



Mudgrove

Petroleum Geology
212 Main Street, Claflin KS

NOTES

Company: Webco Oil Company, Inc.

Lease: Alan Woydziak #1

Field: Unknown

Location: SW-NE-NE-NW (382' FNL & 2155' FWL)

Sec: 36 Twsp: 15S Rge: 12W

County: Russell State: Kansas

KB: 1868' GL: 1860'

Contractor: Southwind Drilling, Inc. (Rig #3)

Spud: 1/19/2017 Comp: 1/25/2017

RTD: 3410' LTD: 3409'

Mud Up: 2500' Type Mud: Chemical

API #: 15-167-24052-00-00

Samples Saved From: 2500' to RTD

Drilling Time Kept From: 2500' to RTD

Samples Examined From: 2500' to RTD

Geological Supervision from: 2500' to RTD

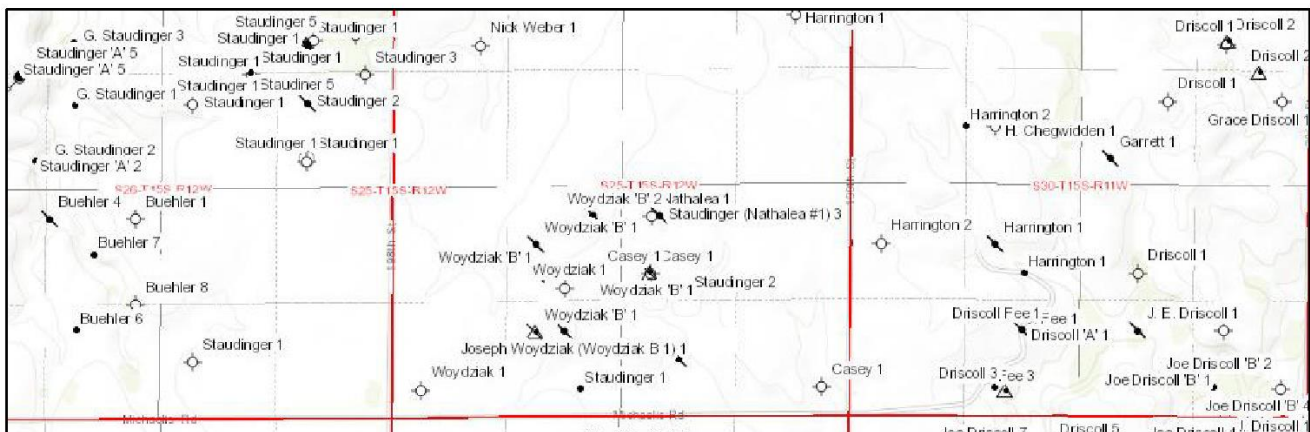
Geologist on Well: Wyatt Urban

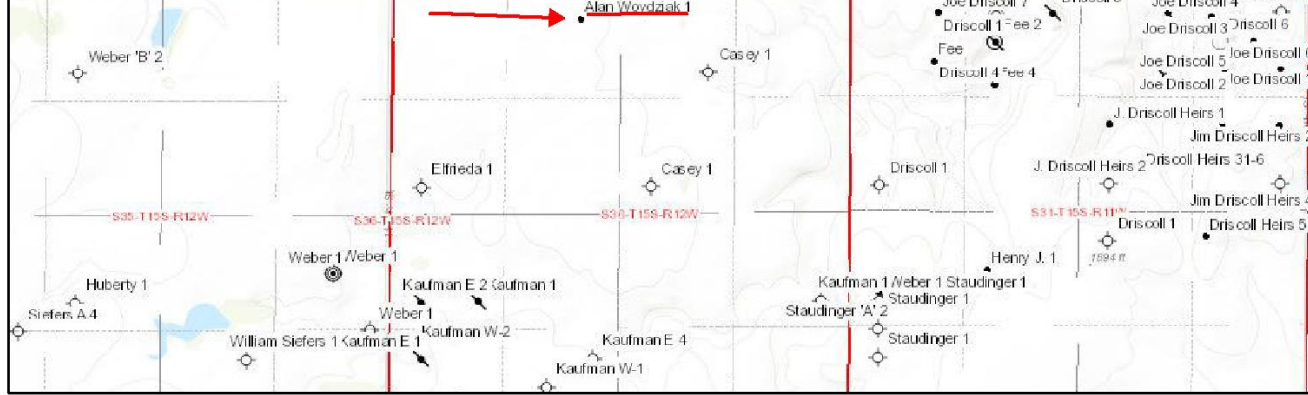
Surface Casing: 8 5/8@ 462'

