[redacted]

Confidentiality Requested:
☑ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1243570

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 # 5316
Name: Falcon Exploration, Inc.
Address 1: 125 N MARKET STE 1252
Address 2:
City: WICHITA State: KS Zip: 67202 + 1719
Contact Person: CYNDE WOLF
Phone: (316) 262-1378
CONTRACTOR: License # 5142
Name: Sterling Drilling Company
Wellsite Geologist: DAVE WILLIAMS
Purchaser: ONEOK

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 #:

11/14/2014	11/26/2014	01/20/2015
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-069-20489-00-00
Spot Description:
SW NW NE SW Sec. 7 Twp. 28 S. R. 29 ☐ East ☑ West
2285 Feet from ☐ North / ☑ South Line of Section
1458 Feet from ☐ East / ☑ West Line of Section
Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☐ SE ☑ SW
GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Gray
Lease Name: JM KOEHN Well #: 1-7(SW)
Field Name:
Producing Formation: NA
Elevation: Ground: 2805 Kelly Bushing: 2816
Total Vertical Depth: 5430 Plug Back Total Depth: 5344
Amount of Surface Pipe Set and Cemented at: 1835 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: 10300 ppm Fluid volume: 250 bbls
Dewatering method used: Hauled to Disposal

Location of fluid disposal if hauled offsite:

Operator Name: MAX PAPAY
Lease Name: SNEED License #: 34021
Quarter NW Sec. 14 Twp. 34 S. R. 30 ☐ East ☑ West
County: MEADE Permit #: D27876

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: 02/24/2015
☑ **Confidential Release Date:** 02/23/2017
☑ **Wireline Log Received**
☑ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** NAOMI JAMES **Date:** 02/24/2015

[redacted]

1243570

Operator Name: Falcon Exploration, Inc. Lease Name: JM KOEHN Well #: 1-7(SW)

Sec. 7 Twp. 28 S. R. 29 ☐ East ☑ West County: Gray

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 ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

List All E. Logs Run:

Attached

☑ Log Formation (Top), Depth and Datum ☐ Sample

Name	Top	Datum
Attached	Attached	Attached

CASING RECORD ☑ New ☐ 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
Surface	12.25	8.625	24	1835	A-CONN;CLASS C	640	3% CC;2% CC
Production	7.875	5.5	15	5386	AA2	360	0

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
☐ Perforate ☐ Protect Casing ☐ Plug Back TD ☐ 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 *(Amount and Kind of Material Used)*	Depth
Attached	Attached	Attached	Attached

TUBING RECORD: Size: 2.375 Set At: 3553 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:
☐ Vented ☐ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION:
☐ Open Hole ☐ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*
☐ Other *(Specify)*

PRODUCTION INTERVAL:
3538-44

Form	ACO1 - Well Completion
Operator	Falcon Exploration, Inc.
Well Name	JM KOEHN 1-7(SW)
Doc ID	1243570

All Electric Logs Run

DIL
MEL
CNL/CDL
BHCS

Form	ACO1 - Well Completion
Operator	Falcon Exploration, Inc.
Well Name	JM KOEHN 1-7(SW)
Doc ID	1243570

Tops

Name	Top	Datum
STOTLER	3515	-699
TARKIO	3590	-774
LANSING	4252	-1436
PAWNEE	4822	-2006
CHEROKEE	4867	-2051
MORROW SH	5022	-2206
MISS ST GEN	5072	-2256
ST LO LWR B POR	5200	-2384
SALEM	5363	-2547

Form	ACO1 - Well Completion
Operator	Falcon Exploration, Inc.
Well Name	JM KOEHN 1-7(SW)
Doc ID	1243570

Perforations

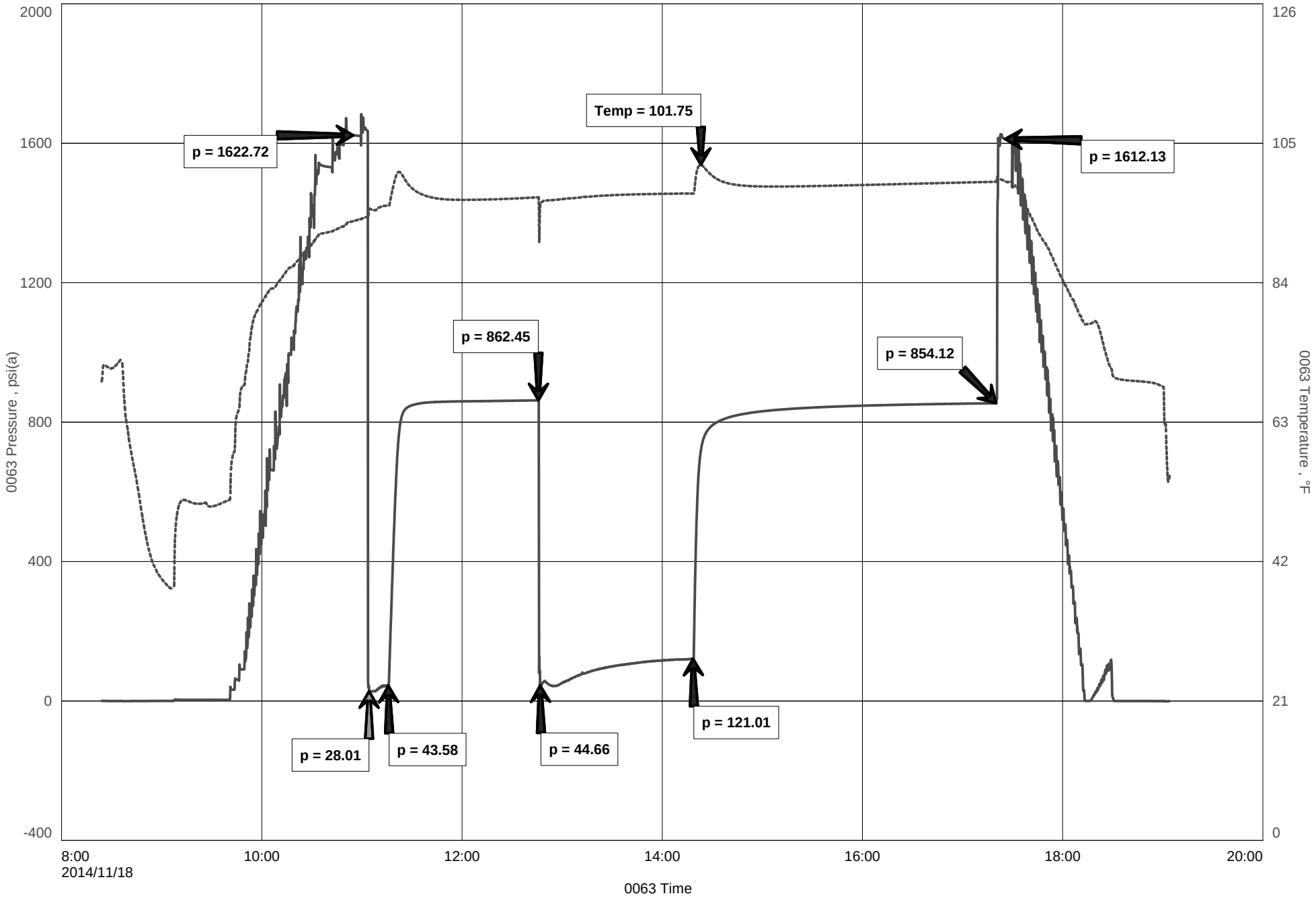
Shots Per Foot	Perforation Record	Material Record	Depth
4	5192-5212	1000 GAL 15% MCA	5192-5212
	5180	CIBP	
4	4824-4832	2500 GAL 15% MCA	4824-4832
	4800	CIBP	
4	4243-4248	500 GAL 15% MCA	4243-4248
	4240	CIBP	
4	4212-4220		
	4160	CIBP	
4	3538-3544	750 GAL 15% MCA	3538-3544

Form	ACO1 - Well Completion
Operator	Falcon Exploration, Inc.
Well Name	JM KOEHN 1-7(SW)
Doc ID	1243570

Casing

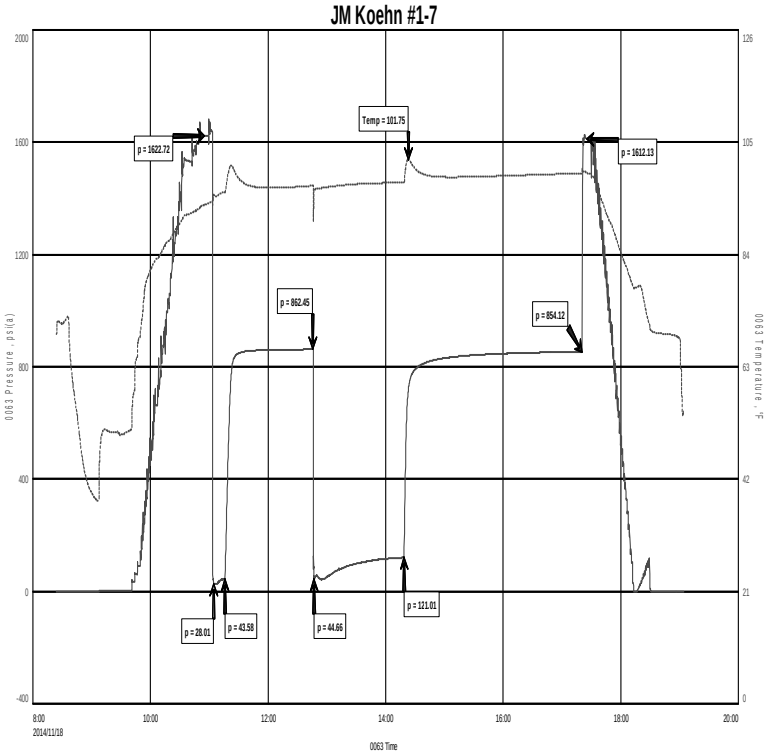
Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.25	8.625	24	1835	A-CONN;CLASS C	640	3% CC;2% CC
Production	7.875	5.5	15	5386	AA2	360	0

JM Koehn #1-7


2000
1600
1200
800
400
0
-400
0063 Pressure , psi(a)
126
105
84
63
42
21
0
0063 Temperature , °F
8:00
2014/11/18
10:00
12:00
14:00
16:00
18:00
20:00
0063 Time
p = 1622.72
Temp = 101.75
p = 1612.13
p = 862.45
p = 854.12
p = 28.01
p = 43.58
p = 44.66
p = 121.01

Michael Carroll
620-617-0368
carroll.dtllc@gmail.com

Hoisington, Kansas



General Information

Company Name Falcon Exploration

Contact	**Cynde Wolf**
Well Name	**JM Koehn #1-7**
Unique Well ID	**Dst #1 Stotler 3484-3560'**
Surface Location	**Sec7-28s-29w Gray County**
Field	**NA**
Well Type	**Vertical**
Test Type	**Drill Stem Test**
Well Operator	**Falcon Exploration**
Formation	**Dst #1 Stotler 3484-3560'**
Well Fluid Type	**02 Gas**
Test Purpose	**Initial Test**
Start Test Date	**2014/11/18**
Start Test Time	**08:24:00**
Final Test Time	**19:04:00**
Job Number	**P0019**
Report Date	**2014/11/18**
Prepared By	**Michael Carroll**

TEST RECOVERY

Remarks Recovery:

197' Gassy Mud 2%G 98%M

197' Total Fluid

Tool Sample:

100%M

DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313

DRILL-STEM TEST TICKET

FILE: JMKoehn1-7Dst#1

TIME ON: 0824

TIME OFF: 1904

Company Falcon Exploration — Lease & Well No. JM Koehn #1-7

Contractor Sterling Drilling Rig #2 — Charge to Falcon Exploration

Elevation 2816KB Formation Stotler Effective Pay ____ Ft. Ticket No. P0019

Date 11-18-14 Sec. 7 Twp. 28 S Range 29 W County Gray State KANSAS

Test Approved By Dave Williams — Diamond Representative Michael Carroll

Formation Test No. 1 Interval Tested from 3484 ft. to 3560 ft. Total Depth 3560 ft.

Packer Depth 3479 ft. Size 6 3/4 in. — Packer depth ____ ft. Size 6 3/4 in.

Packer Depth 3484 ft. Size 6 3/4 in. — Packer depth -- ft. Size 6 3/4 in.

Depth of Selective Zone Set ____

Top Recorder Depth (Inside) 3466 ft. — Recorder Number 0063 Cap. 5,000 P.S.I.

Bottom Recorder Depth (Outside) 3552 ft. — Recorder Number E1150 Cap. 5000 P.S.I.

Below Straddle Recorder Depth ____ ft. — Recorder Number ____ Cap. ____ P.S.I.

Mud Type Chem Viscosity 50 — Drill Collar Length 187 ft. I.D. 2 1/4 in.

Weight 8.95 Water Loss 6.8 cc. — Weight Pipe Length 0 ft. I.D. 2 7/8 in

Chlorides 3300 P.P.M. — Drill Pipe Length 3256 ft. I.D. 3 1/2 in

Jars: Make STERLING Serial Number 3 — Test Tool Length 32 ft. Tool Size 3 1/2-IF in

Did Well Flow? NO Reversed Out NO — Anchor Length 76(12.5a) 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: 2"BLOW-BUILT TO BOB IN 1MIN 12SEC WSBB

2nd Open: BOB INSTANTLY-GTS IN 4MINS WSBB

Recovered 197 ft. of GASSY MUD 2%G 98%M

Recovered 197 ft. of TOTAL FLUID

Recovered ____ ft. of ____

Recovered ____ ft. of ____

Recovered ____ ft. of ____ | Price Job

Recovered ____ ft. of ____ | Other Charges

Remarks: ____ | Insurance

TOOL SAMPLE: 100%M | Total

Time Set Packer(s) 11:00A.M. A.M. P.M. Time Started Off Bottom 5:05P.M. A.M. P.M. Maximum Temperature 102

Initial Hydrostatic Pressure ..... (A) 1623 P.S.I.

Initial Flow Period ..... Minutes 5 (B) 28 P.S.I. to (C) 44 P.S.I.

Initial Closed In Period ..... Minutes 90 (D) 862 P.S.I.

Final Flow Period ..... Minutes 90 (E) 45 P.S.I. to (F) 121 P.S.I.

Final Closed In Period ..... Minutes 180 (G) 854 P.S.I.

Final Hydrostatic Pressure ..... (H) 1612 P.S.I.

DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313

DRILL-STEM TEST TICKET
FILE: JMKHN1-7SWDST

TIME ON: 0305
TIME OFF: 1435

Company FALCON EXPLORATION, INC. Lease & Well No. JM KOEHN #1-7(SW)

Contractor STERLING DRILLING COMPANY RIG 2 Charge to FALCON EXPLORATION, INC.

Elevation 2816 KB Formation TARKIO Effective Pay _____ Ft. Ticket No. M726

Date 11/19/2014 Sec. 7 Twp. 28 S Range 29 W County GRAY State KANSAS

Test Approved By DAVID P. WILLIAMS Diamond Representative MIKE COCHRAN

Formation Test No. 2 Interval Tested from 3582 ft. to 3618 ft. Total Depth 3618 ft.

Packer Depth 3577 ft. Size 6 3/4 in. Packer depth NA ft. Size 6 3/4 in.

Packer Depth 3582 ft. Size 6 3/4 in. Packer depth NA ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 3564 ft. Recorder Number 0063 Cap. 5,000 P.S.I.

Bottom Recorder Depth (Outside) 3584 ft. Recorder Number E1150 Cap. 5,000 P.S.I.

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

Mud Type CHEM Viscosity 46 Drill Collar Length 187 ft. I.D. 2 1/4 in.

Weight 8.8 Water Loss 6.8 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in

Chlorides 3,300 P.P.M. Drill Pipe Length 3363 ft. I.D. 3 1/2 in

Jars: Make STERLING Serial Number 3 Test Tool Length 32 ft. Tool Size 3 1/2-IF in

Did Well Flow? NO Reversed Out NO Anchor Length 36 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: SSB, 3" INCREASED TO 8" (NO BB)

2nd Open: SSB, 2" BOB 7 MIN (VERY WEAK BB)

Recovered 556 ft. of GIP

Recovered 80 ft. of WM 45% WTR, 55% MUD (80' DP)

Recovered 187 ft. of WTR 100% WTR (187' DC)

Recovered 267 ft. of TOTAL FLUID

Recovered _____ ft. of _____ | Price Job

Recovered _____ ft. of CHLOR: 76,000 PPM | Other Charges

Remarks: RW: .16 @ 60 DEG | Insurance

PH: 7.0

TOOL SAMPLE: 100% WTR | Total

Time Set Packer(s) 5:45 A.M. A.M. P.M. Time Started Off Bottom 11:50 A.M. A.M. P.M. Maximum Temperature 102°F

Initial Hydrostatic Pressure..... (A) 1674 P.S.I.

Initial Flow Period..... Minutes 5 (B) 15 P.S.I. to (C) 34 P.S.I.

Initial Closed In Period..... Minutes 90 (D) 945 P.S.I.

Final Flow Period..... Minutes 90 (E) 39 P.S.I. to (F) 133 P.S.I.

Final Closed In Period..... Minutes 180 (G) 926 P.S.I.

Final Hydrostatic Pressure..... (H) 1672 P.S.I.

