

BLACK DIAMOND OIL INCORPORATED

Scale 1:240 Imperial

Well Name: GLENNEMEIER A #3
Surface Location: NW NW SE SE Sec. 21 - 5S - 21W
Bottom Location:
API: 15-137-20730
License Number: 7076
Spud Date: 5/19/2015 Time: 1:30 PM
Region: NORTON COUNTY KANSAS
Drilling Completed: 5/23/2015 Time: 3:10 AM
Surface Coordinates: 1005' FSL & 905' FEL
Bottom Hole Coordinates:
Ground Elevation: 2211.00ft
K.B. Elevation: 2216.00ft
Logged Interval: 3000.00ft To: 3655.00ft
Total Depth: 3654.00ft
Formation: GORHAM SAND
Drilling Fluid Type: FRESH WATER / CHEMICAL GEL

OPERATOR

Company: BLACK DIAMOND OIL, INC.
Address: P.O. BOX 641
HAYS, KS 67601

Contact Geologist: KENNETH VEHIGE
Contact Phone Nbr: (785) 625 - 5891
Well Name: GLENNEMEIER A #3
Location: NW NW SE SE Sec. 21 - 5S - 21W
API: 15-137-20730
Pool:
State: KANSAS

Field: WEST UNION
Country: USA

SURFACE CO-ORDINATES

Well Type: Vertical
Longitude: -99.687397
Latitude: 39.598943
N/S Co-ord: 1005' FSL
E/W Co-ord: 905' FEL

LOGGED BY



Company: BIG CREEK CONSULTING, INC.
Address: 1909 MAPLE
ELLIS, KS 67627

Phone Nbr: (785) 259-3737
 Logged By: Geologist

Name: JEFF LAWLER

CONTRACTOR

Contractor: WW DRILLING, LLC
 Rig #: 6
 Rig Type: MUD ROTARY
 Spud Date: 5/19/2015
 TD Date: 5/23/2015
 Rig Release: 5/24/2015

Time: 1:30 PM
 Time: 3:10 AM
 Time: 7:30 PM

ELEVATIONS

K.B. Elevation: 2216.00ft
 K.B. to Ground: 5.00ft
 Ground Elevation: 2211.00ft

NOTES


DUE TO ECONOMICAL RECOVERY ON DST #1 5 1/2" PRODUCTION CASING WAS RAN TO FURTHER EVALUATE THE GORHAM SAND.