Production Casing: 5 1/2@ 3408'

Electronic Surveys: Logged by ELI : DIL, MEL, CDL/CNL, BHCS

Webco Oil - Alan Woydziak #1

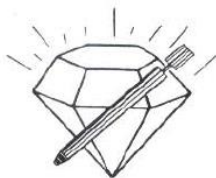




January 27, 17

Webco Oil Co. Inc.

DRILLING WELL					COMPARISON WELL				COMPARISON WELL			
WEBCO OIL-ALAN WOYDZIAK					H&D EXPLORATION - STAUDINGER #1				Yellow Cab- Case #1			
SW-NE-NE-NW 36-15S-12W					W2-SE-SE-SW 25-15S-12W				SE-NW-NE 36-15S-12W			
1868 KB					1863 KB				1846 KB			
					Structural Relationship				Structural Relationship			
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
Anhydrite	766	1102	762	1106	758	1105	-3	1	740	1106	-4	0
B. Anhydrite	790	1078	789	1079	787	1076	2	3				
Severy	2637	-769	2634	-766								
Topeka	2650	-782	2647	-779								
Heebner	2933	-1065	2929	-1061	2924	-1061	-4	0	2930	-1084	19	23
Toronto	2951	-1083	2947	-1079	2941	-1078	-5	-1	2968	-1122	39	43
Douglas	2963	-1095	2960	-1092	2953	-1090	-5	-2				
Brown Lime	3025	-1157	3021	-1153	3014	-1151	-6	-2	3030	-1184	27	31
Lansing	3037	-1169	3031	-1163	3030	-1167	-2	4	3030	-1184	15	21
Base KC	3295	-1427	3293	-1425	3290	-1427	0	2				
Conglomerate	3315	-1447	3308	-1440	3308	-1445	-2	5				
Arbuckle	3338	-1470	3335	-1467	3352	-1489	19	22	3383	-1537	67	70
RTD	3410	-1542	3410	-1542	3375	-1512	-30	-30	3400	-1554	12	12
LTD	3409	-1541	3409	-1541	3376	-1513	-28	-28				



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

TIME ON: 0635
TIME OFF: 1210

DRILL-STEM TEST TICKET
FILE: A.WOYDZIAK#1DST#1

Company WEBCO OIL COMPANY INC Lease & Well No. ALAN WOYDZIAK #1
Contractor SOUTHWIND DRILLING RIG 3 Charge to WEBCO OIL COMPANY INC
Elevation 1860 SURVEYED Formation LANS A-F Effective Pay _____ Ft. Ticket No. P0154
Date 1-23-17 Sec. 36 Twp. _____ 15 S Range _____ 12 W County RUSSELL State KANSAS
Test Approved By WYATT URBAN Diamond Representative Michael Carroll

Formation Test No. 1 Interval Tested from 3027 ft. to 3115 ft. Total Depth 3115 ft.
Packer Depth 3022 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
Packer Depth 3027 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) _____ 3015 ft. Recorder Number _____ 5950 Cap. _____ 5000 P.S.I.
Bottom Recorder Depth (Outside) _____ 3095 ft. Recorder Number _____ 0230 Cap. _____ 5000 P.S.I.
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type Chem Viscosity 70 Drill Collar Length _____ 0 ft. I.D. _____ 2 1/4 in.
Weight 8.8 Water Loss _____ 8.0 cc. Weight Pipe Length _____ 0 ft. I.D. _____ 2 7/8 in.
Chlorides 2300 P.P.M. Drill Pipe Length _____ 3002 ft. I.D. _____ 3 1/2 in.

