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GEOLOGIC REPORT LOG

COMPANY GORE OIL Co

WELL KINGSLEY #5

FIELD SRRING BROOK

LOCATION 2150' FSL - 1100' FEL

SEC 17 TWP 14S RGE 20W

COUNTY ELLIS

STATE KANSAS

MUD COMPANY ANDY'S MUD CO.

CONTRACTOR MAVERICK DRLG CO. RIG#102

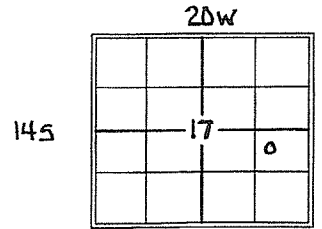
COMMENCED 7 Oct 2014 COMPLETED 29 Oct 2014

CASING RECORD:

SURFACE 8 5/8 @ 263' PRODUCTION NA

TOTAL DEPTH DRLS. 3900

TOTAL DEPTH LOG 3902



PRODUCTION: _____

ELEVATION: KB 2168

DF _____

CL 2162

DRILLING MEASURED FROM KB

SAMPLES SAVED FROM 10' - 3000 TO RTD

DRILLING TIME KEPT FROM 1' - 3000 TO RTD

SAMPLES EXAMINED FROM 3000 TO RTD

GEOLOGICAL SUPERVISION FROM 2940 TO TOTAL DEPTH

DRILL STEM TESTS TRILOBITE TESTING CO.

ELECTRICAL SURVEYS PIONEER ENERGY SERVICES

_____ DIL

_____ CN-CD

_____ MEI

FORMATION TOPS & STRUCTURAL POSITION

FORMATION	SAMPLE TOP	ELECTRIC LOG TOP	SUB-SEA DATUM	STRUCTURAL POSITION
ANHYDRITE - TOP	NA	1460	+708	
ANHYDRITE - BASE	1508	1506	+662	
TOREKA	3180	3181	-1013	
OREAD	3349	3349	-1181	
HEEBNER	3420	3420	-1252	
TORONTO	3438	3440	-1272	
LANSING	3459	3458	-1290	
BKC	3709	3708	-1540	
MARMATON	3772	3772	-1604	
ARBUCKLE	3831	3830	-1662	
REAGAN SD	3842	3842	-1674	
TOTAL DEPTH	3900	3902	-1734	

REFERENCE WELL FOR STRUCTURE _____

DRILL STEM TESTS

No.	Interval	IFP/Time	ISIP/Time	FFP/Time	FSIP/Time	IHH-FHH	RECOVERY
1	3345 - 3430 OREAD	38 [#] -64 [#] 30"	1052 [#] 60"	72 [#] -91 [#] 30"	1032 [#] 60"	1623 [#] 1574 [#] 108°F	140' MUD w/ OIL SPOTS
2	3447 - 3502 LANS 'A-C'	86 [#] -296 [#] 30"	764 [#] 60"	313 [#] -536 [#] 60"	745 [#] 90"	1706 [#] 1623 [#] 114°F	315' MCW w/ OIL SPOTS 819' SMCW w/ OIL SPOTS
3	3575 - 3658 LANS 'H-J'	42 [#] -32 [#] 30"	214 [#] 60"	34 [#] -37 [#] 60"	196 [#] 90"	1773 [#] 1685 [#] 110°F	229' GIP 20' MUD w/ OIL SPOTS
4	3807 - 3838	28 [#] -26 [#] 30"	148 [#] 60"	30 [#] -25 [#] 30"	89 [#] 60"	1958 [#] 1860 [#] 113°F	10' CO - GR 37° 10' SDCM
5	3804 - 3846	395 [#] -987 [#] 30"	1186 [#] 30"	971 [#] -1165 [#] 30"	1187 [#] 30"	1950 [#] 1885 [#] 123°F	645' MW 315' MCW 1638' SMCW

BIT RECORD

NO	SIZE	MAKE	TYPE	DEPTH OUT	FEET	HOURS
1	12 1/4	JZ	RR	266	266	5
2	7 7/8	JZ	ENPD123	3900	3634	89

PIPE STRAPS & DEV. SURVEYS

DEVIATION SURVEYS:

@ 266' - 1/2°

@ 2478' - 3/4°

@ 3480' - 3/4°

PIPE STRAP:

@ 3430' - 0.24 SHDRT

DAILY PENETRATION

DATE	DEPTH
10-7	MIRT
10-8/10-10	DOWN
10-11	186'
10-12	636'
10-13/10-14	DOWN
10-15	1425'
10-16	2155'
10-17/10-21	DOWN
10-22	2308'
10-23	2644'
10-24	3280'
10-25	3490'
10-26	3552'
10-27	3658'

MUD RECORD

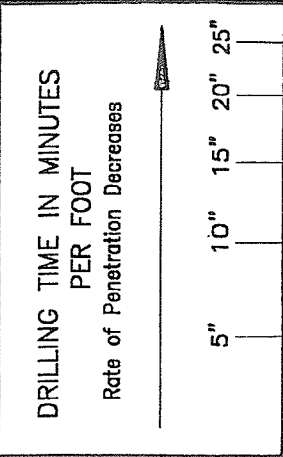
NO	DATE	DEPTH	ACTIVITY	PUMP SIZE:				BPS:			
				WT	VIS	TL	VP	PH	CS	LCM	CHL
3	10-23	2840	DRLG	8.7	51	8.4	15	11.5	1 1/2	3 [#]	2500
4	10-24	3430	DRLG	8.7	50	9.2	12	10.5	10/20	2 [#]	2500
5	10-25	3502	DST#2	9.3	49	8.8	14	10.0	10/20	2 [#]	3000
6	10-26	3608	DRLG	9.2	44	9.4	5	9.5	8/16	1.5 [#]	3200
7	10-27	3705	DRLG	9.1	54	9.2	19	10.0	1 3/23	2 [#]	3500
8	10-28	3843	CFS	9.2	48	9.2	21	9.0	12/23	1.5 [#]	5000

LEGEND

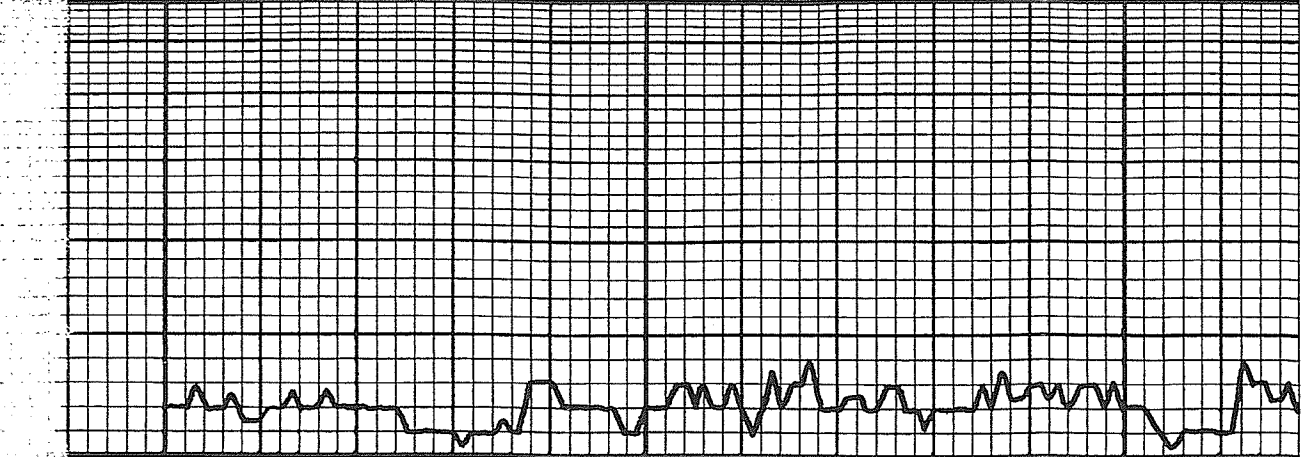
- Dolomite
- Chert
- Col. Lime
- Limestone
- Carb sh
- Shale
- Sandstone
- Salt
- Anhydrite