DIAMOND TESTING

Pressure Survey Report

General Information

Company Name	**FALCON EXPLORATION, INC.**	**Job Number**	**M726**
Well Name	**JM KOEHN #1-7(SW)**	**Representative**	**MIKE COCHRAN**
Unique Well ID	**DST#2 3582-3618 TARKIO**	**Well Operator**	**FALCON EXPLORATION, INC.**
Surface Location	**SEC.7-28S-29 GRAY CO.KS.**	**Report Date**	**2014/11/19**
Field	**WILDCAT**	**Prepared By**	**MIKE COCHRAN**
Well Type	**Vertical**	**Qualified By**	**DAVID P. WILLIAMS**
		Test Unit	**NO. 3**

Test Information

Test Type	**CONVENTIONAL**
Formation	**DST#2 3582-3618 TARKIO**
Test Purpose (AEUB)	**Initial Test**

Start Test Date	**2014/11/19**	**Start Test Time**	**03:05:00**
Final Test Date	**2014/11/19**	**Final Test Time**	**14:35:00**
		Well Fluid Type	**01 Oil**

Gauge Name	**0063**
Gauge Serial Number	

Test Results

Remarks **RECOVERED:**

556' GIP
80' WM 45% WTR, 55% MUD (80' DP)
187' WTR 100% WTR (187' DC)
267' TOTAL FLUID

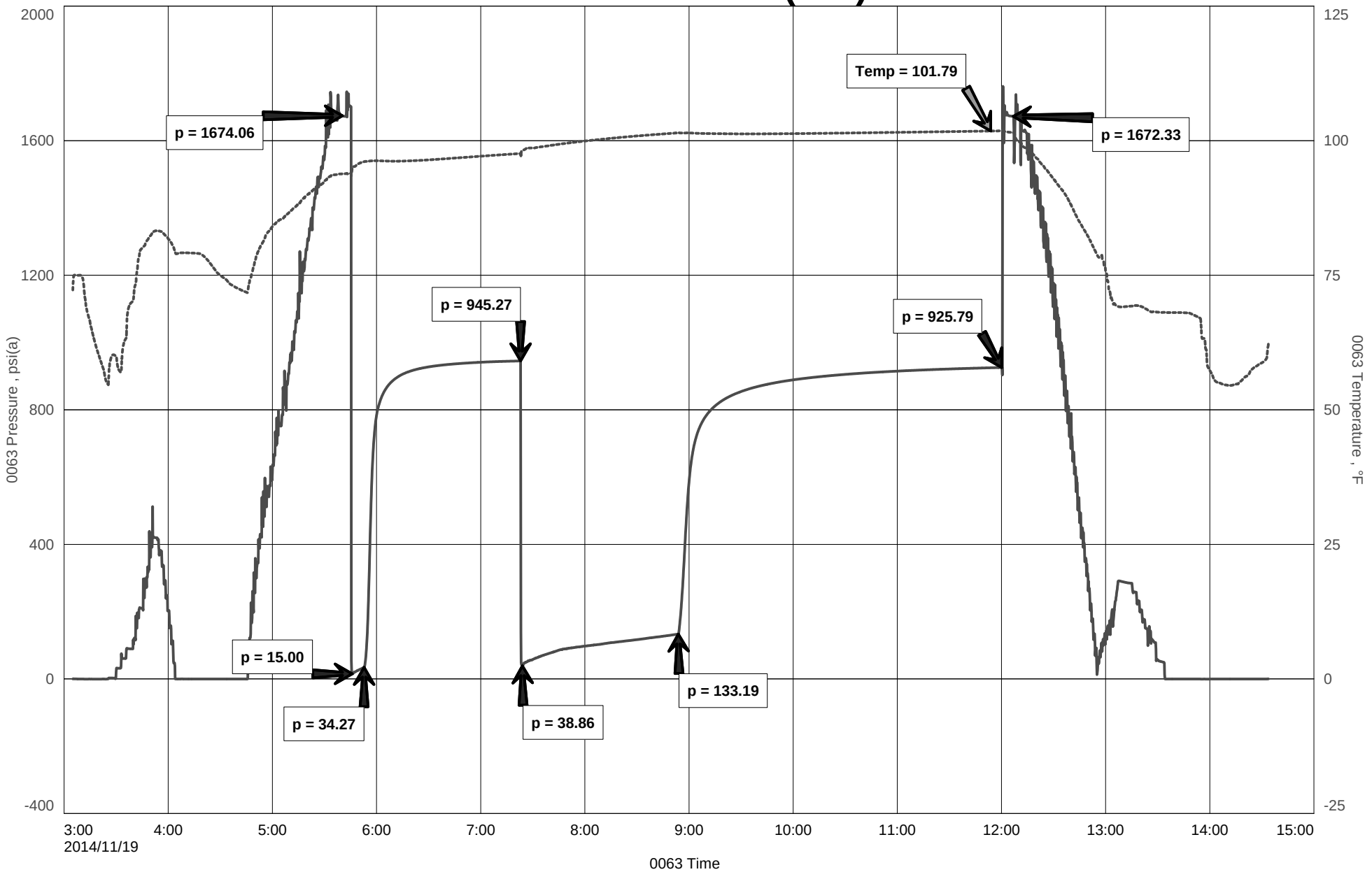
CHLOR: 76,000 PPM
PH:7.0
RW: .16 @ 60 DEG

TOOL SAMPLE: 100% WTR

FALCON EXPLORATION, INC.
DST#2 3582-3618 TARKIO
Start Test Date: 2014/11/19
Final Test Date: 2014/11/19

JM KOEHN #1-7(SW)
Formation: DST#2 3582-3618 TARKIO
Pool: WILDCAT
Job Number: M726

JM KOEHN #1-7(SW)



DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313

DRILL-STEM TEST TICKET

FILE: JMKHN1-7SWDST3

TIME ON: 1440 (11/20)

TIME OFF: 0235 (11/21)

Company FALCON EXPLORATION, INC. Lease & Well No. JM KOEHN #1-7(SW)

Contractor STERLING DRILLING COMPANY RIG 2 Charge to FALCON EXPLORATION, INC.

Elevation 2816 KB Formation DOUGLAS, LANSING 'A' & 'B' Effective Pay _____ Ft. Ticket No. M727

Date 11/20/2014 Sec. 7 Twp. 28 S Range 29 W County GRAY State KANSAS

Test Approved By DAVID P. WILLIAMS Diamond Representative MIKE COCHRAN

Formation Test No. 3 Interval Tested from 4184 ft. to 4300 ft. Total Depth 4300 ft.

Packer Depth 4179 ft. Size 6 3/4 in. Packer depth NA ft. Size 6 3/4 in.

Packer Depth 4184 ft. Size 6 3/4 in. Packer depth NA ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 4166 ft. Recorder Number 0063 Cap. 5,000 P.S.I.

Bottom Recorder Depth (Outside) 4186 ft. Recorder Number E1150 Cap. 5,000 P.S.I.

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

Mud Type CHEM Viscosity 57 Drill Collar Length 187 ft. I.D. 2 1/4 in.

Weight 9.2 Water Loss 8.4 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in

Chlorides 2,400 P.P.M. Drill Pipe Length 3965 ft. I.D. 3 1/2 in

Jars: Make STERLING Serial Number 3 Test Tool Length 32 ft. Tool Size 3 1/2-IF in

Did Well Flow? NO Reversed Out NO Anchor Length 116 ft. Size 4 1/2-FH in

Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. Surface Choke Size (95'DP) 1 in. Bottom Choke Size 5/8 in

Blow: 1st Open: SSB, BOB 1½ MIN (NO BB)

2nd Open: SSB, BOB IMMEDIATELY GTS 48 MIN DID BURN NICELY (NO BB)

Recovered 253 ft. of GWM 1% GAS, 8% WTR, 91% MUD (191' DP,62' DC)

Recovered 125 ft. of GMW 1% GAS, 62% WTR, 37% MUD (125' DC)

Recovered 378 ft. of TOTAL FLUID

Recovered _____ ft. of CHLOR: 41,000 PPM

Recovered _____ ft. of PH: 7.0

Recovered _____ ft. of RW: .17 @ 75 DEG

Remarks:

FINAL FLOW: 23.3 MCF/D; SEE ATTACHED GAS REPORT

TOOL SAMPLE: 1% GAS, 61% WTR, 38% MUD

Price Job	
Other Charges	
Insurance	
Total	

Time Set Packer(s) 5:05 P.M. A.M. P.M. Time Started Off Bottom 11:40 P.M. A.M. P.M. Maximum Temperature 115°F

Initial Hydrostatic Pressure ..... (A) 2022 P.S.I.

Initial Flow Period ..... Minutes 5 (B) 22 P.S.I. to (C) 38 P.S.I.

Initial Closed In Period ..... Minutes 90 (D) 1234 P.S.I.

Final Flow Period ..... Minutes 120 (E) 39 P.S.I. to (F) 135 P.S.I.

Final Closed In Period ..... Minutes 180 (G) 1230 P.S.I.

Final Hydrostatic Pressure ..... (H) 1985 P.S.I.

DIAMOND TESTING

Pressure Survey Report

General Information

Company Name	**FALCON EXPLORATION, INC.**	**Job Number**	**M727**
Well Name	**JM KOEHN #1-7(SW)**	**Representative**	**MIKE COCHRAN**
Unique Well ID	**DST#3 4184-34300 DOUGLAS, LANSING 'A' & 'B'**	**Well Operator**	**FALCON EXPLORATION, INC.**
Surface Location	**SEC.7-28S-29 GRAY CO.KS.**	**Report Date**	**2014/11/21**
Field	**WILDCAT**	**Prepared By**	**MIKE COCHRAN**
Well Type	**Vertical**	**Qualified By**	**DAVID P. WILLIAMS**
		Test Unit	**NO. 3**

Test Information

Test Type	**CONVENTIONAL**
Formation	**DST#3 4184-34300 DOUGLAS, LANSING 'A' & 'B'**
Test Purpose (AEUB)	**Initial Test**

Start Test Date	**2014/11/20**	**Start Test Time**	**14:40:00**
Final Test Date	**2014/11/21**	**Final Test Time**	**02:35:00**
		Well Fluid Type	**01 Oil**

Gauge Name	**0053**
Gauge Serial Number	

Test Results

Remarks **RECOVERED:**

253' GWM 1% GAS, 8% WTR, 91% MUD (191' DP,62' DC)
125' GMW 1% GAS, 62% WTR, 37% MUD (125' DC)
378' TOTAL FLUID

CHLOR: 41,000 PPM
PH:7.0
RW: .17 @ 75 DEG

TOOL SAMPLE: 1% GAS, 61% WTR, 38% MUD

DIAMOND TESTING
P. O. Box 157
HOISINGTON, KANSAS 67544
(316) 653-7550

GAS VOLUME REPORT

Company FALCON EXPLORATION, INC. Lease & Well No. JM KOEHN #1-7(SW)

Date 11-20-2014 Sec. 7 Twp. 28S Rge. 29W Location County GRAY State KS

Drilling Contractor STERLING DRILLING COMPANY RIG 2 Formation DOUGLAS, LANSING 'A' & 'B' DST No. 3

Remarks: GTS 48 MIN 2ND OPEN, GAS BURNED NICELY

INITIAL FLOW PSI

Time O'Clock	Orifice Size	Gauge	CF/D
	in.	in.	
	in.	in.	
	in.	in.	
	in.	in.	
	in.	in.	
	in.	in.	
	in.	in.	
	in.	in.	
	in.	in.	
	in.	in.	

FINAL FLOW PSI

Time O'Clock	Orifice Size	Gauge	CF/D
	⅛ in.	PSI in.	MCF/D
60 MIN	⅛ in.	1.5 PSI in.	3.39
70 MIN.	⅛ in.	5.75 in.	6.89
80 MIN.	⅛ in.	10.0 in.	9.45
90 MIN.	⅛ in.	19.0 in.	14.0
100 MIN.	⅛ in.	27.0 in.	17.8
110 MIN.	⅛ in.	32.5 in.	20.1
120 MIN.	⅛ in.	40.0 in.	23.3
	in.	in.	
	in.	in.	

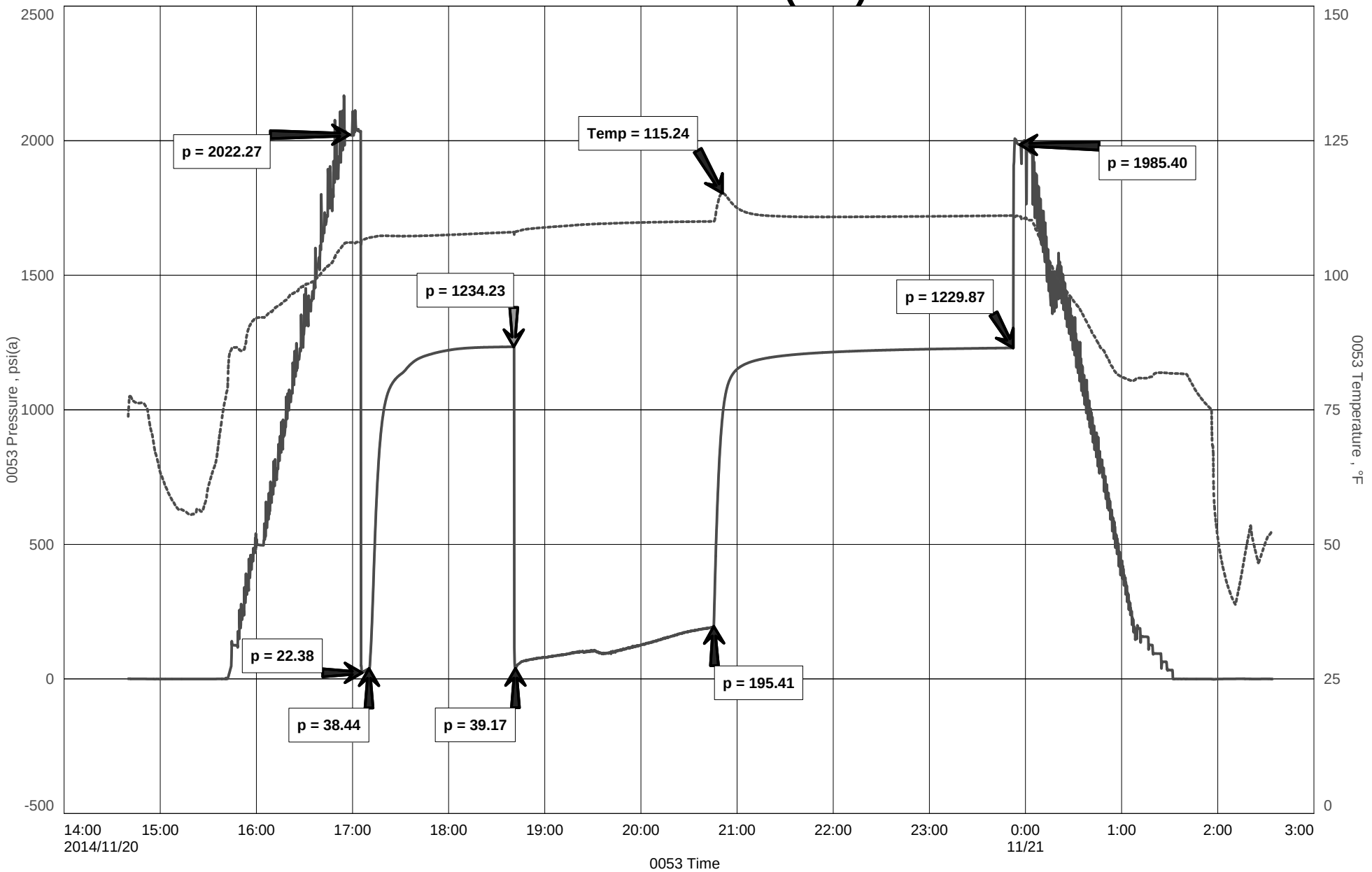
SAMPLE TAKEN: YES (@ END OF FLOW)

FINAL FLOW: 23.3 MCF/D

FALCON EXPLORATION, INC.
DST#3 4184-34300 DOUGLAS, LANSING 'A' & 'B'
Start Test Date: 2014/11/20
Final Test Date: 2014/11/21

JM KOEHN #1-7(SW)
Formation: DST#3 4184-34300 DOUGLAS, LANSING 'A' & 'B'
Pool: WILDCAT
Job Number: M727

JM KOEHN #1-7(SW)



DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313

DRILL-STEM TEST TICKET
FILE: JMKHN1-7SWDST4

TIME ON: 0210
TIME OFF: 1250

Company FALCON EXPLORATION, INC. Lease & Well No. JM KOEHN #1-7(SW)

Contractor STERLING DRILLING COMPANY RIG 2 Charge to FALCON EXPLORATION, INC.

Elevation 2816 KB Formation PAWNEE Effective Pay _____ Ft. Ticket No. M728

Date 11/22/2014 Sec. 7 Twp. 28 S Range 29 W County GRAY State KANSAS

Test Approved By DAVID P. WILLIAMS Diamond Representative MIKE COCHRAN

Formation Test No. 4 Interval Tested from 4800 ft. to 4845 ft. Total Depth 4845 ft.

Packer Depth 4795 ft. Size 6 3/4 in. Packer depth NA ft. Size 6 3/4 in.

Packer Depth 4800 ft. Size 6 3/4 in. Packer depth NA ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 4782 ft. Recorder Number E1150 Cap. 5,000 P.S.I.

Bottom Recorder Depth (Outside) 4809 ft. Recorder Number 0063 Cap. 5,000 P.S.I.

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

Mud Type CHEM Viscosity 55 Drill Collar Length 187 ft. I.D. 2 1/4 in.

Weight - Water Loss 7.6 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in

Chlorides 3,200 P.P.M. Drill Pipe Length 4581 ft. I.D. 3 1/2 in

Jars: Make STERLING Serial Number 3 Test Tool Length 32 ft. Tool Size 3 1/2-IF in

Did Well Flow? NO Reversed Out NO Anchor Length 45 (32'DP) 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: WSB, BUILT TO 7/8" (NO BB)

2nd Open: VWSB, BUILT TO 3" (NO BB)

Recovered <18 ft. of GIP

Recovered ~45 ft. of GSOCM 6% GAS, 5% OIL, 89% MUD

Recovered ~45 ft. of TOTAL FLUID

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Remarks: _____

TOOL SAMPLE: 2% GAS, 4% OIL, 2% WTR, 92% MUD

Price Job	
Other Charges	
Insurance	
Total	

Time Set Packer(s) 4:35 A.M. A.M. P.M. Time Started Off Bottom 10:10 A.M. A.M. P.M. Maximum Temperature 118°F

Initial Hydrostatic Pressure..... (A) 2317 P.S.I.

Initial Flow Period..... Minutes 5 (B) 26 P.S.I. to (C) 28 P.S.I.

Initial Closed In Period..... Minutes 60 (D) 1285 P.S.I.

Final Flow Period..... Minutes 90 (E) 30 P.S.I. to (F) 52 P.S.I.

Final Closed In Period..... Minutes 180 (G) 1337 P.S.I.

Final Hydrostatic Pressure..... (H) 2256 P.S.I.

DIAMOND TESTING

Pressure Survey Report

General Information

Company Name	**FALCON EXPLORATION, INC.**	**Job Number**	**M728**
Well Name	**JM KOEHN #1-7(SW)**	**Representative**	**MIKE COCHRAN**
Unique Well ID	**DST#4 4800-4845 PAWNEE**	**Well Operator**	**FALCON EXPLORATION, INC.**
Surface Location	**SEC.7-28S-29 GRAY CO.KS.**	**Report Date**	**2014/11/22**
Field	**WILDCAT**	**Prepared By**	**MIKE COCHRAN**
Well Type	**Vertical**	**Qualified By**	**DAVID P. WILLIAMS**
		Test Unit	**NO. 3**

Test Information

Test Type	**CONVENTIONAL**
Formation	**DST#4 4800-4845 PAWNEE**
Test Purpose (AEUB)	**Initial Test**

Start Test Date	**2014/11/22**	**Start Test Time**	**02:10:00**
Final Test Date	**2014/11/22**	**Final Test Time**	**12:50:00**
		Well Fluid Type	**01 Oil**

Gauge Name	**0063**
Gauge Serial Number	

Test Results

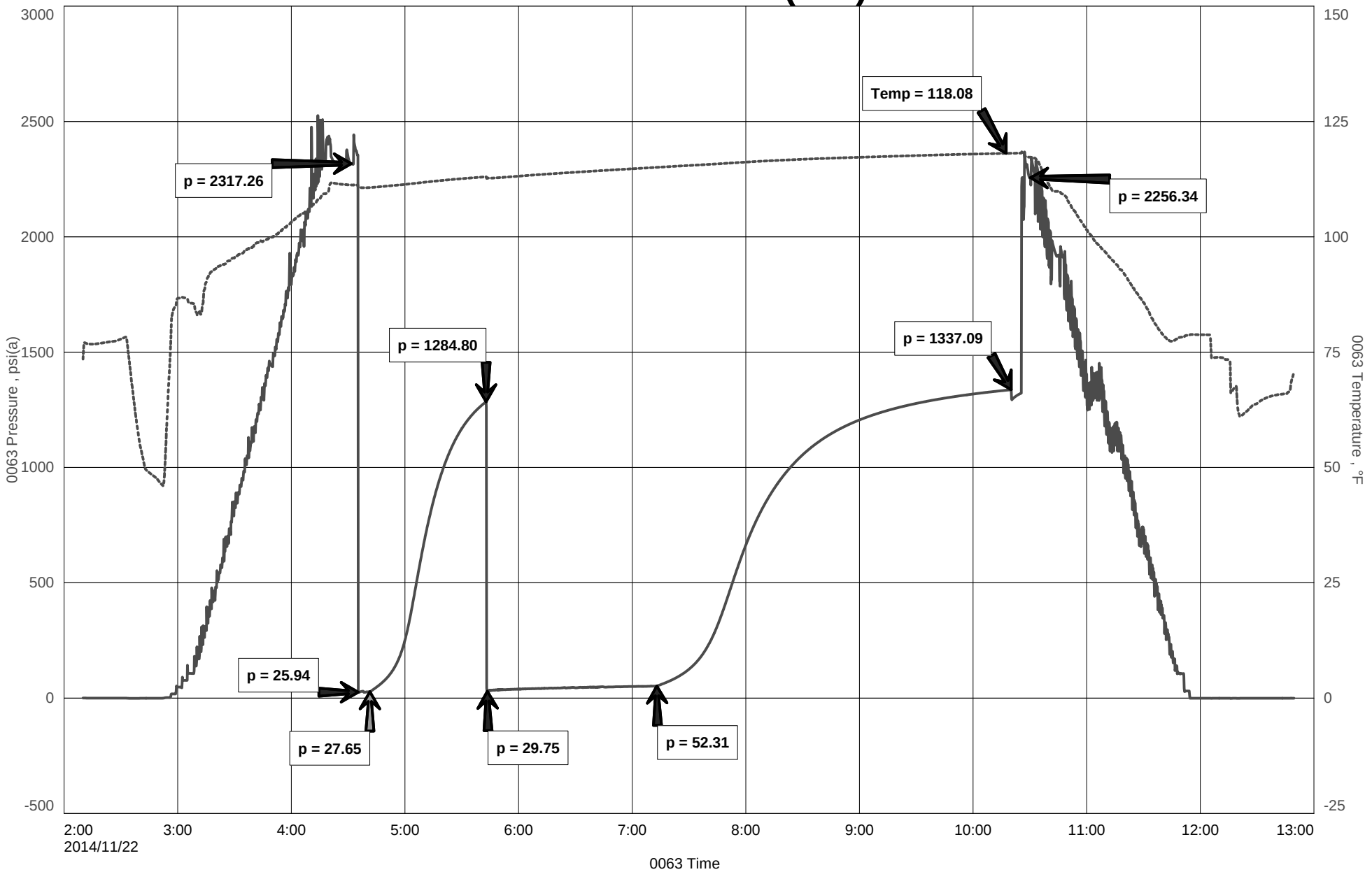
Remarks **RECOVERED:**
<18' GIP
~45' GSOCM 6% GAS, 5% OIL, 89% MUD
~45' TOTAL FLUID

TOOL SAMPLE: 2% GAS, 4% OIL, 2% WTR, 92% MUD

FALCON EXPLORATION, INC.
DST#4 4800-4845 PAWNEE
Start Test Date: 2014/11/22
Final Test Date: 2014/11/22

JM KOEHN #1-7(SW)
Formation: DST#4 4800-4845 PAWNEE
Pool: WILDCAT
Job Number: M728

JM KOEHN #1-7(SW)



DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313

DRILL-STEM TEST TICKET
FILE: JMKHN1-7SWDST5

TIME ON: 1335
TIME OFF: 2215

Company FALCON EXPLORATION, INC. Lease & Well No. JM KOEHN #1-7(SW)

Contractor STERLING DRILLING COMPANY RIG 2 Charge to FALCON EXPLORATION, INC.

