



WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

- New Well Re-Entry Workover
- Oil WSW SWD SIOW
- Gas D&A ENHR SIGW
- OG GSW Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Conv. to GSW
- Plug Back: _____ Plug Back Total Depth _____
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date Date Reached TD Completion Date or Recompletion Date

API No. 15 - _____

Spot Description: _____

_____-_____-_____- Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite: _____

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Letter of Confidentiality Received
 Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____



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

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

INSTRUCTIONS: Show important tops and base 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. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Submitted Electronically <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(If no, Submit Copy)</i> List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
_____ Perforate _____ Protect Casing _____ Plug Back TD _____ Plug Off Zone				

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____ Liner Run: Yes No

Date of First, Resumed Production, SWD or ENHR. _____ Producing Method:
 Flowing Pumping Gas Lift Other (Explain) _____

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
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DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other (Specify) _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	H & D Exploration LLC
Well Name	Zeigler 1
Doc ID	1141378

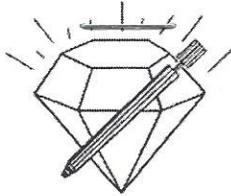
All Electric Logs Run

Computer Processed Interpretation
Dual Induction Log
Dual Compensated Porosity Log
Borehole Compensated Sonic Log
Microresistivity Log

Form	ACO1 - Well Completion
Operator	H & D Exploration LLC
Well Name	Zeigler 1
Doc ID	1141378

Tops

Name	Top	Datum
Heebner	3432-1545	3428-1541
Toronto	3349-1562	3443-1556
Douglas	3468-1581	3464-1577
Brown Lime	3583-1696	3579-1692
Lansing	3606-1719	3601-1714
Base Kansas City	3896-2009	3889-2002
Mississippi	3992-2105	3990-2103
Kinderhook	4044-2157	4038-2151
Viola	4062-2175	4063-2176
Simpson Shale	4134-2247	4129-2242
Simpson Sand	4150-2263	4143-2256
Arbuckle	4211-2324	4205-2318



DIAMOND TESTING, LLC
P.O. Box 157
HOISINGTON, KANSAS 67544
(620) 653-7550 • (800) 542-7313
zeigler1dst1

Company H & D Exploration, LLC Lease & Well No. Zeigler No. 1
Elevation 1887 KB Formation Lansing "B" Effective Pay _____ Ft. Ticket No. 50
Date 5-11-13 Sec. 29 Twp. 25S Range 12W County Stafford State Kansas
Test Approved By Josh R. Austin Diamond Representative Jacob McCallie

Formation Test No. 1 Interval Tested from 3,615 ft. to 3,645 ft. Total Depth 3,645 ft.
Packer Depth 3,610 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.
Packer Depth 3,615 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.
Depth of Selective Zone Set _____ ft.

Top Recorder Depth (Inside) 3,596 ft. Recorder Number 8471 Cap. 10,000
Bottom Recorder Depth (Outside) 3,642 ft. Recorder Number 3851 Cap. 5,700
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____

Drilling Contractor Southwind Drilling, Inc. - Rig 4 Drill Collar Length _____ ft. I.D. _____
Mud Type Chemical Viscosity 48 Weight Pipe Length _____ ft. I.D. _____
Weight 9.2 Water Loss 9.6 cc. Drill Pipe Length 3,582 ft. I.D. 3 1/2
Chlorides 5,400 P.P.M. Test Tool Length 33 ft. Tool Size 3 1/2
Jars: Make Sterling Serial Number 3 Anchor Length 30 ft. Size 4 1/2-F
Did Well Flow? No Reversed Out No Surface Choke Size 1 in. Bottom Choke Size _____
Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2-F

Blow: 1st Open: Fair, 5 1/2 in. blow increasing. Off bottom of bucket in 1 1/4 mins. No blow back during shut-in.
2nd Open: Bottom of bucket blow immediately. Gas to surface in 30 mins. Gas too weak to measure. No blow back during shut-in.

Recovered 47 ft. of slightly gas cut mud = .668810 bbls. (Grind out: 4%-gas; 96%-mud)

Recovered _____ ft. of _____

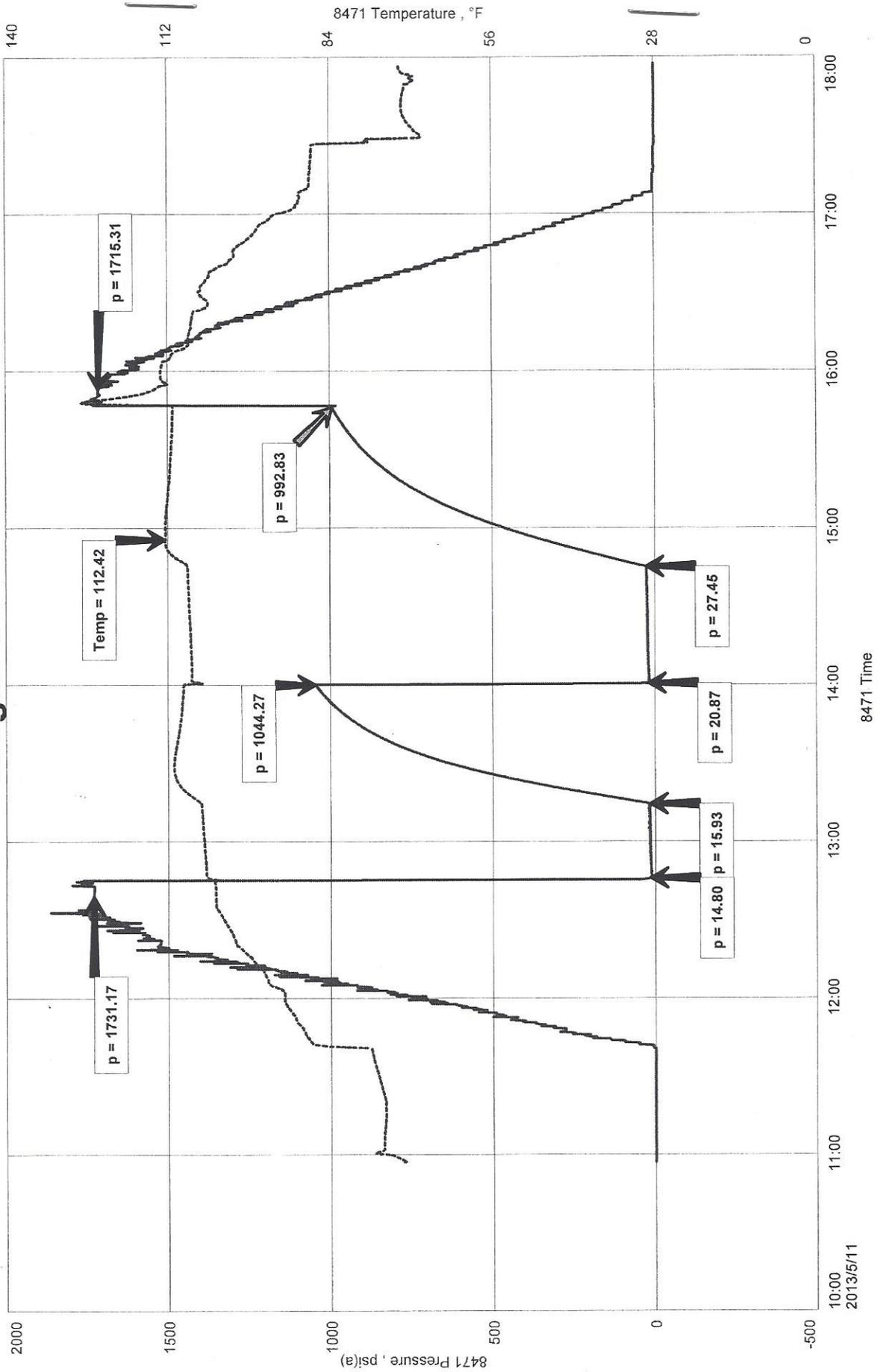
Remarks Tool Sample Grind Out: Sample blew out.

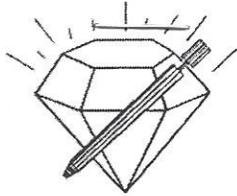
Time Set Packer(s) 12:45 P.M. Time Started off Bottom 3:45 P.M. Maximum Temperature 112°
Initial Hydrostatic Pressure.....(A) 1731 P.S.I.
Initial Flow Period.....Minutes 30 (B) 15 P.S.I. to (C) 16 P.S.I.
Initial Closed In Period.....Minutes 45 (D) 1044 P.S.I.
Final Flow Period.....Minutes 45 (E) 21 P.S.I. to (F) 27 P.S.I.
Final Closed In Period.....Minutes 60 (G) 993 P.S.I.
Final Hydrostatic Pressure (H) 1715 P.S.I.

H & D Exploration LLC
 DST #1 Lansing B 3615-3645'
 Start Test Date: 2013/05/11
 Final Test Date: 2013/05/11

Zeigler #1
 Formation: DST #1 Lansing B 3615-3645'
 Pool: Infield
 Job Number: S0328

Zeigler #1





DIAMOND TESTING, LLC
P.O. Box 157
HOISINGTON, KANSAS 67544
(620) 653-7550 • (800) 542-7313
zeigler1dst2

Company H & D Exploration, LLC Lease & Well No. Zeigler No. 1
Elevation 1887 KB Formation Lansing "H"- "J" Effective Pay _____ Ft. Ticket No. S0329
Date 5-12-13 Sec. 29 Twp. 25S Range 12W County Stafford State Kansas
Test Approved By Josh R. Austin Diamond Representative Jacob McCallie

Formation Test No. 2 Interval Tested from 3,770 ft. to 3,847 ft. Total Depth 3,847 ft.
Packer Depth 3,765 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.
Packer Depth 3,770 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.
Depth of Selective Zone Set _____ ft.

Top Recorder Depth (Inside) 3,751 ft. Recorder Number 8471 Cap. 10,000 psi.
Bottom Recorder Depth (Outside) 3,844 ft. Recorder Number 3851 Cap. 5,700 psi.
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ psi.

