Confidentiality Requested:
☐ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1081481

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 # 5822
Name: Val Energy, Inc.
Wellsite Geologist: DAVE WILLIAMS
Purchaser: NA

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 #:

01/28/2012	02/10/2012	03/13/2012
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-069-20361-00-00
Spot Description:
N2 - N2 - S2 - NW Sec. 24 Twp. 28 S. R. 30 ☐ East ☑ West
1620 Feet from ☑ North / ☐ South Line of Section
1320 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: ALLEN ISAAC Well #: 1-24(NW)
Field Name: WC
Producing Formation: NA
Elevation: Ground: 2792 Kelly Bushing: 2802
Total Vertical Depth: 5450 Plug Back Total Depth: 4467
Amount of Surface Pipe Set and Cemented at: 1839 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: 1900 ppm Fluid volume: 240 bbls
Dewatering method used: Hauled to Disposal
Location of fluid disposal if hauled offsite:
Operator Name: HAYDEN, SHAWN
Lease Name: LIZ SMITH License #: 33562
Quarter NE Sec. 26 Twp. 30 S. R. 34 ☐ East ☑ West
County: HASKELL Permit #: D26802

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: 05/16/2012
☑ **Confidential Release Date:** 05/16/2014
☑ **Wireline Log Received**
☑ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** NAOMI JAMES **Date:** 05/17/2012

[redacted] 1081481

Operator Name: Falcon Exploration, Inc. Lease Name: ALLEN ISAAC Well #: 1-24(NW)

Sec. 24 Twp. 28 S. R. 30 ☐ 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: Attached Top: Attached Datum: 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	1839	65/35;CLASS A	825	2% GEL, 3% CC
PRODUCTION	7.875	4.5	10.5	4612	AA-2	220	5% W60, 10% SALT

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
4	4495-4502	500 GAL MA	4495-4502
	CIBP @4492		
4	4477-4486		
	CIBP@4467'		
4	4242-4246	1000 GAL MA	4242-4246

TUBING RECORD: Size: 2.375 Set At: 4247 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:
4242-4246

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Falcon Exploration, Inc.
Well Name	ALLEN ISAAC 1-24(NW)
Doc ID	1081481

All Electric Logs Run

DIL
MEL
CNL/CDL
BHCS

Form	ACO1 - Well Completion
Operator	Falcon Exploration, Inc.
Well Name	ALLEN ISAAC 1-24(NW)
Doc ID	1081481

Tops

Name	Top	Datum
STOTLER	3502	-700
TARKIO	3578	-776
LANSING	4218	-1416
STARK	4569	-1767
PAWNEE	4812	-2010
CHEROKEE SH	4856	-2054
MORROW SH	5048	-2246
MISS ST GEN	5102	-2300
ST LOUIS B POR	5210	-2408
SALEM	5399	-2597

ALLIED OIL & GAS SERVICES, LLC 053360

Federal Tax I.D.# 20-5975804

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

SERVICE POINT: Liberal KS.

DATE 1-30-12	SEC. 24	TWP. 28s	RANGE 30w	CALLED OUT	ON LOCATION	JOB START 3:30 pm	JOB FINISH 4:30 pm
LEASE Allen Isaac	WELL # 1-24		LOCATION Vec Copland K.S.			COUNTY Comanche	STATE KS.
OLD OR (NEW) (Circle one)			Fast to CR 6 North 2 miles E into				

CONTRACTOR Val Rig #7
TYPE OF JOB Surface
HOLE SIZE 12 1/4 T.D. 1840
CASING SIZE 8 5/8 24# DEPTH 1839
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX 1000 MINIMUM 500
MEAS. LINE SHOE JOINT 40.90
CEMENT LEFT IN CSG.
PERFS.
DISPLACEMENT 115 Disp

OWNER

EQUIPMENT

PUMP TRUCK CEMENTER Kenny Beers
#470-484 HELPER Joe
BULK TRUCK
#457-251 DRIVER Lenny & Jeremiah
BULK TRUCK
#472-467 DRIVER Angel

REMARKS:

Circulated Cement.

THANK You!!!

CEMENT

AMOUNT ORDERED 675 SK 65/35/6 gel 3% CC 1/4# Flosea
150 SK Class A 3% CC 2% gel

COMMON	150	@ 16.25	2437.50
POZMIX		@	
GEL	3	@ 21.25	63.75
CHLORIDE	27	@ 58.20	1571.40
ASC		@	
Light Weight 675		@ 15.00	10125.00
		@	
Flosea	169	@ 2.70	456.30
		@	
		@	
		@	
		@	
		@	
HANDLING	855	@ 2.25	1923.00
MILEAGE			4702.50
		TOTAL	21279.45

SERVICE

DEPTH OF JOB			1840 ft
PUMP TRUCK CHARGE			1925.00
EXTRA FOOTAGE		@	
MILEAGE	100	@ 7.00	700.00
MANIFOLD	1	@ 200.00	200.00
	100	@ 4.00	400.00
Sugar	40 lb	@ 2.75	110.00
		TOTAL	3335.00

PLUG & FLOAT EQUIPMENT

Centralizers	3	@ 67.00	201.00
Baskets	3	@ 314.00	942.00
Guide Shoe	1	@ 404.00	404.00
AFU Insert	1	@ 238.00	238.00
Rubber Plug	1	@ 101.00	101.00
		TOTAL	1886.00

CHARGE TO: Falcon Exploration
STREET
CITY STATE ZIP

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

PRINTED NAME Leon Kuhn

SIGNATURE

SALES TAX (If Any)
TOTAL CHARGES $26500.45
DISCOUNT $19875.34 IF PAID IN 30 DAYS

BASIC ENERGY SERVICES
Liberal, Kansas

Cement Report

Customer Falcon Exploration	Lease No.		Date 2-10-12
Lease Allen Isaac	Well # 1-24	Service Receipt	
Casing 4 1/2	Depth 4612	County Gray	State KS
Job Type 4 1/2 L.S.	Formation	Legal Description 24-28-30	

Pipe Data		Perforating Data		Cement Data
		Shots/Ft		Lead 220 SK AA-2 5% W-60, 10% Salt .6% C-15, 1/4# D Foam, 5# Gil, 1.4 SO/L @ 14.8# 1.51 yield 6.64 gal/SK
Casing size 4 1/2	Tubing Size	From	To	
Depth 4612	Depth	From	To	
Volume 72.6	Volume	From	To	
Max Press 2500	Max Press	From	To	Tail in 50 SK same R+M
Well Connection P.C.	Annulus Vol.	From	To	
Plug Depth	Packer Depth	From	To	

Time	Casing Pressure	Tubing Pressure	Bbls. Pumbed	Rate	Service Log
17:00					on Loc, spot trucks R.O. Safety Mtg
17:30					Start F.E.
18:00					F.E. Done
20:00					Break Circ.
20:20					PT Went down due to Hyd Failure
22:30					PT on Loc
23:48	150		12	4	Pump Mud Flush
23:52					H2O Spacer
23:56					Plug R+M
0:06	150		0	5	Start Mixing @ 14.8#
0:35	0		60	—	Finish Mixing
0:40					Washup P+L, Drop Plug
0:43	150		0	6.5	Start Disp
0:57	900		63	3	Slow Rate
01:00	1000-1500		73	—	Plug Down
01:02	1500-0				Release Psi Plug Held

Service Units	19888	37223 37976	14355 19598			
Driver Names	C Hinz	R. Olds	J. Grijalva			

Chuck Tovar
Customer Representative

Jerry Bennett
Station Manager

C Hinz
Cementer

Taylor Printing, Inc.

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

Kansas
Corporation Commission

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

May 16, 2012

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

Re: ACO1
API 15-069-20361-00-00
ALLEN ISAAC 1-24(NW)
NW/4 Sec.24-28S-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.	**Representative**	TIM VENTERS
Contact	MIKE MITCHELL	**Well Operator**	FALCON EXPLORATION, INC.
Well Name	ALLEN ISAAC #1-24 (NW) DST #1	**Report Date**	2012/02/02
Unique Well ID	DST #1, STOTLER, 3461-3532	**Prepared By**	TIM VENTERS
Surface Location	SEC 24-28S-30W, GRAY CO. KS.		
Field	WILDCAT	**Qualified By**	DAVE WILLIAMS
Well Type	Vertical		
Test Type	CONVENTIONAL		
Formation	DST #1, STOTLER, 3461-3532		
Well Fluid Type	02 Gas		
Start Test Date	2012/02/02	**Start Test Time**	10:27:00
Final Test Date	2012/02/02	**Final Test Time**	22:41:00

Test Recovery:

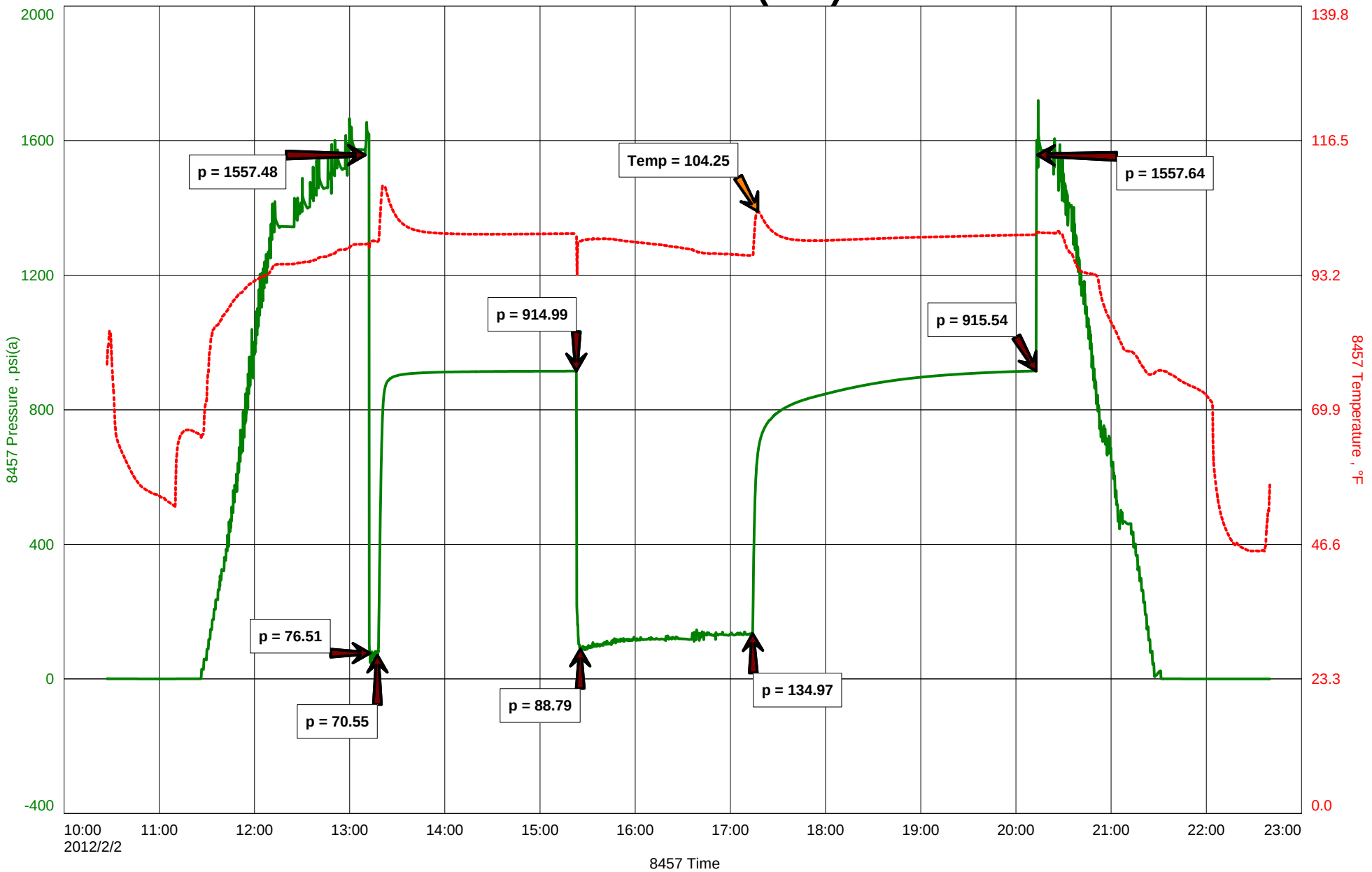
RECOVERED: 3260' GIP
170' MUD

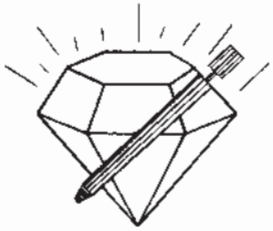
TOOL SAMPLE: 100% MUD

FALCON EXPLORATION, INC.
DST #1, STOTLER, 3461-3532
Start Test Date: 2012/02/02
Final Test Date: 2012/02/02

ALLEN ISAAC #1-24 (NW) DST #1
Formation: DST #1, STOTLER, 3461-3532
Pool: WILDCAT
Job Number: T008

ALLEN ISAAC #1-24 (NW) DST #1





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

GAS VOLUME REPORT

Company FALCON EXPLORATION, INC. Lease & Well No. ALLEN ISAAC #1-24 (NW)

Date 2-2-12 Sec. 24 Twp. 28S Rge. 30W Location County GRAY State KS

Drilling Contractor VAL ENERGY, INC. RIG #7 Formation STOTLER DST No. 1

Remarks: GAS TO SURFACE INSTANTANEOUSLY ON THE FINAL FLOW.

INITIAL FLOW

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
10	3/4 in.	13 in.	303,000
20	3/4 in.	14.5 in.	324,000
30	3/4 in.	16 in.	344,000
40	3/4 in.	17 in.	357,000
50	3/4 in.	17.5 in.	363,500
60	3/4 in.	18 in.	370,000
70	3/4 in.	18.5 in.	377,000
*80	3/4 in.	18 in.	370,000
90	3/4 in.	18.5 in.	377,000
100	3/4 in.	18.5 in.	377,000
110	3/4	18.5	377,000

*SAMPLE TAKEN

FINAL FLOW

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

DRILL-STEM TEST TICKET
FILE: ALLENISAAC124NWDST1

TIME ON: 10:27
TIME OFF: 22:41

Company FALCON EXPLORATION, INC. Lease & Well No. ALLEN ISAAC #1-24 (NW)

Contractor VAL ENERGY, INC. RIG #7 Charge to FALCON EXPLORATION, INC.

Elevation 2802 KB Formation STOTLER Effective Pay ____ Ft. Ticket No. T008

Date 2-2-12 Sec. 24 Twp. 28 S Range 30 W County GRAY State KANSAS

Test Approved By DAVE WILLIAMS Diamond Representative TIMOTHY T. VENTERS

Formation Test No. 1 Interval Tested from 3461 ft. to 3532 ft. Total Depth 3532 ft.

Packer Depth 3456 ft. Size 6 3/4 in. Packer depth ____ ft. Size 6 3/4 in.

Packer Depth 3461 ft. Size 6 3/4 in. Packer depth ____ ft. Size 6 3/4 in.

Depth of Selective Zone Set ____

Top Recorder Depth (Inside) 3442 ft. Recorder Number 8457 Cap. 10,000 P.S.I.

Bottom Recorder Depth (Outside) 3529 ft. Recorder Number 11030 Cap. 5,025 P.S.I.

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

Mud Type CHEMICAL Viscosity 51 Drill Collar Length 0 ft. I.D. 2 1/4 in.

Weight 8.7 Water Loss 8.0 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in

Chlorides 5,400 P.P.M. Drill Pipe Length 3428 ft. I.D. 3 1/2 in

Jars: Make STERLING Serial Number #4 Test Tool Length 33 ft. Tool Size 3 1/2-IF in

Did Well Flow? NO Reversed Out NO Anchor Length 71 ft. Size 4 1/2-FH in

32' DP IN ANCHOR

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: GOOD 3" BLOW, BUILDING, REACHING BOB 30 SEC. (NOBB)

2nd Open: VERY STRONG BLOW HITTING BOB INSTANTANEOUSLY. (NOBB)

Recovered 3260 ft. of GAS IN PIPE

Recovered 170 ft. of MUD

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) 1:12 PM A.M. P.M. Time Started Off Bottom 8:12 PM A.M. P.M. Maximum Temperature 104 deg.

Initial Hydrostatic Pressure ..... (A) 1557 P.S.I.

Initial Flow Period ..... Minutes 5 (B) 77 P.S.I. to (C) 71 P.S.I.

Initial Closed In Period ..... Minutes 120 (D) 915 P.S.I.

Final Flow Period ..... Minutes 110 (E) 89 P.S.I. to (F) 135 P.S.I.

Final Closed In Period ..... Minutes 180 (G) 916 P.S.I.

Final Hydrostatic Pressure ..... (H) 1558 P.S.I.

