Scale 1:240 Imperial

| | | | |
|---|---|---|---|
| Well Name: | FISCHLI #1 | | |
| Surface Location: | SW NW NE SW Sec. 5 - 7S - 20W | | |
| Bottom Location: | | | |
| API: | 15-163-24149-00-00 | | |
| License Number: | 34903 | | |
| Spud Date: | 10/31/2013 | Time: | 3:15 AM |
| Region: | ROOKS COUNTY, KS | | |
| Drilling Completed: | 11/6/2013 | Time: | 12:39 AM |
| Surface Coordinates: | 2110' FSL & 1560' FWL | | |
| Bottom Hole Coordinates: | | | |
| Ground Elevation: | 2208.00ft | | |
| K.B. Elevation: | 2213.00ft | | |
| Logged Interval: | 3000.00ft | To: | 3802.00ft |
| Total Depth: | 3797.00ft | | |
| Formation: | TORONTO, LANSING - KANSAS CITY | | |
| Drilling Fluid Type: | FRESH WATER / CHEMICAL GEL | | |

**OPERATOR**

| | | | |
|---|---|---|---|
| Company: | JASPAR COMPANY, INC. | | |
| Address: | 1681 LIMESTONE ROAD SOUTH<br>P.O. BOX 1120<br>HAYS, KS | | |
| Contact Geologist: | SHANE VEHIGE | | |
| Contact Phone Nbr: | (785) 623-6982 | | |
| Well Name: | FISCHLI #1 | | |
| Location: | SW NW NE SW Sec. 5 - 7S - 20W | API: | 15-163-24149-00-00 |
| Pool: | | Field: | UNNAMED |
| State: | KANSAS | Country: | USA |

**SURFACE CO-ORDINATES**

| | | | |
|---|---|---|---|
| Well Type: | Vertical | | |
| Longitude: | -99.5783957 | Latitude: | 39.4723674 |
| N/S Co-ord: | 2110' FSL | | |
| E/W Co-ord: | 1560' FWL | | |

**LOGGED BY**

| | | | |
|---|---|---|---|
| Company: | SOLUTIONS CONSULTING, INC. | | |
| Address: | 108 W 35TH<br>HAYS, KS 67601 | | |
| Phone Nbr: | (785)259-3737 | | |
| Logged By: | Geologist | Name: | JEFF LAWLER |

**CONTRACTOR**

| | | | |
|---|---|---|---|
| Contractor: | WW DRILLING, LLC | | |
| Rig #: | 6 | | |

| | | | |
|---|---|---|---|
| Rig #: | 6 | | |
| Rig Type: | MUD ROTARY | | |
| Spud Date: | 10/31/2013 | Time: | 3:15 AM |
| TD Date: | 11/6/2013 | Time: | 12:39 AM |
| Rig Release: | 11/6/2013 | Time: | 10:00 PM |

## ELEVATIONS

| | | | |
|---|---|---|---|
| K.B. Elevation: | 2213.00ft | Ground Elevation: | 2208.00ft |
| K.B. to Ground: | 5.00ft | | |

## NOTES

DUE TO ECONOMICAL RECOVERY ON DST #2, STRUCTURAL POSITION, AND LOG ANAYLSIS DECISION WAS MADE TO RUN 5 1/2" PRODUCTION CASING AND FURTHER EVALUATE WITH PERFORATION.

SAMPLES WERE SAVED AND WILL BE SENT TO AND AVAILABLE AT KANSAS GEOLOGICAL SURVEY SAMPLE REPOSITORY.