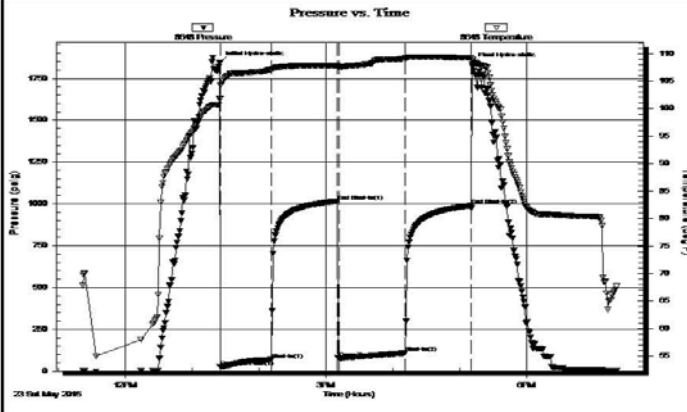
RESPECTFULLY SUBMITTED,
 JEFF LAWLER

WELL COMPARISON SHEET

FORMATION	GLENNEMEIER A #3				W2 SE SW 21-5-21				SE SE SW 21-5-22				P&A 1-84				NE 28-5-21				SW SW SW 22-5-21							
	KB		GL		KB		2266		KB		2215		KB		2324		KB		2261		KB		2261					
	LOG TOPS		SAMPLE TOPS		LOG		LOG		SMPL.		LOG		LOG		SMPL.		COMP. CARD		LOG		SMPL.		COMP. CARD		LOG		SMPL.	
	DEPTH	DATUM	DEPTH	DATUM	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.	DEPTH	DATUM	CORR.	CORR.
ANHYDRITE TOP	1814	402	1813	403	1864	402	+ 0 + 1	1813	402	+ 0 + 1																		
BASE	1843	373	1844	372	1892	374	- 1 - 2	1842	373	+ 0 - 1																		
TOPEKA	3165	-949	3164	-948	3213	-947	- 2 - 1	3158	-943	- 6 - 5																		
HEEBNER SHALE	3368	-1152	3367	-1151	3415	-1149	- 3 - 2	3363	-1148	- 4 - 3	3471	-1147	- 5 - 4	3405	-1144	- 8 - 7												
TORONTO	3394	-1178	3392	-1176	3441	-1175	- 3 - 1	3390	-1175	- 3 - 1	3499	-1175	- 3 - 1	3431	-1170	- 8 - 6												
LKC	3413	-1197	3412	-1196	3461	-1195	- 2 - 1	3407	-1192	- 5 - 4	3517	-1193	- 4 - 3	3449	-1188	- 9 - 8												
BKC	3601	-1385	3595	-1379	3646	-1380	- 5 + 1	3593	-1378	- 7 - 1	3700	-1376	- 9 - 3	3636	-1375	- 10 - 4												
GORHAM SAND			3653	-1437					3649	-1434																		
REAGAN					3699	-1433								3751	-1427													
GRANITE																					3750	-1489						
TOTAL DEPTH	3655	-1439	3654	-1438	3700	-1434	- 5 - 4	3648	-1433	- 6 - 5	3757	-1433	- 6 - 5	3757	-1496	+ 57 + 58												

DST #1 GORHAM SAND 3644' - 3654'

	DRILL STEM TEST REPORT	
	Black Diamond Oil Po Box 641 Hays KS, 67601 ATTN: Jeff Lawler	21-5s-21w Norton KS Glennemeier A #3 Job Ticket: 62711 Test Start: 2015.05.23 @ 11:22:00
GENERAL INFORMATION:		
Formation: Gorham Sand Deviated: No Whipstock ft (KB) Time Tool Opened: 13:25:00 Time Test Ended: 19:21:15	Test Type: Conventional Bottom Hole (Initial) Tester: Cody Bloedorn Unit No: 73	
Interval: 3644.00 ft (KB) To 3654.00 ft (KB) (TVD) Total Depth: 3654.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Fair	Reference Elevations: 2216.00 ft (KB) 2211.00 ft (CF) KB to GR/CF: 5.00 ft	
Serial #: 8648 Inside Press@RunDepth: 109.59 psig @ 3645.00 ft (KB) Start Date: 2015.05.23 Start Time: 11:22:05	Capacity: 8000.00 psig Last Calib.: 2015.05.23 Time On Btm: 2015.05.23 @ 13:24:45 Time Off Btm: 2015.05.23 @ 17:11:30	
TEST COMMENT: 45 - IF- 6" blow 60 - IS- No return 60 - FF- 3.5" blow 60 - FS- No return		



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1844.17	101.76	Initial Hydro-static
1	26.25	101.82	Open To Flow (1)
46	70.58	107.07	Shut-In(1)
106	1014.76	107.81	End Shut-In(1)
107	79.92	107.67	Open To Flow (2)
167	109.59	109.09	Shut-In(2)
226	989.70	109.21	End Shut-In(2)
227	1834.10	108.95	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbt)
62.00	HOCMV, 10%M, 40%O, 50%W	0.30
62.00	HOCVM, 10%W, 40%O, 50%M	0.34
62.00	GMCO, 10%G, 20%M, 70%O	0.87
93.00	GO, 30%G, 70%O	1.30
0.00	62' of G.I.P.	0.00

Gas Rates			
	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

Trilobite Testing, Inc

Ref. No: 62711

Printed: 2015.05.23 @ 22:44:54

ROCK TYPES

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

ACCESSORIES

MINERAL

- * Sandy
- Detrital limestone

STRINGER

- Sandstone
- Shale

OTHER SYMBOLS

MISC

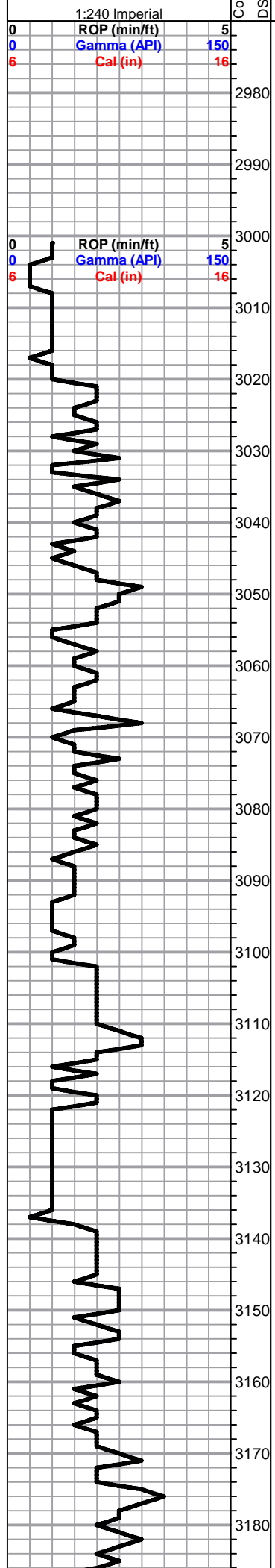
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- Digital Photo
- Document
- Folder
- Link
- Vertical Log File
- Horizontal Log File
- Core Log File
- Drill Cuttings Rpt

