

OPERATOR

Company: L. D. Drilling, Inc.
Address: 7 SW 26th Ave.
Great Bend, KS 67530

Contact Geologist: Kim Shoemaker
Contact Phone Nbr: 316-772-2939
Well Name: Betty #2-12
Location: Sec. 12 - T6S - R18W
API: 15-163-24207-0000
Pool: Kansas
State: Kansas
Field: Faubion
Country: USA

Scale 1:240 Imperial

Well Name: Betty #2-12
Surface Location: Sec. 12 - T6S - R18W
Bottom Location: API: 15-163-24207-0000
License Number: 6039
Spud Date: 7/9/2014
Region: Rooks County
Drilling Completed: 7/17/2014
Surface Coordinates: 390' FNL & 330' FWL
Bottom Hole Coordinates:
Ground Elevation: 1890.00ft
K.B. Elevation: 1897.00ft
Logged Interval: 2700.00ft
Total Depth: 3360.00ft
Formation: Lansing/Kansas City
Drilling Fluid Type: Chemical/Fresh Water Gel
Time: 7:30 AM
Time: 12:00 AM
To: 3360.00ft

SURFACE CO-ORDINATES

Well Type: Vertical
Longitude:
Latitude:
N/S Co-ord: 390' FNL
E/W Co-ord: 330' FWL

LOGGED BY

Keith Reavis
Consulting Geologist

Company: Keith Reavis, Inc.
Address: 3420 22nd Street
Great Bend, KS 67530

Phone Nbr: 620-617-4091
Logged By: Logan Walker
Name:

CONTRACTOR

Contractor: Skytop Drilling
Rig #: 1
Rig Type: mud rotary
Spud Date: 7/9/2014
TD Date: 7/17/2014
Rig Release:
Time: 7:30 AM
Time: 12:00 AM
Time:

ELEVATIONS

K.B. Elevation: 1897.00ft
K.B. to Ground: 7.00ft
Ground Elevation: 1890.00ft

NOTES

Due to positive results of DST #2 and DST #3, it was determined that 5 1/2" production casing be set and cemented and that the Betty #2-12 be further tested through perforations and stimulation.

The gamma ray and caliper curves from the electrical log suite were imported into this mudlog. The samples were saved and will be available for review at the Kansas Geological Survey Well Sample Library located in Wichita, KS.

Respectfully submitted,
Logan Walker and Keith Reavis

L.D. Drilling
daily drilling report

DATE	7:00 AM DEPTH	REMARKS
07/12/2014		Geologist Logan Walker on location @ 1902 hrs, 2657 ft, drilling ahead
07/13/2014	2873	drilling ahead, shows in the lower Topeka warrants test, mud problems, TOH w/bit
07/14/2014	2996	TIH w/tool, conduct and complete DST #1, successful test, TOH w/tool, TIH w/bit resumed drilling Heebner, Lansing A - D, show warrants test, TOH w/bit for DST #2
07/15/2014	3130	TIH w/tool, conduct and complete DST #2, successful test, TIH w/bit resumed drilling F - G, show warrants test, TOH w/bit for DST #3 TIH w/tool, conducting DST #3
07/16/2014	3216	conduct and complete DST #3, successful test, TOH w/tool, TIH w/bit, resume drilling H - L, TOH w/bit, TIH w/tool, conduct and complete DST #4 successful test
07/17/2014	3330	TOH w/tool, TIH W/ Bit, resume drilling, TD @3360' 0817hrs off location @ 1745hrs

L.D. Drilling
well comparison sheet

DRILLING WELL					COMPARISON WELL			
Betty #2-12					Betty #1-12			
390' FNL & 330' FWL					919 FNL & 1408' FWL			
Sec 12-T6S-R18W					Sec 12-T6S-R18W			
1897 KB					1912 KB		Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log
Topeka	2833	-936	2833	-936	2846	-934	-2	-934
Heebner	3037	-1140	3034	-1137	3047	-1135	-5	-1132
Lansing	3078	-1181	3075	-1178	3088	-1176	-5	-1173
Muncie Creek	3198	-1301	3199	-1302	3213	-1301		-1302
Base KC	3303	-1406	3303	-1406	3320	-1408	2	-1408
Arbuckle	Not Reached				3440	-1528		
Total Depth	3360	-1463	3358	-1461	3483	-1571	108	-1569

