

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1260479
OIL & GAS CONSERVATION DIVISION

Form ACO-1
November 2016

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
- Gas DH EOR
- OG GSW
- 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 EOR Conv. to SWD
- Plug Back Liner Conv. to GSW Conv. to Producer

- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- EOR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No.: _____

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 Drill Stem Tests Received
- Geologist Report / Mud Logs Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____

1260479



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

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

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

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

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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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
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
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)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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HYDRAULIC FRACTURING FLUID PRODUCT COMPONENT INFORMATION DISCLOSURE

Last Fracture Date: _____ County: _____ API Number: _____
Operator Name: _____ Well Name and Number: _____
Latitude: _____ Longitude: _____ Datum: _____
Production Type: _____ True Vertical Depth (TVD): _____ Total Base Fluid Volume (gal)*: _____

Hydraulic Fracturing Fluid Composition:

Table with 8 columns: Trade Name, Supplier, Purpose, Ingredients, Chemical Abstract Service Number (CAS #), Maximum Ingredient Concentration in Additive (% by mass)**, Maximum Ingredient Concentration in HF Fluid (% by mass)**, Authorized Representative's Name, Address, and Phone Number.

Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

Table with 8 columns, same structure as the main table above, for Non-MSDS ingredients.

* Total Water Volume sources may include fresh water, produced water, and/or recycled water. ** Information is based on the maximum potential for concentration and thus the total may be over 100%.
Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS).

Form	ACO1 - Well Completion
Operator	FourWinds Oil Corporation
Well Name	Scott 1
Doc ID	1260479

All Electric Logs Run

Copensated/Neutron Density
Dual Induction
Micro
Dual Receiver Cmnt Bond

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. 1430

Date	Sec.	Twp.	Range	County	State	On Location	Finish
6-24-15	21	4	22	Norton	ks		3:45AM

Location Edmond, w.s., N to w Rd, En 2

Lease	Well No.	Owner
Scott	1	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		
ww #6		
Type Job		
long string		
Hole Size	T.D.	Charge To
7 7/8	3775	Four winds
Csg.	Depth	Street
4 1/2	3664	
Tbg. Size	Depth	City
		State
Tool	Depth	The above was done to satisfaction and supervision of owner agent or contractor.
Cement Left in Csg.	Shoe Joint	Cement Amount Ordered
	44.14	180 sx com, 10% s9H, 5%
Meas Line	Displace	
	57 1/2 bbl	Gilsonite

EQUIPMENT

Pumptrk	No.	Cementer	Common
17		Helper <u>Lonnie</u>	180
Bulktrk	No.	Driver	Poz. Mix
15		Driver <u>Billy</u>	Gel.
Bulktrk	No.	Driver	Calcium
pu		Driver <u>Travis</u>	

JOB SERVICES & REMARKS

Remarks:	Hulls
Rat Hole <u>30 sx</u>	Salt <u>14</u>
Mouse Hole	Flowseal
Centralizers <u>1, 3, 5, 7, 9, 11, 13, 37</u>	Kol-Seal <u>750#</u>
Baskets <u>2, 4, 6, 8, 10, 38</u>	Mud CLR 48 <u>500gal</u>
Port Collar <u>38</u>	CFL-117 or CD110 CAF 38
	Sand

Pipe on bottom broke circulation. Pumped 500gal Mud CLR 48 with 10bbl fw behind it. Plugged Rat hole with 30sx. Hooked to 1/2 and Mixed 150sx. Shut down washed pump and lines. Released Plug and displaced with 57 1/2 bbl fw. Plug landed and held.

FLOAT EQUIPMENT

Lift pressure <u>600 psi</u>	Handling <u>201</u>
Plug landed at <u>1400 psi</u>	Mileage
	Guide Shoe
	Centralizer <u>8 turbos</u>
	Baskets <u>6 Baskets</u>
	AFU Inserts
	Float Shoe <u>1</u>
	Latch Down <u>1</u>

Pumptrk Charge	prod string
Mileage	55

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. 1428

Date	Sec.	Twp.	Range	County	State	On Location	Finish
6-17-15	21	4	22	Norton	KS		6:15 PM

Location *Edmond west side to 1st, N to W Rd, En 2*

Lease	Well No.	Owner	
<i>Scott</i>	<i>1</i>	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		Charge To	
<i>ww #6</i>		<i>Four Winds oil Corp</i>	
Type Job	T.D.	Street	
<i>Surface</i>	<i>216</i>		
Hole Size	Depth	City	
<i>12 1/4</i>	<i>216</i>	State	
Csg. <i>8 5/8</i>	Depth	The above was done to satisfaction and supervision of owner agent or contractor.	
Tbg. Size	Depth	Cement Amount Ordered <i>150 sk 80/20, 3% cc, 2% gel</i>	
Tool	Shoe Joint		
	<i>20</i>		
Cement Left in Csg.	Displace		
	<i>12 1/4 bbl</i>		

EQUIPMENT

Pumptrk	No.	Cementer	Common
<i>5</i>		<i>David</i>	<i>120</i>
Bulktrk	No.	Helper	Poz. Mix
<i>19</i>		<i>Rick</i>	<i>30</i>
Bulktrk	No.	Driver	Gel.
<i>24</i>		<i>Travis</i>	<i>3</i>
		Driver	Calcium
			<i>6</i>

JOB SERVICES & REMARKS

Remarks:	Hulls
<i>Cement did circulate</i>	
Rat Hole	Salt
Mouse Hole	Flowseal
Centralizers	Kol-Seal
Baskets	Mud CLR 48
D/V or Port Collar	CFL-117 or CD110 CAF 38
	Sand
	Handling <i>189</i>
	Mileage

FLOAT EQUIPMENT

Guide Shoe
Centralizer
Baskets
AFU Inserts
Float Shoe
Latch Down

Pumptrk Charge *Surface*
Mileage *55*

X Signature <i>Dust Dy</i>	Tax
	Discount
	Total Charge



Scale 1:240 Imperial

Well Name: SCOTT #1
 Surface Location: NW SE SW SW Sec. 21 - 4S - 22W
 Bottom Location:
 API: 15-137-20734
 License Number: 34916
 Spud Date: 6/17/2015 Time: 12:00 AM
 Region: NORTON COUNTY KANSAS
 Drilling Completed: 6/22/2015 Time: 8:21 PM
 Surface Coordinates: 540' FSL & 940' FWL
 Bottom Hole Coordinates:
 Ground Elevation: 2296.00ft
 K.B. Elevation: 2301.00ft
 Logged Interval: 3100.00ft To: 3775.00ft
 Total Depth: 3775.00ft
 Formation: LANSING - KANSAS CITY
 Drilling Fluid Type: FRESH WATER / CHEMICAL GEL

