



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1170572
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

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

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

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

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

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

API No. 15 - _____

Spot Description: _____

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

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

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

County: _____ Permit #: _____

AFFIDAVIT

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

Submitted Electronically

KCC Office Use ONLY

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

1170572

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

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

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

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

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

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate				
<input type="checkbox"/> Protect Casing				
<input type="checkbox"/> Plug Back TD				
<input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

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

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

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

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
--	---	---

Form	ACO1 - Well Completion
Operator	Black Diamond Oil, Inc.
Well Name	SAMMONS 5
Doc ID	1170572

All Electric Logs Run

GAMMA RAY CORRELATION LOG
MICRO LOG
COMPENSATED DENSITY/NEUTRON LOG
DUAL INDUCTION LOG

QUALITY OILWELL CEMENTING, INC.

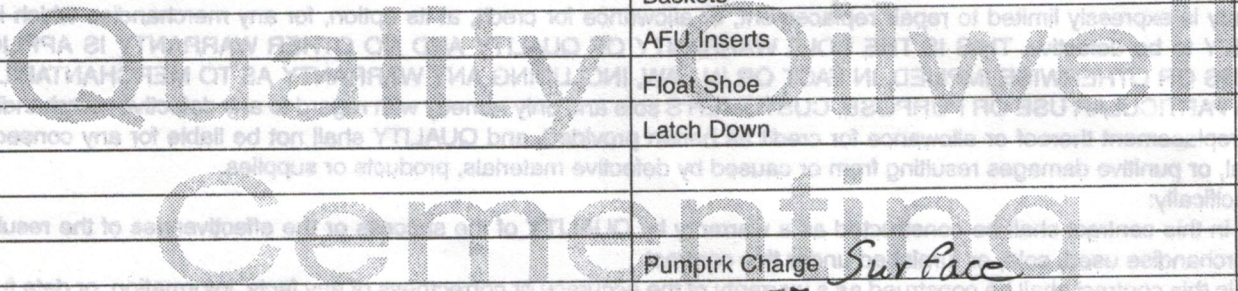
Federal Tax I.D.# 20-2886107

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

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

No. 7222

Date	10-25-13	Sec.	32	Twp.	6	Range	20	County	Rooks	State	KS	On Location		Finish	7:00pm		
Location								Damar and 24 3N, 1E, 3 1/2 M									
Lease	Sammons			Well No.	5			Owner									
Contractor	ww #6			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.					
Type Job	Surface			Charge To								Black Diamond					
Hole Size	12 1/4			T.D.	219			Street									
Csg.	8 5/8			Depth	224			City								State	
Tbg. Size				Depth				The above was done to satisfaction and supervision of owner agent or contractor.									
Tool				Depth				Cement Amount Ordered								150 com 3%CC 2%gel	
Cement Left in Csg.	20			Shoe Joint	20			Common								150	
Meas Line				Displace	12 3/4 bbl			Poz. Mix									
EQUIPMENT																	
Pumptrk	5	No.		Cementer				Gel.								3	
				Helper	Lonnie W.			Calcium								5	
Bulktrk	19	No.		Driver	Lonnie M.			Hulls									
				Driver	Travis			Salt									
Bulktrk	PN	No.		Driver				Flowseal									
JOB SERVICES & REMARKS																	
Remarks:								Cement did circulate									
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								158	
								Mileage									
FLOAT EQUIPMENT																	
								Guide Shoe									
								Centralizer									
								Baskets									
								AFU Inserts									
								Float Shoe									
								Latch Down									
								Pumptrk Charge								Surface	
								Mileage								57	
												Tax					
												Discount					
												Total Charge					
X Signature <i>[Signature]</i>																	



QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

No. 7896

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

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

Date	10-30-13	Sec.	32	Twp.	6	Range	20	County	Rooks	State	KS	On Location	8:00 PM	Finish	12:45 AM				
Lease	Summons			Well No.	5		Location			Damar N to hwy 24 3N to JBD 1E 3/4 N W/S into									
Contractor	WW G			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.												
Type Job	Long String			Charge To			Black Diamond												
Hole Size	7 7/8			T.D.	3760		Street			Black Diamond									
Csg. Size	5 1/2			Depth	3756		City			State									
Tbg. Size				Depth			The above was done to satisfaction and supervision of owner agent or contractor.												
Tool				Depth			Cement Amount Ordered			150 com 10% Salt									
Cement Left in Csg.	17.06			Shoe Joint	17.06		Common			50% Gilsonite 450 Qmdc 1/4 flow									
Meas Line	15.5			Displace	89. BBL		Poz-Mix			150 com									
EQUIPMENT												Gel.							
Pumptrk	5	No.		Cementer/Helper	Mertt		Calcium			Hulls									
Bulktrk	12	No.		Driver	Lonnice W. DOUG H.		Salt			13									
Bulktrk	1	No.		Driver	Elyre B. Chad		Flowseal			112#									
JOB SERVICES & REMARKS												Kol-Seal				750#			
Remarks:												Mud CLR 48				500 gal			
Rat Hole												CFL-117 or CD110 CAF 38				Sand			
Mouse Hole												Handling				620			
Centralizers												Mileage				5.0			
Baskets												Guide Shoe				Centralizer			
D/V or Port Collar												Baskets				6			
Cement did												AFU Inserts				1			
Circ late												Float Shoe				1			
Thank you												Latch Down				1			
Pumptrk Charge												prod long string				Tax			
Mileage												57				Discount			
Signature												J. W. [Signature]				Total Charge			



DRILL STEM TEST REPORT

Prepared For: **Black Diamond Inc Inc**

PO Box 641
Hays KS 67601-0641

ATTN: Ken Vehige, Jeff Law

Sammons #5

32-6s-20w Rooks,KS

Start Date: 2013.10.29 @ 08:55:57

End Date: 2013.10.29 @ 16:11:21

Job Ticket #: 54363 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2013.10.30 @ 11:10:15