Jars: Make STERLING Serial Number NA Test Tool Length 25 ft. Tool Size 3 1/2-IF in
 Did Well Flow? NO Reversed Out NO Anchor Length 88(25.5A) 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: 1/4" BLOW-BUILT TO 2 1/2" IN 30 MINUTES NOBB
 2nd Open: WSB-BUILT TO 1 1/4" IN 45 MINUTES NOBB

Recovered 35 ft. of MUD 100%M WITH A TRACE OF OIL > 1% OIL
 Recovered 35 ft. of TOTAL FLUID
 Recovered _____ ft. of _____
 Recovered _____ ft. of _____
 Recovered _____ ft. of _____
 Recovered _____ ft. of _____
 Remarks: TOOL SAMPLE: 8%O 92%M

	Price Job
	Other Charges
	Insurance
	Total

Time Set Packer(s) 8:20A.M. A.M. P.M. Time Started Off Bottom 10:50A.M. A.M. P.M. Maximum Temperature 97
 Initial Hydrostatic Pressure..... (A) 1453 P.S.I.
 Initial Flow Period..... Minutes 30 (B) 13 P.S.I. to (C) 20 P.S.I.
 Initial Closed In Period..... Minutes 30 (D) 785 P.S.I.
 Final Flow Period..... Minutes 45 (E) 22 P.S.I. to (F) 28 P.S.I.
 Final Closed In Period..... Minutes 45 (G) 765 P.S.I.
 Final Hydrostatic Pressure..... (H) 1433 P.S.I.



DIAMOND TESTING
 P.O. Box 157
HOISINGTON, KANSAS 67544
 (800) 542-7313
DRILL-STEM TEST TICKET
 FILE: A.WOYDZIAK#1DST#2

TIME ON: 2255 1-23
 TIME OFF: 0415 1-24

Company WEBCO OIL COMPANY INC Lease & Well No. ALAN WOYDZIAK #1
 Contractor SOUTHWIND DRILLING RIG 3 Charge to WEBCO OIL COMPANY INC
 Elevation 1860 SURVEYED Formation LANS/KC H-J Effective Pay _____ Ft. Ticket No. P0155
 Date 1-23-17 Sec. 36 Twp. 15 S Range 12 W County RUSSELL State KANSAS
 Test Approved By WYATT URBAN Diamond Representative Michael Carroll

Formation Test No. 2 Interval Tested from 3184 ft. to 3240 ft. Total Depth 3240 ft.
 Packer Depth 3179 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
 Packer Depth 3184 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
 Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 3172 ft. Recorder Number 5950 Cap. 5000 P.S.I.
 Bottom Recorder Depth (Outside) 3221 ft. Recorder Number 0230 Cap. 5000 P.S.I.
 Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type Chem Viscosity 58 Drill Collar Length 0 ft. I.D. 2 1/4 in.
 Weight 9.1 Water Loss 8.0 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in
 Chlorides 2000 P.P.M. Drill Pipe Length 3159 ft. I.D. 3 1/2 in
 Jars: Make STERLING Serial Number NA Test Tool Length 25 ft. Tool Size 3 1/2-IF in
 Did Well Flow? NO Reversed Out NO Anchor Length 56(24.5A) 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-BUILT TO 1/4" IN 30 MINUTES NOBB
 2nd Open: NO BLOW-NO BUILD NOBB

Recovered 5 ft. of SLOCM 1%O 99%M
 Recovered 5 ft. of TOTAL FLUID
 Recovered _____ ft. of _____

Recovered _____ ft. of _____	Price Job
Recovered _____ ft. of _____	Other Charges
Remarks: <u>TOOL SAMPLE:2%O 98%M</u>	Insurance
	Total

Time Set Packer(s) 12:12 A.M. ^{A.M.}/_{P.M.} Time Started Off Bottom 2:57 A.M. ^{A.M.}/_{P.M.} Maximum Temperature 99

Initial Hydrostatic Pressure..... (A) 1538 P.S.I.

