit Fos (Fuss) Sh Char Fissil No Odor No Flor No Stn NS

QUEEN HILL 4072' (- 1230)

Sh Blk Carb-Char Fissil Ls Crm-Wht-Gry FxIn Dns Micrite Poor IxIn Por Chalk Wht No Odor No Stn No Flor NSG (?)

OREAD 4081' (- 1239)

Ls Crm-Gry FxIn Poor-Fair IxIn Por Chalk Wht Soft Abd Sh Char-Grn Fissil No Odor No Stn No Flor NS

Ls Crm-Wht FxIn Grad Poor IxIn Por Chalk Wht Abd Fos (Crin) Sh Char Fissil No Odor No Flor No Stn N

Ls Crm-Wht FxIn Grad Poor IxIn Por Grad Tr/OOM Por w/ OOL (Small) in pl Poor Develop Poor Dissolu Poor Leaching Chalk Wht Abd Cht Blk-Tan Op Shp Vit Fos (Crin) Sh Char Fissil No Odor No Flor No Stn NS

Ls Crm-Wht FxIn Grad Poor IxIn Por Grad Tr/OOM Por w/ OOL (Small) in pl Poor Develop Poor Dissolu Poor Leaching Chalk Wht Abd Cht Blk-Tan Op Shp Vit Fos (Crin) Sh Char Fissil No Odor No Flor No Stn NS

Ls Crm-Gry FxIn Poor-Fair IxIn Por Chalk Wht Soft Abd Tr/Cht Wht-Tan (Banded) Op Shp Vit Sh Char-Grn Fissil No Odor No Stn No Flor NS

Ls Gry-Crm FxIn Dns Micrite Poor-No Vis IxIn Por Chalk Wht Soft Sh Blk Carb-Char-Red Fissil No Odor No Stn No Flor NS

PLATTSMOUTH 4140' (- 1298)

Ls Gry-Crm FxIn Dns Micrite Poor-No Vis IxIn Por Chalk Wht Soft Sh Blk Carb-Char-Red Fissil No Odor No Stn No Flor NS

HEEBNER 4151 (- 1309)

Ls Gry-Crm FxIn Dns Micrite Poor-No Vis IxIn Por Chalk Wht Soft Sh Char Fissil No Odor No Stn No Flor NS

Sh Blk Carb-Char-Grn Fissil F-G SG Ls Crm FxIn Dns Micrite Poor IxIn Por Chalk Wht Soft Cht Wht Trans-Op Shp Vit Fos (Fuss) Fair-Med Odor (Rare) No Stn No Flor F-MSG (in Sh Blk Carb)

TORONTO 4170' (- 1328)

Ls Wht-Crm-Tan MicroIn-FxIn Poor-Fair IxIn Por Cht Wht Op Shp Vit Chalk Wht Soft Abd Sh Blk Carb-Char AA Fissil No Odor No Stn ? Min Flor NS

Ls Wht-Crm-Tan MicroIn-FxIn Poor-Fair IxIn Por Cht Wht Op Shp Vit Chalk Wht Soft Abd Sh Blk Carb-Char AA Fissil No Odor No Stn ? Min Flor NS

DOUGLAS 4190' (- 1348)

Ls Crm-Wht-Gry FxIn Dns Micrite Poor IxIn Por Chalk Wht Soft Abd Fos (Fuss) Sh Char-Gry-Grn Soft-Fissil No Odor No Stn No Flor No Odor No Stn NS

Ls Crm-Wht-Gry FxIn Dns Micrite Poor IxIn Por AA Chalk Wht Soft Abd Sh Char-Gry-Grn Soft-Fissil No Odor No Stn No Flor NS

Ls Crm-Wht-Gry FxIn Dns Micrite Poor IxIn Por AA Chalk Wht Soft Abd Sh Char-Gry-Grn Soft-Fissil No Odor No Stn No Flor NS

Ls Crm-Wht-Gry FxIn Dns Micrite Poor IxIn Por AA Chalk Wht Soft Abd Sh Char-Gry-Grn Soft-Fissil No Odor No Stn No Flor NS

Ls Crm-Wht-Gry FxIn Dns Micrite Poor IxIn Por AA Chalk Wht Soft Abd Sh Char-Gry-Grn Soft-Fissil No Odor No Stn No Flor NS

Ls Crm-Wht-Gry FxIn Dns Micrite Poor IxIn Por AA Chalk Wht Soft Abd Sh Char-Gry-Grn Soft-Fissil No Odor No Stn No Flor NS

LANSING 4260' (- 1418)

Ls Crm-Wht-Gry FxIn Dns Micrite Poor IxIn Por Chalk Wht Soft Abd Sh Char-Gry-Grn Soft-Fissil No Odor No Stn No Flor NS

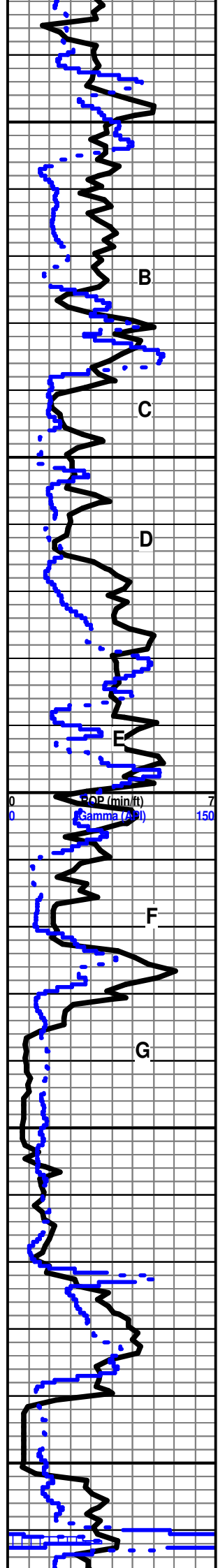
Ls Wht MicroIn-FxIn Micritic Grad OOL Fair InterOOL Por w/OOL in pl Tr/Scat Leaching Por Barren FairStn Flor (Lt Grn-Wht of Spl through Tray 80%) Cht Wht-Gry Op Shp Vit Abd Chalk Wht Soft Sh Char-Gry-Grn Fissil No Odor Fair Scat ? Min Flor ? Stn NS

Mudco Ck @
 4090' @ 1:20 PM 9/11/12
 Vis 62;
 WT= 9.15;
 PV= 20;
 YP= 22;
 WL= 8.0;
 Cake= 1;
 Chl= 4200;
 Cal = 20;
 Sol= 5.5%;
 LCM= 2#;
 DMC=\$ 2446.65;
 CMC=\$ 14383.75

SHALE GAS KICK
 = 35 UNITS.