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Black Diamond Inc Inc

32-6s-20w Rooks,KS

PO Box 641
Hays KS 67601-0641

Sammons #5

Job Ticket: 54363

DST#: 1

ATTN: Ken Vehige, Jeff Law

Test Start: 2013.10.29 @ 08:55:57

GENERAL INFORMATION:

Formation: **LKC E-G**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 10:34:07

Time Test Ended: 16:11:21

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 70

Interval: 3520.00 ft (KB) To 3556.00 ft (KB) (TVD)

Reference Elevations: 2235.00 ft (KB)

Total Depth: 3556.00 ft (KB) (TVD)

2230.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 8369 Inside

Press @ Run Depth: 89.04 psig @ 3528.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.29 End Date: 2013.10.29

Last Calib.: 2013.10.29

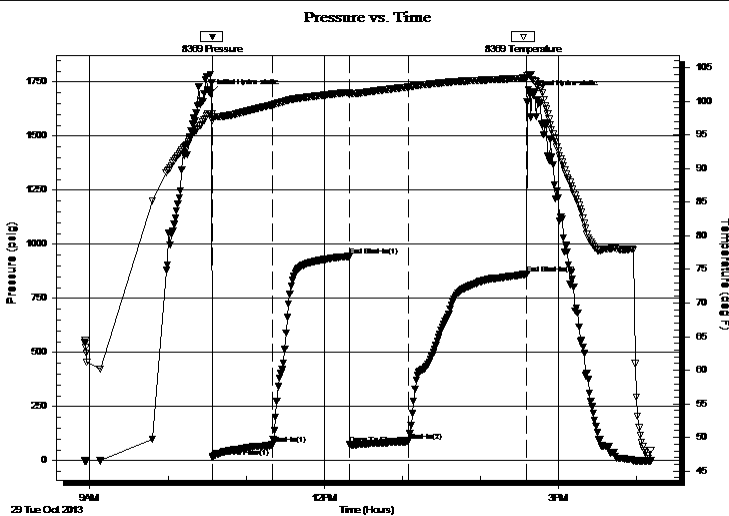
Start Time: 08:55:57 End Time: 16:11:21

Time On Btm: 2013.10.29 @ 10:32:22

Time Off Btm: 2013.10.29 @ 14:38:06

TEST COMMENT: 45-IFP-w k to a gd bl 1/2" to 6 1/2" bl
60-ISIP-no bl
45-FFP-w k to a fr bl 1/4" to 5" bl
90-FSIP-no bl

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1698.42	98.17	Initial Hydro-static
2	17.02	97.12	Open To Flow (1)
48	74.26	99.45	Shut-In(1)
107	944.39	101.32	End Shut-In(1)
107	77.11	101.01	Open To Flow (2)
152	89.04	102.12	Shut-In(2)
243	861.61	103.45	End Shut-In(2)
246	1692.14	104.00	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	125'GIP	0.00
60.00	O&GCM 10%G20%O70%M	0.30
65.00	HO&GCM 10%G30%O60%M	0.37
50.00	CO	0.70

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Black Diamond Inc Inc

32-6s-20w Rooks,KS

PO Box 641
Hays KS 67601-0641

Sammons #5

Job Ticket: 54363

DST#: 1

ATTN: Ken Vehige, Jeff Law

Test Start: 2013.10.29 @ 08:55:57

Tool Information

Drill Pipe:	Length: 3389.00 ft	Diameter: 3.80 inches	Volume: 47.54 bbl	Tool Weight:	2200.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 120.00 ft	Diameter: 2.25 inches	Volume: 0.59 bbl	Weight to Pull Loose:	45000.00 lb
			<u>Total Volume: 48.13 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial	36000.00 lb
Depth to Top Packer:	3520.00 ft			Final	37000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	36.00 ft				
Tool Length:	57.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Change Over Sub	1.00			3500.00	
Shut In Tool	5.00			3505.00	
Hydraulic tool	5.00			3510.00	
Packer	5.00			3515.00	21.00 Bottom Of Top Packer
Packer	5.00			3520.00	
Stubb	1.00			3521.00	
Perforations	7.00			3528.00	
Recorder	0.00	8369	Inside	3528.00	
Recorder	0.00	8700	Outside	3528.00	
Perforations	25.00			3553.00	
Bullnose	3.00			3556.00	36.00 Bottom Packers & Anchor

Total Tool Length: 57.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Black Diamond Inc Inc

32-6s-20w Rooks,KS

PO Box 641
Hays KS 67601-0641

Sammons #5

Job Ticket: 54363

DST#: 1

ATTN: Ken Vehige, Jeff Law

Test Start: 2013.10.29 @ 08:55:57

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

36 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 80.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.96 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
0.00	125'GIP	0.000
60.00	O&GCM 10%G20%O70%M	0.295
65.00	HO&GCM 10%G30%O60%M	0.365
50.00	CO	0.701