Initial Flow Period..... Minutes 30 (B) 11 P.S.I. to (C) 12 P.S.I.

Initial Closed In Period..... Minutes 30 (D) 62 P.S.I.

Final Flow Period..... Minutes 45 (E) 12 P.S.I. to (F) 13 P.S.I.

Final Closed In Period..... Minutes 60 (G) 56 P.S.I.

Final Hydrostatic Pressure..... (H) 1529 P.S.I.



DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313
DRILL-STEM TEST TICKET
FILE: A.WOYDZIAK#1DST#3

TIME ON: 1755 1-24
TIME OFF: 0025 1-25

Company WEBCO OIL COMPANY INC Lease & Well No. ALAN WOYDZIAK #1

Contractor SOUTHWIND DRILLING RIG 3 Charge to WEBCO OIL COMPANY INC

Elevation 1860 SURVEYED Formation ARBUCKLE Effective Pay _____ Ft. Ticket No. P0156

Date 1-24-17 Sec. 36 Twp. _____ 15 S Range _____ 12 W County RUSSELL State KANSAS

Test Approved By WYATT URBAN Diamond Representative Michael Carroll

Formation Test No. 3 Interval Tested from 3290 ft. to 3347 ft. Total Depth 3347 ft.

Packer Depth 3285 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Packer Depth 3290 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 3278 ft. Recorder Number 5950 Cap. 5000 P.S.I.

Bottom Recorder Depth (Outside) 3327 ft. Recorder Number 0230 Cap. 5000 P.S.I.

Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type Chem Viscosity 49 Drill Collar Length 0 ft. I.D. 2 1/4 in.

Weight 9.4 Water Loss 8.8 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.

Chlorides 4000 P.P.M. Drill Pipe Length 3265 ft. I.D. 3 1/2 in.

Jars: Make STERLING Serial Number NA Test Tool Length 25 ft. Tool Size 3 1/2-IF in.

Did Well Flow? NO Reversed Out NO Anchor Length 57(25.5A) 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: 1" BLOW-BUILT TO BOB IN 4 MINUTES 22 SECONDS NOBB

2nd Open: 1" BLOW-BUILT TO BOB IN 5 MINUTES 10 SECONDS NOBB

Recovered 10 ft. of CLEAN OIL GRAVITY 36 @ 60 DEGREES CHLORIDES 16000 PPM

Recovered 378 ft. of SLGCOCMCW 4%G 30%O 41%W 25%M RW .63 @ 50 DEGREES

Recovered 630 ft. of MCOCW 20%O 67%W 13%M PH 7

Recovered 126 ft. of MCW 89%W 11%M

Recovered <u>1144</u> ft. of <u>TOTAL FLUID</u>	Price Job
Recovered _____ ft. of _____	Other Charges
Remarks: <u>TOOL SAMPLE:2%O 98%W</u>	Insurance
	Total

Time Set Packer(s) 7:40 P.M. ^{A.M.}/_{P.M.} Time Started Off Bottom 10:25 P.M. ^{A.M.}/_{P.M.} Maximum Temperature 113








Initial Hydrostatic Pressure..... (A) 1595 P.S.I.

Initial Flow Period..... Minutes 30 (B) 31 P.S.I. to (C) 237 P.S.I.

Initial Closed In Period..... Minutes 30 (D) 1070 P.S.I.
 Final Flow Period..... Minutes 45 (E) 240 P.S.I. to (F) 481 P.S.I.
 Final Closed In Period..... Minutes 60 (G) 1072 P.S.I.
 Final Hydrostatic Pressure..... (H) 1581 P.S.I.