Drilling Contractor Southwind Drilling, Inc. - Rig 4 Drill Collar Length _____ ft I.D. _____ in.
Mud Type Chemical Viscosity 52 Weight Pipe Length _____ ft I.D. _____ in.
Weight 9.3 Water Loss 8.0 cc. Drill Pipe Length 3,737 ft I.D. 3 1/2 in.
Chlorides 5,700 P.P.M. Test Tool Length 33 ft Tool Size 3 1/2-IF in.
Jars: Make Sterling Serial Number 3 Anchor Length 14' perf. w/63' drill pipe Size 4 1/2-FH in.
Did Well Flow? No Reversed Out No Surface Choke Size 1 in. Bottom Choke Size 5/8 in.
Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2-XH in.

Blow: 1st Open: Weak, 1/2 in. blow increasing. Off bottom of bucket in 22 1/4 mins. No blow back during shut-in.
2nd Open: Weak, 1/2 in. blow increasing. Off bottom of bucket in 14 1/2 mins. Weak, 3/4 in. blow back during shut-in.

Recovered 335 ft. of gas in pipe
Recovered 43 ft. of slightly oil cut mud = .611890 bbls. (Grind out: 5%-oil; 95%-mud)
Recovered 63 ft. of slightly gas & oil cut, water cut mud = .896490 bbls. (Grind out: 8%-gas; 9%-oil; 20%-water; 63%-mud)
Recovered 63 ft. of slightly oil & gas cut, heavy mud cut water = .896490 bbls. (Grind out: 5%-gas; 3%-oil; 56%-water; 36%-mud) Chlorides: 31,000 Ppm PH: 7.0 RW: .12 @ 85°
Recovered 169 ft. of TOTAL FLUID = 2.404870 bbls.
Recovered _____ ft. of _____

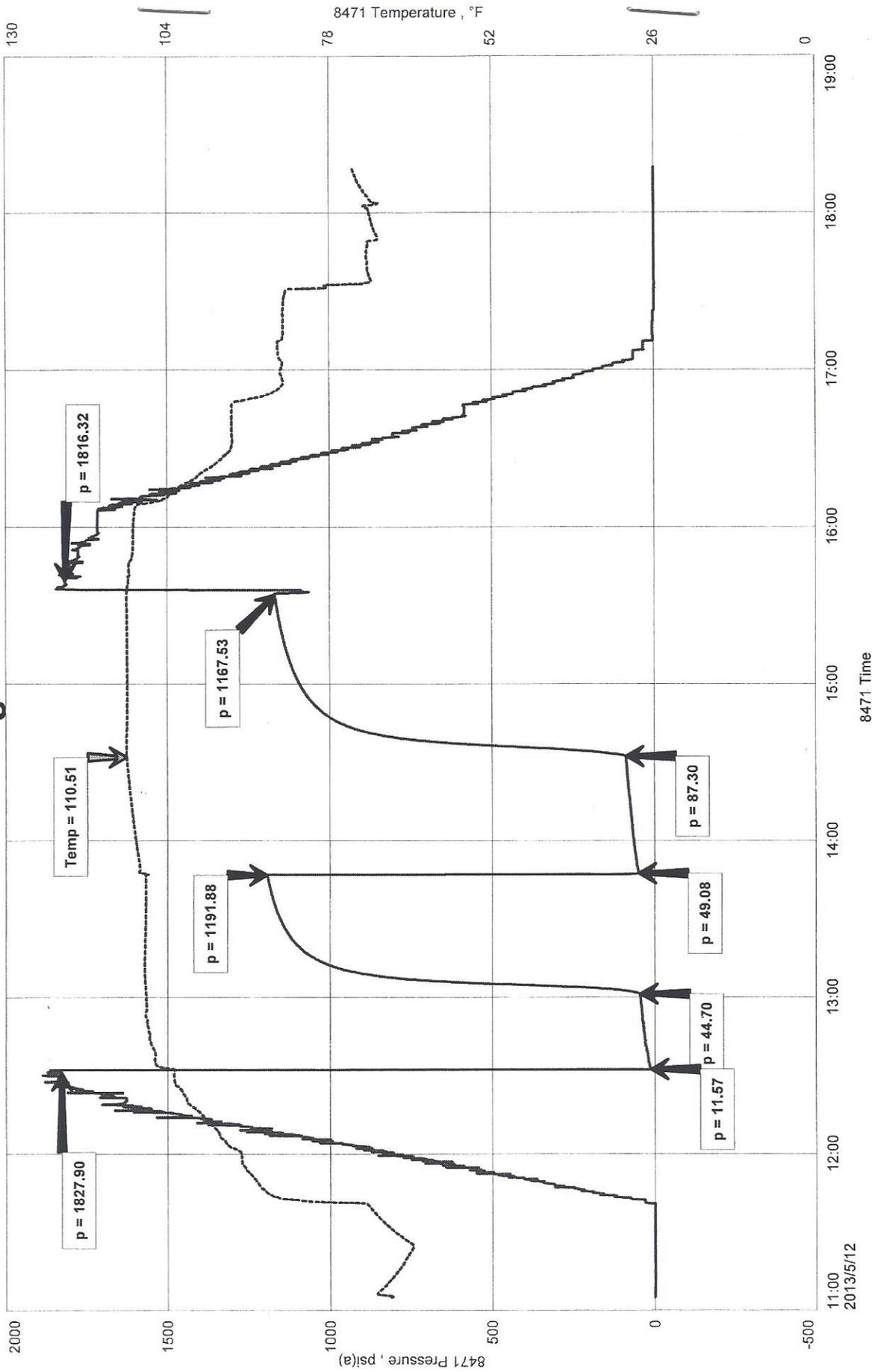
Remarks Tool Sample Grind Out: 11%-gas; 9%-oil; 54%-water; 26%-mud

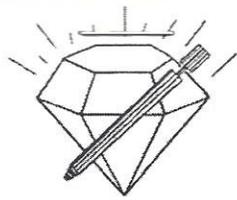
Time Set Packer(s) 12:33 P.M. Time Started off Bottom 3:33 P.M. Maximum Temperature 111°
Initial Hydrostatic Pressure.....(A) 1828 P.S.I.
Initial Flow Period.....Minutes 30 (B) 12 P.S.I. to (C) 45 P.S.I.
Initial Closed In Period.....Minutes 45 (D) 1192 P.S.I.
Final Flow Period.....Minutes 45 (E) 49 P.S.I. to (F) 87 P.S.I.
Final Closed In Period.....Minutes 60 (G) 1168 P.S.I.
Final Hydrostatic Pressure (H) 1816 P.S.I.

H & D Exploration LLC
 DST #2 Lansing H-J 3770-3847
 Start Test Date: 2013/05/12
 Final Test Date: 2013/05/12

Zeigler #1
 Formation: DST #2 Lansing H-J 3770-3847
 Pool: Infield
 Job Number: S0329

Zeigler #1





DIAMOND TESTING, LLC
 P.O. Box 157
HOISINGTON, KANSAS 67544
 (620) 653-7550 • (800) 542-7313
 zeigler1dst3

Company H & D Exploration, LLC Lease & Well No. Zeigler No. 1
 Elevation 1887 KB Formation Mississippi Effective Pay _____ Ft. Ticket No. S0330
 Date 5-13-13 Sec. 29 Twp. 25S Range 12W County Stafford State Kansas
 Test Approved By Josh R. Austin Diamond Representative Jacob McCallie

Formation Test No. 3 Interval Tested from 3,968 ft. to 4,004 ft. Total Depth 4,004 ft.
 Packer Depth 3,963 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.
 Packer Depth 3,968 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.
 Depth of Selective Zone Set _____ ft.

Top Recorder Depth (Inside) 3,949 ft. Recorder Number 8471 Cap. 10,000 psi.
 Bottom Recorder Depth (Outside) 4,001 ft. Recorder Number 3851 Cap. 5,700 psi.
 Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ psi.

Drilling Contractor Southwind Drilling, Inc. - Rig 4 Drill Collar Length _____ ft I.D. _____ in.
 Mud Type Chemical Viscosity 49 Weight Pipe Length _____ ft I.D. _____ in.
 Weight 9.3 Water Loss 12.0 cc. Drill Pipe Length 3,935 ft I.D. 3 1/2 in.
 Chlorides 7,100 P.P.M. Test Tool Length 33 ft Tool Size 3 1/2-IF in.
 Jars: Make Sterling Serial Number 3 Anchor Length 36 ft. Size 4 1/2-FH in.
 Did Well Flow? No Reversed Out No Surface Choke Size 1 in. Bottom Choke Size 5/8 in.
 Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2-XH in.

Blow: 1st Open: Strong, 10 in. blow increasing. Off bottom of bucket in 42 secs. No blow back during shut-in.

2nd Open: Bottom of bucket blow immediately. Gas to surface in 34 mins. Gas too weak to measure. No blow back during shut-in.

Recovered 20 ft. of slightly gas cut mud = .284600 bbls. (Grind out: 6%-gas; 94%-mud)
 Recovered _____ ft. of _____
 Recovered _____ ft. of _____