TG (Units) 100
 C1 (units) 100

A



Ls Wht Microxln-Fxln micritic w/Calc. Als Includ Grad OOL Fair InterOOL Por w/OOL in pl Tr/Scat Leaching Por Barren FairStn Flor (Lt Grn-Wht of Spl through Tray 60%) Cht Wht-Gry Op Shp Vit V Abd Chalk Wht Soft Sh Char-Gry-Grn Fissil No Odor Fair Scat ? Min Flor ? Stn NS

Ls Wht Microxln-Fxln Micritic Fair Stn Flor (Lt Grn-Wht of Spl through Tray 20%) Cht Wht-Gry-Amber Translu-Op Shp Vit V Abd Chalk Wht Soft Sh Char-Gry-Grn Fissil No Odor Fair Scat ? Min Flor ? Stn NS

Ls Crm-Gry Microxln-Fxln Poor Ixln Por Grad Micritic Chalk Wht Soft Sh Char-Gry Fissil No Odor No Stn ? Sli Min Flor Dec AA NS

Ls Crm-Gry Microxln-Fxln Poor Ixln Por Grad Micritic Chalk Wht Soft V ABD Cht Wht Op Shp Vit Dec Sh Char-Gry Fissil No Odor No Stn ? Sli Min Flor Dec AA NS

Ls Crm-Gry Microxln-Fxln Poor Ixln Por Grad Micritic Chalk Wht Soft Sh Char-Gry Fissil No Odor No Stn ? Sli Min Flor Dec AA NS

Chalk Wht Soft V Abd (60% of Spl) Ls Crm-Tan Microxln-Fxln Poor Ixln Por Grad Micritic Grad Tr/Poor OOL Por Poor InterOOL Por w/ Small Ooids in pl Cht Wht-Gry p Vis Shp Sh Char-Gry-Grn Fissil No Odor No Stn ? V Sli Min Flor NS

Chalk Wht Soft V Abd (60% of Spl) Ls Crm-Tan Microxln-Fxln Poor Ixln Por Grad Micritic Cht Wht-Gry p Vis Shp Sh Char-Gry-Grn Fissil No Odor No Stn ? V Sli Min Flor NS

Ls Crm-Tan-Gry Microxln-Fxln Poor Ixln Por Grad Micritic Chalk Wht Soft V Abd Fos (Crin, Brach) Sh Char-Gry Fissil No Odor No Stn ? Sli Min Flor Dec AA NS

Ls Crm-Tan Microxln-Fxln Poor Ixln Por Grad Micritic w/ Pry Includ Grad Tr/Poor OOL Por Poor InterOOL Por w/ Small Ooids in pl Chalk Wht Soft V Abd Sh Char-Gry Fissil No Odor No Stn ? Sli Min Flor Dec AA NS

Ls Crm-Gry Microxln-Fxln Poor Ixln Por Grad Micritic Cht Tan-Gry Op Shp Vit Chalk Wht Soft Sh Char-Gry Fissil No Odor No Stn ? Sli Min Flor Sh Char-Gry Fissil No Odor No Stn ? Sli Min NS

Ls Wht-Crm-Gry Microxln-Fxln Poor Ixln Por Micritic Cht Wht-Gry Banded Op Shp Vit Chalk Wht Soft Fos (Brach, Crin) Sh Blk Carb-Char-Gry Fissil No Odor No Stn ? Sli Min Flor NS

Ls Wht-Crm Microxln-Fxln Poor Ixln Por Grad Micritic Grad Tr/Poor OOL Por Poor InterOOL Por w/ Small Ooids in pl Cht Wht w/Fos(Fuss) Includ Op Shp Vit Chalk Wht Soft Sh Char-Gry Fissil No Odor No Stn ? Sli Min Flor NS

Ls Gry-Crm Microxln-Fxln Poor Ixln Por Grad Micritic Cht Wht-Gry Op Shp Vit Chalk Wht Soft Sh Char-Gry Fissil No Odor No Stn Tr ? Min Flor NS

TG (Units) 100
C1 (Units) 100

Ls Wht-Crm-Gry Microxln Poor Ixln Por Micritic w/Pyr Includ Grad OOL Por w/OOL (Small-Med Ooids w/Ctr's Fill w/? Drk-Gry Calcite? Includ) in pl Poor Inter-OOM/OOL Por Poor Develop Poor Leaching Cht Wht Op Shp Vit Fos (Crin) Sh Char-Gry-Maroon Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Gry Microxln Poor Ixln Por Micritic w/Pyr Includ Grad OOL Por w/OOL (Small-Med Ooids w/Ctr's Fill w/? Drk-Gry Calcite? Includ) in pl Poor Inter-OOM/OOL Por Poor Develop Poor Leaching Cht Wht Op Shp Vit Fos (Crin) Sh Char-Gry-Maroon Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Tan OOM Por w/OOL (Small-Med Ooids w/Ctr's Fill w/? Drk-Gry Calcite? Includ) in pl Poor Inter-OOM/OOL Por Poor Develop Poor Leaching Cht Wht Op Shp Vit Sh Char-Gry-Maroon Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Tan OOM Por w/OOL (Small-Med Ooids w/Ctr's Fill w/? Drk-Gry Calcite? Includ) in pl Poor Inter-OOM/OOL Por Poor Develop Poor Leaching Cht Wht Op Shp Vit Sh Char-Gry-Maroon Fissil No Odor No Flor No Stn NS

Ls Crm-Gry Fxln Good OOM Por AA Dec Grad Poor Ixln Por Micritic Barren Dns Chalky Sh Gry - Grn- Aqua Fissil No Odor No Stn No Flor NS

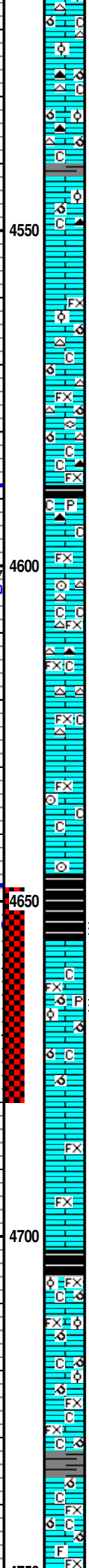
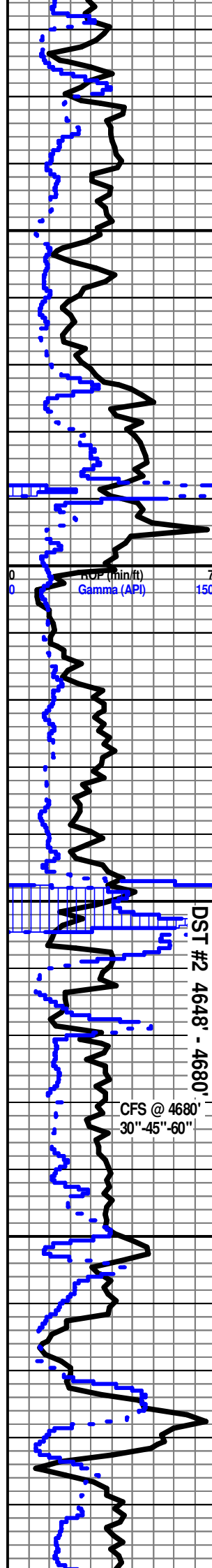
Ls Crm-Gry Fxln Poor Ixln Por Micritic Barren Dns Chalky Sh Gry - Grn- Aqua Fissil No Odor No Stn No Flor NS

MUNCIE CREEK 4484' (- 1642)

Ls Crm-Tan Fxln Micritic Grad Med OOM (w/OOL in pl) Por Med Dissolu Med Develop Good Leaching Barren Chalk Abd Cht Wht-Amber Op Shp Vit Chalky Sh Char-Gry-Blk Carb-Red Soft- Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Micritic Grad Good OOM Por Good Dissolu Good Develop Good Leaching Barren Chalk Abd Cht Wht-Amber Op Shp Vit Chalky Sh Char-Gry Soft-Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Micritic Grad Fair-Med OOM (w/OOL in pl) Por Fair Dissolu Fair Develop Fair Leaching Barren Chalk Abd Cht Wht-Drk Gry Op Shp Vit Chalky Sh Char-Gry-Blk Carb Tr Fissil No Odor No Flor No Stn NS