Diamond Tooling shall not be liable for damage of any kind to the property or personnel of the user for whom a test is made or for any loss suffered or sustained directly or indirectly through

ROCK TYPES

 Chtcong1
  Lmst fw<7
  shale, gry
  shale, red
 Dolprim
  shale, grn
  Carbon Sh

OTHER SYMBOLS

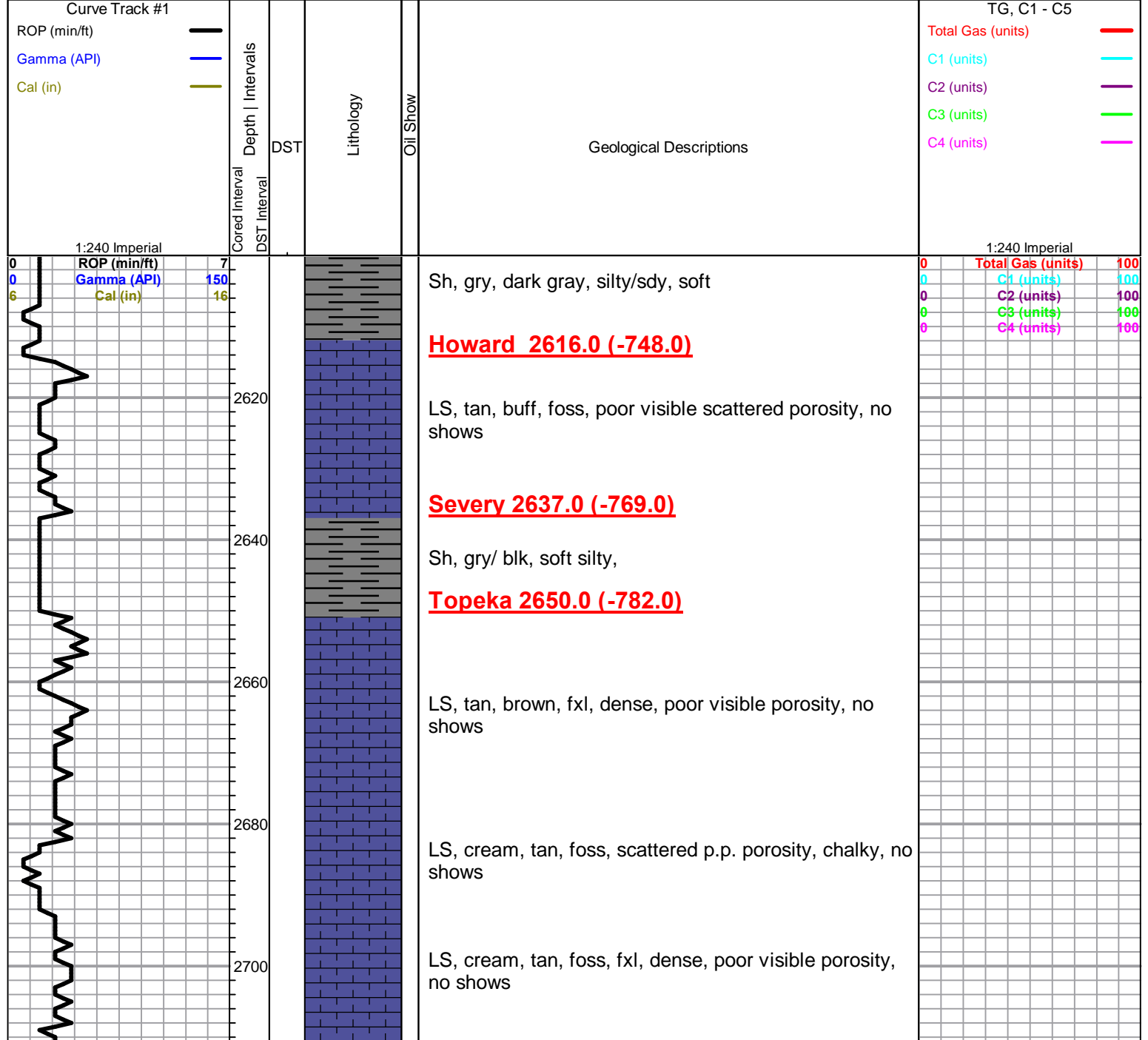
Oil Show

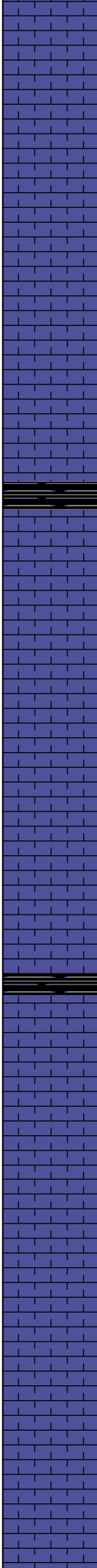
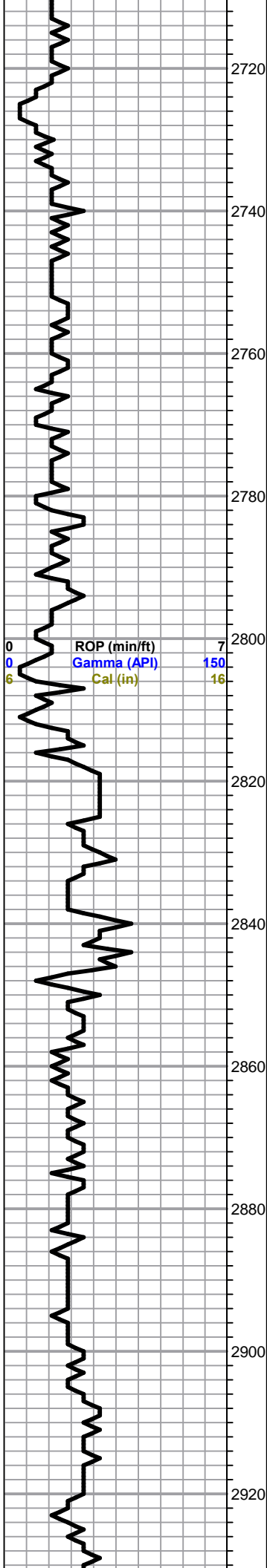
- Good Show
- Fair Show
- Poor Show
- Spotted or Trace
- Questionable Stn
- D Dead Oil Stn
- Fluorescence
- * Gas

DST

- DST Int
- DST alt
- Core
- tail pipe

Printed by GEOstrip VC Striplog version 4.0.8.15 (www.grsi.ca)





LS, tan, gry, fxl, dense, cherty in pts, no shows

LS, cream, tan, foss, scattered vuggy porosity, v. chalky, no shows

LS, tan, brn, fxl, dense poor visible porosity, cherty in pts, no shows

LS, gry, foss, poor visible porosity, chalky in pts, no shows

Black carb Sh.

LS, tan, few foss, fair scattered porosity, fair inxln porosity, v. chalky, no shows

LS, a/a

LS, tan, buff, fxl, dense, poor visible porosity, cherty in pts, no shows

LS, gry, tan, fxl, poor scattered p.p. porosity, no shows, no odor

LS, tan, oom, poorly developed, poor scattered p.p. porosity, no shows, no odor

LS, cream, tan, poor scattered porosity, chalky, no shows, no odor

Plattsmouth 2885.0 (-1017.0)

LS, tan, foss/ool, poorly developed, poor scattered porosity, v. chalky, no shows, lt. black stain

LS, tan, few foss, scattered porosity, chalky, no shows

0	Total Gas (units)	100
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100

Hudson Shale 2920.0 (-1025.0)

Heebner Shale 2933.0 (-1065.0)

Black carb Sh

Sh, soft gray, mica

Toronto 2951.0 (-1083.0)

LS, tan, white/cream, fxl, poor scattered visible porosity, trc. sfo, lt. black stain, faint odor

Douglas Shale 2963.0 (-1095.0)

Sh, gry, greenish, red, few soft

Sh, gry, maroon, greenish, trc. sd, gry, vfg, well sorted, sub rounded, no shows, no odor

