

Scale 1:240 Imperial

Well Name: TEEL #7-1  
Surface Location: S2 NW SW NE Section 7-6S-25W  
Bottom Location:  
API: 15-065-24124  
License Number: 33335  
Spud Date: 11/30/2016 Time: 12:00 AM  
Region: GRAHAM COUNTY KANSAS  
Drilling Completed: 12/5/2016 Time: 12:00 AM  
Surface Coordinates: 1978 FNL & 2310 FEL  
Bottom Hole Coordinates:  
Ground Elevation: 2518.00ft  
K.B. Elevation: 2526.00ft  
Logged Interval: 3200.00ft To: 3853.00ft  
Total Depth: 3849.00ft  
Formation: LANSING - KANSAS CITY  
Drilling Fluid Type: FRESH WATER / CHEMICAL GEL

**OPERATOR**

Company: IA OPERATING, INC.  
Address: 9915 W 21ST ST.  
SUITE B  
WICHITA, KS 67205  
Contact Geologist: JONATHAN ALLEN  
Contact Phone Nbr: (316) 721-0036  
Well Name: TEEL #7-1  
Location: S2 NW SW NE Section 7-6S-25W  
API: 15-065-24124  
Pool: KANSAS Field: WILDCAT  
State: KANSAS Country: USA

**SURFACE CO-ORDINATES**

Well Type: Vertical  
Longitude: -100.1514446  
Latitude: 39.5470466  
N/S Co-ord: 1978 FNL  
E/W Co-ord: 2310 FEL

**LOGGED BY**



Company: BIG CREEK CONSULTING, INC.  
Address: 1909 MAPLE  
ELLIS, KS 67637  
Phone Nbr: (785) 259-3737  
Logged By: GEOLOGIST Name: JEFF LAWLER

**CONTRACTOR**

Contractor: DISCOVERY DRILLING  
Rig #: 2  
Rig Type: MUD ROTARY  
Spud Date: 11/30/2016 Time: 12:00 AM  
TD Date: 12/5/2016 Time: 12:00 AM  
Rig Release: 12/6/2016 Time: 2:00 PM

### ELEVATIONS

K.B. Elevation: 2526.00ft  
K.B. to Ground: 8.00ft

Ground Elevation: 2518.00ft

### NOTES

DUE TO LACK OF ECONOMICAL RECOVERY ON BOTH DST'S THE TEEL #7-1 WAS PLUGGED & ABANDONED.

RESPECTFULLY SUBMITTED,  
JEFF LAWLER

### WELL COMPARISON SHEET

FORMATION	TEEL #7-1				IA OPERATING, INC.				IA OPERATING, INC.				BELLWETHER EXPLOR. CO.				NCRA							
	KB		GL		2518		2583		2570		2520		2480		2480		2480							
	LOG TOPS		SAMPLE TOPS		COMP. CARD		LOG		SMPL.		LOGS		LOG		SMPL.		COMP. CARD		LOG		SMPL.			
	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	LOG	SMPL.	LOGS	DATUM	LOG	SMPL.	LOGS	DATUM	LOG	SMPL.	DEPTH	DATUM	LOG	SMPL.				
ANHYDRITE TOP	2109	417	2109	417	2167	416		+	1	2152	418		-	1	2115	405		+	12	2070	410		+	7
BASE	2141	385	2143	383	2199	384		-	1	2184	386		-	3										
TOPEKA	3422	-896	3422	-896	3472	-889		-	7	3463	-893		-	3										
HEEBNER SHALE	3578	-1052	3575	-1049	3628	-1045		-	7	3620	-1050		-	2	3568	-1048		-	4	3537	-1057		+	5
TORONTO	3601	-1075	3595	-1069	3650	-1067		-	8	3640	-1070		+	1	3590	-1070		-	5	3555	-1075		+	0
LKC	3617	-1091	3612	-1086	3667	-1084		-	7	3658	-1088		-	3	3606	-1086		-	5	3571	-1091		+	0
BKC	3803	-1277	3798	-1272	3852	-1269		-	8	3846	-1276		-	1	3789	-1269		-	8	3765	-1285		+	8
CONGLOMERATE																				3963	-1483			
ARBUCKLE																				4014	-1534			
TOTAL DEPTH	3852	-1326	3849	-1323	3903	-1320		-	6	3918	-1348		+	22	3840	-1320		-	6	4034	-1554		+	231