DST

- DST Int
- DST alt

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

Curve Track #1						Curve Track #3
ROP (min/ft)		Depth Intervals	DST	Lithology	Oil Show	Geological Descriptions
Gamma (API)						
Cal (in)						
		Interval				



1' DRILL TIME THROUGH THE ANHYDRITE FROM 1800' - 1850'
1' DRILL TIME FROM 3000' - RTD
10' WET/DRY SAMPLES FROM 3050' - RTD

GEOLOGICAL SUPERVISION BY JEFF LAWLER FROM 3050' - RTD

8 5/8" SURFACE PIPE SET @ 217' SURVEY 3/4 dgr.

ANHYDRITE TOP 1813' (+403) E-LOG 1814' (+402)
ANHYDRITE BASE 1844' (+372) E-LOG 1843' (+373)

Lm- Cream Gray, VFXLN, dense, well cemented, mostly tight w/ poor vis. porosity, some loosely cemented gray siltstone & gummy gray wash shale

Sh- Gray Maroon, silty & semi-arenaceous, gummy wash

Sh- A/A w/ dense fissile black shale

Lm- Cream Tan, FXLN, dense, mostly well cemented, massive, fsl w/ fusulinid casts, sctrd ppt porosity, barren, much soft white chalk

Lm- Lt Gray, VFXLN, dense, well cemented, fsl, tight w/ min. vis. porosity

Sh- Green Gray Maroon, gummy argillaceous clumps, silty & calcareous, gummy wash

Lm- Cream Buff Gray, FXLN Fn Grn, dense tight mix of well cemented, sl fsl, w/ dense XLN porosity, sctrd reXLN, chalky mud supported matrix, loosely cemented, & chalky siltstone w/ min. vis. porosity

Sh- Maroon Gray, gritty & earthy, gummy argillaceous clumps

Sh- A/A w/ influx of gray clumps

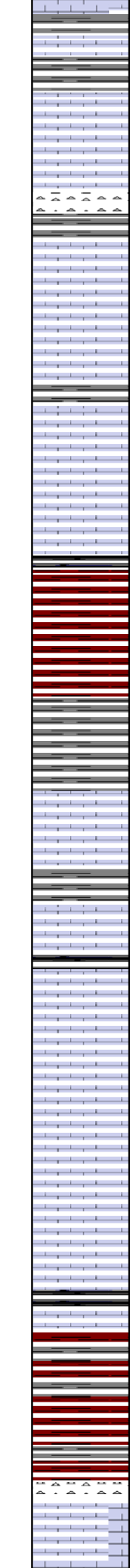
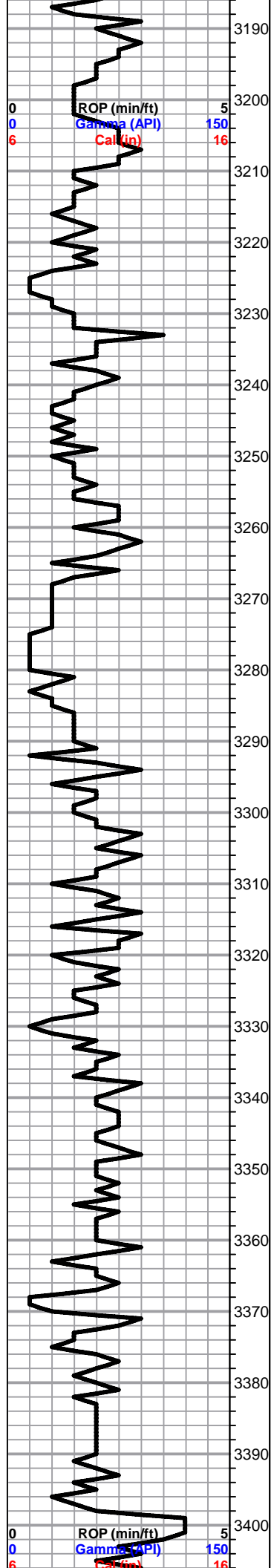
Lm- Cream, FXLN, sl fsl, abundant dense XLN porosity, loosely cemented, barren