DST #1



DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313

TIME ON: 2340 (7/13)
TIME OFF: 0745 (7/14)

DRILL-STEM TEST TICKET
FILE: BTY2-12DST1

Company L.D. DRILLING, INC. Lease & Well No. BETTY #2-12
Contractor SKYTOP DRILLING, LLC. RIG 1 Charge to L.D. DRILLING, INC.
Elevation 1894 GL EST. Formation LOWER TOPEKA Effective Pay Ft. Ticket No. M673
Date 7/13/2014 Sec. 12 Twp. 6 S Range 18 W County ROOKS State KANSAS
Test Approved By LOGAN WALKER Diamond Representative MIKE COCHRAN

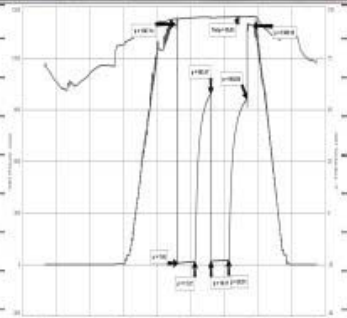
Formation Test No. 1 Interval Tested from 2955 ft. to 2996 ft. Total Depth 2996 ft.
Packer Depth 2950 ft. Size 6 3/4 in. Packer depth NA ft. Size 6 3/4 in.
Packer Depth 2955 ft. Size 6 3/4 in. Packer depth NA ft. Size 6 3/4 in.

Depth of Selective Zone Set
Top Recorder Depth (Inside) 2942 ft. Recorder Number 0063 Cap. 6,000 P.S.I.
Bottom Recorder Depth (Outside) 2957 ft. Recorder Number E1150 Cap. 5,000 P.S.I.
Below Straddle Recorder Depth ft. Recorder Number Cap. P.S.I.

Mud Type CHEM Viscosity Drill Collar Length 143 ft. I.D. 2 1/4 in.
Weight Water Loss 7.2 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.
Chlorides 600 P.P.M. Drill Pipe Length 2785 ft. I.D. 3 1/2 in.
Jars: Make STERLING Serial Number SAFTEY JT Test Tool Length 27 ft. Tool Size 3 1/2-IF in.
Did Well Flow? NO Reversed Out NO Anchor Length 41 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: WSB, INCREASED TO 1" (NO BB)
2nd Open: VWSB THAT DIED AFTER 20 MIN. (NO BB)

Recovered 30 ft. of VSOSDM 100% DRLG MUD W/ A VERY THIN SCUM OF OIL
Recovered 30 ft. of TOTAL FLUID
Recovered ft. of
Recovered ft. of
Recovered ft. of
Recovered ft. of
Remarks:



TOOL SAMPLE: 1% OIL, 99% MUD
Time Set Packer(s) 3:45 A.M. A.M. P.M. Time Started Off Bottom 5:45 A.M. A.M. P.M. Maximum Temperature 95°F
Initial Hydrostatic Pressure (A) 1397 P.S.I.
Initial Flow Period Minutes 30 (B) 7 P.S.I. to (C) 17 P.S.I.
Initial Closed In Period Minutes 30 (D) 993 P.S.I.
Final Flow Period Minutes 30 (E) 18 P.S.I. to (F) 27 P.S.I.
Final Closed In Period Minutes 30 (G) 965 P.S.I.
Final Hydrostatic Pressure (H) 1389 P.S.I.

DST #2



DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544

TIME ON: 2350 (7/14)

Company **L.D. DRILLING, INC.** Lease & Well No. **BETTY #2-12**
 Contractor **SKYTOP DRILLING, LLC. RIG 1** Charge to **L.D. DRILLING, INC.**
 Elevation **1894 GL EST.** Formation **TORONTO LANSING A,B,D** Effective Pay _____ Ft. Ticket No. **M674**
 Date **7/15/2014** Sec. **12** Twp. _____ 6 S Range _____ 18 W County **ROOKS** State **KANSAS**
 Test Approved By **LOGAN WALKER** Diamond Representative **MIKE COCHRAN**

Formation Test No. **2** Interval Tested from **3034 ft.** to **3130 ft.** Total Depth **3130 ft.**
 Packer Depth **3029 ft.** Size **6 3/4 in.** Packer depth **NA ft.** Size **6 3/4 in.**
 Packer Depth **3034 ft.** Size **6 3/4 in.** Packer depth **NA ft.** Size **6 3/4 in.**