### DST #1 LKC A-G 3604' - 3700'



**DIAMOND TESTING**  
P.O. Box 157  
HOISINGTON, KANSAS 67544  
(800) 542-7313  
**DRILL-STEM TEST TICKET**  
FILE: TEEL71DST1

TIME ON: 14:17

TIME OFF: 21:28

Company IA Operatinng, Inc. Lease & Well No. Teel #7-1  
Contractor Discovery Drilling Rig # 2 Charge to IA Operating, Inc.  
Elevation 2526' KB Formation L/KC "A-F" Effective Pay \_\_\_\_\_ Ft. Ticket No. F457  
Date 12/4/16 Sec. 7 Twp. \_\_\_\_\_ 6 S Range \_\_\_\_\_ 25 W County Graham State KANSAS  
Test Approved By Jeff Lawler Diamond Representative Jake Fahrenbruch

Formation Test No. 1 Interval Tested from 3604 ft. to 3700 ft. Total Depth 3700 ft.  
Packer Depth 3599 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
Packer Depth 3604 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
Depth of Selective Zone Set \_\_\_\_\_

Top Recorder Depth (Inside) 3610 ft. Recorder Number 5951 Cap. 5000 P.S.I.  
Bottom Recorder Depth (Outside) 3611 ft. Recorder Number 5586 Cap. 5000 P.S.I.  
Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ P.S.I.

Mud Type CHEMICAL Viscosity 54 (2# LCM) Drill Collar Length 0 ft. I.D. 2 1/4 in.  
Weight 9.3 Water Loss 6.4 cc. Weight Pipe Length 247 ft. I.D. 2 7/8 in.  
Chlorides 1,000 P.P.M. Drill Pipe Length 3,337 ft. I.D. 3 1/2 in.  
Jars: Make STERLING Serial Number \_\_\_\_\_ Test Tool Length 20 ft. Tool Size 3 1/2-IF in.

Did Well Flow? \_\_\_\_\_ Reversed Out \_\_\_\_\_ Anchor Length 96 ft. Size 4 1/2-FH in.  
Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: Strong blow, increased to BOB in 4 minutes. Surface blowback.

2nd Open: Strong blow, increased to BOB in 4.5 minutes. No blowback.

