



Joshua R. Austin

Petroleum Geologist

report for

L.D. DRILLING, INC.



COMPANY: L.D. Drilling, Inc.

LEASE: Kitzmiller #1-33

FIELD: N/A

LOCATION: E2-Ne-Nw-Ne (330' FNL & 1426' FEL)

SEC: 33 TWSP: 22s RGE: 11w

COUNTY: Stafford STATE: Kansas

KB: 1803' GL: 1798'

API # 15-185-23863-00-00

CONTRACTOR: Petromark Drilling, LLC

Spud: 03/24/2014

Comp: 03/31/2014

RTD: 3700'

LTD: 3697'

Mud Up: 2800'

Type Mud: Chemical was displaced

Samples Saved From: 2900'to RTD

Drilling Time Kept From: 2900' to RTD

Samples Examined From: 2900' to RTD

Geological Supervision From: 3000'to RTD

Geologist on Well: Josh Austin

Surface Casing: 8 5/8" @ 332'

Production Casing: none

Electronic Surveys: Pioneer Energy Services

L.D. Drilling, Inc.

well comparison sheet

DRILLING DRILLING WELL	COMPARISON WELL
Kitzmiller 1-33	Giedinghagen 1
	Structural

1803 KB					1798 KB		Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log
Heebner	3068	-1265	3068	-1265	3069	-1271	6	6
Toronto	3088	-1285	3086	-1283	3088	-1290	5	7
Douglas	3101	-1298	3100	-1297	3102	-1304	6	7
Brown Lime	3210	-1407	3208	-1405	3209	-1411	4	6
Lansing	3237	-1434	3239	-1436	3238	-1440	6	4
Base KC	3488	-1685	3487	-1684	3491	-1693	8	9
Viola	3526	-1723	3528	-1725	3535	-1737	14	12
Simpson Shale	3568	-1765	3566	-1763	3571	-1773	8	10
Arbuckle	3634	-1831	3632	-1829	3636	-1838	7	9
Total Depth	3700	-1897	3697	-1894	3644	-1846		

NOTES



DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313
DRILL-STEM TEST TICKET
FILE: STC/Kitzmiller1-33dst1

TIME ON: 16:30:00 3/28/2014
TIME OFF: 22:00 3/28/2014

Company L D DRILLING INC. Lease & Well No. KITZMILLER 1-33

Contractor PETROMARK DRILLING RIG 2 Charge to L D DRILLING IMC.

Elevation 1783 K.B Formation LKC "B-F" Effective Pay _____ Ft. Ticket No. j3212

Date 3/28/14 Sec. 33 Twp. 22 S Range 11 W County STAFFORD State KANSAS

Test Approved By JOSH AUSTIN Diamond Representative JOHN RIEDL

Formation Test No. 1 Interval Tested from 3245 ft. to 3325 ft. Total Depth 3325 ft.

Packer Depth 3240 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Packer Depth 3245 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 3248 ft. Recorder Number 30046 Cap. 6000 P.S.I.

Bottom Recorder Depth (Outside) 3322 ft. Recorder Number 6731 Cap. 5000 P.S.I.

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

Mud Type CHEMICAL Viscosity 49 Drill Collar Length 120 ft. I.D. 2 1/4 in.

Weight 9 Water Loss 8 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.

Chlorides 4,000 P.P.M. Drill Pipe Length 3125 ft. I.D. 3 1/2 in.

Jars: Make STERLING Serial Number NOT REQUESTED Test Tool Length 20 ft. Tool Size 3 1/2-IF in.