Lm- Cream Off White, FXLN Vf Grn, dense, loosely cemented, sl fsl, heavily mottled & spotted, poor vis. porosity, some chalky in part

TOPEKA 3164' (-948) E-LOG 3165' (-949) Lm- Cream Off White, Fn Grn, well cemented limey arenaceous Ls w/ consistent intergranular porosity, barren

Lm- Cream Off White, FXLN, sl fsl, well cemented, sctrd reXLN, sctrd to dense XLN porosity, vry clean & barren

Lm- Cream Buff. VFXLN. dense. well cemented. mostly tight w/ poor vis. porosity.



some sl fsl w/ sctrd XLN porosity

Lm- Tan Cream, FXLN, fsl, dense XLN porosity & clear replacement cementation, barren

Lm- Gray, VF-FXLN, dense, well cemented, mostly tight, high-energy w/ fsl fragments, micro XLN porosity

Lm/Chert- Cream Off White mix, cryptoXLN vitreous chert w/o vis. porosity & grainy, semi-granular loosely cemented, sl chalky Ls w/ no vis. porosity, all vry clean & barren

Lm- Cream Off White, F-MED XLN, massive, well cemented, fsl w/ fusulinids, sctrd XLN & ppt porosity, some sctrd clear replacement cementation, barren

Lm- Cream Buff, VF-FXLN, dense, well cemented, poorly dev. w/ sctrd XLN porosity, barren

Lm- Cream Buff, VF-FXLN, dense, well cemented, mostly tight w/ sctrd XLN porosity, some chalky in part, all clean & barren, few pcs of chert/cherty Ls w/o vis. porosity

Sh- Black, fissile & carbonaceous

Sh- White Maroon, abundant argillaceous clumps, few pcs of shaley frosted Ss, consolidated & sorted, poor intergranular porosity, barren

Sh- Gray Maroon, silty & soft, gritty & earthy, some sandy shale

Lm- Cream Tan, FXLN, dense, well cemented, sl fsl, sctrd XLN porosity, barren

Lm- Cream Off White, VF-FXLN, dense, well cemented, mostly tight w/ poor vis. to sctrd XLN porosity, all vry clean & barren

Lm- Cream Off White, FXLN, fsl, mod. dev. w/ sctrd vry fn ppt porosity, some sl chalky in part, SCTRDR TO SUB SAT STN, TR FO, FR ODR, HVY OIL SHEEN

Lm- Cream Off White, FXLN, fsl & sl oolitic, dense XLN porosity, loosely cemented & crumbly, barren

Lm- Cream Buff, VFXLN, dense, well cemented, mostly tight w/ poor vis. porosity

Lm- A/A

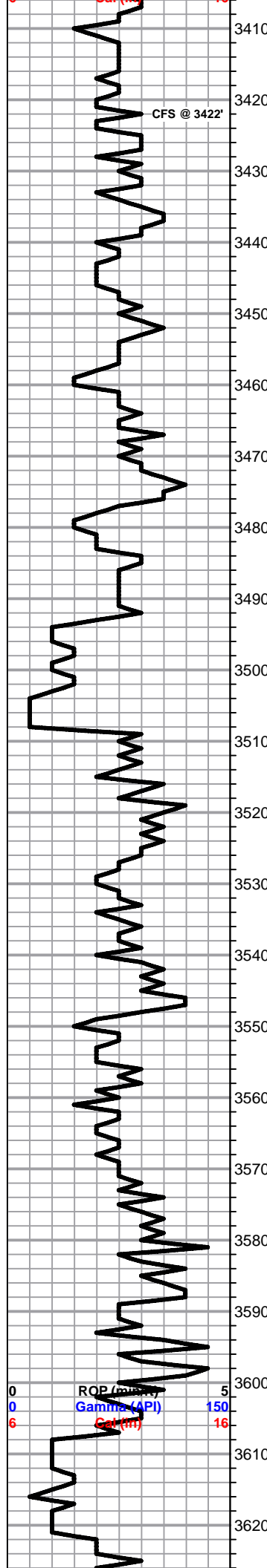
HEEBNER 3367' (-1151) E-LOG 3368' (-1152) Sh- Black, fissile & carbonaceous