Total Length: 175.00 ft

Total Volume: 1.361 bbl

Num Fluid Samples: 0

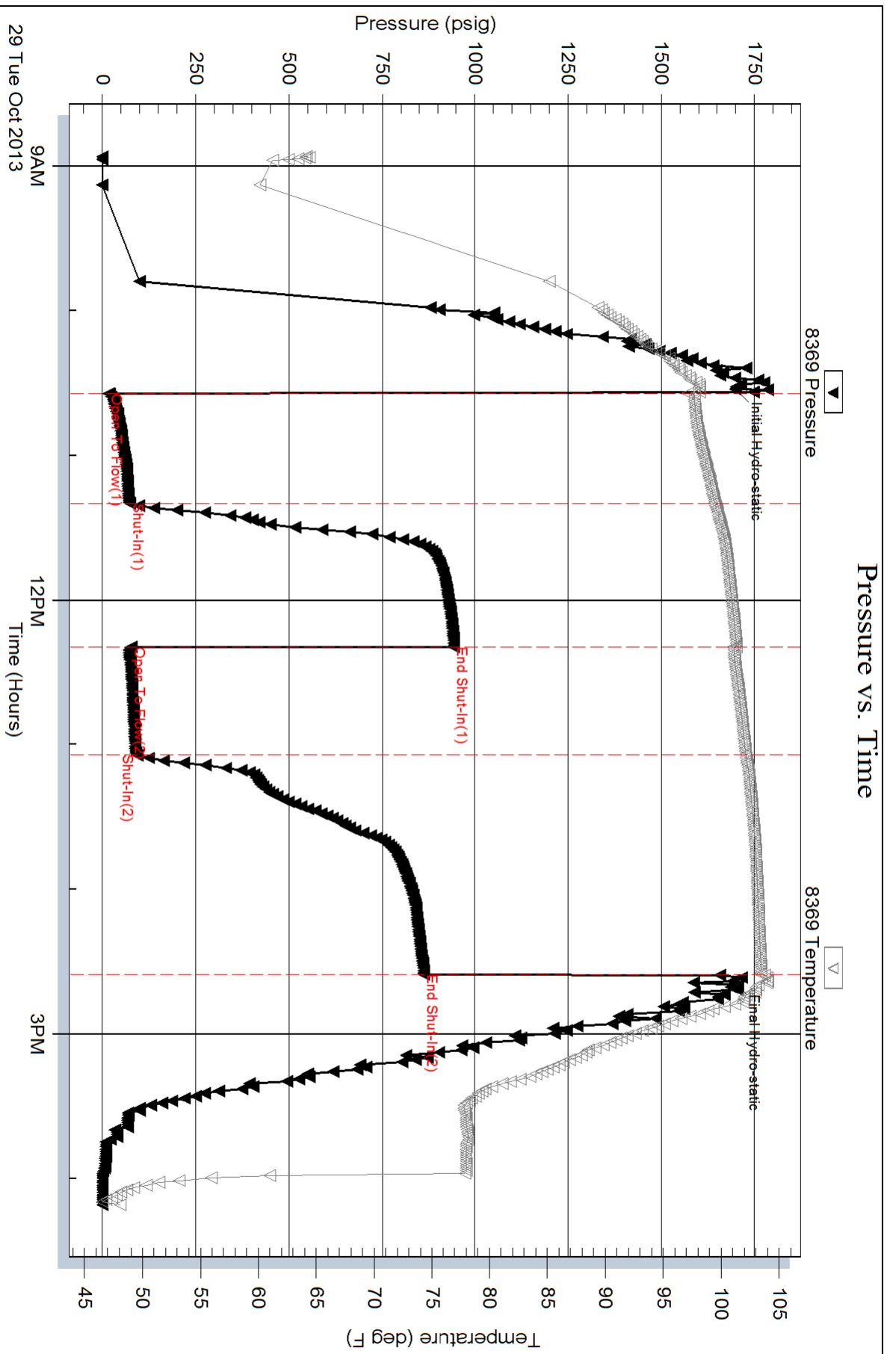
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