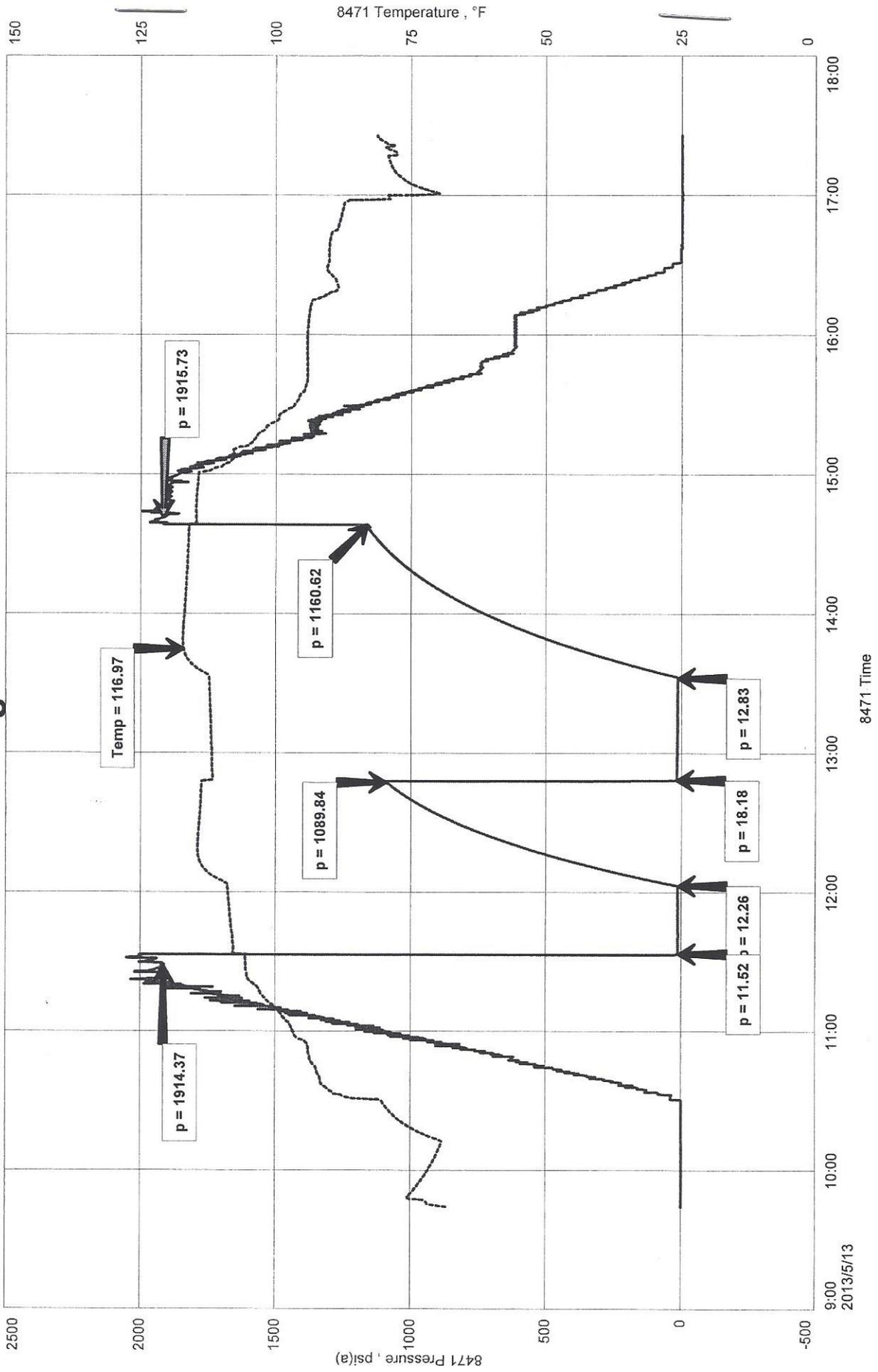
Remarks Tool Sample Grind Out: 100%-mud with a few oil specks

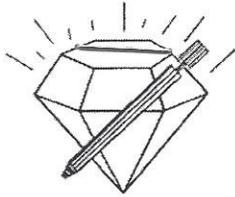
Time Set Packer(s) 11:33 A.M. Time Started off Bottom 2:33 P.M. Maximum Temperature 117°
 Initial Hydrostatic Pressure.....(A) 1914 P.S.I.
 Initial Flow Period.....Minutes 30 (B) 12 P.S.I. to (C) 12 P.S.I.
 Initial Closed In Period.....Minutes 45 (D) 1090 P.S.I.
 Final Flow Period.....Minutes 45 (E) 18 P.S.I. to (F) 13 P.S.I.
 Final Closed In Period.....Minutes 60 (G) 1161 P.S.I.
 Final Hydrostatic Pressure.....(H) 1916 P.S.I.

Zeigler #1
 Formation: DST #3 Miss 3968-4004'
 Pool: Infield
 Job Number: S0330

H & D Exploration LLC
 DST #3 Miss 3968-4004'
 Start Test Date: 2013/05/13
 Final Test Date: 2013/05/13

Zeigler #1





DIAMOND TESTING, LLC
P.O. Box 157
HOISINGTON, KANSAS 67544
(620) 653-7550 • (800) 542-7313
zeigler1dst4

Company H & D Exploration, LLC Lease & Well No. Zeigler No. 1
Elevation 1887 KB Formation Mississippi Effective Pay _____ Ft. Ticket No. S0331
Date 5-14-13 Sec. 29 Twp. 25S Range 12W County Stafford State Kansas
Test Approved By Josh R. Austin Diamond Representative Jacob McCallie

Formation Test No. 4 Interval Tested from 4,024 ft. to 4,045 ft. Total Depth 4,045 ft.
Packer Depth 4,019 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.
Packer Depth 4,024 ft. Size 6 3/4 in. Packer Depth _____ ft. Size _____ in.
Depth of Selective Zone Set _____ ft.

Top Recorder Depth (Inside) _____ ft. Recorder Number 8471 Cap. 10,000 psi.
Bottom Recorder Depth (Outside) _____ ft. Recorder Number 3851 Cap. 5,700 psi.
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ psi.

Drilling Contractor Southwind Drilling, Inc. - Rig 4 Drill Collar Length _____ ft I.D. _____ in.
Mud Type Chemical Viscosity 49 Weight Pipe Length _____ ft I.D. _____ in.
Weight 9.3 Water Loss 12.0 cc. Drill Pipe Length 3,991 ft I.D. 3 1/2 in.
Chlorides 7,100 P.P.M. Test Tool Length 33 ft Tool Size 3 1/2-IF in.
Jars: Make Sterling Serial Number 3 Anchor Length 21 ft. Size 4 1/2-FH in.
Did Well Flow? No Reversed Out Yes Surface Choke Size 1 in. Bottom Choke Size 5/8 in.
Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2-XH in.

Blow: 1st Open: Bottom of bucket blow in 29 secs. Gas to surface in 5 mins. Bottom of bucket blow back during shut-in. (SEE GAS VOLUME REPORT)
2nd Open: Bottom of bucket blow in 1 1/4 mins. Bottom of bucket blow back during shut-in.

Recovered 2,835 ft. of clean oil = 40.342050 bbls. (Grind out: 100%-clean oil) Gravity: 38 @ 60°
Recovered 126 ft. of oil cut, heavy gas cut mud = 1.792980 bbls. (Grind out: 32%-gas; 21%-oil; 47%-mud)
Recovered 2,961 ft. of TOTAL FLUID = 42.135030 bbls.
Recovered _____ ft. of _____
Recovered _____ ft. of _____
Recovered _____ ft. of _____

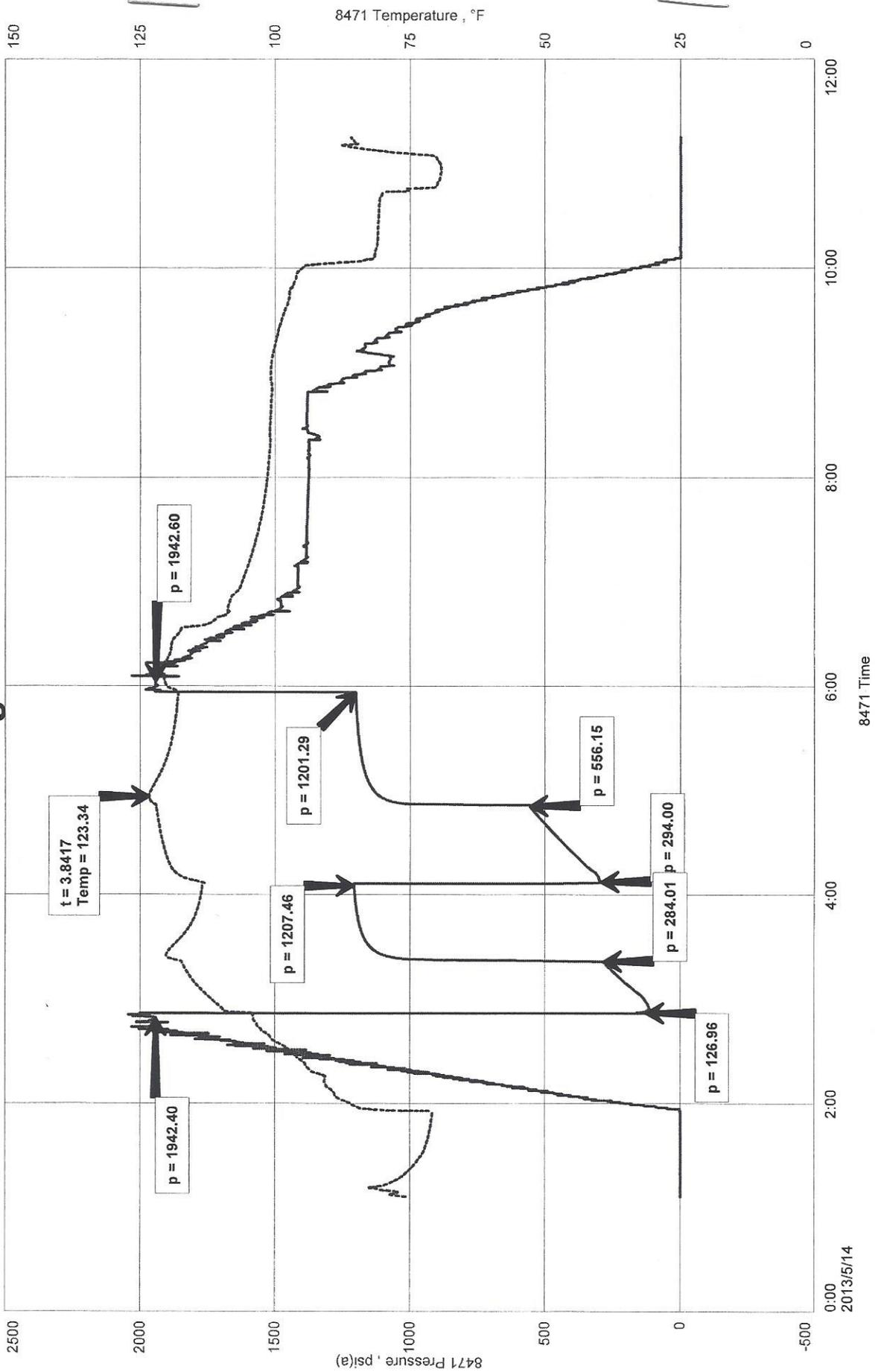
Remarks Tool Sample Grind Out: Blew out.
Circulated to truck at 2,772 ft. 10 bbls of clean oil according to truck.