RESPECTFULLY SUBMITTED,
JEFF LAWLER

## WELL COMPARISON SHEET

| | FISCHLI #1 | | | | RITCHIE EXPLORATON<br>FISCHLI-5C #1<br>W2 E2 SW 5-7-20 | | | | BOWMAN OIL COMPANY<br>R.A. BENOIT #1<br>NW SW NE NW 5-7-20 | | | | BAIRD OIL COMPANY, LLC<br>ROY-FISCHLI UNIT #1-8<br>NW NE NW 8-7-20 | | | | BOWMAN OIL COMPANY<br>DEAN LESAGE #2<br>SE NE SW NE 8-7-20 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | KB | 2213 | GL | 2208 | KB | 2205 | | | KB | 2230 | | | KB | 2211 | | | KB | 2214 | | |
| | LOG TOPS | | SAMPLE TOPS | | COMP. CARD | | LOG | SMPL. | COMP. CARD | | LOG | SMPL. | COMP. REPORT | | 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. |
| ANHYDRITE TOP | 1803 | 410 | 1799 | 414 | 1795 | 410 | + 0 | + 4 | 1815 | 415 | - 5 | - 1 | 1789 | 422 | - 12 | - 8 | 1786 | 428 | - 18 | - 14 |
| BASE | 1834 | 379 | 1831 | 382 | 1825 | 380 | - 1 | + 2 | | | | | 1825 | 386 | - 7 | - 4 | 1818 | 396 | - 17 | - 14 |
| TOPEKA | 3201 | -988 | 3200 | -987 | 3196 | -991 | + 3 | + 4 | 3206 | -976 | - 12 | - 11 | 3183 | -972 | - 16 | - 15 | 3187 | -973 | - 15 | - 14 |
| HEEBNER SHALE | 3405 | -1192 | 3399 | -1186 | 3400 | -1195 | + 3 | + 9 | 3410 | -1180 | - 12 | - 6 | 3394 | -1183 | - 9 | - 3 | 3383 | -1169 | - 23 | - 17 |
| TORONTO | 3428 | -1215 | 3422 | -1209 | 3422 | -1217 | + 2 | + 8 | | | | | 3414 | -1203 | - 12 | - 6 | | | | |
| LKC | 3441 | -1228 | 3436 | -1223 | 3436 | -1231 | + 3 | + 8 | 3446 | -1216 | - 12 | - 7 | 3431 | -1220 | - 8 | - 3 | 3414 | -1200 | - 28 | - 23 |
| BKC | 3635 | -1422 | 3631 | -1418 | 3630 | -1425 | + 3 | + 7 | 3638 | -1408 | - 14 | - 10 | 3622 | -1411 | - 11 | - 7 | 3617 | -1403 | - 19 | - 15 |
| MARMATON | 3658 | -1445 | 3652 | -1439 | | | | | | | | | | | | | | | | |
| ARBUCKLE | 3722 | -1509 | 3722 | -1509 | 3722 | -1517 | + 8 | + 8 | 3676 | -1446 | - 63 | - 63 | 3663 | -1452 | - 57 | - 57 | 3650 | -1436 | - 73 | - 73 |
| TOTAL DEPTH | 3802 | -1589 | 3797 | -1584 | 3725 | -1520 | - 69 | - 64 | 3710 | -1480 | - 109 | - 104 | 3705 | -1494 | - 95 | - 90 | 3672 | -1458 | - 131 | - 126 |

## DST #1 TORONTO - LKC A 3398' - 3452'

TRILOBITE TESTING, INC.

### DRILL STEM TEST REPORT

Jasper Co.

PO Box 1120
Hays Ks. 67601

ATTN: Jeff Lawler

**5-7s-20w Rooks**

**Fischli #1**

Job Ticket: 54333 **DST#: 1**

Test Start: 2013.11.03 @ 23:15:01

GENERAL INFORMATION:

Formation: **Tor-LKC"A"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 00:52:00
Time Test Ended: 06:07:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Andy Carreira
Unit No: 68

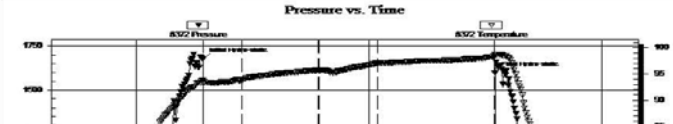
**Interval: 3398.00 ft (KB) To 3452.00 ft (KB) (TVD)**
Total Depth: 3452.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 2213.00 ft (KB)
2208.00 ft (CF)
KB to GR/CF: 5.00 ft

**Serial #: 8372** **Inside**
Press@RunDepth: 80.87 psig @ 3405.00 ft (KB)
Start Date: 2013.11.03 End Date: 2013.11.04
Start Time: 23:15:01 End Time: 06:07:30

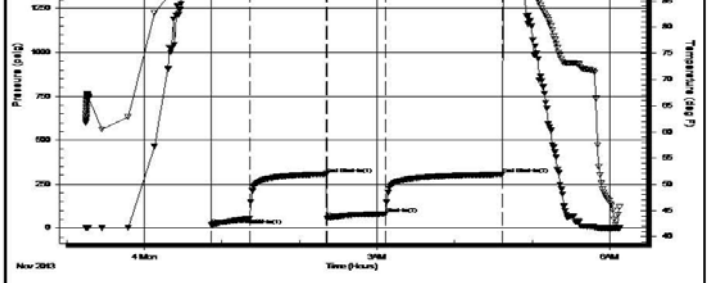
Capacity: 8000.00 psig
Last Calib.: 2013.11.04
Time On Btm: 2013.11.04 @ 00:51:30
Time Off Btm: 2013.11.04 @ 04:37:30

TEST COMMENT: IF:(30min) 1" blow in 5 min. 2" in 13 min. Built to 13 min.
ISI:(60min) No Return
FF:(45min) Surface blow in 7 min. 1" in 28 min. Built to 1.75"
FSI:(90min) No Return




PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|---|---|---|---|
| 0 | 1675.34 | 93.81 | Initial Hydro-static |
| 1 | 17.34 | 93.22 | Open To Flow (1) |



| | | | |
|---|---|---|---|
| 30 | 53.46 | 93.80 | Shut-In(1) |
| 90 | 307.81 | 95.73 | End Shut-In(1) |
| 90 | 54.76 | 95.59 | Open To Flow (2) |
| 135 | 80.87 | 97.03 | Shut-In(2) |
| 226 | 305.77 | 98.36 | End Shut-In(2) |
| 226 | 1596.70 | 98.76 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 140.00 | Mud w / oil spks in tool | 0.86 |
| | | |
| | | |
| | | |
| | | |
| | | |

Gas Rates

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

Trilobite Testing, Inc Ref. No: 54333 Printed: 2013.11.04 @ 06:51:55

**DST #2 LKC C - D 3454' - 3500'**

TRILOBITE TESTING, INC.

# DRILL STEM TEST REPORT

Jasper Co.

PO Box 1120
Hays Ks. 67601

ATTN: Jeff Lawler

**5-7s-20w Rooks**

**Fischli #1**

Job Ticket: 54334 **DST#: 2**

Test Start: 2013.11.04 @ 12:51:01

GENERAL INFORMATION:

Formation: **LKC"C-D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 14:25:30
Time Test Ended: 18:43:00

Test Type: Conventional Bottom Hole (Reset)
Tester: Andy Carreira
Unit No: 68

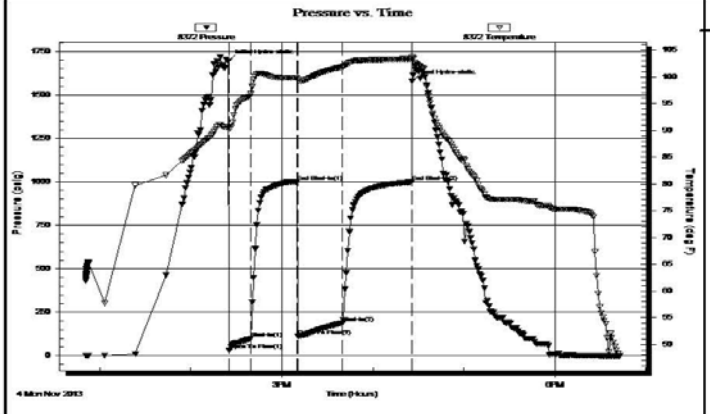
**Interval: 3454.00 ft (KB) To 3500.00 ft (KB) (TVD)**
Total Depth: 3500.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 2213.00 ft (KB)
2208.00 ft (CF)
KB to GR/CF: 5.00 ft

**Serial #: 8372** **Inside**
Press@RunDepth: 189.62 psig @ 3459.00 ft (KB)
Start Date: 2013.11.04 End Date: 2013.11.04
Start Time: 12:51:01 End Time: 18:43:00

Capacity: 8000.00 psig
Last Calib.: 2013.11.04
Time On Btm: 2013.11.04 @ 14:25:00
Time Off Btm: 2013.11.04 @ 16:26:00

TEST COMMENT: IF:(15min) BOB in 5 min.
ISI:(30min) Return blow 30 sec after bleed off. Buit to BOB in 25 min.
FF:(30min) BOB immediately.
FSI:(45min) Return blow immediately after bleed off.Built to BOB in 12 min.




PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|---|---|---|---|
| 0 | 1695.66 | 90.70 | Initial Hydro-static |
| 1 | 31.89 | 90.27 | Open To Flow (1) |
| 15 | 98.85 | 96.84 | Shut-In(1) |
| 45 | 1000.64 | 99.82 | End Shut-In(1) |
| 46 | 112.98 | 99.44 | Open To Flow (2) |
| 75 | 189.62 | 101.86 | Shut-In(2) |
| 121 | 999.15 | 103.36 | End Shut-In(2) |
| 121 | 1579.50 | 103.75 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 120.00 | HOCGM g=20% o=20% m=60% | 0.59 |

Gas Rates

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

| | | |
|---|---|---|
| 360.00 | CGO g=15% o=85% | 5.04 |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests



## DST #3 LKC E - F 3501' - 3525'

TRILOBITE TESTING, INC.

# DRILL STEM TEST REPORT

Jasper Co.