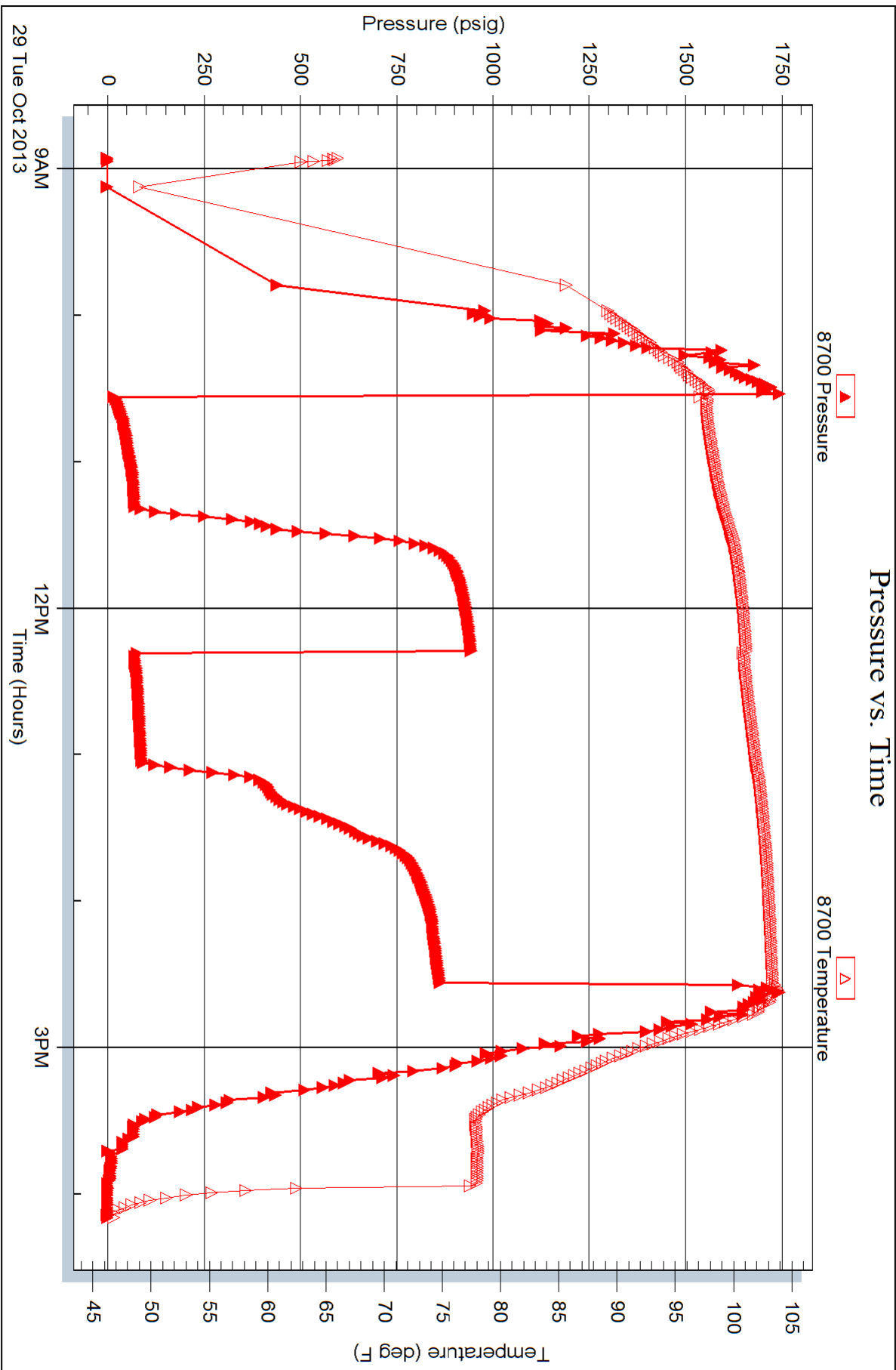


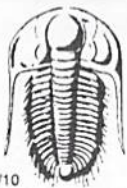
Serial #: 8700

Outside Black Diamond Inc Inc

Sammons #5

DST Test Number: 1





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 54363

Well Name & No. SAMMONS #5 Test No. 1 Date 10-29-13
 Company BLACK DIAMOND OIL INC Elevation 2235 KB 2230 GL
 Address PO BOX 641 HAYS, KS 67601-0641
 Co. Rep / Geo. JEFF LAWLOR Rig WWrig 6
 Location: Sec. 32 Twp. 6^s Rge. 20^w Co. Rooks State Ks

Interval Tested 3520-3556 Zone Tested LKC E-6
 Anchor Length 36 Drill Pipe Run 3389 Mud Wt. 9.2
 Top Packer Depth 3520 Drill Collars Run 120 Vis 80
 Bottom Packer Depth 3520 Wt. Pipe Run - WL 8
 Total Depth 3556 Chlorides 250 ppm System LCM 2#

Blow Description IFP - WEAK TO A GOOD BLOW 1/2" TO 1/2" BLOW
ISIP - NO BLOW
FFP - WEAK TO A FAIR BLOW 1/4" TO 5" BLOW
FSIP - NO BLOW

Rec	Feet of	%gas	%oil	%water	%mud
<u>125</u>	<u>GIP</u>				
<u>65</u>	<u>HOT GCM</u>	<u>10</u>	<u>30</u>	<u>60</u>	<u>60</u>
<u>60</u>	<u>OT GCM</u>	<u>10</u>	<u>20</u>	<u>70</u>	<u>70</u>
<u>50</u>	<u>CD</u>				
Rec Total <u>175</u>	BHT <u>103</u>	Gravity <u>36</u>	API RW <u>-</u>	@ <u>-</u> ° F	Chlorides <u>-</u> ppm

(A) Initial Hydrostatic 1698 Test 1150 T-On Location 0820
 (B) First Initial Flow 17 Jars _____ T-Started 0855
 (C) First Final Flow ~~126~~ 74 Safety Joint _____ T-Open 1035
 (D) Initial Shut-In 944 Circ Sub _____ T-Pulled 1435
 (E) Second Initial Flow 77 Hourly Standby _____ T-Out 1611
 (F) Second Final Flow 89 Mileage 133 RT 206.15 Comments _____
 (G) Final Shut-In 861 Sampler _____
 (H) Final Hydrostatic 1692 Straddle _____ Ruined Shale Packer _____

Initial Open 45 Shale Packer _____ Ruined Packer _____
 Initial Shut-In 60 Extra Packer _____ Extra Copies _____
 Final Flow 45 Extra Recorder _____ Sub Total 0
 Final Shut-In 90 Day Standby _____ Total 1356.15
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1356.15

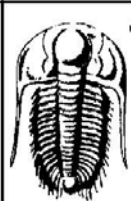
Approved By _____ Our Representative Ray Schwagn Thank you

Trilobite Testing Inc. shall not be liable for damaged of any kind of 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 statements or opinion concerning the results 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.

WELL COMPARISON SHEET

FORMATION	SAMMONS #5				SAMMONS #1				SAMMONS #2				SAMMONS #4				MCCLURG #2			
	W2 NW NE 32-6-20				S2 S2 SE 29-6-20				SW SW SE 29-6-20				NW SENW 32-6-20							
	KB	2235	GL	2230	KB	2238	LOG	SAMPL.	KB	2247	LOG	SAMPL.	KB	2266	LOG	SAMPL.	KB	2222	LOG	SAMPL.
	LOG TOPS	SAMPLE TOPS	COMP. CARD	LOG	SAMPL.	COMP. CARD	LOG	SAMPL.	COMP. CARD	LOG	SAMPL.	COMP. CARD	LOG	SAMPL.	COMP. CARD	LOG	SAMPL.			
ANHYDRITE TOP			1832	403	1836	402		+ 1	1847	400		+ 3	1868	398		+ 5	1822	400		+ 3
BASE			1865	370	1868	370		+ 0	1880	367		+ 3					1855	367		+ 3
TOPEKA			3219	-984	3222	-984		+ 0	3227	-980		- 4	3259	-993		+ 9	3214	-992		+ 8
HEEBNER SHALE			3423	-1188	3433	-1195		+ 7	3434	-1187		- 1	3464	-1198		+ 10	3426	-1204		+ 16
TORONTO			3446	-1211	3456	-1218		+ 7	3456	-1209		- 2	3486	-1220		+ 9	3449	-1227		+ 16
LKC			3463	-1228	3470	-1232		+ 4	3471	-1224		- 4	3500	-1234		+ 6	3463	-1241		+ 13
BKC			3654	-1419	3666	-1428		+ 9	3664	-1417		- 2	3695	-1429		+ 10	3658	-1436		+ 17
MARMATON			3673	-1438	3690	-1452		+ 14	3685	-1438		+ 0					3681	-1459		+ 21
CONGLOMERATE									3703	-1456							3700	-1478		
ARBUCKLE			3684	-1449	3705	-1467		+ 18	3714	-1467		+ 18	3739	-1473		+ 24	3713	-1491		+ 42
TOTAL DEPTH			3760	-1525	3757	-1519		- 6	3726	-1479		- 46	3776	-1510		- 15	3740	-1518		- 7