OPERATOR

Company: FOURWINDS OIL CORPORATION
 Address: P.O. BOX 1063
 HAYS, KS 67601

Contact Geologist: DAN WINDHOLZ
 Contact Phone Nbr: (785) 259-840

Well Name: SCOTT #1
 Location: NW SE SW SW Sec. 21 - 4S - 22W
 API: 15-137-20734

Pool: KANSAS Field: WILDCAT
 State: KANSAS Country: USA

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: -99.812006
 Latitude: 39-684201
 N/S Co-ord: 540' FSL
 E/W Co-ord: 940' FWL

LOGGED BY



Company: BIG CREEK CONSULTING, INC

Company: BIG CREEK CONSULTING, INC.
 Address: 1909 MAPLE
 ELLIS, KS 67637

Phone Nbr: (785) 259-3737
 Logged By: Geologist

Name: JEFF LAWLER

CONTRACTOR

Contractor: WW DRILLING, LLC
 Rig #: 6
 Rig Type: MUD ROTARY
 Spud Date: 6/17/2015
 TD Date: 6/22/2015
 Rig Release: 6/24/2015
 Time: 12:00 AM
 Time: 8:21 PM
 Time: 7:45 AM

ELEVATIONS

K.B. Elevation: 2301.00ft
 K.B. to Ground: 5.00ft
 Ground Elevation: 2296.00ft

NOTES


DUE TO RECOVERY ON DRILL STEM TEST #4 AND #5 IT WAS SUGGESTED AND DECIDED TO RUN 4 1/2" PRODUCTION CASING AND FURTHER EVALUATE ZONE OF INTEREST WITH PERFORATION.

RESPECTFULLY SUBMITTED,
 JEFF LAWLER

WELL COMPARISON SHEET

		SCOTT #1				N2 N2 N2 28-4-22				SW SW SW 20-4-22				NE SW NW 20-4-22				N2 SE NW NE 28-4-22						
		KB	2301	GL	2296	KB	2241	KB	2270	KB	2282	KB	2207	KB	2207	KB	2207	KB	2207					
		LOGTOPS		SAMPLETOPS		LOGS		LOG	SMPL.	COMP. CARD	LOG	SMPL.	COMP. CARD	LOG	SMPL.	COMP. CARD	LOG	SMPL.	COMP. CARD	LOG	SMPL.			
FORMATION	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.
ANHYDRITE TOP	1935	366	1946	355	1880	361	+ 5	- 6					1915	367	- 1	- 12	1848	359	+ 7	- 4				
BASE	1963	338	1965	336	1909	332	+ 6	+ 4					1943	339	- 1	- 3								
TOPEKA	3235	-934	3238	-937	3180	-939	+ 5	+ 2					3221	-939	+ 5	+ 2	3150	-943	+ 9	+ 6				
HEEBNER SHALE	3432	-1131	3435	-1134	3379	-1138	+ 7	+ 4	3404	-1134	+ 3	+ 0	3421	-1139	+ 8	+ 5	3348	-1141	+ 10	+ 7				
TORONTO	3461	-1160	3463	-1162	3406	-1165	+ 5	+ 3					3450	-1168	+ 8	+ 6	3372	-1165	+ 5	+ 3				
LKC	3480	-1179	3482	-1181	3424	-1183	+ 4	+ 2	3448	-1178	- 1	- 3	3466	-1184	+ 5	+ 3	3386	-1179	+ 0	- 2				
BKC	3669	-1368	3669	-1368	3613	-1372	+ 4	+ 4					3662	-1380	+ 12	+ 12	3575	-1368	+ 0	+ 0				
ARBUCKLE																	3651	-1444						
REAGAN									3710	-1440														
GRANITE WASH	3753	-1452	3753	-1452					3734	-1464	+ 12	+ 12												
GRANITE									3762	-1492														
TOTAL DEPTH	3774	-1473	3775	-1474	3665	-1424	- 49	- 50	3764	-1494	+ 21	+ 20	3818	-1536	+ 63	+ 62	3653	-1446	- 27	- 28				

DST #1 TORONTO - LKC A

	DRILL STEM TEST REPORT	
	Fourw inds Oil Corp. Po Box 1063 Hays, KS 67601 ATTN: Jeff Lawler	21-4-22, Norton, KS Scott #1 Job Ticket: 62348 Test Start: 2015.06.20 @ 12:25:00

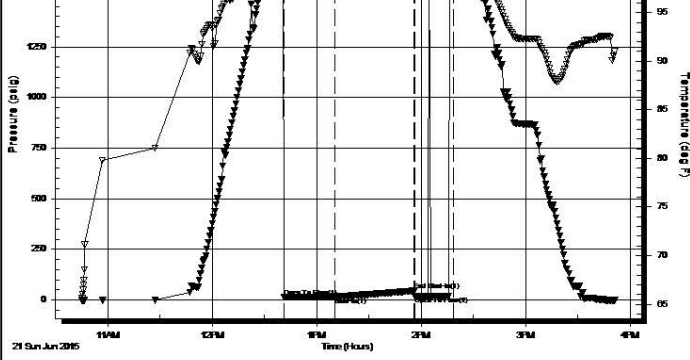
GENERAL INFORMATION:

Formation: **Toronto "KC A"**
 Deviated: No Whipstock ft (KB)
 Time Tool Opened: 15:57:15
 Time Test Ended: 21:38:15
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Brett Dickinson
 Unit No: 81
 Interval: **3432.00 ft (KB) To 3490.00 ft (KB) (TVD)**
 Reference Elevations: 2301.00 ft (KB)
 Total Depth: 3490.00 ft (KB) (TVD)
 KB to GR/CF: 5.00 ft
 Hole Diameter: 7.88 inches
 Hole Condition: Fair