LEGEND

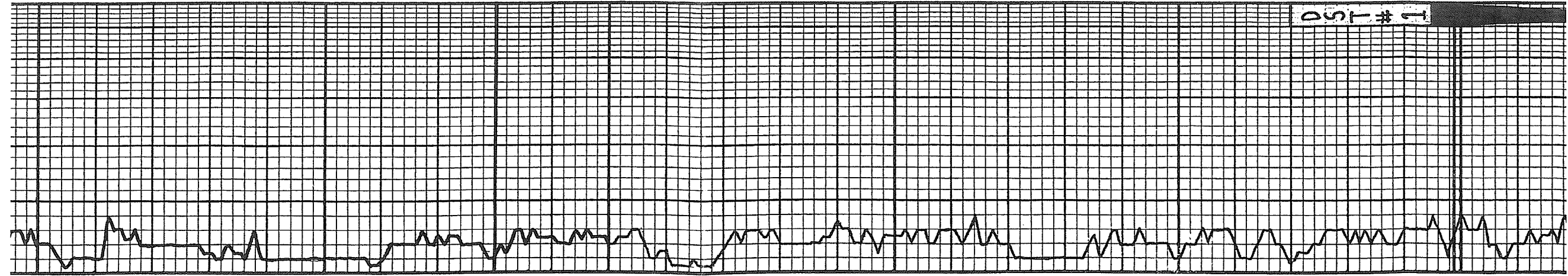
	Anhydrite		Salt		Sandstone		Shale		Carb sh		Limestone		Ool. Lime		Chert		Dolomite
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DEPTH	LITHOLOGY	SAMPLE DESCRIPTIONS	OIL SHOWS	REMARKS
1450				
60				
70				
80				
90				
1500				
10				ANHYDRITE - BASE
20				1508
30				(+1660)



3000		ls: tan, fn-med xtn, granular, calcatic in part, pr inter-xtn ϕ ; ls: grey dolomite in part, shaley, no vis ϕ , no show		
10		ls: as above w/ ls: grey, tan, fn-med xtn, mottled, sl. dolomite w/ inter-beaded grey shale; no show		
20		ls: tan, grey-brown, fn-med xtn, no vis ϕ , no show; w/ sh: grey, sn: lt. grey silty, micaceous; no show		
30		sh: grey, lt. grey, silty, micaceous in part		
40		sh: green, calc.; ls: brown, grey, brown, fn-med xtn, sl. foss, no vis ϕ , no show		
3050		ls: as above w/ sect ls: brown, vfn xtn dense; sh: grey		
60		ls: brown, grey, vfn-fn xtn, dense w/ some med xtn, sl. foss, mottled in pt, no vis ϕ , no show		
70		ls: brown, grey, fn-med xtn, sl. foss, no vis ϕ , no show		
80		ls: brown, dk brown, grey, dk grey, vfn-some med xtn, mottled in part, vsl foss, no vis ϕ , no show		
90		ls: tan, brown, grey, micro xtn, dense; some fn-med xtn, foss in part (fusulinids); no vis ϕ , no show		
3100		sh: lt. grey, vsl silty, micaceous; few ps green sh.		
10		ls: tan, brown, grey, fn-med xtn, sl. foss, mottled in part; tr glauconitic, no calc. in part		