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) _____ 3021 ft. Recorder Number **0063** Cap. **6,000 P.S.I.**
 Bottom Recorder Depth (Outside) _____ 3036 ft. Recorder Number **E1150** Cap. **5,000 P.S.I.**
 Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type **CHEM** Viscosity **60** Drill Collar Length **143 ft.** I.D. **2 1/4 in.**
 Weight **9.1** Water Loss **6.2 cc.** Weight Pipe Length **0 ft.** I.D. **2 7/8 in.**
 Chlorides **600 P.P.M.** Drill Pipe Length **2864 ft.** I.D. **3 1/2 in.**
 Jars: Make **STERLING** Serial Number **SAFTEY JT** Test Tool Length **27 ft.** Tool Size **3 1/2-IF in.**
 Did Well Flow? **NO** Reversed Out **NO** 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.**

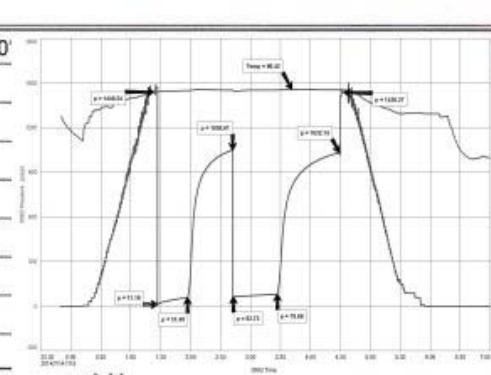
Blow: 1st Open: **SSB, BUILT TO 11 1/2"** (NO BB)
 2nd Open: **GSB, BOB 33 MIN** (1" BB)

Recovered **275 ft.** of GIP GRAVITY: 37.3 @ 60"
 Recovered **66 ft.** of CO 100% OIL
 Recovered **114 ft.** of GOCM 12% GAS, 32% OIL, 56% MUD
 Recovered **180 ft.** of TOTAL FLUID
 Recovered _____ ft. of _____
 Recovered _____ ft. of _____
 Remarks: _____

TOOL SAMPLE: 4% GAS, 81% OIL, 15% MUD

Time Set Packer(s) **1:30 A.M.** A.M. P.M. Time Started Off Bottom **4:30 A.M.** A.M. P.M. Maximum Temperature **96°F**

Initial Hydrostatic Pressure _____ (A) **1440 P.S.I.**
 Initial Flow Period _____ Minutes **30** (B) **11 P.S.I. to (C)** **57 P.S.I.**
 Initial Closed In Period _____ Minutes **45** (D) **1051 P.S.I.**
 Final Flow Period _____ Minutes **45** (E) **63 P.S.I. to (F)** **80 P.S.I.**
 Final Closed In Period _____ Minutes **60** (G) **1032 P.S.I.**
 Final Hydrostatic Pressure _____ (H) **1436 P.S.I.**



DST #3



DIAMOND TESTING
 P.O. Box 157
HOISINGTON, KANSAS 67544
 (800) 542-7313
DRILL-STEM TEST TICKET
 FILE: BTTY2-12DST3

TIME ON: **1925 (7/15)**
 TIME OFF: **0305 (7/16)**

Company **L.D. DRILLING, INC.** Lease & Well No. **BETTY #2-12**
 Contractor **SKYTOP DRILLING, LLC. RIG 1** Charge to **L.D. DRILLING, INC.**
 Elevation **1894 GL EST.** Formation **LANSING F/G** Effective Pay _____ Ft. Ticket No. **M675**
 Date **7/15/2014** Sec. **12** Twp. _____ 6 S Range _____ 18 W County **ROOKS** State **KANSAS**
 Test Approved By **LOGAN WALKER** Diamond Representative **MIKE COCHRAN**

Formation Test No. **3** Interval Tested from **3130 ft.** to **3200 ft.** Total Depth **3200 ft.**
 Packer Depth **3125 ft.** Size **6 3/4 in.** Packer depth **NA ft.** Size **6 3/4 in.**
 Packer Depth **3130 ft.** Size **6 3/4 in.** Packer depth **NA ft.** Size **6 3/4 in.**