PO Box 1120
Hays Ks. 67601

ATTN: Jeff Lawler

**5-7s-20w Rooks**

**Fischli #1**

Job Ticket: 54335 **DST#: 3**

Test Start: 2013.11.05 @ 01:21:01

## GENERAL INFORMATION:

Formation: **LKC"E,F"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 03:15:30
Time Test Ended: 08:16:30

Test Type: Conventional Bottom Hole (Reset)
Tester: Andy Carreira
Unit No: 68

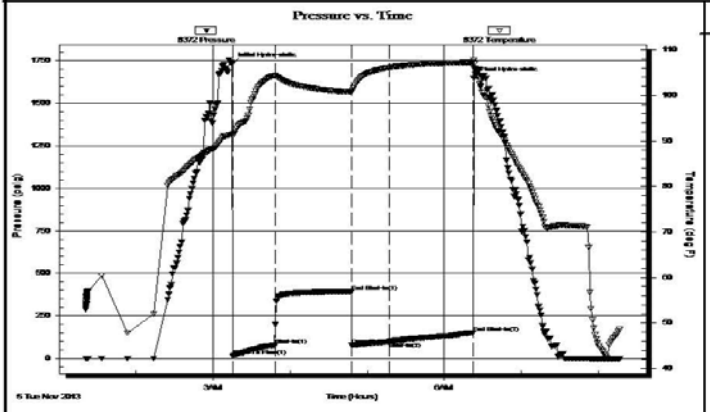
**Interval: 3501.00 ft (KB) To 3525.00 ft (KB) (TVD)**
Total Depth: 3525.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 2213.00 ft (KB)
2208.00 ft (CF)
KB to GR/CF: 5.00 ft

**Serial #: 8372** **Inside**
Press@RunDepth: 98.46 psig @ 3502.00 ft (KB)
Start Date: 2013.11.05 End Date: 2013.11.05
Start Time: 01:21:01 End Time: 08:16:30

Capacity: 8000.00 psig
Last Calib.: 2013.11.05
Time On Btm: 2013.11.05 @ 03:15:00
Time Off Btm: 2013.11.05 @ 06:23:00

TEST COMMENT: IF:(30min) 2" blow in 5 min. 4" in 14 min. Built to 7"
ISI:(60min) No Return
FF:(30min) 2" blow in 14 min. Built to 4"
FSI:(60min) No Return




### PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|---|---|---|---|
| 0 | 1731.80 | 91.46 | Initial Hydro-static |
| 1 | 15.80 | 91.07 | Open To Flow (1) |
| 33 | 78.98 | 104.23 | Shut-In(1) |
| 93 | 393.45 | 100.79 | End Shut-In(1) |
| 93 | 77.41 | 100.66 | Open To Flow (2) |
| 123 | 98.46 | 106.14 | Shut-In(2) |
| 188 | 151.19 | 107.24 | End Shut-In(2) |
| 188 | 1644.70 | 107.83 | Final Hydro-static |

### Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 260.00 | MW | 2.54 |
| | | |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests

### Gas Rates

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

## ROCK TYPES

Cht
Congl
Dolprim
Lmst fw<7
Lmst fw7>
Dol Lime
shale, grn
shale, gry
Carbon Sh
Shblck
shale, red
Ss

## ACCESSORIES

**MINERAL**
Sandy

**FOSSIL**
Oolite

## OTHER SYMBOLS

**DST**
DST Int
DST alt

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

Curve Track #1
ROP (min/ft)
Gamma (API)
Cal (in)
1:240 Imperial

Depth | Intervals
Cored Interval
DST Interval

DST

Lithology

Oil Show

Geological Descriptions

Curve Track #3
1:240 Imperial

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

3100
3110
3120
3130
3140
3150
3160
3170
3180
3190
3200
3210
3220

**1' DRILL TIME THROUGH ANHYDRITE FROM 1780' - 1810'**
**1' DRILL TIME FROM 3100' - RTD**
**10' WET/DRY SAMPLES FROM 3150' - RTD**

**GEOLOGICAL SUPERVISION BY JEFF LAWLER FROM 3150' - RTD**

**8 5/8" SURFACE PIPE SET @ 219' SURVEY 3/4 dgr.**

**ANHYDRITE TOP 1799' (+414) E-LOG 1803' (+410)**
**BASE 1831' (+382) E-LOG 1834' (+379)**

Lm- Cream Off White, VF-FXLN, mix to tight lithographic ls w/o vis. matrix/porosity & fsl FXLN, well cemented w/ sctrd-dense XLN porosity

Sh- Lt Gray Lm Green Brick Red, gummy wash, silty & soft, gritty & earthy Ss- Frosted Sl Maroon tint, Fn Grn, mod. well dev., sub-angular, consolidated & sorted, lt spkld w/ sediment & mica, friable, barren

Lm- Lt Gray Buff, FXLN, sl trashy high-energy w/ fsl & fragments, XLN porosity, some chalky in part

Lm- Gray, trashy high-energy mix of Vf Grn mud supported matrix, sl fsl, loosely cemented & FXLN w/ many fsl fragments, poor XLN porosity, loosely-well cemented