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	ALLEN ISAAC #1-24 (NW)	**Report Date**	2012/02/04
Unique Well ID	DST #2, TORONTO, 4122-4183,	**Prepared By**	TIM VENTERS
Surface Location	SEC 24-28S-30W		
Field	WILDCAT	**Qualified By**	DAVE WILLIAMS
Well Type	Vertical		
Test Type	CONVENTIONAL		
Formation	DST #2, TORONTO, 4122-4183		
Well Fluid Type	02 Gas		
Start Test Date	2012/02/04	**Start Test Time**	09:41:00
Final Test Date	2012/02/04	**Final Test Time**	18:12:00

Test Recovery:

RECOVERED: 70' WCM, 29% WATER, 71% MUD
120' HMCW, 57% WATER, 43% MUD
1,005' SLT WCM 97% WATER, 3% MUD
10' MUD

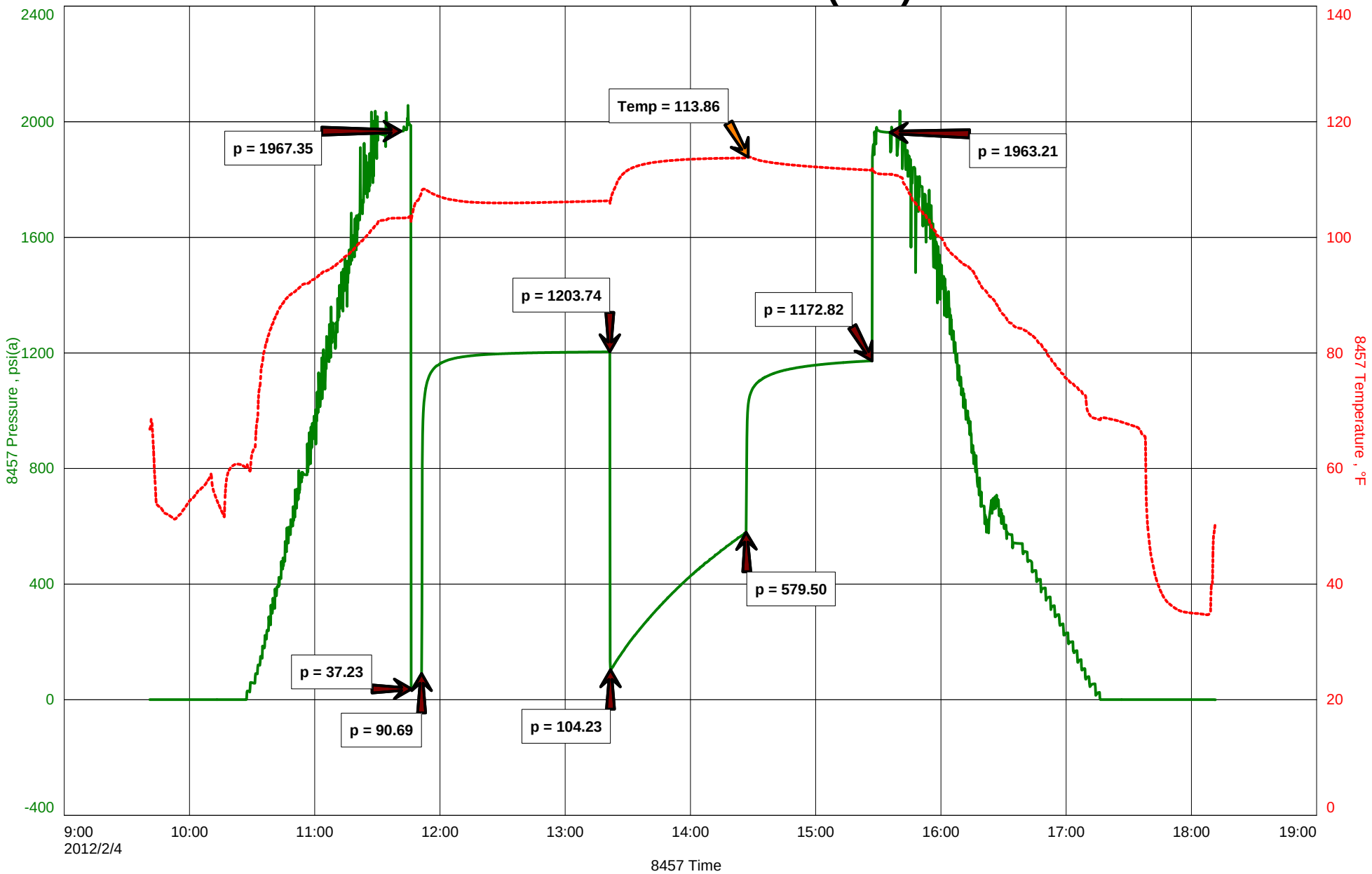
TOOL SAMPLE: 98% WATER, 2% MUD

CLORIDES: 88,000 ppm
PH: 6.5
RW: .1 @ 65 deg.

FALCON EXPLORATION, INC.
DST #2, TORONTO, 4122-4183,
Start Test Date: 2012/02/04
Final Test Date: 2012/02/04

ALLEN ISAAC #1-24 (NW)
Formation: DST #2, TORONTO, 4122-4183
Pool: WILDCAT
Job Number: T009

ALLEN ISAAC #1-24 (NW)



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

DRILL-STEM TEST TICKET
FILE: ALLENISAAC124NWDST2

TIME ON: 09:41
TIME OFF: 22:41

Company FALCON EXPLORATION, INC. Lease & Well No. ALLEN ISAAC #1-24 (NW)

Contractor VAL ENERGY, INC. RIG #7 Charge to FALCON EXPLORATION, INC.

Elevation 2802 KB Formation TORONTO Effective Pay ____ Ft. Ticket No. T009

Date 2-4-12 Sec. 24 Twp. 28 S Range 30 W County GRAY State KANSAS

Test Approved By DAVE WILLIAMS Diamond Representative TIMOTHY T. VENTERS

Formation Test No. 2 Interval Tested from 4122 ft. to 4183 ft. Total Depth 4183 ft.

Packer Depth 4117 ft. Size 6 3/4 in. Packer depth ____ ft. Size 6 3/4 in.

Packer Depth 4122 ft. Size 6 3/4 in. Packer depth ____ ft. Size 6 3/4 in.

Depth of Selective Zone Set ____

Top Recorder Depth (Inside) 4103 ft. Recorder Number 8457 Cap. 10,000 P.S.I.

Bottom Recorder Depth (Outside) 4180 ft. Recorder Number 11029 Cap. 5,025 P.S.I.

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

Mud Type CHEMICAL Viscosity 53 Drill Collar Length 0 ft. I.D. 2 1/4 in.

Weight 9.25 Water Loss 7.6 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in

Chlorides 3,400 P.P.M. Drill Pipe Length 4089 ft. I.D. 3 1/2 in

Jars: Make STERLING Serial Number #4 Test Tool Length 33 ft. Tool Size 3 1/2-IF in

Did Well Flow? NO Reversed Out NO Anchor Length 61 ft. Size 4 1/2-FH in

32' DP IN ANCHOR

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: GOOD 1 1/2 INCH BLOW, BUILDING, REACHING BOB 4 MIN. (NOBB)

2nd Open: WEAK 1/2 INCH BLOW, BUILDING, REACHING BOB 5 1/2 MIN. (NOBB)

Recovered 70 ft. of WCM, 29% WATER, 71% MUD

Recovered 120 ft. of HMCW, 57% WATER, 43% MUD

Recovered 1005 ft. of SLT WCM 97% WATER, 3% MUD

Recovered 10 ft. of MUD

Recovered ____ ft. of CHLORIDES: 88,000 ppm

Recovered ____ ft. of PH: 6.5

Remarks: RW: .1 @ 65 deg.

TOOL SAMPLE: 98% WATER, 2% MUD

Price Job	
Other Charges	
Insurance	
Total	

Time Set Packer(s) 11:46 AM A.M. P.M. Time Started Off Bottom 3:26 PM A.M. P.M. Maximum Temperature 114 deg.

Initial Hydrostatic Pressure ..... (A) 1967 P.S.I.

Initial Flow Period ..... Minutes 5 (B) 37 P.S.I. to (C) 91 P.S.I.

Initial Closed In Period ..... Minutes 90 (D) 1204 P.S.I.

Final Flow Period ..... Minutes 65 (E) 104 P.S.I. to (F) 580 P.S.I.

Final Closed In Period ..... Minutes 60 (G) 1173 P.S.I.

Final Hydrostatic Pressure ..... (H) 1963 P.S.I.

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	ALLEN ISAAC #1-24 (NW)	**Report Date**	2012/02/05
Unique Well ID	DST #3, LANSING "A", 4196-4251	**Prepared By**	TIM VENTERS
Surface Location	SEC 24-28S-30W, GRAY CO. KS.		
Field	WILDCAT	**Qualified By**	DAVE WILLIAMS
Well Type	Vertical		
Test Type	CONVENTIONAL		
Formation	DST #3, LANSING "A", 4196-4251		
Well Fluid Type	02 Gas		
Start Test Date	2012/02/05	**Start Test Time**	04:26:00
Final Test Date	2012/02/05	**Final Test Time**	15:15:00

Test Recovery:

RECOVERED: 4040' GAS IN PIPE
65' MUD
60' SLT WCM, 7% WATER, 93% MUD

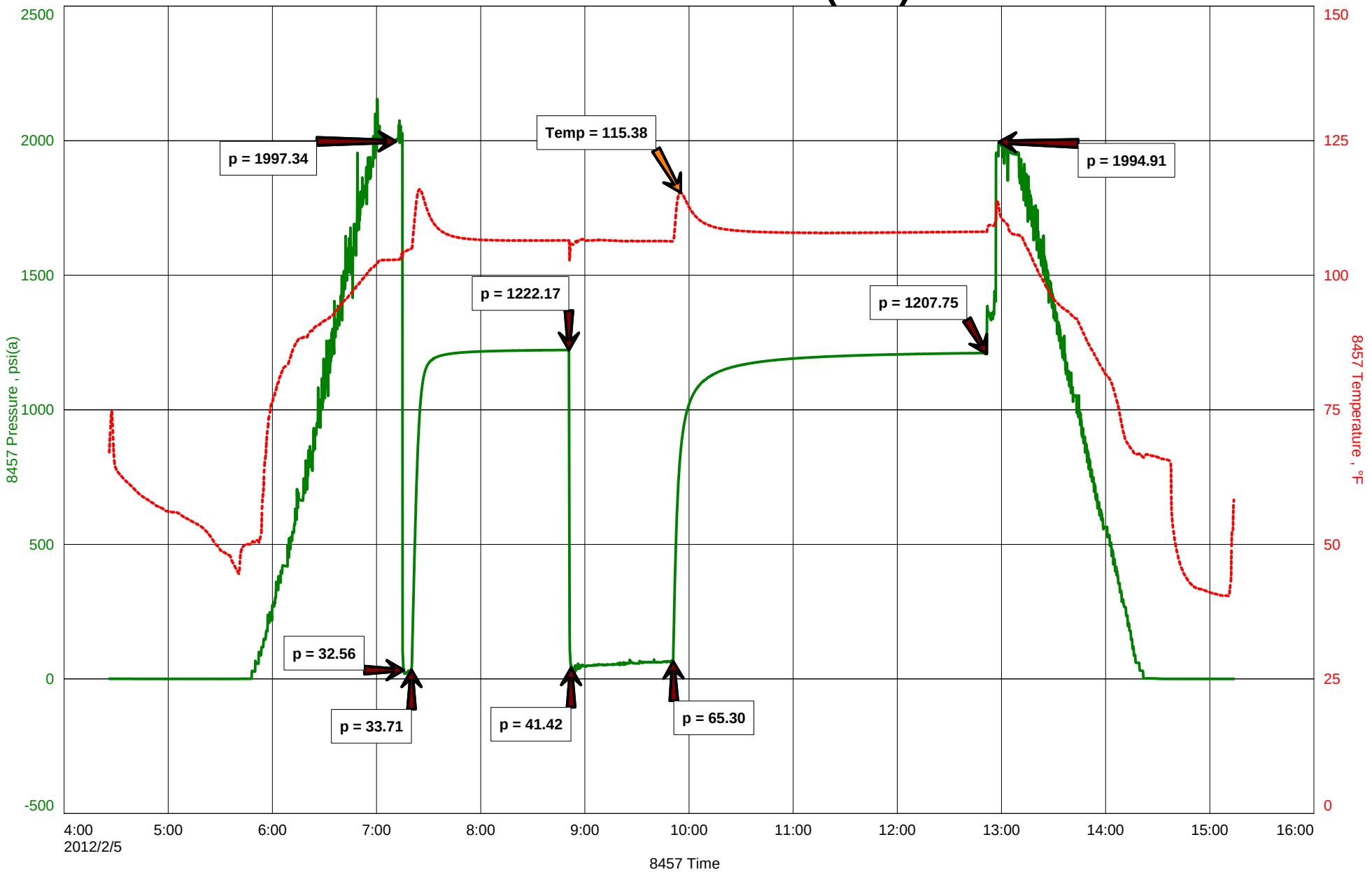
TOOL SAMPLE: TRACE OIL, 22% WATER, 93% MUD

CHLORIDES: 36,00 ppm
PH: 7.0
RW: .22 @ 68 deg.

FALCON EXPLORATION, INC.
DST #3, LANSING "A", 4196-4251
Start Test Date: 2012/02/05
Final Test Date: 2012/02/05

ALLEN ISAAC #1-24 (NW)
Formation: DST #3, LANSING "A", 4196-4251
Pool: WILDCAT
Job Number: T010

ALLEN ISAAC #1-24 (NW)



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

DRILL-STEM TEST TICKET
FILE: ALLENISAAC124NWDST3

TIME ON: 04:26
TIME OFF: 15:15

Company FALCON EXPLORATION, INC. Lease & Well No. ALLEN ISAAC #1-24 (NW)

Contractor VAL ENERGY, INC. RIG #7 Charge to FALCON EXPLORATION, INC.

Elevation 2802 KB Formation LANSING "A" Effective Pay ____ Ft. Ticket No. T010

Date 2-5-12 Sec. 24 Twp. 28 S Range 30 W County GRAY State KANSAS

Test Approved By DAVE WILLIAMS Diamond Representative TIMOTHY T. VENTERS

Formation Test No. 3 Interval Tested from 4196 ft. to 4251 ft. Total Depth 4251 ft.

Packer Depth 4191 ft. Size 6 3/4 in. Packer depth ____ ft. Size 6 3/4 in.

Packer Depth 4196 ft. Size 6 3/4 in. Packer depth ____ ft. Size 6 3/4 in.

Depth of Selective Zone Set ____

Top Recorder Depth (Inside) 4177 ft. Recorder Number 8457 Cap. 10,000 P.S.I.

Bottom Recorder Depth (Outside) 4248 ft. Recorder Number 11029 Cap. 5,025 P.S.I.

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

Mud Type CHEMICAL Viscosity 47 Drill Collar Length 0 ft. I.D. 2 1/4 in.

Weight 9.15 Water Loss 7.2 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in

Chlorides 3,700 P.P.M. Drill Pipe Length 4163 ft. I.D. 3 1/2 in

Jars: Make STERLING Serial Number #4 Test Tool Length 33 ft. Tool Size 3 1/2-IF in

Did Well Flow? NO Reversed Out NO Anchor Length 55 ft. Size 4 1/2-FH in

31' DP IN ANCHOR

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: VERY GOOD BLOW REACHING BOB 15 SEC. (NOBB)

2nd Open: VERY STRONG BLOW, HITTING BOB INSTANTANEOUSLY. (NOBB)

Recovered 4040 ft. of GAS IN PIPE

Recovered 65 ft. of MUD

Recovered 60 ft. of SLT WCM, 7% WATER, 93% MUD

Recovered ____ ft. of ____

Recovered ____ ft. of CHLORIDES: 36,000 ppm

Recovered ____ ft. of PH: 7.0

Remarks: RW: .22 @ 68 deg.

TOOL SAMPLE: TRACE OIL, 22% WATER, 88% MUD

Price Job	
Other Charges	
Insurance	
Total	

Time Set Packer(s) 7:15 AM A.M. P.M. Time Started Off Bottom 12:50 PM A.M. P.M. Maximum Temperature 115 deg.

Initial Hydrostatic Pressure ..... (A) 1997 P.S.I.

Initial Flow Period ..... Minutes 5 (B) 33 P.S.I. to (C) 34 P.S.I.

Initial Closed In Period ..... Minutes 90 (D) 1222 P.S.I.

Final Flow Period ..... Minutes 60 (E) 41 P.S.I. to (F) 65 P.S.I.

Final Closed In Period ..... Minutes 180 (G) 1208 P.S.I.

Final Hydrostatic Pressure ..... (H) 1995 P.S.I.

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	ALLEN ISAAC #1-24 (NW)	**Report Date**	2012/02/06
Unique Well ID	DST #4, LANSING "I", 4476-4509	**Prepared By**	TIM VENTERS
Surface Location	SEC 24-28S-30W, GRAY CO. KS.		
Field	WILDCAT	**Qualified By**	DAVE WILLIAMS
Well Type	Vertical		
Test Type	CONVENTIONAL		
Formation	DST #4, LANSING "I", 4476-4509		
Well Fluid Type	01 Oil		
Start Test Date	2012/02/06	**Start Test Time**	14:17:00
Final Test Date	2012/02/07	**Final Test Time**	01:31:00

Test Recovery:

RECOVERED: 240' GAS IN PIPE
5' CLEAN OIL @ 37 GRAVITY
140' SO, HWCM, 3% OIL, 47% WATER, 56% MUD
60' MCWW/TR. O, TRACE OIL,74% WATER, 26% MUD
550' SLT MCW, 99% WATER, 1% MUD

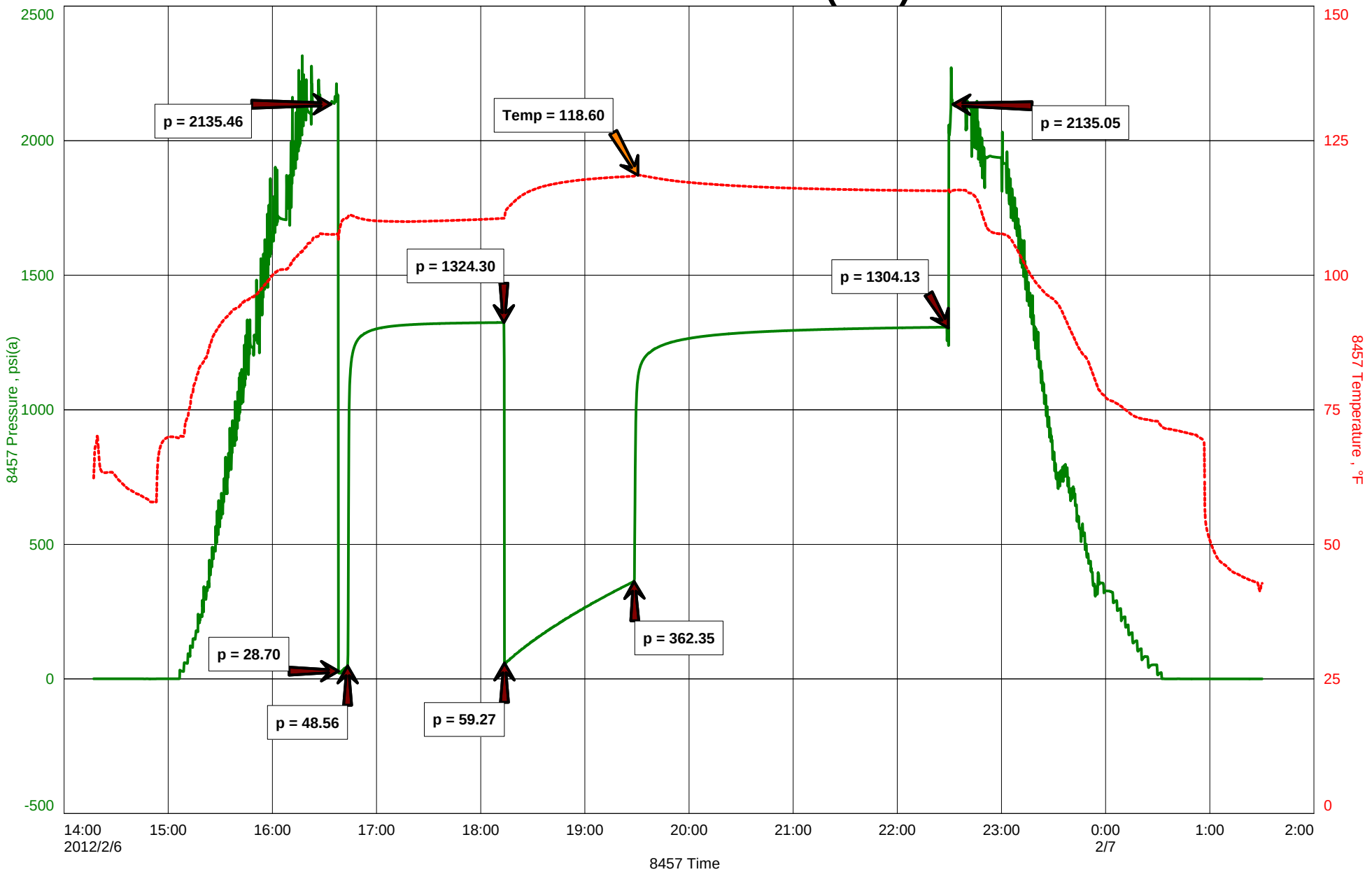
TOOL SAMPLE: 100% WATER

CHLORIDES: 59,000 ppm
PH: 7.0
RW: .15 @ 64 deg.