Serial #: 8957 **Inside**

Press@RunDepth: 48.87 psig @ 3433.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2015.06.20 End Date: 2015.06.20 Last Calib.: 2015.06.20
 Start Time: 12:25:05 End Time: 21:38:15 Time On Btm: 2015.06.20 @ 15:56:30
 Time Off Btm: 2015.06.20 @ 18:43:15

TEST COMMENT: IF-1/2in blow



1	13.96	101.94	Open To Flow (1)
30	15.29	102.03	Shut-In(1)
76	44.63	102.16	End Shut-In(1)
76	16.15	102.15	Open To Flow (2)
98	1746.11	102.79	End Shut-In(2)

Recovery

Length (ft)	Description	Volume (bbl)
5.00	OS Mud	0.02

* Recovery from multiple tests

Gas Rates

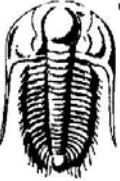
Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

Trilobite Testing, Inc

Ref. No: 62349

Printed: 2015.06.21 @ 20:02:20

DST #3 LKC J - K 3605' - 3655'



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Fourw inds Oil Corp. **21-4-22, Norton, KS**

Scott #1

Job Ticket: 62350 **DST#: 3**

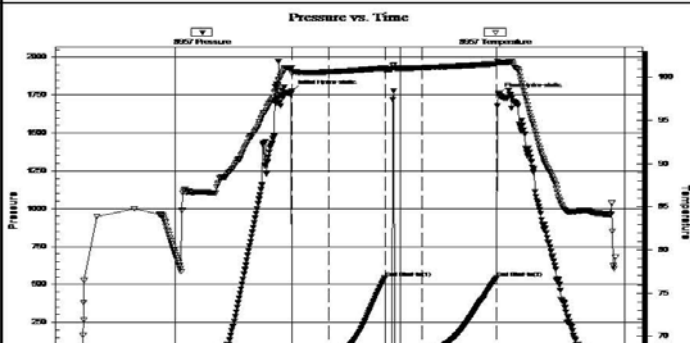
ATTN: Jeff Lawler Test Start: 2015.06.21 @ 22:45:00

GENERAL INFORMATION:

Formation: KC	Test Type: Conventional Bottom Hole (Reset)
Deviated: No Whipstock: ft (KB)	Tester: Brett Dickinson
Time Tool Opened: 01:33:30	Unit No: 81
Time Test Ended: 05:52:30	Reference Elevations: 2301.00 ft (KB)
Interval: 3605.00 ft (KB) To 3655.00 ft (KB) (TVD)	2296.00 ft (CF)
Total Depth: 3490.00 ft (KB) (TVD)	KB to GR/CF: 5.00 ft
Hole Diameter: 7.88 inches Hole Condition: Fair	

Serial #: 8957 Inside	Capacity: 8000.00 psig
Press@RunDepth: 34.71 psig @ 3606.00 ft (KB)	Last Calib.: 2015.06.22
Start Date: 2015.06.21	End Date: 2015.06.22
Start Time: 22:45:05	End Time: 05:52:29
	Time On Btm: 2015.06.22 @ 01:33:00
	Time Off Btm: 2015.06.22 @ 04:19:00

TEST COMMENT: IF-1/4in blow
 ISI-No blow
 FF-Surface blow
 FSI-No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1775.90	101.06	Initial Hydro-static
1	18.52	100.43	Open To Flow (1)
30	24.57	100.62	Shut-In(1)
75	542.05	101.08	End Shut-In(1)
76	26.93	100.93	Open To Flow (2)
105	34.71	101.11	Shut-In(2)
165	540.98	101.56	End Shut-In(2)
166	1757.28	101.73	Final Hydro-static



Recovery

Length (ft)	Description	Volume (bbl)
5.00	OS Mud	0.02

* Recovery from multiple tests

Trilobite Testing, Inc

Ref. No: 62350

Gas Rates

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

Printed: 2015.06.22 @ 06:27:40

DST #4 (STRADDLE) LKC C - G 3495' - 3570' (SEE BOTTOM PACKER CHART BELOW)



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Fourw inds Oil Corp.

21-4-22, Norton, KS

Scott #1

Job Ticket: 64701

DST#: 4

ATTN: Jeff Lawler

Test Start: 2015.06.23 @ 05:30:00

GENERAL INFORMATION:

Formation: **KC"C-G"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 08:01:30

Time Test Ended: 11:14:30

Test Type: Conventional Straddle (Reset)

Tester: Brett Dickinson

Unit No: 81

Interval: **3495.00 ft (KB) To 3570.00 ft (KB) (TVD)**

Total Depth: 3774.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2301.00 ft (KB)

2296.00 ft (CF)

KB to GR/CF: 5.00 ft

Serial #: 8957 Inside

Press@RunDepth: 346.40 psig @ 3496.00 ft (KB)

Start Date: 2015.06.23 End Date: 2015.06.23

Start Time: 05:30:05 End Time: 11:14:29

Capacity: 8000.00 psig

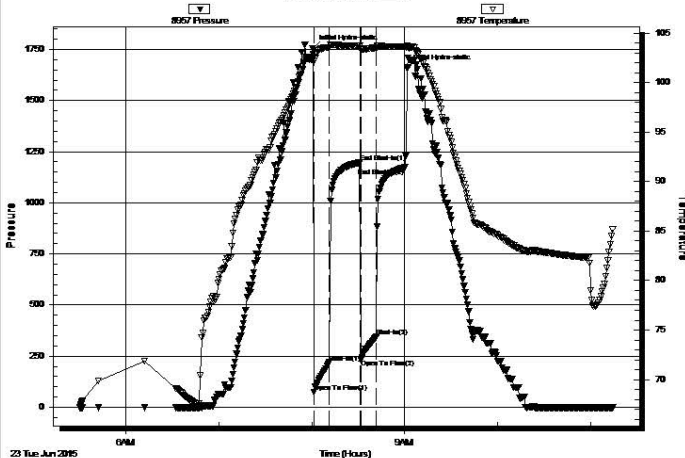
Last Calib.: 2015.06.23

Time On Btm: 2015.06.23 @ 08:00:30

Time Off Btm: 2015.06.23 @ 09:01:45

TEST COMMENT: IF-BOB in 2 1/2min
 IS- No blow
 FF-BOB in 2 1/2min
 FS- No blow

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1755.92	102.49	Initial Hydro-static
1	74.61	102.16	Open To Flow (1)
11	218.46	103.57	Shut-In (1)
31	1196.42	103.68	End Shut-In (1)
31	233.22	103.30	Open To Flow (2)
42	346.40	103.48	Shut-In (2)
60	1171.56	103.63	End Shut-In (2)
62	1657.14	103.63	Final Hydro-static