Sh, a/a, sd. gry, clear, fg, well sorted, sub rounded, nsfo, trc. black stain

Brown Lime 3025.0 (-1157.0)

LS, brown, fxl, dense, poor visible porosity, cherty, no shows

Lansing 3037.0 (-1169.0)

LS, cream, foss/ool, fxl, poor scattered p.p. porosity, v. chalky, sfo, faint odor, golden brown stain

LS, cream, tan, fxl, poor visible p.p. porosity, no shows

LS, tan, oom, good vuggy oom porosity, nsfo, no odor (barren)

LS, tan, fxl, dense, poor visible porosity, no shows, no odor

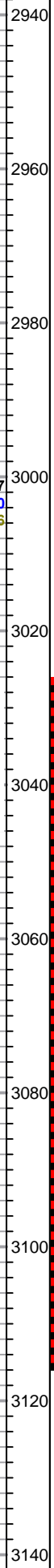
LS, cream, white, foss, f-med xln, scattered visible porosity, sfo, odor

LS, cream, white, foss, poor visible porosity, v. chalky, sfo, faint odor

LS, tan, buff, foss, poorly developed, scattered p.p. porosity, no shows, no odor

LS, tan, oom, good vuggy oom porosity, chalky, no shows

LS, tan, oom, good vuggy oom porosity, chalky, no shows



ROP (min/ft) 7
Gamma (API) 150
Cal (in) 16

**D
S
T

1**

0
0
6

Total Gas (units) 100
C1 (units) 100
C2 (units) 100
C3 (units) 100
C4 (units) 100

DST#1 3027-3115

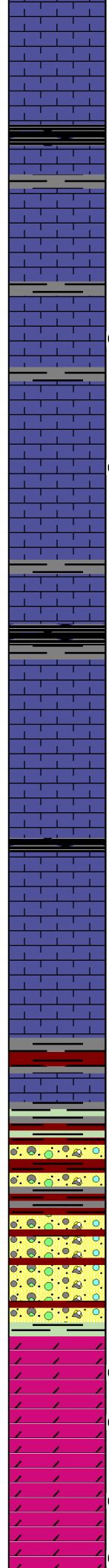
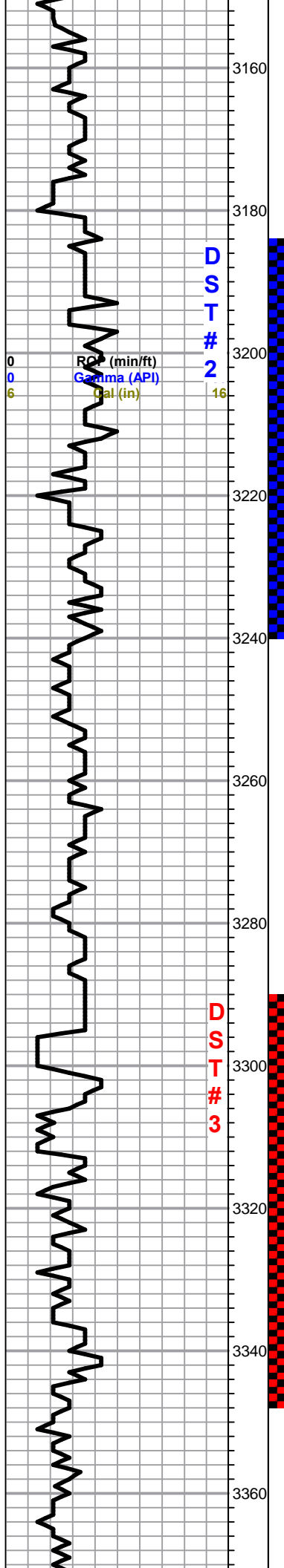
30-30-45-45

1st Open:
Weak blow built to 2.5"

2nd Open:
Weak blow 1 1/4"

Recovery:
35' Mud with trc of oil

Pressures:
ISIP 785 psi
FSIP 765 psi
IFP 13-20 psi
FFP 22-28 psi
HSH 1453-1433



LS, tan, gry, fxl, dense, poor visible porosity, no shows, no odor

Black carb Sh.