Did Well Flow? NO Reversed Out NO Anchor Length 80 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 (B.O.B 15 MIN.) **NO BB**

2nd Open: STRONG (B.O.B 25 MIN.) " "

Recovered 150 ft. of GIP

Recovered 30 ft. of OILSPKEDGM (20%GAS 80%MUD)

Recovered 60 ft. of G+MCO (20%GAS 30%MUD 50%OIL)

Recovered _____ ft. of _____

Recovered _____ ft. of _____

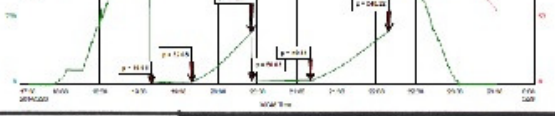
Recovered _____ ft. of _____

TOTAL FLUID REC: 00' (00' IN DRILL COLLAR)



Remarks: TOTAL FLUID REC: 90 (90 IN DRILL COLLAR)

TOOLSAMPLE GRINDOUT:20%MUD 80%OIL)



Time Set Packer(s) 5:35 P.M A.M. P.M. Time Started Off Bottom 8:45 P.M A.M. P.M. Maximum Temperature 99

Initial Hydrostatic Pressure..... (A) 1555 P.S.I.

Initial Flow Period..... Minutes 30 (B) 20 P.S.I. to (C) 32 P.S.I.

Initial Closed In Period..... Minutes 45 (D) 533 P.S.I.

Final Flow Period..... Minutes 45 (E) 50 P.S.I. to (F) 50 P.S.I.

Final Closed In Period..... Minutes 60 (G) 548 P.S.I.

Final Hydrostatic Pressure..... (H) 1523 P.S.I.



DIAMOND TESTING
 P.O. Box 157
HOISINGTON, KANSAS 67544
 (800) 542-7313
DRILL-STEM TEST TICKET
 FILE: STC/Kitzmilller1-33dst2

TIME ON: 12:30:00 3/29/2014
 TIME OFF: 17:15 3/29/2014

Company L D DRILLING INC. Lease & Well No. KITZMILLER 1-33

Contractor PETROMARK DRILLING RIG 2 Charge to L D DRILLING IMC.

Elevation 1783 K.B Formation LKC "H,I,J" Effective Pay _____ Ft. Ticket No. j3213

Date 3/29/14 Sec. 33 Twp. 22 S Range 11 W County STAFFORD State KANSAS

Test Approved By JOSH AUSTIN Diamond Representative JOHN RIEDL

Formation Test No. 2 Interval Tested from 3395 ft. to 3460 ft. Total Depth 3460 ft.

Packer Depth 3390 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Packer Depth 3395 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 3398 ft. Recorder Number 30046 Cap. 6000 P.S.I.

Bottom Recorder Depth (Outside) 3457 ft. Recorder Number 6731 Cap. 5000 P.S.I.

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

Mud Type CHEMICAL Viscosity 50 Drill Collar Length 120 ft. I.D. 2 1/4 in.

Weight 9.2 Water Loss 8 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.

Chlorides 5.000 P.P.M. Drill Pipe Length 3255 ft. I.D. 3 1/2 in.

Jars: Make STERLING Serial Number NOT REQUESTED Test Tool Length 20 ft. Tool Size 3 1/2-IF in.

Did Well Flow? NO Reversed Out NO Anchor Length 65 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 (2") NO BB

2nd Open: WEAK(1") " "

Recovered 100 ft. of DRILLING MUD

Recovered _____ ft. of _____

Recovered _____ ft. of _____

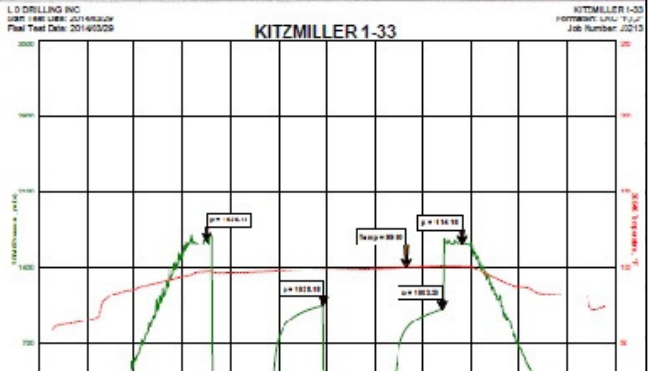
Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Remarks: TOTAL FLUID REC: 100' (100' IN DRILL COLLAR)

TOOLSAMPLE GRINDOUT:100 % DRILLING MUD





Time Set Packer(s) 1:45 P.M. A.M. P.M. Time Started Off Bottom 3:45 P.M. A.M. P.M. Maximum Temperature 100

Initial Hydrostatic Pressure..... (A) 1636 P.S.I.