Recovery

Gas Rates

Length (ft)	Description	Volume (bbl)
125.00	SOMCW 5%O 70%W 25%M	0.66
315.00	GSOWCM 5%G 5%O 40%W 50%M	4.42
252.00	SOWCM 5%O 15%W 80%M	3.53
10.00	VSOCM 2%O 98%M	0.14

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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* Recovery from multiple tests

Trilobite Testing, Inc

Ref. No: 64701

Printed: 2015.06.23 @ 20:49:59

ROCK TYPES

Cht	Lmst fw7>	Carbon Sh	Igne
Dolprim	shale, grn	shale, red	
Dolsec	shale, gry	Ss	

ACCESSORIES

MINERAL

* Sandy
Mc Mica

STRINGER

Limestone
 Sandstone

OTHER SYMBOLS

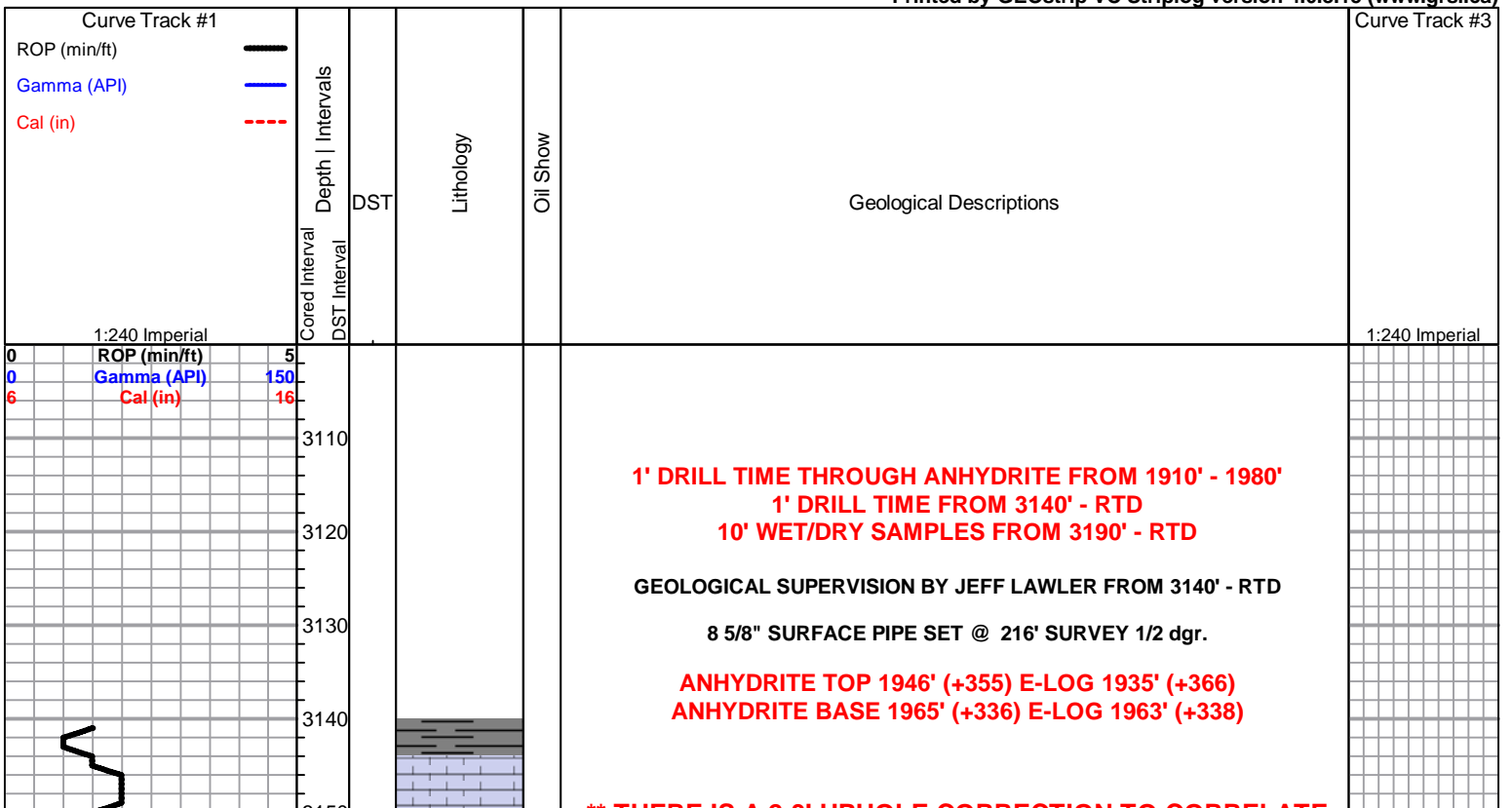
MISC

- Daily Report
- Digital Photo
- Document
- Folder
- Link
- Vertical Log File
- Horizontal Log File
- Core Log File
- Drill Cuttings Rpt