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) _____ 3117 ft. Recorder Number **0063** Cap. **6,000 P.S.I.**
 Bottom Recorder Depth (Outside) _____ 3132 ft. Recorder Number **E1150** Cap. **5,000 P.S.I.**
 Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type **CHEM** Viscosity **55** Drill Collar Length **143 ft.** I.D. **2 1/4 in.**
 Weight **9.2** Water Loss **6.0 cc.** Weight Pipe Length **0 ft.** I.D. **2 7/8 in.**
 Chlorides **1,000 P.P.M.** Drill Pipe Length **2960 ft.** I.D. **3 1/2 in.**
 Jars: Make **STERLING** Serial Number **SAFTEY JT** Test Tool Length **27 ft.** Tool Size **3 1/2-IF in.**
 Did Well Flow? **NO** Reversed Out **NO** Anchor Length **70 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.**

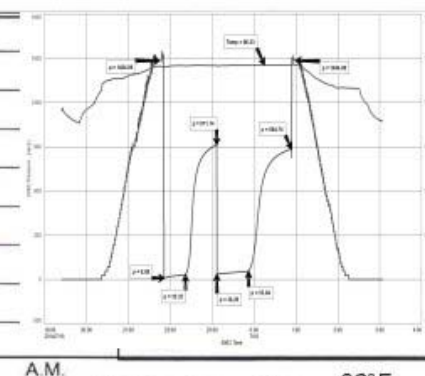
Blow: 1st Open: **WSB, INC. TO 2"** (NO BB)
 2nd Open: **VWSB, INC. TO 3"** (NO BB)

Recovered **30 ft.** of GIP GRAVITY: 33.4 @ 60"
 Recovered **33 ft.** of CO 100% OIL
 Recovered **77 ft.** of GOCM 10% GAS, 33% OIL, 57% MUD
 Recovered **110 ft.** of TOTAL FLUID
 Recovered _____ ft. of _____
 Recovered _____ ft. of _____
 Remarks: _____

TOOL SAMPLE: 2% GAS, 26% OIL, 72% MUD

Time Set Packer(s) **10:00 P.M.** A.M. P.M. Time Started Off Bottom **1:00 A.M.** A.M. P.M. Maximum Temperature **96°F**

Initial Hydrostatic Pressure _____ (A) **1484 P.S.I.**
 Initial Flow Period _____ Minutes **30** (B) **9 P.S.I. to (C)** **32 P.S.I.**
 Initial Closed In Period _____ Minutes **45** (D) **912 P.S.I.**
 Final Flow Period _____ Minutes **45** (E) **36 P.S.I. to (F)** **56 P.S.I.**
 Final Closed In Period _____ Minutes **60** (G) **885 P.S.I.**
 Final Hydrostatic Pressure _____ (H) **1484 P.S.I.**



DST #4



DIAMOND TESTING
 P.O. Box 157
HOISINGTON, KANSAS 67544
 (800) 542-7313
DRILL-STEM TEST TICKET
 FILE: BTTY2-12DST4

TIME ON: **1925 (7/16)**
 TIME OFF: **0415 (7/17)**

Company **L.D. DRILLING, INC.** Lease & Well No. **BETTY #2-12**
 Contractor **SKYTOP DRILLING, LLC. RIG 1** Charge to **L.D. DRILLING, INC.**
 Elevation **1894 GL EST.** Formation **LANSING H,I,J,K,L** Effective Pay _____ Ft. Ticket No. **M676**
 Date **7/16/2014** Sec. **12** Twp. _____ 6 S Range _____ 18 W County **ROOKS** State **KANSAS**
 Test Approved By **LOGAN WALKER** Diamond Representative **MIKE COCHRAN**

Formation Test No. **4** Interval Tested from **3194 ft.** to **3304 ft.** Total Depth **3304 ft.**
 Packer Depth **3189 ft.** Size **6 3/4 in.** Packer depth **NA ft.** Size **6 3/4 in.**
 Packer Depth **3194 ft.** Size **6 3/4 in.** Packer depth **NA ft.** Size **6 3/4 in.**

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) _____ 3181 ft. Recorder Number **0063** Cap. **6,000 P.S.I.**
 Bottom Recorder Depth (Outside) _____ 3196 ft. Recorder Number **E1150** Cap. **5,000 P.S.I.**
 Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type **CHEM** Viscosity _____ Drill Collar Length **143 ft.** I.D. **2 1/4 in.**
 Weight _____ Water Loss **7.6 cc.** Weight Pipe Length **0 ft.** I.D. **2 7/8 in.**
 Chlorides **1,000 P.P.M.** Drill Pipe Length **3024 ft.** I.D. **3 1/2 in.**
 Jars: Make **STERLING** Serial Number **SAFTEY JT** Test Tool Length **27 ft.** Tool Size **3 1/2-IF in.**
 Did Well Flow? **NO** Reversed Out **NO** Anchor Length **110 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.**