Elevation 2816 KB Formation LWR CHESTER SD. Effective Pay _____ Ft. Ticket No. M729

Date 11/23/2014 Sec. 7 Twp. 28 S Range 29 W County GRAY State KANSAS

Test Approved By DAVID P. WILLIAMS Diamond Representative MIKE COCHRAN

Formation Test No. 5 Interval Tested from 5008 ft. to 5062 ft. Total Depth 5062 ft.

Packer Depth 5003 ft. Size 6 3/4 in. Packer depth NA ft. Size 6 3/4 in.

Packer Depth 5008 ft. Size 6 3/4 in. Packer depth NA ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 4990 ft. Recorder Number 0063 Cap. 5,000 P.S.I.

Bottom Recorder Depth (Outside) 5010 ft. Recorder Number E1150 Cap. 5,000 P.S.I.

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

Mud Type CHEM Viscosity 56 Drill Collar Length 187 ft. I.D. 2 1/4 in.

Weight 9.1 Water Loss 9.2 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in

Chlorides 3,600 P.P.M. Drill Pipe Length 4789 ft. I.D. 3 1/2 in

Jars: Make STERLING Serial Number 3 Test Tool Length 32 ft. Tool Size 3 1/2-IF in

Did Well Flow? NO Reversed Out NO Anchor Length 54 (32'DP) 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 INTERMITTENT SURFACE BLOW (WISB) THAT BUILT TO ¼" (NO BB)

2nd Open: VWISB THAT THAT DIED AFTER 11 MIN, FLUSH TOOL, A SURGE OF BUBBLES, NO HELP (NO BB)

Recovered ~20 ft. of VSGOSM ~100% DRLG MUD W/ A FEW SPECKS OF OIL, & SOME GASSY BUBBLES

Recovered ~20 ft. of TOTAL FLUID

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____ | Price Job

Recovered _____ ft. of _____ | Other Charges

Remarks: _____ | Insurance

TOOL SAMPLE: ~100% MUD W/ A THIN SCUM OF OIL, SOME GASSY BUBBLES. | Total

Time Set Packer(s) 4:15 P.M. A.M. P.M. Time Started Off Bottom 7:35 P.M. A.M. P.M. Maximum Temperature 120°F

Initial Hydrostatic Pressure ..... (A) 2377 P.S.I.

Initial Flow Period ..... Minutes 5 (B) 12 P.S.I. to (C) 17 P.S.I.

Initial Closed In Period ..... Minutes 60 (D) 97 P.S.I.

Final Flow Period ..... Minutes 45 (E) 18 P.S.I. to (F) 34 P.S.I.

Final Closed In Period ..... Minutes 90 (G) 81 P.S.I.

Final Hydrostatic Pressure ..... (H) 2346 P.S.I.

DIAMOND TESTING

Pressure Survey Report

General Information

Company Name	**FALCON EXPLORATION, INC.**	**Job Number**	**M729**
Well Name	**JM KOEHN #1-7(SW)**	**Representative**	**MIKE COCHRAN**
Unique Well ID	**DST#5 5008-5062 LWR CHESTER SD.**	**Well Operator**	**FALCON EXPLORATION, INC.**
Surface Location	**SEC.7-28S-29 GRAY CO.KS.**	**Report Date**	**2014/11/23**
Field	**WILDCAT**	**Prepared By**	**MIKE COCHRAN**
Well Type	**Vertical**	**Qualified By**	**DAVID P. WILLIAMS**
		Test Unit	**NO. 3**

Test Information

Test Type	**CONVENTIONAL**
Formation	**DST#5 5008-5062 LWR CHESTER SD.**
Test Purpose (AEUB)	**Initial Test**

Start Test Date	**2014/11/23**	**Start Test Time**	**13:35:00**
Final Test Date	**2014/11/23**	**Final Test Time**	**22:15:00**
		Well Fluid Type	**01 Oil**

Gauge Name	**0063**
Gauge Serial Number	

Test Results

Remarks **RECOVERED:**

~20' VSGOSM ~100% DRLG MUD W/ A FEW SPECKS OF OIL, & SOME GASSY BUBBLES

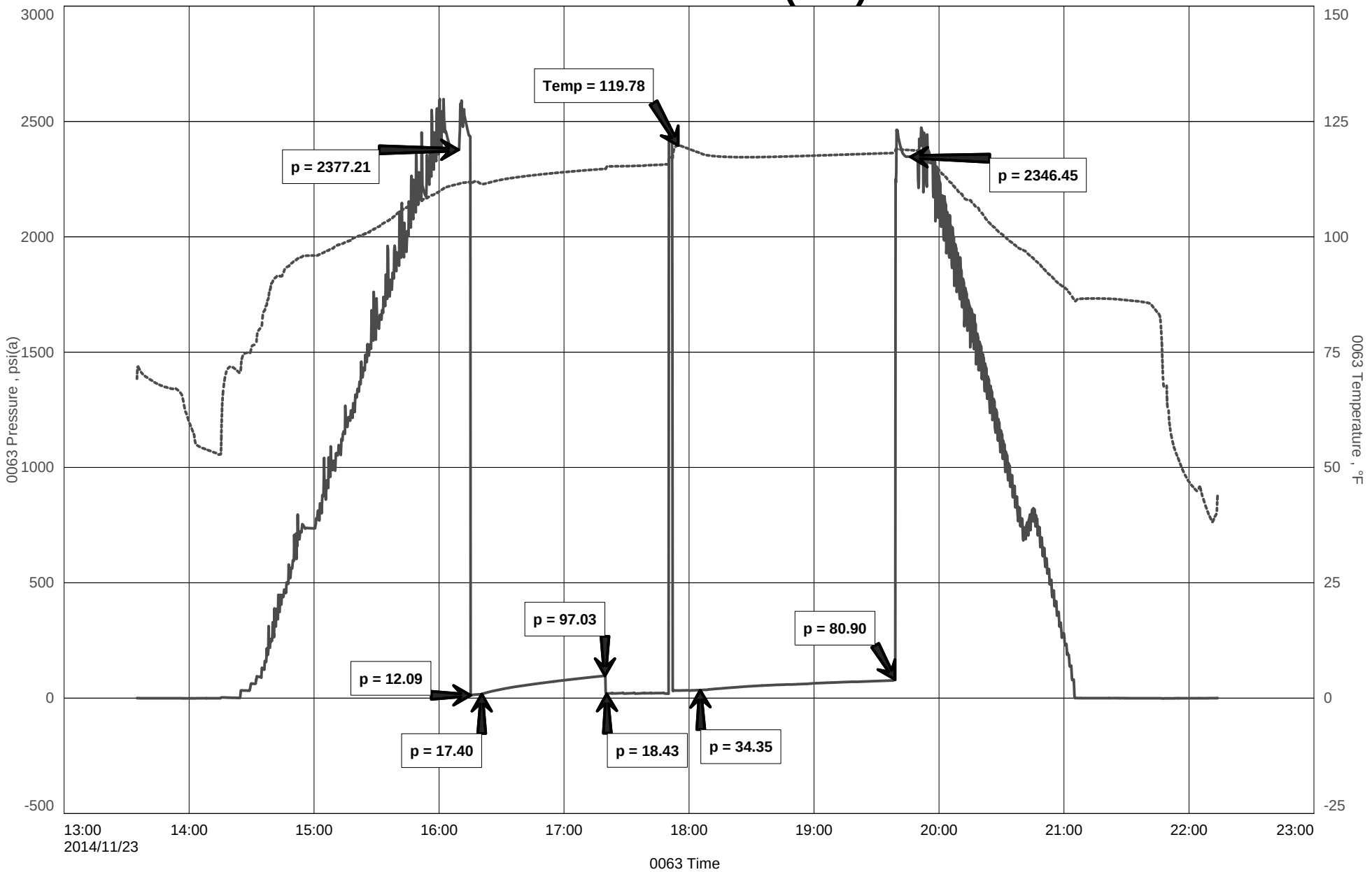
~20' TOTAL FLUID

TOOL SAMPLE: ~100% MUD W/ A THIN SCUM OF OIL, SOME GASSY BUBBLES.

FALCON EXPLORATION, INC.
DST#5 5008-5062 LWR CHESTER SD.
Start Test Date: 2014/11/23
Final Test Date: 2014/11/23

JM KOEHN #1-7(SW)
Formation: DST#5 5008-5062 LWR CHESTER SD.
Pool: WILDCAT
Job Number: M729

JM KOEHN #1-7(SW)



DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313

DRILL-STEM TEST TICKET
FILE: JMKHN1-7SWDST6

TIME ON: 2015 (11/24)
TIME OFF: 0500 (11/25)

Company FALCON EXPLORATION, INC. Lease & Well No. JM KOEHN #1-7(SW)

Contractor STERLING DRILLING COMPANY RIG 2 Charge to FALCON EXPLORATION, INC.

Elevation 2816 KB Formation ST.LOUIS Effective Pay _____ Ft. Ticket No. M730

Date 11/24/2014 Sec. 7 Twp. 28 S Range 29 W County GRAY State KANSAS

Test Approved By DAVID P. WILLIAMS Diamond Representative MIKE COCHRAN

Formation Test No. 6 Interval Tested from 5165 ft. to 5212 ft. Total Depth 5212 ft.

Packer Depth 5160 ft. Size 6 3/4 in. Packer depth NA ft. Size 6 3/4 in.

Packer Depth 5165 ft. Size 6 3/4 in. Packer depth NA ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 5147 ft. Recorder Number 0063 Cap. 5,000 P.S.I.

Bottom Recorder Depth (Outside) 5167 ft. Recorder Number E1150 Cap. 5,000 P.S.I.

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

Mud Type CHEM Viscosity 52 Drill Collar Length 218 ft. I.D. 2 1/4 in.

Weight 9.2 Water Loss 8.8 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in

Chlorides 2,100 P.P.M. Drill Pipe Length 4915 ft. I.D. 3 1/2 in

Jars: Make STERLING Serial Number 3 Test Tool Length 32 ft. Tool Size 3 1/2-IF in

Did Well Flow? NO Reversed Out NO Anchor Length 47 (32'DP) 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: A SURGE OF BUBBLES ON TOOL OPEN THEN A VWSB, INC. TO ⅛" (NO BB)

2nd Open: NO BLOW, FLUSH TOOL, NO SURGE, NO BLOW (NO BB)

Recovered ~10 ft. of GM ~100% MUD W/ SOME GASSY BUBBLES

Recovered ~10 ft. of TOTAL FLUID

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Remarks: _____

TOOL SAMPLE: 100% MUD

Price Job	
Other Charges	
Insurance	
Total	

Time Set Packer(s) 10:55 P.M. A.M. P.M. Time Started Off Bottom 2:15 A.M. A.M. P.M. Maximum Temperature 119°F

Initial Hydrostatic Pressure..... (A) 2491 P.S.I.

Initial Flow Period..... Minutes 5 (B) 10 P.S.I. to (C) 13 P.S.I.

Initial Closed In Period..... Minutes 60 (D) 1504 P.S.I.

Final Flow Period..... Minutes 45 (E) 15 P.S.I. to (F) 29 P.S.I.

Final Closed In Period..... Minutes 90 (G) 1419 P.S.I.

Final Hydrostatic Pressure..... (H) 2458 P.S.I.

DIAMOND TESTING

Pressure Survey Report

General Information

Company Name	**FALCON EXPLORATION, INC.**	**Job Number**	**M730**
Well Name	**JM KOEHN #1-7(SW)**	**Representative**	**MIKE COCHRAN**
Unique Well ID	**DST#6 5165-5212 ST.LOUIS**	**Well Operator**	**FALCON EXPLORATION, INC.**
Surface Location	**SEC.7-28S-29 GRAY CO.KS.**	**Report Date**	**2014/11/25**
Field	**WILDCAT**	**Prepared By**	**MIKE COCHRAN**
Well Type	**Vertical**	**Qualified By**	**DAVID P. WILLIAMS**
		Test Unit	**NO. 3**

Test Information

Test Type	**CONVENTIONAL**
Formation	**DST#6 5165-5212 ST.LOUIS**
Test Purpose (AEUB)	**Initial Test**

Start Test Date	**2014/11/24**	**Start Test Time**	**20:15:00**
Final Test Date	**2014/11/25**	**Final Test Time**	**05:00:00**
		Well Fluid Type	**01 Oil**

Gauge Name	**0063**
Gauge Serial Number	

Test Results

Remarks **RECOVERED:**

~10' GM ~100% MUD W/ SOME GASSY BUBBLES

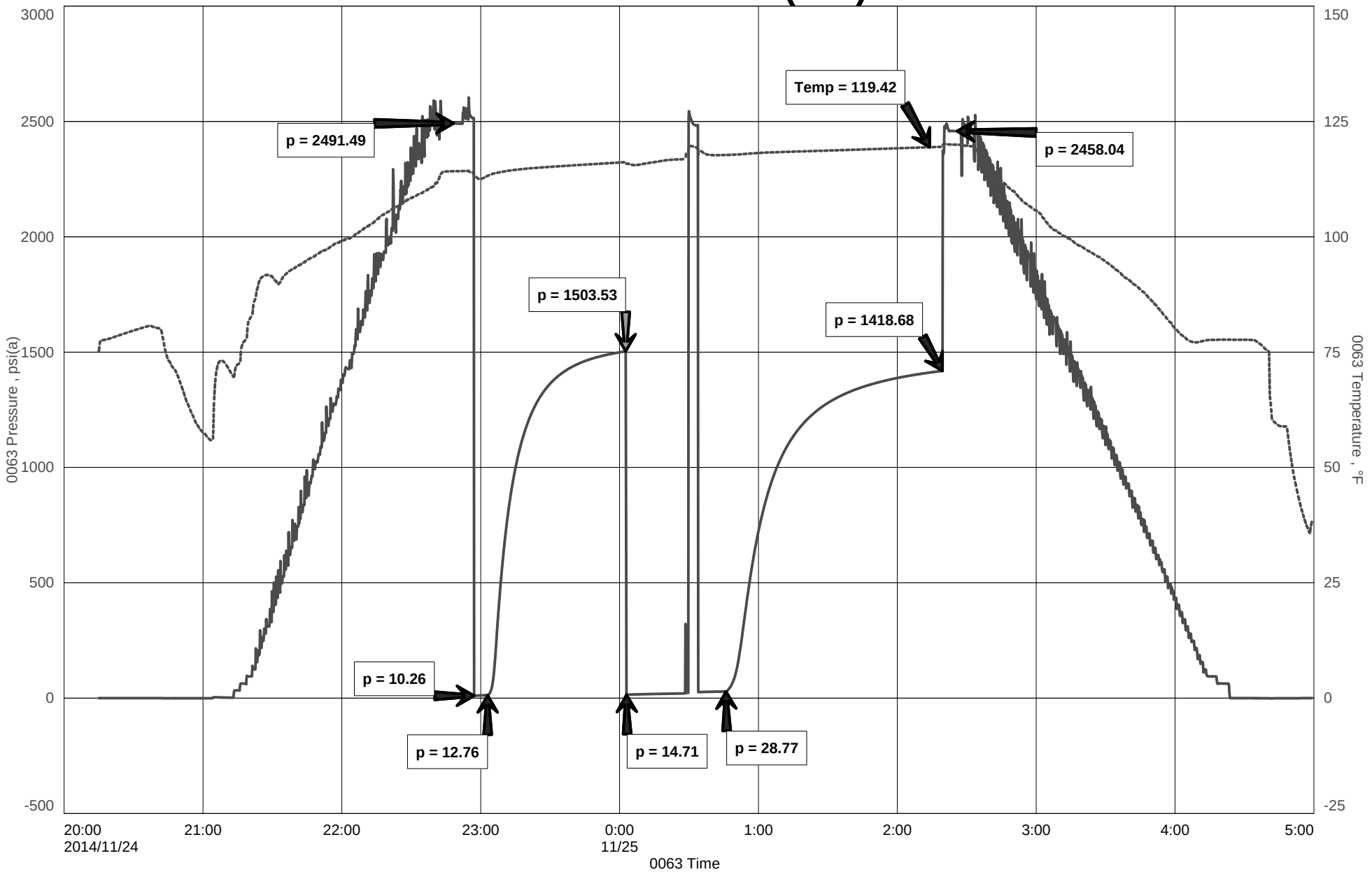
~10' TOTAL FLUID

TOOL SAMPLE: 100% MUD

FALCON EXPLORATION, INC.
DST#6 5165-5212 ST.LOUIS
Start Test Date: 2014/11/24
Final Test Date: 2014/11/25

JM KOEHN #1-7(SW)
Formation: DST#6 5165-5212 ST.LOUIS
Pool: WILDCAT
Job Number: M730

JM KOEHN #1-7(SW)



BASIC ENERGY SERVICES
Liberal, Kansas

Cement Report

Customer: Falcon	Lease No.	Date: 11-15-14	
Lease: JM Koehn	Well #: 1-7	Service Receipt: 05081	
Casing: 8 5/8"	Depth: 1840'	County: Gray	State: KS
Job Type: 242 8 5/8 Surface	Formation	Legal Description: 7-28-29	

Pipe Data		Perforating Data		Cement Data
Casing size: 8 5/8" 24#	Tubing Size	Shots/Ft		Lead: 460 sk A-Con
Depth: 1840'	Depth	From	To	
Volume: 115 bbl	Volume	From	To	
Max Press: 2500 #	Max Press	From	To	Tail in: 180 sk Prem. Plus
Well Connection: TD-1840'	Annulus Vol.	From	To	
Plug Depth: SJ-37'	Packer Depth	From	To	

Time	Casing Pressure	Tubing Pressure	Bbls. Pumbed	Rate	Service Log
6:30					on loc-site assessment
6:45					spot trucks rig up
6:55					start csg & float equip
					csg on btm, break circ
					safety meeting - JSA
					pressure test 2000#
9:30	200		20	4	pump 20 bbl stop loss
9:35	200		24.7	4	mix & pump 460 sk A-Con w/ 3% CC, 1/4# PF, .2% WCA-1 @ 11.4# - 2.95 ft3/sk
10:35	150		35.8	4	switch to 180 sk Prem. Plus w/ 2% CC, 1/4# PF @ 14.8 # - 1.34 ft3/sk
10:45	100		0	@ 4	drop plug, disp csg
11:10	480		95	2	slow rate, stage disp
11:20	500		105	1	slow rate, stage disp
11:30	1000		115	0	bump plug, float held
					circ cmt to surface

Service Units	34726	27462	27808-19883	14354-19578	
Driver Names	A Olvera	E Montoya	G Mendoza	Ricky Martinez	

L. Kulms
Customer Representative

J. Bennett
Station Manager

A Olvera
Cementer

Taylor Printing, Inc.