Time Set Packer(s) 2:52 A.M. Time Started off Bottom 5:52 A.M. Maximum Temperature 123°
Initial Hydrostatic Pressure.....(A) _____ 1942 P.S.I.
Initial Flow Period.....Minutes 30 (B) _____ 127 P.S.I. to (C) _____ 284 P.S.I.
Initial Closed In Period.....Minutes 45 (D) _____ 1207 P.S.I.
Final Flow Period.....Minutes 45 (E) _____ 294 P.S.I. to (F) _____ 556 P.S.I.
Final Closed In Period.....Minutes 60 (G) _____ 1201 P.S.I.
Final Hydrostatic Pressure.....(H) _____ 1943 P.S.I.

Zeigler #1
 Formation: DST #4 Miss 4024-4045'
 Pool: Infield
 Job Number: S0331

H & D Exploration LLC
 DST #4 Miss 4024-4045'
 Start Test Date: 2013/05/13
 Final Test Date: 2013/05/14

Zeigler #1





Musgrove

**PETROLEUM
CORPORATION**
Clafin, Kansas

COMPANY: H&D Exploration LLC

LEASE: Zeigler #1

FIELD: wildcat

LOCATION: SW-SE-NW-NE (996' FNL & 1820' FEL)

SEC: 29 **TWSP:** 25s **RGE:** 12w

COUNTY: Stafford **STATE:** Kansas

KB: 1887 **GL:** 1880

API # 15-185-23809-00-00

CONTRACTOR: Southwind Drilling Company (Rig # 4)

Spud: 05-06-2013 **Comp:** 05-15-2013

RTD: 4260' **LTD:** 4256'

Mud Up: 2800' **Type Mud:** Chemical was displaced

Samples Saved From: 3200' to RTD
Drilling Time Kept From: 3200' to RTD
Samples Examined From: 3200' to RTD
Geological Supervision From: 3200' to RTD
Geologist on Well: Josh Austin

Surface Casing: 8 5/8" @ 703
Production Casing: 5 1/2" Set and Cemented

Electronic Surveys: By Pioneer Energy Services cnl/cdl, dil, micro, sonic

NOTES

On the basis of the positive structural position and drill stem test, it was recommended by all parties involved in the Zeigler #1 to run 5 1/2" production casing to further test the Mississippi zone.

Heebner	3432 -1545	3428 -1541
Toronto	3449 -1562	3443 -1556
Douglas	3468 -1581	3464 -1577
Brown Lime	3583 -1696	3579 -1692
Lansing	3606 -1719	3601 -1714
Base Kansas City	3896 -2009	3889 -2002
Mississippi	3992 -2105	3990 -2103
Kinderhook	4044 -2157	4038 -2151
Viola	4062 -2175	4063 -2176
Simpson Shale	4134 -2247	4129 -2242
Simpson Sand	4150 -2263	4143 -2256
Arbuckle	4211 -2324	4205 -2318
RTD	4260 -2373	
LTD	4256 -2369	



DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313
DRILL-STEM TEST TICKET
FILE: zeigler1dst1

TIME ON: 10:57
TIME OFF: 17:57

Company H & D Exploration LLC Lease & Well No. Zeigler#1
Contractor Southwind Rig #4 Change to H & D Exploration LLC
Elevation 1887 KB Formation Lansing B Effective Pay _____ Ft. Ticket No. 80328
Date 5-11-13 Sec. 29 Twp. 25 S Range 12 W County Stafford State KANSAS
Test Approved By Josh Austin Diamond Representative JACOB MCCALLIE

Formation Test No. 1 Interval Tested from 3615 ft. to 3645 ft. Total Depth 3645 ft.
Packer Depth 3610 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
Packer Depth 3615 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 3595 ft. Recorder Number 8471 Cap. 10000 P.S.I.
Bottom Recorder Depth (Outside) 3642 ft. Recorder Number 3851 Cap. 5700 P.S.I.
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type CHEMICAL Viscosity 48 Drill Collar Length 0 ft. I.D. 2 1/4 in.
Weight 9.2 Water Loss 9.6 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.
Chlorides 5,400 P.P.M. Drill Pipe Length 3582 ft. I.D. 3 1/2 in.
Jars: Make STERLING Serial Number 3 Test Tool Length 33 ft. Tool Size 3 1/2-IF in.
Did Well Flow? NO Reversed Out NO Anchor Length 30 ft. Size 4 1/2-FH in.
Main Hole Size 7 7/8 Tool Joint Size 4 1/2 in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: 5 1/2" Blow- Built to BB in 1 1/4 min **NOBB**

Recovered <u>47</u> ft. of <u>SLGCM</u>	<u>4% G 96% M</u>
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	Price Job
Recovered _____ ft. of _____	Other Charges
Remarks: <u>Gas to weak to measure</u>	Insurance
TOOL SAMPLE: <u>Sample blew out</u>	Total

Time Set Packer(s) <u>12:45 PM</u>	A.M. P.M.	Time Started Off Bottom <u>3:45 PM</u>	A.M. P.M.	Maximum Temperature <u>112</u>
Initial Hydrostatic Pressure _____	(A)	<u>1731</u>	P.S.I.	
Initial Flow Period _____ Minutes	<u>30</u>	(B)	<u>15</u>	P.S.I. to (C) <u>18</u> P.S.I.
Initial Closed In Period _____ Minutes	<u>45</u>	(D)	<u>1044</u>	P.S.I.
Final Flow Period _____ Minutes	<u>45</u>	(E)	<u>21</u>	P.S.I. to (F) <u>27</u> P.S.I.
Final Closed In Period _____ Minutes	<u>60</u>	(G)	<u>993</u>	P.S.I.
Final Hydrostatic Pressure _____	(H)	<u>1715</u>	P.S.I.	

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



DIAMOND TESTING
 P.O. Box 157
 HOISINGTON, KANSAS 67544
 (800) 542-7313
DRILL-STEM TEST TICKET
 FILE: zelgler1dst2

TIME ON: 11:05
 TIME OFF: 18:18

Company H & D Exploration LLC Lease & Well No. Zelgler #1
 Contractor Southwind Rig #4 Charge to H & D Exploration LLC
 Elevation 1887 KB Formation Lansing H-J Effective Pay _____ Ft. Ticket No. 80329
 Date 5-12-13 Sec. 29 Twp. 25 S Range 12 W County Stafford State KANSAS
 Test Approved By Josh Austin Diamond Representative JACOB MCCALLIE

Formation Test No. 2 Interval Tested from 3,770 ft. to 3,847 ft. Total Depth 3,847 ft.
 Packer Depth 3,765 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
 Packer Depth 3,770 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____
 Top Recorder Depth (Inside) 3,751 ft. Recorder Number 8471 Cap. 10000 P.S.I.
 Bottom Recorder Depth (Outside) 3,844 ft. Recorder Number 3851 Cap. 5700 P.S.I.
 Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type CHEMICAL Viscosity 52 Drill Collar Length 0 ft. I.D. 2 1/4 in.
 Weight 9.3 Water Loss 8.0 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.
 Chlorides 5,700 P.P.M. Drill Pipe Length 3,737 ft. I.D. 3 1/2 in.
 Jars: Make STERLING Serial Number 3 Test Tool Length 33 ft. Tool Size 3 1/2-IF in.
 Did Well Flow? NO Reversed Out NO Anchor Length 77 (13.5' p) 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.

2nd Open: 1/2" Blow- Built to BB in 14 1/2 min

3/4" BB

Recovered	335 ft. of	GIP		
Recovered	43 ft. of	SLOCM	5% O 95% M	
Recovered	63 ft. of	SLG&OCWCM	8% G 9% O 20% W 63% M	
Recovered	63 ft. of	SLO&GCHMCW	5% G 3% O 56% W 36% M	
Recovered	169 ft. of	TOTAL FLUID		Price Job
Recovered	ft. of	PH: 7	RW: .12 @ 85 degrees F	Other Charges
Remarks:	CHLORIDES: 31,000 ppm			Insurance
TOOL SAMPLE: 11% G 9% O 54% W 26% M				Total

Time Set Packer(s)	12:33 PM	A.M. P.M.	Time Started Off Bottom	3:33 PM	A.M. P.M.	Maximum Temperature	111
Initial Hydrostatic Pressure			(A)	1828	P.S.I.		
Initial Flow Period	Minutes	30	(B)	12	P.S.I. to (C)	45	P.S.I.
Initial Closed In Period	Minutes	45	(D)	1192	P.S.I.		
Final Flow Period	Minutes	45	(E)	49	P.S.I. to (F)	87	P.S.I.
Final Closed In Period	Minutes	60	(G)	1168	P.S.I.		
Final Hydrostatic Pressure			(H)	1816	P.S.I.		

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



DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313
DRILL-STEM TEST TICKET
FILE: zeigler1dst3

TIME ON: 08:44
TIME OFF: 17:26

Company H & D Exploration LLC Lease & Well No. Zeigler #1
Contractor Southwind Rig #4 Charge to H & D Exploration LLC
Elevation 1887 KB Formation _____ Miss Effective Pay _____ Ft. Ticket No. 90330
Date 5-13-13 Sec. 29 Twp. 25 S Range 12 W County Stafford State KANSAS
Test Approved By Josh Austin Diamond Representative JACOB MCCALLIE

Formation Test No. 3 Interval Tested from 3968 ft. to 4004 ft. Total Depth 4004 ft.
Packer Depth 3963 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
Packer Depth 3968 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 3949 ft. Recorder Number 8471 Cap. 10000 P.S.I.
Bottom Recorder Depth (Outside) 4001 ft. Recorder Number 3851 Cap. 5700 P.S.I.
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type CHEMICAL Viscosity 49 Drill Collar Length 0 ft. I.D. 2 1/4 in.
Weight 9.3 Water Loss 12.0 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.
Chlorides 7,100 P.P.M. Drill Pipe Length 3935 ft. I.D. 3 1/2 in.
Jars: Make STERLING Serial Number 3 Test Tool Length 33 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 in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: 10" Blow- Built to BB in :42 sec NOBB

2nd Open: Immediate BB Blow (gas to surface in 34 min into 2nd open) NOBB

Recovered	20 ft. of	SLGCM	6% G 94% M
Recovered	_____ ft. of		
Recovered	_____ ft. of		
Recovered	_____ ft. of		
Recovered	_____ ft. of		
Recovered	_____ ft. of		
Recovered	_____ ft. of		
Remarks:	Gas to weak to measure		
TOOL SAMPLE: 100% M (few oil specks)			Total

Time Set Packer(s)	11:33 AM	A.M. P.M.	Time Started Off Bottom	2:33 PM	A.M. P.M.	Maximum Temperature	117
Initial Hydrostatic Pressure			(A)	1914	P.S.I.		
Initial Flow Period		Minutes	30	(B)	12	P.S.I. to (C)	12
Initial Closed In Period		Minutes	45	(D)	1090	P.S.I.	
Final Flow Period		Minutes	45	(E)	18	P.S.I. to (F)	13
Final Closed In Period		Minutes	60	(G)	1161	P.S.I.	
Final Hydrostatic Pressure			(H)	1916	P.S.I.		