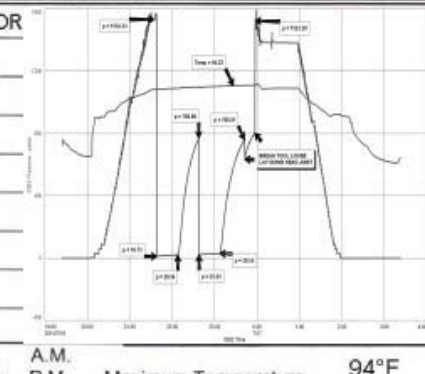
Blow: 1st Open: **WSB, INCREASE TO 1 1/4"** (NO BB)
 2nd Open: **VWSB, INCREASE TO 1/4"** (NO BB)

Recovered **25 ft.** of VSOSDM 100% MUD W/ A THIN SCUM OF OIL, SLIGHT ODOR
 Recovered **25 ft.** of TOTAL FLUID
 Recovered _____ ft. of _____
 Recovered _____ ft. of _____
 Recovered _____ ft. of _____
 Recovered _____ ft. of _____
 Remarks: _____

TOOL SAMPLE: 100% MUD W/ A VERY THIN SCUM OF OIL

Time Set Packer(s) **9:45 P.M.** A.M. P.M. Time Started Off Bottom **11:45 P.M.** A.M. P.M. Maximum Temperature **94°F**

Initial Hydrostatic Pressure _____ (A) **1532 P.S.I.**
 Initial Flow Period _____ Minutes **30** (B) **11 P.S.I. to (C)** **21 P.S.I.**
 Initial Closed In Period _____ Minutes **30** (D) **770 P.S.I.**
 Final Flow Period _____ Minutes **30** (E) **22 P.S.I. to (F)** **29 P.S.I.**
 Final Closed In Period _____ Minutes **30** (G) **761 P.S.I.**
 Final Hydrostatic Pressure _____ (H) **1522 P.S.I.**