FALCON EXPLORATION, INC.
DST #4, LANSING "I", 4476-4509
Start Test Date: 2012/02/06
Final Test Date: 2012/02/07

ALLEN ISAAC #1-24 (NW)
Formation: DST #4, LANSING "I", 4476-4509
Pool: WILDCAT
Job Number: T011

ALLEN ISAAC #1-24 (NW)



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

DRILL-STEM TEST TICKET

FILE: ALLENISAAC124NWDST4

TIME ON: 14:17 2-6-12

TIME OFF: 01:31 2-7-12

Company FALCON EXPLORATION, INC. Lease & Well No. ALLEN ISAAC #1-24 (NW)

Contractor VAL ENERGY, INC. RIG #7 Charge to FALCON EXPLORATION, INC.

Elevation 2802 KB Formation LANSING "I" Effective Pay ____ Ft. Ticket No. T011

Date 2-6-12 Sec. 24 Twp. 28 S Range 30 W County GRAY State KANSAS

Test Approved By DAVE WILLIAMS Diamond Representative TIMOTHY T. VENTERS

Formation Test No. 4 Interval Tested from 4476 ft. to 4509 ft. Total Depth 4509 ft.

Packer Depth 4471 ft. Size 6 3/4 in. Packer depth ____ ft. Size 6 3/4 in.

Packer Depth 4476 ft. Size 6 3/4 in. Packer depth ____ ft. Size 6 3/4 in.

Depth of Selective Zone Set ____

Top Recorder Depth (Inside) 4462 ft. Recorder Number 8457 Cap. 10,000 P.S.I.

Bottom Recorder Depth (Outside) 4506 ft. Recorder Number 11029 Cap. 5,025 P.S.I.

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

Mud Type CHEMICAL Viscosity 56 Drill Collar Length 0 ft. I.D. 2 1/4 in.

Weight 9.1 Water Loss 6.4 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in

Chlorides 3,400 P.P.M. Drill Pipe Length 4443 ft. I.D. 3 1/2 in

Jars: Make STERLING Serial Number #4 Test Tool Length 33 ft. Tool Size 3 1/2-IF in

Did Well Flow? NO Reversed Out NO Anchor Length 33 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 1/2 INCH BLOW, BUILDING TO 8 INCHES. (NOBB)

2nd Open: WEAK 1/4 INCH BLOW, BUILDING, REACHING BOB 10 MIN. (1" BB)

Recovered 240 ft. of GAS IN PIPE

Recovered 5 ft. of CLEAN OIL @ 39 GRAVITY

Recovered 140 ft. of SO,HWCM, 3% OIL, 47% WATER, 56% MUD

Recovered 60 ft. of MCWW/TR.O, TRACE OIL, 74% WATER, 26% MUD

Recovered 550 ft. of SMCW, 99% WATER, 1% MUD

Recovered ____ ft. of CHLORIDES: 59,000 ppm

Remarks: PH: 7.0

RW: .15 @ 64 deg.

TOOL SAMPLE: 100% WATER

Price Job	
Other Charges	
Insurance	
Total	

Time Set Packer(s) 4:38 PM A.M. P.M. Time Started Off Bottom 10:28 PM A.M. P.M. Maximum Temperature 119 deg.

Initial Hydrostatic Pressure ..... (A) 2135 P.S.I.

Initial Flow Period ..... Minutes 5 (B) 49 P.S.I. to (C) 59 P.S.I.

Initial Closed In Period ..... Minutes 90 (D) 1324 P.S.I.

Final Flow Period ..... Minutes 75 (E) 59 P.S.I. to (F) 362 P.S.I.

Final Closed In Period ..... Minutes 180 (G) 1304 P.S.I.

Final Hydrostatic Pressure ..... (H) 2135 P.S.I.

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

Well Name:	ALLEN ISSAC #1-24 (NW)		
Location:	N2-N2-S2-NW 1/4		
License Number:	15-069-20361-00-00	Region:	GRAY CO., KS.
Spud Date:	1/28/12	Drilling Completed:	2/10/12
Surface Coordinates:	1620' FNL & 1320' FEL		
Bottom Hole Coordinates:			
Ground Elevation (ft):	2792'	K.B. Elevation (ft):	2802'
Logged Interval (ft):	Surface Cs To: 5455'	Total Depth (ft):	5455'
Formation:	Salem (Spergen) Formation		
Type of Drilling Fluid:	Chemical Mud		

OPERATOR

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

GEOLOGIST

Name: DAVID P. WILLIAMS
Company: DW ENERGY, LLC
Address: 312 N. BROADVIEW STREET
WICHITA, KANSAS 67208

Casing &Deviation Surveys

Ran jts of new 24#, 8 5/8 casing. Tallied 1840'. Set at 1839' KB. Welded straps on GS & bottom 3 joints. Centralizes (3) set at 1, 20, 35. Baskets (3) set at 1, 24, 41. Cemented with 675 sks 65/35 POZ; 6% Gel; 3% CC, 1/4 # FS. Tailed in with 150 Sks Class A; 2% Gel; 3% CC. Cement did circulate to pit. Plug down at 4:15 AM on 1/30/12.

Deviation Surveys: @ 1840' = 2 1/4 degrees; @ 3530' = 3 1/2 degrees; @ 4183' = 3 degrees;@ 4251' = 3/4 degrees; @ 4509' = 1/2 degree; @ 5450'=3/4 degree.

DSTs

DST #1 3461'-3532' Times: 5"-120"-110"-180"; Blow: IF Strong Blow BOB/ 30". FF Strong Blow GTS Instant TSTM. (See Gauge Report Below). Recovery: 3260' GIP; 170' DM. Pressures: IH 1557#; FH 1558#; IF 77-71#; FF 89-135#; ISIP 915#; FSIP 916#; Temp = 104 Degrees F.

Gas Flow:; FF GTS On Open TSTM; @ 10" = 303 Mcf; @ 20" = 324 Mcf; @ 30" = 344 Mcf; @ 40" = 357 Mcf; @ 50" = 363.5 Mcf; @ 60" = 370 Mcf; @ 70" = 377 Mcf; @ 80" = 370 Mcf; @ 90" = 377 Mcf; @ 100"= 377 Mcf; @ 110"= 377 Mcf.

DST # 2 3461'-3532'. Times: 5"-90"-65"-60"; Blow: IF Strong Blow BOB/ 4.5". FF Strong Blow BOB/5.5"'. Recovery: 1205' SWCM: (70' WCM; 120' HMCW; 1005' SWCM; 10' M). Pressures: IH 1967#; FH 1963#; IF 37-91#; FF 104-580#; ISIP = 1204#; FSIP 1173#; Temp=114 Degrees F.; Chl=88000 Ppm; PH=6.5; RW= .1 @ 65 degrees

DST #3 - 4196'-4251'; Times: 5"-90"-60"-180"; Blow: IF Strong Blow BOB/ 15 Sec. FF Strong Blow GTS/Instant. (See Gauge Report Below). Recovery: 4040'GIP;' GIP;125' GCM: (65' DM; 60' SWCM (7% Wtr)). Chl.= 36000 Ppm;Ph=7.0; RW=.22@ 68 degrees). Pressures: IH 1997#; FH 1995#; IF 33-34#; FF 41-65#; ISIP 1222#; FSIP 1208#; Temp= 115 Degrees F.

Gas Flow: FF GTS/Instant. @ 10" = 108 Mcf; @ 20" = 108 Mcf; @ 30"= 110 Mcf; @ 40"= 110 Mcf; @ 50"= 110 Mcf; @ 60"= 110 Mcf.

DST # 4 4476'-4509'; Times: 5"-90"-75"-180"; Blow: IF Fair Blow 8"@ 5 Min.. FF Fair Blow BOB@10 Min. Recovery: 240' GIP; 755' TF: (5' CO (37 Grv.); 140' SO & HWCM (3% Oil, 47% Wtr., 56% M); 60' MCW w/Tr Oil (Tr/O; 74% Wtr., 26% M), 550' SMCW (98% Wtr, 1% M)). Chl.= 59000 Ppm; Ph=7.0; RW=.15 @ 64 degrees). Pressures: IH 2135#; FH 2135#; IF 49-59#; FF 59-362#; ISIP 1324#; FSIP 1304; Temp= 119 Degrees F.

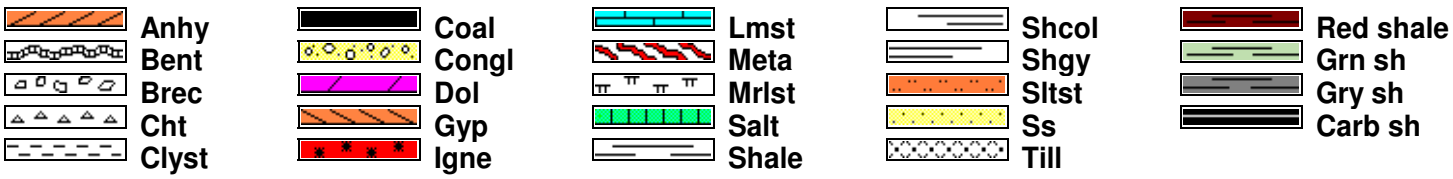
Comments

After review of all of the pertinent geological and structural data, drill test test recoveries and reservoir pressures including electric logs analyses it was recommended by all parties to run production casing and to attempt to complete this well as a commercial producer.

Respectfully submitted,

David P. Williams, P. G.

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
- Slty
- Sand
- Dol

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
- Gryslt
- Gyp
- Ls
- Mrst
- Sltstn
- Sandylms
- Sltstrg
- Ssstrg
- Sh
- Grysh

TEXTURE
- Boundst
- Chalky
- Cryxln
- Earthy
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackest

OTHER SYMBOLS

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

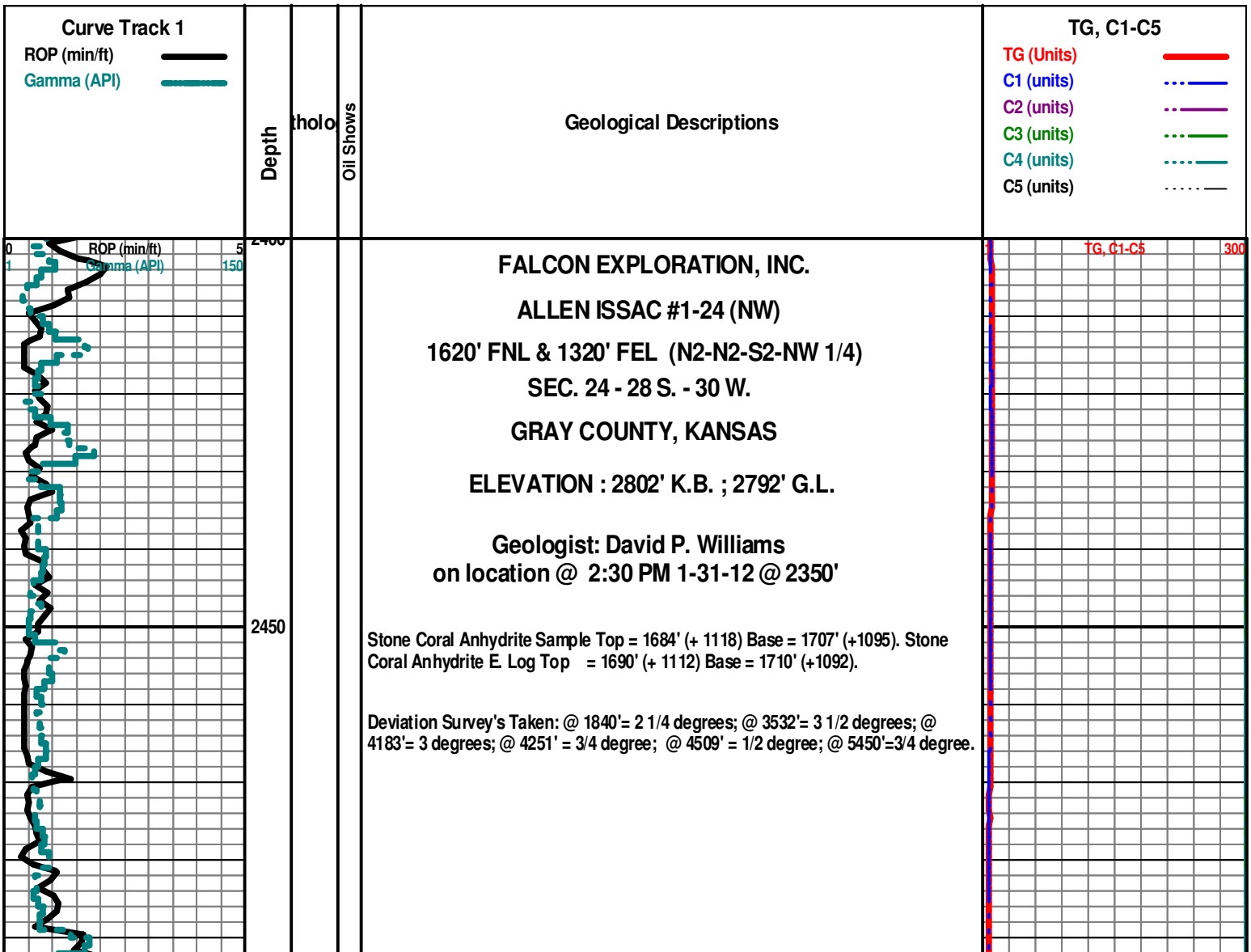
SORTING
- Well
- Moderate
- Poor

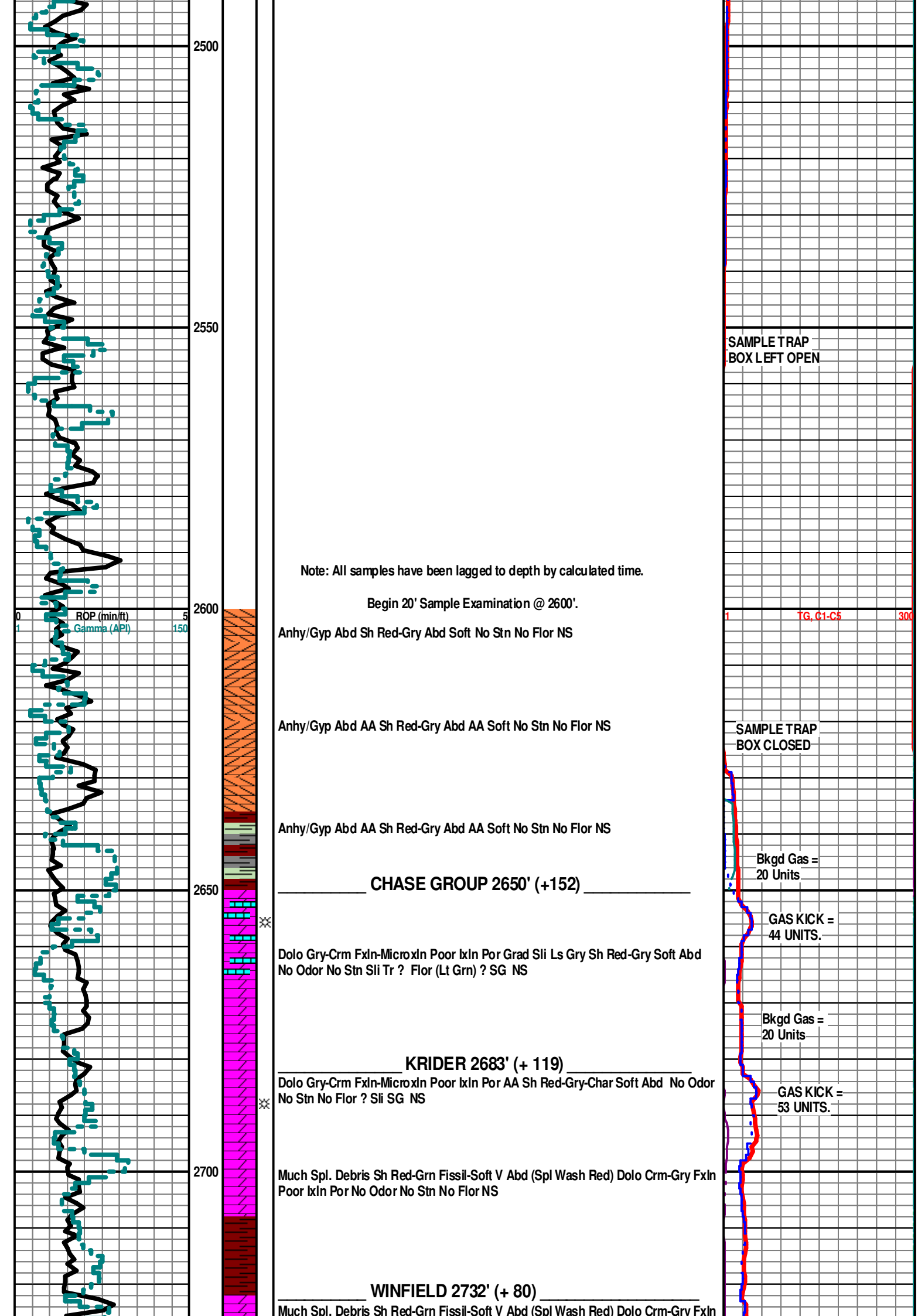
ROUNDING
- Rounded
- Subrnd
- Subang
- Angular