Ls Crm-Tan Fxln Micritic Grad Fair-Med OOM (w/OOL in pl) Por Fair Dissolu Fair Develop Fair Leaching Barren Chalk Abd Cht Wht-Drk Gry Op Shp Vit Sh Char-Gry-Blk Carb Tr Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Micritic Grad Fair-Med OOM (w/OOL in pl) Por Fair Dissolu Fair Develop Fair Leaching Barren Chalk Abd Cht Wht-Drk Gry Op Shp Vit Sh Char-Gry-Blk Carb Tr Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Micritic Grad Fair-Med OOM (w/OOL in pl) Por Fair Dissolu Fair Develop Fair Leaching Barren Chalk Abd Cht Wht-Drk Gry Op Shp Vit Sh Char-Gry-Blk Carb Tr Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Micritic Grad Fair-Med OOM (w/OOL in pl) Por Fair Dissolu Fair Develop Fair Leaching Barren Chalk Abd Cht Wht-Drk Gry Op Shp Vit Sh Char-Gry-Blk Carb Tr Fissil No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Micritic (w/Pyr Inclus Chalk Abd Cht Wht-Lt Gry Op Shp Vit Sh Gry-Grn Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Micritic Grad Fair-Med OOM Por Fair Dissolu Fair Develop Fair Leaching Chalk Abd Cht Wht-Drk Gry (w/Fos (Fuss) Inclus) Op Shp Vit Sh Char-Gry-Blk Carb Tr Fissil No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Micritic (w/Pyr Inclus Chalk Abd Cht Wht-Drk Gry (w/ Fos Inclus) Op Shp Vit Sh Char-Gry-Grn-Blk Carb Tr Fissil No Odor No Flor No Stn NS
30" CFS @ 4680'

Ls Wht-Crm Fxln Micritic (w/Fos Inclus (? Crin) Chalk Abd Cht Wht Op Shp Vit Sh Char-Gry-Grn-Blk Carb Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Micritic Grad Poor OOM Por (w/OOL in pl) Poor-No Dissolu Poor Develop Poor Leaching Chalk Abd Cht Wht-Drk Gry (w/Fos (Fuss) Inclus) Op Shp Vit Sh Char-Gry-Blk Carb Tr Carb Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Micritic Grad Poor OOM Por (w/OOL in pl) Poor-No Dissolu Poor Develop Poor Leaching Chalk Abd Cht Wht Op Shp Vit Sh Gry-Grn Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Dns Micritic Barren Chalk Abd Cht Wht Op Shp Vit Fos (Crin) Sh Gry-Grn Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Dns Micritic Barren Chalk Abd Cht Wht Op Shp Vit Fos (Crin) Sh Gry-Grn Fissil No Odor No Flor No Stn NS
STARK SHALE 4648' (- 1806)

Sh Blk Carb Fissil w SG Ls AA Chalky AA No Odor No Stn No Flor SG
KANSAS CITY "SWOPE" (K) 4655' (-1813)

30" CFS @ 4680' Ls Wht-Crm Fxln Pin-Pt Por (w/Pyr Inclus) Poor-Fair lxn Por (w/SSG) Chalk Abd Faint Odor Scatt Flor Stn (10% of Spl) SSG

45" CFS @ 4680' Ls Wht-Crm Fxln Pin-Pt Por Poor-Fair lxn Por Grad Fair-Med OOM Por (w/OOL in pl) Med Dissolu Med Leaching Chalk AA Fair Odor Scatt Flor Stn (15% of Spl) ? SSG

60" CFS @ 4680' Ls Wht-Crm Med-Good OOM Por (w/OOL in pl) Med-Good Dissolu Med-Good Leaching (15% of Spl) Chalk AA Fair-Med Odor Scatt Flor Stn (15% of Spl) ? SSG

Ls Crm-Tan Fxln Dns Micritic Barren Sh Gry-Blk Carb Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Dns Micritic Barren Sh Gry-Blk Carb Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Micritic Grad Poor-Fair OOM Por (w/OOL in pl) Poor-Fair Dissolu Poor-Fair Develop Poor-Fair Leaching Chalk Sh Gry-Blk Carb Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Poor-Fair OOM Por (w/OOL in pl) Poor-Fair Dissolu Poor-Fair Develop Poor-Fair Leaching Grad Micritic Chalk Sh Char-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Micritic Grad Poor-Fair OOM Por (w/OOL in pl) Poor Dissolu Poor Develop Poor Leaching Chalk Sh Char-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Micritic Grad Poor-Fair OOM Por (w/OOL in pl) Poor Dissolu Poor Develop Poor Leaching Chalk Sh Char-Gry Fissil No Odor No Flor No Stn NS

Ls Tan-Gry Fxln Dns Micritic Barren AA Grad Poor OOM Por AA Cht Gry-Brn Translu-Op (w/Fos Inclus) Pyr Mass Sh Gry Fissil No Odor No Flor No Stn NS

Ls Gry Fxln Poor lxn Por Micritic Dns Barren Grad OOM Por Poor Develop

Mudco Ck @
4540' @ 12:00 PM
9/12/12
Vis 53;
WT = 8.8;
PV = 17;
YP = 18;
WL = 8.8;
Cake = 1;
Chl = 3500;
Cal = 20;
Sol = 4.1%
LCM = 2#;
DMC = \$ 3183.10;
CMC = \$ 17568.85

TG (Units) 100
C1 (Units) 100

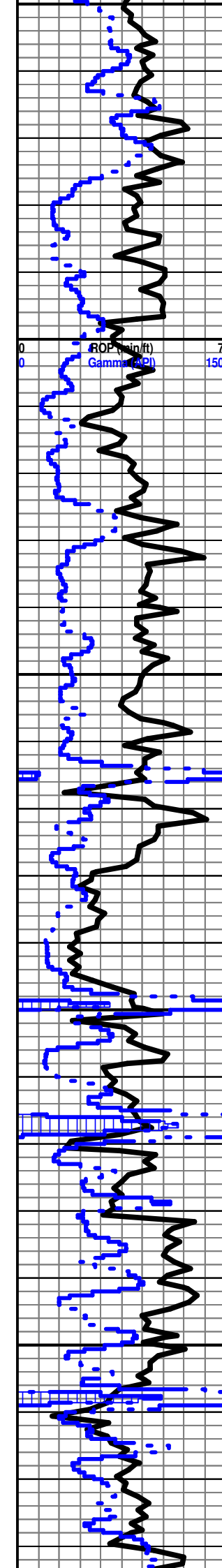
DST # 2 4948'-4680'
Times: 5"- 90" 60"- 90";
Blow: IF= Weak 1/4";
FF= Weak 1/2";
Recovery: 60' M;
Pressures:
IH = 2206#;
FH = 2206#;
IF = 8-12#; FF =
14-40#;
ISIP = 1417#; FSIP =
1285#;
Temp = 115 degrees F.
BKGD GAS =
16 UNITS.

SHALE GAS
KICK = 45
UNITS

GAS KICK =
55 UNITS.
Gas Kick is Low
Due to A.V.
Settings.

Mudco Ck @
4680' @ 1:30 PM 9/13/12
Vis 72;
WT = 9.25;
PV = 22;
YP = 24;
WL = 8.4;
Cake = 1;
Chl = 4400;
Cal = 60;
Sol = 6.2%
LCM = 2#;
DMC = \$ 1169.00;
CMC = \$ 18735.85

@ 4726' ADJUST
EXTRACTOR (SET TOO
HIGH IN SPL TRAP)



Ls Gry Fxln Poor Ixln Por Micritic Dns Barren Grad OOL Por Poor Develop Poor-Fair Dissolu Fair-Med-Good Leaching Por (Few Pcs) Chalky Wht Soft Cht Wht-Gry w/OOL in pl Transl-Op Shp Vit Cht Wht-Tan Transl-Op Shp Vit Chalk Wht Soft Sh Char-Gry Fissil No Odor No Flor No Stn NS

Sh Char-Gry Fissil Ls Gry Fxln Poor Ixln Por Micritic Dns Barren Grad OOM Por AA Cht Wht-Tan Transl-Op Shp Vit Chalk Wht Soft Fos (Fuss) No Odor No Flor No Stn NS

MARMATON 4776' (- 1934)

Sh Blk Carb-Gry Fissli-"Gummy-Soft" Ls Gry-Crm Fxln Poor Ixln Por Micritic Dns Barren Chalky Wht Soft V Abd No Odor No Flor No Stn NS