Initial Flow Period..... Minutes 30 (B) 14 P.S.I. to (C) 40 P.S.I.

Initial Closed In Period..... Minutes 30 (D) 1038 P.S.I.

Final Flow Period..... Minutes 30 (E) 42 P.S.I. to (F) 61 P.S.I.

Final Closed In Period..... Minutes 30 (G) 1003 P.S.I.

Final Hydrostatic Pressure..... (H) 1614 P.S.I.



DIAMOND TESTING
 P.O. Box 157
HOISINGTON, KANSAS 67544
 (800) 542-7313
DRILL-STEM TEST TICKET
 FILE: STC/Kitzmiller1-33ds3

TIME ON: 05:50:00 3/30/2014
 TIME OFF: 12:00 3/30/2014

Company L D DRILLING INC. Lease & Well No. KITZMILLER 1-33

Contractor PETROMARK DRILLING RIG 2 Charge to L D DRILLING IMC.

Elevation 1783 K.B Formation SIMPSON Effective Pay _____ Ft. Ticket No. J3214

Date 3/30/14 Sec. 33 Twp. 22 S Range 11 W County STAFFORD State KANSAS

Test Approved By JOSH AUSTIN Diamond Representative JOHN RIEDL

Formation Test No. 3 Interval Tested from 3565 ft. to 3615 ft. Total Depth 3615 ft.

Packer Depth 3560 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Packer Depth 3565 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 3568 ft. Recorder Number 30046 Cap. 6000 P.S.I.

Bottom Recorder Depth (Outside) 3612 ft. Recorder Number 30037 Cap. 5000 P.S.I.

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

Mud Type CHEMICAL Viscosity 50 Drill Collar Length 120 ft. I.D. 2 1/4 in.

Weight 9.2 Water Loss 8 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.

Chlorides 5.000 P.P.M. Drill Pipe Length 3425 ft. I.D. 3 1/2 in.

Jars: Make STERLING Serial Number NOT REQUESTED Test Tool Length 20 ft. Tool Size 3 1/2-IF in.

Did Well Flow? NO Reversed Out NO Anchor Length 50 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 (B.O.B 1MIN.) **NO BB**

2nd Open: STRONG (B.O.B 1 MIN.) **WK BB**

Recovered 1400 ft. of GIP

Recovered 110 ft. of GM (30%GAS 70%MUD)

Recovered _____ ft. of _____

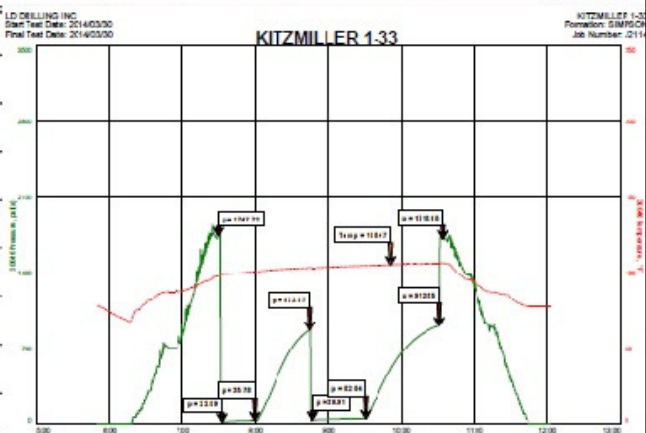
Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Remarks: TOTAL FLUID REC: 110' (110' IN DRILL COLLAR)