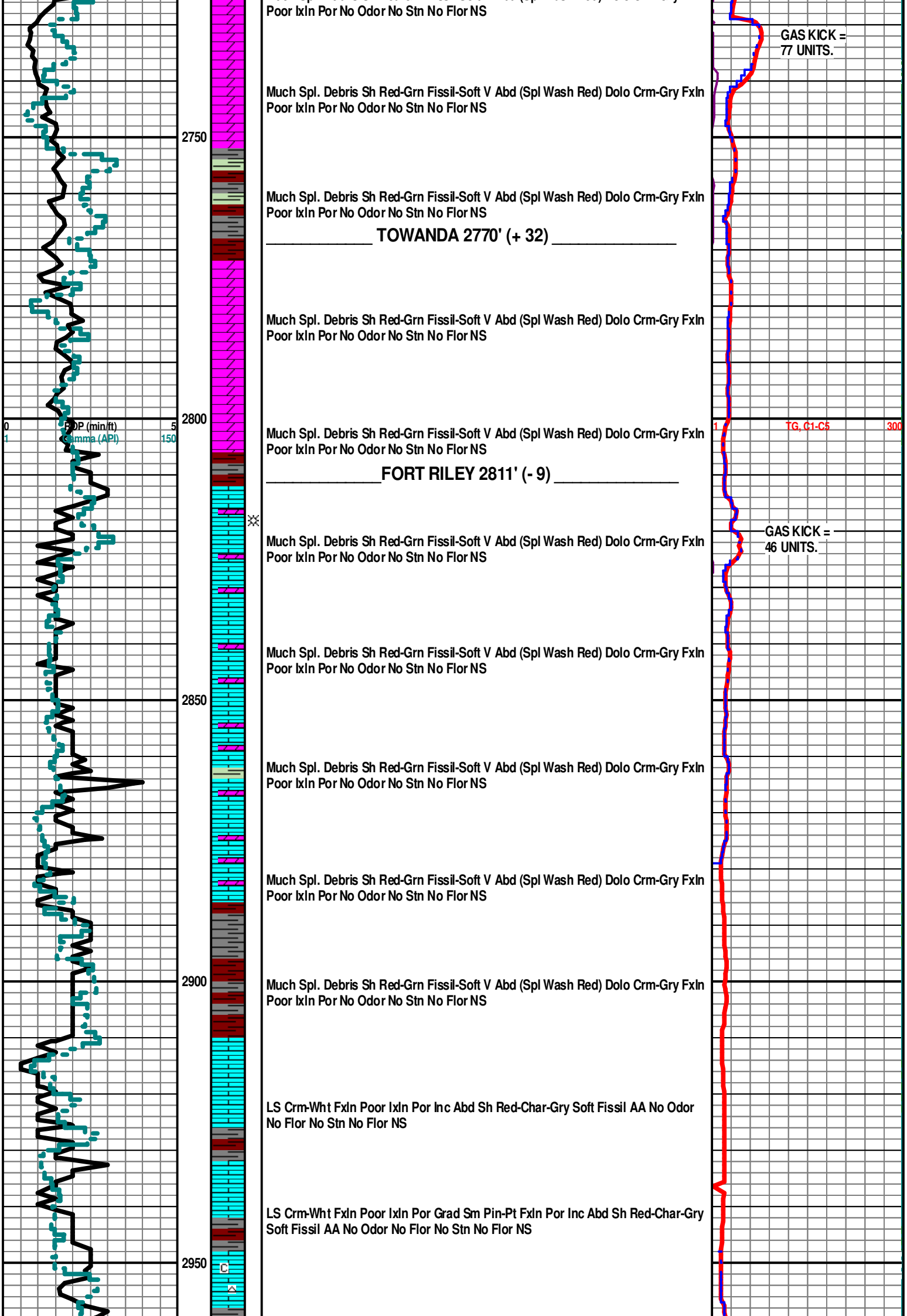
OIL SHOW
- Gas show
- Even
- Spotted
- Ques
- Dead

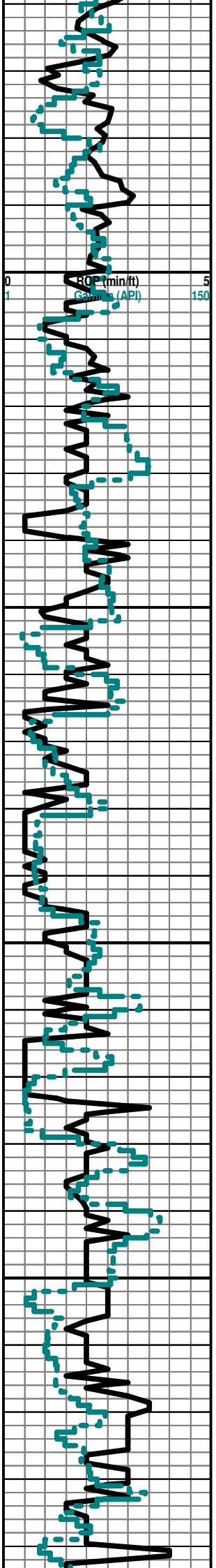
INTERVAL
- Dst_alt
- Dst
- Core
- Dst

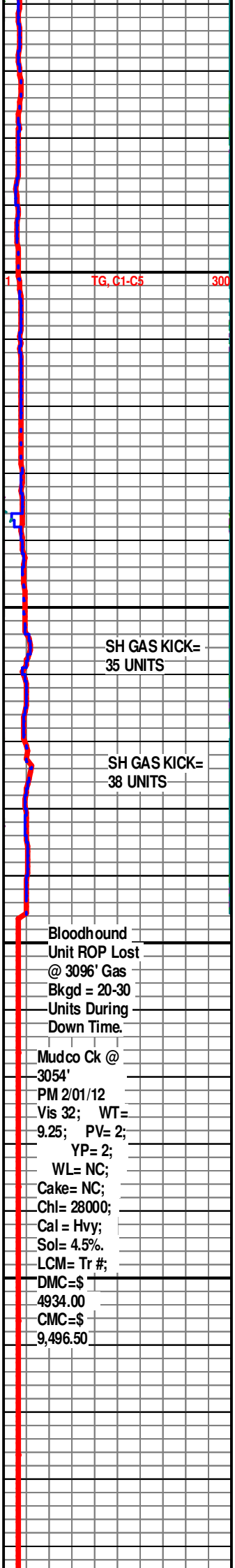
EVENT
- Rft
- Sidewall




2500
2550
2600
2650
2700
0
ROP (min/ft)
5
1
Gamma (API)
150
1
TG, C1-C5
300
SAMPLE TRAP
BOX LEFT OPEN
Note: All samples have been lagged to depth by calculated time.
Begin 20' Sample Examination @ 2600'.
Anhy/Gyp Abd Sh Red-Gry Abd Soft No Stn No Flor NS
Anhy/Gyp Abd AA Sh Red-Gry Abd AA Soft No Stn No Flor NS
SAMPLE TRAP
BOX CLOSED
Anhy/Gyp Abd AA Sh Red-Gry Abd AA Soft No Stn No Flor NS
Bkgd Gas =
20 Units
CHASE GROUP 2650' (+152)
GAS KICK =
44 UNITS.
Dolo Gry-Crm Fxln-Microxln Poor Ixln Por Grad Sli Ls Gry Sh Red-Gry Soft Abd
No Odor No Stn Sli Tr ? Flor (Lt Grn) ? SG NS
Bkgd Gas =
20 Units
KRIDER 2683' (+ 119)
Dolo Gry-Crm Fxln-Microxln Poor Ixln Por AA Sh Red-Gry-Char Soft Abd No Odor
No Stn No Flor ? Sli SG NS
GAS KICK =
53 UNITS.
Much Spl. Debris Sh Red-Grn Fissil-Soft V Abd (Spl Wash Red) Dolo Crm-Gry Fxln
Poor Ixln Por No Odor No Stn No Flor NS
WINFIELD 2732' (+ 80)
Much Spl. Debris Sh Red-Grn Fissil-Soft V Abd (Spl Wash Red) Dolo Crm-Gry Fxln


Poor Ixln Por No Odor No Stn No Flor NS
GAS KICK = 77 UNITS.
Much Spl. Debris Sh Red-Grn Fissil-Soft V Abd (Spl Wash Red) Dolo Crm-Gry Fxln Poor Ixln Por No Odor No Stn No Flor NS
2750
Much Spl. Debris Sh Red-Grn Fissil-Soft V Abd (Spl Wash Red) Dolo Crm-Gry Fxln Poor Ixln Por No Odor No Stn No Flor NS
TOWANDA 2770' (+ 32)
Much Spl. Debris Sh Red-Grn Fissil-Soft V Abd (Spl Wash Red) Dolo Crm-Gry Fxln Poor Ixln Por No Odor No Stn No Flor NS
0
ROP (min/ft)
5
1
Gamma (API)
150
2800
1
TG, C1-C5
300
Much Spl. Debris Sh Red-Grn Fissil-Soft V Abd (Spl Wash Red) Dolo Crm-Gry Fxln Poor Ixln Por No Odor No Stn No Flor NS
FORT RILEY 2811' (- 9)
GAS KICK = 46 UNITS.
Much Spl. Debris Sh Red-Grn Fissil-Soft V Abd (Spl Wash Red) Dolo Crm-Gry Fxln Poor Ixln Por No Odor No Stn No Flor NS
2850
Much Spl. Debris Sh Red-Grn Fissil-Soft V Abd (Spl Wash Red) Dolo Crm-Gry Fxln Poor Ixln Por No Odor No Stn No Flor NS
Much Spl. Debris Sh Red-Grn Fissil-Soft V Abd (Spl Wash Red) Dolo Crm-Gry Fxln Poor Ixln Por No Odor No Stn No Flor NS
2900
Much Spl. Debris Sh Red-Grn Fissil-Soft V Abd (Spl Wash Red) Dolo Crm-Gry Fxln Poor Ixln Por No Odor No Stn No Flor NS
LS Crm-Wht Fxln Poor Ixln Por Inc Abd Sh Red-Char-Gry Soft Fissil AA No Odor No Flor No Stn No Flor NS
LS Crm-Wht Fxln Poor Ixln Por Grad Sm Pin-Pt Fxln Por Inc Abd Sh Red-Char-Gry Soft Fissil AA No Odor No Flor No Stn No Flor NS
2950





LS Crm-Wht Fxln Poor Ixln Por Grad Sm Pin-Pt Fxln Por Inc Abd Sh Red-Char-Gry-Grn Soft Fissil AA Cht Gry Op Shp Vit Chalk Wht No Odor No Flor No Stn No Flor NS

LS Crm-Wht Fxln Poor Ixln Por Grad Sm Pin-Pt Fxln Por Inc Abd Sh Red-Char-Gry-Grn Soft Fissil AA Cht Gry Op Shp Vit Chalk Wht No Odor No Flor No Stn No Flor NS

LS Crm-Wht Fxln Poor Ixln Por Grad Sm Pin-Pt Fxln Por Inc Abd Sh Red-Char-Gry-Grn Soft Fissil AA Cht Gry Op Shp Vit Chalk Wht No Odor No Flor No Stn No Flor NS

LS Crm-Wht Fxln Poor Ixln Por Grad Sm Pin-Pt Fxln Por Inc Abd Sh Red-Char-Gry-Grn Soft Fissil AA Cht Gry Op Shp Vit Chalk Wht No Odor No Flor No Stn No Flor NS

LS Wht-Crm-Gry Fxln Poor Ixln Por Grad Sm Pin-Pt Fxln Por Grad Micritic Dsn Barren Sh Red-Char-Gry-Grn Soft Fissil Inc Cht Gry Op Shp Vit Chalk Wht No Odor No Flor No Stn No Flor NS

BADER 3064' (- 262)

LS Wht-Crm-Gry Fxln Poor Ixln Por Grad Sm Pin-Pt Fxln Por Grad Micritic Dsn Barren Sh Red-Char-Gry-Grn Soft Fissil Inc Cht Gry Op Shp Vit Chalk Wht No Odor No Flor No Stn No Flor NS

COTTONWOOD 3079' (- 277)

LS Wht-Crm-Gry Poor OOM Por Fair InterOOM Por w/OOL in pl w/Poor- Fair Leaching Fair-Good Disolu Tr/Vug Por Barren Grad Fxln Ixln Por Grad Sm Pin-Pt Fxln Por Grad Micritic Dsn Barren Sh Red-Char-Grn Soft Fissil Dec Cht Gry Op Shp Vit Chalk Wht Abd No Odor No Flor No Stn No Flor NS

LS Wht-Crm-Gry Poor OOM Por Fair InterOOM Por w/OOL in pl w/Poor- Fair Leaching Fair-Good Disolu Tr/Vug Por Barren Grad Fxln Ixln Por Grad Sm Pin-Pt Fxln Por Grad Micritic Dsn Barren Sh Red-Char-Grn Soft Fissil Dec Cht Gry Op Shp Vit Chalk Wht Abd No Odor No Flor No Stn No Flor NS

LS Wht-Crm-Gry Poor OOM Por Fair InterOOM Por w/OOL in pl w/Poor- Fair Leaching Fair-Good Disolu Tr/Vug Por Barren Grad Fxln Ixln Por Grad Sm Pin-Pt Fxln Por Grad Micritic Dsn Barren Sh Red-Char-Grn Soft Fissil Dec Cht Gry Op Shp Vit Chalk Wht Abd No Odor No Flor No Stn No Flor NS

NEVA 3140' (- 338)

LS Wht-Crm-Gry Poor OOM Por Fair InterOOM Por w/OOL in pl w/Poor- Fair Leaching Fair-Good Disolu Tr/Vug Por Barren Grad Fxln Ixln Por Grad Sm Pin-Pt Fxln Por Grad Micritic Dsn Barren Sh Red-Char-Grn Soft Fissil Dec Cht Gry Op Shp Vit Chalk Wht Abd No Odor No Flor No Stn No Flor NS

LS Wht-Crm-Gry Fxln Ixln Por Grad Micritic Dsn Barren Grad Poor OOM Por Poor-Fair InterOOM Por Poor- Fair Leaching Fair Disolu Barren Dec Sh Red-Char-Grn Soft Fissil Dec Cht Amber-Tan Op Shp Vit Chalk Wht Abd No Odor No Flor No Stn No Flor NS

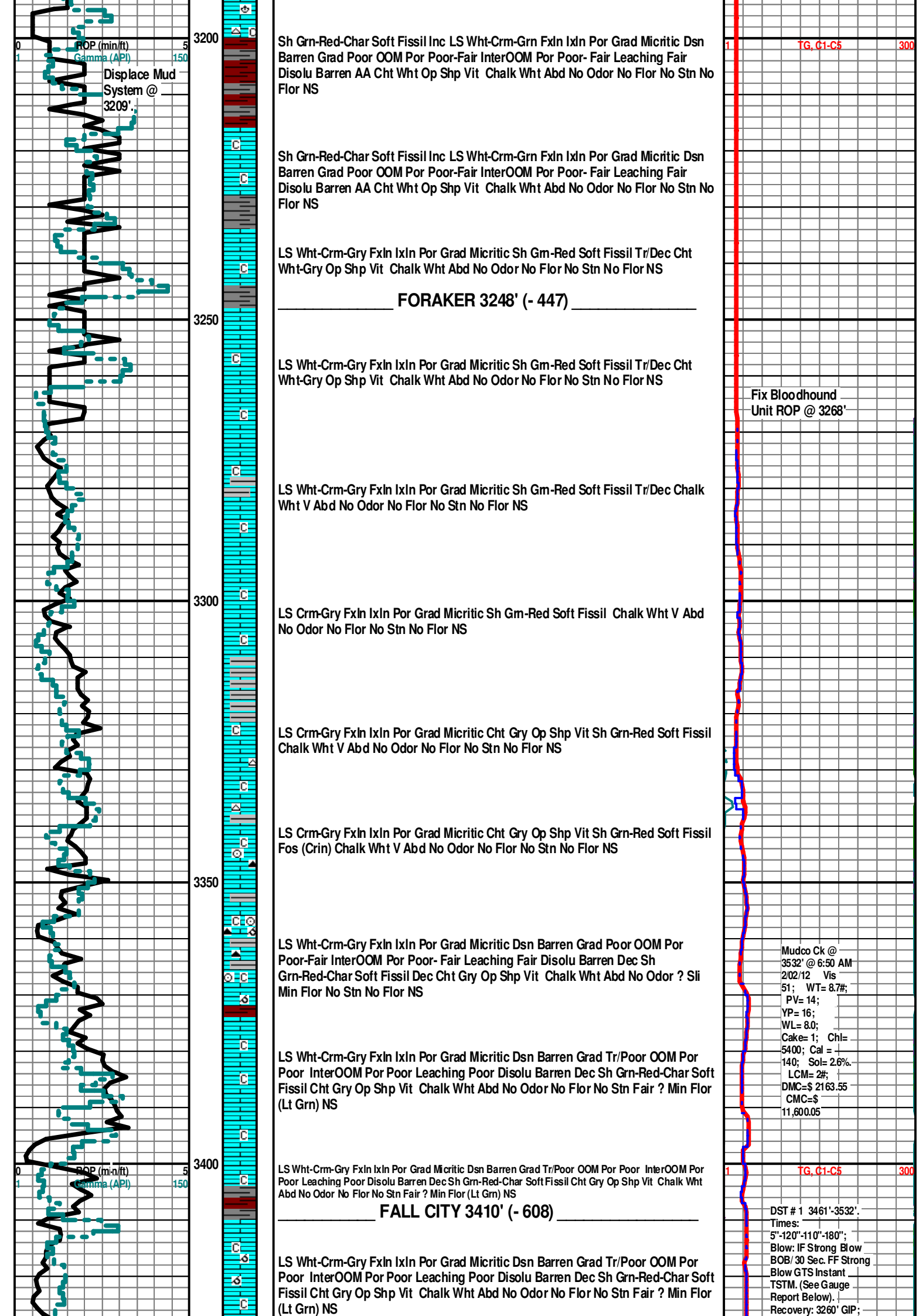
LS Wht-Crm-Gry Fxln Ixln Por Grad Micritic Dsn Barren Grad Poor OOM Por Poor-Fair InterOOM Por Poor- Fair Leaching Fair Disolu Barren Dec Sh Grn-Red-Char Soft Fissil Dec Cht Wht w/Fos (Brach) Inclu Op Shp Vit Chalk Wht Abd No Odor No Flor No Stn No Flor NS