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



DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313
DRILL-STEM TEST TICKET
FILE: zeigler1dst4

TIME ON: 01:06
TIME OFF: 11:16

Company	H & D Exploration LLC	Lease & Well No.	Zeigler #1
Contractor	Southwind Rig #4	Charge to	H & D Exploration LLC
Elevation	1887 KB	Formation	Miss
Date	5-14-13	Sec.	29
Twp.	25	S Range	12
W County	Stafford	State	KANSAS
Effective Pay		Ft.	80331
Test Approved By	Josh Austin	Diamond Representative	JACOB MCCALLIE

Formation Test No.	4	Interval Tested from	4024 ft. to	4045 ft.	Total Depth	4045 ft.
Packer Depth	4019	ft. Size	6 3/4 in.	Packer depth	_____ ft. Size	6 3/4 in.
Packer Depth	4024	ft. Size	6 3/4 in.	Packer depth	_____ ft. Size	6 3/4 in.

Top Recorder Depth (Inside)	4009	ft.	Recorder Number	8471	Cap.	10000	P.S.I.
Bottom Recorder Depth (Outside)	4042	ft.	Recorder Number	3851	Cap.	5700	P.S.I.
Below Straddle Recorder Depth		ft.	Recorder Number		Cap.		P.S.I.
Mud Type	CHEMICAL	Viscosity	49	Drill Collar Length	0	ft. I.D.	2 1/4 in.
Weight	9.3	Water Loss	12.0	cc. Weight Pipe Length	0	ft. I.D.	2 7/8 in.
Chlorides			7,100	P.P.M. Drill Pipe Length	3991	ft. I.D.	3 1/2 in.
Jars: Make	STERLING	Serial Number	3	Test Tool Length	33	ft.	Tool Size 3 1/2-IF in.
Did Well Flow?	NO	Reversed Out	NO	Anchor Length	21	ft.	Size 4 1/2-FH in.
Main Hole Size	7 7/8	Tool Joint Size	4 1/2	in. Surface Choke Size	1	in.	Bottom Choke Size 5/8 in.

Blow: 1st Open: BB Blow in :29 sec (gas to surface in 5 min) BBBB

2nd Open: BB Blow in 1 1/4 min

BBBB

Recovered	2835 ft. of CO	100% CO	GRAVITY: 38 @ 60 degrees F
Recovered	126 ft. of OCHGCM	21% O 32% G 47% M	
Recovered	2961 ft. of	TOTAL FLUID	
Recovered	ft. of		
Recovered	ft. of	Circled to truck w/ 2772' fluid in pipe- 10 bbls CO according to truck	Price Job
Recovered	ft. of		Other Charges
Remarks:			Insurance
TOOL SAMPLE: Blew out			Total

Time Set Packer(s)	2:52 AM	A.M. P.M.	Time Started Off Bottom	5:52 AM	A.M. P.M.	Maximum Temperature	123
Initial Hydrostatic Pressure			(A)			1942 P.S.I.	
Initial Flow Period	Minutes		30	(B)		127 P.S.I. to (C)	284 P.S.I.
Initial Closed In Period	Minutes		45	(D)		1207 P.S.I.	
Final Flow Period	Minutes		45	(E)		294 P.S.I. to (F)	556 P.S.I.
Final Closed In Period	Minutes		80	(G)		1201 P.S.I.	
Final Hydrostatic Pressure				(H)		1943 P.S.I.	

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ROCK TYPES

Cht	Dolsec	shale, gry	Ss
Cht vari	Lmst fw7>	Carbon Sh	Slst
Chtcongl	shale, grn	shale, red	

ACCESSORIES

MINERAL

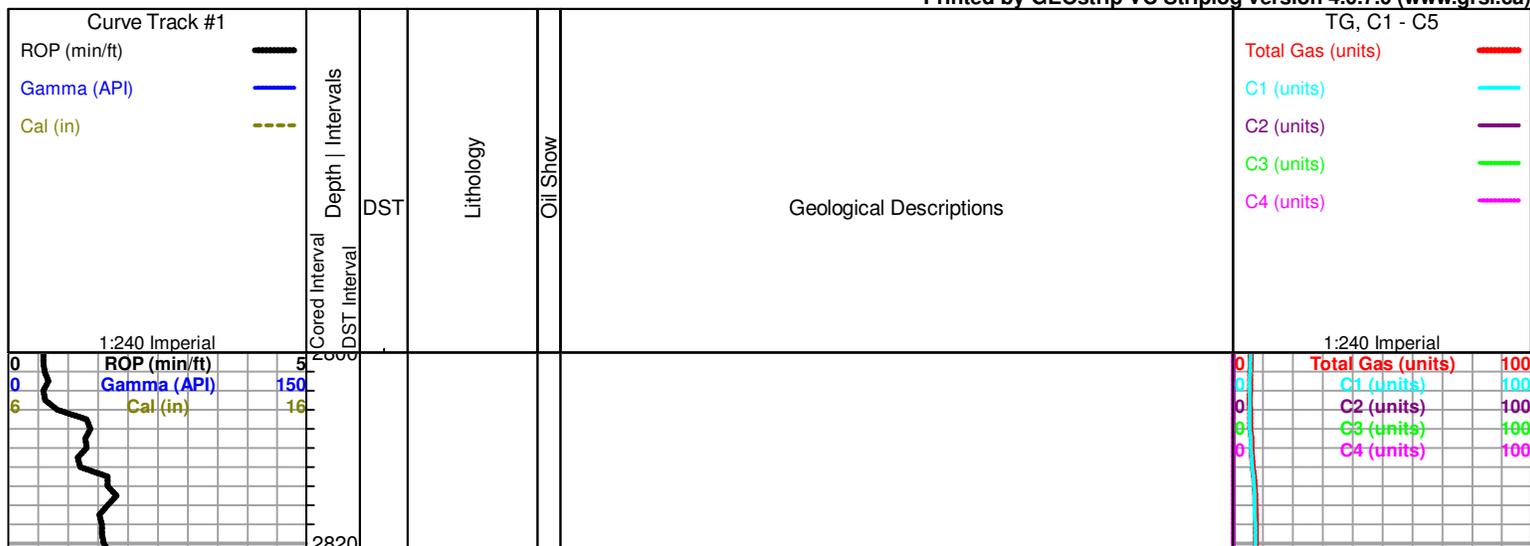
- ▲ Chert, dark
- △ Chert White

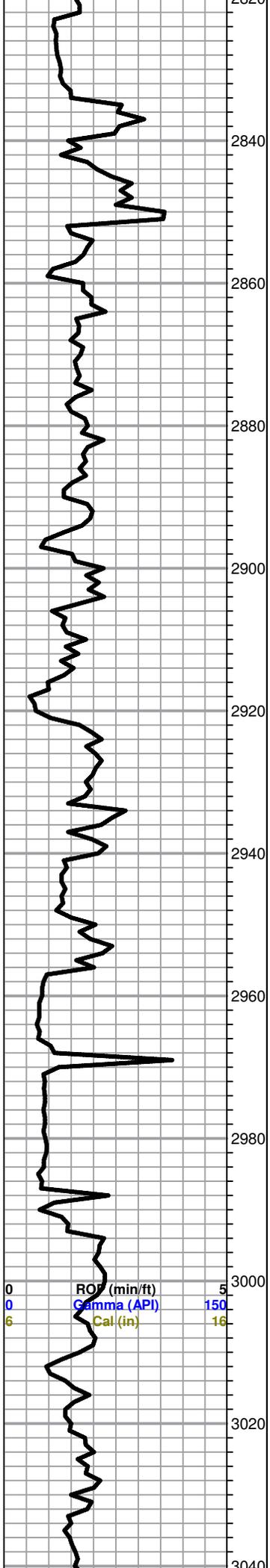
OTHER SYMBOLS

DST

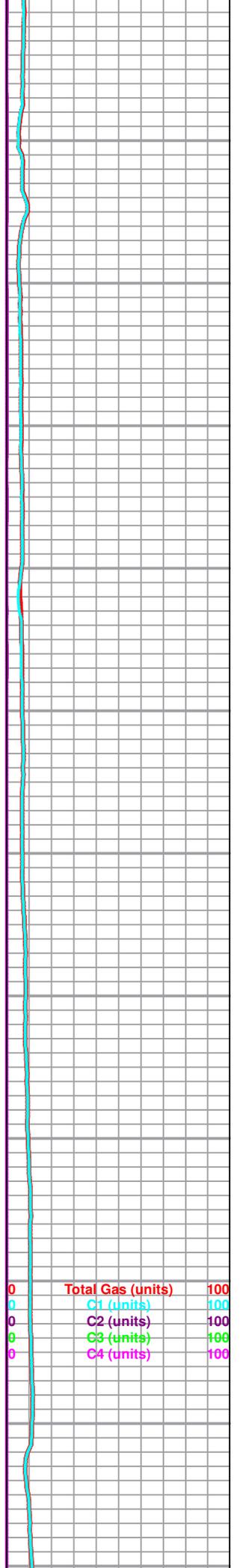
- DST Int
- DST alt
- Core
- tail pipe

Printed by GEOstrip VC Striplog version 4.0.7.0 (www.grsi.ca)