BASIC ENERGY SERVICES
Liberal, Kansas

Cement Report

Customer: Falcon Exploration	Lease No.	Date: 11-27-14	
Lease: JM Koehn	Well #: 1-7	Service Receipt: 05089	
Casing: 5½" 15.5# Depth: 5400'	County: Gray	State: KS	
Job Type: 2-42 - 5½" Production	Formation:	Legal Description: 7-28-29	

Pipe Data

Casing size: 5½" 15.5#	Tubing Size		
Depth: 5400'	Depth		
Volume: 128 bbl	Volume		
Max Press: 2500#	Max Press		
Well Connection: TD-5390'	Annulus Vol.		
Plug Depth: SJ-42'	Packer Depth		

Perforating Data

Shots/Ft	From	To

Cement Data

Lead

Tail in: 360 sk AA2

Time	Casing Pressure	Tubing Pressure	Bbls. Pumbed	Rate	Service Log
10:00					on loc-site assessment (toh dp)
12:00					spot trucks-rig up
12:00					Start csg & float equip
2:30					csg on btm break circ
3:30					Safety meeting-RSA
4:15					pressure test 3000#
4:15	200		5	5	pump 5 bbl H2O spacer
4:16	200		12	5	pump 500 gal superflush
4:18	200		5	5	pump 5 bbl H2O spacer
4:20	150		25	6	mix & pump 150 sk AA2 @ 12#
4:25	100		70	6	switch to 360 sk AA @ 14.8# - 1.51 ft³
					wash lines
4:35	100		0	7	drop plug, disp csg
4:55	1000		120	2	slow rate
5:00	1500		129	0	land plug, float held
					-plug rat & mouse holes w/50 sk

Service Units	34726	27462	30464	37724	
Driver Names	A Olvera	E Mendoza	H Rutledge		

Leon
Customer Representative

J Bennett
Station Manager

A Olvera
Cementer

Taylor Printing, Inc.

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

Well Name:	**JM KOEHN # 1-7(SW)**		
API:	**# 15 - 069 - 20,489 - 00 - 00**		
Location:	**SW - NW - NE - SW of SEC. 7 - 28 S. - 29 W.**		
License Number:	**KCC # 5316**	**Region:**	**Gray Co., Kansas**
Spud Date:	**11/13/2014**	**Drilling Completed:**	**11/26/2014**
Surface Coordinates:	**SPOT: 2285' FSL & 1458' FWL**		
Bottom Hole Coordinates:			
Ground Elevation (ft):	**2805'**	**K.B. Elevation (ft):**	**2816'**
Logged Interval (ft):	**sURFACE To: 5434'**	**Total Depth (ft):**	**5434'**
Formation:	**MISSISSIPPIAN "SALEM (SPERGEN)"**		
Type of Drilling Fluid:	**CHEMICAL/POLYMER/GEL**		

OPERATOR

Company: **FALCON EXPLORATION, INC.**
Address: **125 N. Market, Ste. 1252**
Wichita, Kansas 67202

GEOLOGIST

Name: **David P. Williams, P. G. # 88 KSBTP**
Company: **DW Energy. LLC (DWE)**
Address: **312 N. Broadview Street**
Wichita, Kansas 67208

CASING & DEVIATION

Surface Casing: Spud at 11:00 pm on 11/13/14. Drilled 12-1/4" to 1843'. Ran 44 joints of new 24#, 8-5/8" casing. Tallied 1824'. Set at 1838' KB . Welded straps on GS & bottom 3 joints, then tack welded all collars. Cemented with 460 sks A-Conn; 3% CC, 1/4# FS. Tailed with 150 sks Class C, 2% CC, 1/4#PF. Cement did circulate. Plug down at 11:30 pm on 11/15/14 Basic Energy Svcs Cementing ticket #05081. Centralizers (5) 3;8;21;31;35. Baskets (3) on joints 5;18;20. Cement fell 50'. Topped off backside with 30 sks Class C.at 5:45 pm on 11/16/14.

Deviation Survey's Taken: @ 1843' =1 1/4 degrees; @ 1922'= 1 degree; @ 3560'=1 1/4 derees; @ 4300'= 1 3/4

DSTs

~~DST # !~~ Interval: 3484'-3560'. Times: 5"-90"- 90"-180"; Blow: IF Strong Blow- BOB/1". FF BOB Instant (w/GTS @ 4" (See Gauge Report Below).
Recovery: 197' GM (2% G & 98% M).
Pressures: IH=1623#; FH =1612#; IF=28-44#; FF=45-121#; ISIP= 862#; FSIP=854#; Temp=102 degrees F.
Gas Flow: FF=@ 15"=8.89 Mcf; @ 22"=16.9 Mcf; @ 27"=20.3 Mcf; @ 32"=20.3 Mcf; @ 37"=25.0 Mcf;@ 42"=26.8 Mcf; @ 47" =27.6 Mcf; @ 52"=28.0 Mcf; @ 57"=28.9 Mcf; @ 62"=29.3 Mcf; @ 67"=30.2 Mcf; @ 72"=31.0 Mcf; @ 77"=31.5 Mcf; @ 82"=31.9 Mcf; @ 87" =31.9 Mcf.

~~DST # 2~~ Interval: 3582'-3618'. Times: 5"-90"-90"-180"; Blow: IF Strong Blow- BOB/8". ISIP: No Blow Back. FF:BOB/7". FSIP: V Weak BB.
Recovery:556' GIP. TF =267': 80' WM (45% Wtr & 55% M); 187'Wtr (100% Wtr).
Pressures: IH=1674#; FH=1672#; IF=15-34#; FF=39-133#; ISIP= 945#; FSIP=926#; Temp.=102 degrees F.; Chl.=76,000 Ppm; RW=.16 @ 60 degrees F..

~~DST # 3~~ Interval: 4184-4300'. Times: 5"-90"-120"-180"; Blow: IF Strong Blow- BOB/1.5". FF BOB Instant (w/GTS @ 48" (See Gauge Report Below).
Recovery: 378' TF: 253' GWM (1% G; 8% Wtr & 91% M); 125' GMW (1% G; 62% Wtr & 37% M)..
Pressures: IH=2022#; FH=1985#; IF=22-38#; FF=39-135#; ISIP= 1234#; FSIP=1230#; Temp =115 degrees F.
Gas Flow: FF= @ 60"=3.39 Mcf; @ 70"=6.89 Mcf; @ 80"=9.45 Mcf; @ 90"=14.0 Mcf; @ 100"=17.8 Mcf; @ 110"=20.1 Mcf; @ 120"=23.3 Mcf..

~~ DST # 4~~ Interval: 4800'-4845'. Times: 5"-60"-90"-180"; Blow: IF Weak Build to 1" Blow. ISIP: No Blow Back. FF: Weak Build to 3" Blow. FSIP: No Blow Back.

Recovery: <18' GIP. TF = 45' (6% G; 5% O & 89% M). Not Enough Oil To Get Grv. (w/Lt Grn Color.)

Pressures: IH= 2317#; FH=2256#; IF=26-28#; FF=30-52#; ISIP= 1285#; FSIP=1337#; Temp.=118 degrees F..

~~DST # 5~~Interval: 5008'-5062". Times: 5"-60"-45"-90"; Blow: IF Weak Build < 1" Blow. ISIP: No Blow Back. FF: Weak Build Died/11". Flushed Tool & Had Good Surge & Blow Died (No Help). FSIP: No Blow Back.

Recovery: TF = 20' VSGOSM (w/Few Spots Oil & Gassy Bubbles).

Pressures: IH =2377#; FH=2346#; IF=12-17#; FF=18-34#; ISIP= 97#; FSIP=81#; Temp.=120 degrees F..

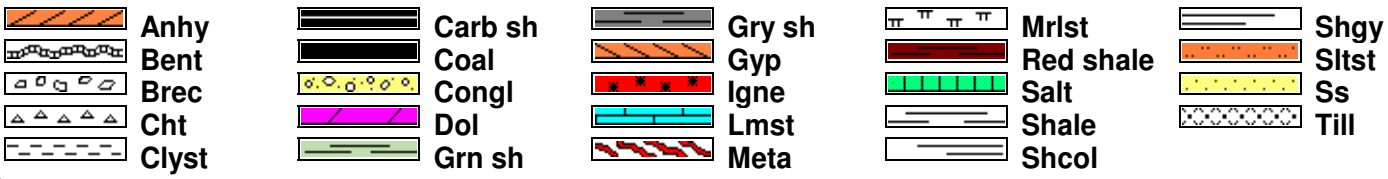
~~DST #6~~ Interval: 5165'-5212". Times: 5"-60"-45"-90"; Blow: IF Weak Build < 1" Blow. ISIP: No Blow Back. FF: No Blow. Flushed Tool No Blow (No Help). FSIP: No Blow Back.

Recovery: TF = 10' GM (Gassy Bubbles).

Pressures:
IH= 2491#; FH=22458#; IF=10-13#; FF=15-29#; ISIP=1504#; FSIP = 1419#; Temp.=119 degrees F..

Comments

ROCK TYPES



ACCESSORIES

MINERAL
- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Brecfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp
- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff

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
- 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

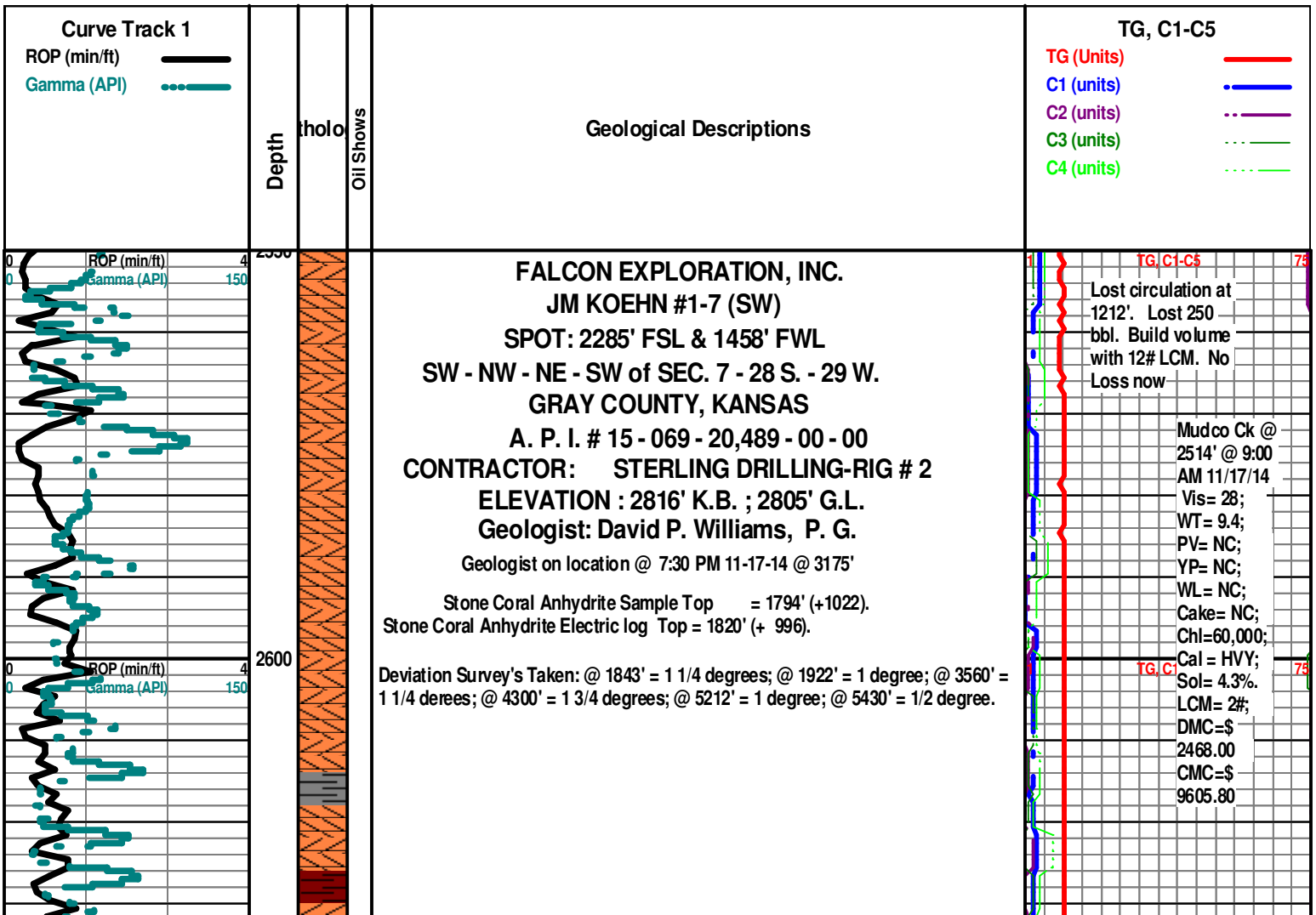
ROUNDING
- Rounded
- Subrnd
- Subang
- Angular