Sh- Maroon Gray, gummy argillaceous clumps, gritty & earthy

TORONTO 3392' (-1176) E-LOG 3394' (-1178) Chert- Translucent Cream, sharp vitreous fresh bedded w/o vis. porosity

Lm- White Off White Tan, F-MED XLN, fsl & oolitic, mod. dev. w/ sctrd inter oolite ppt porosity, SCTRDR DRK STN, TR FO, SOME SL GSY BUBBLES UPON CRUSH, MOD. ODR, MOD. OILY SHEEN, some sctrd reXLN w/in porosity





LKC 3412' (-1196) E-LOG 3413' (-1197) Lm- Cream Off White, VF-FXLN, dense, most well cemented, sl fsl & oolitic, poorly dev. w/ sctrd micro XLN & XLN porosity, some chalky & loosely cemented, all clean & barren

Lm- Cream Off White, VF-FXLN, sl fsl, poorly dev. & mostly tight w/ micro XLN porosity, vry clean & barren

Sh- Maroon Gray, gritty & earthy, silty & micaceous

● Lm- Cream Off White, FXLN, fsl & oolitic, sctrd dev. w/ sctrd vry fn to fn ppt inter oolite porosity, some w/ reXLN, LT SCTRD STN, NSFO, FR ODR

C ZONE.j...

● Lm/Chert- Cream Off White, FXLN, mod. well oolitic dev. & mostly consistent fn ppt inter oolite porosity, LT SCTRD STN, NSFO, FR ODR, translucent fresh bedded vitreous chert

D ZONE.j...

● Lm- Cream Off White, FXLN, oolitic w/ sctrd dev. most poorly dev. w/ sctrd XLN porosity & barren, 4-5 pcs w/ sctrd ppt inter oolite porosity, SCTRD DRK STN, TR FO, WK ODR

E ZONE.jpg

● Lm- Cream Off White, fsl, poorly dev. w/ sctrd micro XLN porosity, many pcs of fresh bedded translucent & cream colored chert, 1 pc of cream Ls w/ consistent ppt porosity throughout, SCTRD LT STN, NSFO, NO ODR

F ZONE.jpg

Lm- Cream, dense well cemented, semi-gritty dolomitic Ls w/ no vis. porosity, chert A/A

Lm- A/A w/ influx of cream colored fresh bedded chert

Lm- Cream, VFXLN, dense, well cemented dolomitic Ls w/ poor vis. porosity

Sh- Black Gray Green, fissile & carbonaceous, silty & calcareous, sl fsl

● Lm- Cream Off White, FXLN, dense, some loosely cemented & chalky, poorly dev. sctrd XLN porosity, LT SCTRD STN, NSFO, WK-MOD. ODR

H ZONE.j...

Sh- Green, gummy argillaceous clumps

● Lm- Cream Off White, FXLN, sl fsl, poorly dev. w/ sctrd vry fn ppt porosity, 1 pc w/ SCTRD TR STN, NSFO, NO ODR

I ZONE.jpg

● Lm- Cream Off White, FXLN, oolitic, mod. well dev. w/ consistent ppt inter oolite porosity, DRK STN, SUB-SAT, SOME SL BLEEDING W/ FO, MOD. OILY SHEEN, MOD. ODR

J ZONE.jpg

Sh- Black Maroon, soft & carbonaceous, gummy argillaceous clumps

● Lm- White Off White, FXLN, oolitic, chalky & mod. dev. w/ sctrd ppt inter oolite porosity, some soft & crumbly, SCTRD STN, FLAKY STN, NSFO, NO ODR

K ZONE.jpg

Sh- Black Maroon Gray, fissile & carbonaceous, gritty & earthy, gummy argillaceous clumps

Lm- Cream Off White, VF-FXLN, dense, well cemented, poorly dev. & mostly tight w/ sctrd micro XLN & XLN porosity, barren

BKC 3596' (-1379) E-LOG 3601' (-1385) Sh- Maroon, abundant gummy argillaceous clumps

