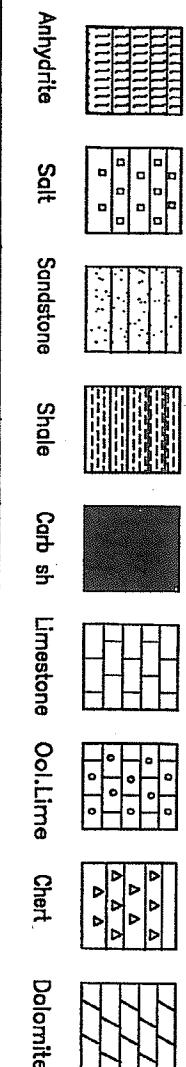


**LEGEND**

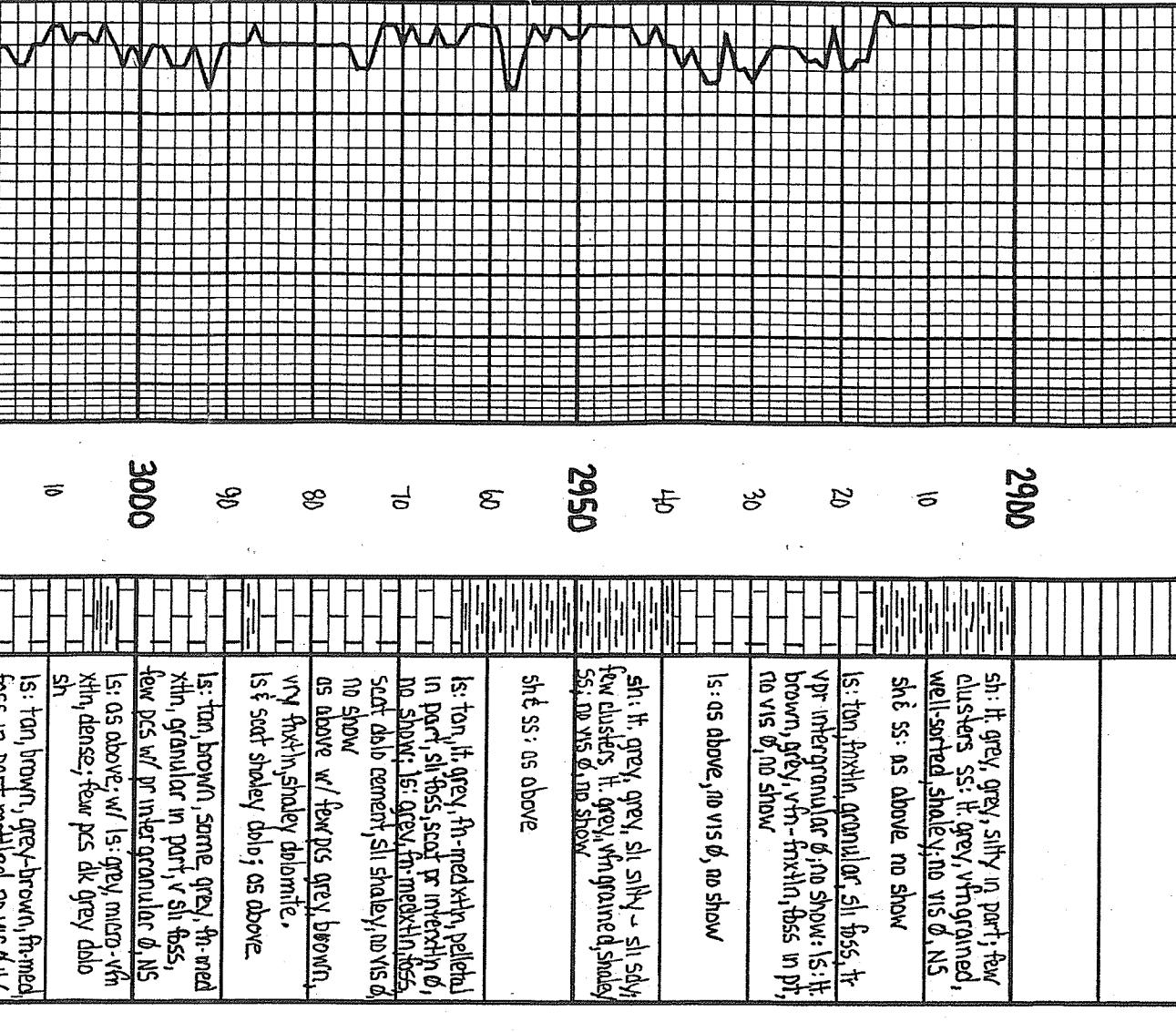
DRILL STEM TESTS									
No.	Interval	IP/TIME	SIP/TIME	FPP/TIME	FSP/TIME	INH-FRH	RECOVERY		
1	3240 - 3318	3D	60"	30"	60"	100°F	100°F	10 MUD w/OIL SPECS	
2	3241 - 3460	88-100#	30#	102-106#	288#	170#	1614#	LD MUD	
3	3481 - 3594	65#-79#	424#	79#-90#	234#	175#	1686#	LD MUD	
4	3642 - 3692	3D	60"	60"	60"	90"	90"	50' OIL SPKED MUD	
5	3644 - 3716	59-76#	1152#	214#-618#	1153#	1723#	189, MUD	182, SMCW	
6	AR8	3D"	60"	B"	405"	108°F			
7	12 1/4	JZ	RR	263	4 1/4"			PIPE STRAPS: E 3318: 1.28 LONG	
8	12 1/4	JZ	RR	263	4 1/4"			E 3460: 4 1/4" E 3594: 12"	
9	11-8	3594							
10	11-11	3716							
11	11-9	3692							
12	11-2	1927							
13	11-1	370							
14	11-4	3175							
15	11-5	3318							
16	11-6	3460							
17	11-9	3594							
18	11-8	3594							
19	11-7	3716							
20	11-12	4070							
21	11-13	4135							