DST #1 LKC E - G 3520' - 3556'



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Black Diamond Inc Inc **32-6s-20wRooks**
 PO Box 641 **Sammons #5**
 Hays Ks 67601-0641 Job Ticket: 54363 **DST#: 1**
 ATTN: Ken Vehige, Jeff Law Test Start: 2013.10.29 @ 08:55:57

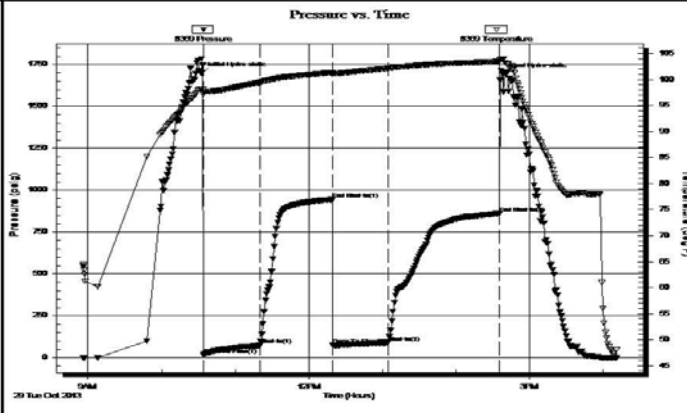
GENERAL INFORMATION:

Formation: **LKC E-G**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 10:34:07
 Time Test Ended: 16:11:21
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Ray Schwager
 Unit No: 70
 Interval: **3520.00 ft (KB) To 3556.00 ft (KB) (TVD)**
 Total Depth: 3556.00 ft (KB) (TVD)
 Hole Diameter: 7.85 inches Hole Condition: Fair
 Reference Elevations: 2235.00 ft (KB)
 2230.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8369 Inside

Press@RunDepth: 89.04 psig @ 3528.00 ft (KB)
 Start Date: 2013.10.29 End Date: 2013.10.29 Capacity: 8000.00 psig
 Start Time: 08:55:57 End Time: 16:11:21 Last Calib.: 2013.10.29
 Time On Btm: 2013.10.29 @ 10:32:22
 Time Off Btm: 2013.10.29 @ 14:38:06

TEST COMMENT: 45-IFP-w k to a gd bl 1/2"to 6 1/2"bl
 60-ISIP-no bl
 45-FFP-w k to a fr bl 1/4"to 5"bl
 90-FSP-no bl



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1698.42	98.17	Initial Hydro-static
2	17.02	97.12	Open To Flow (1)
48	74.26	99.45	Shut-In(1)
107	944.39	101.32	End Shut-In(1)
107	77.11	101.01	Open To Flow (2)
152	89.04	102.12	Shut-In(2)
243	861.61	103.45	End Shut-In(2)
246	1692.14	104.00	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	125'GIP	0.00
60.00	O&GCM 10%G20%O70%M	0.30
65.00	HO&GCM 10%G30%O60%M	0.37
50.00	OO	0.70