D S T # 1

3100	Some fr.-meactin, foss in part (lusinides), no vis \emptyset , no show
10	sh: lt. grey, v sil; silty, micaceous; few pcs green sh.
20	ls: tan, brown, grey, fr.-med xtn, sil foss, mottled in part, tr glauconitic, no vis \emptyset , no show.
30	ls: as above w/ few pcs tan fr.-med xtn calcitic no vis \emptyset no show
40	ls: as above w/ ls: tan, frxtln, chalky w/ sh: lt. grey, grey, sil micaceous, dolomitic in part; no vis \emptyset , no show
3150	sh: lt. grey, grey, sil dolomitic in part
60	sh: as above w/ sh: arex dk arex silty in part scat ls inclusions
70	ls: tan, grey, fr.-med xtn, detrital, mottled, sil foss, no vis \emptyset , no show
80	ls: as above; w/ sh: grey, grey, green
90	ls: tan, fr.-med xtn, sil calcitic, sil foss, no vis \emptyset , no show
3200	ls: as above, w/ ls: brown, grey, dk grey, fr.-med xtn, sil foss, dense
10	ls: as above w/ few pcs grey, sil calc sh.
20	ls: off wh, tan, lt. brown, fr.-med xtn, granular, v sil sandy, sil calcitic & foss, pr-fr ppt \emptyset , no fluor, cut, st, or odor. NSD
30	ls: brown, grey, grey-brown, fr.-med xtn, detrital, foss in part, no vis \emptyset , NS.
40	sh: lt. grey, silty - sil sandy sh; arex: ls: lt. brown, fr.-med xtn, sil calcitic, v sil dolomitic, no show.
3250	ls: tan, brown, grey, v fr - some, med xtn, sil foss, mottled; cpl pcs w/ fr interxtn \emptyset ; no show
60	ls: as above; no show
70	ls: tan, brown, fr.-med xtn, foss, detrital, no vis \emptyset , no show
80	ls: off wh, tan, fr.-med xtn, sil calcitic, v sil foss, granular, scat pr-fr ppt & interxtn \emptyset ; no fluor, cut, st, or odor
90	ls: as above; no show; w/ ls: brown, grey, micro - some med xtn, sil foss, dense
3300	ls: tan, brown, grey, fr.-med xtn, sil foss, detrital, scat in fr-bedded grey sh; few pcs green sh
10	ls: as above; w/ scat grey, green sh
20	ls: tan, fr.-med xtn, granular, sil foss, scat pr interxtn \emptyset , no show. ls: tan, grey, v fr - frxtln, dense.
30	ls: tan, lt. brown, frxtln, granular, sil calcitic, scat pr ppt & interxtn \emptyset , no show
40	ls: tan, grey, v fr - some med xtn, calcitic in part, no vis \emptyset ; considerable grey, green sh.
3350	ls: tan, grey, fr.-med xtn, sil foss, no vis \emptyset , sh: grey, dk grey, some black
60	ls: tan, grey, fr.-med xtn, dense ls: tan, fr-x-tn, granular, sil foss, sil calcitic, qpp pr ppt & vuggy \emptyset cpl pcs w/ pr spotty sh w/ crust cut only, no show FD, no odor. ls: dk brown, dk arex, fr med xtn.

TOPEKA

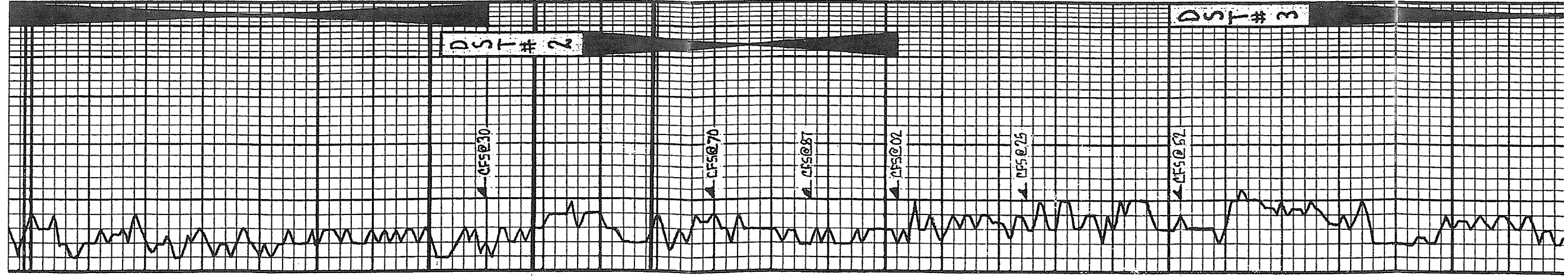
3180 (-1012)

OREAD

3349 (-1181)

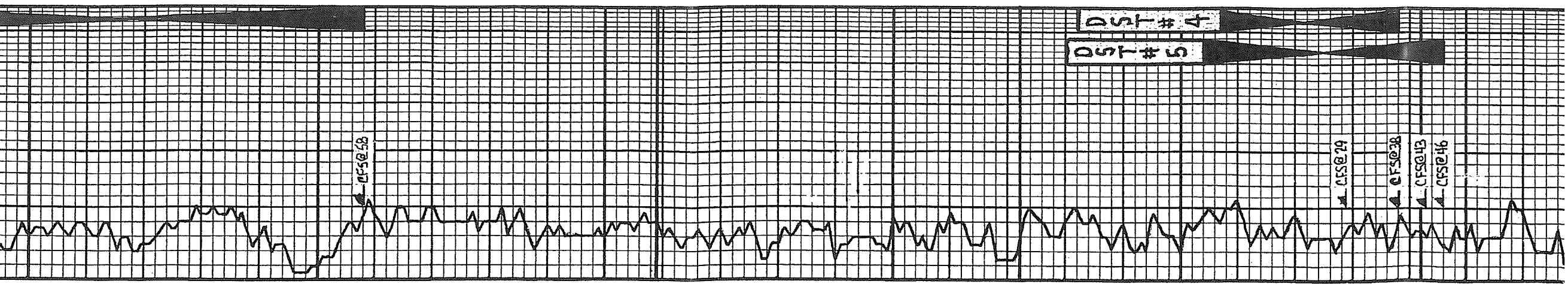
DST # 1

(3349 - 3474)