GEOLOGIC REPORT LOG	GEOLOGIC COMPANY	WICHITA, KANSAS	CHARLES SCHMALTZ
105	18W	WILLIAMS SOUTHEAST	WELL DRDWAY C. # 10
105	16	1400' FSL & 2140 FWL	LOCATION 1400' FSL & 2140 FWL
105	16	KANSAKS	COUNTY RODOKS
2136	2130 KB	DRILLING MEASURED FROM 1D - 2900	STATE ANDY'S MUD CO.
2136	2130 KB	DRILLING MEASURED FROM 1D - 2900	CONTRACTOR MAVERICK DRILLING CD. RIG # 102
2136	2130 KB	GEODECAL SUPERVISION FROM 2825	COMPLETION 31 OCT 2014 COMPLETION 13 NOV 2014
2136	2130 KB	DRILL SITE TESTS TRILOBITE TESTING INC.	CAISING RECORDS: 85/8 E 263
2136	2130 KB	GEODECAL SUPERVISION FROM 2825	STRUCTURAL SURFACES PIONEER ENERGY SER.
2136	2130 KB	DRILL SITE TESTS TRILOBITE TESTING INC.	DIL
2136	2130 KB	TO TOTAL DEPTH	MEL
2136	2130 KB	SAMPLES DRAWN FROM 2900 TO RTD	CDL - CDL
2136	2130 KB	SAMPLES DRAWN FROM 1D - 2900 TO RTD	FORMAT TOP SUB-SEA STRUCTURAL POSITION
2136	2130 KB	SAMPLES DRAWN FROM 1D - 2900 TO RTD	FORMAT TOP SUB-SEA STRUCTURAL POSITION
2136	2130 KB	RTD	ANHYDRITE - TOP
2136	2130 KB	RTD	TOP KPA
2136	2130 KB	RTD	DATE
2136	2130 KB	RTD	NO. DATE DEPTH
2136	2130 KB	RTD	NO. SIZE MAKE TYPE DEPTH OUT FEET HOURS
2136	2130 KB	RTD	DAILY PENETRATION
2136	2130 KB	RTD	SPUD
2136	2130 KB	RTD	DEPTH ACTIVITY
2136	2130 KB	RTD	DATE DEPTH PUMP SIZE
2136	2130 KB	RTD	NO. DATE DEPTH PUMP SIZE
2136	2130 KB	RTD	DAILY PENETRATION
2136	2130 KB	RTD	SPUD
2136	2130 KB	RTD	DEPTH ACTIVITY
2136	2130 KB	RTD	DATE DEPTH PUMP SIZE
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2136	2130 KB	RTD	DAILY PENETRATION
2136	2130 KB	RTD	SPUD
2136	2130 KB	RTD	DEPTH ACTIVITY
2136	2130 KB	RTD	DATE DEPTH PUMP SIZE
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2136	2130 KB	RTD	DAILY PENETRATION
2136	2130 KB	RTD	SPUD
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2136	2130 KB	RTD	SPUD
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2136	2130 KB	RTD	DAILY PENETRATION
2136	2130 KB	RTD	SPUD
2136	2130 KB	RTD	DEPTH ACTIVITY
2136	21		