Recovered 360 ft. of MCW 75% wtr, 25% mud

Recovered 1,210 ft. of Water 100% wtr

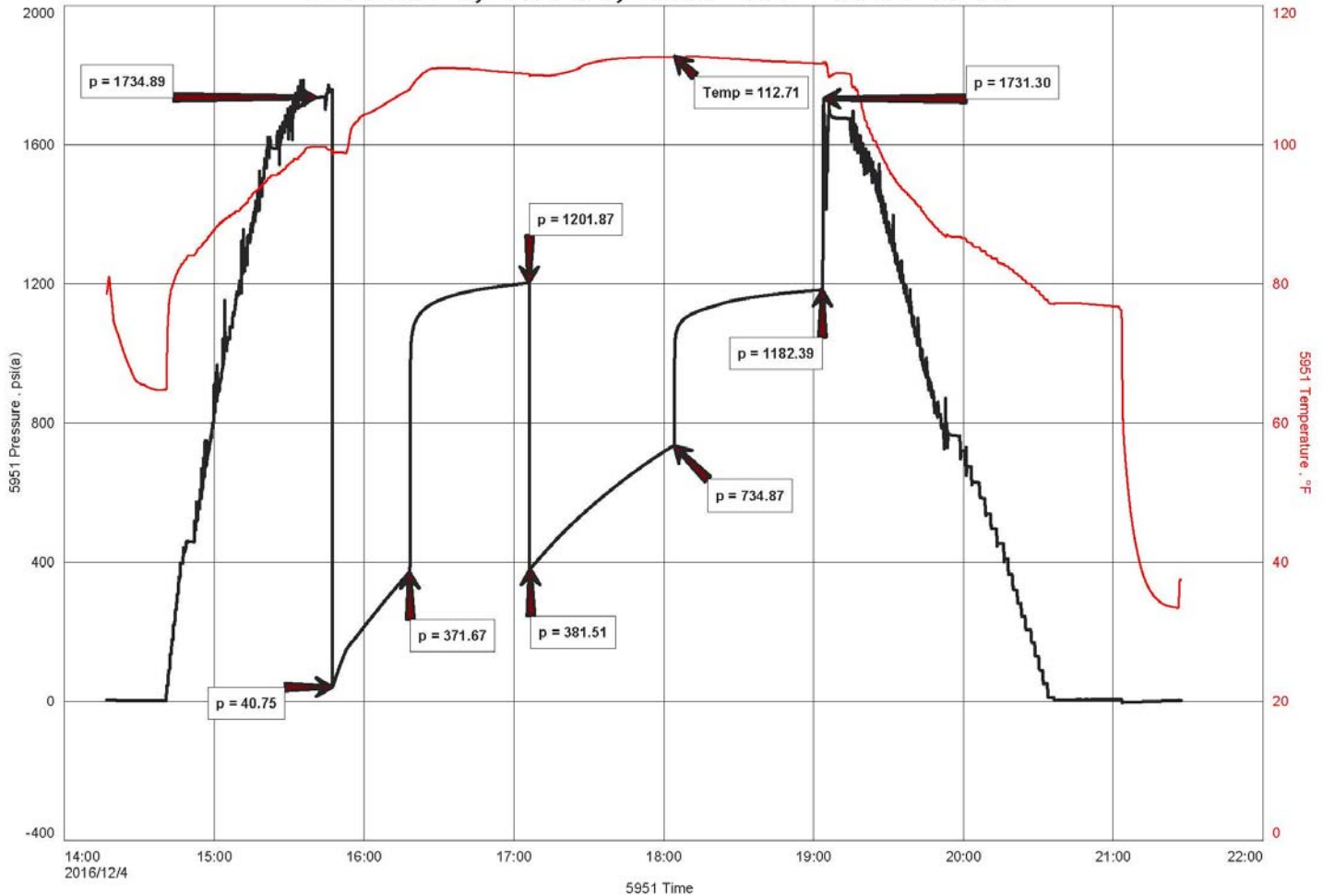
Recovered _____ ft. of _____	
Recovered _____ ft. of No noticeable gas in pipe.	
Recovered _____ ft. of (Tools had show of oil inside)	Price Job
Recovered _____ ft. of _____	Other Charges
Remarks: TOTAL RECOVERED FLUID: 1570'	Insurance
Chlorides: 93,000 PPM	
RW: .18 ohm @ 33 F	Total

Time Set Packer(s) 15:50	A.M. P.M.	Time Started Off Bottom 19:05	A.M. P.M.	Maximum Temperature 113 F
Initial Hydrostatic Pressure.....	(A)	1735	P.S.I.	
Initial Flow Period..... Minutes	30	(B)	41	P.S.I. to (C) 372 P.S.I.
Initial Closed In Period..... Minutes	45	(D)	1202	P.S.I.
Final Flow Period..... Minutes	60	(E)	382	P.S.I. to (F) 735 P.S.I.
Final Closed In Period..... Minutes	60	(G)	1182	P.S.I.
Final Hydrostatic Pressure.....	(H)	1731	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.