TOOLSAMPLE GRINDOUT:(1%OIL 15%GAS 84%MUD)



Time Set Packer(s) 7:30 A.M. A.M. P.M. Time Started Off Bottom 10:30 A.M. A.M. P.M. Maximum Temperature 105

Initial Hydrostatic Pressure..... (A) 1748 P.S.I.
 Initial Flow Period..... Minutes 30 (B) 22 P.S.I. to (C) 36 P.S.I.
 Initial Closed In Period..... Minutes 45 (D) 874 P.S.I.
 Final Flow Period..... Minutes 45 (E) 40 P.S.I. to (F) 53 P.S.I.
 Final Closed In Period..... Minutes 60 (G) 913 P.S.I.
 Final Hydrostatic Pressure..... (H) 1719 P.S.I.



DIAMOND TESTING
 P.O. Box 157
HOISINGTON, KANSAS 67544
 (800) 542-7313
DRILL-STEM TEST TICKET
 FILE: STC/Kitzmiller1-33dst4

TIME ON: 18:50:00 3/30/2014

TIME OFF: 01:40 3/31/2014

Company L D DRILLING INC. Lease & Well No. KITZMILLER 1-33
 Contractor PETROMARK DRILLING RIG 2 Charge to L D DRILLING INC.
 Elevation 1783 K.B Formation ARBUCKLE Effective Pay _____ Ft. Ticket No. J3215
 Date 3/30/14 Sec. 33 Twp. _____ Range 22 S County 11 W State STAFFORD State KANSAS
 Test Approved By JOSH AUSTIN Diamond Representative JOHN RIEDL

Formation Test No. 4 Interval Tested from 3567 ft. to 3637 ft. Total Depth 3637 ft.
 Packer Depth 3562 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
 Packer Depth 3567 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set _____
 Top Recorder Depth (Inside) 3570 ft. Recorder Number 30046 Cap. 6000 P.S.I.
 Bottom Recorder Depth (Outside) 3634 ft. Recorder Number 30037 Cap. 5000 P.S.I.
 Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

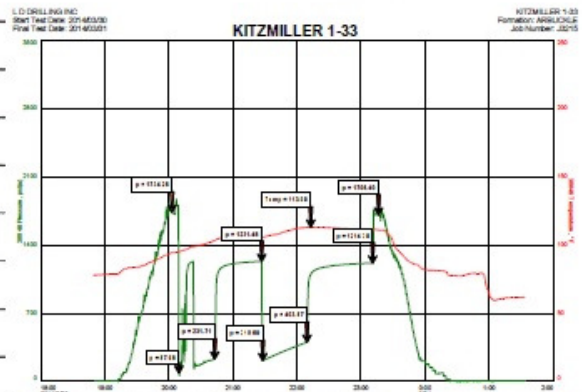
Mud Type CHEMICAL Viscosity 50 Drill Collar Length 120 ft. I.D. 2 1/4 in.
 Weight 9.2 Water Loss 8 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.
 Chlorides 5.000 P.P.M. Drill Pipe Length 3427 ft. I.D. 3 1/2 in.
 Jars: Make STERLING Serial Number NOT REQUESTED Test Tool Length 20 ft. Tool Size 3 1/2-IF in.
 Did Well Flow? NO Reversed Out NO Anchor Length 50 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 (B.O.B 15 MIN.) **NO BB**
 2nd Open: STRONG (B.O.B 28 MIN.) **NO BB**

Recovered 900 ft. of MW (30%MUD 70%WATER) CHLORIDES 27,000 Ppm

Recovered _____ ft. of _____
 Recovered _____ ft. of _____
 Recovered _____ ft. of _____
 Recovered _____ ft. of _____

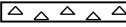




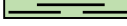


Remarks: TOTAL FLUID REC:900'
 Remarks: (120' IN DRILL COLLARS, 780' IN DRILL PIPE)
TOOLSAMPLE GRINDOUT:(100%WATER)