Ls Wht-Crm Microxln-Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Sh Char-Gry-Grn Fissil No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Sh Char-Gry Fissil AA No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Sh Char-Gry Fissil AA No Odor No Flor No Stn NS

Ls Crm-Wht-Gry Fxln Poor Ixln Por Micritic Dns Barren w/ Pyr Inclus Chalk Wht Soft Sh Gry Fissil No Odor No Flor No Stn NS

Ls Gry-Crm Fxln Poor Ixln Por Micritic Dns Barren Grad Poor-Fair OOL Por w/OOL in PI Poor Dissolu Poor-Fair Leaching (Few Pcs) Chalky Wht Soft Abd Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Sh Char-Gry Fissil Tr Blk Carb Ls Gry-Crm Fxln Poor Ixln Por Micritic Dns Barren Chalky Wht Soft Abd No Odor No Flor No Stn NS

Ls Crm-Brn-Gry Fxln Poor Ixln Por Micritic Dns Barren Grad Poor-Fair OOL Por w/OOL in PI Poor Dissolu Poor-Fair Leaching Chalk Wht Soft Sh Gry-Grn-Char Fissil No Odor No Flor No Stn NS

Ls Crm-Wht Fxln Poor Ixln Por Micritic Dns Barren Grad Poor-Fair OOL Por w/OOL in PI Poor Dissolu Poor-Fair Leaching Chalk Wht Soft Sh Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht Fxln Poor Ixln Por Micritic Dns Barren Cht Tan Op Shp Vit Chalk Wht Soft Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

PAWNEE 4866' (- 2024)

Sh Blk Carb-Gry Fissil Ls Crm-Tan-Wht Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Sh Gry Fissil No Odor No Flor No Stn NS

Sh Blk Carb-Gry Fissil Ls Crm-Tan-Wht Fxln Poor Ixln Por Micritic Dns Barren Grad Poor OOL Por w/OOL (Med-Lg Ooids) in pl Poor-No Dissolu Poor-No Leaching Chalk Wht Soft Sh Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Tan-Wht Fxln Poor Ixln Por Micritic Dns Barren Grad Poor-Fair OOL Por w/OOL in pl Poor Dissolu Poor-Fair Leaching (Few Pcs) Fos (Brach) Chalk Wht Soft Sh Gry- Blk Carb AA Fissil No Odor No Flor No Stn NS

LABETTE 4900' (- 2058)

Ls Crm-Wht-Gry Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Gry Fxln Poor Ixln Por Micritic Dns Barren Cht Amber (w/Fos Inclus) Op Shp Vit Chalk Wht Soft Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

CHEROKEE 4916' (- 2074)

Ls Crm-Wht Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Gry-Crm-Wht Fxln Poor Ixln Por Micritic Dns Barren Drad Poor OOM Por (w/OOL in pl) Poor InterOOM Por Poor Develop Poor Leaching Chalk Wht Soft Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Gry-Crm-Wht Fxln Poor Ixln Por Micritic Dns Barren Drad Poor OOM Por (w/OOL in pl) Poor InterOOM Por Poor Develop Poor Leaching Chalk Wht Soft Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht Amber Op Shp Vit Sh Char-Gry Fissil No Odor No Flor No Stn NS

SECOND CHEROKEE SHALE 4958' (- 2116)

Ls Crm-Wht Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht - Amber Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht-Amber Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht-Amber

Mudco Ck @ 5024' @ 2:35 PM 9/14/12
 Vis 55;
 WT= 9.05;
 PV= 19;
 YP= 19;
 WL= 9.2;
 Cake= 1;
 Chl= 3500;
 Cal = 20;
 Sol= 5.5%.
 LCM= 2.5#;
 DMC=\$ 2489.00;
 CMC=\$ 21224.85

TG (Units) 100
 C1 (units) 100

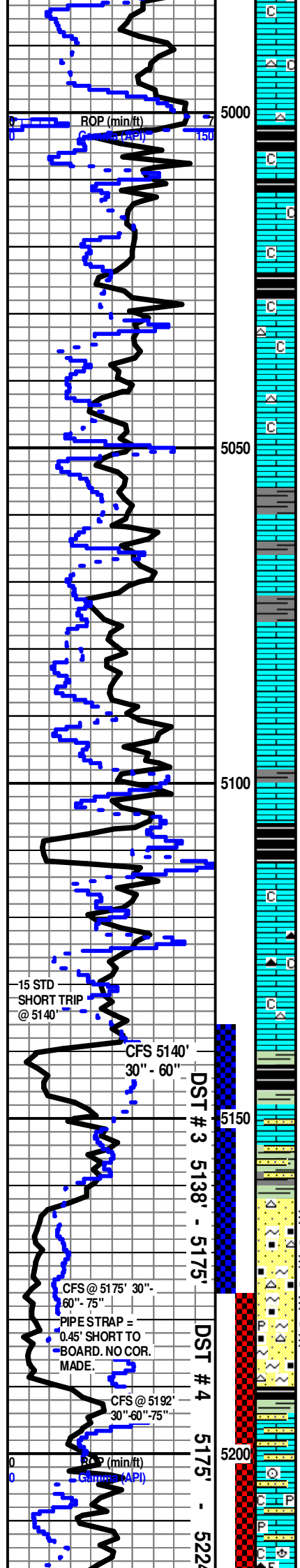
Mudco Ck @ 5175' @ 2:15 PM 9/15/12
 Vis 55;
 WT= 9.1;
 PV= 18;
 YP= 20;
 WL= 8.8;
 Cake= 1;
 Chl= 2600;
 Cal = 20;
 Sol= 5.6%.
 LCM= 3#;
 DMC=\$ 2574.40;
 CMC=\$ 23799.25

Mudco Ck @ 5224' @ 12:15 PM 9/16/12
 Vis 56;
 WT= 8.95;
 PV= 20;
 YP= 20;
 WL= 8.4;
 Cake= 1;
 Chl= 3200;
 Cal = 20;
 Sol= 4.2%.
 LCM= 3#;
 DMC=\$ 1903.50;
 CMC=\$ 25702.75

SH GAS KICK = 49 UNITS

SH GAS KICK = 45 UNITS

DST # 3 5138'-3175'.
 Times:
 5'- 90"- 75"-150";
 Blow: IF= Strong/
 BOB / 2". Sli. Surface
 Blow During ISIP.
 FF= Strong Blow BOB / Instant With GTS @ 15" into FF TSTM.
 Strong Blowback During FSIP.
 Rec: 3650' GIP: 1455'
 TF: (1210' GSMCO (7% G; 89% O; 6% M)); (245' GMCO (9% G; 61% O; 30% M)). Tool Spl: NA (Gas Blew It Out).



Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht-Amber
Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

THIRD CHEROKEE SHALE 5102' (- 2260)

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht-Amber
Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Sh Blk
Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht-Amber
Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht-Amber
Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht-Amber
Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft
Cht-Wht-Amber Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht-Wht
Amber-Gry Op Shp Vit Sh Char-Gry-Tr Blk Carb Fissil No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht Amber-Gry
Op Shp Vit Sh Char-Gry-Tr Blk Carb Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht
Amber-Gry Op Shp Vit Sh Char-Gry Abd Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht
Amber-Gry Op Shp Vit Sh Char-Gry Abd Fissil No Odor No Flor No Stn NS

Sh Blk Carb-Gry Fissil Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren
Chalk Wht Soft Cht-Amber Op Shp Vit No Odor No Flor No Stn NS

Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Cht Amber
Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

30" CFS @ 5140' Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk
Wht Soft Cht Gry-Drk Blk Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No
Stn NS

60" CFS @ 5140' Ls Crm-Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren Chalk
Wht Soft Cht Amber Op Shp Vit Sh Blk Carb-Gry Fissil No Odor No Flor No Stn NS

MORROW SHALE 5140' (- 2298)

MORROW LIME 5148' (-2306)

30" CFS @ 5175' Ls Crm-Tan-Gry Fxln Micrite Barren Qtz Ss Crm Lg-Med-Small
Grn Poor-Fair Sort Hvy CaCO3 Matrix (Tr Only) Cht Amber Op Shp Vit Pyr Mass Sh
Blk Carb- Char-Gry Fissil No Odor No Flor ? Sli Tr Drk Blk ? Stn NS

MORROW SAND 5162' (- 2320)

60" CFS @ 5175' Qtz Ss Tan-Lt Brn Abd Med-Small Grn Ang-Sub Ang Clusters Good Igran Por V
Friable Well Sort w/CaCO3 Matrix (Tr Only) w/ GSG & GSFO (Free Oil in Spl Under Wtr w/Heat) Tr Glacu
& Carb Mat Cht Amber Op Vit Shp Good Odor Dull Flor (Both G & O Do Not Flor) GSG & GSO

75" CFS @ 5175' Qtz Ss Tan-Lt Brn Abd Med-Small Grn Ang-Sub Ang Clusters Good Igran Por V
Friable Well Sort w/CaCO3 Matrix (Tr Only) w/ GSG & GSFO (Free Oil in Spl Under Wtr w/Heat) Cht AA
Tr Glacu & Carb Mat Good Odor Dull Flor (Both G & O Do Not Flor) GSG & GSO

30" CFS @ 5192' Qtz Ss Tan-Lt Brn Abd Med-Small Grn Ang-Sub Ang Clusters Good-Exl Igran Por
AA V Friable Well Sort w/CaCO3 Matrix (Tr Only) w/ VGSG & VGSGFO Abd FO Tr Glacu & Carb Mat AA
Pyr Mass Cht AA Good Odor Inc Dull-No Flor AA GSG & GSO

60" CFS @ 5192' Qtz Ss Tan-Lt Brn AA GSG & VGSGFO Strong Odor Inc. Good Igran Por Sub Ang Grad
to Sli Rd Clusters Cht AA Pyr AA Glac AA Sh Blk Carb-Gm-Gry Inc.

75" CFS @ 5192' Qtz Ss Tan-Lt Brn-Grad Crm AA GSG & GSFO Strong Odor Good Dec Med Igran Por
Sub Ang Grad to Sli Inc Rd Clusters Cht AA Pyr AA Glac AA Sh Blk Carb-Gm-Gry Inc.

Qtz Ss Lt Brn-Grad Crm-Wht AA Med-Lg Grn Ang-Part Rd w/SG & SO AA Dec Ls Wht - Crm Fxln Dns
Micrite Fos (Crin) Pyr Mass Chalk Sh Char-Gry-Gm-Blk Carb Fissil Faint Odor No Flor SG & SO AA in
Ss (? Sluff)

30" CFS @ 5224' Ls Wht -Fxn Dns Micrite Grad Fos (Brach & Fos Inclusion) Pyr Mass Chalk Sh
Char-Gry-Gm-Blk Carb Fissil Dec (Tr Only) No Odor No Flor NS in LS Qtz Ss AA w/ SG & SO (? Sluff)
AA

60" CFS @ 5224' Ls Wht -Fxn Dns Micrite Grad Fos (Brach & Fos Inclusion) Pyr Mass Chalk Sh
Char-Gry-Gm-Blk Carb Fissil Dec (Tr Only) No Odor No Flor NS in LS Qtz Ss AA w/ SG & SO (? Sluff)
AA

Pressures:
IH= 2393#;
FH= 2393#;
IF = 80-120#;
FF = 143-411#;
ISIP = 1440#;
FSIP = 1427#;
T. =128 deg. F.
API Grv.= 24
degrees.

DST # 4 5175'-5224'.
Times:
5"-90"-75"-150";
Blow: IF= Strong/
BOB / 45 Sec.. 1.5"
Surface Blow Back
During ISIP.
FF= Strong Blow
BOB / 15 Sec With
GTS @ 9" into FF
TSTM. BOB Blow
Back During FSIP.
See Gas Gauge
Below.
Rec: 3560' GIP: 1585'
TF: (1465' GVSMCO
(9% G; 88% O; 3%
M)); (60' GSWMCO
(5% G; 88% O; 5% M'
2% Wtr); 60' GOWCM
(20% G; 16% O; 43%
M; 21% Wtr)) Tool
Spl: (39% O; 8% M/
3% Wtr).
Chl.= 19,000 Ppm;
PH=7.0; RW=.34 @ 68
degrees F.

Pressures:
IH= 2366#;
FH= 2364#;
IF = 76-92#; FF
= 114-414#; ISIP
= 1449#; FSIP
= 1431#;
T. =128 deg. F.
API Grv.= 25
degrees.

FF Gas Gauge:
@ 20" = 43.9 Mcf;
@ 30" = 14.3 Mcf;
@ 40" = 11.02 Mcf;
@ 50" = 2.76 Mcf;
@ 60" = 3.92 Mcf;
@ 70" = 4.42 Mcf;
@ 75" 4.42 Mcf.

Scale Change
TG (Units) 200
C1 (units) 200
GAS KICK =
127 UNITS.
GAS KICK =
123 UNITS.

RECYCLE GAS
KICK = 115
UNITS

TG (Units) 200
C1 (units) 200

CHESTERIAN 5220' (- 2378)

Ls Wht -FxlN Dns Micrite Grad Fos (Brach & Fos Inclusion) Pyr Mass Chalk Sh Char-Gry-Grn-Blk Carb Fissil No Odor No Flor NS

30" CFS @ 5252' LS AA Fos (Brach, Crin) Qtz Ss Wht-Lt Brn Med-Lg Ang Grains Good IGran Por (w/SSG & SSO Under Wtr w/Heat) V Friable Gillsonitic "Dead Oil" Residue No Odor Tr Lt Brn-Blk Stn No Flour SSG & SSO

60" CFS @ 5252' LS AA Fos (Brach, Crin) Qtz Ss Wht-Lt Brn Med-Lg Ang Grains Good IGran Por (w/SSG & SSO Under Wtr w/Heat) V Friable Gillsonitic "Dead Oil" Residue No Odor Tr Lt Brn-Blk Stn No Flour SSG & SSO

75" CFS @ 5252' Ls Wht-FxlN Dns Micrite Grad Chalk Fos (Brach, Crin) Sh Char- Gry- Grn- Blk Carb Fissil No Odor No Flor NS

Ls Wht-FxlN Dns Micrite Grad Chalk Fos (Brach, Crin) Sh Char- Gry- Grn- Blk Carb Fissil No Odor No Flor NS

Ls Wht-FxlN Dns Micrite (w/Pyr Inclus) Chalk Fos (Crin) Sh Char- Gry- Grn- Blk Carb Fissil No Odor No Flor NS

Ls Wht-FxlN Dns Micrite Grad Chalk Fos (Brach, Crin) Sh Char- Gry- Grn- Blk Carb Fissil No Odor No Flor NS

Sh Char-Blk Carb-Gry-Grn-Aqua-Red-Maroon Fissil Ls Wht FxlN Crm-Tan Dns Micrite Barren Chalky Sh Char-Gry-Grn Fissil No Odor No Stn No Flor NS

MISSISSIPPIAN "Ste. GEN" 5287' (- 2445)

Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls CrmTan-Gry FxlN Dns Micrite Chalky Sh Char-Blk Carb-Gry-Grn-Aqua-Red-Maroon Fissil No Odor No Stn No Flor NS

Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls CrmTan-Gry FxlN Dns Fos (Brach) Micrite Chalky Sh Char-Blk Carb-Gry-Grn-Aqua-Red-Maroon Fissil No Odor No Stn No Flor NS

Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls CrmTan-Gry FxlN Dns Micrite Chalky Sh Char-Blk Carb-Gry-Grn-Aqua-Red-Yell Fissil No Odor No Stn No Flor NS

Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls CrmTan-Gry FxlN Dns Micrite Chalky Sh Char - Blk Carb-Gry-Grn-Aqua-Red Fissil No Odor No Stn No Flor NS

Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls Crm-Gry FxlN Dns Micrite Chalky Sh Char -Gry-Grn-Aqua-Red Fissil No Odor No Stn No Flor NS

30" CFS @ 5356' Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls Crm-Gry FxlN Dns Micrite Cht Org-Wht Translu-Op Shp Vit Chalky Sh Char -Gry-Grn-Aqua-Red-Purp Fissil No Odor No Stn No Flor NS

60" CFS @ 5356' Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls Crm-Gry FxlN Dns Micrite Cht Org-Wht Translu-Op Shp Vit Chalky Sh Char -Gry-Grn-Aqua-Ren Fissil No Odor No Stn No Flor NS

75" CFS @ 5356' Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls Crm-Gry FxlN Dns Micrite Cht Org-Wht Translu-Op Shp Vit Chalky Sh Char -Gry-Grn-Aqua-Ren Fissil No Odor No Stn No Flor NS

ST. LOUIS 5357' (- 2515)

Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls Crm-Gry FxlN Dns Micrite Cht Wht Translu-Op Shp Vit (Tr Only) Chalky Sh Char -Gry-Grn-Aqua-Ren Fissil No Odor No Stn No Flor NS

ST. LOUIS UPPER "B" POROSITY 5374' (- 2532)

30" CFS @ 5395' Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls Crm-Gry FxlN Dns Micrite Cht Wht Translu-Op Shp Vit (Tr Only) Chalky Sh Char -Gry-Grn-Aqua-Ren Fissil No Odor No Stn No Flor NS

60" CFS @ 5395' Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls Crm-Gry FxlN Dns Micrite Cht Wht Translu-Op Shp Vit (Tr Only) Chalky Sh Char -Gry-Grn-Aqua-Ren Fissil No Odor No Stn No Flor NS

75" CFS @ 5395' Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls Crm-Gry FxlN Dns Micrite Cht Wht Translu-Op Shp Vit (Tr Only) Chalky Sh Char -Gry-Grn-Aqua-Ren Fissil No Odor No Stn No Flor NS

Ls Wht FxlN Poor OOL Por (w/Small OOL in pl) "Sandy OOL Ls" Barren Grad Ls Crm-Gry FxlN Dns Micrite Cht Wht Translu-Op Shp Vit (Tr Only) Chalky Sh Char -Gry-Grn-Aqua-Ren Fissil No Odor No Stn No Flor NS

ST. LOUIS LWR "B" POROSITY 5407' (- 2565)

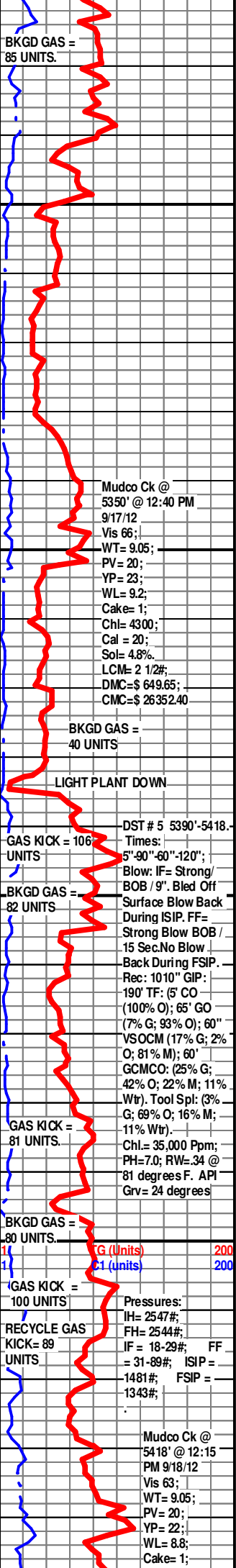
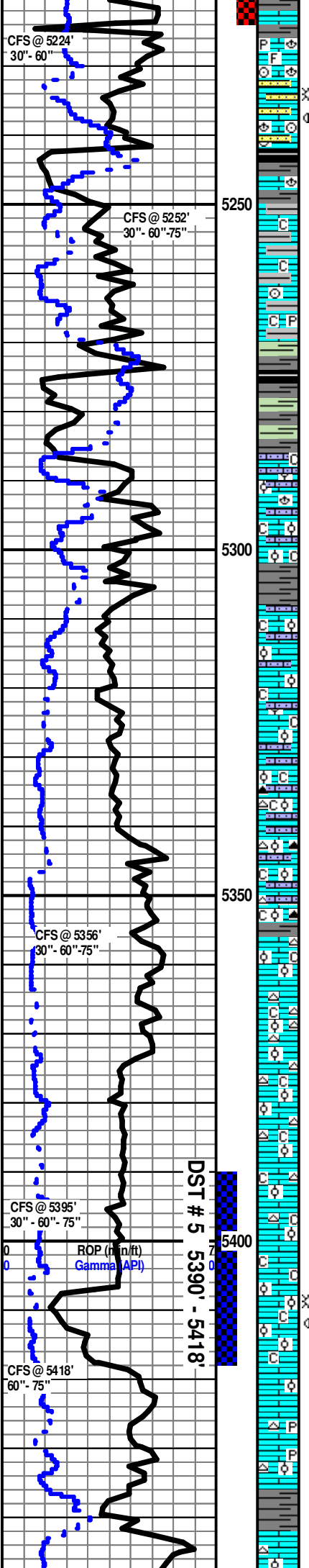
60" CFS @ 5418' Ls Wht Med OOL Por (w/OOL in Pl) Friable Med-Good InterOOL Por (w/Drk Brn-Blk Stn in Pin-Pt Inter OOL Por) M-GSG & M-GSO (w/SFO in Wtr Under Heat) Abd Free Ooids (Med Sized) When Broken Cht Wht-Org Op Shp Vit Chalky Fair Odor No Flor M-G SG & SO

75" CFS @ 5418' Ls Wht Med OOL Por (w/OOL in Pl) Friable Med-Good InterOOL Por (w/Drk Brn-Blk Stn in Pin-Pt Inter OOL Por) M-GSG & M-GSO (w/SFO in Wtr Under Heat) Abd Free (Med Sized) Ooids When Broken Cht Wht-Org Op Shp Vit Chalky Fair Odor No Flor M-G SG & SO

Ls Wht FxlN Poor lxn Por Micritic Dns Barren Grad Tr OOL Por (w/OOL in pl) Med-Small Ooids AA Barren Cht Wht Translu-Op Shp Vit Sh Char-Gry (w/Pyr Inclus) Blk-Carb Fissil No Odor No Stn No Flor NS

Ls Wht FxlN Poor lxn Por Micritic Dns Barren Grad Tr OOL Por (w/OOL in pl) Med-Small Ooids AA Barren Cht Wht Translu-Op Shp Vit Sh Char-Gry (w/Pyr Inclus) Blk-Carb Fissil No Odor No Stn No Flor NS

Ls Wht FxlN Poor lxn Por Micritic Dns Barren Grad Tr OOL Por (w/OOL in pl) Med-Small Ooids AA Barren Cht Wht Translu-Op Shp Vit Sh Char-Gry (w/Pyr Inclus) Blk-Carb Fissil No Odor No Stn No Flor NS



Ls Wht FxIn Poor IxIn Por Micritic Dns Barren Grad Tr OOL Por (w/OOL in pl) Med-Small Ooids AA
Barren Cht Wht Translu-Op Shp Vit Sh Char-Gry (w/Pyr Inclus) Blk-Carb Fissil No Odor No Stn No Flor NS