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

* Recovery from multiple tests

ROCK TYPES

▲▲▲▲▲ Cht ■■■■■ Carbon Sh ■■■■■ shale, red

ACCESSORIES

MINERAL

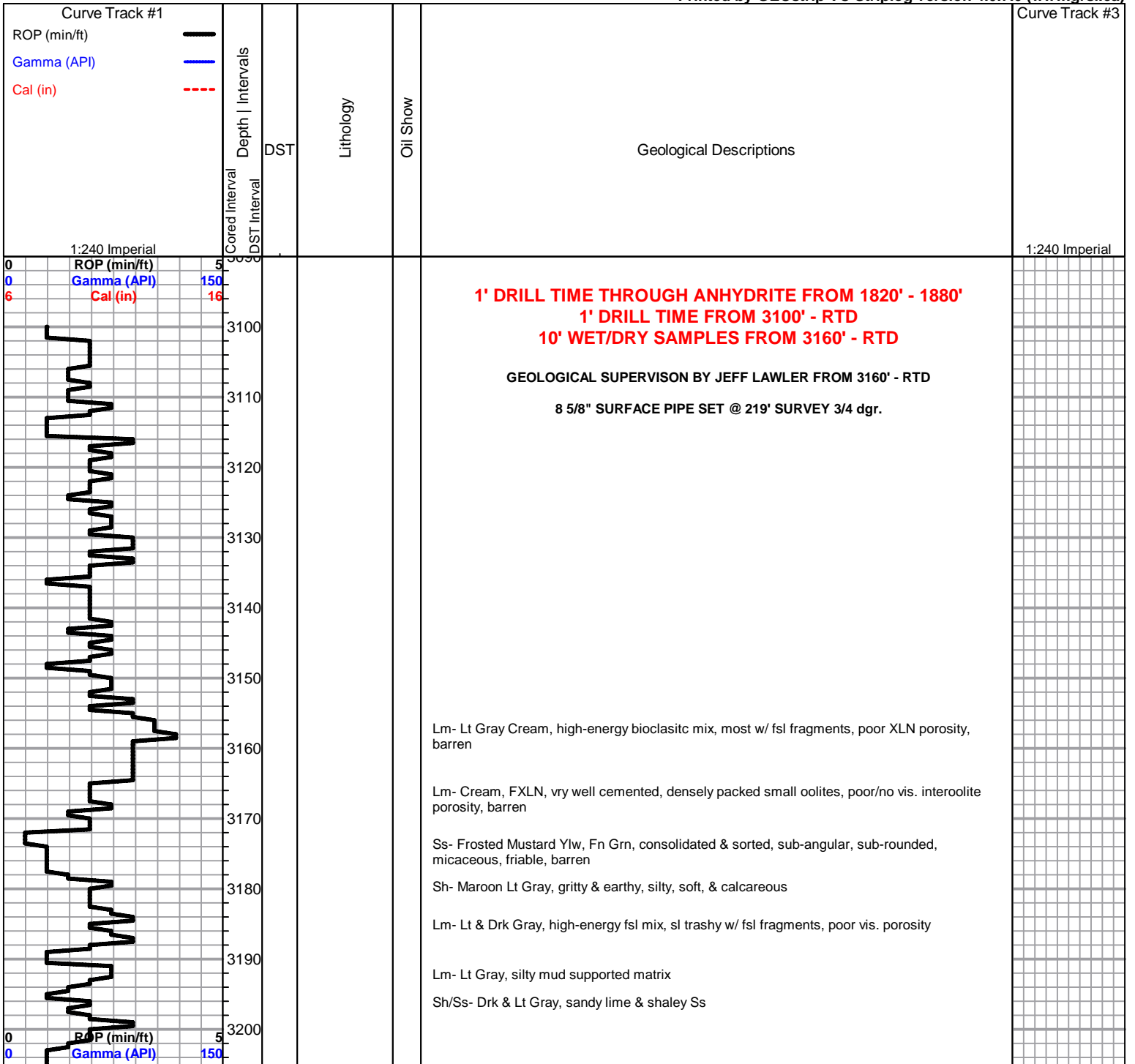
• Sandy

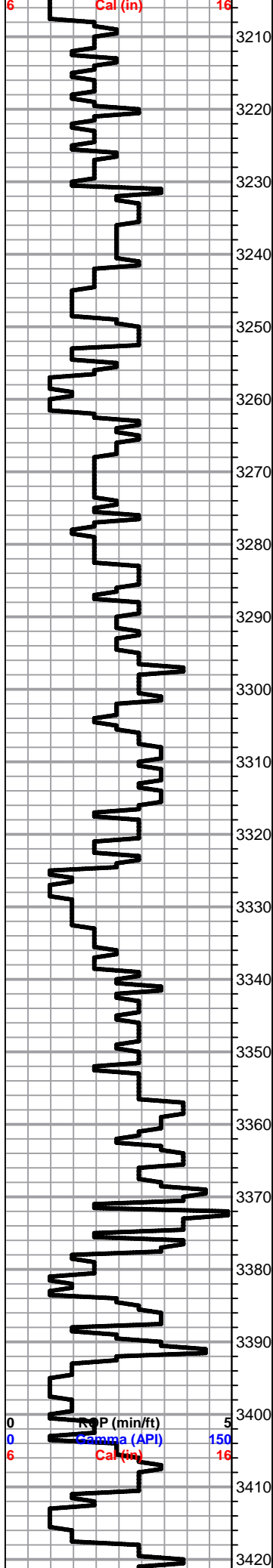
OTHER SYMBOLS

DST

■ DST Int
■ DST alt

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





Sh/Ss- Lt Gray, gritty, calcareous, heavily speckled

TOPEKA 3219' (-984) E-LOG Lm- Cream, VFXLN Vf Grn, dense, well cemented, tight w/ no vis./micro XLN porosity, lithographic, vry clean, barren

Lm- Lt Gray, FXLN, fsl high-energy bioclastic, mix, few large loose crinoids, poor to sctrd XLN porosity, barren

Lm- Cream White, mix of VFXLN, dense, vry well cemented, sub-sucrosic dolomitic ls, poor vis. porosity, mostly all barren, 1 PCS W/ WK SPOTTY STN, NO SFO, ODR, & soft mud supported matrix, sl fsl, much soft white chalk

Lm- Lt Gray Cream, fsl mix of oolitic FXLN, dense, loosely cemented, sl chalky in part w/ dense micro XLN & XLN porosity, some heavily mottled bio-clastic w/ fsl fragments, 2-3 PCS OF DOLOMITIC LS A/A W/ HVY DRK STN, TR FO, NO ODR

Lm- Cream Lt Gray, mix of densely packed oolitic biomicrite, poorly dev. w/ micro XLN & XLN porosity, some sctrd crse XLN secondary porosity, barren, & trashy high-energy bioclastic VF-FXLN lt gray ls

Sh- Lt Gray Lm Green Black, dense, sl sandy shale, some calcareous lime, few pcs of black fissile carbonaceous

Lm- Cream Off White, VF-FXLN, dense, vry well cemented, sl fsl & poorly dev., few small interbedded fusulinids, mostly tight w/ poor vis. porosity, vry clean, barren

Chert- Smokey White Smokey Gray Tan, CryptoXLN, vitreous chert & fsl chert, all sharp angular & fresh bedded

Lm- Cream Off White, VF-FXLN Vf Grn, dense, mostly all well cemented, few sl fsl, tight w/ minimal vis. porosity, clean, barren

Lm- Cream Tan, FXLN, dense, loosely-well cemented, dense fenestral XLN porosity, barren

Sh-Black Maroon, well compacted, fissile, carbonaceous, sl gritty & earthy

Sh- Lt Gray Lm Green, sl waxy & dense, some sl sandy lime, calcerous, lm green wash

Lm- Cream Tan, Crypto-FXLN, dense, some sl fsl, all tight w/ minimal vis. porosity, vry clean