Time Set Packer(s) 8:10 P.M. A.M. P.M. Time Started Off Bottom 11:10 P.M. A.M. P.M. Maximum Temperature 113




Initial Hydrostatic Pressure.....	(A)	1734 P.S.I.
Initial Flow Period..... Minutes	30 (B)	88 P.S.I. to (C) 232 P.S.I.
Initial Closed In Period..... Minutes	45 (D)	1231 P.S.I.
Final Flow Period..... Minutes	45 (E)	217 P.S.I. to (F) 404 P.S.I.
Final Closed In Period..... Minutes	60 (G)	1214 P.S.I.
Final Hydrostatic Pressure.....	(H)	1706 P.S.I.

ROCK TYPES

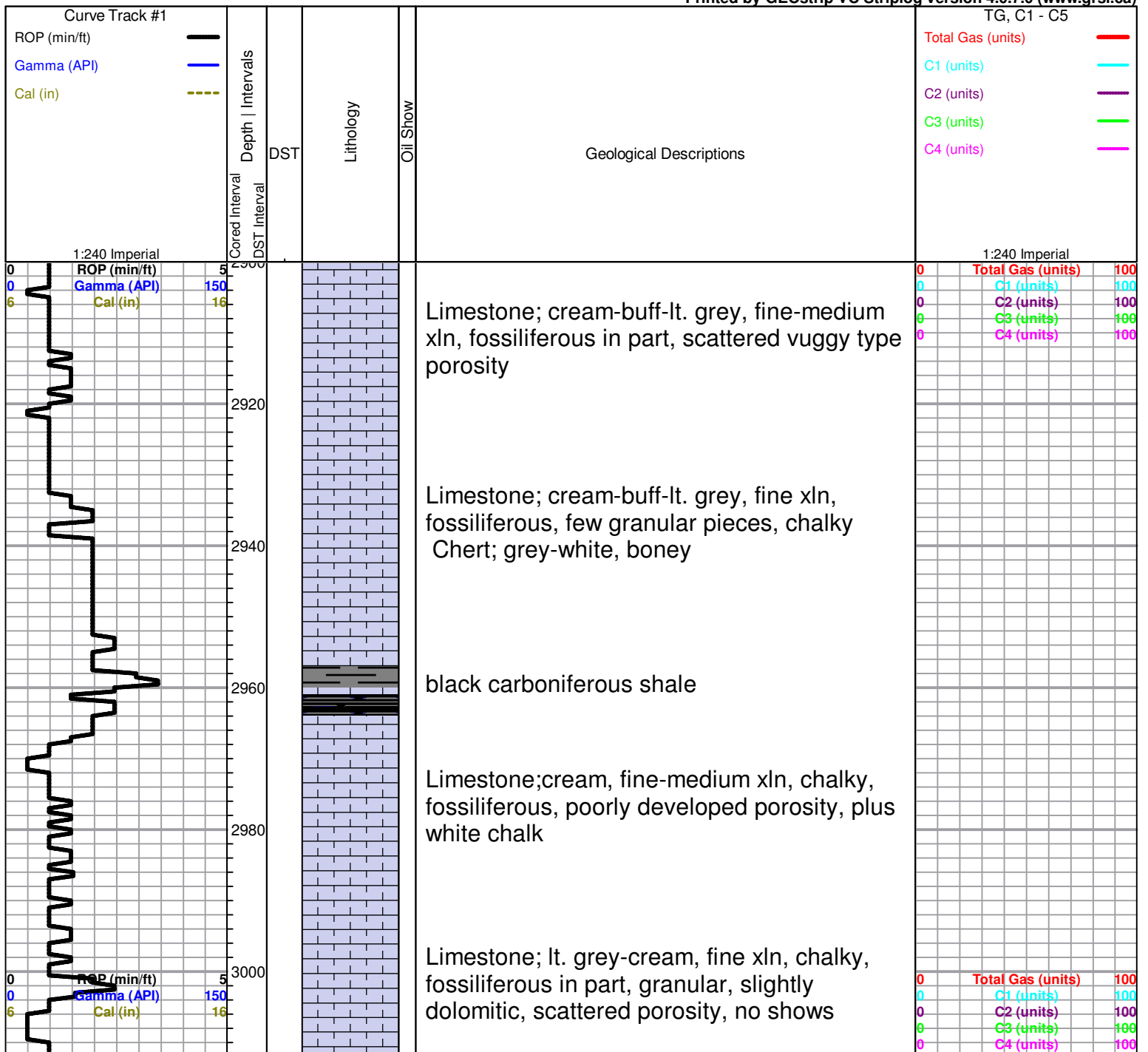
 Cht	 Lmst fw7>	 shale, gry	 Ss
 Dolsec	 shale, grn	 Carbon Sh	 Stst