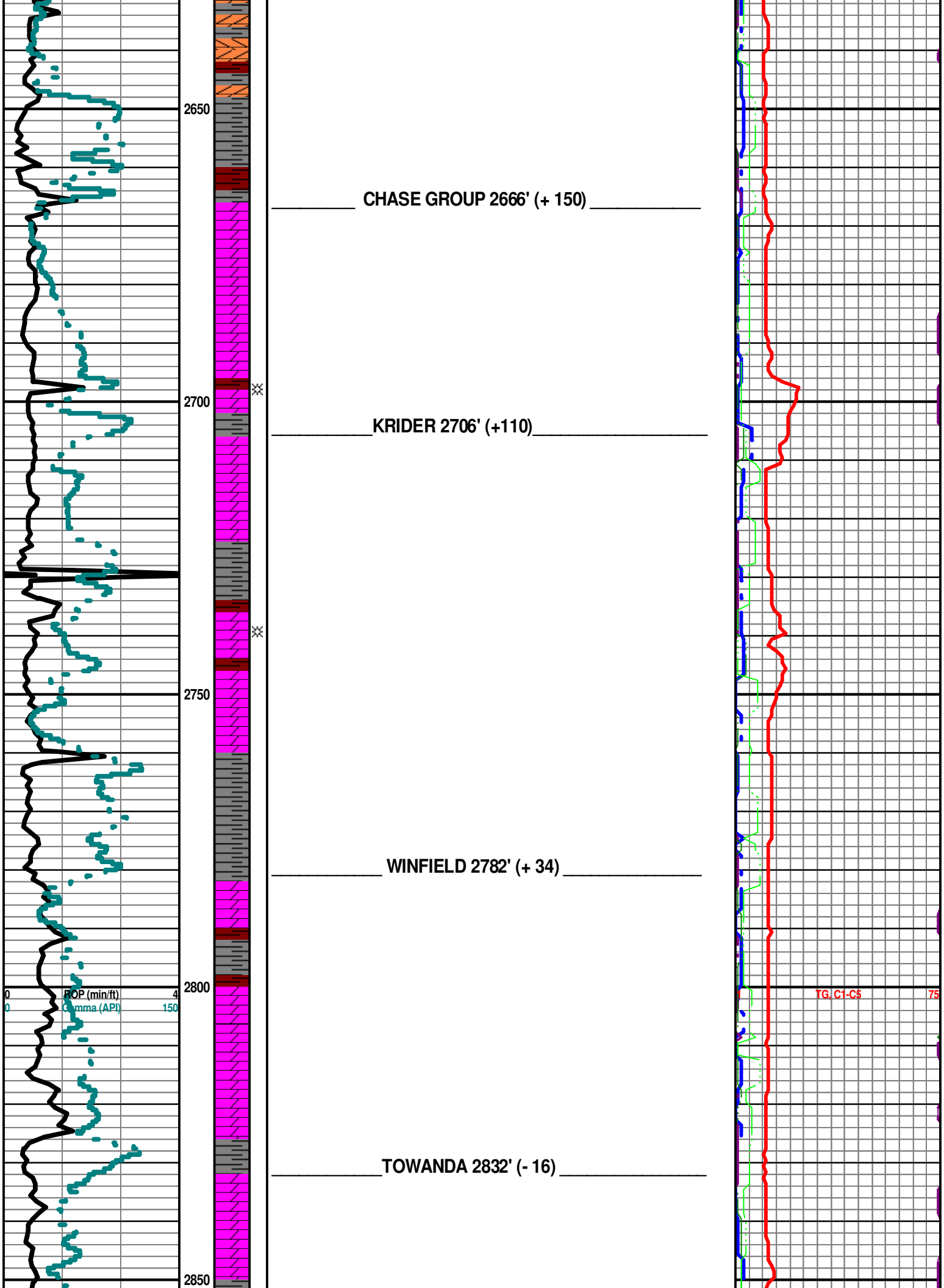
OIL SHOW
- Gas show

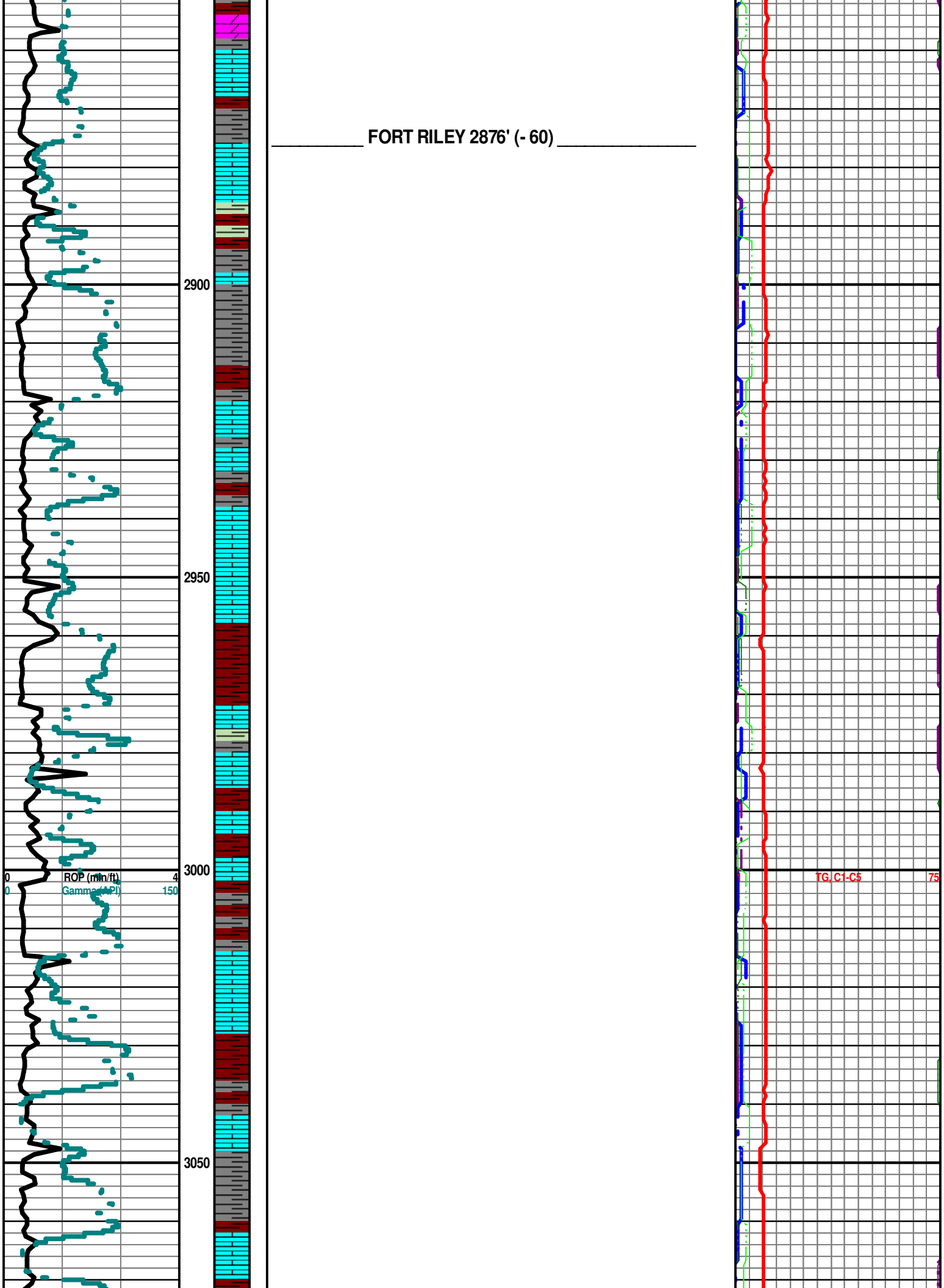
EVENT
- Even
- Spotted
- Ques
- Dead

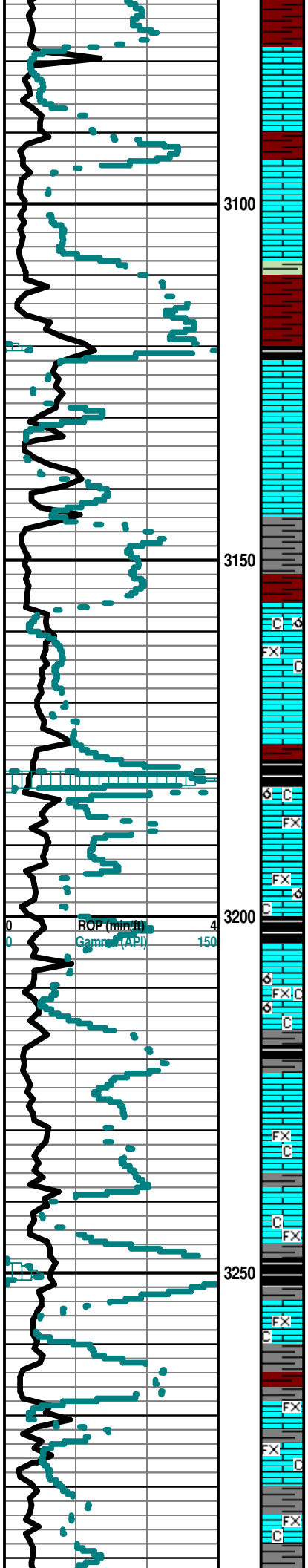
INTERVAL
- Dst
- Dst_alt

EVENT
- Rft
- Sidewall




2650
2700
2750
2800
2850
0
ROP (min/ft)
4
0
Gamma (API)
150
CHASE GROUP 2666' (+ 150)
KRIDER 2706' (+110)
WINFIELD 2782' (+ 34)
TOWANDA 2832' (- 16)
TG, C1-C5
75


FORT RILEY 2876' (- 60)
2900
2950
3000
3050
0
ROP (min/ft)
4
0
Gamma(API)
150
1
TG, C1-C5
75



BADER 3078' (- 262)

COTTONWOOD 3122' (-306)

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

Begin 31' Sample Examination @ 3200'.

LS Wht-Tan Fxln Fair OOM Por (w/Poor Develop Sh Red-Char-Gry- Grn V Soft (Wash Red) No Odor No Flor No Stn NS

NEVA 3183' (- 367)

Ls Wht-Tan Fxln Inc Poor OOM Por Poor Dissolu Poor Develop Chalk Sh Red V Abd-Char-Gry-Grn No Odor No Stn No Flor NS

DISPLACE MUD SYSTEM @ 3200'

RED EAGLE 3204' (- 388)

Ls Wht-Tan Fxln Poor OOM Por Poor Develop Chalk Sh Red-Char-Gry - Grn No Odor No Stn No Flor NS

Sh Red-Char-Gry Soft-Fissil Ls Crm-Gry Fxln Poor-Fair-Med Pin-Pt Ixln Grad Micritic Chalk Abd No Odor No Stn No Flor NS

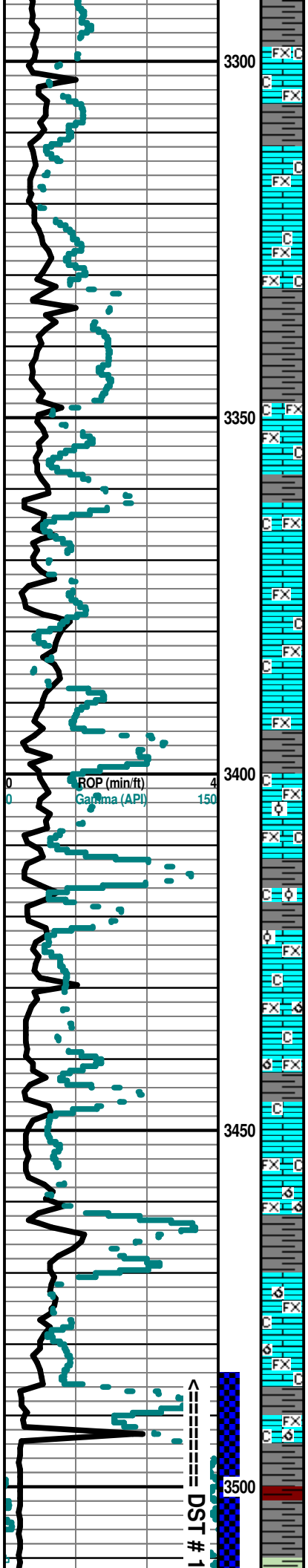
FORAKER 3270' (- 454)

RE-ZERO TOOKE DAQ @ 3176 LAG DEPTH. BKGD GAS SET = 12 UNITS.

TG, C1-C5

CHANGEOUT EXTRACTOR FILTER @ 3240' LAG DEPTH.

GAS TEST = 88 UNITS.



Ls Wht-Crm-Gry Fxln Poor Pin-Pt Ixln Por Chalk Sh Char-Gry-Red No Odor No Stn No Flor NS

Ls Gry Fxln Poor Pin-Pt Ixln Grad Chalk Abd Sh Char-Gry No Odor No Stn No Flor NS

Ls Gry Fxln Poor Pin-Pt Ixln Grad Dns Micrite Chalk Abd Sh Char-Gry No Odor No Stn No Flor NS

Ls Crm-Wht Fxln Poor Small Pin-Pt OOL Por Poor-Fair Leaching Grad Micritic Fos (Fuss) Chalk Sh Char-Gry Soft-Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Gry Fxln Poor Pin-Pt Ixln Micritic Grad OOM Por Fair Develop Poor Chalk Sh Char-Gry Fissil No Odor No Stn No Flor NS

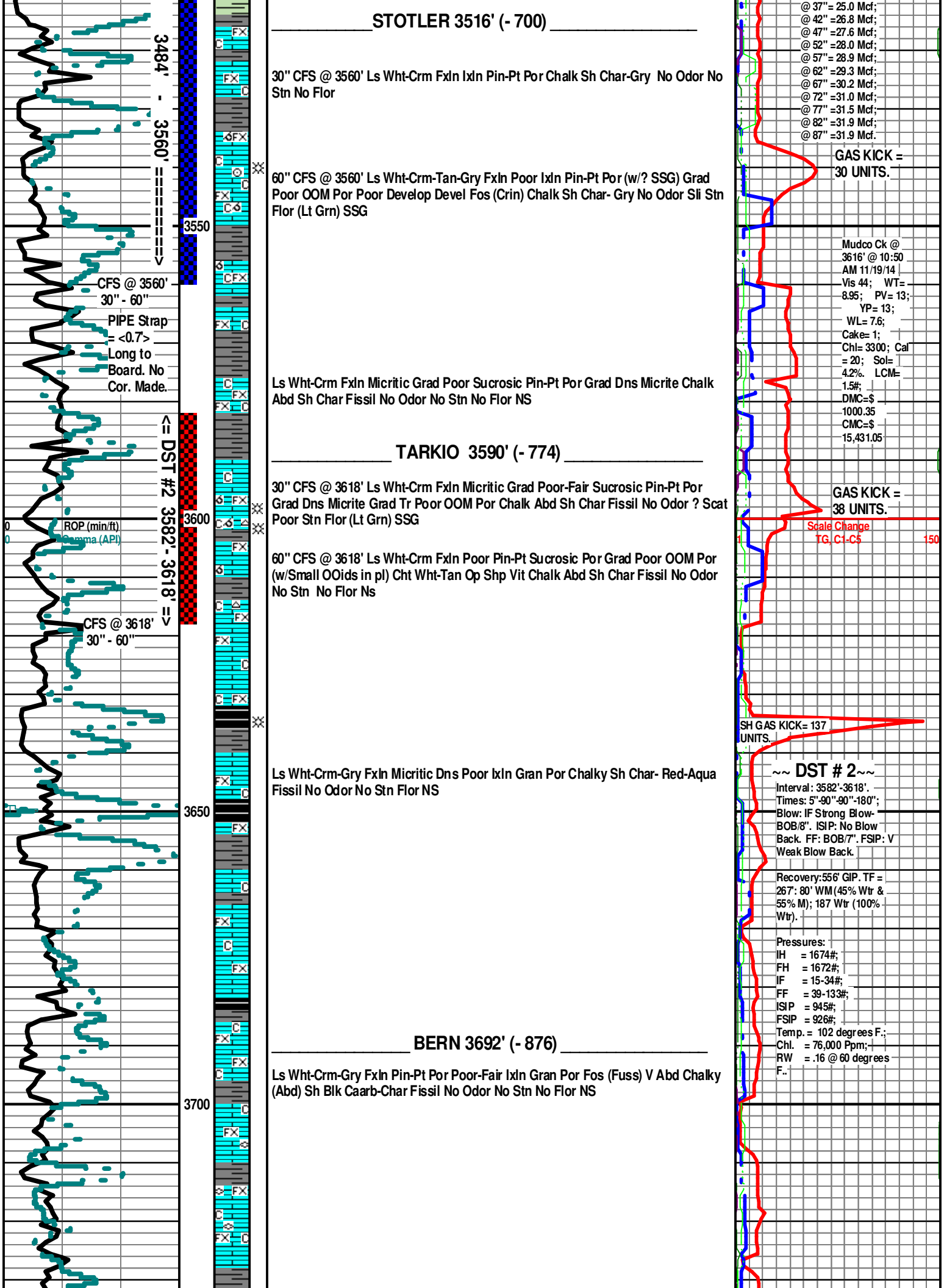
_____ ROOT SHALE 3486' (- 670) _____

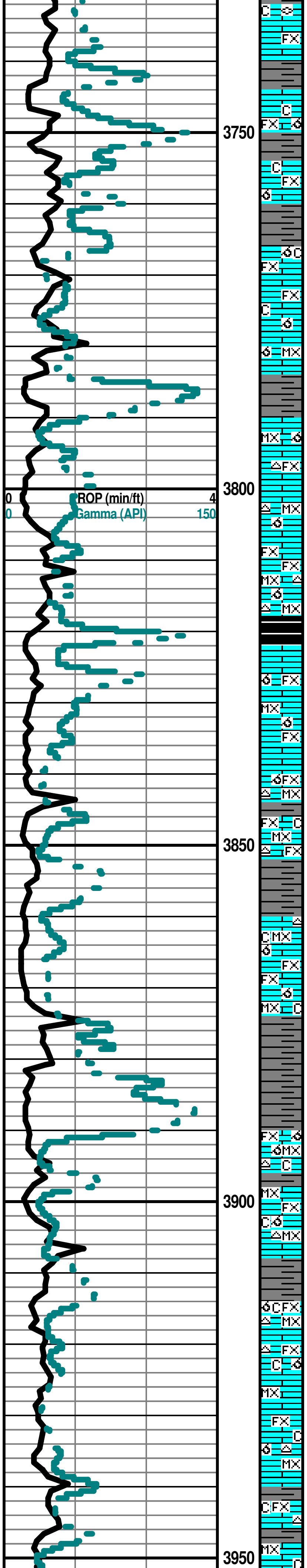
Sh Char-Gry Fissil Ls Crm-Gry Fxln Poor Pin-Pt Ixln Micritic Grad Poor OOM Por Poor Develop Chalk No Odor No Stn No Flor NS

Mudco Ck @ 3560' @ 11:50 AM 11/18/14
Vis 50; WT= 8.95; PV= 16; YP= 14; WL= 6.8; Cake= 1; Chl= 3300; Cal = 20; Sol= 4.2%. LCM= 2#;
DMC=$ 4824.00
CMC=$ 14,430.70

~~DST # 1 ~~
Interval: 3484'-3560'.
Times: 5"-90"- 90"-180";
Blow: IF Strong Blow-BOB/1". FF BOB Instant (w/GTS @ 4" (See Gauge Report Below).
Recovery: 197' GM (2% G & 98% M).
Pressures:
IH = 1623#;
FH = 1612#;
IF = 28-44#;
FF = 45-121#;
ISIP = 862#;
FSIP = 854#;
Temp = 102 degrees F.

Gas Flow: FF=
@ 15"= 8.89 Mcf;
@ 22"= 16.9 Mcf;
@ 27: = 20.3 Mcf;
@ 32"= 20.3 Mcf;


3484' - 3560' ==========>
CFS @ 3560' 30" - 60"
PIPE Strap = <0.7'> Long to Board. No Cor. Made.
<= DST #2 3582' - 3618' =>
ROP (min/ft)
Gamma (API)
CFS @ 3618' 30" - 60"
3550
3600
3650
3700
STOTLER 3516' (- 700)
30" CFS @ 3560' Ls Wht-Crm Fxln Ixln Pin-Pt Por Chalk Sh Char-Gry No Odor No Stn No Flor
60" CFS @ 3560' Ls Wht-Crm-Tan-Gry Fxln Poor Ixln Pin-Pt Por (w/? SSG) Grad Poor OOM Por Poor Develop Devel Fos (Crin) Chalk Sh Char- Gry No Odor Sli Stn Flor (Lt Grn) SSG
Ls Wht-Crm Fxln Micritic Grad Poor Sucrosic Pin-Pt Por Grad Dns Micrite Chalk Abd Sh Char Fissil No Odor No Stn No Flor NS
TARKIO 3590' (- 774)
30" CFS @ 3618' Ls Wht-Crm Fxln Micritic Grad Poor-Fair Sucrosic Pin-Pt Por Grad Dns Micrite Grad Tr Poor OOM Por Chalk Abd Sh Char Fissil No Odor ? Scat Poor Stn Flor (Lt Grn) SSG
60" CFS @ 3618' Ls Wht-Crm Fxln Poor Pin-Pt Sucrosic Por Grad Poor OOM Por (w/Small OOids in pl) Cht Wht-Tan Op Shp Vit Chalk Abd Sh Char Fissil No Odor No Stn No Flor Ns
Ls Wht-Crm-Gry Fxln Micritic Dns Poor Ixln Gran Por Chalky Sh Char- Red-Aqua Fissil No Odor No Stn Flor NS
BERN 3692' (- 876)
Ls Wht-Crm-Gry Fxln Pin-Pt Por Poor-Fair Ixln Gran Por Fos (Fuss) V Abd Chalky (Abd) Sh Blk Caarb-Char Fissil No Odor No Stn No Flor NS
@ 37"= 25.0 Mcf;
@ 42" =26.8 Mcf;
@ 47" =27.6 Mcf;
@ 52" =28.0 Mcf;
@ 57"= 28.9 Mcf;
@ 62" =29.3 Mcf;
@ 67" =30.2 Mcf;
@ 72" =31.0 Mcf;
@ 77" =31.5 Mcf;
@ 82" =31.9 Mcf;
@ 87" =31.9 Mcf.
GAS KICK = 30 UNITS.
Mudco Ck @ 3616' @ 10:50 AM 11/19/14
Vis 44; WT= 8.95; PV= 13; YP= 13; WL= 7.6; Cake= 1; Chl= 3300; Cal = 20; Sol= 4.2%. LCM= 1.5#; DMC=$ 1000.35 CMC=$ 15,431.05
GAS KICK = 38 UNITS.
Scale Change TG, C1-C5
1
150
SH GAS KICK= 137 UNITS.
~~ DST # 2~~
Interval: 3582'-3618'.
Times: 5"-90"-90"-180";
Blow: IF Strong Blow-BOB/8". ISIP: No Blow Back. FF: BOB/7". FSIP: V Weak Blow Back.
Recovery:556' GIP. TF = 267': 80' WM(45% Wtr & 55% M); 187 Wtr (100% Wtr).
Pressures:
IH = 1674#;
FH = 1672#;
IF = 15-34#;
FF = 39-133#;
ISIP = 945#;
FSIP = 926#;
Temp. = 102 degrees F.;
Chl. = 76,000 Ppm;
RW = .16 @ 60 degrees F..