### DST #1 LKC A-G 3604' - 3700'

### TEEL #7-1, DST #1, L/KC "A-F" 3604'-3700'





**DIAMOND TESTING**  
 P.O. Box 157  
 HOISINGTON, KANSAS 67544  
 (800) 542-7313  
**DRILL-STEM TEST TICKET**  
 FILE: TEEL71DST2

TIME ON: 08:23

TIME OFF: 14:37

Company IA Operatinng, Inc. Lease & Well No. Teel #7-1  
 Contractor Discovery Drilling Rig # 2 Charge to IA Operating, Inc.  
 Elevation 2526' KB Formation L/KC "H-K" Effective Pay \_\_\_\_\_ Ft. Ticket No. F458  
 Date 12/5/16 Sec. 7 Twp. \_\_\_\_\_ 6 S Range \_\_\_\_\_ 25 W County Graham State KANSAS  
 Test Approved By Jeff Lawler Diamond Representative Jake Fahrenbruch

Formation Test No. 2 Interval Tested from 3708 ft. to 3775 ft. Total Depth 3775 ft.  
 Packer Depth 3703 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
 Packer Depth 3708 ft. Size 6 3/4 in. Packer depth \_\_\_\_\_ ft. Size 6 3/4 in.  
 Depth of Selective Zone Set \_\_\_\_\_

Top Recorder Depth (Inside) 3715 ft. Recorder Number 5951 Cap. 5000 P.S.I.  
 Bottom Recorder Depth (Outside) 3716 ft. Recorder Number 5586 Cap. 5000 P.S.I.  
 Below Straddle Recorder Depth \_\_\_\_\_ ft. Recorder Number \_\_\_\_\_ Cap. \_\_\_\_\_ P.S.I.

Mud Type CHEMICAL Viscosity 51 (2# LCM) Drill Collar Length 0 ft. I.D. 2 1/4 in.  
 Weight 9.1 Water Loss 6.8 cc. Weight Pipe Length 247 ft. I.D. 2 7/8 in.  
 Chlorides 1,200 P.P.M. Drill Pipe Length 3,441 ft. I.D. 3 1/2 in.  
 Jars: Make STERLING Serial Number \_\_\_\_\_ Test Tool Length 20 ft. Tool Size 3 1/2-IF in.  
 Did Well Flow? \_\_\_\_\_ Reversed Out \_\_\_\_\_ Anchor Length 67 ft. Size 4 1/2-FH in.  
 Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

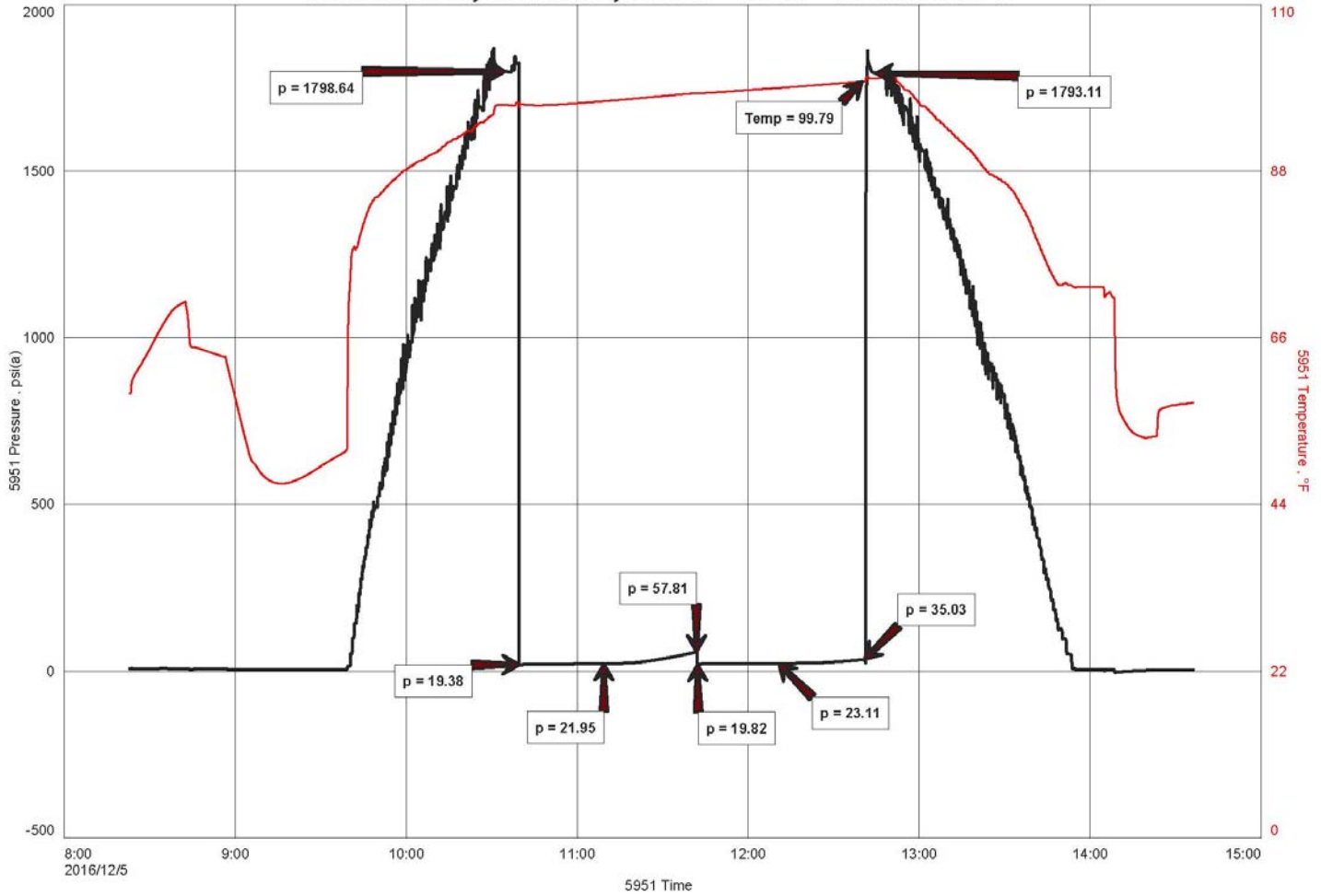
Blow: 1st Open: Weak blow, increased to 1". No blowback.  
 2nd Open: Weak surface blow, blow died. No blowback.