OTHER SYMBOLS

DST

-  DST Int
-  DST alt
-  Core
-  tail pipe

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



3020
3040
3060
3080
3100
3120
3140
3160
3180
3200
3220

Limestone; cream-lt. grey, fine-medium xln, fossiliferous, poorly developed porosity, granular in part, few mottled pieces, no shows

Limestone; buff-tan-grey, fine xln, granular in part, dense, poor visible porosity, no shows, trace Chert; grey-opaque

HEEBNER 3068 (-1265)
Black Carboniferous Shale

grey-green shale

TORONTO 3088 (-1285)
Limestone; cream-tan, fine xln, chalky, poorly developed porosity, slightly dolomitic, no shows

DOUGLAS 3101 (-1298)
Shale; greyish green-grey-maroon, micaceous silty in part

Shale; grey-dark grey, micaceous, silty, trace grey siltstone, micaceous

Siltstone; greyish green, micaceous, shaley, plus Shale; grey-dark grey, micaceous, silty

Shale; grey-dark grey, soft, silty

Shale; grey-dark grey, soft, slightly micaceous

BROWN LIME 3210 (-1407)
Limestone; tan-brown, fine xln, dense, cherty

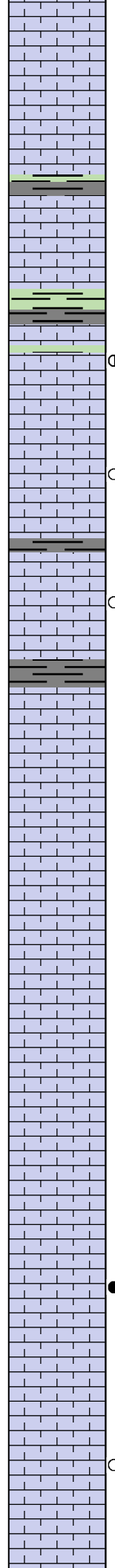
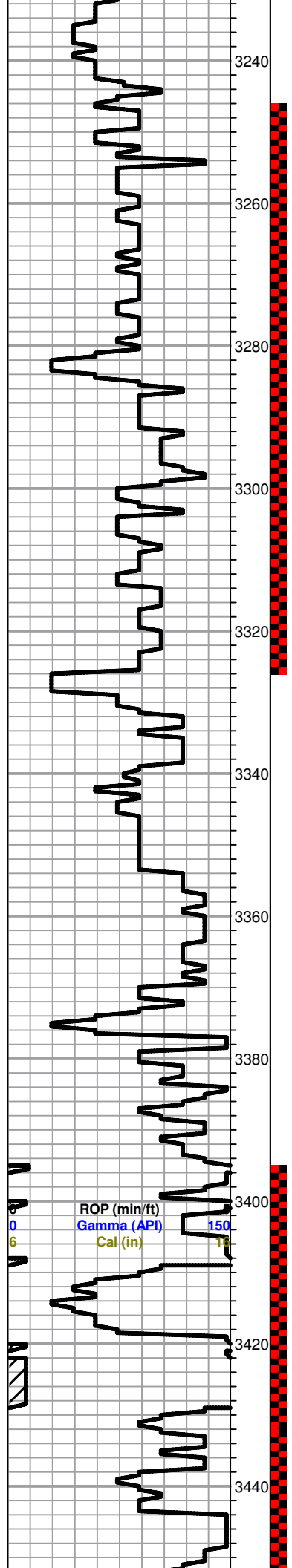
grey shale