Ls Crm-Tan Fxln Gran Poor Ixln Pin-Pt Por Grad Fair OOM Vug Por (Small-Med-Good Vug Leaching) Barren Chalky Sh Char-Grn Fissil No Odor No Stn Min Flor NS

Ls Wht-Crm-Tan Fxln-Microxln Gran Poor Ixln Pin-Pt Por Grad Fair OOM Vug Por (Small-Med Vug Leaching) Barren Chalky Sh Char-Grn Fissil No Odor No Stn Min Flor NS

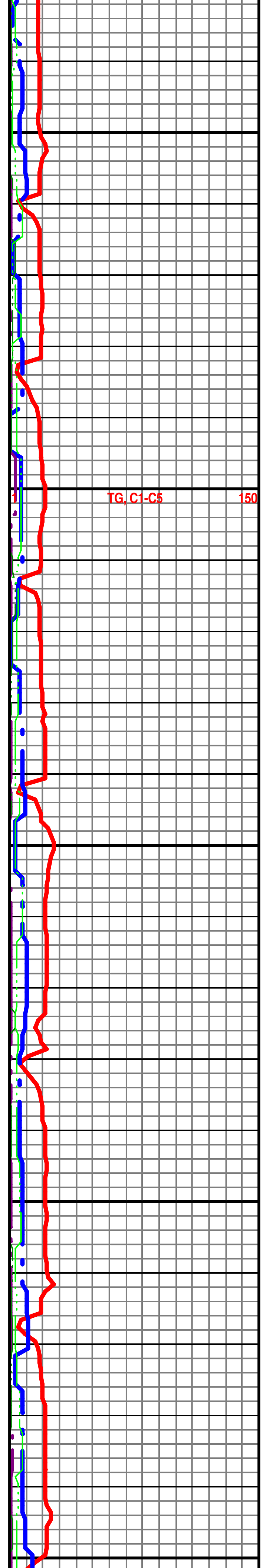
TOPEKA 3790' (- 974)

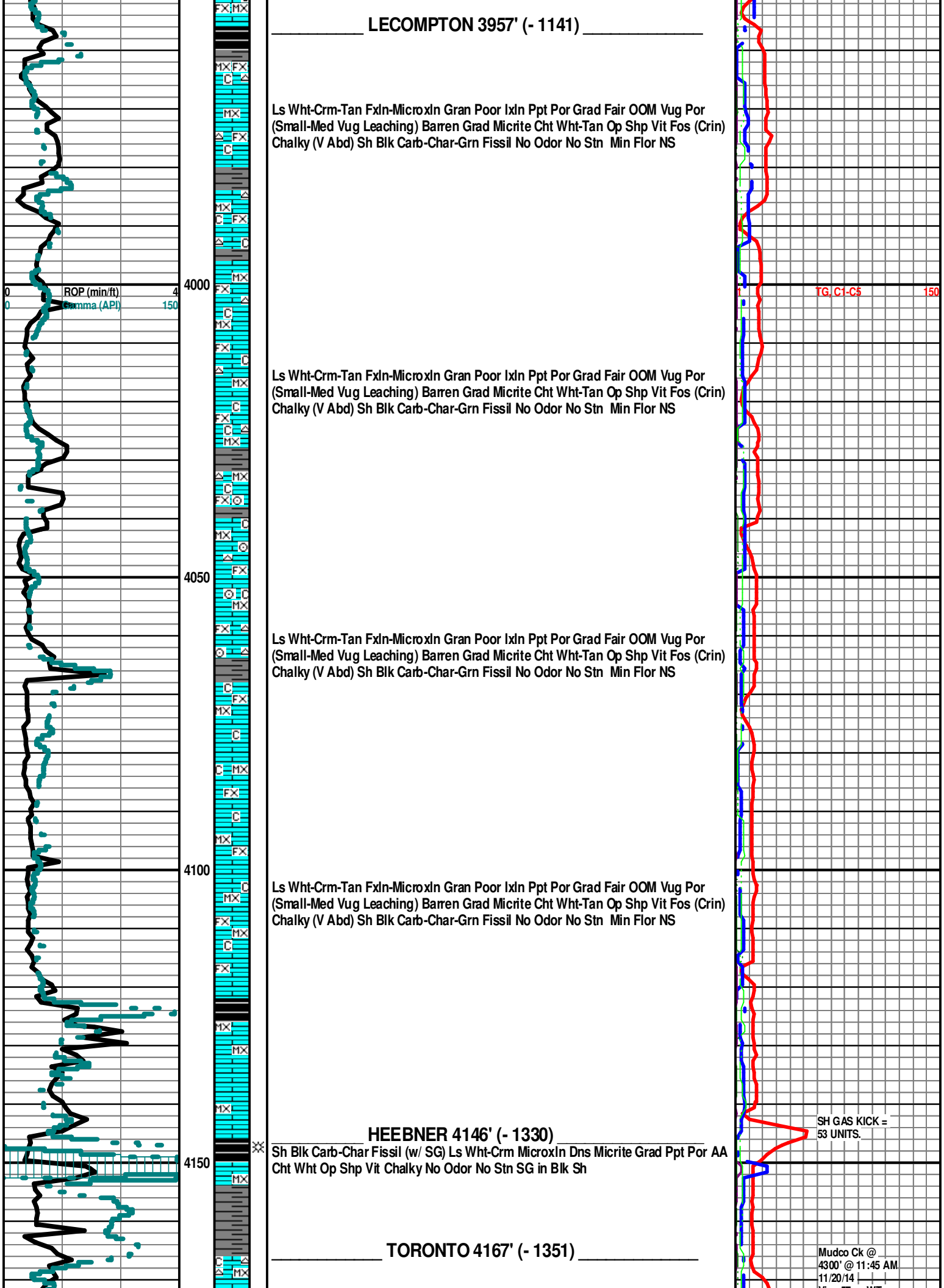
Ls Wht-Crm-Tan Fxln-Microxln Gran Poor Ixln Ppt Por Grad Fair OOM Vug Por (Small-Med Vug Leaching) Barren Cht Wht-Tan Op Shp Vit Chalky (V Abd) Sh Blk Carb-Char-Grn Fissil No Odor No Stn Min Flor NS

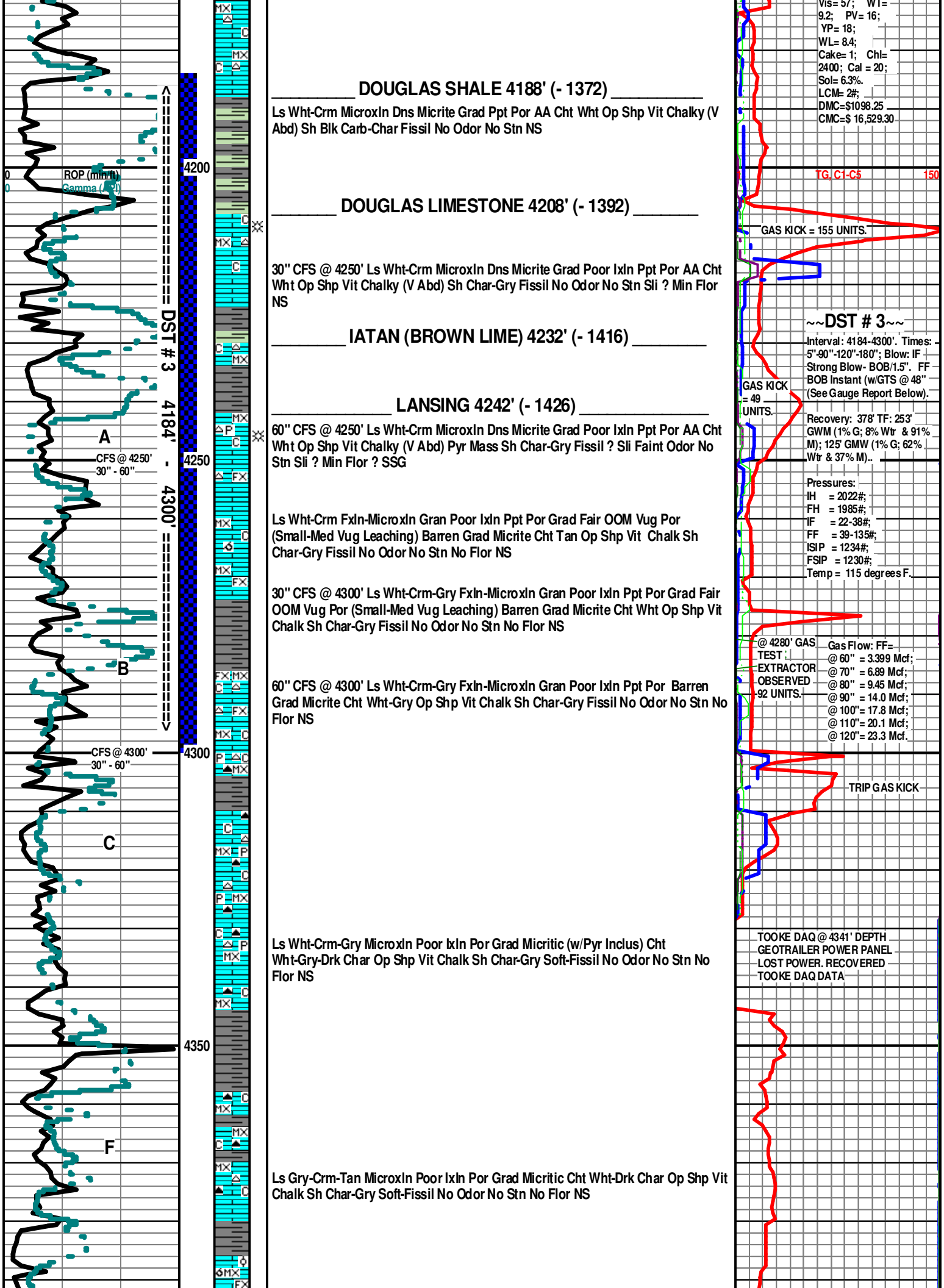
Ls Wht-Crm-Tan Fxln-Microxln Gran Poor Ixln Ppt Por Grad Fair OOM Vug Por (Small-Med Vug Leaching) Barren Grad Micrite Cht Wht-Tan Op Shp Vit Chalky (V Abd) Sh Blk Carb-Char-Grn Fissil No Odor No Stn Min Flor NS

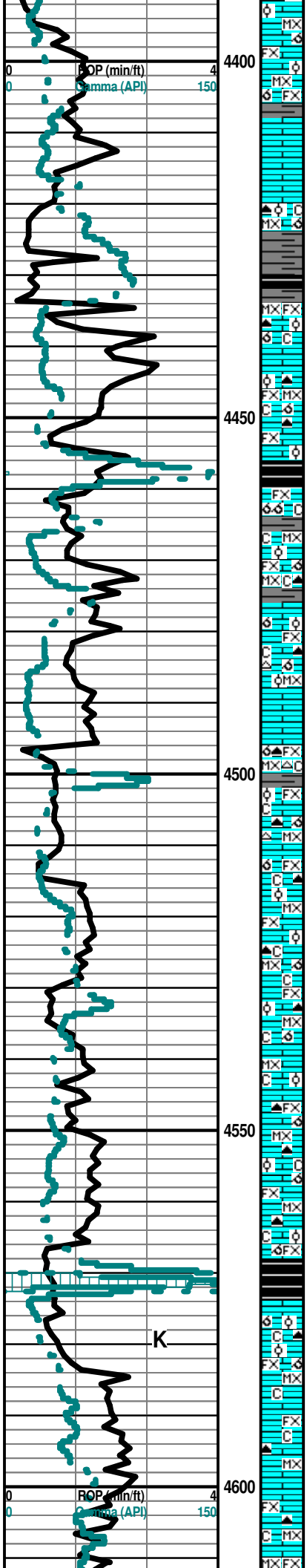
Ls Wht-Crm-Tan Fxln-Microxln Gran Poor Ixln Ppt Por Grad Fair OOM Vug Por (Small-Med Vug Leaching) Barren Grad Micrite Cht Wht-Tan Op Shp Vit Chalky (V Abd) Sh Blk Carb-Char-Grn Fissil No Odor No Stn Min Flor NS

Ls Wht-Crm-Tan Fxln-Microxln Gran Poor Ixln Ppt Por Grad Fair OOM Vug Por (Small-Med Vug Leaching) Barren Grad Micrite Cht Wht-Tan Op Shp Vit Chalky (V Abd) Sh Char-Grn Fissil No Odor No Stn Min Flor NS




LECOMPTON 3957' (- 1141)
Ls Wht-Crm-Tan Fxln-Microxln Gran Poor Ixln Ppt Por Grad Fair OOM Vug Por (Small-Med Vug Leaching) Barren Grad Micrite Cht Wht-Tan Op Shp Vit Fos (Crin) Chalky (V Abd) Sh Blk Carb-Char-Grn Fissil No Odor No Stn Min Flor NS
ROP (min/ft)
Gamma (API)
TG, C1-C5
4000
Ls Wht-Crm-Tan Fxln-Microxln Gran Poor Ixln Ppt Por Grad Fair OOM Vug Por (Small-Med Vug Leaching) Barren Grad Micrite Cht Wht-Tan Op Shp Vit Fos (Crin) Chalky (V Abd) Sh Blk Carb-Char-Grn Fissil No Odor No Stn Min Flor NS
4050
Ls Wht-Crm-Tan Fxln-Microxln Gran Poor Ixln Ppt Por Grad Fair OOM Vug Por (Small-Med Vug Leaching) Barren Grad Micrite Cht Wht-Tan Op Shp Vit Fos (Crin) Chalky (V Abd) Sh Blk Carb-Char-Grn Fissil No Odor No Stn Min Flor NS
4100
Ls Wht-Crm-Tan Fxln-Microxln Gran Poor Ixln Ppt Por Grad Fair OOM Vug Por (Small-Med Vug Leaching) Barren Grad Micrite Cht Wht-Tan Op Shp Vit Fos (Crin) Chalky (V Abd) Sh Blk Carb-Char-Grn Fissil No Odor No Stn Min Flor NS
SH GAS KICK = 53 UNITS.
HEEBNER 4146' (- 1330)
4150
Sh Blk Carb-Char Fissil (w/ SG) Ls Wht-Crm Microxln Dns Micrite Grad Ppt Por AA Cht Wht Op Shp Vit Chalky No Odor No Stn SG in Blk Sh
TORONTO 4167' (- 1351)
Mudco Ck @ 4300' @ 11:45 AM 11/20/14


ROP (min/ft)
Gamma (API)
DST # 3 4184' - 4300'
A
CFS @ 4250'
30" - 60"
B
CFS @ 4300'
30" - 60"
C
F
4200
4250
4300
4350
_____ DOUGLAS SHALE 4188' (- 1372) _____
Ls Wht-Crm Microxln Dns Micrite Grad Ppt Por AA Cht Wht Op Shp Vit Chalky (V Abd) Sh Blk Carb-Char Fissil No Odor No Stn NS
_____ DOUGLAS LIMESTONE 4208' (- 1392) _____
30" CFS @ 4250' Ls Wht-Crm Microxln Dns Micrite Grad Poor Ixln Ppt Por AA Cht Wht Op Shp Vit Chalky (V Abd) Sh Char-Gry Fissil No Odor No Stn Sli ? Min Flor NS
_____ IATAN (BROWN LIME) 4232' (- 1416) _____
_____ LANSING 4242' (- 1426) _____
60" CFS @ 4250' Ls Wht-Crm Microxln Dns Micrite Grad Poor Ixln Ppt Por AA Cht Wht Op Shp Vit Chalky (V Abd) Pyr Mass Sh Char-Gry Fissil ? Sli Faint Odor No Stn Sli ? Min Flor ? SSG
Ls Wht-Crm Fxln-Microxln Gran Poor Ixln Ppt Por Grad Fair OOM Vug Por (Small-Med Vug Leaching) Barren Grad Micrite Cht Tan Op Shp Vit Chalk Sh Char-Gry Fissil No Odor No Stn No Flor NS
30" CFS @ 4300' Ls Wht-Crm-Gry Fxln-Microxln Gran Poor Ixln Ppt Por Grad Fair OOM Vug Por (Small-Med Vug Leaching) Barren Grad Micrite Cht Wht Op Shp Vit Chalk Sh Char-Gry Fissil No Odor No Stn No Flor NS
60" CFS @ 4300' Ls Wht-Crm-Gry Fxln-Microxln Gran Poor Ixln Ppt Por Barren Grad Micrite Cht Wht-Gry Op Shp Vit Chalk Sh Char-Gry Fissil No Odor No Stn No Flor NS
Ls Wht-Crm-Gry Microxln Poor Ixln Por Grad Micritic (w/Pyr Inclus) Cht Wht-Gry-Drk Char Op Shp Vit Chalk Sh Char-Gry Soft-Fissil No Odor No Stn No Flor NS
Ls Gry-Crm-Tan Microxln Poor Ixln Por Grad Micritic Cht Wht-Drk Char Op Shp Vit Chalk Sh Char-Gry Soft-Fissil No Odor No Stn No Flor NS
Vis= 57; WT= 9.2; PV= 16; YP= 18; WL= 8.4; Cake= 1; Chl= 2400; Cal = 20; Sol= 6.3%. LCM= 2#; DMC=$1098.25 CMC=$ 16,529.30
TG, C1-C5
150
GAS KICK = 155 UNITS.
~~DST # 3~~
Interval: 4184-4300'. Times: 5"-90"-120"-180"; Blow: IF Strong Blow- BOB/1.5". FF BOB Instant (w/GTS @ 48" (See Gauge Report Below).
GAS KICK = 49 UNITS.
Recovery: 378' TF: 253' GWM (1% G; 8% Wtr & 91% M); 125' GMW (1% G; 62% Wtr & 37% M)..
Pressures:
IH = 2022#;
FH = 1985#;
IF = 22-38#;
FF = 39-135#;
ISIP = 1234#;
FSIP = 1230#;
Temp = 115 degrees F.
@ 4280' GAS TEST : EXTRACTOR OBSERVED 92 UNITS.
Gas Flow: FF=
@ 60" = 3.399 Mcf;
@ 70" = 6.89 Mcf;
@ 80" = 9.45 Mcf;
@ 90" = 14.0 Mcf;
@ 100"= 17.8 Mcf;
@ 110"= 20.1 Mcf;
@ 120"= 23.3 Mcf.
TRIP GAS KICK
TOOKE DAQ @ 4341' DEPTH GEOTRAILER POWER PANEL LOST POWER. RECOVERED TOOKE DAQ DATA



Ls Wht-Crm-Tan-Gry Microxln-Fxln Dns Micritic (w/Pyr Inclus) Grad Med-Good InterOOL/OOM (w/Med-Lg OOids & Indiv OOids in pl) Por Med-Good Leaching Med-Good Develop Barren Cht Drk Char Op Shp Vit Chalky Sh Blk Carb-Char-Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Tan-Wht Microxln-Fxln Dns Micritic Grad Med-Good Inter- OOL/OOM (w/Med-Lg OOids & Indiv OOids in pl) Por Med-Good Leaching Med-Good Develop Barren Cht Drk Char Op Shp Vit Chalky Sh Char-Gry Soft-Fissil No Odor No Flor No Stn NS

Ls Crm-Tan-Wht Microxln-Fxln Dns Micritic Grad Med-Good Inter- OOL/OOM (w/Med-Lg OOids & Indiv OOids in pl) Por Med-Good Leaching Med-Good Develop Barren Cht Wht-Drk Char Op Shp Vit Chalky Sh Char-Gry-Aqua Soft-Fissil No Odor No Flor No Stn NS

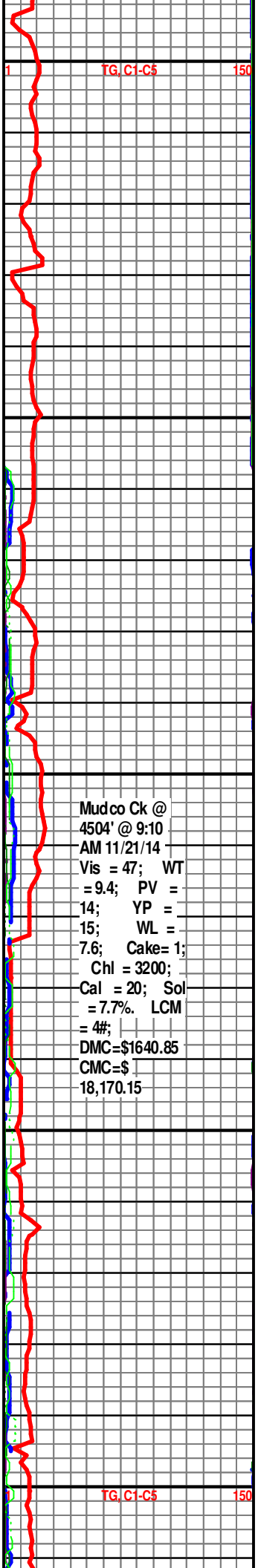
Mudco Ck @ 4504' @ 9:10 AM 11/21/14 Vis = 47; WT = 9.4; PV = 14; YP = 15; WL = 7.6; Cake= 1; Chl = 3200; Cal = 20; Sol = 7.7%. LCM = 4#; DMC=$1640.85 CMC=$ 18,170.15