Lm- Cream Buff, FXLN, dense, well cemented, poorly dev. fsl w/ interbedded fusulinids, poor vis. porosity, barren

Sh- Black Lt Gray, fissile, carbonaceous, sl sandy, silty & calcareous

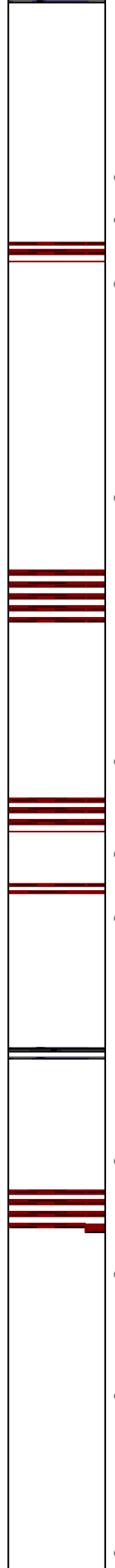
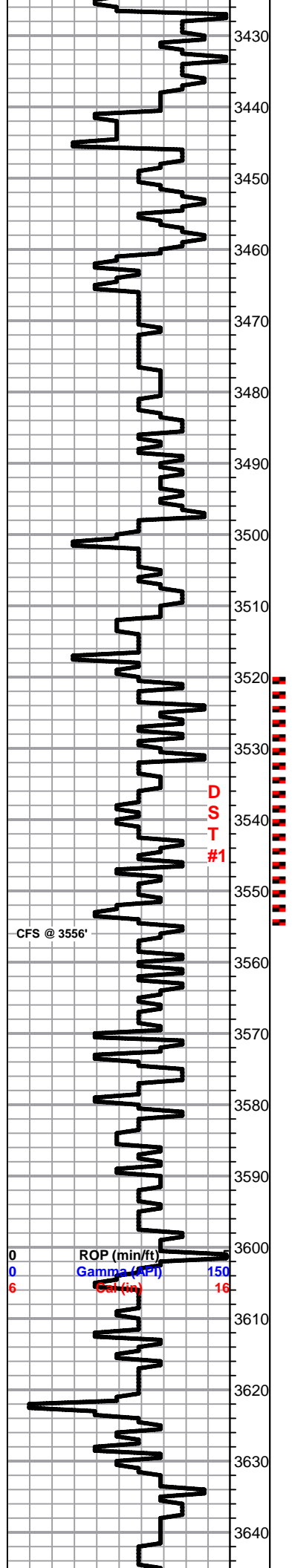
Dol/Lm-Cream Tan, FXLN, sucrosic & mod well dev. w/ consistant XLN porosity, well cemented, SCTRD TO SUB-SAT STN, TR TO SHOW OF GSY FR OIL, FR ODR, mixed w/ loosely cemented sl fsl w/ sctrd to mostly consistant vry fn ppt porosity, some sl chalky in part, TR WK SPOTTY OIL, NSFO, ODR A/A

Lm- Cream Off White, sub-sucrosic dolomitic ls w/ mostly consistant XLN porosity, DRK SCTRD STN, NSFO, TR ODR

Lm- Cream, VFXLN, dense, vry well cemented, massive, heavily fsl, mod dev. appearant porosity, poorly dev. effective porosity w/ sctrd crse XLN secondary recrystallization porosity & inclusions, barren, few pcs of sl fsl fresh bedded chert

Lm- Lt Gray Buff, VF-FXLN, dense, sl cherty ls, mostly tight w/ poor vis. porosity, sl fsl

HEEBNER 3423' (-1188) E-LOG Sh- Black Maroon, fissile, carbonaceous, gritty & earthy



Sh- Lt Gray Lm Green Maroon, silty & calcareous, gray & maroon wash, sl sandy lm green, gritty & earthy

TORONTO 3446' (-1211) E-LOG Lm- Cream Off White, VF-FXLN, sl-mod oolitic dev. sctrd micro XLN, XLN, & fn ppt interoolite porosity, SCTRD LT BRWN STN, SL GSY SHEEN, NSFO, FNT ODR, several pcs of chert & cherty ls w/ poor vis. porosity

Lm- oolitic ls A/A w/ increasing dev & porosity F-Med XLN, STN A/A, ODR SL INCREASING

LKC 3463' (-1228) E-LOG Lm- Cream Off White, few pcs of sl oolitic, mod dev. w/ sctrd ppt porosity, WK SPOTTY STN, NSFO, WK ODR, most VFXLN dense & tight chert & cherty ls w/ poor vis. porosity, barren

Lm- Cream Off White, VF-FXLN, dense, well cemented, tight w/ micro XLN & XLN porosity, vry clean, barren

Sh- Brown Maroon, gritty & earthy

Lm- Cream Off White, Med-Crse XLN, oolitic & mod. well dev. w/ sctrd ppt porosity, SCTRD LT BRWN STN, GSY SHEEN, TR FO, WK ODR

Sh- Maroon Brown, gritty & earthy, some maroon wash

Lm- Off White Cream, FXLN, dense, mostly well cemented, sl fsl w/ few loosel fusulinids, poorly dev. w/ sctrd micro XLN porosity, vry clean, barren

Lm- Cream Tan Buff, VF-FXLN, dense, loosely to well cemented mix, some poorly dev. w/ sctrd ppt porosity along secondary recrystallization veins w/ WK SPOTTY STN, NSFO, TR ODR, some loosely cemented w/ poor intergranular porosity & barren

Lm-Cream Tan, F-Med XLN, oolitic, mod.-well dev. w/ sctrd ppt interoolite porosity, SCTRD LT STN, TR SFO, WK ODR

Lm- Cream Tan, FXLN, dense, sl fsl, mod. dev. w/ sctrd XLN & vry fn ppt porosity, WK SPOTTY STN, SL GSY SHEEN, WEK ODR