LANSING 3229 (-1426)

KB 1803

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

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



Limestone; grey, fine-medium xln, chalky, few fossiliferous-oolitic pieces, no shows

Limestone; cream-grey, fossiliferous-oolitic, chalky, dense, poor porosity, no shows

Limestone; cream-white, fine xln, chalky, sparry calcite crystals in porosity, no shows

grey-maroon-green shale

Limestone; cream-tan-buff, fine-medium xln, chalky, fair inter xln-fossil cast porosity, brown-golden brown stain, lt. SFO, faint odor

Limestone; buff, grey, fine xln, fossiliferous in part, dense, poor visible porosity, trace spotty brown stain, NSFO, very faint odor

Limestone; tan-buff, medium xln, fair inter xln porosity, brown stain, SFO when sample broke, faint odor

Limestone; tan, buff, fossiliferous, fine-medium xln, slightly granular, fair-good vuggy type porosity, no shows

Limestone; cream-white, fine xln, chalky, dense

Limestone; cream-buff, fine xln, chalky, dense, poor porosity, no shows, plus white chalk

Limestone; cream, oomoldic, slightly granular, fair-good oomoldic porosity (barren)

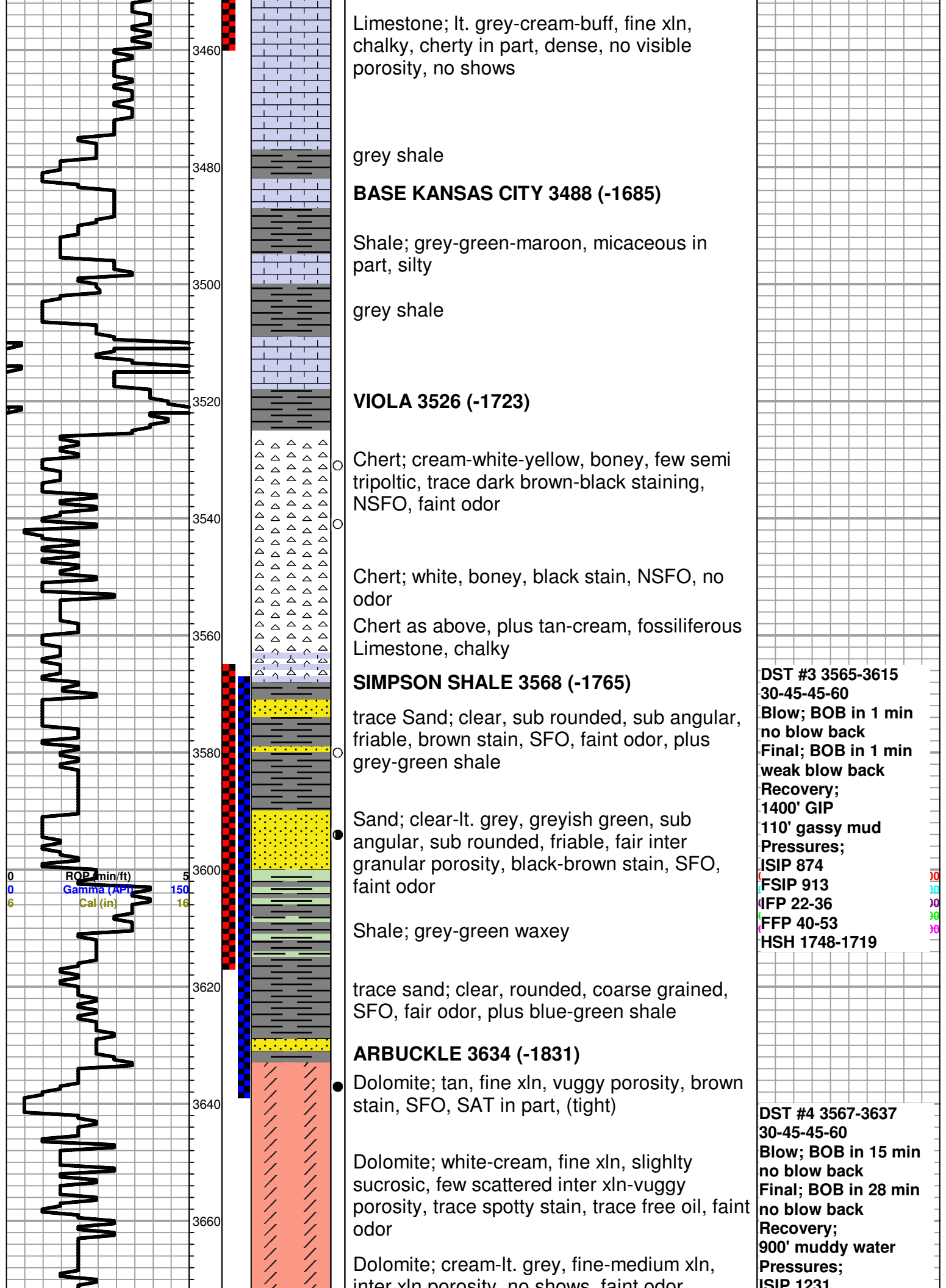
Limestone; white, cream, fossiliferous/oolitic, chalky, dense, poorly developed porosity, no shows