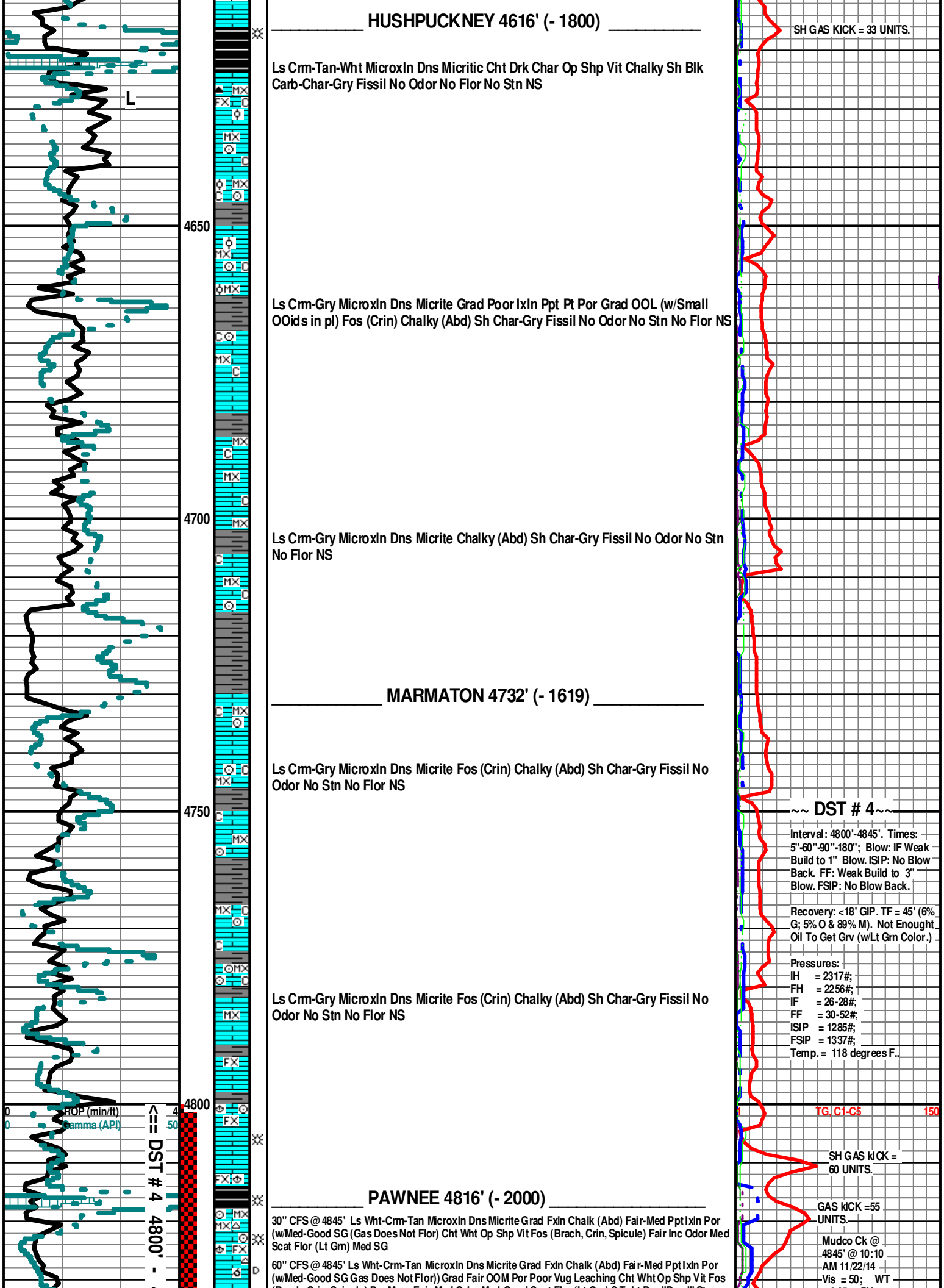
Ls Crm-Tan-Wht Microxln-Fxln Dns Micritic Grad Med-Good Inter- OOL/OOM (w/Med-Lg OOids & Indiv OOids in pl) Por Med-Good Leaching Med-Good Develop Barren Cht Drk Char Op Shp Vit Chalky Sh Char-Gry Soft-Fissil No Odor No Flor No Stn NS

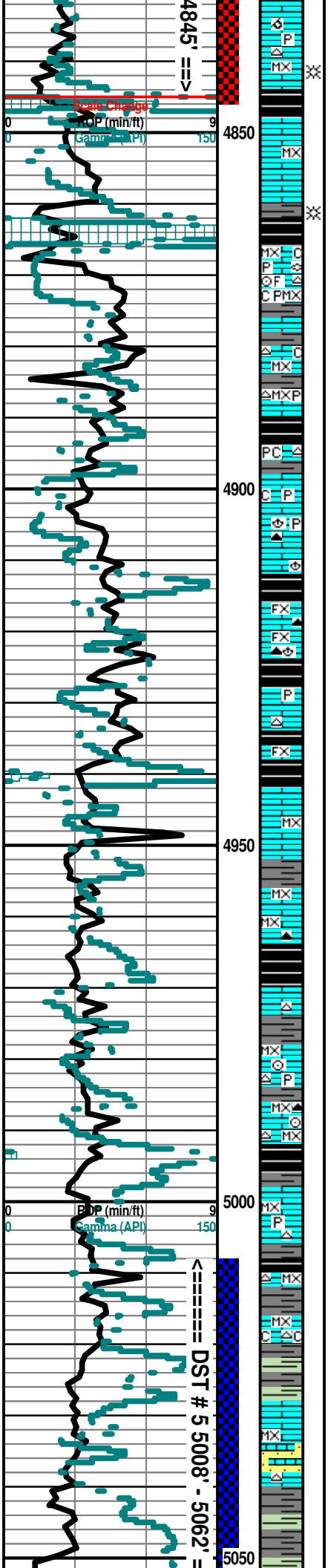
STARK 4570' (-1754)

KANSAS CITY "SWOPE" (K) 4576' (- 1760)

Ls Crm-Tan-Wht Microxln-Fxln Med-Good Inter OOL/OOM Por AA Med-Good Leaching Med-Good Develop Barren Dns Micritic Cht Drk Char Op Shp Vit Chalky Sh Char-Gry Soft-Fissil No Odor No Flor No Stn NS




HUSHPUCKNEY 4616' (- 1800)
Ls Crm-Tan-Wht Microxln Dns Micritic Cht Drk Char Op Shp Vit Chalky Sh Blk Carb-Char-Gry Fissil No Odor No Flor No Stn NS
SH GAS KICK = 33 UNITS.
4650
Ls Crm-Gry Microxln Dns Micrite Grad Poor Ixln Ppt Pt Por Grad OOL (w/Small OOids in pl) Fos (Crin) Chalky (Abd) Sh Char-Gry Fissil No Odor No Stn No Flor NS
4700
Ls Crm-Gry Microxln Dns Micrite Chalky (Abd) Sh Char-Gry Fissil No Odor No Stn No Flor NS
MARMATON 4732' (- 1619)
Ls Crm-Gry Microxln Dns Micrite Fos (Crin) Chalky (Abd) Sh Char-Gry Fissil No Odor No Stn No Flor NS
4750
~~ DST # 4~~
Interval: 4800'-4845'. Times: 5"-60"-90"-180"; Blow: IF Weak Build to 1" Blow. ISIP: No Blow Back. FF: Weak Build to 3" Blow. FSIP: No Blow Back.
Recovery: <18' GIP. TF = 45' (6% G; 5% O & 89% M). Not Enought Oil To Get Grv (w/Lt Grn Color.)
Pressures:
IH = 2317#;
FH = 2256#;
IF = 26-28#;
FF = 30-52#;
ISIP = 1285#;
FSIP = 1337#;
Temp. = 118 degrees F.
Ls Crm-Gry Microxln Dns Micrite Fos (Crin) Chalky (Abd) Sh Char-Gry Fissil No Odor No Stn No Flor NS
4800
0 ROP (min/ft) 4
0 Gamma (API) 50
TG, C1-C5 150
<== DST # 4 4800' -
SH GAS kICK = 60 UNITS.
PAWNEE 4816' (- 2000)
30" CFS @ 4845' Ls Wht-Crm-Tan Microxln Dns Micrite Grad Fxln Chalk (Abd) Fair-Med Ppt Ixln Por (w/Med-Good SG (Gas Does Not Flor) Cht Wht Op Shp Vit Fos (Brach, Crin, Spicule) Fair Inc Odor Med Scat Flor (Lt Grn) Med SG
GAS kICK =55 UNITS.
60" CFS @ 4845' Ls Wht-Crm-Tan Microxln Dns Micrite Grad Fxln Chalk (Abd) Fair-Med Ppt Ixln Por (w/Med-Good SG Gas Does Not Flor)) Grad Fair OOM Por Poor Vug Leaching Cht Wht Op Shp Vit Fos
Mudco Ck @ 4845' @ 10:10 AM 11/22/14
Vis = 50; WT



(Brach, Crin, Spicule) Pyr Mass Fair-Med Odor Med-Good Scat Flor (Lt Grn) ? Tr Lt Brn "Dead" Stn Med-Good SG

90" @ 4845' Sh Blk Carb Fissil (w/SSG) Ls Wht-Crm Microxln Dns Micrite (w/Pyr Inclus) Grad Fxln Poor-Fair Ixln Ppt Pt Por Grad Poor OOM Por Poor Vug Leaching Cht Wht Op Shp Vit Fos (Brach, Crin) Chalky ? Faint-No Odor Tr Scat Flor (Lt Grn) AA ? SG

Begin 10' Sample Examination @ 4850'.

Ls Wht-Crm-Tan Microxln Dns Micrite Grad Poor Ppt Pt Ixln Por Barren Cht Wht Op Shp Vit Chalk Sh Blk Carb-Char-Gry-Aqua Fissil No Odor No Stn No Flor NS

_____ CHEROKEE SHALE 4854' (- 2036) _____

Ls Crm-Tan Microxln Dns Micrite Barren Cht Tan (w/Fos (Fuss) & Pyr Inclus) Op Shp Vit Chalk Sh Blk Carb-Char-Gry-Aqua Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Tan Microxln Dns Micrite Grad Poor Ppt Pt Ixln Por Barren Cht Tan-Gry (w/Fos (Crin, Spicule) Inclus) Transl-Op Shp Vit Chalk Sh Blk Carb-Char-Gry (w/Pyr Inclus) Fissil No Odor No Stn No Flor NS

Sh Char-Gry Fissil Ls Wht-Crm Microxln Dns Micrite Cht Tan Op Shp Vit Fos (Porifera) Pyr Mass Chalk No Odor No Stn No Flor NS

Sh Blk Carb (w/Pyr Inclus)-Char-Gry Fissil Ls Crm-Gry Microxln Dns Micrite Chalk No Odor No Stn No Flor NS

Ls Tan-Gry Fxln Dns Micrite Grad Poor Ppt Pt Ixln Gran Por Barren Cht Drk Gry Op Shp Vit Chalk Fos (Brach) Pyr Mass Sh Char-Gry Fissil No Odor No Stn No Flor NS

___ SECOND CHEROKEE SHALE 4912' (- 2096) ___

Ls Crm-Tan Fxln Dns Micrite Grad Poor Ppt Pt Ixln Por Barren Cht Gry-Drk Gry Op Shp Vit Chalk Fos (Brach) Sh Blk Carb- Char-Gry Fissil No Odor No Stn No Flor NS

Ls Crm-Tan Fxln Dns Micrite Grad Poor Ppt Pt Ixln Por Barren Cht Tan Op Shp Vit Chalk Fos (Brach) Pyr Mass Sh Blk Carb-Char-Gry Fissil No Odor No Stn No Flor NS

_____ THIRD CHEROKEE SHALE 4938' (- 2122) ____

Ls Crm-Tan Fxln Dns Micrite Grad Poor Ppt Pt Ixln Por Barren Sh Blk Carb-Char-Gry Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Tan Microxln Dns Micrite Grad Poor Ppt Pt Ixln Por Barren Sh Blk Carb-Char-Gry-Aqua Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Tan Microxln Dns Micrite Grad Poor Ppt Pt Ixln Por Barren Sh Char-Gry Fissil No Odor No Stn No Flor NS

_____ FOURTH CHEROKEE SHALE 4964' (- 2148) ____

Ls Wht-Crm-Tan Microxln Dns Micrite Grad Poor Ppt Pt Ixln Por Barren Cht Drk Brn (w/Small OOid Inclus) Sh Char-Gry Fissil No Odor No Stn No Flor NS

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

Ls Wht-Crm-Tan Microxln Dns Micrite Grad Poor Ppt Pt Ixln Por Barren Cht Drk Gry (w Small OOid Inclus) Op Shp Vit Pyr Mass Fos (Crin) Sh Char-Gry Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Tan Microxln Dns Micrite Barren Cht Wht-Tan Op Shp Vit Sh Blk Carb-Char-Gry Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Tan Microxln Dns Micrite Grad Poor Ppt Pt Ixln Por Barren Cht Wht Op Shp Vit Chalk Sh Char-Gry-Tr/Drab Grn (w/Pyr Inclus) Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Tan Microxln Dns Micrite Grad Poor Ppt Pt Ixln Por Barren Cht Tan Op Shp Vit Chalk Sh Blk Carb-Char-Gry-Tr/Drab Grn-Aqua) Fissil No Odor No Stn No Flor NS

_____ MORROW SHALE 5022' (- 2206) _____

Ls Wht-Crm-Tan Microxln Dns Micrite Grad Poor Ppt Pt Ixln Por Barren Cht Crm-Tan Op Shp Vit Chalk Sh Char-Gry Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Tan Microxln Dns Micrite Grad Poor Ppt Pt Ixln Por Barren Qtz Ss Brn- Gry FGrn Sub Ang-Rd-Well Rd WellSort Fair lGran Por Dns (w/Lt & Drk Brn Stn & SSG (Under Heat in Wtr) (No Glau) No Flor No Odor Cht Wht-Crm-Tan Op Shp Vit Sh Char-Gry Fissil Poor-Fair SSG Sh Char-Gry Fissil No Odor No Stn No Flor SSG

30" CFS @ 5062' Qtz Ss Brn-Gry FGrn Sub Ang-Rd-Well Rd Well Sort Fair-Med lGran Por (No Glau) Friable (w/ Lt & Drk Brn Stn (w/Carb Inclus) & Med-Good SG (Under Heat in Wtr) No Flor Med-Good Odor Ls Wht Fxln (w/Fos (Porifera) Inclus (w/ Lt Brn Stn & Med SG) Cht Wht Op Shp Vit Sh Char-Gry

= 9.35; PV = 16; YP = 17; WL = 8.0; Cake= 1; Chl = 2200; Cal = 20; Sol = 7.0%. LCM = 2#;
DMC=$1763.30
CMC=$ 19,933.45

Mudco Ck @ 5062' @ 7:25 AM 11/23/14
Vis = 56; WT = 9.1; PV = 16; YP = 18; WL = 9.2; Cake= 1; Chl = 3600; Cal = 20; Sol = 5.5%. LCM = 3.5#;
DMC=$1158.00
CMC=$ 21,091.45

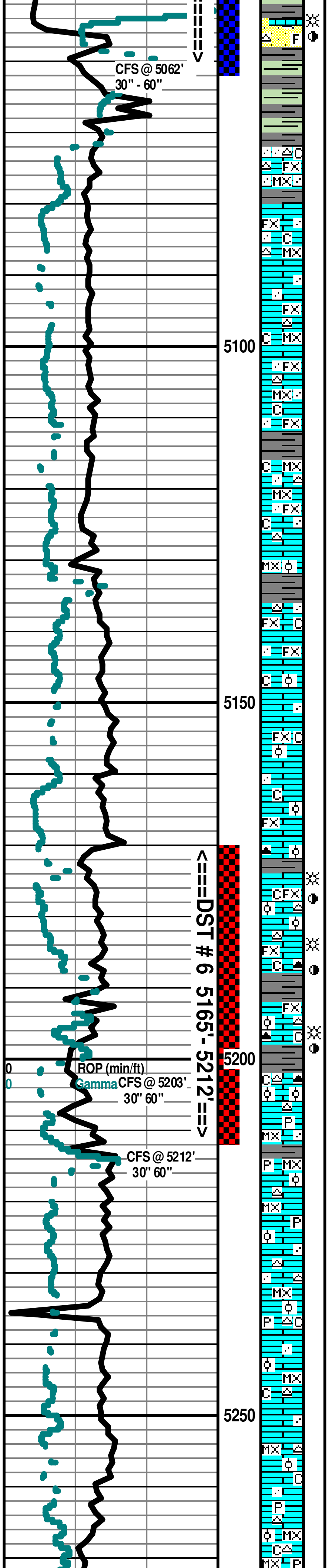
~~ DST # 5 ~~

Interval : 5008'-5062".
Times: 5"-60"-45"-90";
Blow: IF Weak Build < 1"
Blow. ISIP: No Blow Back.
FF: Weak Build Died/11".
Flushed Tool & Had Good Surge & Blow Died (No Help). FSIP: No Blow Back.

Recovery: TF = 20'
VSGOSM (w/Few Spots Oil & Gassy Bubbles).

Pressures:
IH = 2377#;
FH = 2346#;
IF = 12-17#;
FF = 18-34#;
ISIP = 97#;
FSIP = 81#;
Temp. = 120 degrees F..

GAS KICK =



Fissil Med-Good SG

LOWER CHESTER SAND 5044' (- 2228)

60" CFS @ 5062' Qtz Ss Brn-Gry FGrn Ang-Sub Ang-Rd Well Sort Fair-Med IGran Por (Tr CaCO3 Matrix) (No Glau) Friable (w/GSG & SFO (w/ Lt & Drk Brn Stn (w/Carb Inclus) & Med-Good SG (Under Heat in Wtr) No Flor Med-Good Odor Ls Wht Fxln (w/Fos (Porifera) Inclus (w/ Lt Brn Stn & Med SG) Cht Wht-Op Shp Vit Sh Char-Drk Gry Fissil Med-Good SG & SFO

MISSISSIPPIAN "STE. GEN" 5072' (- 2256)

Ls Crm-Tan-Wht-Sli Grn Microxln-Fxln Dns Micrite Grad V FGrn Poor Ppt Pt Ixln Gran Por (w/Qtz Ss Clear Ang-Sub Ang (vfl 62-88 Microns) Inclus < 5% in Ls Matrix) "Sandy Gran Ls" Poor IGran Por Cht Amber-Gry-Tan Op Shp Vit Chalk Tr Qtz Ss AA (w/ Hvy Gillsonitic Residue & SSG/SSO) Chalk Sh Char-Gry/Grn Fissil No Odor No Flor No Stn NS

Ls Crm-Tan-Wht Microxln-Fxln Dns Micrite Grad V FGrn Poor Ppt Pt Ixln Gran Por (w/Qtz Ss Clear Ang-Sub Ang (vfl 62-88 Microns) Inclus < 5% in Ls Matrix) "Sandy Gran Ls" Poor IGran Por Cht Amber-Gry-Tan Op Shp Vit Chalk Sh Char-Gry/Grn Fissil No Odor No Flor No Stn NS

Ls Crm-Tan-Wht Microxln-Fxln Dns Micrite Grad V FGrn Poor Ppt Pt Ixln Gran Por (w/Qtz Ss Clear Ang-Sub Ang (vfl 62-88 Microns) Inclus < 5% in Ls Matrix) "Sandy Gran Ls" Poor IGran Por Cht Amber-Gry-Tan Op Shp Vit Chalk Sh Char-Gry/Grn Fissil No Odor No Flor No Stn NS

Ls Crm-Tan-Wht Microxln-Fxln Dns Micrite Grad V FGrn Poor Ppt Pt Ixln Gran Por (w/Qtz Ss Clear Ang-Sub Ang (vfl 62-88 Microns) Inclus < 5% in Ls Matrix) "Sandy Gran Ls" Poor IGran Por Cht Amber-Gry-Tan Op Shp Vit Chalk Sh Char-Gry/Grn Fissil No Odor No Flor No Stn NS

Ls Crm-Tan-Wht Microxln-Fxln Dns Micrite Grad V FGrn Poor Ppt Pt Ixln Gran Por (w/Qtz Ss Clear Ang-Sub Ang (vfl 62-88 Microns) Inclus < 5% in Ls Matrix) "Sandy Gran Ls" Poor IGran Por Cht Amber-Gry-Tan Op Shp Vit Chalk Sh Char-Gry/Grn (Inc) Fissil No Odor No Flor No Stn NS

Ls Crm-Wht Microxln-Fxln Dns Micrite Grad FGrn Poor Ppt Pt Ixln Gran Por (w/Qtz Ss Clear Ang-Sub Ang (vfl 62-88 Microns) Inclus < 5% in Ls Matrix) "Sandy Gran Ls" Poor IGran Por Cht Amber-Gry-Tan Op Shp Vit Chalk Sh Char-Gry/Grn Fissil No Odor No Flor No Stn NS