3350	sh: grey, dk grey, some black
60	ls: tan, grey, fm-med xln, dense
70	ls: tan, fm xln, granular, sil foss, sil calcitic, app pr ppt & vuggy \emptyset , ep1 pcs w/ pr spotty wk crustal only, no show \emptyset , no odor
80	ls: dk brown, dk grey, fm-med xln, dense
90	ls: tan, fm-med xln, granular, fr-gd ppt vuggy por (3-4 pcs/tray), other-wise vfr - pr \emptyset vry scat pr spots st, 4 pcs total w/ fr-gd st w/ scat, 3 pcs w/ 5-FSD & few gas bubbles, v fr floor, v wk cat, no odor
3400	ls: tan, brown, some grey, fr-med xln, v scat pr interxtn \emptyset , no floor, st, cut, or odor: NSD
10	ls: as above; no show, w/ sh grey
20	ls: tan, brown, grey, vfr. some med xln, dense, w/ sh: grey
30	sh: dk grey, black
40	ls: lt. brown, lt grey, vfr-fm xln, dense
3450	sh: lt-dk grey, sil calc., few pcs green, rust
60	ls: off wh, tan, lt brown, vry fr - fm xln, v sil foss, no vis \emptyset ; Δ wh, lt grey, fresh op \rightarrow semi trans, no show
70	sh: mostly lt grey, sil silty, some grey, green
80	ls: off wh, greyish-wh, fm-med xln, sil foss, scat pcs \emptyset , detrital, mostly pr spotty (few pcs fr-gd) interparticle \emptyset pr spotty (few pcs fr-gd) st w/ scat, S-tr FSD, fr. crush odor
90	ls: tan, brown, some grey, fm-med xln, no vis \emptyset ; sh: grey, dolomite \rightarrow dol; grey, fm xln, shaley; sil: grey, sil sandy sh: grey, green, some brown
3500	ls: off wh, tan, fm-med xln, v sil foss, sil \emptyset , scat pr - fr fr interxtn & vuggy \emptyset , fr intercal \emptyset , scat pr - fr st w/ some scat, vssed w/ few gas bubbles, v fr odor
10	ls: tan, lt. brown, vfr-fm xln, no vis \emptyset , NS odor
20	sh: grey, green-grey
30	ls: tan, fm-med xln, sil foss, scat vfr - pr interxtn por, scat pr spotty st in \emptyset , ep1 pcs w/ minute ppt's \emptyset , no odor
40	ls: as above; most dense, w/ tr show as above, w/ sh: grey
3550	ls: tan, fm-med xln, sil foss, cool, most well cemented, scat pr - few pcs fr intercal \emptyset pr - fr intercal st, rare ppt \emptyset , no odor
60	ls: tan, vfr-fm xln, mostly dense, few isolated vugs w/ hvy dk st, NSD, no odor
70	ls: tan, lt brown, fm-med xln, no vis \emptyset , no show
80	ls: tan, lt brown, mica - fm xln, dense few pcs Δ ; lt grey, fresh, oparue
90	ls & few pcs Δ , as above
3600	ls: as above, w/ sh: grey, gm-grey
10	ls: tan, lt brown, off wh, fr-med xln, sil granular, cherty in part, scatter interxtn \emptyset , no st-floor, cut, odor
20	ls: as above, dense, no vis \emptyset , NS
30	ls: as above, w/ sh: grey, few pcs brown