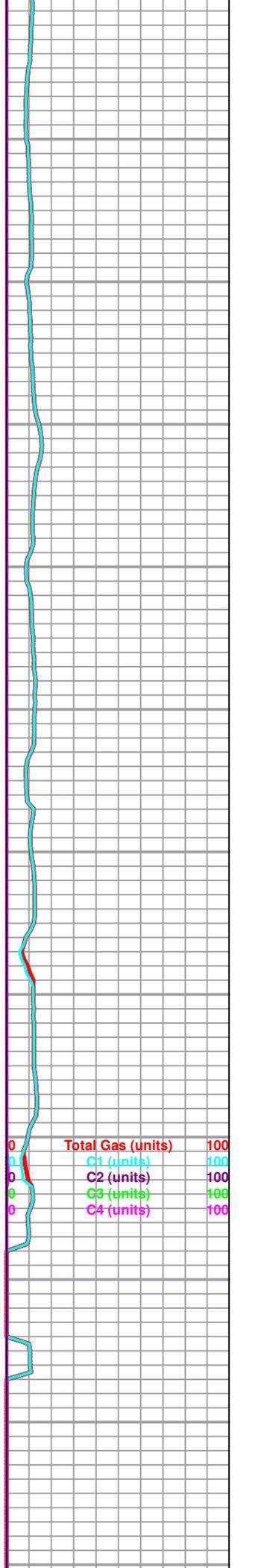
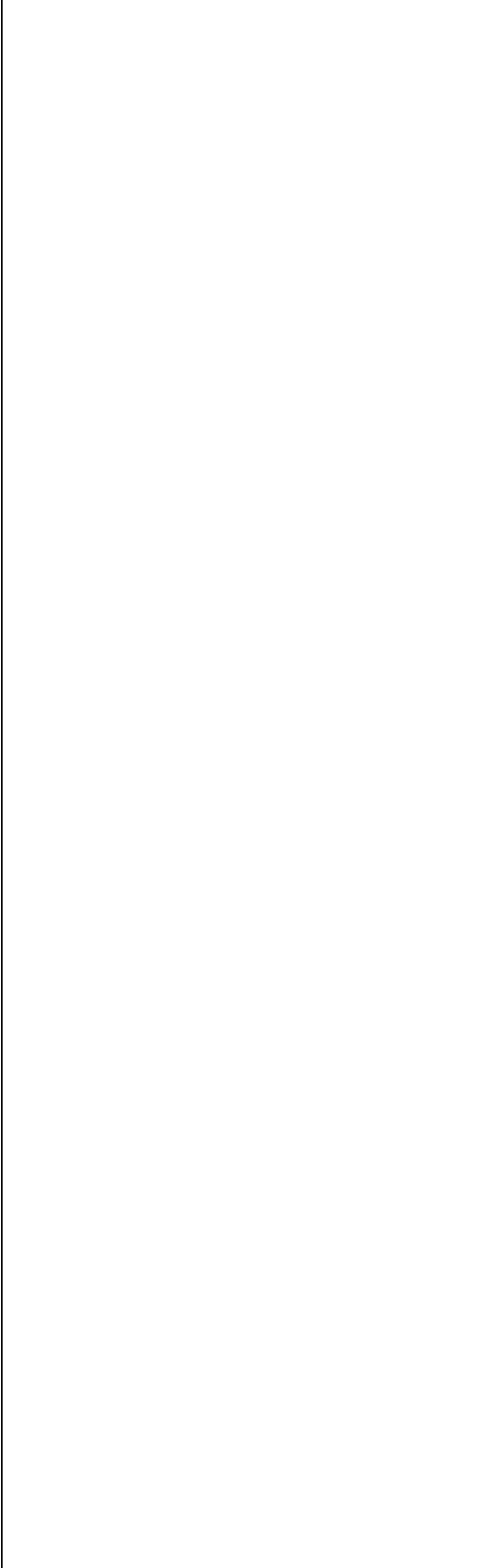
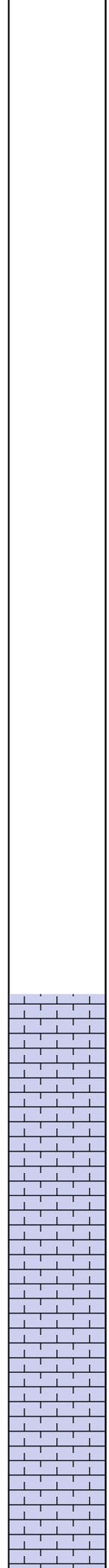
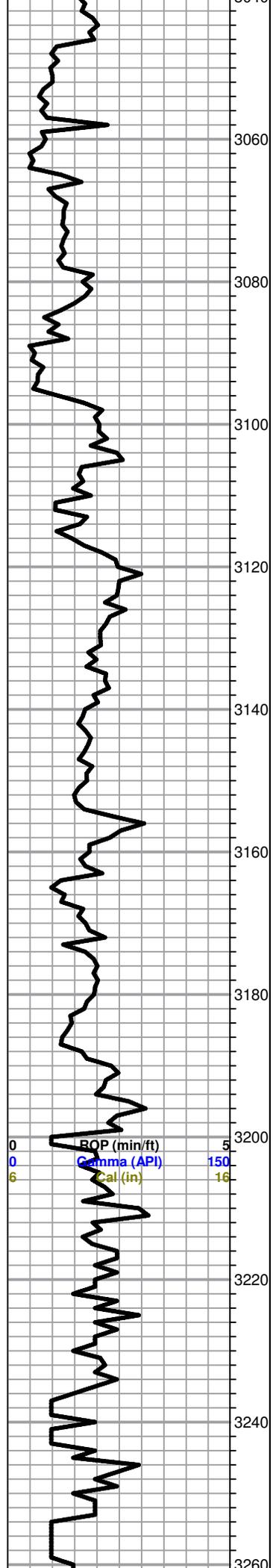


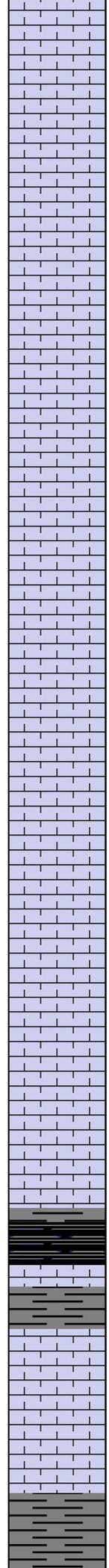
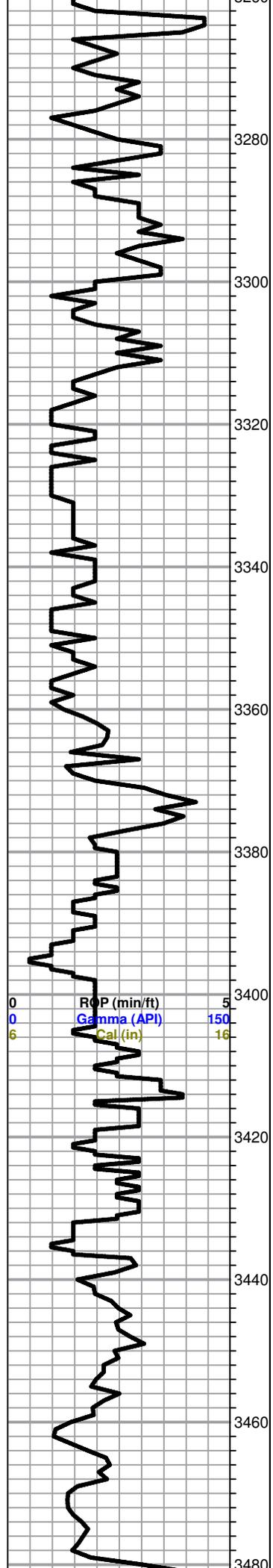


0	ROF (min/ft)	5
0	Gamma (API)	150
6	Cal (in)	16



0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100





Limestone; cream-buff, fine-medium xln, sandy/granular, poor visible porosity, no shows, fossiliferous-oolitic, no shows

Limestone; grey, fine xln, fossiliferous, chalky in part, dense, poor visible porosity, no shows

Limestone as above

Limestone; cream, fine-medium xln, granular, chalky, oolitic in part, no shows, plus white chalk

Limestone; cream-buff, fine-medim xln, slightly fossiliferous, granular, sparry calcite crystals in part

Limestone; cream-grey, fine xln, chalky, poorly developed porosity, no shows

Limestone; cream-buff, fine-medium xln, slightly fossiliferous, dense, plus grey-white boney Chert

Limestone; as above plus grey-white boney Chert

HEEBNER 3432 (-1545)