Ls Crm-Wht Microxln-Fxln Dns Micrite Grad FGrn Poor Ppt Pt Ixln Gran Por (w/Qtz Ss Clear Ang-Sub Ang (vfl 62-88 Microns) Inclus < 5% in Ls Matrix) "Sandy Gran Ls" Poor IGran Por (Grn Size Inc w/Lg Tan OOid (1 Pc)) Cht Amber-Gry-Tan Op Shp Vit Chalk Sh Char-Gry/Grn Fissil No Odor No Flor No Stn NS

Ls Crm-Wht Microxln-Fxln Dns Micrite Grad FGrn Poor Ppt Pt Ixln Gran Por (w/Qtz Ss Clear Ang-Sub Ang Inclus App. 5% in Ls Matrix) "Sandy Gran Ls" Poor IGran Por (Grn Size Inc w/Lg Tan OOid (1 Pc)) Cht Amber-Gry-Tan Op Shp Vit Chalk Sh Char-Gry/Grn Fissil No Odor No Flor No Stn NS

Ls Crm-Wht Microxln-Fxln Dns Micrite Grad FGrn Poor Ppt Pt Ixln Gran Por (w/Qtz Ss Clear Ang-Sub Ang (vfl 62-88 Microns) Inclus < 5% in Ls Matrix) "Sandy Gran Ls" Poor IGran Por (Grn Size Inc w/Lg Tan OOid (1 Pc)) Cht Amber-Gry-Tan Op Shp Vit Chalk Sh Char-Gry/Grn Fissil No Odor No Flor No Stn NS

Ls Crm-Wht Microxln-Fxln Dns Micrite Grad FGrn Poor Ppt Pt Ixln Gran Por (w/Qtz Ss Clear Ang-Sub Ang (vfl 62-88 Microns) Inclus < 5% in Ls Matrix) "Sandy Gran Ls" Poor IGran Por (Grn Size Inc w/Lg Tan OOid (1 Pc)) Cht Amber-Gry-Tan Op Shp Vit Chalk Sh Char-Gry/Grn Fissil No Odor No Flor No Stn NS

MISSISSIPPIAN "ST. LOUIS" 5174' (- 2358)

Ls Wht Mostly Microxln-Fxln Dns Micrite Grad Fair-Med OOL (w/Med-Sized OOids) Por (6 Pcs-w/SG & SFO Sli-Fair Ll-Lt-Drk Brn Stn) Friable Cht Wht-Gry-Peach/Org Translu-Op Shp Vit Chalk (V Abd) No Odor No Flor SSG & SSO

30" CFS @ 5203' Ls Wht Microxln-Fxln Dns Micrite Grad Fair-Med-Good OOL Por (w/Med-Lg OOids in pl w/MSG & MSFO Fair-Med Ll-Lt-Drk BrnStn on OOid Edges) V Friable Cht Wht-Gry-Peach/Org Translu-Op Shp Vit Chalk (V Abd) Strong Odor Med-Good Lt Brn Stn Med-Good InterOOL Por (Good Leaching Around OOids) GSG & GSO

60" CFS @ 5203' Ls Wht Microxln-Fxln Dns Micrite Grad Fair-Med-Good OOL Por (w/Med-Lg OOids in pl w/? Pyr Inclus in pl & w/MSG & MSFO Fair-Med Ll-Lt-Drk BrnStn on OOid Edges) V Friable Cht Wht-Gry-Peach/Org Translu-Op Shp Vit Chalk (V Abd) Strong Odor Med-Good Lt Brn Stn Med-Good InterOOL Por (Good Leaching Around OOids) GSG & GSO

60" CFS @ 5212' Ls Wht Microxln-Fxln Dns Micrite Grad Tr Only Fair OOL Por (w/Tr OOids in pl) Grad Microxln Dns Micrite Pyr Mass Chalk (V Abd) Cht Wht-Gry Translu-Op Shp Vit Chalk ? Faint Odor ? VSSG & VSSO

Ls Wht Microxln Dns Micrite Grad Poor OOL Por (w/Tr V Small OOids in pl) Tr "Sandy OOL Ls" (w/Qtz Ss Clear Ang-Sub Ang Grains Inclus (vfl 62-88 Microns) Inclus < 10% (? Ste. Gen Sluff)) Pyr Mass Chalk Cht Gry Op Shp Vit Chalk No Odor No Stn No Flor NS

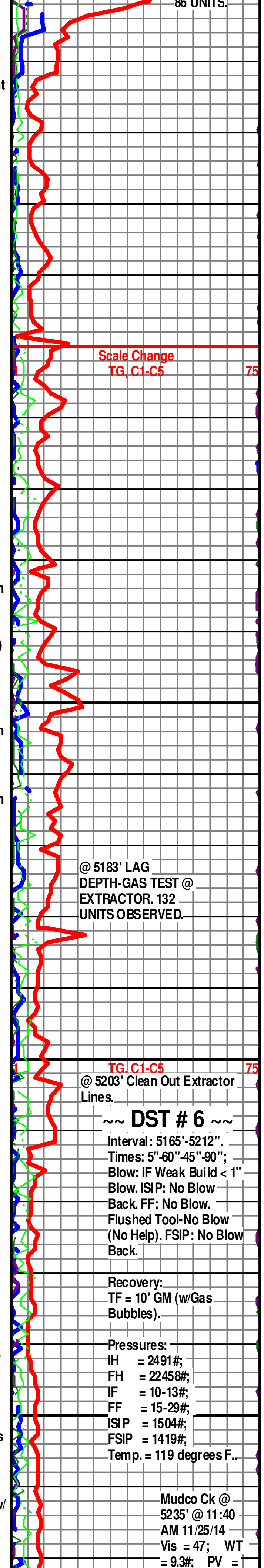
Ls Wht Microxln Dns Micrite Grad Poor OOL Por (w/Tr V Small OOids in pl) Tr "Sandy OOL Ls" (w/Qtz Ss Clear Ang-Sub Ang Grains Inclus (vfl 62-88 Microns) Inclus < 10% AA) Pyr Mass Chalk Cht Gry Op Shp Vit Chalk No Odor No Stn No Flor NS

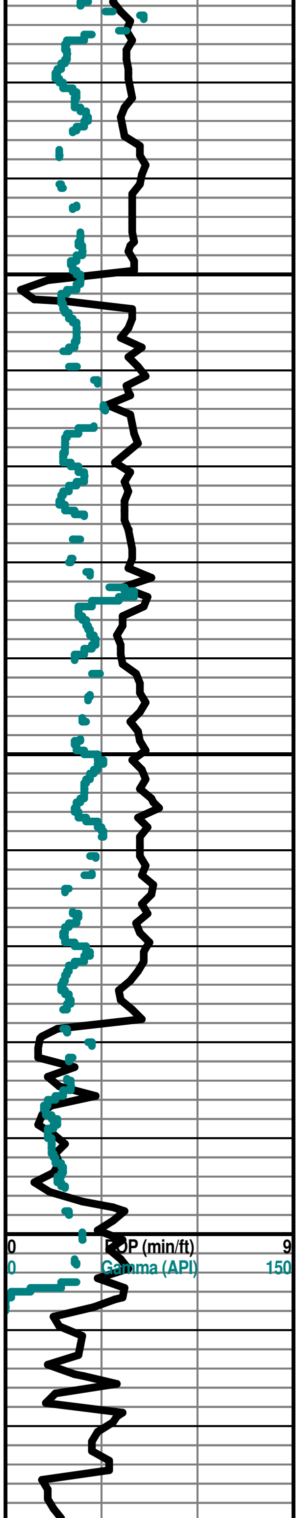
Ls Wht Microxln Dns Micrite Grad Poor OOL Por (w/Tr V Small OOids in pl) Tr "Sandy OOL Ls" (w/Qtz Ss Clear Ang-Sub Ang Grains Inclus < 5% (vfl 62-88 Microns) < 10% AA) Pyr Mass Chalk Cht Wht-Tan-Gry-Peach Translu-Op Shp Vit Chalk No Odor No Stn No Flor NS

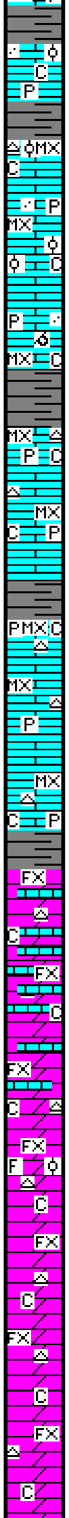
Ls Wht Microxln Dns Mostly Micrite Grad Poor OOL Por (w/Tr V Small OOids in pl) Tr "Sandy OOL Ls" (w/Qtz Ss Clear Ang-Sub Ang Grains Inclus (vfl 62-88 Microns) < 5% AA) Pyr Mass Chalk Cht Wht-Tan-Gry-Peach Translu-Op Shp Vit Chalk No Odor No Stn No Flor NS

Ls Wht Microxln Dns Micrite Grad Poor OOL Por (w/Tr V Small OOids in pl) "Sandy OOL Ls" (w/ Qtz Ss Clear Ang-Sub Ang Grains (vfl 62-88 Microns) Inclus < 5% AA) Pyr Mass Chalk Cht Wht-Tan-Gry-Peach Translu-Op Shp Vit Chalk No Odor No Stn No Flor NS

Ls Wht Microxln Dns Mostly Micrite Grad Poor OOL Por (w/Tr V Small OOids in pl) "Sandy OOL Ls" (w/ Qtz Ss Clear Ang-Sub Ang Grains Inclus (vfl 62-88 Microns) Inclus < 5% AA) Pyr Mass Chalk Cht Wht-Tan-Gry-Peach Translu-Op Shp Vit Chalk No Odor No Stn No Flor NS







Ls Wht Microxln Dns Mostly Micrite Grad Poor OOL Por (w/Tr V Small OOids in pl) Tr "Sandy OOL Ls" (w/Qtz Ss Clear Ang-Sub Ang Grains Inclus (vfl 62-88 Microns) Inclus <5% AA) Pyr Mass Chalk Cht Wht-GryTranslu-Op Shp Vit Chalk No Odor No Stn No Flor NS

Ls Crm-Tan Microxln Dns Mostly Micrite Grad Tr Poor OOL Por (w/Tr V Small OOids in pl w/2 Pcs w/Drk Blk "Dead" Stn/OOid Edges) NSG & NSFO "Sandy OOL Ls" (w/Qtz Ss Ang-Sub Ang Grains Inclus (vfl 62-88 Microns) Inclus < 5% AA) Pyr Mass Chalk Cht Wht-Tan-Gry Op Shp Vit Chalk No Odor No Stn No Flor NS

Ls Crm-Tan Microxln Dns Mostly Micrite Grad Tr Poor OOL Por (w/Tr V Small OOids in pl "Sandy OOL Ls" Pyr Mass Chalk Cht Wht-Gry Op Shp Vit Chalk No Odor No Stn No Flor NS

Ls Crm-Tan Microxln Dns Mostly Micrite (w/Pyr Inclus Grad Tr Poor Vug OOL Por (w/Tr Lg OOM Por w/1 Pc w/Drk Blk "Dead" Stn/in OOM) NSG & NSFO Pyr Mass Chalk No Odor No Stn No Flor NS

Ls Crm-Tan Microxln Dns Mostly Micrite (w/Pyr Inclus) Cht Wht Op Shp Vit Chalk Inc No Odor No Stn No Flor NS

Ls Crm-Tan Microxln Dns Mostly Micrite (w/Pyr Inclus) Cht Wht Op Shp Vit Chalk Inc No Odor No Stn No Flor NS

Ls Crm-Tan Microxln Dns Mostly Micrite (w/Pyr Inclus) Cht Wht Op Shp Vit Chalk Inc No Odor No Stn No Flor NS

Ls Crm-Tan Microxln Dns Mostly Micrite (w/Pyr Inclus) Cht Wht Op Shp Vit Chalk Inc No Odor No Stn No Flor NS

Ls Crm-Tan Microxln Dns Mostly Micrite (w/Pyr Inclus) Cht Wht Op Shp Vit Chalk Inc No Odor No Stn No Flor NS

Ls/Dolo Crm-Tan-Gry Fxln Dns Micrite Grad Pin-Ppt lxln Por Tr Poor OOL Por (w/Tr V Small OOids in pl "Sandy OOL Ls" (w/Qtz Ss Ang-Sub Ang Grains Inclus (vfl 62-88 Microns) Inclus < 5% AA) Cht Wht-Tan-Gry Op Shp Vit Chalk No Odor No Stn No Flor NS

Dolo/Ls Fxln Dns Micrite Grad Poor Pin-PPt OOL Por Poor Leaching AA Cht Tan Op Shp Vit Chalky No Odor No Stn No Flor NS

_ MISSISSIPPIAN SALEM (SPERGEN) Ø 5378' (- 2562) _

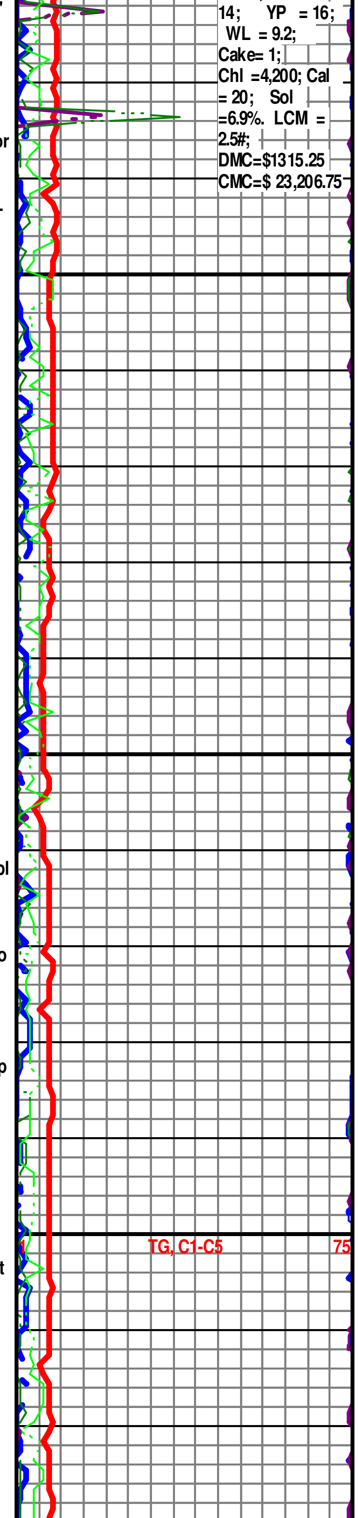
Dolo/Ls Crm-Tan-Lt Brn Fxln Fair-Med Pin-Ppt lxln Por Grad Fair lxln Por Barren Cht Wht- Tan Op Shp Vit Chalk No Odor No Stn No Flor NS

Dolo Brn-Tan-Crm Microxln-Fxln Med-Good Pin-Ppt lxln Por (Tr Vug Dissolu) Grad Fair lxln Por Barren Grad Poor OOL Por (w/Small-Med OOids in pl) Poor Leaching Cht Wht-Tan(Banded w/? Fos Inclus) Op Shp Vit Chalk No Odor No Stn No Flor NS

Dolo Brn-Tan-Crm Fxln Fair-Med Pin-Ppt lxln Por Grad Fair lxln Por Barren Grad Poor Sucrosic Ppt Pt Por Barren Cht Wht Op Shp Vit Chalk No Odor No Stn No Flor NS

30" CFS @ 5430' Dolo Brn-Tan-Crm Fxln Fair-Med Pin-Ppt lxln Por Grad Fair lxln Por Barren Grad Poor Sucrosic Ppt Pt Por Barren Cht Wht Op Shp Vit Chalk No Odor No Stn No Flor NS

60" CFS @ 5430' Dolo Brn-Tan-Crm Fxln Fair-Med Pin-Ppt lxln Por Grad Fair lxln Por Barren Grad Poor Sucrosic Ppt Pt Por Barren Cht Wht Op Shp Vit Chalk No Odor No Stn No Flor NS

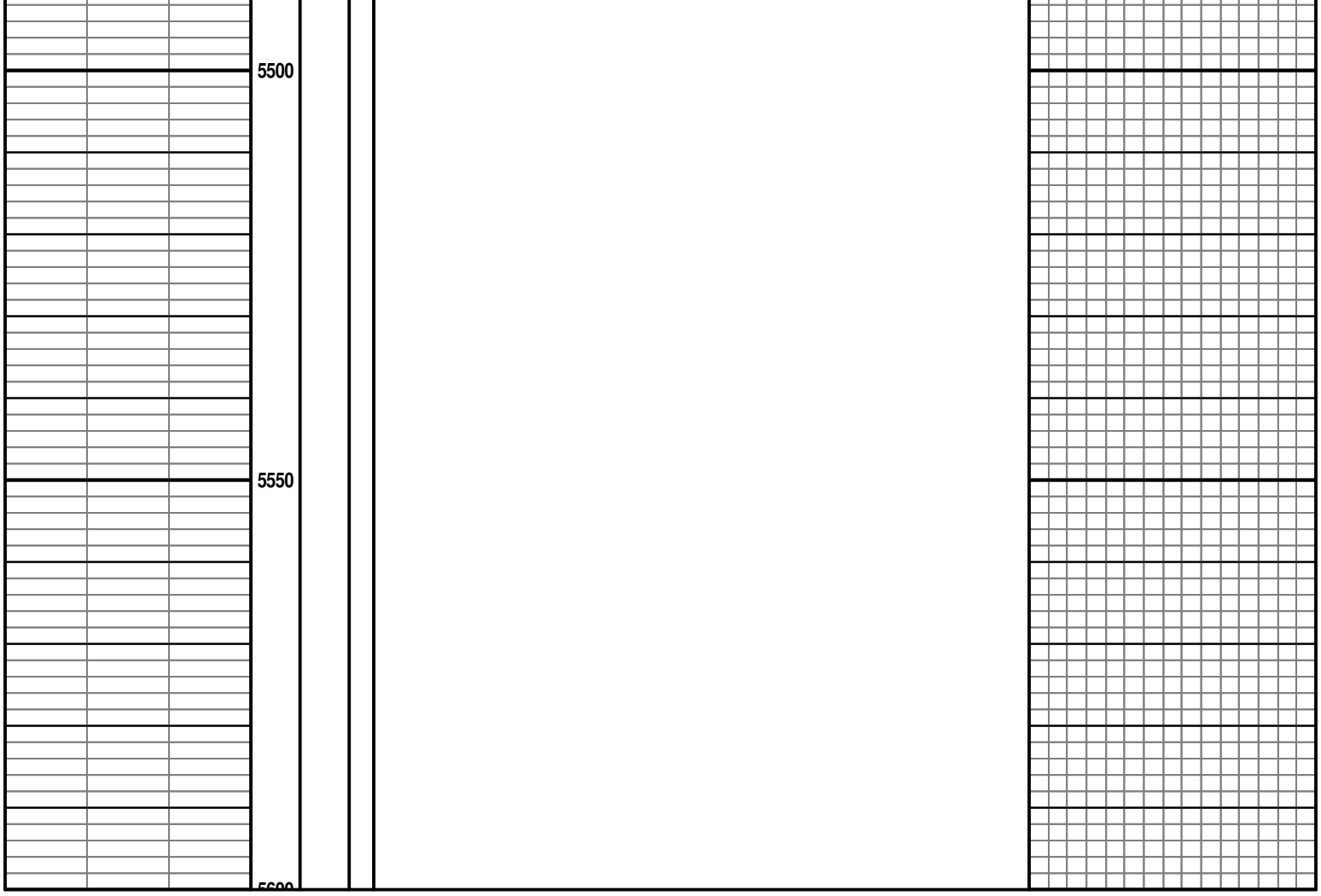


14; YP = 16; WL = 9.2; Cake= 1; Chl =4,200; Cal = 20; Sol =6.9%. LCM = 2.5#; DMC=$1315.25 CMC=$ 23,206.75

R.T.D. = 5430' (- 2614)
L.T.D. = 5434' (-2618)

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

Geologist Left Location At: : AM on 11/26/2014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