Lm- Tan, FXLN, oolitic, sctrd to mod dev., loosely cemented, some chalky in part, sctrd fn ppt to ppt interoolitic porosity, SCTRD LT STN, TR FO, FEW PCS W/ BETTER STN, WK ODR

Lm- White Cream, FXLN Vf Grn, tight clean mix, all well cemented w/ minimal vis. porosity, barren

Sh- Black Maroon, fissile & vry well compacted, carbonaceous, gritty & earthy

Dol- Cream Tan, Med XLN, dense vry well cemented, mod dev. sucrosic w/ consistant innerXLN porosity, barren

Lm- Cream Tan, VF-FXLN, sl fsl, dense, well cemented, some sl cherty ls, all w/ micro XLN & sctrd XLN porosity, barren, several pcs of fsl fresh bedded chert, various color

Lm- White Off White, FXLN, dense & well cemented, sl fsl, XLN & sctrd fn ppt porosity, LT BRWN STN, NSFO, FR ODR, FR-GD GSY SHEEN ON FEW PCS

Lm- Off White Tan, VFXLN, dense, vry well cemented sl cherty ls, massive, sctrd dev. & fn ppt & ppt porosity w/ secondary recrystallization w/in porosity, LT SPOTTY STN, NSFO, GSY SHEEN, FR ODR

Sh- Lt Gray Lm Green, sl waxy, dense, some silty & calcareous

Lm- Cream Tan, FXLN, oolitic & fsl, well dev. w/ consistant ppt & vuggy porosity, DRK SAT STN, HVY GSY SHEEN, TR FO, GD ODR, FREE FLOATING OIL GLOBULES ON TOP OF WET CUP

Sh- Black Lm Green Gray, fissile, vry well compacted, silty & calcareous, pebbly

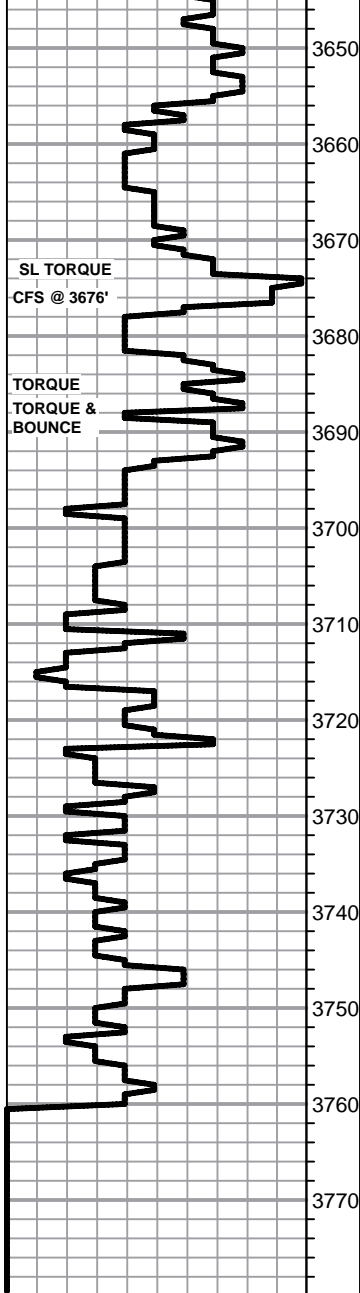
Lm- White Off White, Vf Grn VFXLN, dense tight mix, some mud supported matrix, all poorly dev w/ sctrd XLN porosity at best, barren

Lm- Cream Tan, FXLN, mod. dev. w/ dense XLN porosity, loosely cemented, STCRD DRK BRWN STN, NSFO, GSY SHEEN, WK FR ODR, FR OILY SCUM ON TOP OF WET CUP

SHORT TRIP SURVEY 3/4 dgr. STRAP +1.08'

DST #1 LKC E - G 3520' - 3556'

BRWN STN, SFO, SST SHLEN, WK-FR ODR, FR OILY SCUM ON TOP OF WET CUP



Lm- VF-FXLN, dense, vry well cemented, mostly tight, sub-lithographic, sl cherty ls, sctrd micro XLN porosity, barren

BKC 2654' (-1419) E-LOG Sh- Maroon, soft sandy lime & shale

Lm- White Off White, FXLN, dense, loosely-well cemented, some sl chalky in part, sl unconsolidated & spkld w/ sediment, fsl, dense XLN porosity, barren

Sh- Maroon Lm Green, waxy, dense, gritty & earthy

ARBUCKLE 3684' (-1449) E-LOG Dol-Cream Off White, VF-FXLN, mod. dev. w/ XLN & sctrd to dense ppt porosity, vry well cemented, DRK SCTRD TO SAT STN, FR-GD SFO, FREE OIL ON TOP OF WET CUP, FR-GD SUPHURIC ODR

Dol- A/A w/ increasing amount of cream VFXLN, vry well cemented, mostly tight w/ barren porosity

Dol- Cream, F-Med XLN, mod. well dev. w/ consistant ppt porosity throughout, sub-sucrosic, SUB-SAT DRK STN, SFO, STRNG SULPHURIC ODR

Dol-White Off White, Med-Crs XLN, well dev. euهدral rhombs, consistant porosity throughout, LT SCTRD STN, TR FO, ODR A/A

Dol- Cream Off White, VF-FXLN, dense, most poorly dev. w/ micro XLN porosity, WK SPOTTY STN, NSFO, much barren porosity

Dol- Off White, FXLN, dense & mod. dev w/ sctrd micro XLN & XLN porosity, most loosely cemented, WK SPOTTY STN, NSFO, much barren porosity, some completely w/o stn

D Dol- Off White, VF-FXLN, dense, mostly tight w/ micro XLN porosity, vry well cemented, mostly barren w/ SCTRD BLK STN, NSFO

RTD 3760' (-1525) LTD @ 05:25 10/30/2013