Recovered <u>15 ft. of SOSM</u>	<u>&lt;1% oil, &gt;99% mud</u>
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	
Recovered _____ ft. of _____	Price Job
Recovered _____ ft. of _____	Other Charges
Remarks: _____	Insurance
	Total

Time Set Packer(s) 10:40 A.M. P.M. Time Started Off Bottom 12:40 A.M. P.M. Maximum Temperature 100 F  
 Initial Hydrostatic Pressure..... (A) 1799 P.S.I.  
 Initial Flow Period..... Minutes 30 (B) 19 P.S.I. to (C) 22 P.S.I.  
 Initial Closed In Period..... Minutes 30 (D) 58 P.S.I.  
 Final Flow Period..... Minutes 30 (E) 20 P.S.I. to (F) 23 P.S.I.  
 Final Closed In Period..... Minutes 30 (G) 35 P.S.I.  
 Final Hydrostatic Pressure..... (H) 1793 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.

# TEEL #7-1, DST #2, L/KC "H-K" 3708'-3775'



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## ROCK TYPES

Lmst fw7>	shale, gry	shale, red
shale, grn	Carbon Sh	Shcol

## ACCESSORIES

### STRINGER

- Sandstone

## OTHER SYMBOLS

### MISC

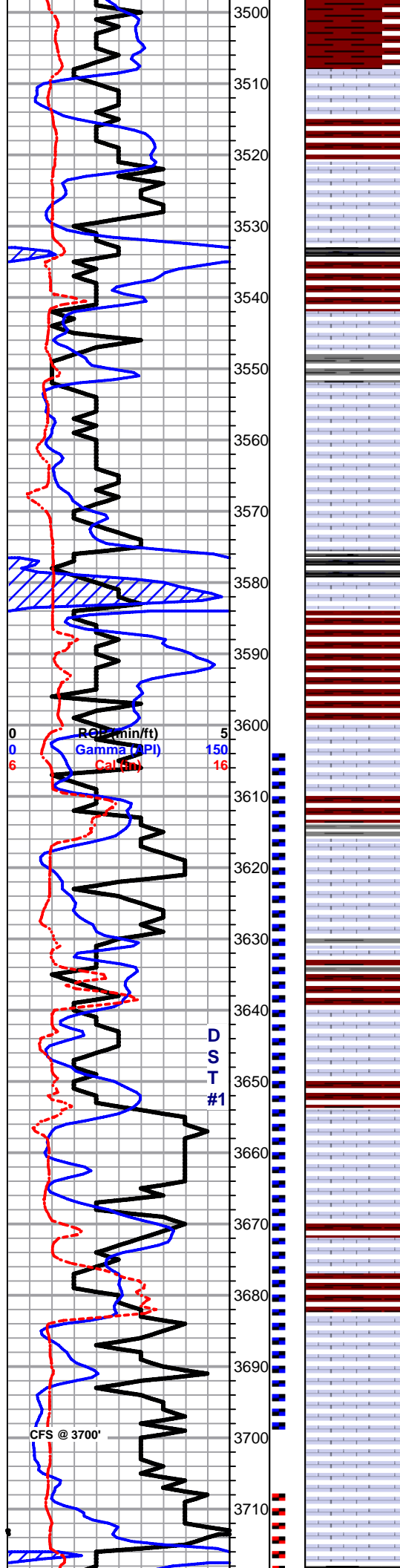
- Daily Report
- Digital Photo
- Document
- Folder
- Link
- Vertical Log File
- Horizontal Log File
- Core Log File
- Drill Cuttings Rpt

### DST

- DST Int
- DST alt

Curve Track #1									Curve Track #3
ROP (min/ft)		Intervals							
Gamma (API)									
Cal (in)									

Depth	DST	Lithology	Oil Show	Geological Descriptions
Cored Interval	DST Interval			
0				1:240 Imperial
0				ROP (min/ft)
0				Gamma (API)
6				Cal (in)
5				150
16				16