Ls Wht FxIn Poor IxIn Por Micritic Dns Barren Grad Tr OOL Por (w/OOL in pl) Med-Small Ooids AA
Barren Cht Wht Translu-Op Shp Vit Sh Char-Gry (w/Pyr Inclus) Blk-Carb Fissil No Odor No Stn No Flor NS

Ls AA Sh Char-Gry-Grn-Blk Carb Fissil (Cave ?) Poor Spl. No Odor No Stn No Flor NS

Ls AA Sh Char-Gry-Grn-Blk Carb Fissil (Cave ?) Poor Spl. No Odor No Stn No Flor NS

Ls AA Sh Char-Gry-Grn-Blk Carb Fissil (Cave ?) Poor Spl. No Odor No Stn No Flor NS

SALEM (SPERGEN) 5498' (- 2656)

Ls/Dolo Wht-Gry Tr OOL Por Poor Med OOL Por (w/OOL in pl) Barrren Sh Char-Gry-Grn-Blk Carb Fissil
(Cave ?) Poor Spl. No Odor No Stn No Flor NS

Ls/Dolo Wht Tr OOL Por Poor Med OOL Por (w/OOL in pl) Barrren Sh Char-Gry-Grn-Blk Carb Fissil
(Cave ?) Poor Spl. No Odor No Stn No Flor NS

Ls/Dolo Wht-Gry FxIn Dns Micrite Poor IxIn Por Dns Barrren Sh Char-Gry-Grn-Blk Carb Fissil (Cave ?)
Poor Spl. No Odor No Stn No Flor NS

30" CFA @ 5550' Ls/Dolo Wht-Gry FxIn Dns Micrite Poor IxIn Por Dns Barrren Sh Char-Gry-Grn-Blk
Carb Fissil (Cave ?) Poor Spl. No Odor No Stn No Flor NS

60" CFA @ 5550' Ls Wht-Gry FxIn Dns Micrite Poor IxIn Por Dns Barrren Sh Char-Gry-Grn-Blk Carb
Fissil (Cave ?) Poor Spl. No Odor No Stn No Flor NS

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

Geologist left Location @ 2:00 PM on 9-19-12

Sol= 4.7%
LCM= 3#;
DMC=\$ 130.65;
CMC=\$
26483.05

GAS KICK =
187 UNITS.

5550

5550

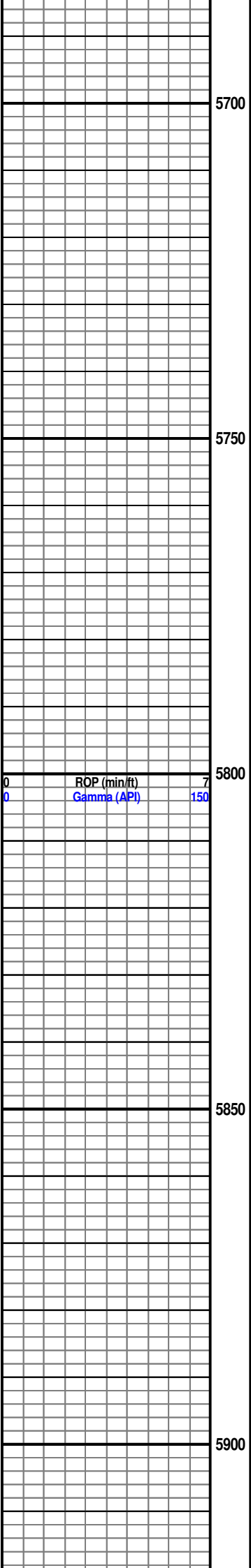
R.T.D.= 5550' (-2708)
L.T.D.= 5549' (-2707)

5600

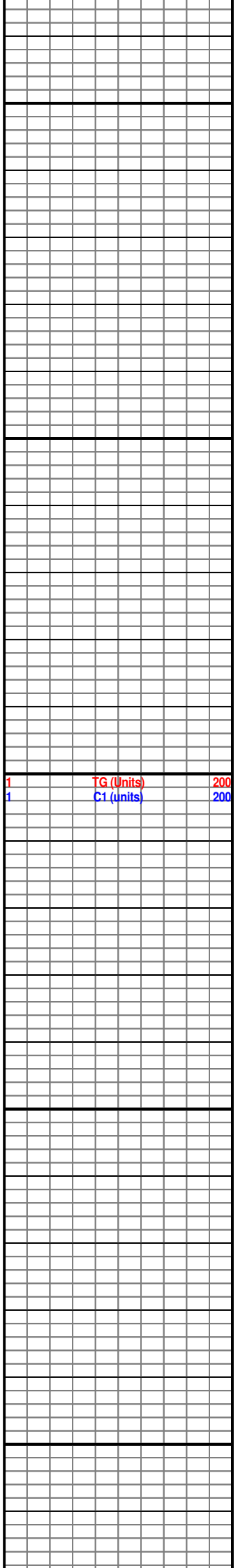
5650

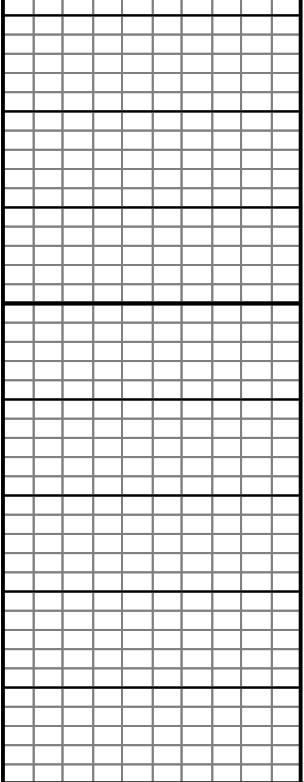
ROP (min/ft) 7
Gamma (API) 150

TG (Units) 200
C1 (units) 200



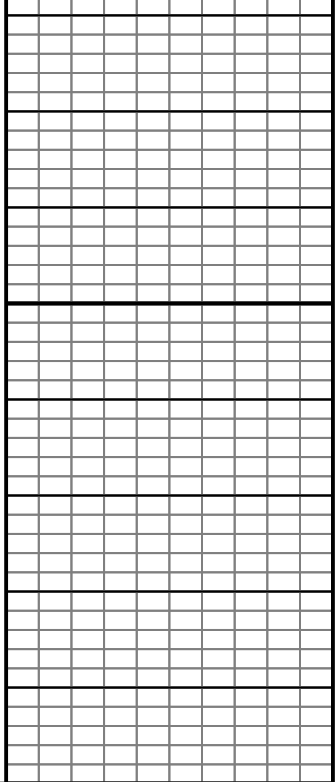
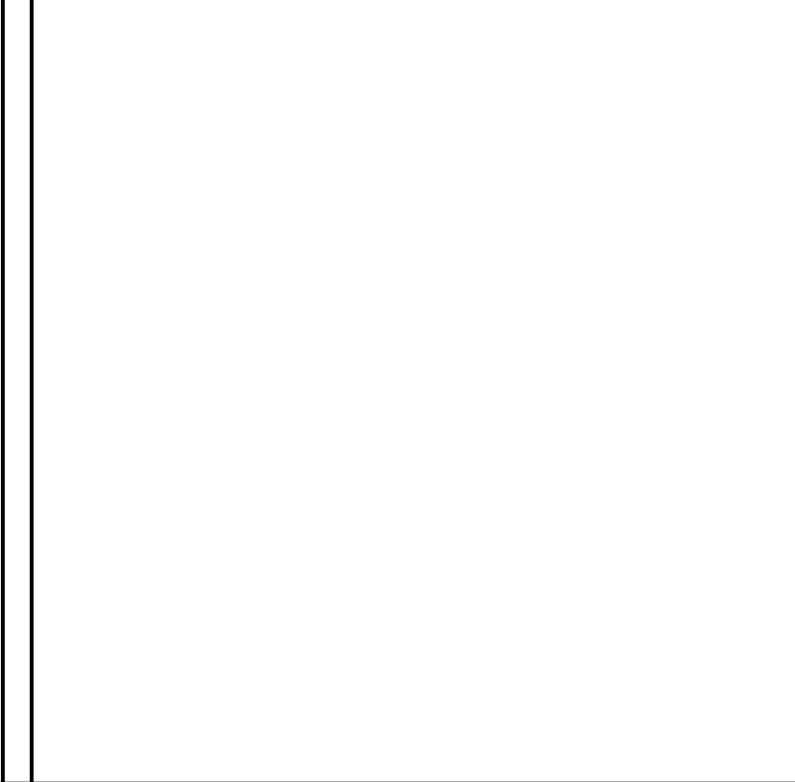
ROP (min/ft) 7
Gamma (API) 150