OREAU	(-1181)
3349	(-1181)
DST # 1	(3345 - 3430)
30" - 60" - 30" - 60"	
IFP: SURF BLOW BLDG TO 3 1/4"	
ISIP: NO BLOW	
FFP: SURF BLOW BLDG TO 1 1/4"	
RECOVERED:	
140' MUD w/ OIL SPOTS	
HSP: 1623# - 1574#	
FP: 38#-64/72#-91#	
SIP: 1052# - 1032#	
BHT: 108° F	
HEEBNER	(-1252)
3420	(-1252)
TORONTO	(-1270)
3438	(-1270)
LANSING	(-1291)
3459	(-1291)
DST # 2	(3447 - 3502)
30" - 60" - 60" - 90"	
IFP: BOB IN 5"	
ISIP: NO BLOW	
FFP: BOB IN 7"	
FSIP: NO BLOW	
RECOVERED:	
315' MCM w/ OIL SPOTS	
(30% M, 70% W)	
819' SMCW w/ OIL SPOTS	
(10% M, 90% W)	
CHL: 57000 PPM SYS: 2500 PPM	
HSP: 1706# - 1623#	
FP: 86#-206/313#-536	
SIP: 764# - 745#	
BHT: 114° F	
DST # 3	(3575 - 3658)
30" - 60" - 60" - 90"	
IFP: SURF BLOW BLDG TO 6"	
ISIP: NO BLOW	
FFP: 4" BLOW BLDG TO 6"	
FSIP: NO BLOW	
RECOVERED:	
229' GIP	
IN MIN. W/ NO SHOW	



3600	15: tan, lt brown, off wh, fr-med xtn, silty, calc. cement, no st, fluor, rust, odor
10	ls: as above, dense, no vis \emptyset , NS
20	ls: as above, w/ sh: grey, few pcs brown
30	ls: tan, lt grey, fr-med xtn, scat vpr, pr fine ppt \emptyset , pr spotty - cpl pcs fr st w/ pr scat, NSF0, no odor
40	ls: tan, lt brown, grey, vfn-fnxtn, dense, no vis \emptyset , no show sh: grey, greenish-grey
3650	ls: wh, lt grey, fr-med xtn, ool & ooc, fr-ool ool \emptyset , fr-ool st w/ fr scat, F-GSF0, vpr-gassey, fr odor
60	ls: off wh, tan, lt brown, vfn-some med xtn, sil ool, no vis \emptyset , no show sh: grey, dk. grey
70	ls: tan, lt brown, lt green vfn-fnxtn, sil ool, well cemented, no vis \emptyset no show
80	ls: tan, lt brown, lt grey-brown, vfn-fnxtn, sil ool, cpl pcs w/ vpr inter-xtn \emptyset , tr pr st, NSF0, no odor
90	ls: as above, no show sh: grey, sh: green-grey w/ ls: inclusions
3700	ls: off wh, lt grey, tan, fr-med xtn, vslit foss, tr vpr inter xtn \emptyset , tr pr st, NSF0, no odor; ls: wh, fr xtn chalky
10	ls: as above, no show sh: grey, rust, brown, scat ls. inclusions
20	ls: tan, brown, lt grey, fr-med xtn, sil ool, scat red sh matrix, sh: grey, rust, brown
30	ls: as above; scat pcs w/ rust-red sh matrix; sh: rust, brown, grey, scat ls inclusions
40	sh: rust, brown, some green, grey ls: off wh, lt grey, fr-med xtn, scat pcs w/ rust shale matrix
3750	ls: off wh, grey, fr-med xtn, dense; scat pcs w/ red-rust shale matrix, sh: rust, brown, some grey, green
60	some as above, w/ few pcs mudiest
70	Δ : lt grey, tan, ool, orange, fresh, op \rightarrow semi-trans; considerable sh: rust, brown, grey; ls: off wh, lt grey, fr-med xtn, dense
80	Δ as above, w/ scat ls: contact, ls: brown, grey, vfn-fnxtn, dense; sh: rust, brown, grey
90	Δ tan, fresh, semi-trans; Δ : wh, fresh, sil, weathered, vpr st, NSF0; sh: brown, grey, fr-med xtn, dense; Δ : grey, for sh, opaque
3800	as above; w/ considerable, orange, fresh, semi-trans Δ
10	ss: fr, drained, grey, well-sorted, well-sorted; considerable, dead oil residue; no show like oil or st
20	sh: rust, brown, grey, sil, sandy ss: as above, w/ calc cement & sh matrix, no vis \emptyset , no show; sh: as above
30	dol: lt grey, fr-med xtn, fr-some ad inter xtn \emptyset , fr st w/ scat, fr cut, NSF0, od odor
40	ss: as above, w/ few clusters, ss: wh, tan, clear, med grained, well sorted, scat calc cement; fr-some od, intergrn \emptyset fr st w/ scat, NSF0, no odor
3850	ss: as above, w/ few in show, rest 5% of sh w/ pr spotty st & rare ppt FO, calc. cement; pr-fr intergrained \emptyset , calc. cement; pr-fr intergrained \emptyset ,
60	