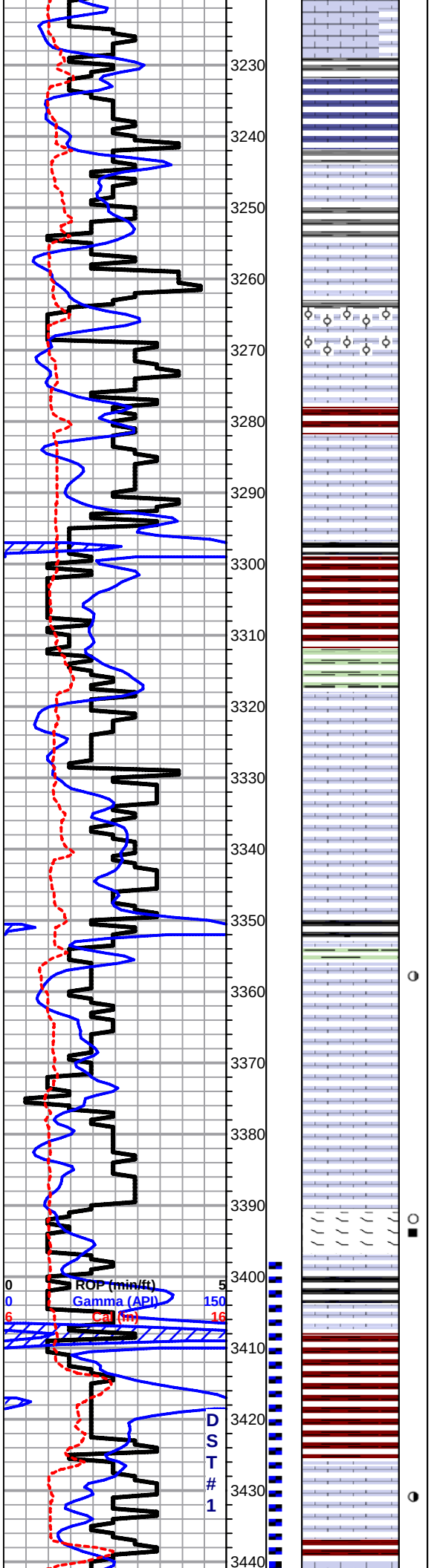
Sh- Lt Gray Maroon White, silty, soft & calcareous, gritty & earthy, gummy white chalk

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

**TOPEKA 3200' (-987) E-LOG 3201' (-988)** Lm- Cream Gray Buff, FXLN, dense, sl trashy, some fsl w/ some fragments, mottled, XLN porosity, some chalky in part

Lm- A/A w/ increasing amount of cream fsl FXLN w/ XLN porosity

Lm- Tan Off White, FXLN, fsl w/ embedded densely packed oolites & fusulinids, poorly dev. well cemented w/ micro XLN & sctrd fn ppt inter fsl porosity, barren




Lm- Cream, Vf Grn, dense, sl fsl mud supported matrix, poor intergranular vis. porosity

Sh- Gray Maroon Lm Green, silty & soft, calcareous, gritty & earhty

Lm- Drk & Lt Gray, mix of vf grn mud supported matrix & vfxln, all high-energy, fsl & poor vis. porosity, trashy

Lm- Cream Tan, Vf Grn, siltstone, dense, loosely cemented, some chalky in part, no vis. porosity

Lm- Cream Off White, FXLN, dense, loosely cemented, fsl & poorly dev., chalky, micro XLN at best, barren, massive pyrite pcs

Lm- Cream Off White, FXLN, poorly dev. fsl & sl oolitic, loosely-well cemented, mostly consistant vry fn ppt interoolite porosity, clean & barren, pcs of smokey white fresh bedded fsl chert

Lm- Buf Tan, CryptoXLN, dense cherty ls w/o vis. porosity, some vitreous

Lm- Cream Buff, VF-FXLN, dense, most well cemented, some loosely cemented & sl chalky, fsl w/ micro XLN & XLN porosity, barren

Sh- Black Lm Green Maroon, soft, gritty, carbonaceous, lm green wash, gritty & earthy

Sh- Maroon Lm Green White, soft, sl sandy wash

Lm- Cream Tan Buff, FXLN, sl fsl, poorly dev. w/ XLN porosity, mottled, barren

Lm- Cream Off White, VF-FXLN, dense, loosely cemented & chalky, micro pyrite inclusions, poor vis. porosity, vry clean

Lm- Cream Tan, FXLN, mix of tight sl dolomitic ls & fsl FXLN ls, all poorly dev. w/ XLN porosity, well cemented, barren

Sh- Black Brown Lm Green, soft, fissile, carbonaceous, gritty & earthy, gummy lm green lime

Lm- Cream Tan, FXLN, dense, fsl & sl oolitic, poorly & inconsistantly dev. w/ micro XLN to XLN porosity, mostly barren,few pcs w/ WK DRK SCTRD STN ALONG EDGE PLANES, 2-3 PCS W/ HVY & SUB-TARRY STN, SL TR OF FO, NO ODR