3310				<p><b>1' DRILL TIME THROUGH ANHYDRITE FROM 2090' - 2160'</b>  <b>1' DRILL TIME FROM 3300' - RTD</b>  <b>10' WET/DRY SAMPLES FROM 3350' - RTD</b></p> <p><b>GEOLOGICAL SUPERVISION BY JEFF LAWLER FROM 3300' - RTD</b></p> <p><b>8 5/8" SURFACE PIPE SET @ 305' SURVEY 1/4 dgr.</b></p> <p><b>ANHYDRITE TOP 2109' (+417) E-LOG 2109' (+417)</b>  <b>ANHYDRITE BASE 2143' (+383) E-LOG 2141' (+385)</b></p>
3320				
3330				
3340				
3350				Lm- Gray Cream, FXLN, well cemented, sl fsl, mostly tight w/ sctrd XLN porosity, few grainy
3360				Sh- Maroon Gray Mint Green, gritty & earthy, silty & calcareous, waxy
3370				
3380				Lm- Off White, FXLN, dense, well cemented, tight w/ sctrd XLN porosity, some chalky in part, some w/ maroon tint
3390				Lm- Off White, MED XLN, massive, oolitic & fsl, mod. well dev. w/ dense XLN & secondary porosity, sctrd clear replacement cementation, vry clean, much soft white chalk
3400				Lm- A/A
0				ROP (min/ft)
0				Gamma (API)
6				Cal (in)
5				150
16				16
3410				Lm- Off White, VF-FXLN, dense, well cemented, fsl w/ sctrd XLN porosity, vry clean & barren
3420				
3430				<b>TOPEKA 3422' (-896) E-LOG 3422' (-896)</b> Lm- Buff Cream, FXLN, fsl, sctrd mottling, sctrd glauconite, sctrd XLN porosity, some chalky in part, few trashy bioclastics
3440				Lm- Off White, VFXLN, dense, well cemented, gritty cherty Ls w/ no vis. porosity, much soft white chalk
3450				Lm- Frosted, Fn Grn, well cemented, sorted & consolidated arenaceous Ls w/ consistent intergranular porosity, barren
3460				Lm- Cream Buff, VF-FXLN, dense, well cemented, mostly tight, fsl, sctrd XLN porosity
3470				Sh- Black Maroon Green, fissile & carbonaceous, abundant argillaceous wash, gritty & earthy, dense & waxy
3480				Sh- Maroon/Brown, abundant sandy wash & shaley Ss/sandy shale
3490				Sh- Maroon, gritty & earthy
				1:240 Imperial