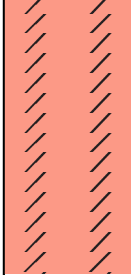
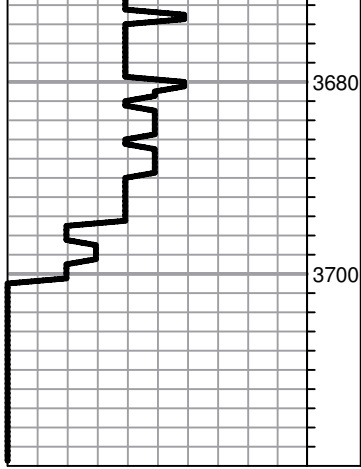
Limestone; grey, oomoldic, chalky in part, fair-good oomoldic porosity, lt brown-grey stain, SFO/SAT, very faint odor

Limestone; buff-tan, fine xln, dense, poor/no visible porosity, trace brown stain, NSFO, no odor

DST #1 3245-3325
30-45-45-60
Blow; BOB in 15 min
no blow back
Final; BOB in 25 min
no blow back
Recovery;
150' GIP
30' oil specked mud
(20%gas, 80%mud)
60' gas mud cut oil
(20%g, 30%m, 50%oil)
Pressures;
ISIP 533
FSIP 548
IFP 20-32
FFP 50-50
HSH 1555-1523

DST #2 3395-3460
30-30-30-30
Blow; Built to 2"
no blow back
Final; Built to 2"
weak blow back
Recovery;
100' mud
Pressures;
ISIP 1038
FSIP 1003
IFP 14-40
FFP 42-61
HSH 1636-1614





inter xln porosity, no shows, faint odor

Dolomite as above

Dolomite; tan-cream, medium xln, sucrosic in part, good inter xln porosity, no staining, trace spotty free oil, faint odor

ROTARY TOTAL DEPTH 3700' (-1897)

ICM 1251
FSIP 1214
IFP 88-232
FFP 217-404
HSH 1734-1706