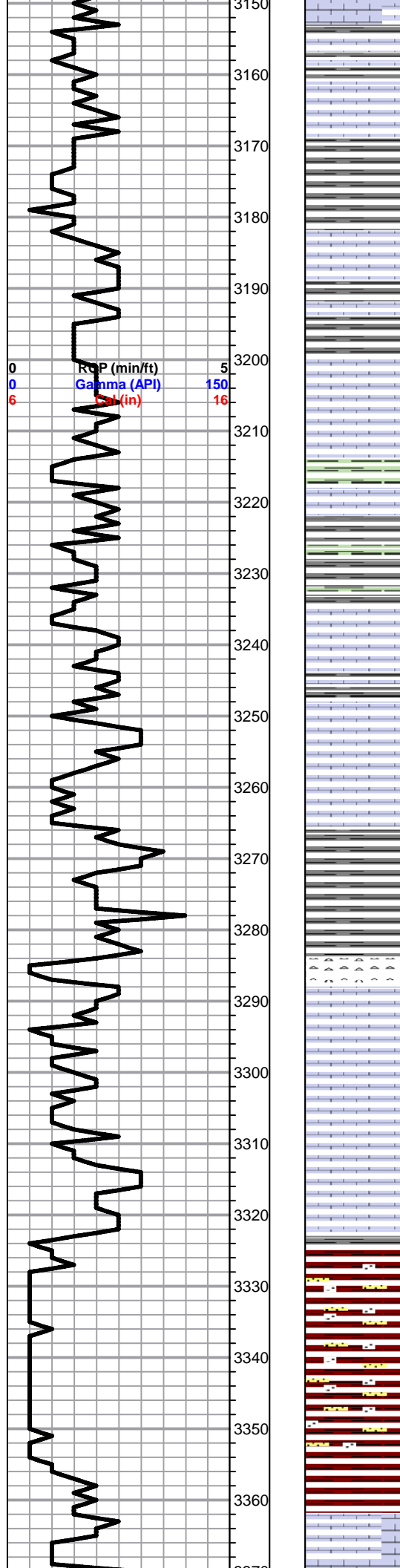
DST

- DST Int
- DST alt

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**** THERE IS A 2-3' UPHOLE CORRECTION TO CORRELATE DRILL TIME TO POROSITY LOG CURVES ****



Lm- Gray Buff Cream, VF-FXLN mix, most all sl fsl to fsl, poorly dev., well cemented, some chalky in part, sctrd XLN & reXLN porosity, barren

Sh- Gray Maroon, gritty & earthy

Lm- Cream Buff, FXLN, fsl & densely packed oolites, poorly dev. w/ min. inter oolite vis. porosity, sctrd XLN porosity, some sl chalky in part, some vry clean, barren

Sh- Gray Maroon Lm Green, silty & calcareous, gritty & earthy, gummy wash

Lm- Gray Buff, Vf Grn, dense, vry well cemented siltstone w/o vis. porosity, sl chalky, mud supported matrix

Sh- Lm Green Maroon, gummy wash, gritty & earthy

Lm- Cream Tan, FXLN, fsl, few high-energy bioclastic w/ fsl fragments, & poorly dev., sl fsl, sctrd XLN porosity, barren

Sh- Gray Lm Green Brown Maroon, silty & calcareous, gritty & calcareous, gritty & earthy

TOPEKA 3238' (-937) E-LOG 3235' (-934) Lm- Cream Off White, VF-FXLN, mix of dense, well cemented, fsl, some w/ densely packed fsl fragments, few pcs of yellw oolitic biomicrite, several pcs of cherty Ls w/o vis. porosity, all vry clean & barren

Lm- A/A

Lm- Cream Off White, mix of Fn Grn, loosely cemented arenaceous Ls w/ consistent intergranular porosity, detrital cream chert/cherty Ls/dolomitic chert, cream Ls w/ dense clear reXLN & replacement cementation, & fsl Ls w/ fusulinids, all vry clean & barren

Chert- Cream, densely packed oolitic porcelain like vitreous, no vis. porosity, much soft white chalk & gummy maroon wash shale/clay

Lm/Chert- Cream Off White, fsl mix w/ oolites & fusulinids, mod. well dev. densely packed oolites w/ sctrd to consistent ppt inter oolite porosity, few pcs w/ clear inter oolite replacement cementation, vry clean & barren, several pcs of tan vitreous chert/cherty Ls w/o vis. porosity

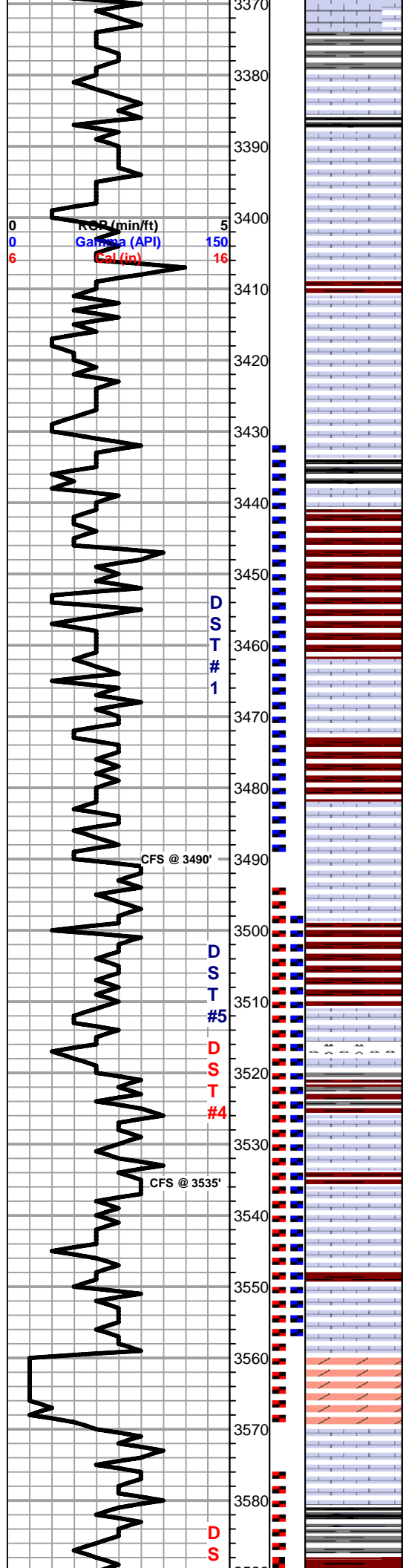
Lm- Cream Off White, VF-FXLN, sl fsl, sctrd XLN porosity, barren, few sl chalky in part

Sh/Chert- Gray, soft & silty, calcareous, cream/salmon fsl fresh bedded vitreous chert

Sh- Marron Lm Green, arenaceous wash & shaly Ss clusters, dense & semi-waxy

Lm- Cream Gray, VFXLN, dense, massive, tight cherty Ls w/ min. vis. porosity, fsl & some oolitic, barren

DST #5 LKC C-G
(STRADDLE)
3498' - 3558'
15-30-15-30
490' TOTAL FLUID
180' GIP
30' SGO
(10%G, 90%O)
210' SGOWCM
5G,100,20W,65M