IFP: SURF BLOW BLDG TD 6"
 ISIP: NO BLOW
 FFP: 4" BLOW BLDG TD 8"
 FSIP: NO BLOW
 RECOVERED:
 229' GIP
 20' MUD w/ OIL SPOTS
 HSP: 1773# - 1685#
 FP: 42# 327 34#-37#
 SIP: 214# - 198#
 BHT: 110° F

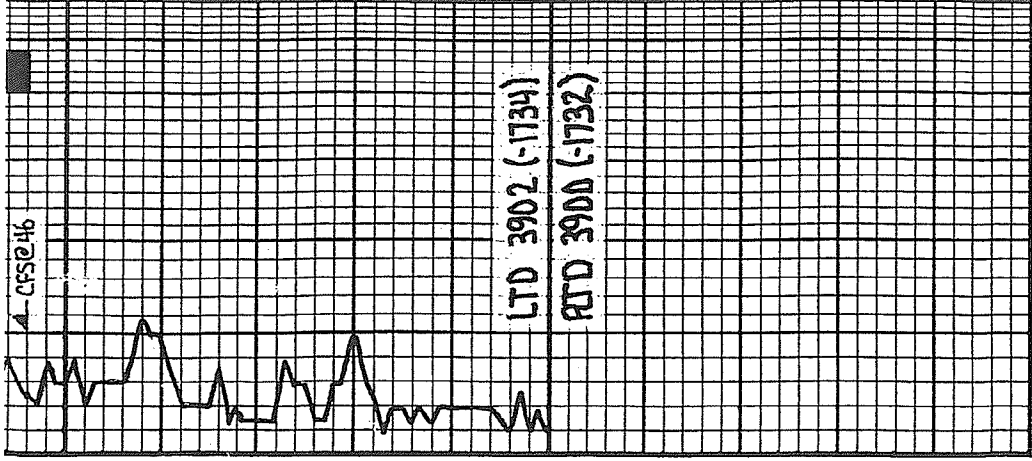
BKC
 3709 (-1541)

MARMATON
 3772 (-1604)

DST # 4
 (3807 - 3838)
 30" - 60" - 30" - 60"
 IFP: SURF BLOW BLDG TD 1"
 FFP: NO BLOW
 RECOVERED:
 10' CD - 62.37°
 10' SOLEM (10% O, 90% M)
 HSP: 1958# - 1860#
 FP: 28# 26/30#-25#
 SIP: 148# - 89#
 BHT: 113° F

REAGAN SAND
 3842 (-1674)

DST # 5
 (3804 - 3846)
 30" - 30" - 30" - 30"
 IFP: BOB IN 1"



3850

60

70

80

90

3900

DRILLING TIME Minutes/Foot

Rate of Penetration Decreases

DEPTH

SS: AS ABOVE, W/ NEW CEMENTS SS, W/ tan, clear, med grained, well sorted, scat calc cement; pr- some od intergrained dr ft st w/ scat fr slow cut, SS FO, no odor
 SS: AS ABOVE, W/ GR. IN SHOW, EST 5% OF SP. W/ DR SPATHY ST & RARE DR FT FO.
 SS: clear, wh, tan, fr- med xthn, scat calc cement; pr- fr intergrained dr, no fluor, cut, st, odor, NSD
 SS: AS ABOVE, SCAT CALC CEMENT & PYRITE INCLUSIONS; CONSIDERABLE PYRITE PDS
 SS: clear, wh, tan, fr- med grained, well-sorted, scat calc cement, pr- fr intergrained dr, no show
 SS: AS ABOVE, NO SHOW

LITHOLOGY

SAMPLE DESCRIPTIONS

OIL SHOWS

REMARKS

384Z (-16/4)

DST #5

(3804 - 3846)

30" - 30" - 30" - 30"

IFP: BOB IN 1"

ISIP: NO BLOW

FFP: BOB IN 1"

FSP: NO BLOW

RECOVERED:

645' MW (50% M, 50% BW)

315' MCW (20% M, 80% BW)

1638' SMCW (10% M, 90% BW)

CHL: 71000 PPM SVS: 5000 PPM

HSP: 1950# - 1885#

FP: 395# - 987# / 971# - 1165#

SIP: 1186# - 1187#

BHT: 123°F