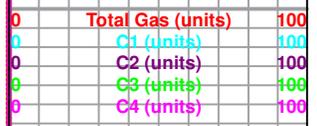
black carboniferous shale

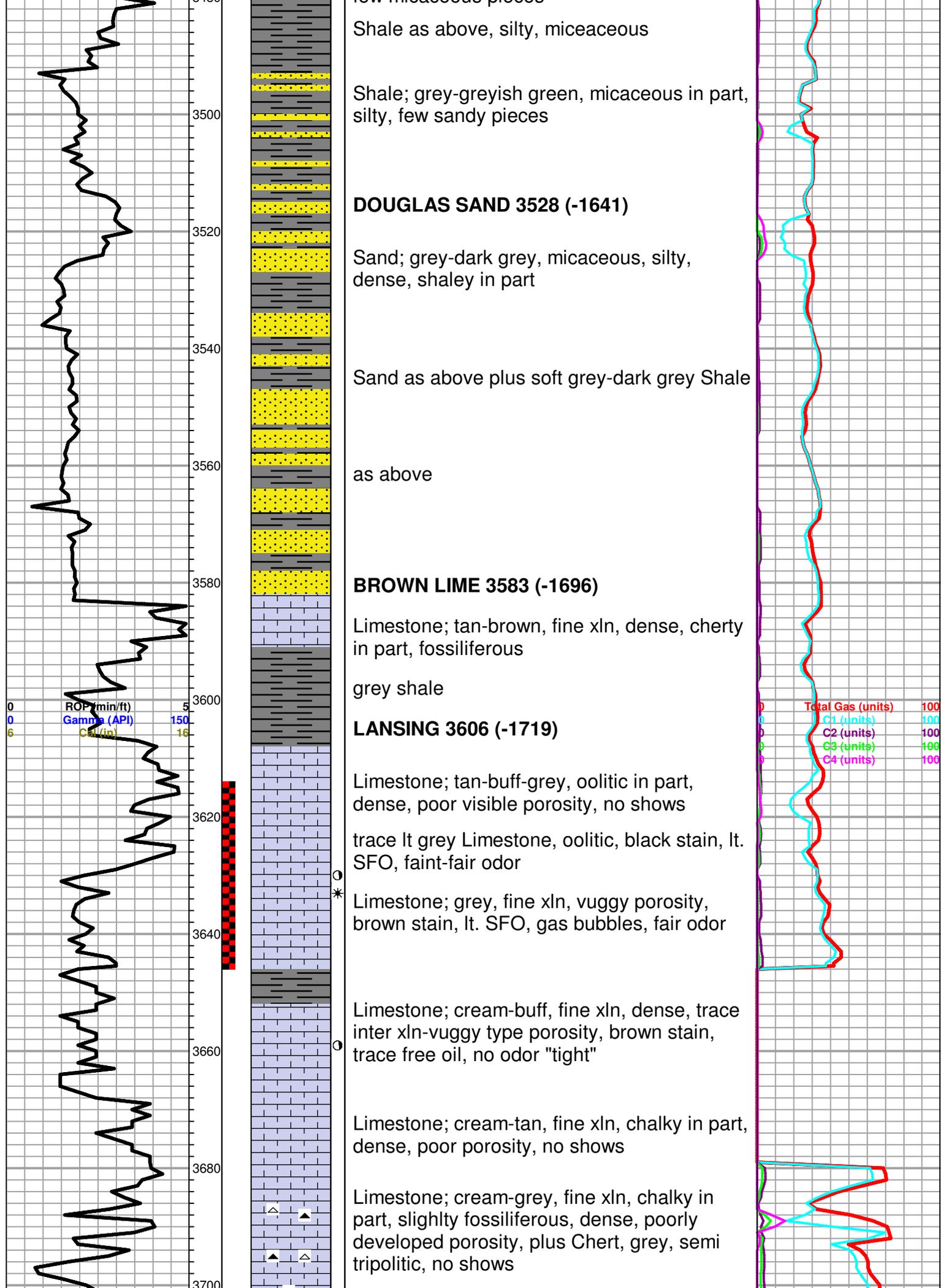
TORONTO 3449 (-1562)

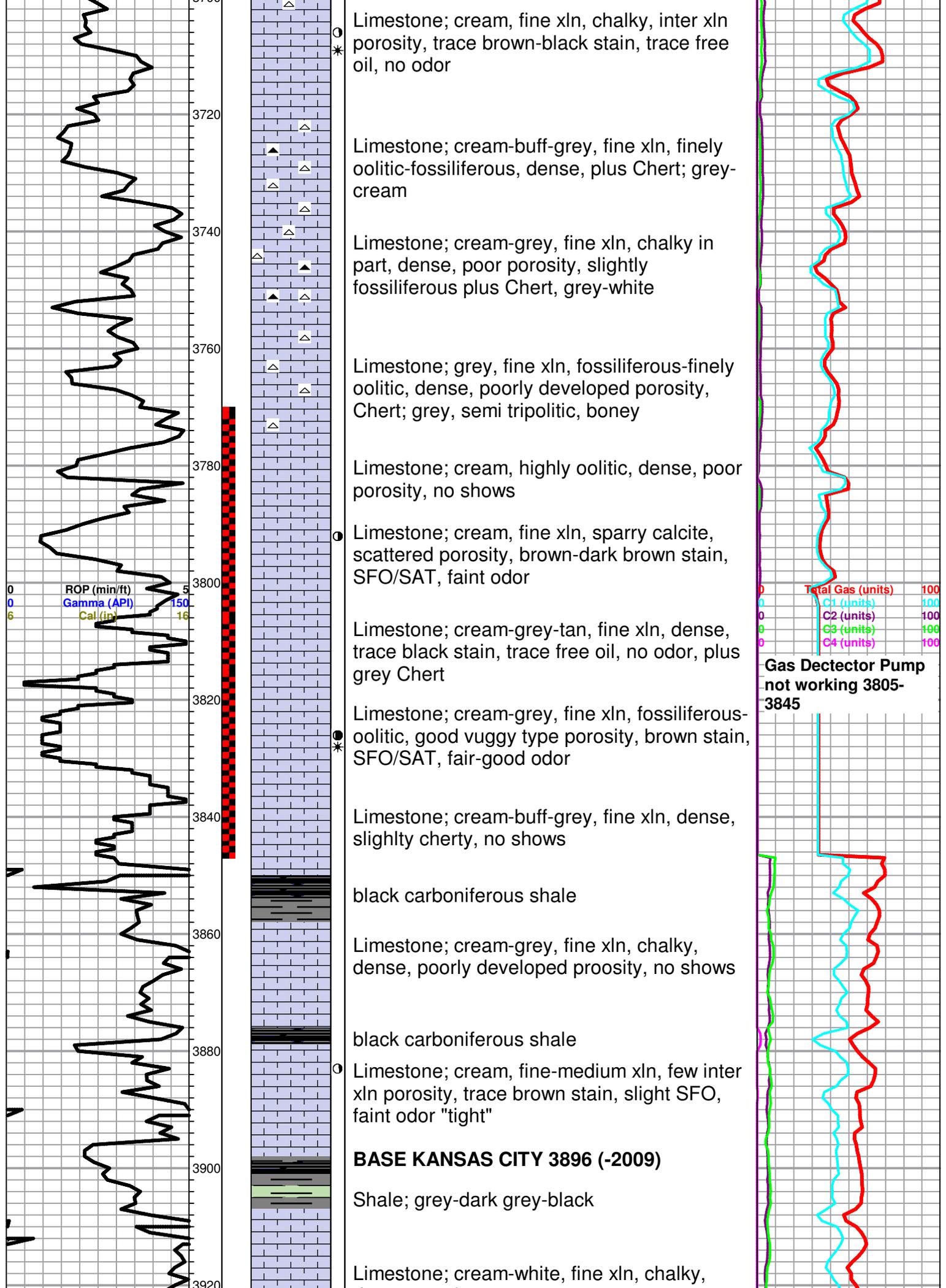
Limestone; white-cream, fine-medium xln, chalky, few scattered porosity, no shows

DOUGLAS 3468 (-1581)

Shale; grey-green-maroon, soft, silty in part, few micaceous pieces







Limestone; cream, fine xln, chalky, inter xln porosity, trace brown-black stain, trace free oil, no odor

Limestone; cream-buff-grey, fine xln, finely oolitic-fossiliferous, dense, plus Chert; grey-cream

Limestone; cream-grey, fine xln, chalky in part, dense, poor porosity, slightly fossiliferous plus Chert, grey-white

Limestone; grey, fine xln, fossiliferous-finely oolitic, dense, poorly developed porosity, Chert; grey, semi tripolitic, boney

Limestone; cream, highly oolitic, dense, poor porosity, no shows

Limestone; cream, fine xln, sparry calcite, scattered porosity, brown-dark brown stain, SFO/SAT, faint odor

Limestone; cream-grey-tan, fine xln, dense, trace black stain, trace free oil, no odor, plus grey Chert

Limestone; cream-grey, fine xln, fossiliferous-oolitic, good vuggy type porosity, brown stain, SFO/SAT, fair-good odor

Limestone; cream-buff-grey, fine xln, dense, slightly cherty, no shows

black carboniferous shale

Limestone; cream-grey, fine xln, chalky, dense, poorly developed proosity, no shows