Lm- Cream Buff, FXLN, dense, well cemented, sctrd XLN porosity & clear replacement cementation

Lm- Cream Tan, FXLN, fsl, dense XLN porosity, barren, some soft white chalk

Sh- Black Maroon Gray, fissile & carbonaceous, gritty & earthy, soft & calcareous

Lm- White Cream, abundant soft white chalk, VFXLN, dense, vry well cemented, tight porcelain like Ls w/ no vis. porosity

Lm- Off White, Fn Grn, loosely cemented, sl chalky, consistent intergranular porosity, vry clean & barren

Lm- Gray, FXLN, dense, well cemented, sl fsl, sctrd XLN porosity & clear replacement cementation

**HEEBNER 3575' (-1049) E-LOG 3578' (-1052)** Sh- Black Maroon Gray, fissile & carbonaceous, gritty & earthy

Sh- Maroon Gray, abundant argillaceous wash, gritty & earthy

**TORONTO 3595' (-1069) E-LOG 3601' (-1075)** Lm- White Cream, mix of dense tight VFXLN w/ sctrd micro XLN porosity, some soft white chalk, & FXLN, sl fsl, well cemented, sctrd dev. from poor vis. to sctrd XLN & fn ppt porosity, SCTRD DRK STN, SL TARRY, TR FO, NO ODR

**LKC 3612' (-1086) E-LOG 3617' (-1091)** Lm- Off White, FXLN, fsl & sl oolitic, sctrd fn ppt inter oolite porosity, sctrd secondary reXLN w/in porosity, SCTRD DRK STN, FR OILY SHEEN, TR FO, NO ODR

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

Lm- Cream, FXLN, oolitic, mod. well dev. w/ sctrd XLN & ppt interoolite porosity, SCTRD DRK STN, TR FO, OILY SHEEN, NO ODR

Lm- Off White, F-MED XLN, fusulinids & oolitic, mod. well dev. w/ sctrd ppt porosity, LT SCTRD STN, NSFO, NO ODR

Lm- White Off White, VF-FXLN, dense, well cemented, mostly tight w/ poor vis. & effective porosity, vry clean & barren

Lm- Off White, VFXLN, dense, porcelain like vitreous cherty Ls w/o vis. porosity, barren

Lm- Cream/Tan, FXLN, fsl, sctrd dev. w/ XLN & ppt porosity, TR LT STN, NSFO, NO ODR

Lm- Cream Off White, F-MED XLN, fsl & oolitic, sctrd dev. w/ dense XLN & sctrd ppt porosity, LT SCTRD STN, TR FO, WK ODR

Lm- White Off White, VF-FXLN, dense, loosely to well cemented, mostly tight w/ poor vis. porosity, milky white vitreous fresh bedded chert, all vry clean & barren