Lm- Cream, FXLN, fsl & sl unconsolidated & spkld, poor vis. porosity, barren

Lm- Cream Tan, FXLN, fsl, dense, poorly dev. w/ XLN porosity & med-crs secondary recrystallization porosity, barren, ?? WK TR ODR ??, FEW PCS OF OREAD IN SAMPLE W/ STN A/A

Lm- Lt Gray, Vf Grn VF-FXLN, dense, sl chalky in part, some mud supported matrix, all w/ poor vis. porosity, barren

Lm- Tan, Tan, VF-FXLN, dense dolomitic ls, sub-sucrosic, consistant micro XLN porosity, throughout, NO VIS. STN, NSFO, WK ODR, WK LT YLW HALO FLOR.

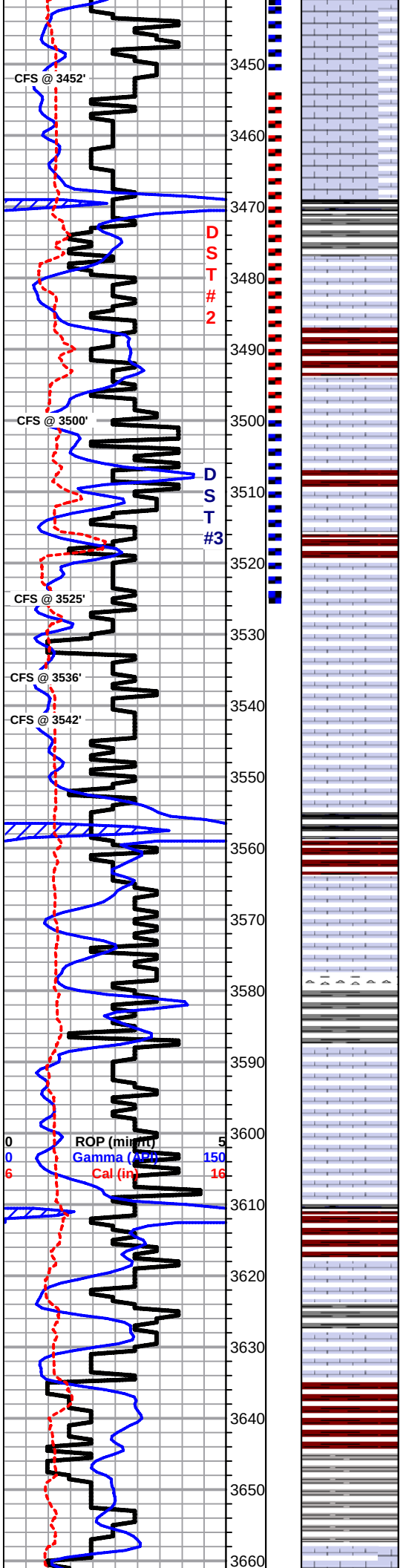
**HEEBNER 3399' (-1186) E-LOG 3405' (-1192)** Sh- Black Maroon, silty & soft, carbonaceous, gritty & earthy

Sh- Maroon, gritty & earthy, maroon wash

**TORONTO 3422' (-1209) E-LOG 3428' (-1215)** Lm- Cream Tan, VF-FXLN, mix of fsl ls w/ XLN porosity, & dense, vry well cemented, massive dolomitic sl cherty ls, poorly dev. w/ sctrd dense vry fn ppt porosity, few sctrd crs recrystallized inclusions, SCTRD DRK STN, SFO UPON CRUSH, WK ODR

**SHORT TRIP SURVEY 1/4 dgr.**

**DST #1 TORONTO - LKC A 3398' - 3452'**




**LKC 3436' (-1223) E-LOG 3441' (-1228)** Lm- Cream Off White, F-Med XLN, fsl & oolitic, mod. dev. w/ inter fsl XLN porosity & sctrd ppt porosity, some of lesser dev. pcs w/ recrstallization w/in porosity, SCTRD LT BRWN STN, SL FLAKEY, TR GSY FO, GD SULFURIC ODR

Lm- White Off White, VF-FXLN, dense, sl fsl, mostly tight, micro XLN & sctrd XLN porosity, some soft white chalk, vry clean & barren

Sh- Black Drk Gray Maroon Lm Green, fissile, carbonaceous, dense & blocky, silty & calcareous

DST #2
LKC C - D
3454' - 3500'

Lm- Tan, VF-FXLN, well cemented, sub-sucrosic, mod well dev. w/ consistant porosity throughout, LT BRWN STN, FR SFO, GD ODR, mixed w/ white off white VF-FXLN, dense, fsl w/ XLN porosity & some soft white chalk