LS, tan, few oom/ool, poorly developed, poor scattered porosity, no shows

LS, tan, ool, poorly developed, poor inxln porosity, v. chalky in pts, no shows, no odor, trc. black stain

LS, cream, white, ool, poorly developed, poor scattered vuggy porosity, sfo, fair odor, lt. black stain

LS, gry, tan, fxl, dense, poor visible porosity, cherty, no shows

Sh, black, gry/dk gry

LS, tan, ool, poorly developed, poor visible porosity, chalky, no shows, no odor,

LS, tan, buff, foss, poor scattered porosity, no shows, no odor

Sh, black, gry/dk gry

LS, tan, fxl, dense, poor visible porosity, no shows

LS, a/a

Base Kansas City 3295.0 (-1427.0)

Sh, maroon, greenish, waxey

Conglomerate 3315.0 (-1447.0)

Sh, maroon, gry, soft, cherts, orange, white, opaque, nsfo, odor???

Sh, a/a, cherts, white, greenish, opque, few ool. no shows, odor???

A/A, trc. soft aqua green shale, odor???

Arbuckle 3338.0 (-1470.0)

Dol. white, fine-med, xln, good inxln prosity, sfo, strong odor

Dol. white, cream, white, med xln, good inxln porosity, sfo, strong odor

Dol. white,lg-med xln,fair scattered porosity, coarse grained, good inxln porosity, sfo, faint odor

Dol. white, cream, med xln, poor-fair scattered

DST#2 3184-3240

30-30-45-60

1st Open:
Weak Blow 1/4"

Recovery

5' SLOCM
(1%O, 99%M)

Pressures:

ISIP 62 psi
FSIP 56 psi
IFP 11-12 psi
FFP 12-13 psi
HSH 1538-1529 psi

DST #3 3290-3347

30-30-45-60

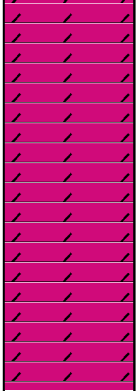
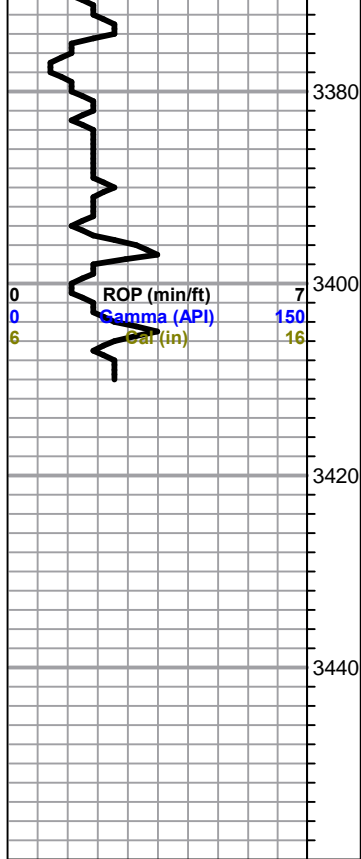
1st Open:
BOB 4 mins

2nd Open:
BOB 5 mins

Recovery:
10' Clean Oil

378'
SLGCOCMCW
(4%G, 30%O, 41%
W, 25%M)

630' MCOCW
(20%O, 67%W,
13%M)



porosity, decreasing sfo, faint odor

Dol. white, f-med xln, poor visible porosity, poor inxln porosity, no shows

Dol. white, cream, fxl, poor-fair inxln porosity, no shows, few qtz grains, trc. pyrite

LTD 3409.0 (-1541.0)

RTD 3410.0 (-1542.0)

126' MCW
(89%W, 11%M)

Pressures:
ISIP 1070 psi
FSIP 1072 psi
IFP 31-237 psi
FFP 240-481 psi
HSH 1595-1581 psi

0 100
C4 (units) 100