5950

6000



ALLIED OIL & GAS SERVICES, LLC 052658

Federal Tax I.D.# 20-5975804

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT:

Liberal

DATE <u>9/7/12</u>	SEC. <u>31</u>	TWP. <u>28S</u>	RANGE <u>30W</u>	CALLED OUT	ON LOCATION	JOB START <u>12:05 PM</u>	JOB FINISH <u>1:30 PM</u>
LEASE <u>James Kaehn (New)</u> WELL # <u>1-31</u> LOCATION <u>Vee Coopland KS.</u>				COUNTY <u>Gray</u>		STATE <u>Kansas</u>	
OLD OR NEW (Circle one) <u>NEW</u>						1.01 7.45	

CONTRACTOR Sterling Rig #5
 TYPE OF JOB Surface Casing
 HOLE SIZE 12 1/4 I.D. 1,863
 CASING SIZE 8 5/8 DEPTH 1,858
 TUBING SIZE _____ DEPTH _____
 DRILL PIPE _____ DEPTH _____
 TOOL _____ DEPTH _____
 PRES. MAX 2,000 MINIMUM _____
 MEAS. LINE _____ SHOE JOINT _____
 CEMENT LEFT IN CSG. 41'
 PERFS. _____
 DISPLACEMENT 115 BBLs

OWNER _____
 CEMENT
 AMOUNT ORDERED 450 SKS A 2% GEL,
2% Gypseal, 276 mts heads, 4 #/sk Flo-seal,
150 SKS f. lbs C, 2% CC

COMMON <u>450 SKS A</u>	@ <u>\$17.90</u>	<u>\$8,055.00</u>
POZMIX _____	@ _____	_____
GEL <u>9 SKS</u>	@ <u>\$23.49</u>	<u>\$210.60</u>
CHLORIDE _____	@ _____	_____
ASC _____	@ _____	_____
<u>Class C. Prem. Plus 150 SKS</u>	@ <u>\$24.40</u>	<u>\$3,660.00</u>
<u>Sodium Metasilicate 846 lbs</u>	@ <u>\$8.30</u>	<u>\$7,091.80</u>
<u>CC 4 SKS</u>	@ <u>\$64.00</u>	<u>\$256.00</u>
<u>Flo-seal 113 lbs</u>	@ <u>\$2.97</u>	<u>\$335.61</u>
<u>Gypseal 175 SKS</u>	@ <u>\$37.60</u>	<u>\$6,580.00</u>
_____	@ _____	_____
_____	@ _____	_____
_____	@ _____	_____
HANDLING <u>660.4 cu ft</u>	@ <u>\$2.48</u>	<u>\$1,637.79</u>
MILEAGE <u>Engage 1,196</u>	@ <u>\$2.60</u>	<u>\$3,111.60</u>
		TOTAL <u>\$20,645.6</u>

EQUIPMENT
 PUMP TRUCK CEMENTER Tim Chandler /
#530 - 484 HELPER Kenny Baeza, Ange L. G. 3
 BULK TRUCK _____
#472 - 467 DRIVER Kiko (Tus)
 BULK TRUCK _____
#456 - 25 DRIVER Vicente T. 3

REMARKS:
THANK YOU

CHARGE TO: Falcon Exp.
 STREET _____
 CITY _____ STATE _____ ZIP _____

SERVICE

DEPTH OF JOB <u>1,858'</u>	
PUMP TRUCK CHARGE _____	<u>\$2,213.75</u>
EXTRA FOOTAGE _____	@ _____
MILEAGE _____	@ _____
MANIFOLD <u>1</u>	@ <u>\$275.00</u> <u>\$275.00</u>
Light Vehicle mi. <u>40</u>	@ <u>\$4.40</u> <u>\$176.00</u>
Heavy Vehicle mi. <u>40</u>	@ <u>\$7.79</u> <u>\$308.00</u>
	TOTAL <u>\$2,972.75</u>

PLUG & FLOAT EQUIPMENT

<u>Guide Shot 1</u>	@ <u>\$460.98</u>	<u>\$460.98</u>
<u>A3u Float Valve 1</u>	@ <u>\$446.94</u>	<u>\$446.94</u>
<u>Centralizer 3</u>	@ <u>\$74.88</u>	<u>\$224.64</u>
<u>Cement Basket 3</u>	@ <u>\$559.00</u>	<u>\$1,677.00</u>
<u>Top Plug 1</u>	@ <u>\$131.00</u>	<u>\$131.00</u>
		TOTAL <u>\$2,940.56</u>

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.

SALES TAX (If Any) 1407.27
 TOTAL CHARGES \$26,609.73
 DISCOUNT 30% 7989.92 IF PAID IN 30 DAY
 NET = \$18,619.81

PRINTED NAME Leon Kuhw
 SIGNATURE Leon Kuhw



Cement Report

Customer <i>Falcon Exploration</i>	Lease No.	Date <i>9/20/17</i>
Lease <i>Sumner No. 1</i>	Well # <i>131</i>	Service Receipt <i>2079</i>
Casing <i>5 1/2</i>	Depth <i>5579'</i>	County <i>Gray</i> State <i>KS</i>
Job Type <i>7 1/2" Long String</i>	Formation	Legal Description <i>31 28 30</i>

Pipe Data		Perforating Data		Cement Data
Casing size <i>5 1/2 15.5#</i>	Tubing Size	Shots/Ft		Lead <i>100# A Con</i>
Depth <i>5549'</i>	Depth	From	To	<i>293513.5#</i>
Volume <i>1304's</i>	Volume	From	To	<i>906# 5# 11#</i>
Max Press <i>2000</i>	Max Press	From	To	Tail in <i>150 #12</i>
Well Connection <i>5 1/2"</i>	Annulus Vol.	From	To	<i>15112.5#</i>
Plug Depth <i>5579'</i>	Packer Depth	From	To	<i>6646# 14#</i>

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
200					Arrive On Location
210					Setup, Check A, Up
100					Plug Running Casing
100					Calculate w/ Reg
210					Hook Up To 1385
215	7000		1.0	1.0	Pressure Test
220	375		12	4.0	Pump 1000# Cement
274	350		12	4.0	Pump Super Flush 11
278	300		10	4.0	Pump Water Spurt
273	275		26	4.0	Pump Cement 11# 11#
242	200		40	4.5	Pump Cement 11# 11#
252					Prep Plug Wash Up
256	350		170	7.0	Preplace
815	800		10	2.5	5hr Pump Preplace
970	1300		1	1	Load Plug & Seal Hold
					Plug Pump & Allow Hold
					Job Complete
					Thanks for Very Good Service

Service Units	<i>19870</i>	<i>70567-15570</i>	<i>19677-15883</i>		
Driver Names	<i>Chace</i>	<i>Eddie</i>	<i>Satio</i>		

Customer Representative *Leon*
Station Manager *[Signature]*
Cementer *[Signature]*