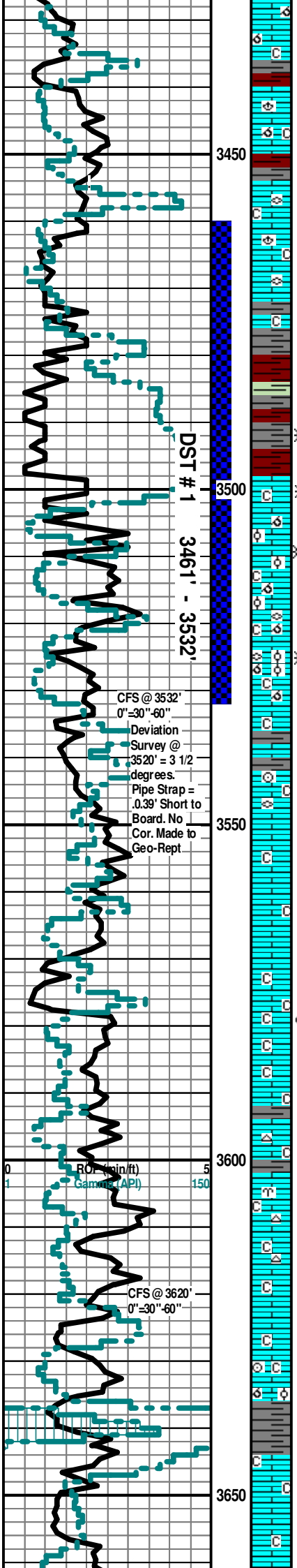
SH GAS KICK= 35 UNITS

SH GAS KICK= 38 UNITS

Bloodhound Unit ROP Lost @ 3096' Gas Bkgd = 20-30 Units During Down Time.

Mudco Ck @ 3054'
PM 2/01/12
Vis 32; WT= 9.25; PV= 2; YP= 2; WL= NC; Cake= NC; Chl= 28000; Cal = Hvy; Sol= 4.5%. LCM= Tr #; DMC=$ 4934.00 CMC=$ 9,496.50


0
ROP (min/ft)
5
1
Gamma (API)
150
Displace Mud System @ 3209'.
3200
Sh Grn-Red-Char Soft Fissil Inc LS Wht-Crm-Grn Fxln Ixln Por Grad Micritic Dsn Barren Grad Poor OOM Por Poor-Fair InterOOM Por Poor- Fair Leaching Fair Disolu Barren AA Cht Wht Op Shp Vit Chalk Wht Abd No Odor No Flor No Stn No Flor NS
Sh Grn-Red-Char Soft Fissil Inc LS Wht-Crm-Grn Fxln Ixln Por Grad Micritic Dsn Barren Grad Poor OOM Por Poor-Fair InterOOM Por Poor- Fair Leaching Fair Disolu Barren AA Cht Wht Op Shp Vit Chalk Wht Abd No Odor No Flor No Stn No Flor NS
LS Wht-Crm-Gry Fxln Ixln Por Grad Micritic Sh Grn-Red Soft Fissil Tr/Dec Cht Wht-Gry Op Shp Vit Chalk Wht Abd No Odor No Flor No Stn No Flor NS
FORAKER 3248' (- 447)
3250
LS Wht-Crm-Gry Fxln Ixln Por Grad Micritic Sh Grn-Red Soft Fissil Tr/Dec Cht Wht-Gry Op Shp Vit Chalk Wht Abd No Odor No Flor No Stn No Flor NS
Fix Bloodhound Unit ROP @ 3268'
LS Wht-Crm-Gry Fxln Ixln Por Grad Micritic Sh Grn-Red Soft Fissil Tr/Dec Chalk Wht V Abd No Odor No Flor No Stn No Flor NS
3300
LS Crm-Gry Fxln Ixln Por Grad Micritic Sh Grn-Red Soft Fissil Chalk Wht V Abd No Odor No Flor No Stn No Flor NS
LS Crm-Gry Fxln Ixln Por Grad Micritic Cht Gry Op Shp Vit Sh Grn-Red Soft Fissil Chalk Wht V Abd No Odor No Flor No Stn No Flor NS
LS Crm-Gry Fxln Ixln Por Grad Micritic Cht Gry Op Shp Vit Sh Grn-Red Soft Fissil Fos (Crin) Chalk Wht V Abd No Odor No Flor No Stn No Flor NS
3350
LS Wht-Crm-Gry Fxln Ixln Por Grad Micritic Dsn Barren Grad Poor OOM Por Poor-Fair InterOOM Por Poor- Fair Leaching Fair Disolu Barren Dec Sh Grn-Red-Char Soft Fissil Dec Cht Gry Op Shp Vit Chalk Wht Abd No Odor ? Sli Min Flor No Stn No Flor NS
Mudco Ck @ 3532' @ 6:50 AM 2/02/12 Vis 51; WT= 8.7#; PV= 14; YP= 16; WL= 8.0; Cake= 1; Chl= 5400; Cal = 140; Sol= 2.6%. LCM= 2#; DMC=$ 2163.55 CMC=$ 11,600.05
LS Wht-Crm-Gry Fxln Ixln Por Grad Micritic Dsn Barren Grad Tr/Poor OOM Por Poor InterOOM Por Poor Leaching Poor Disolu Barren Dec Sh Grn-Red-Char Soft Fissil Cht Gry Op Shp Vit Chalk Wht Abd No Odor No Flor No Stn Fair ? Min Flor (Lt Grn) NS
0
ROP (min/ft)
5
1
Gamma (API)
150
3400
LS Wht-Crm-Gry Fxln Ixln Por Grad Micritic Dsn Barren Grad Tr/Poor OOM Por Poor InterOOM Por Poor Leaching Poor Disolu Barren Dec Sh Grn-Red-Char Soft Fissil Cht Gry Op Shp Vit Chalk Wht Abd No Odor No Flor No Stn Fair ? Min Flor (Lt Grn) NS
FALL CITY 3410' (- 608)
LS Wht-Crm-Gry Fxln Ixln Por Grad Micritic Dsn Barren Grad Tr/Poor OOM Por Poor InterOOM Por Poor Leaching Poor Disolu Barren Dec Sh Grn-Red-Char Soft Fissil Cht Gry Op Shp Vit Chalk Wht Abd No Odor No Flor No Stn Fair ? Min Flor (Lt Grn) NS
1
TG, C1-C5
300
DST # 1 3461'-3532'. Times: 5"-120"-110"-180"; Blow: IF Strong Blow BOB/ 30 Sec. FF Strong Blow GTS Instant TSTM. (See Gauge Report Below). Recovery: 3260' GIP;



LS Crm-Gry Fxln Ixln Por Micritic Dsn No Vis Por Barren Tr OOM Por AA Sh Grn-Red Soft Fissil Dec Fos (Brach) Chalk Wht Abd No Odor No Flor No Stn Fair ? Min Flor (Lt Grn) NS

Begin 10' Sample Examination @ 3470'.

LS Crm-Gry Fxln Ixln 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

LS Crm-Gry Fxln Ixln 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 3472' (- 671) _____

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

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

_____ STOTLER 3498' (- 696) _____

LS Wht-Crm-Gry Microxln-Fxln Ixln Por Micritic Dsn Barren Tr/Fair OOM Por w/OOL in pl (1 Pc) Poor InterOOM Por Fair Leaching Fair Disolu Sh Grn-Red Soft Chalk Wht Abd No Odor ? Fair Min Flor (Lt Grn-Wht) No Stn ? SG

0" CFS @ 3532' LS Wht-Crm-Gry Microxln-Fxln Ixln Por Micritic Dsn Barren Grad Tr/Fair OOM Por w/OOL in pl Fair InterOOM Por Fair Leaching Fair Disolu Sh Grn-Red Soft Fos (Fuss) Chalk Wht Abd No Odor ? Fair Min Flor (Lt Grn-Wht) No Stn ? SG

30" CFS @ 3532' LS Wht-Crm-Gry Microxln-Fxln Ixln Por Micritic Dsn Barren Grad Tr/Fair OOM Por w/OOL (Small) in pl Fair InterOOM Por Fair Leaching Fair Disolu Sh Grn-Red Soft Fos (Fuss) Chalk Wht Abd No Odor ? Good Min Flor (Lt Wht) No Stn ? SG

60" CFS @ 3532' LS Wht-Crm-Gry Microxln-Fxln Ixln Por Micritic Dsn Barren Grad Tr/Fair OOM Por w/OOL (Small) in pl Fair InterOOM Por Fair Leaching Fair Disolu Sh Grn-Red Soft Fos (Fuss) Chalk Wht Abd No Odor ? Good Min Flor (Lt Wht) No Stn ? SG

LS Gry-Crm Microxln-Fxln Ixln Por Micritic Dsn Barren Chalk Wht Abd Sh Gry-Char-Red Soft No Odor Tr/ Min Flor (Lt Wht) No Stn NS

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 ? Med Min Flor (Lt Wht) No Stn NS

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

_____ TARKIO 3569' (- 767) _____

LS Wht-Gry Microxln-Fxln Ixln Por Micritic Dsn Barren Chalk Wht V Abd Sh Gry-Char-Maroon Soft-Fissil No Odor ? Med Min Flor (Lt Wht) No Stn ? SSG ?

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

0" CFS @ 3620' LS Wht-Gry Microxln-Fxln Ixln Por Micritic Dsn Barren Chalk Wht V Abd Cht Crm-Tan Op Shp Sh Gry-Char Soft No Odor ? Med Min Flor (Lt Wht) No Stn NS

30" CFS @ 3620' LS Wht-Gry Microxln-Fxln Ixln Por Micritic Dsn Barren Chalk Wht V Abd Cht Crm-Tan Op-Transl Shp Vit Fos (Bry) Sh Gry-Char Soft No Odor ? Med Min Flor (Lt Wht) No Stn NS

60" CFS @ 3620' LS Wht-Gry Microxln-Fxln Ixln Por Micritic Dsn Barren Chalk Wht V Abd Cht Crm-Tan Op-Transl Shp Vit Fos (Bry) Sh Gry-Char Soft No Odor ? Med Min Flor (Lt Wht) No Stn NS

LS Gry-Tr/Crm Microxln-Fxln Ixln Por Micritic Dsn Barren Chalk Wht Abd 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

LS Wht-Gry Microxln-Fxln Ixln Por Micritic Dsn Barren Chalk Wht Abd Sh Gry-Char-Red Soft No Odor ? Med Min Flor (Dull Wht) No Stn NS

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

LS Wht-Gry Fxln Por Mostly Micritic AA Dsn Barren Chalk Wht Abd Sh Gry-Char

170' DM Pressures:
IH 1557#;
FH 1558#; IF
77-71#; FF
89-135#; ISIP
915#; FSIP
916#; Temp=
104 Degrees F.

Gas Flow:; FF GTS On Open TSTM; @ 10" = 303 Mcf; @ 20" = 324 Mcf; @ 30" = 344 Mcf; @ 40" = 357 Mcf; @ 50" = 363.5 Mcf; @ 60" = 370 Mcf; @ 70" = 377 Mcf; @ 80" = 370 Mcf; @ 90"= 377 Mcf; @ 100"= 377 Mcf; @ 110"= 377 Mcf.

GAS KICK = 77 UNITS

Scale Change
1 TG, C1-C5 200

GAS KICK = 63 UNITS

GAS KICK = 163 UNITS

RE-CYCLE GAS KICK = 118 UNITS

Scale Change
1 TG, C1-C5 300

BKGD GAS KICK = 154 UNITS

? TRIP GAS AFTER DST # 1

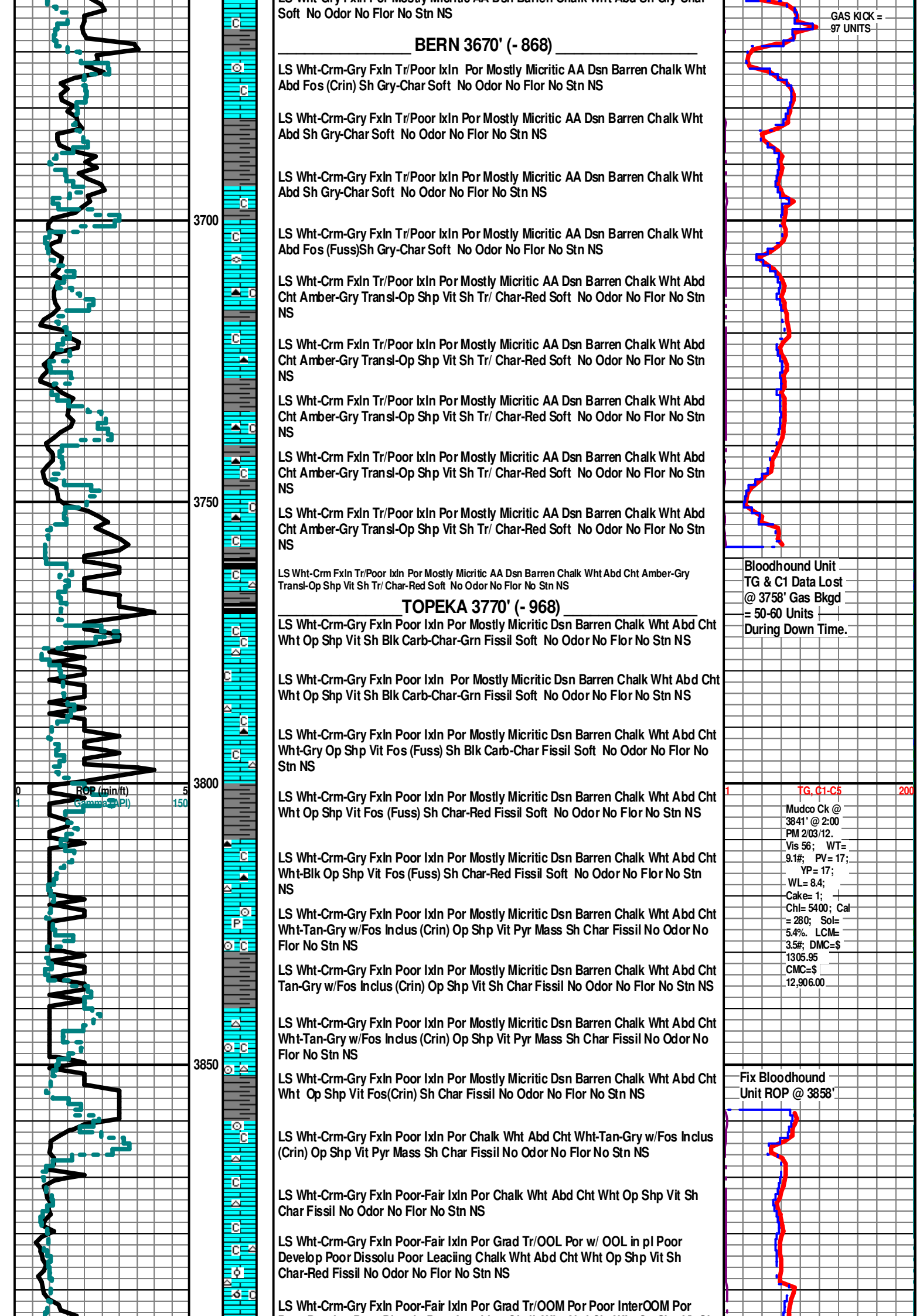
BKGD GAS KICK = 154 UNITS

Scale C
1 TG, C1-C5 200

GAS KICK = 186 UNITS

1 TG, C1-C5 200

BKGD GAS KICK = 120 UNITS



LS Wht-Gry Fxln Por Mostly Micritic AA Dsn Barren Chalk Wht Abd Sh Gry-Char Soft No Odor No Flor No Stn NS

BERN 3670' (- 868)

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

TOPEKA 3770' (- 968)

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 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-Crm-Gry Fxln Poor Ixln Por Mostly Micritic Dsn Barren Chalk Wht Abd Cht Wht Op Shp Vit Fos (Fuss) Sh Char-Red 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-Blk Op Shp Vit Fos (Fuss) Sh Char-Red 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-Tan-Gry w/Fos Inclus (Crin) Op Shp Vit Pyr Mass 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 Cht Tan-Gry w/Fos Inclus (Crin) Op Shp Vit 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 Cht Wht-Tan-Gry w/Fos Inclus (Crin) Op Shp Vit Pyr Mass 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 Cht Wht Op Shp Vit Fos(Crin) Sh Char Fissil No Odor No Flor No Stn NS

LS Wht-Crm-Gry Fxln Poor Ixln Por Chalk Wht Abd Cht Wht-Tan-Gry w/Fos Inclus (Crin) Op Shp Vit Pyr Mass Sh Char Fissil No Odor No Flor No Stn NS