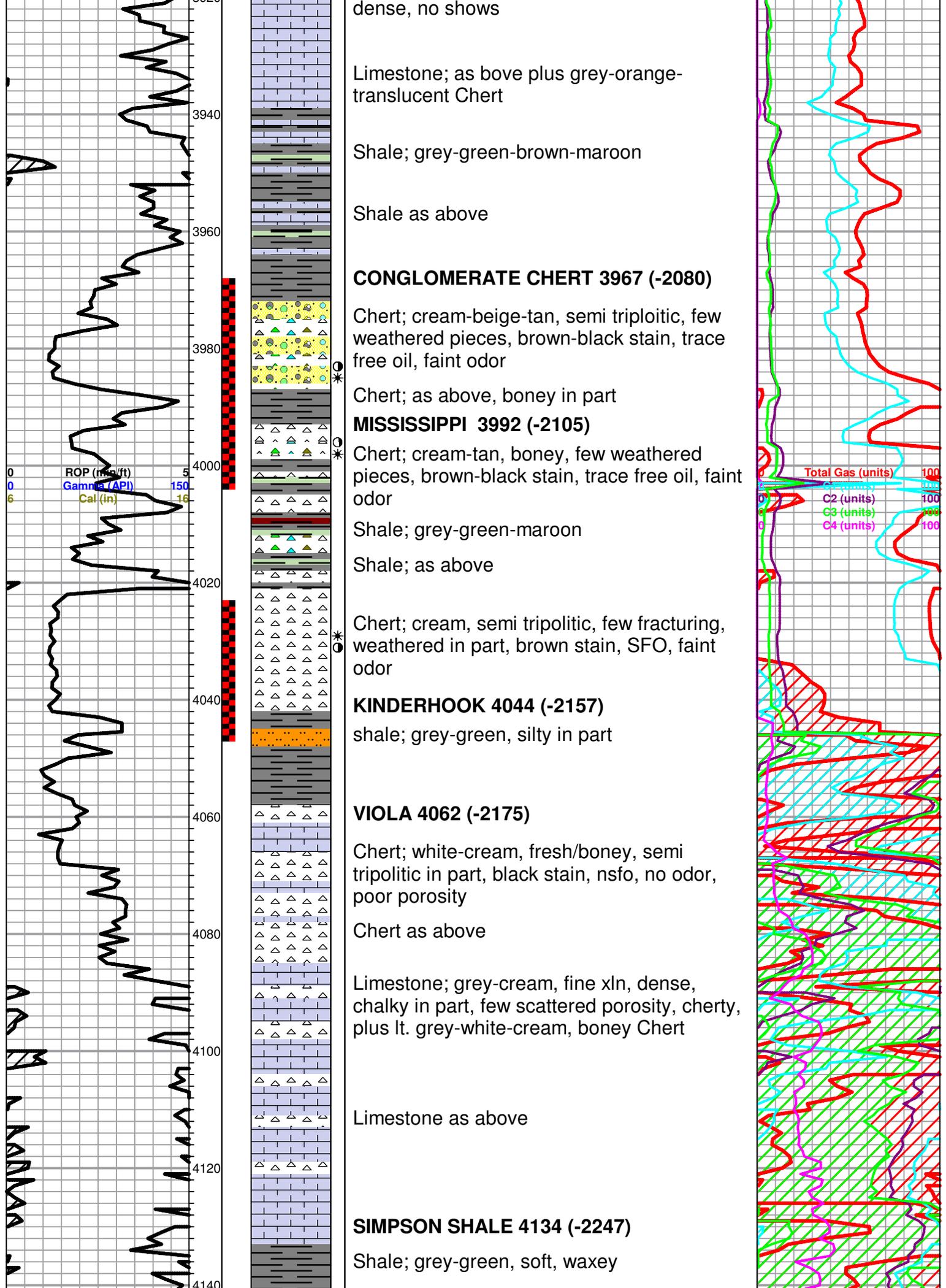
black carboniferous shale

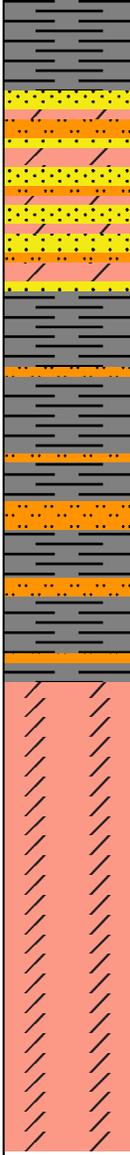
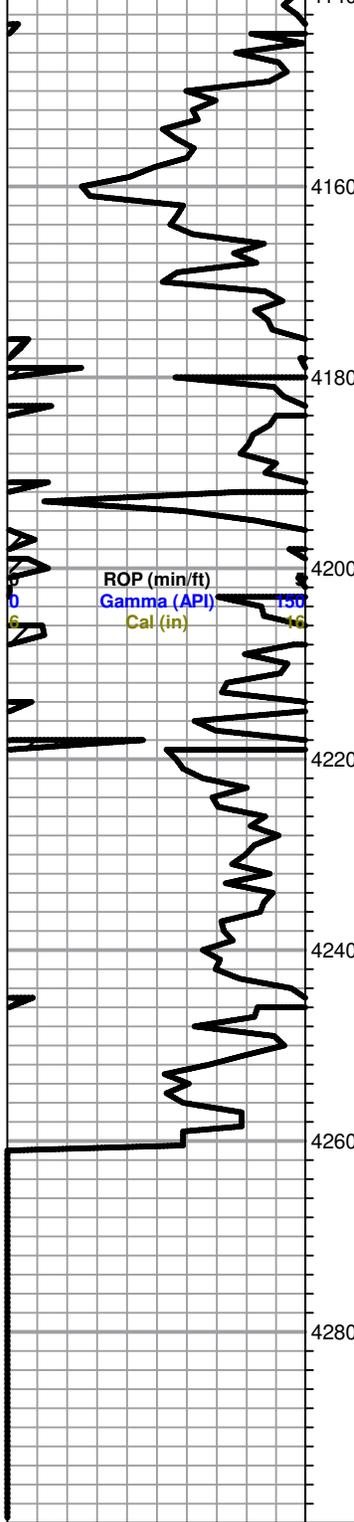
Limestone; cream, fine-medium xln, few inter xln porosity, trace brown stain, slight SFO, faint odor "tight"

BASE KANSAS CITY 3896 (-2009)

Shale; grey-dark grey-black

Limestone; cream-white, fine xln, chalky,





SIMPSON SAND 4150 (-2263)

Sand; grey-buff, fine-medium grained, fair inter granular porosity, dolomitic in part, no shows

Sand as above plus green-greyish green shale

abundant Shale as above

Shale; variety colors, silty in part

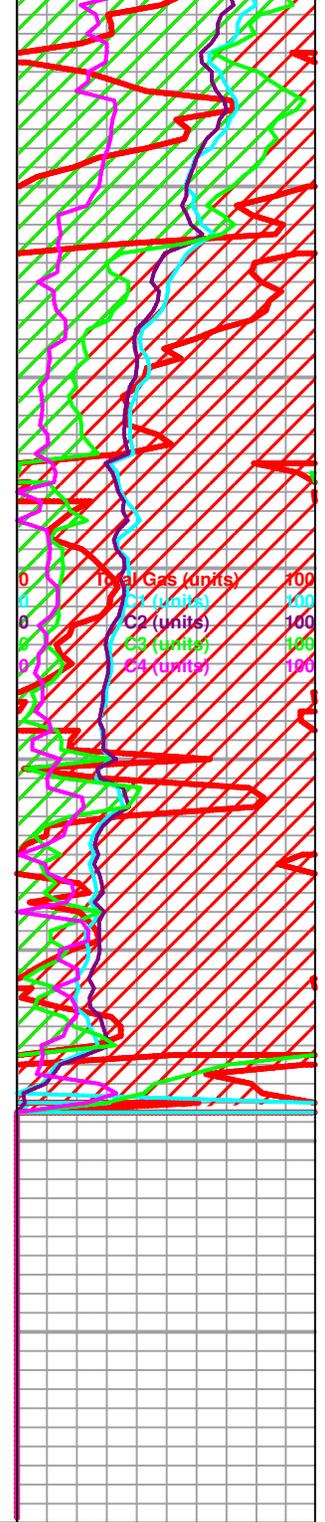
ARBUCKLE 4211 (-2324)

Dolomite; grey-cream-buff, fine xln, dense, poorly developed porosity, no shows

Dolomite; as above few scattered inter xln type porosity, dense, no shows

Dolomite; as above plus Chert, white-grey, boney, no shows

ROTARY TOTAL DEPTH 4260 (-2373)



QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 6801

Date	5-7-13	Sec.	29	Twp.	25	Range	12	County	Stafford	State	Ks	On Location		Finish	11:15 AM
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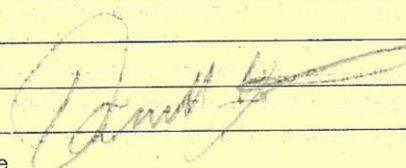
Location Stafford, Ks - 75, 3w, 1/2 S W1S

Lease	<u>Zeigler</u>		Well No.	<u>1</u>	Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.	
Contractor	<u>Southwind #4</u>				Charge To	<u>H-D Exploration</u>	
Type Job	<u>Surface</u>				Street		
Hole Size	<u>12 1/4"</u>	T.D.	<u>703'</u>		City	State	
Csg.	<u>8 5/8"</u>	Depth	<u>703'</u>		The above was done to satisfaction and supervision of owner agent or contractor.		
Tbg. Size		Depth			Cement Amount Ordered	<u>450s Common 3% CC</u>	
Tool		Depth			Meas Line	<u>Displace 41 BLS 2 1/2 Gal 1/2 # Flo-seal</u>	
Cement Left in Csg.	<u>63'</u>	Shoe Joint	<u>63'</u>		EQUIPMENT		

EQUIPMENT		Common
Pumptrk	<u>15</u> No. Cementer <u>Nick</u> Helper	Poz. Mix
Bulktrk	<u>12</u> No. Driver <u>David</u> Driver	Gel.
Bulktrk	<u>plu.</u> No. Driver <u>Rick</u> Driver	Calcium

JOB SERVICES & REMARKS		Hulls
Remarks	<u>Cement did Circulate</u>	Salt
Rat Hole		Flowseal
Mouse Hole		Kol-Seal
Centralizers		Mud CLR 48
Baskets		CFL-117 or CD110 CAF 38
D/V or Port Collar		Sand
		Handling
		Mileage

FLOAT EQUIPMENT	
	Guide Shoe
	Centralizer
	Baskets <u>1</u>
	AFU Inserts
	Float Shoe
	Latch Down
	<u>1 - Baffle plate</u>
	<u>1 - Rubber plug</u>
	Pumptrk Charge
	Mileage

 X Signature	Tax
	Discount
	Total Charge

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 6012
5-16-13

Date	5-15-13	Sec.	29	Twp.	25	Range	12	County	Stafford	State	Ks	On Location		Finish	3:15 AM
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Location *Stafford, Ks - 75th & 70th Rd, 360, 45*

Lease	<i>Zeiger</i>	Well No.	<i>#1</i>	Owner	<i>To Quality Oilwell Cementing, Inc.</i>
Contractor	<i>Southern</i>	You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.			
Type Job	<i>Production</i>	Charge To	<i>H.D. Exploration</i>		
Hole Size	<i>7 7/8"</i>	T.D.	<i>4260'</i>	Street	
Csg.	<i>5 1/2" New 15.50%</i>	Depth	<i>4831'</i>	City	State
Tbg. Size		Depth		The above was done to satisfaction and supervision of owner agent or contractor.	
Tool		Depth		Cement Amount Ordered	<i>230.50 Common 10% Salt 5%</i>
Cement Left in Csg.	<i>18'</i>	Shoe Joint	<i>18'</i>	<i>230 gal Mud C</i>	
Meas Line		Displace	<i>100 PLS</i>	<i>500 gal Mud C</i>	

EQUIPMENT			Common
Pumptrk	<i>15</i>	No. Cementer Helper	Poz. Mix
Bulktrk	<i>1</i>	No. Driver	Gel.
Bulktrk	<i>1</i>	No. Driver	Calcium

JOB SERVICES & REMARKS

Remarks: *pipe on bottom, break C in*

Rat Hole *plug 500 gal Mud C*

Mouse Hole *plug Bathole w/ 1/3" sp, Huk*

Centralizers *to 150' casing + mud 200'*

Baskets *Common 10% Salt, 5% Gel*

D/V or Port Collar *shd down, wash pump*

Large, Released plug & displaced with 100 PLS of water. Released & held.

FLOAT EQUIPMENT	
<i>1.51 pressure 800 #</i>	Guide Shoe
<i>Card plug to 1600 #</i>	Centralizer <i>8 turbos</i>
	Baskets <i>2</i>
	AFU Inserts
	Float Shoe <i>1</i>
	Latch Down <i>1</i>

Pumptrk Charge	
Mileage	
Tax	
Discount	
Total Charge	

X Signature *A. Antz*