Lm- Lm Green, Fn Grn, loosely cemented & crumbly, mud supported matrix w/ fusulinids, poor vis. porosity, chalky
 Sh- Black Maroon, fissile & carbonaceous, gritty & earthy

Lm- Cream Off White, VF-FXLN, fsl & some oolitic, poorly dev., loosely cemented, massive sctrd XLN porosity, some clear replacement cementation, barren, much soft white chalk

Lm- Cream Off White, FXLN, sl fsl, poorly dev., sctrd XLN porosity, some sctrd reXLN, barren

Lm- A/A w/ dense XLN porosity & some soft white chalk

HEEBNER 3435' (-1134) E-LOG 3432' (-1131) Sh- Black Maroon, fissile & carbonaceous, gritty & earthy

Sh- Maroon Gray Lm Green, gummy wash, silty & calcareous, dense & silty

TORONTO 3463' (-1162) E-LOG 3461' (-1160) Lm- Cream Off White, F-MED XLN, fsl w/ fusulinids, mod. dev. w/ sctrd ppt & XLN porosity, SCTRD DRK STN, MOD. OILY SHEEN, TR FO, WK ODR

LKC 3482' (-1181) E-LOG 3480' (-1179) Lm- Cream Tan, FXLN, mod. well dev. oolitic Ls w/ mostly consistent ppt inter oolite porosity, DRK STN, SHW FRO, FR-GD ODR, HVY OILY SHEEN

Lm- Cream Off White, VF-FXLN, dense, well cemented, tight w/ some sctrd XLN porosity, some sl chalky in part

Chert- Translucent Cream, mix of fresh bedded vitreous chert w/o vis. porosity, several pcs of gritty dolomitic chert w/ sctrd micro XLN porosity, 2 PCS W/ LT SCTRD STN, NSFO, TR ODR

Lm- Cream Off White, FXLN, fsl, mod. dev. w/ sctrd ppt & XLN porosity, some sctrd reXLN, LT SCTRD STN, SEMI-FLAKY, NSFO, TR ODR

Lm- Cream, VF-FXLN, dense, well cemented, sctrd XLN & vry fn ppt porosity, SCTRD LT STN, TR FO, WK ODR

Lm- Cream, VFXLN, dense well cemented matrix, clear reXLN inclusions, fsl & sl oolitic w/ sctrd XLN & ppt inter oolite porosity, SCTRD LT STN, TR FO UPON CRUSH, FR ODR

Lm/Chert- Cream Off White, FXLN, sub-sucrosic dolomitic Ls w/ dense consistent XLN porosity, LT SCTRD STN, TR FO, FR ODR, mixed w/ vitreous fresh bedded off white chert

Lm- Cream Off White, FXLN, sl fsl, some massive, well cemented, sctrd XLN porosity, barren

Sh- Black Maroon Lm Green Gray, fissile & carbonaceous, gritty & earthy, dense & silty, calcareous

65' VSO WCM (50.35W,60M) 185' OSWCM (80%W, 20%M)

IFP: 58-156# (50.35W,60M) FFP: 165-244# SIP: 1216-1207# BHT: 103

DST #4 LKC C-G 3495' - 3670' (STRADDLE) 10-20-10-20

702' TOTAL FLUID 252' SOWCM (2%O, 98%M) 252' SOWCM (50,15W,80M) 315' GSOWCM (5G,50,40W,50M) 125' SOMCW (50, 70W, 25M) IFP: 75-218# FFP: 233-346# SIP: 1196-1177# SHORT TRIP SURVEY 1dgr. STRAP -.017'

DST #1 TORONTO - LKC A 3432' - 3490' 30-45-30-60

65' OSPM IFP: 15-31# FFP: 34-49# SIP: 977-951#

TORONT...

A.jpg

C.jpg

D.jpg

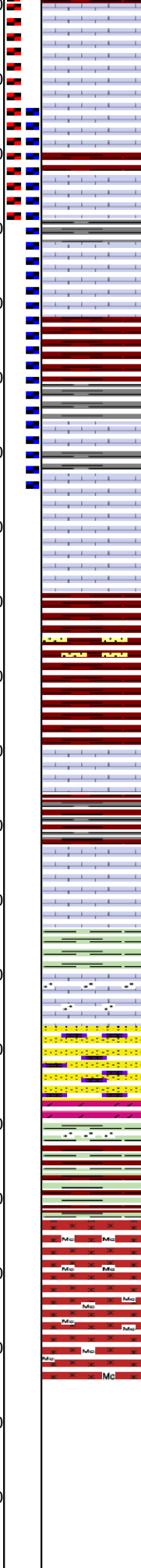
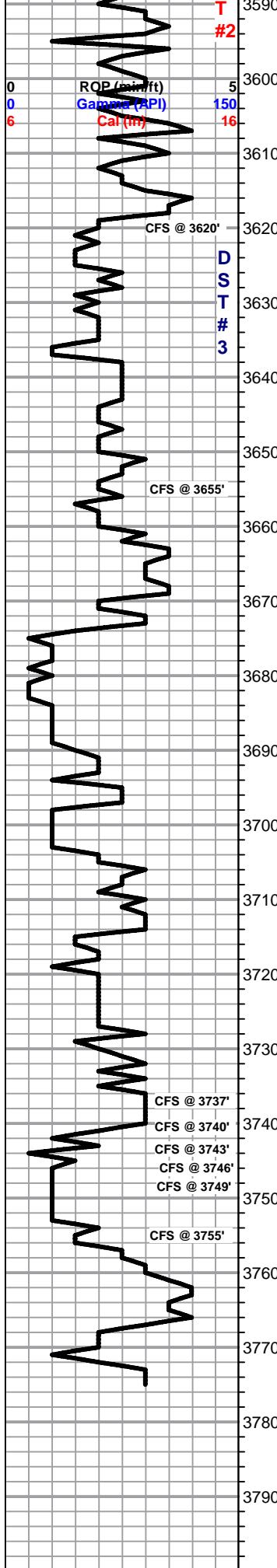
E.jpg