Sh- Maroon, gritty & earthy

Lm- Off White Cream, FXLN, vry well cemented, fsl & sl dev. w/ sctrd ppt & XLN porosity, WK SCTRD STN, NSFO, TR ODR

Lm- Tan, VFXLN, dense, vry well cemented, tight sl cherty ls w/ limited micro XLN porosity

DST #3
LKC E - F
3501' - 3525'

Lm- White Off White, mix of VF-FXLN & Vf Grn, dense, sl fsl, mostly tight w/ micro XLN porosity, some mud supported matrix & dense soft white chalk, all vry clean

Lm- Cream Off White, FXLN, dense, well cemented, sctrd dev. w/ vry fn to fn ppt porosity, LT SCTRD STN, TR FO, WK ODR, some soft lt lm green mud supported matrix w/ poor vis. porosity

Lm/Chert- White Off White, VFXLN, dense, loosely cemented & chalky to poorly dev. & well cemented, sl fsl, micro XLN & XLN porosity, vry clean & barren, pcs of milky white sl fsl fresh bedded angular chert, some w/ sl dolomitic ls contact, all barren

Lm- White Off White, FXLN Fn Grn, poorly dev. sl fsl, mostly tight w/ sctrd XLN porosity, some soft white chalk, vry clean, barren

Lm- A/A

Sh- Black Maroon Lt Gray, dense & vry well compacted, fissile, carbonaceous, gritty & earthy, silty & sl calcareous

Lm- Cream Tan, VF-FXLN, sl fsl w/ fusluinids, poorly dev, mostly tight w/ micro XLN & XLN porosity, barren, few pcs w/ increased dev. porosity A/A w/ sctrd vry fn ppt inter fsl porosity, WK SPOTTY STN, NSFO, WK TR ODR

Lm/Chert- A/A & chalky, some cream/tan fsl fresh bedded chert

Sh- Dove Gray Maroon, vry soft, calcareous, some sl sandy lime, gritty & earthy

Lm- Cream Tan, mix of VF & FXLN, most fsl & loosely cemented to chalky in part, mod. dev. w/ sctrd-dense fenestral porosity, barren, & vry well cemeneted, fsl w/ fusulinids, mod. dev. w/ dense vry fn inner fsl porosity, DRK BRWN STN, SFO, FR ODR

Lm- Cream, VF-FXLN, sl fsl, sctrd dev. mostly tight w/ minimal vis. porosity, areas of dense micro XLN & vry fn ppt porosity, sl chalky in part, LT BRWN STN, SL FLAKEY, WK TR FO, FR ODR, FR OIL SCUM ON WET CUP

Sh- Maroon Black, gritty & earthy, some maroon wash, 2-3 pcs of lt black, silty & vry soft

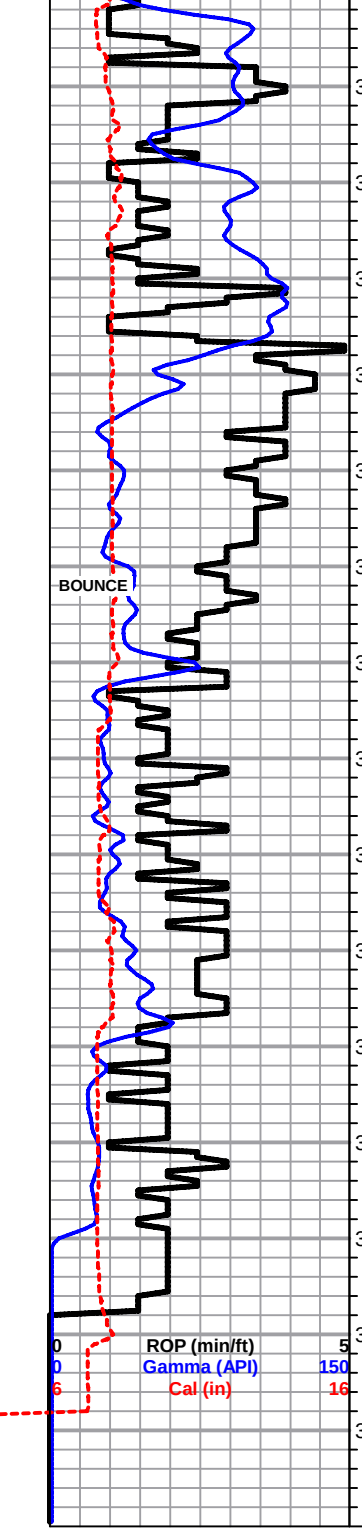
Lm- Tan, FXLN, sl fsl, mod. dev. w/ XLN porosity, loosely cemented, LT BRWN STN, SL SFO, WK-FR ODR