LS Wht-Crm-Gry Fxln Poor-Fair Ixln Por Chalk Wht Abd Cht Wht Op Shp Vit Sh Char Fissil No Odor No Flor No Stn NS

LS Wht-Crm-Gry Fxln Poor-Fair Ixln Por Grad Tr/OOL Por w/ OOL in pl Poor Develop Poor Dissolu Poor Leaciing Chalk Wht Abd Cht Wht Op Shp Vit Sh Char-Red Fissil No Odor No Flor No Stn NS

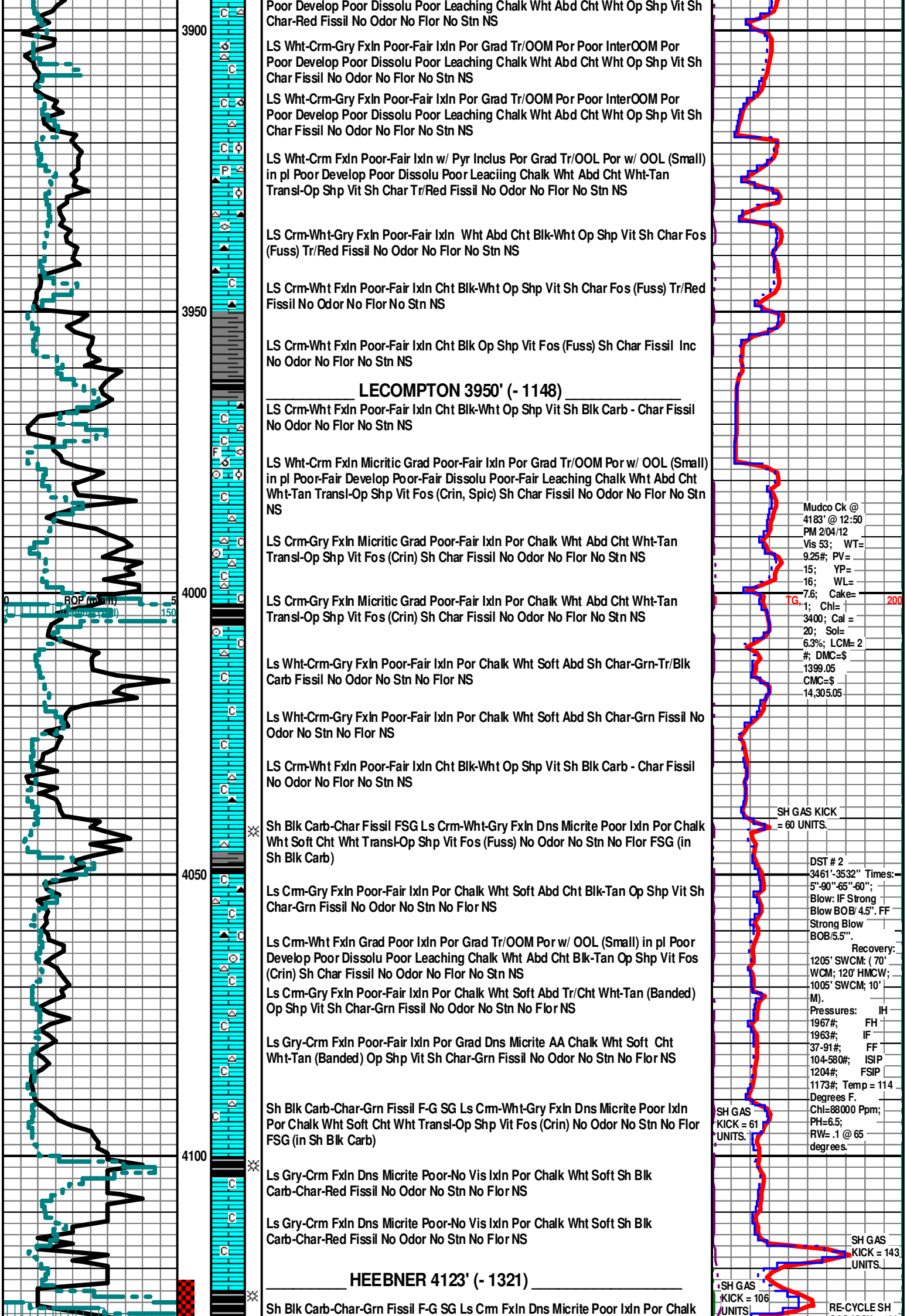
LS Wht-Crm-Gry Fxln Poor-Fair Ixln Por Grad Tr/OOM Por Poor InterOOM Por

GAS KICK = 97 UNITS

Bloodhound Unit TG & C1 Data Lost @ 3758' Gas Bkgd = 50-60 Units During Down Time.

Mudco Ck @ 3841' @ 2:00 PM 2/03/12. Vis 56; WT= 9.1#; PV= 17; YP= 17; WL= 8.4; Cake= 1; Chl= 5400; Cal = 280; Sol= 5.4%. LCM= 3.5#; DMC=$ 1305.95 CMC=$ 12,906.00

Fix Bloodhound Unit ROP @ 3858'



Poor Develop Poor Dissolu Poor Leaching Chalk Wht Abd Cht Wht Op Shp Vit Sh Char-Red Fissil No Odor No Flor No Stn NS

LS Wht-Crm-Gry Fxln Poor-Fair Ixln Por Grad Tr/OOM Por Poor InterOOM Por Poor Develop Poor Dissolu Poor Leaching Chalk Wht Abd Cht Wht Op Shp Vit Sh Char Fissil No Odor No Flor No Stn NS

LS Wht-Crm-Gry Fxln Poor-Fair Ixln Por Grad Tr/OOM Por Poor InterOOM Por Poor Develop Poor Dissolu Poor Leaching Chalk Wht Abd Cht Wht Op Shp Vit Sh Char Fissil No Odor No Flor No Stn NS

LS Wht-Crm Fxln Poor-Fair Ixln w/ Pyr Inclus Por Grad Tr/OOL Por w/ OOL (Small) in pl Poor Develop Poor Dissolu Poor Leaciing Chalk Wht Abd Cht Wht-Tan Transl-Op Shp Vit Sh Char Tr/Red Fissil No Odor No Flor No Stn NS

LS Crm-Wht-Gry Fxln Poor-Fair Ixln Wht Abd Cht Blk-Wht Op Shp Vit Sh Char Fos (Fuss) Tr/Red Fissil No Odor No Flor No Stn NS

LS Crm-Wht Fxln Poor-Fair Ixln Cht Blk-Wht Op Shp Vit Sh Char Fos (Fuss) Tr/Red Fissil No Odor No Flor No Stn NS

LS Crm-Wht Fxln Poor-Fair Ixln Cht Blk Op Shp Vit Fos (Fuss) Sh Char Fissil Inc No Odor No Flor No Stn NS

LECOMPTON 3950' (- 1148)

LS Crm-Wht Fxln Poor-Fair Ixln Cht Blk-Wht Op Shp Vit Sh Blk Carb - Char Fissil No Odor No Flor No Stn NS

LS Wht-Crm Fxln Micritic Grad Poor-Fair Ixln Por Grad Tr/OOM Por w/ OOL (Small) in pl Poor-Fair Develop Poor-Fair Dissolu Poor-Fair Leaching Chalk Wht Abd Cht Wht-Tan Transl-Op Shp Vit Fos (Crin, Spic) Sh Char Fissil No Odor No Flor No Stn NS

LS Crm-Gry Fxln Micritic Grad Poor-Fair Ixln Por Chalk Wht Abd Cht Wht-Tan Transl-Op Shp Vit Fos (Crin) Sh Char Fissil No Odor No Flor No Stn NS

LS Crm-Gry Fxln Micritic Grad Poor-Fair Ixln Por Chalk Wht Abd Cht Wht-Tan Transl-Op Shp Vit Fos (Crin) Sh Char Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Gry Fxln Poor-Fair Ixln Por Chalk Wht Soft Abd Sh Char-Grn-Tr/Blk Carb Fissil No Odor No Stn No Flor NS

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

LS Crm-Wht Fxln Poor-Fair Ixln Cht Blk-Wht Op Shp Vit Sh Blk Carb - Char Fissil No Odor No Flor No Stn NS

Sh Blk Carb-Char Fissil FSG Ls Crm-Wht-Gry Fxln Dns Micrite Poor Ixln Por Chalk Wht Soft Cht Wht Transl-Op Shp Vit Fos (Fuss) No Odor No Stn No Flor FSG (in Sh Blk Carb)

Ls Crm-Gry Fxln Poor-Fair Ixln Por Chalk Wht Soft Abd Cht Blk-Tan Op Shp Vit Sh Char-Grn Fissil No Odor No Stn No Flor NS

Ls Crm-Wht Fxln Grad Poor Ixln 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 Fxln Poor-Fair Ixln 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 Fxln Poor-Fair Ixln Por Grad Dns Micrite AA Chalk Wht Soft Cht Wht-Tan (Banded) Op Shp Vit Sh Char-Grn Fissil No Odor No Stn No Flor NS

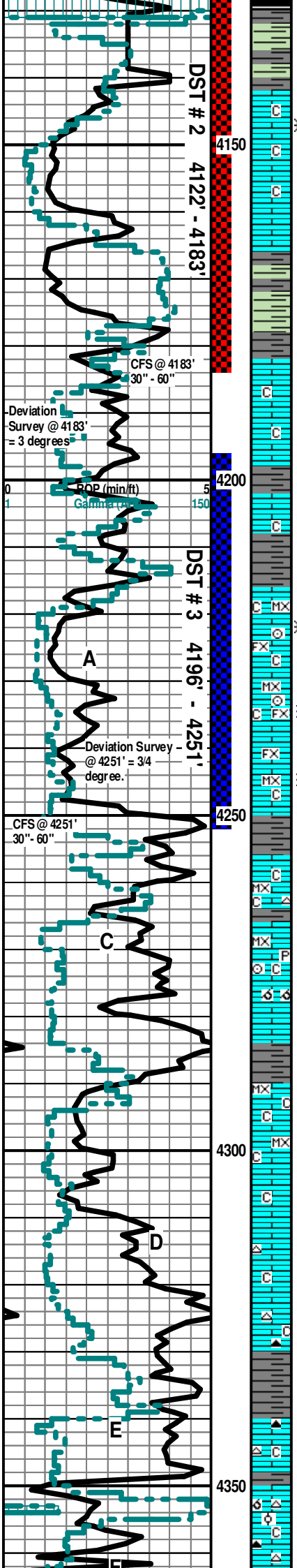
Sh Blk Carb-Char-Grn Fissil F-G SG Ls Crm-Wht-Gry Fxln Dns Micrite Poor Ixln Por Chalk Wht Soft Cht Wht Transl-Op Shp Vit Fos (Crin) No Odor No Stn No Flor FSG (in Sh Blk Carb)

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

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

HEEBNER 4123' (- 1321)

Sh Blk Carb-Char-Grn Fissil F-G SG Ls Crm Fxln Dns Micrite Poor Ixln Por Chalk



Wht Soft Cht Wht Transl-Op Shp Vit Fos (Crin) No Odor No Stn No Flor FSG (in Sh Blk Carb)

TORONTO 4142' (- 1340)

Ls Wht-Crm Microxln-Fxln Poor-Fair Ixln Por Cht Wht Op Shp Vit Chalk Wht Soft Abd Sh Blk Carb-Char AA Fissil No Odor No Stn Ls w/Med ? Min Flor or Stn Flor ?

DOUGLAS 4160' (- 1358)

30" CFS @ 4183' Sh Char-Gry-Grn Soft-Fissli w/ \Fos (Fuss) Ls Crm-Wht-Gry Fxln Dns Micrite Poor Ixln Por Chalk Wht Soft Abd No Odor No Stn Few Pcs Sli ? Min Flor AA Grad No Flor NS

60" CFS @ 4183' Sh Char-Gry-Grn Soft-Fissli w/ \Fos (Fuss) Ls Crm-Wht-Gry Fxln Dns Micrite Poor Ixln Por Chalk Wht Soft Abd No Odor No Stn Few Pcs Sli ? Min Flor AA Grad No Flor NS

Sh Char-Gry-Grn Soft-Fissli Ls Crm-Wht-Gry Fxln Dns Micrite Poor Ixln Por Chalk Wht Soft Abd No Odor No Stn Few Pcs Sli ? Min Flor AA Grad No Flor NS

Ls Wht-Crm Microxln-Fxln Poor-Fair Ixln Por Cht Wht-Tan Op Shp Vit Chalk Wht Soft Abd Sh Char-Gry-Grn Tr/Blk Carb Fissil No Odor No Stn Dec Sli ? Min Flor NS

Ls Wht-Crm Microxln-Fxln Poor-Fair Ixln Por Cht Wht-Tan Op Shp Vit Chalk Wht Soft Abd Sh Char-Gry-Grn Tr/Blk Carb Fissil No Odor No Stn Dec Sli ? Min Flor NS

LANSING 4216' (-1414)

Ls Wht-Dk Gry Microxln-Fxln w/ Pin-Pt Ixln Por w/ Fair- Med SG (Under Heat) Even Sat Stn Flor (Lt Grn-Wht) Throught Tray Cht Wht-Tan Op Shp Vit Fos (Crin) Chalk Wht Soft Sh Char-Gry Fissil No Odor SG

30" CFS @ 4251' Ls Wht-Dk Gry Microxln-Fxln w/ Pin-Pt Ixln Por w/ Fair- Med SG (Under Heat) Even Sat Stn Flor (Lt Grn-Wht) Throught Tray Cht Wht-Tan Op Shp Vit Fos (Crin) Chalk Wht Soft Sh Char-Gry Fissil No Odor SG

60" CFS @ 4251' Ls Wht-Dk Gry Microxln-Fxln w/ Pin-Pt Ixln Por w/ Fair- Med SG (Under Heat) Even Sat Stn Flor (Lt Grn-Wht-Throught Spl.) Cht Wht-Tan-Amber Transl-Op Shp Vit Fos (Crin) Chalk Wht Soft Sh Aqua- Char-Gry Fissil No Odor SG

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

Ls Crm-Gry Microxln-Fxln Poor Ixln Por Grad Micritic Chalk Wht Soft Cht Wht Op Shp Vit (Tr Only) 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 Inclus Chalk Wht Soft Fos (Crin) Sh Char-Gry Fissil No Odor No Stn ? Sli Min Flor Dec AA NS

Ls Crm Fxln Grad Fair-Med OOM Por OOL Por w/OOL in pl (Wht) Med Dissolu Med Devel med leaching Por Chalk Wht Soft Sh Char-Gry Fissil No Odor No Stn ? Sli Min Flor Sh Char-Gry Fissil NS

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

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

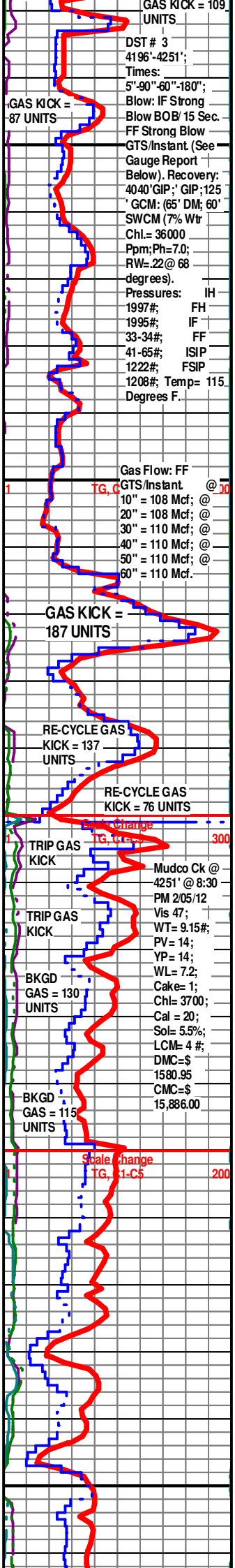
Ls Crm Microxln-Fxln Poor Ixln Por Grad Micritic Chalk Wht Soft Sh Char-Gry Fissil No Odor No Stn ? Sli Min Flor NS

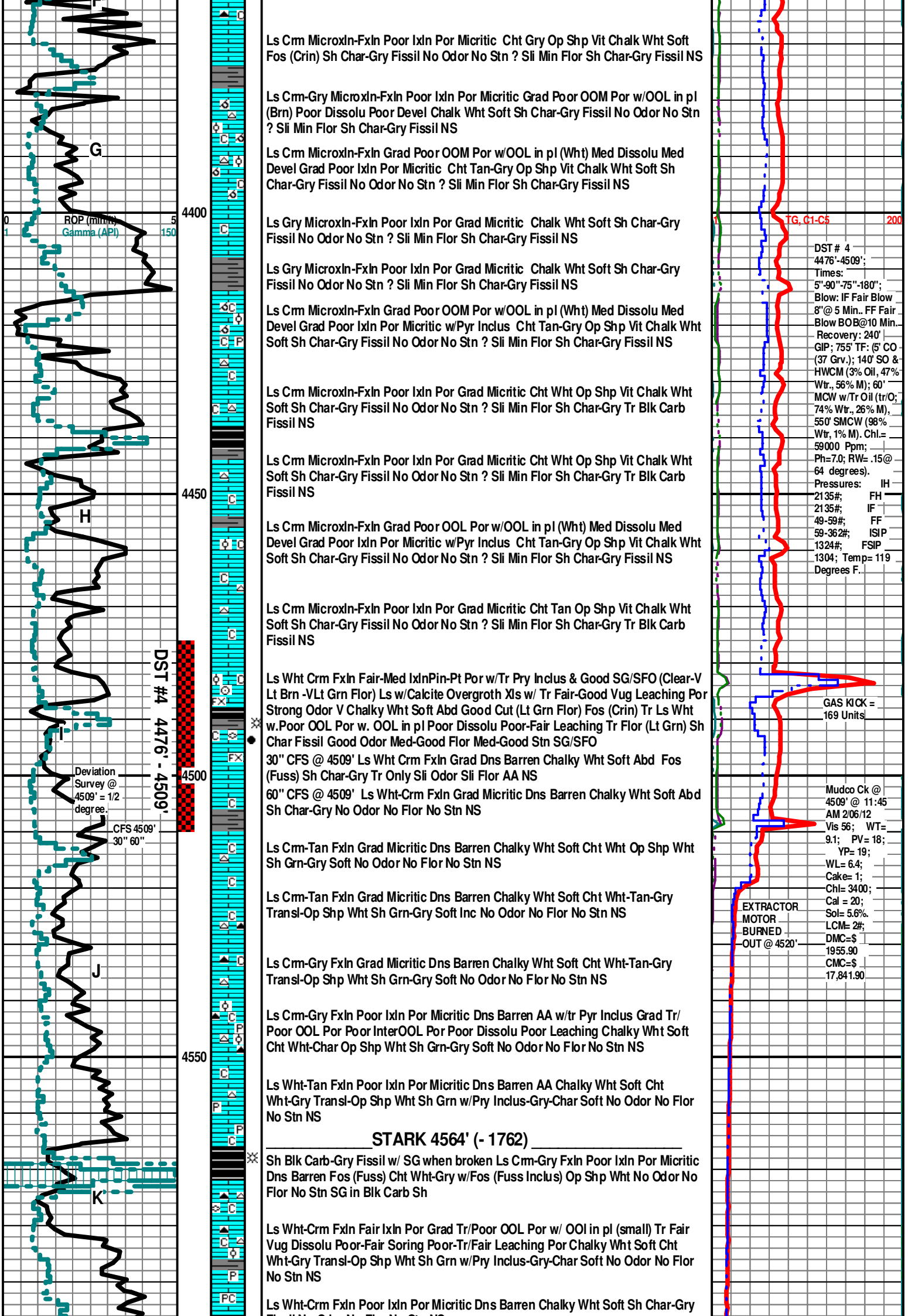
Ls Crm-Gry Microxln-Fxln Poor Ixln Por Grad Micritic Cht Tan-Gry-Char Op Shp Vit Chalk Wht Soft Sh Char-Gry Fissil No Odor No Stn ? Sli Min Flor Sh /char-Gry Fissil NS