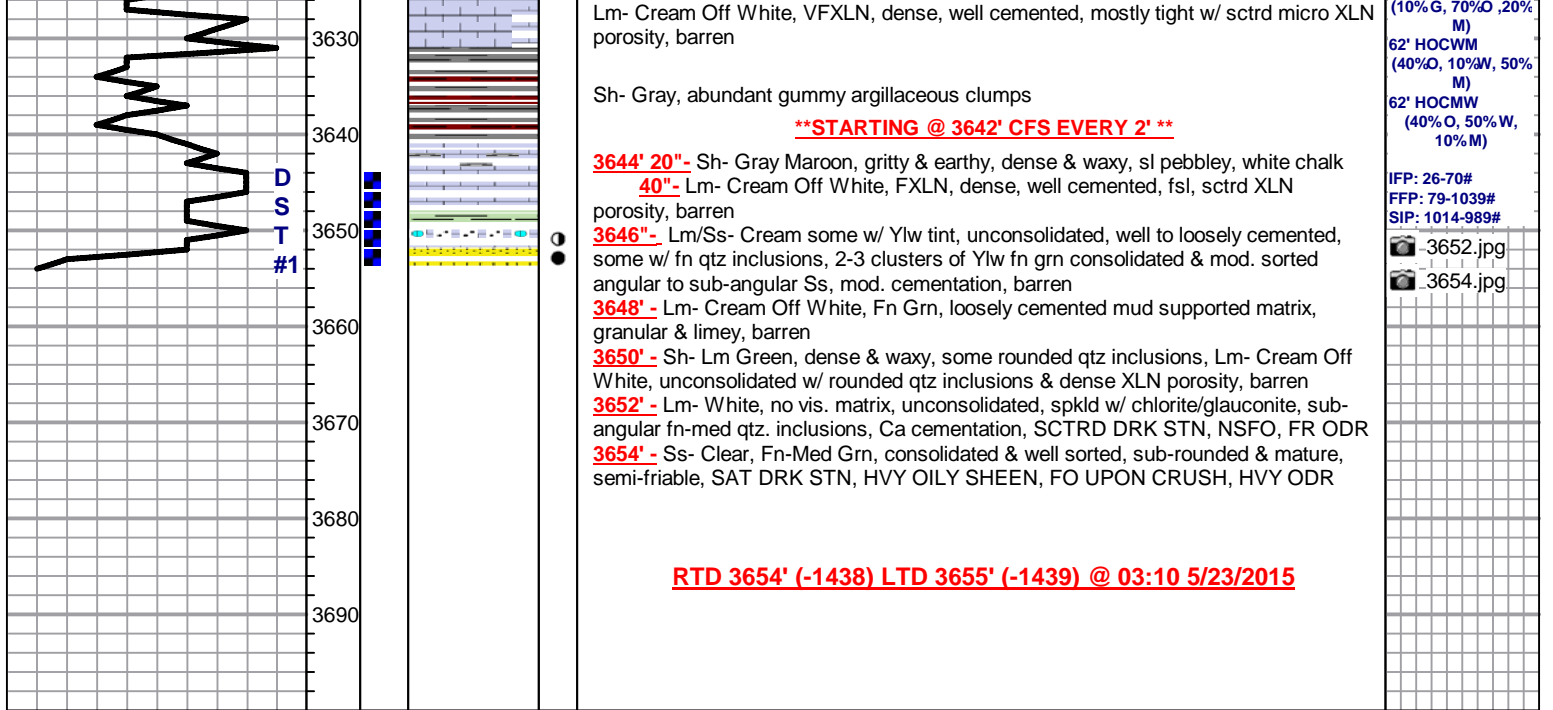
Sh- A/A

Sh- Maroon Gray, gritty & earthy, semi-waxy slivers, maroon arenaceous Ls/limey Ss, barren

SHORT TRIP STRAP -0.89-SURVEY 1 dgr.

DST #1 GORHAM SAND 3644' - 3654' 45-60-60-60

279' TOTAL FLUID 62' GIP 93' GSY OIL (30%G, 70%O) 62' GMCO



OREAD.jpg

A001 1280x1024 2015/05/22 07:23:16 Unit: mm Magnification: 77.5 x 1



0.5 mm

3330' x 20



TORONTO X 25



0.5 mm

C.ZONE X 25



0.5 mm

D ZONE X 25



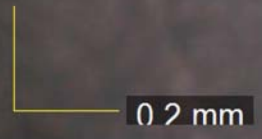
F_ZONE X 25



F_ZONE X 25



H ZONE X 25





.J ZONE X 20



0.5 mm

K ZONE X 25



0.5 mm

3652' X 25