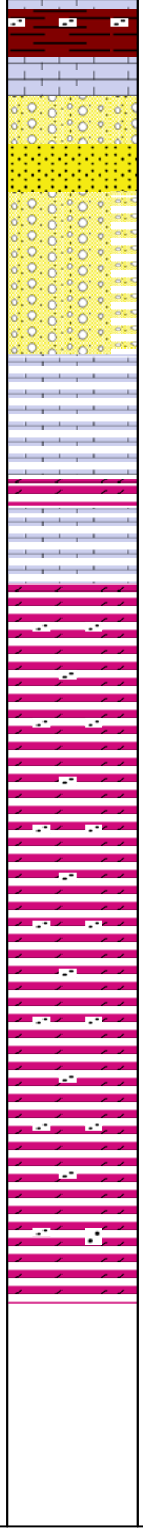
Lm- White Off White, Vf Grn FXLN, mix of fsl & oolitic FXLN, mod. dev. w/ sctrd ppt interoolite porosity & dense mud supported matrix, loosely cemented, DRK BRWN STN, NSFO, FR-GD ODR, some oolitic FXLN w/ reworked appearance & vry dense micro XLN porosity, barren

**BKC 3631' (-1418) E-LOG 3635' (-1422)** Sh- Maroon Lm Green, shaley maroon Ss & sandy lime, some wash, sl waxy & dense

Sh- A/A, w/ gray wash & silty gray shale

**MARMATON 3652' (-1439) E-LOG 3658' (-1445)** Lm- White, FXLN Vf Grn, dense, loosely cemented, sl fsl, XLN porosity, much soft white chalk, vry clean, barren




Ss/Snd- Much gummy argillaceous red clumps & wash, Snd- Clear, Med Grn, well sorted & consolidated, mature & rounded to sub-rounded, loosely cementation, BLK DO STN, NSFO, NO ODR

Conglomerate- Various dark colored shales Sand- A/A, some unconsolidated & shaley, DRK BRWN STN, GD SFO Dolomite- Cream Tan, some tinted w/ shale & conglomerate, FXLN, well dev. w/ good porosity mostly throughout, some sucrosic, SAT-BLEEDING STN, GD SFO, NO ODR, GD-VRY GD SCUM OF FREE OIL ON TOP OF WET CUP, some fresh bedded angular chert

Lm- White, VF-FXLN, dense, loosely-well cemented, micro XLN & XLN porosity, vry clean, barren

Dolomite- Cream Tan, VFXLN, dense, vry well cemented, poorly dev., mostly tight w/ micro XLN porosity, barren

Lm- White Off White, VFXLN, dense, vry well cemented, sl sandy ls, lt spkld w/ glauconite/chlorite, poor vis. porosity, some sl chalky & soft, vry clean, barren

**ARBUCKLE 3722' (-1509) E-LOG 3722' (-1509)** Dol- Cream Tan White, mix of VFXLN, dense, vry well cemented & poorly dev. w/ micro XLN porosity & loosely white dolomite w/ clean fn-med qtz. inclusions & spkld w/ glauconite, all vry clean & barren

Dolomite- Cream Off White, Med-Crse XLN, sandy dolomite A/A, mod-well dev w/ micro XLN & ppt porosity, spkld w/ glauconite, MOSTLY BARREN POROSITY, SEVERAL PCS W/ DRK SCTRD STN, NSFO, NO ODR

Dolomite- Tan Cream, VFXLN, dense, vry well cemented, mostly tight w/ micro XLN porosity, barren, much soft white chalk

Dolomite- White Off White, Med-Crs XLN, sandy, loosely cemented & friable, vry well dev., some w/ sub-euhedral rhombs, spkld w/ glauconite, much barren porosity, several pcs w/ SCTRD DRK STN, NSFO, NO ODR, soft white chalk A/A

Dolomite- Tan Lt Salmon tint, VF-FXLN, dense, poorly dev., mostly tight sl cherty dolomite w/ micro XLN & sctrd XLN porosity, barren

Dolomite- Cream Tan, VF-FXLN, sandy w/ decreasing qtz content, rounded to sub-rounded inclusions, most well cemented, some lt spkld w/ glauconite, poorly dev. barren

Dolomite- Cream Semi-Frosted, Med-Crs Grn, increasing qtz content, minimal cementation, friable, mod-hvy spkld w/ glauconite & w/ pyrite inclusions, many barren cluster, some w/ BLK & LT BRWN STN, 1-2 PCS W/ SL SFO, NO ODR

Dolomite- Cream Off White, VF-FXLN, dense, poorly dev. some w/ qtz inclusions, poor XLN porosity, barren, few lt spkld w/ glauconite

**RTD 3797' (-1584) LTD 3802' (-1589) @ 12:39 11/6/2013**

**10 STAND MINI TRIP CTCH SURVEY 3/4 dgr. TOH FOR LOG**