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

Ls Crm-Gry Microxln-Fxln Poor Ixln Por Micritic Grad Poor OOM Por w/OOL in pl (Brn) Poor Dissolu Poor Devel Cht Tan-Gry Op Shp Vit Chalk Wht Soft Sh Char-Gry Fissil No Odor No Stn ? Sli Min Flor Sh Char-Gry Fissil NS





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

Ls Crm-Gry Microxln-Fxln Poor Ixln Por Micritic Grad Poor OOM Por w/OOL in pl (Brn) Poor Dissolu Poor Devel Chalk Wht Soft Sh Char-Gry Fissil No Odor No Stn ? Sli Min Flor Sh Char-Gry Fissil NS

Ls Crm Microxln-Fxln Grad Poor OOM Por w/OOL in pl (Wht) Med Dissolu Med Devel Grad Poor Ixln Por 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 NS

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

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

Ls Crm Microxln-Fxln Grad Poor OOM Por w/OOL in pl (Wht) Med Dissolu Med Devel Grad Poor Ixln Por Micritic w/Pyr Inclus Cht Tan-Gry Op Shp Vit Chalk Wht Soft Sh Char-Gry Fissil No Odor No Stn ? Sli Min Flor Sh Char-Gry Fissil NS

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

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

Ls Crm Microxln-Fxln Grad Poor OOL Por w/OOL in pl (Wht) Med Dissolu Med Devel Grad Poor Ixln Por Micritic w/Pyr Inclus Cht Tan-Gry Op Shp Vit Chalk Wht Soft Sh Char-Gry Fissil No Odor No Stn ? Sli Min Flor Sh Char-Gry Fissil NS

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

Ls Wht Crm Fxln Fair-Med IxlnPin-Pt Por w/Tr Pry Inclus & Good SG/SFO (Clear-V Lt Brn -VLt Grn Flor) Ls w/Calcite Overgroth Xls w/ Tr Fair-Good Vug Leaching Por Strong Odor V Chalky Wht Soft Abd Good Cut (Lt Grn Flor) Fos (Crin) Tr Ls Wht w.Poor OOL Por w. OOL in pl Poor Dissolu Poor-Fair Leaching Tr Flor (Lt Grn) Sh Char Fissil Good Odor Med-Good Flor Med-Good Stn SG/SFO

30" CFS @ 4509' Ls Wht Crm Fxln Grad Dns Barren Chalky Wht Soft Abd Fos (Fuss) Sh Char-Gry Tr Only Sli Odor Sli Flor AA NS

60" CFS @ 4509' Ls Wht-Crm Fxln Grad Micritic Dns Barren Chalky Wht Soft Abd Sh Char-Gry No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Grad Micritic Dns Barren Chalky Wht Soft Cht Wht Op Shp Wht Sh Grn-Gry Soft No Odor No Flor No Stn NS

Ls Crm-Tan Fxln Grad Micritic Dns Barren Chalky Wht Soft Cht Wht-Tan-Gry Transl-Op Shp Wht Sh Grn-Gry Soft Inc No Odor No Flor No Stn NS

Ls Crm-Gry Fxln Grad Micritic Dns Barren Chalky Wht Soft Cht Wht-Tan-Gry Transl-Op Shp Wht Sh Grn-Gry Soft No Odor No Flor No Stn NS

Ls Crm-Gry Fxln Poor Ixln Por Micritic Dns Barren AA w/tr Pyr Inclus Grad Tr/ Poor OOL Por Poor InterOOL Por Poor Dissolu Poor Leaching Chalky Wht Soft Cht Wht-Char Op Shp Wht Sh Grn-Gry Soft No Odor No Flor No Stn NS

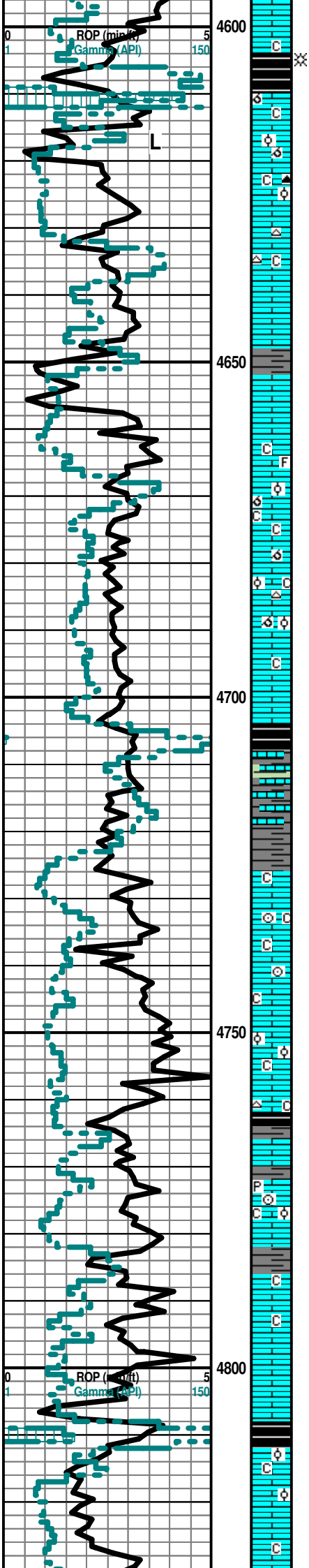
Ls Wht-Tan Fxln Poor Ixln Por Micritic Dns Barren AA Chalky Wht Soft Cht Wht-Gry Transl-Op Shp Wht Sh Grn w/Pry Inclus-Gry-Char Soft No Odor No Flor No Stn NS

STARK 4564' (- 1762)

Sh Blk Carb-Gry Fissil w/ SG when broken Ls Crm-Gry Fxln Poor Ixln Por Micritic Dns Barren Fos (Fuss) Cht Wht-Gry w/Fos (Fuss Inclus) Op Shp Wht No Odor No Flor No Stn SG in Blk Carb Sh

Ls Wht-Crm Fxln Fair Ixln Por Grad Tr/Poor OOL Por w/ OOl in pl (small) Tr Fair Vug Dissolu Poor-Fair Soring Poor-Tr/Fair Leaching Por Chalky Wht Soft Cht Wht-Gry Transl-Op Shp Wht Sh Grn w/Pry Inclus-Gry-Char Soft No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Poor Ixln Por Micritic Dns Barren Chalky Wht Soft Sh Char-Gry



Fissil No Odor No Flor No Stn NS

_____ HUSHPUCKNEY 4605' (- 1803) _____

Sh Blk Carb-Gry Fissil w/ SG when broken Ls Crm-Gry Fxln Poor Ixln Por Micritic Dns Barren Chalky Wht Soft No Odor No Flor No Stn SG in Blk Carb Sh SG

Ls Crm-Gry Fxln Poor Ixln Por Micritic Dns Barren Ls Crm-Gry Fxln Poor Ixln Por Micritic Dns Barren Grad Fair-Med OOM Por w/ OOL (small) in pl Fair Dissolu Fair Leaching Cht Gry w/Abd OOL in pl Op Shp Vit Chalk Wht Soft Sh Blk Carb-Gry Fissil w/ SG when broken AA SSG

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

Sh Gry Tr/Blk Carb Fissil Ls Drk Gry Fxln Poor Ixln Por Micritic Dns Barren Chalky Wht Soft No Odor No Flor No Stn NS

_____ BASE KANSAS CITY 4650' (- 1848) _____

Sh Gry Tr/Blk Carb Fissil Ls Drk Gry Fxln Poor Ixln Por Micritic Dns Barren Chalky Wht Soft No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Poor-Fair Ixln Por Chalky Wht Soft Cht Wht-Gry w/Fos (Spic) & OOL in pl Transl-Op Shp Wht Sh Char-Gry Fissil AA No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Poor-Fair Ixln Por Micritic Dns Barren Grad Fair-Med OOM Por w/ OOL (small) in pl Fair-Med Dissolu (Few Pcs) w/Fair-Med Leaching Cht Wht Op Shp Vit Chalky Wht Soft V Abd Inc Sh Char-Gry Fissil AA No Odor No Flor No Stn NS

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

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

Ls Wht-Crm-Gry Fxln Poor Ixln Por Micritic Dns Barren V Abd Chalk Wht Soft Sh Char-Gry-Grn-Blk Carb (? Sluff) Fissil No Odor No Flor No Stn NS

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

_____ MARMATON 4730' (- 1928) _____

Ls Wht Fxln Poor Ixln Por Micritic Dns Barren V Abd Chalk Wht Soft Sh Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Gry Fxln Poor Ixln Por Micritic Dns Barren Fos (Crin) Chalk Wht Soft Sh Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht-Gry Fxln Poor Ixln Por Micritic Dns Barren Fos (Crin) Chalk Wht Soft Sh Gry Fissil No Odor No Flor No Stn NS

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

Sh Blk Carb-Gry Fissil-"Gummy-Sof" Ls Gry-Crm Fxln Poor Ixln Por Micritic Dns Barren Cht Wht-Brn (Banded) Trans Shp Vit Chalky Wht Soft Abd No Odor No Flor No Stn NS

Ls Crm-Brn-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 (Crin) Chalk Wht Soft Pyr Mass Sh Gry-Grn-Char Fissil No Odor No Flor No Stn NS

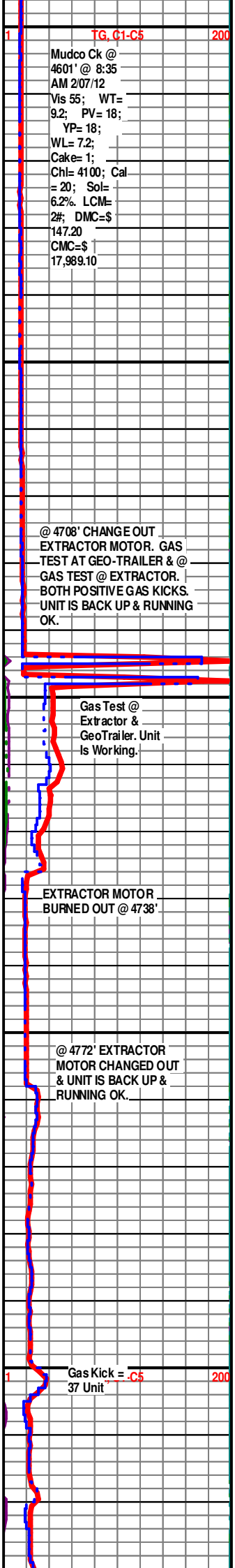
Ls Crm-Wht Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Sh Gry Fissil No Odor No Flor No Stn NS

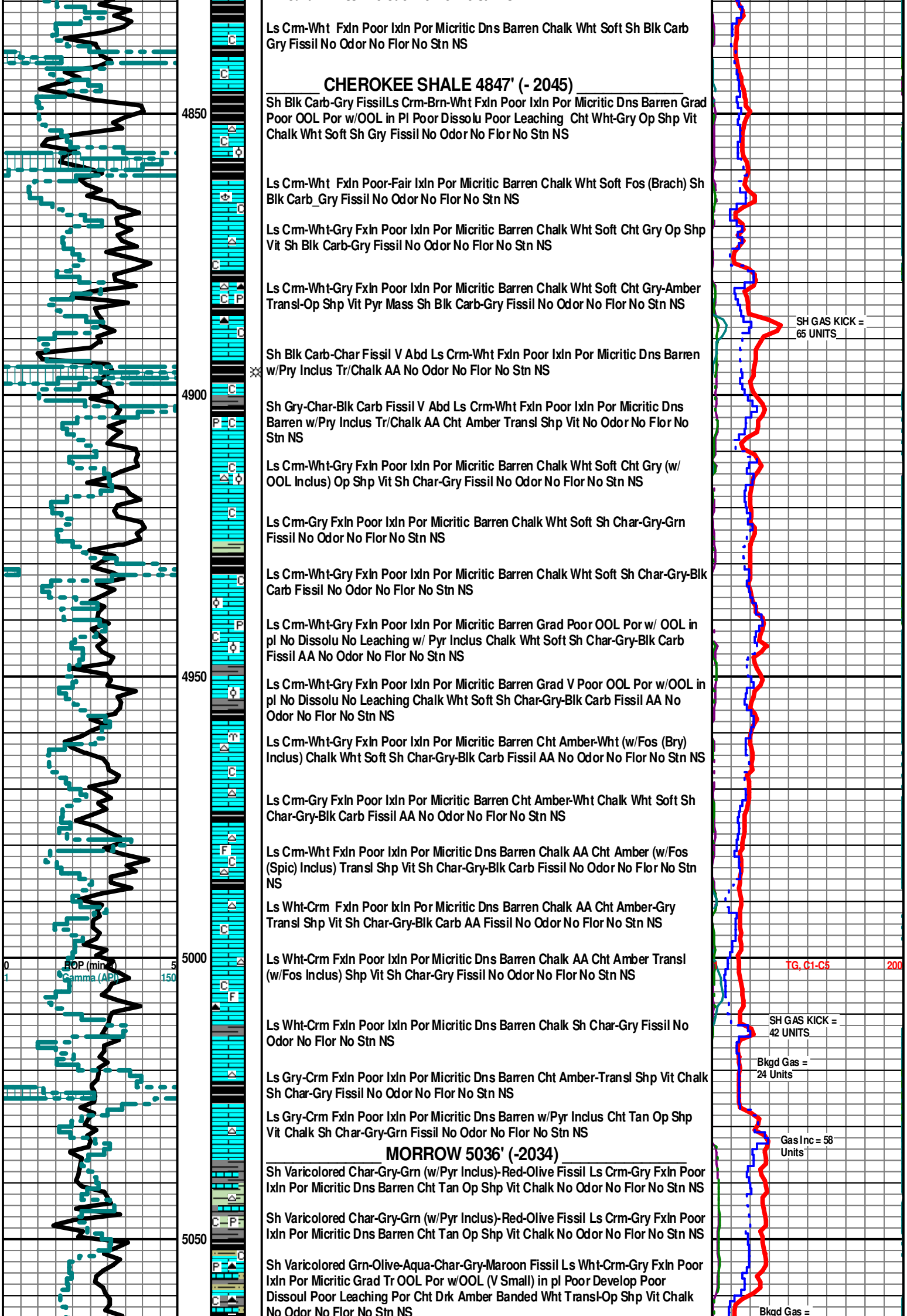
Ls Crm-Wht Fxln Poor Ixln Por Micritic Dns Barren Chalk Wht Soft Sh Gry Fissil No Odor No Flor No Stn NS

_____ PAWNEE 4808' (- 2006) _____

Sh Blk Carb-Gry FissilLs Crm-Brn-Wht Fxln Poor Ixln Por Micritic Dns Barren Grad Poor OOL Por w/OOL in Pl Poor Dissolu Poor Leaching Chalk Wht Soft Sh Gry Fissil No Odor No Flor No Stn NS

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





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

CHEROKEE SHALE 4847' (- 2045)

Sh Blk Carb-Gry FissilLs Crm-Brn-Wht Fxln Poor Ixln Por Micritic Dns Barren Grad Poor OOL Por w/OOL in Pl Poor Dissolu Poor Leaching Cht Wht-Gry Op Shp Vit Chalk Wht Soft Sh Gry Fissil No Odor No Flor No Stn NS

Ls Crm-Wht Fxln Poor-Fair Ixln Por Micritic Barren Chalk Wht Soft Fos (Brach) Sh Blk Carb_Gry Fissil No Odor No Flor No Stn NS

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

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

Sh Blk Carb-Char Fissil V Abd Ls Crm-Wht Fxln Poor Ixln Por Micritic Dns Barren w/Pry Inclus Tr/Chalk AA No Odor No Flor No Stn NS

Sh Gry-Char-Blk Carb Fissil V Abd Ls Crm-Wht Fxln Poor Ixln Por Micritic Dns Barren w/Pry Inclus Tr/Chalk AA Cht Amber Transl Shp Vit No Odor No Flor No Stn NS

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

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

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

Ls Crm-Wht-Gry Fxln Poor Ixln Por Micritic Barren Grad Poor OOL Por w/ OOL in pl No Dissolu No Leaching w/ Pyr Inclus Chalk Wht Soft Sh Char-Gry-Blk Carb Fissil AA No Odor No Flor No Stn NS