F.jpg

G.jpg

DST #2 LKC H-I 3576' - 3620' 30-45-20-0

5' OSPM IFP: 14-45# FFP: 16-N/A SIP: 45-N/A



Lm- White Cream, FXLN, mod. well dev. fsl & oolitic w/ sctrd ppt inter oolite & XLN porosity, some loosely cemented, SCTRD DRK STN, LT SFO, WK ODR

Sh- Maroon Lm Green, gummy wash, silty & calcareous

Lm- Cream Off White, FXLN, oolitic, mod. dev. w/ sctrd ppt inter oolite porosity, reXLN w/in porosity, WK SCKTRD STN, NSFO, WK ODR

Sh- Gray Maroon Lm Green, silty & soft, gritty & earthy, dense & semi-waxy

Lm- White Off White, FXLN, fsl & oolitic, poorly dev. & chalky in part, sctrd vry fn ppt inter oolite & XLN porosity SCTRD LT STN, SEMI-FLAKY, NSFO, TR ODR, 1 PCS W/ TR OF GSY BUBBLES UPON CRUSH

Lm- White Off White, VF-FXLN, mod. dev. oolitic w/ dense micro XLN & XLN porosity, some sctrd reXLN, some sl chalky in part, SCTRD DRK STN, NSFO, TR ODR

Lm- White Off White, FXLN, fsl w/ fusulinids, sctrd XLN porosity, MULTIPLE PCS W/ BLK TARRY STN, DO STN, 1 PCS W/ TR GSY BUBBLES UPON CRUSH, NO ODR

BKC 3669' (-1368) E-LOG 3669' (-1368) Sh- Maroon Gray Lm Green, gritty & earthy, arenaceous, some pebbly, sandy wash, few w/ pyrite inclusions

Sh- A/A, some striated & limey

Lm- Cream Off White Yellow tint, unconsolidated, loosely to well cemented, pebbly & oolitic, sctrd XLN porosity, some soft white chalk

Lm- Maroon tint, Fn Grn, arenaceous, loosely cemented, some well cemented w/ few rounded qtz. inclusions

Sh- Lm Green, arenaceous & calcareous, shaley Ss/sandy shale

Lm- White Off White, FXLN, mix of unconsolidated & well cemented w/ rounded to angular clear qtz. inclusions & mod. cemented w/ sctrd to dense XLN porosity, SCTRD BLK DO STN, NSFO, NO ODR

3737' 20" - A/A w/ increase in qtz. quantity, near Ss, possible thin beds, well cemented, some what immature w/ good cementation, SUB-SAT DRK STN, NSFO, WK FLOR. NO ODR

40" - A/A w/ increase in Ca cementation, STN A/A, NSFO, NO ODR, LT FLOR.

3740' - Dolomite- Salmon, VFXLN, dense, well cemented to loosely cemented arenaceous dolomite w/ mostly consistent intergranular porosity, barren

3743' - Sh/Ss- Lm Green, dense & soft shale, Ss- Med Crs Grn, angular, immature, unconsolidated, spkld w/ glauconite, dolomite cementation, poorly sorted, barren

3746' - Sh- Maroon Lt Green, gritty & earthy, pebbly & soft

3749' - Sh- Maroon Lt Green, A/A w/ silty & soft green shale, some w/ micro pyrite inclusions, some gummy wash

3755' GRANITE WASH 3753' (-1452) E-LOG 3753' (-1452) - Pink Translucent, detrital feldspar, dense fracturing/XLN porosity, spkld w/ blk mica, barren