ROCK TYPES

- Lmst fw<7
- Lmst fw>7
- shale, grn
- shale, gry
- Carbon Sh
- shale, red
- Ss

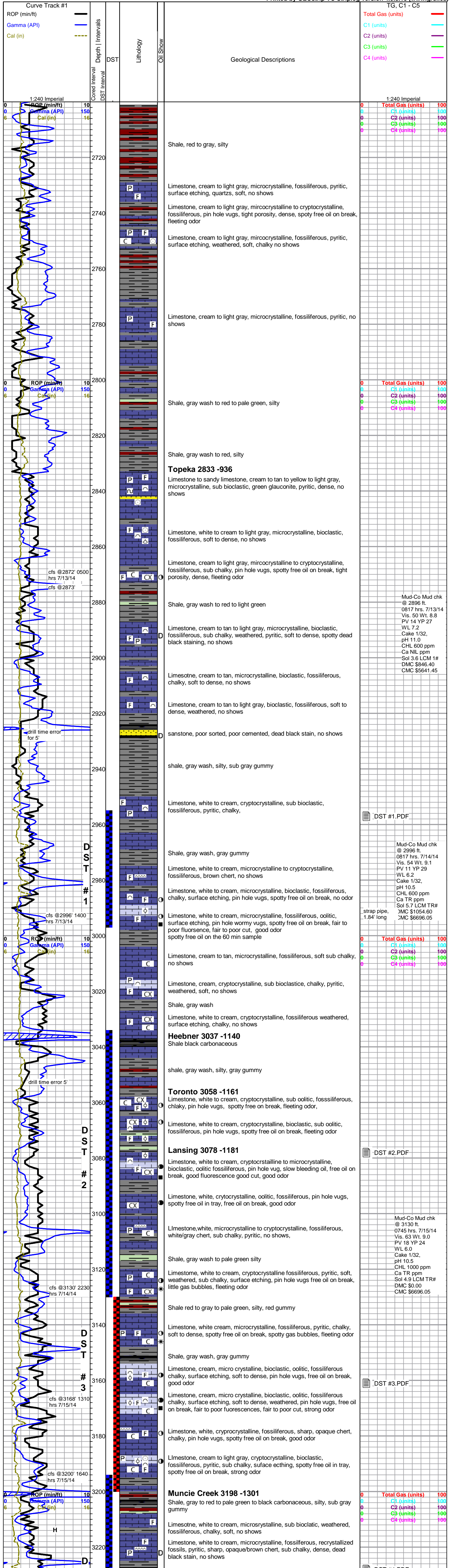
ACCESSORIES

- MINERAL**
 n Glauconite
 P Pyrite
- FOSSIL**
 ^ Bioclastic or Fragmental
 Δ Brachiopod
 ○ Crinoids
 F Fossils < 20%
 φ Oolite
- STRINGER**
 ~~~ Chert
- TEXTURE**  
 C Chalky  
 CX Cryptocrystalline

**OTHER SYMBOLS**

- EVENTS**  
 J1 Casing Shoe  
 ▽ RTF  
 ▴ Sidewall  
 ▴ Left Casing Shoe  
 ▾ Right Casing Shoe
- INTERVALS**  
 ■ Core  
 · DST
- MISC**  
 DR Daily Report  
 📷 Digital Photo  
 📄 Document
- Oil Show**  
 ● Good Show  
 ● Fair Show  
 ○ Poor Show  
 ○ Spotted or Trace  
 ○ Questionable Stn  
 D Dead Oil Stn
- DST**  
 ■ DST Int  
 ● DST alt  
 ■ Core  
 ▮ tail pipe

- Folder
- Link
- Vertical Log File
- Horizontal Log File
- Core Log File
- Drill Cuttings Rpt
- Fluorescence
- Gas



| 1:240 Imperial |                   |     |
|----------------|-------------------|-----|
| 0              | Total Gas (units) | 100 |
| 0              | C1 (units)        | 100 |
| 0              | C2 (units)        | 100 |
| 0              | C3 (units)        | 100 |
| 0              | C4 (units)        | 100 |

| 1:240 Imperial |                   |     |
|----------------|-------------------|-----|
| 0              | Total Gas (units) | 100 |
| 0              | C1 (units)        | 100 |
| 0              | C2 (units)        | 100 |
| 0              | C3 (units)        | 100 |
| 0              | C4 (units)        | 100 |

| 1:240 Imperial |                   |     |
|----------------|-------------------|-----|
| 0              | Total Gas (units) | 100 |
| 0              | C1 (units)        | 100 |
| 0              | C2 (units)        | 100 |
| 0              | C3 (units)        | 100 |
| 0              | C4 (units)        | 100 |

| 1:240 Imperial |                   |     |
|----------------|-------------------|-----|
| 0              | Total Gas (units) | 100 |
| 0              | C1 (units)        | 100 |
| 0              | C2 (units)        | 100 |
| 0              | C3 (units)        | 100 |
| 0              | C4 (units)        | 100 |

Mud-Co Mud chk  
@ 2896 ft.  
0817 hrs. 7/13/14  
Vis. 50 Wt. 8.8  
PV 14 YP 27  
WL 7.2  
Cake 1/32,  
pH 11.0  
CHL 600 ppm  
Ca NIL ppm  
Sol 3.6 LCM 1#  
DMC \$846.40  
CMC \$5641.45

Mud-Co Mud chk  
@ 2996 ft.  
0817 hrs. 7/14/14  
Vis. 54 Wt. 9.1  
PV 11 YP 29  
WL 6.2  
Cake 1/32,  
pH 10.5  
CHL 600 ppm  
Ca TR ppm  
Sol 5.7 LCM TR#  
\_strap pipe, JMC \$1054.60  
\_1.84' long JMC \$6696.05

Mud-Co Mud chk  
@ 3130 ft.  
0745 hrs. 7/15/14  
Vis. 63 Wt. 9.0  
PV 18 YP 24  
WL 6.0  
Cake 1/32,  
pH 10.5  
CHL 1000 ppm  
Ca TR ppm  
Sol 4.9 LCM TR#  
DMC \$0.00  
CMC \$6696.05

Mud-Co Mud chk  
@ 3130 ft.  
0745 hrs. 7/15/14  
Vis. 63 Wt. 9.0  
PV 18 YP 24  
WL 6.0  
Cake 1/32,  
pH 10.5  
CHL 1000 ppm  
Ca TR ppm  
Sol 4.9 LCM TR#  
DMC \$0.00  
CMC \$6696.05