Ls Crm-Wht-Gry Fxln Poor Ixln Por Micritic Barren Grad V Poor OOL Por w/OOL in pl No Dissolu No Leaching Chalk Wht Soft Sh Char-Gry-Blk Carb Fissil AA No Odor No Flor No Stn NS

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

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

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

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

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

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

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

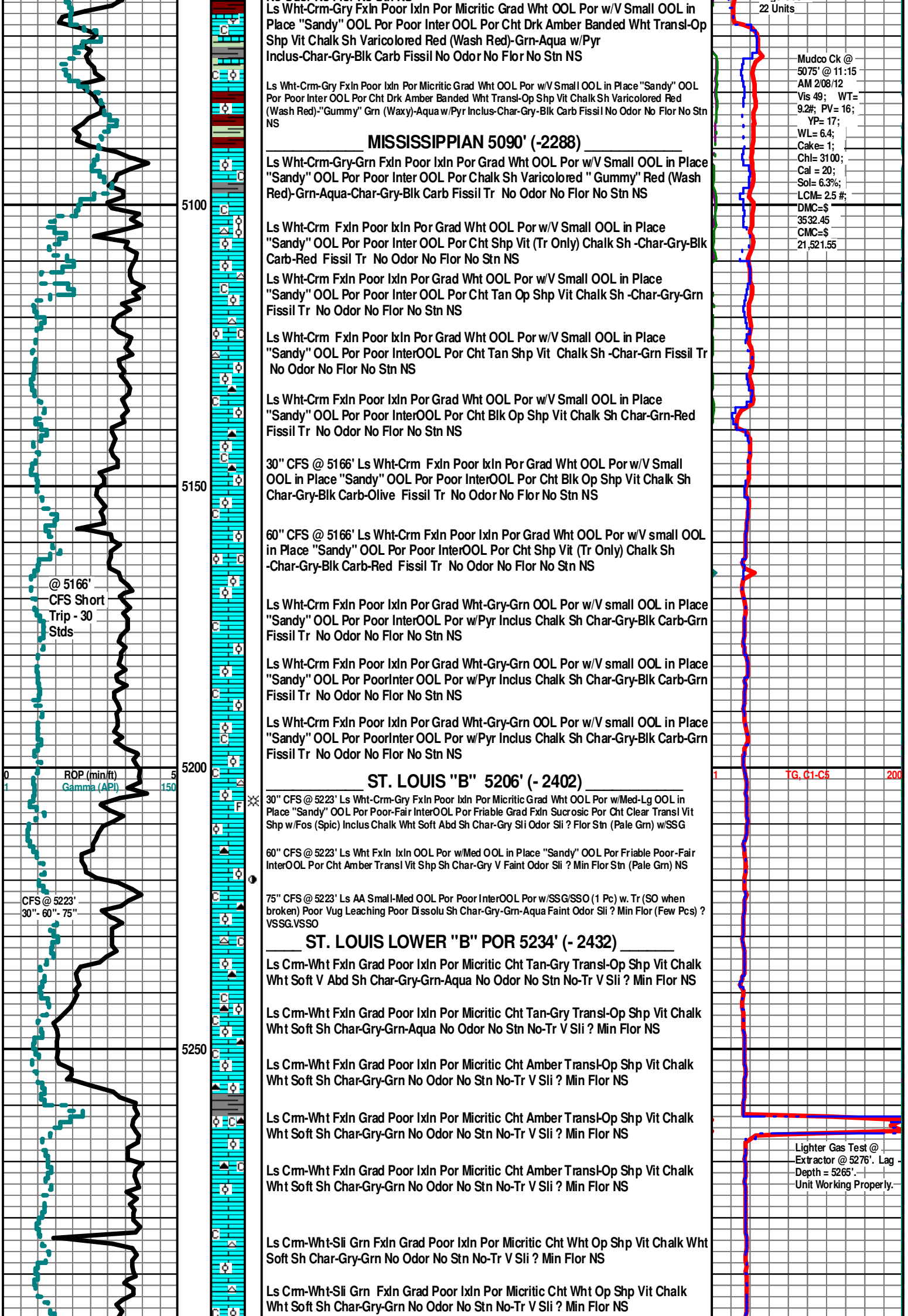
Ls Gry-Crm Fxln Poor Ixln Por Micritic Dns Barren w/Pyr Inclus Cht Tan Op Shp Vit Chalk Sh Char-Gry-Grn Fissil No Odor No Flor No Stn NS

MORROW 5036' (-2034)

Sh Varicolored Char-Gry-Grn (w/Pyr Inclus)-Red-Olive Fissil Ls Crm-Gry Fxln Poor Ixln Por Micritic Dns Barren Cht Tan Op Shp Vit Chalk No Odor No Flor No Stn NS

Sh Varicolored Char-Gry-Grn (w/Pyr Inclus)-Red-Olive Fissil Ls Crm-Gry Fxln Poor Ixln Por Micritic Dns Barren Cht Tan Op Shp Vit Chalk No Odor No Flor No Stn NS

Sh Varicolored Grn-Olive-Aqua-Char-Gry-Maroon Fissil Ls Wht-Crm-Gry Fxln Poor Ixln Por Micritic Grad Tr OOL Por w/OOL (V Small) in pl Poor Develop Poor Dissoul Poor Leaching Por Cht Drk Amber Banded Wht Transl-Op Shp Vit Chalk No Odor No Flor No Stn NS



Ls Wht-Crm-Gry Fxln Poor Ixln Por Micritic Grad Wht OOL Por w/V Small OOL in Place "Sandy" OOL Por Poor Inter OOL Por Cht Drk Amber Banded Wht Transl-Op Shp Vit Chalk Sh Varicolored Red (Wash Red)-Grn-Aqua w/Pyr Inclus-Char-Gry-Blk Carb Fissil No Odor No Flor No Stn NS

Ls Wht-Crm-Gry Fxln Poor Ixln Por Micritic Grad Wht OOL Por w/V Small OOL in Place "Sandy" OOL Por Poor Inter OOL Por Cht Drk Amber Banded Wht Transl-Op Shp Vit Chalk Sh Varicolored Red (Wash Red)-"Gummy" Grn (Waxy)-Aqua w/Pyr Inclus-Char-Gry-Blk Carb Fissil No Odor No Flor No Stn NS

MISSISSIPPIAN 5090' (-2288)

Ls Wht-Crm-Gry-Grn Fxln Poor Ixln Por Grad Wht OOL Por w/V Small OOL in Place "Sandy" OOL Por Poor Inter OOL Por Chalk Sh Varicolored " Gummy" Red (Wash Red)-Grn-Aqua-Char-Gry-Blk Carb Fissil Tr No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Poor Ixln Por Grad Wht OOL Por w/V Small OOL in Place "Sandy" OOL Por Poor Inter OOL Por Cht Shp Vit (Tr Only) Chalk Sh -Char-Gry-Blk Carb-Red Fissil Tr No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Poor Ixln Por Grad Wht OOL Por w/V Small OOL in Place "Sandy" OOL Por Poor Inter OOL Por Cht Tan Op Shp Vit Chalk Sh -Char-Gry-Grn Fissil Tr No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Poor Ixln Por Grad Wht OOL Por w/V Small OOL in Place "Sandy" OOL Por Poor InterOOL Por Cht Tan Shp Vit Chalk Sh -Char-Grn Fissil Tr No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Poor Ixln Por Grad Wht OOL Por w/V Small OOL in Place "Sandy" OOL Por Poor InterOOL Por Cht Blk Op Shp Vit Chalk Sh Char-Grn-Red Fissil Tr No Odor No Flor No Stn NS

30" CFS @ 5166' Ls Wht-Crm Fxln Poor Ixln Por Grad Wht OOL Por w/V Small OOL in Place "Sandy" OOL Por Poor InterOOL Por Cht Blk Op Shp Vit Chalk Sh Char-Gry-Blk Carb-Olive Fissil Tr No Odor No Flor No Stn NS

60" CFS @ 5166' Ls Wht-Crm Fxln Poor Ixln Por Grad Wht OOL Por w/V small OOL in Place "Sandy" OOL Por Poor InterOOL Por Cht Shp Vit (Tr Only) Chalk Sh -Char-Gry-Blk Carb-Red Fissil Tr No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Poor Ixln Por Grad Wht-Gry-Grn OOL Por w/V small OOL in Place "Sandy" OOL Por Poor InterOOL Por w/Pyr Inclus Chalk Sh Char-Gry-Blk Carb-Grn Fissil Tr No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Poor Ixln Por Grad Wht-Gry-Grn OOL Por w/V small OOL in Place "Sandy" OOL Por PoorInter OOL Por w/Pyr Inclus Chalk Sh Char-Gry-Blk Carb-Grn Fissil Tr No Odor No Flor No Stn NS

Ls Wht-Crm Fxln Poor Ixln Por Grad Wht-Gry-Grn OOL Por w/V small OOL in Place "Sandy" OOL Por PoorInter OOL Por w/Pyr Inclus Chalk Sh Char-Gry-Blk Carb-Grn Fissil Tr No Odor No Flor No Stn NS

ST. LOUIS "B" 5206' (- 2402)

30" CFS @ 5223' Ls Wht-Crm-Gry Fxln Poor Ixln Por Micritic Grad Wht OOL Por w/Med-Lg OOL in Place "Sandy" OOL Por Poor-Fair InterOOL Por Friable Grad Fxln Sucrosic Por Cht Clear Transl Vit Shp w/Fos (Spic) Inclus Chalk Wht Soft Abd Sh Char-Gry Sli Odor Sli ? Flor Stn (Pale Grn) w/SSG

60" CFS @ 5223' Ls Wht Fxln Ixln OOL Por w/Med OOL in Place "Sandy" OOL Por Friable Poor-Fair InterOOL Por Cht Amber Transl Vit Shp Sh Char-Gry V Faint Odor Sli ? Min Flor Stn (Pale Grn) NS

75" CFS @ 5223' Ls AA Small-Med OOL Por Poor InterOOL Por w/SSG/SSO (1 Pc) w. Tr (SO when broken) Poor Vug Leaching Poor Dissolu Sh Char-Gry-Grn-Aqua Faint Odor Sli ? Min Flor (Few Pcs) ? VSSG.VSSO

ST. LOUIS LOWER "B" POR 5234' (- 2432)

Ls Crm-Wht Fxln Grad Poor Ixln Por Micritic Cht Tan-Gry Transl-Op Shp Vit Chalk Wht Soft V Abd Sh Char-Gry-Grn-Aqua No Odor No Stn No-Tr V Sli ? Min Flor NS

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

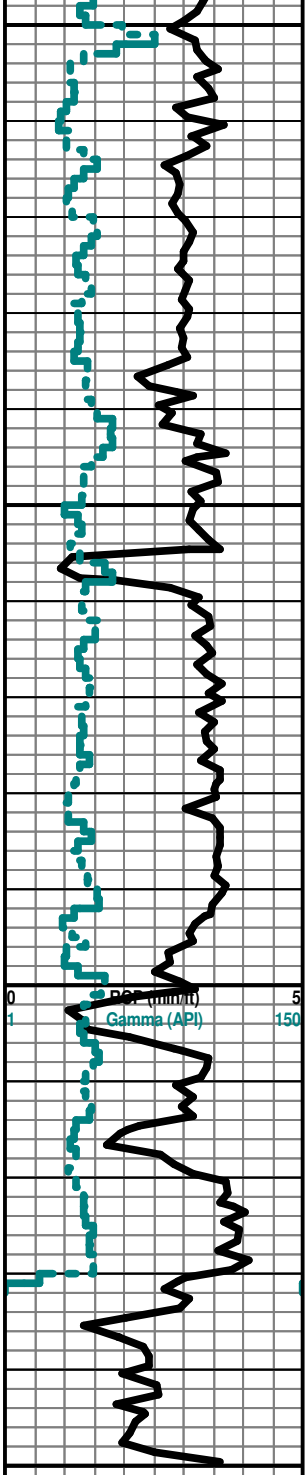
Ls Crm-Wht Fxln Grad Poor Ixln Por Micritic Cht Amber Transl-Op Shp Vit Chalk Wht Soft Sh Char-Gry-Grn No Odor No Stn No-Tr V Sli ? Min Flor NS

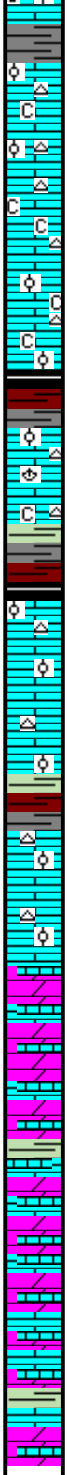
Ls Crm-Wht Fxln Grad Poor Ixln Por Micritic Cht Amber Transl-Op Shp Vit Chalk Wht Soft Sh Char-Gry-Grn No Odor No Stn No-Tr V Sli ? Min Flor NS

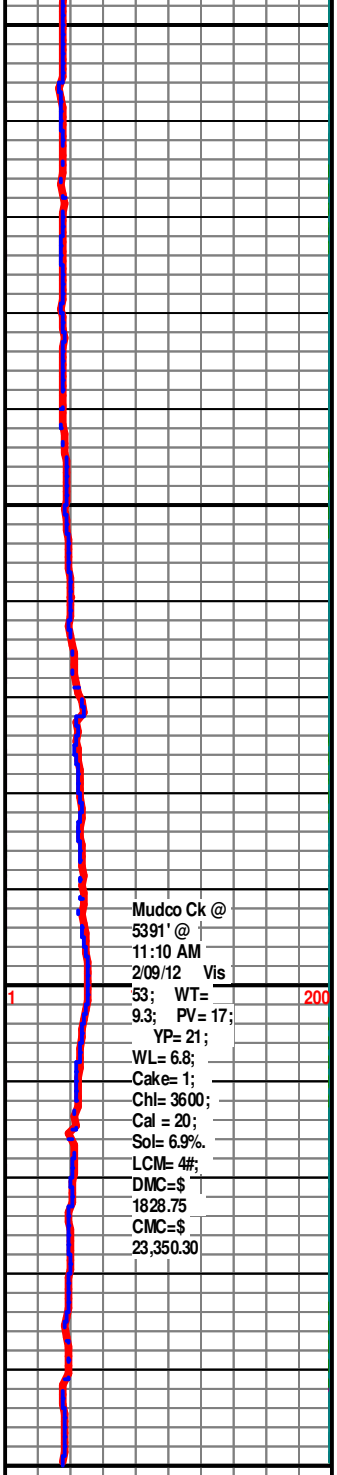
Ls Crm-Wht Fxln Grad Poor Ixln Por Micritic Cht Amber Transl-Op Shp Vit Chalk Wht Soft Sh Char-Gry-Grn No Odor No Stn No-Tr V Sli ? Min Flor NS

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

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







R.T.D. = 5450' (- 2648)

L.T.D. = 5455' (- 2653)

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

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

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

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

Sh Varicolored Aqua-Red-Char-Gry- Blk Carb-Olice Fissil Ls Crm-Gry Fxln Micritic tr MicroOOIL Grad Ls Gry Fxln Micritic Cht Wht Op Shp Vit Fos (Brach) No Odor No Stn No Flor NS

_______ST. LOUIS "C" MARKER 5355' (- 2553) ______

Sh Varicolored Aqua-Red-Char-Gry- Blk Carb-Olice Fissil Ls Crm-Gry Fxln Micritic tr MicroOOIL Grad Ls Gry Fxln Micritic Cht Wht Op Shp Vit Fos (Brach) No Odor No Stn No Flor NS

Sh Varicolored Aqua-Red-Char-Gry- Blk Carb-Olice Fissil Ls Crm-Gry Fxln Micritic tr MicroOOIL Grad Ls Gry Fxln Micritic Cht Wht Op Shp Vit Fos (Brach) No Odor No Stn No Flor NS

Sh Varicolored Aqua-Red-Char-Gry- Blk Carb-Olice Fissil Ls Crm-Gry Fxln Micritic tr MicroOOIL Grad Ls Gry Fxln Micritic Cht Wht Op Shp Vit Fos (Brach) No Odor No Stn No Flor NS

Sh Varicolored Aqua-Red-Char-Gry- Blk Carb-Olice Fissil Ls Crm-Gry Fxln Micritic tr MicroOOIL Grad Ls Gry Fxln Micritic Cht Wht Op Shp Vit Fos (Brach) No Odor No Stn No Flor NS

________ SALEM (SPERGEN) 5399' (- 2597) __________

Dolo Gry Fxln Dns Micrite Grad Poor Sucrosic Por Poor Ixln Por Tr/Ls Crm-Gry Fxln Micritic Cht Wht Op Shp Vit Sh Varicolored No Odor No Stn No Flor NS

Dolo/Ls Crm-Gry Fxln Dns Micrite Grad Poor Sucrosic Por Poor Ixln Por Cht Wht Op Shp Vit Sh Varicolored No Odor No Stn No Flor NS

Dolo/Ls Crm-Gry Fxln Dns Micrite Grad Poor Sucrosic Por Poor Ixln Por Cht Wht Op Shp Vit Sh Varicolored No Odor No Stn No Flor NS

___SALEM (SPERGEN) POROSITY 5399' (-2597) _____

30" CFS @ 5450' Dolo/Ls Crm-Gry Fxln Dns Micrite Grad Poor Sucrosic Por Poor Ixln Por Cht Wht Op Shp Vit Sh Varicolored No Odor No Stn No Flor NS

60" CFS @ 5450' Dolo/Ls Crm-Gry Fxln Dns Micrite Grad Poor Sucrosic Por Poor Ixln Por Cht Wht Op Shp Vit Sh Varicolored No Odor No Stn No Flor NS

ELECTRIC LOGS By LOGTECH, INC.: DUAL COMP. POROSITY; DUAL INDUCTION; BOREHOLE COMPENSATED SONIC; MICRORESISTIVITY; GAMMA RAY-NEUTRON (CASED HOLE).

Geologist Left Location @ 4:10 AM 2-10-12

Mudco Ck @ 5391' @ 11:10 AM 2/09/12 Vis 53; WT= 9.3; PV= 17; YP= 21; WL= 6.8; Cake= 1; Chl= 3600; Cal = 20; Sol= 6.9%. LCM= 4#; DMC=$ 1828.75 CMC=$ 23,350.30