SHORT TRIP  
SHORT TRIP +1.63'  
SURVEY 3/4 dgr

DST #1  
3604' - 3700'  
LKC A-G  
30-45-60-60

1570' TOTAL FLUID  
360' MCW  
(75%W, 25%M)  
1210' WATER  
CHLOR: 93K

IFP: 41-372#  
FFP:382-735#  
SIP: 1202-1182#

3600.jpg

3618.jpg

3640.jpg

3650.jpg

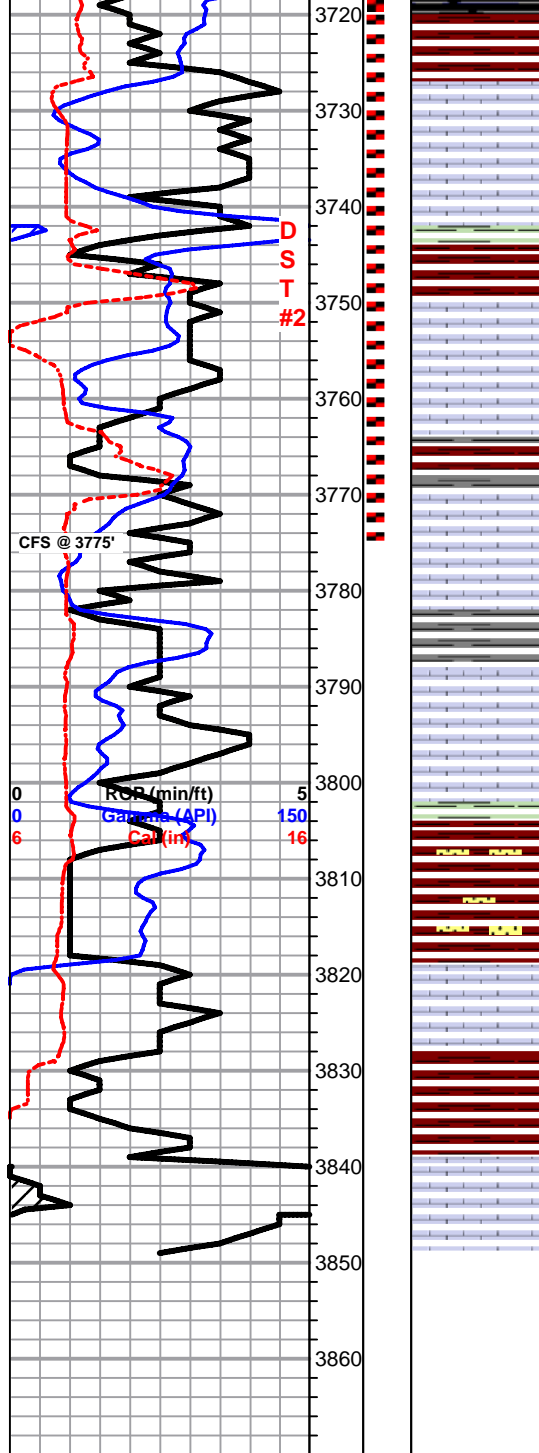
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DST #2  
LKC H-K  
3708' - 3775'  
30-30-30-30

15' SOSPM  
(>1%O, 99%M)

IFP: 19-22#



① Lm- Cream Off White, mix of VFXLN, dense & well cemented w/ dense micro XLN porosity, & FXLN, fsl, & oolitic w/ small sctrd vuggy porosity, LT SCTRDR ST, NSFO, NO ODR, some soft white chalk

3730.jpg

Lm- Buff, VF-FXLN, dense & well cemented, tight w/ poor vis. porosity

● Lm- Cream Off White, FXLN, loosely cemented, some gummy white chalk, consistent vry fn ppt porosity, SCTRDR LT STN, NSFO, WK ODR

3752.jpg

① Lm- Cream Off White, VF-FXLN, mix of densely packed oolites, sctrd XLN & ppt porosity, LT SCTRDR STN, NSFO, WK ODR & fxln, dense & tight w/ poor vis. porosity

3775.jpg

Lm- Cream Off White, VF-FXLN, dense, loosely to well cemented, some chalky in part, mostly tight w/ poor vis. porosity, vry clean & barren

**BKC 3798' (-1272) E-LOG 3803' (-1277)** Sh- Maroon Green Gray, gritty & earthy, shaley Ss/sandy shale, semi-waxy, soft & calcareous

Lm- White Off White, FXLN, fsl, well cemented, poorly dev. w/ sctrd XLN porosity, vry clean & barren

Sh- Maroon Gray, gritty & earthy, argillaceous clumps, soft & silty

Lm- Cream Tan, VFXLN, dense, sharp cherty Ls w/o vis. porosity, barren

**RTD 3849' (-1323) LTD 3852' (-1326) @ 21:16 12/5/2016**

SURVEY 1/2 dgr





0.2 mm

3600' x 35







0.2 mm

3650' x 30



0.2 mm

3680' x 30



0.2 mm

3692' x 30



0.2 mm  
3730' X 30



0.5 mm

3752' X 20





0.5 mm

3770' x 25