Granite Wash- A/A, influx of translucent, & influx of blk mica spkng

Granite Wash- A/A, influx of pink, also some soft white chalk

RTD 3775' (-1474) LTD 3774' (-1473) @ 20:21 6/22/2015

- DST 4 BTM_PKR.jpg
- DST #5.jpg
- DST 5 BTM_PKR.jpg

- H.jpg
- I.jpg
- J.jpg
- K.jpg
- L.jpg

DST #3 LKC J-K
3605' - 3655'
30-45-30-60

5' OSPM

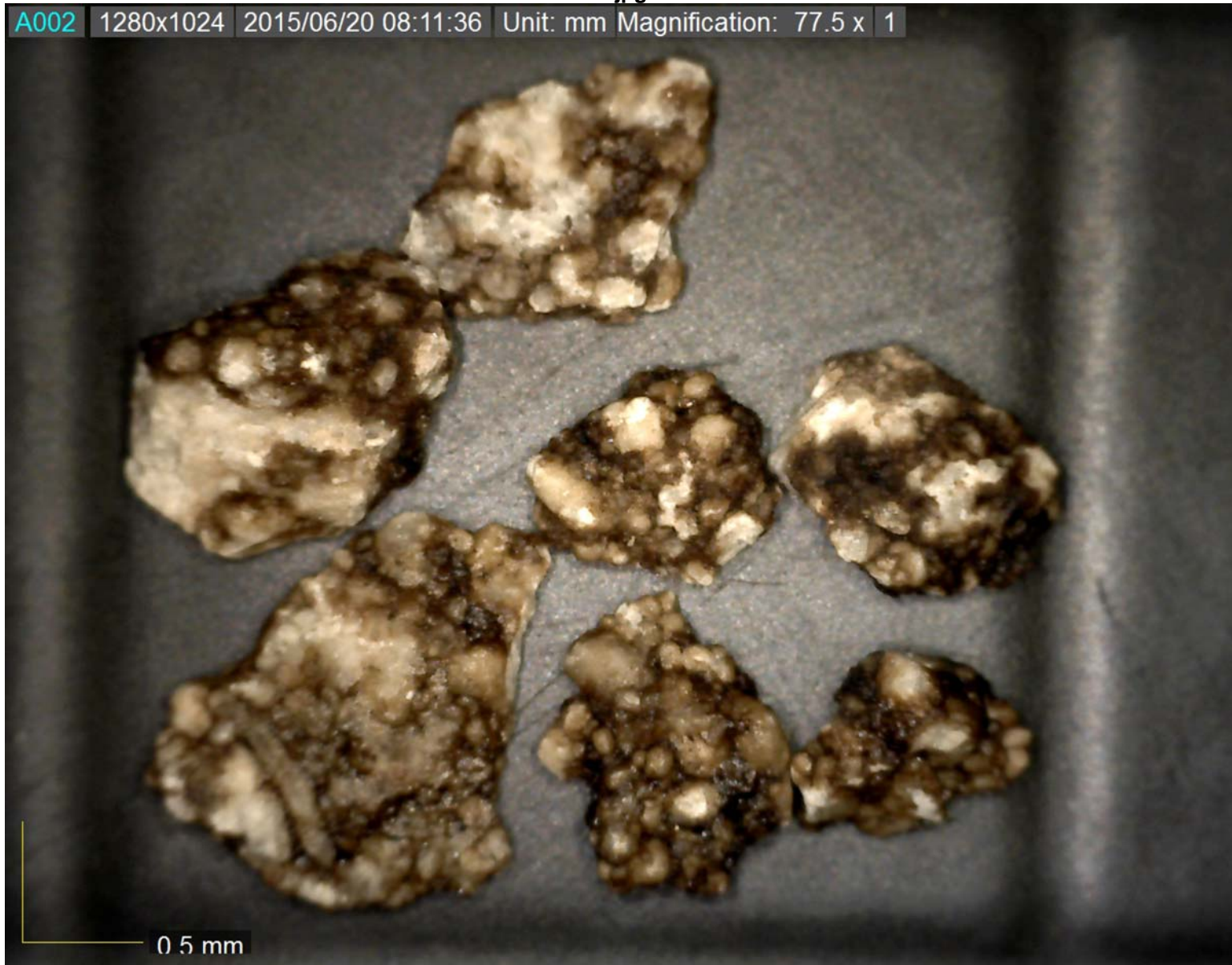
IFP: 19-25#
FFP: 27-35#
SIP: 542-541#

- 3720.jpg
- 3730.jpg
- 3743'.jpg

SHORT TRIP
CTCH
SURVEY 1 dgr.
TOH FOR LOG



TORONTO X 20



A ZONE X 20



C ZONE X 25



0.5 mm

D ZONE X 25





0.5 mm



H.jpg

A009 1280x1024 2015/06/21 07:20:01 Unit: mm Magnification: 96.9 x 1



H X25

I.jpg

A010 1280x1024 2015/06/21 08:18:57 Unit: mm Magnification: 96.9 x 1



I x25

J.jpg

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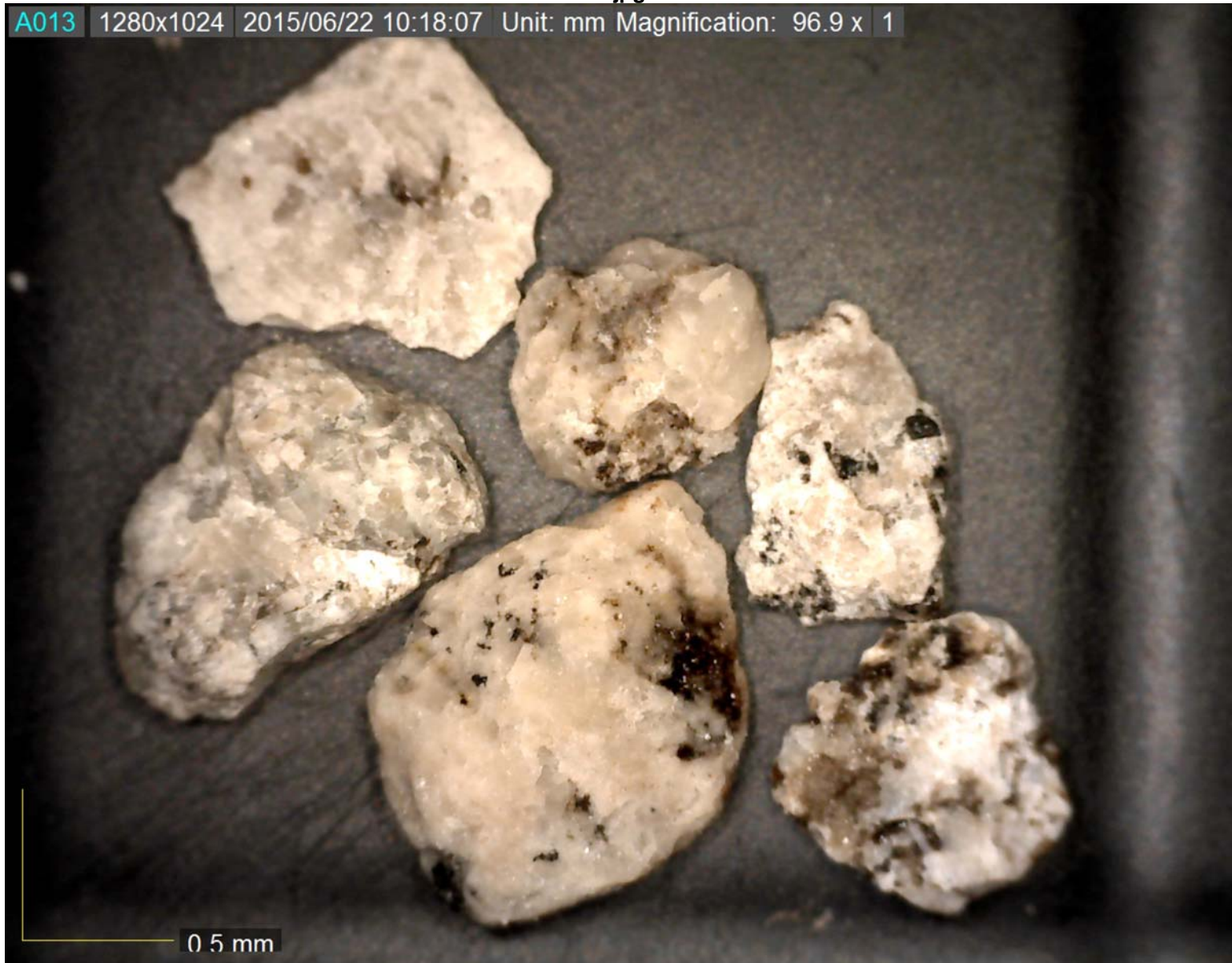
.J X25

K.jpg

A012 1280x1024 2015/06/21 21:24:29 Unit: mm Magnification: 96.9 x 1



K x 25



0.5 mm



3720' X25





3743' X 25

DST 4 BTM_PKR.jpg