DRILLING TIME IN MINUTES  
PER FOOT  
Rate of Penetration Decreases



DEPTH	LITHOLOGY	SAMPLE DESCRIPTIONS	REMARKS	OIL SHOWS	
				1500	1550
1517 (+619)	ANHYDRITE - TOP				
1551 (+619)	ANHYDRITE - BASE				



3000

10

20

30

40

few pes w/ pr intergranular & NS  
 ls: as above; w/ ls: brown, micro-vfn  
 xtn, dense; few pes dk grey dol  
 sh

ls: tan, brown, grey-brown, fm-med  
 foss, mottled, no vis &, N.S.  
 ls: as above; w/ ls: brown, shaly, fm  
 foss, w/ shale; fm-xtn dolomite cement  
 no vis & no show

sh: lt. grey, grey, silt silty in part

3050

50

60

70

80

90

3100

10

20

30

40

3150

50

60

70

80

90

3200

10

20

30

40

3250

50

60

TOPEKA

3111 (-975)

DST # 1

(3240 - 3318)

30 - 60 - 30 - 60

IFP: WR BLOW DIED IN 1"

FPR: NO EDW

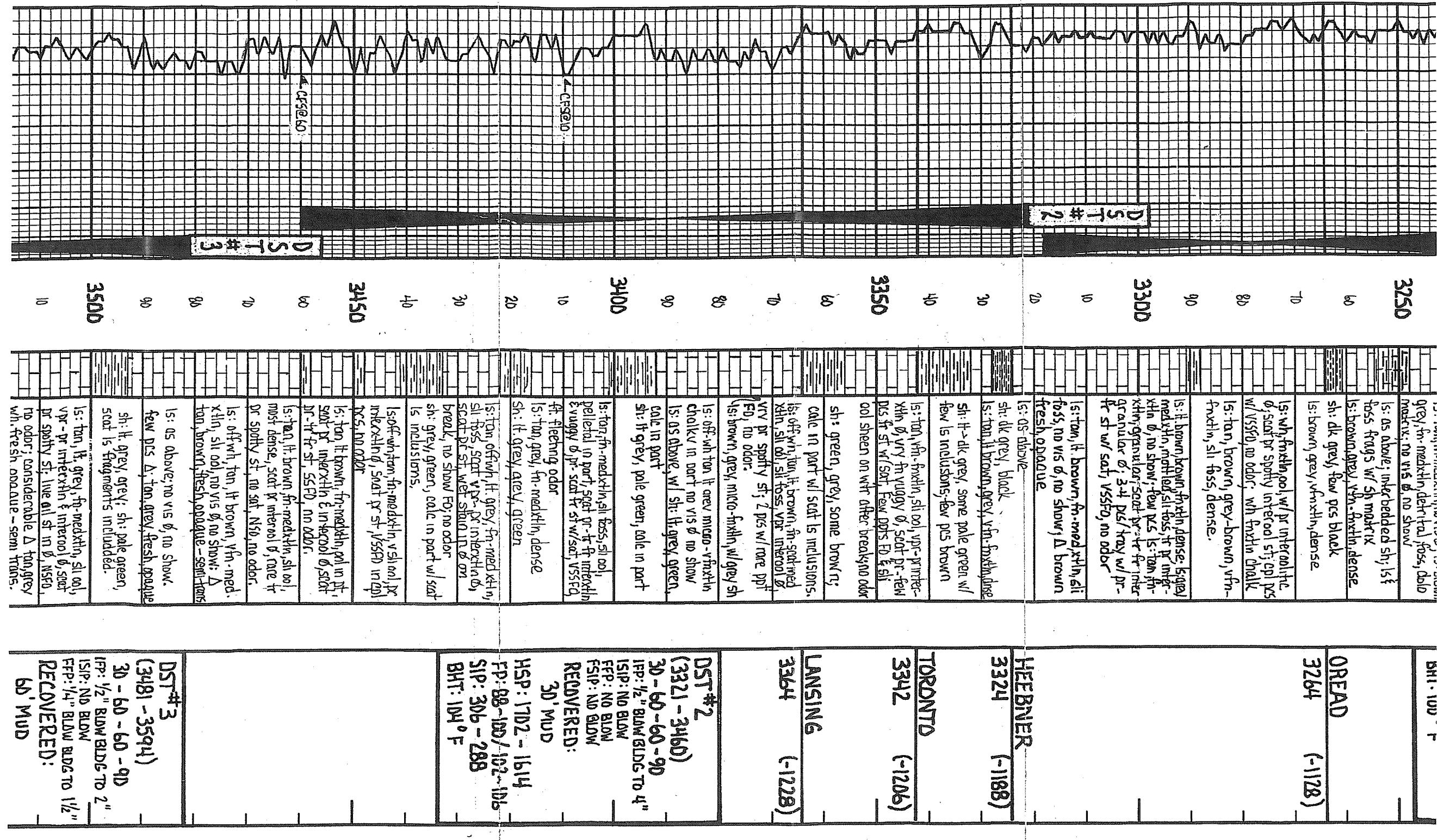
RECOVERED:

10' MUD w/ OIL SPHS

HSP: 1560 - 1545  
 FP: 47-59 / SA-66  
 SIP: 419 - 412  
 BHT: 100 ° F

OREAD

(-1128)





3750

\*PLUGGING DURING I.P.

RECOVERED:

189' MUD

BB2' SMCW

(5% M 95% W)

dolo: lt. grey, tan, pink, vfn-fn-med, few pcs w/ pr-fr interxtn Ø, no show  
 dolo: lt. grey, fn-med; dolob: tan, most dense, scat pr-fr interxtn Ø, no show  
 dolob: tan, lt. grey, few pcs pink, fn-med, fr. fr. interxtn Ø, NS, pink, fn-some med, scat pr-fr interxtn Ø, no show  
 dolob: as above, no show

dolo: lt. grey, tan, some pink, fn-med, fr. fr. interxtn Ø, NS, med, fr. fr. interxtn Ø, no show  
 dolob: tan, grey, brown, vfn-some med, xtn, sh. ag., most dense; few pcs w/ pr-fr interxtn Ø, no show  
 dolob: brown, lt. grey, fn-med, pr-fr interxtn Ø, no show: few

pcs coarse xtn, w/ gd interxtn Ø, no show  
 dolob: lt. grey, brown, fn-med, sh. dol, fr. interxtn Ø, no show  
 dolob: lt. grey, tan, brown, med-coarse xtn, fr. gd interxtn & vuggy, coarse xtn, fr. gd interxtn & vuggy Ø, no show

dolo: as above; fr. some gd interxtn Ø, no show  
 dolob: as above, no show  
 dolob: as above, no show

dolo: as above, few pcs sh. sandy, w/ pink frxtn dolob, no vis Ø, no show  
 dolob: tan, grey, med-coarse xtn, sh. dol, pr-fr interxtn Ø, no show

dolo: as above, inc in grey, med-coarse xtn dolob, w/ fr-gd interxtn Ø, fr-fr vuggy Ø; no show  
 dolob: tan, grey, med-coarse xtn, mostly dense; scat pr-fr interxtn Ø, no show  
 dolob: tan, grey, med-coarse xtn, fr. some gd interxtn Ø, no show

dolo: as above, scat fr-gd interxtn Ø, no show  
 dolob: mostly grey, some tan, fn-med xtn, most dense, scat pr-fr interxtn Ø, no show  
 dolob: grey, fn-med, fr. fr. interxtn Ø, sh. glauconitic, pr-fr interxtn Ø, NS  
 dolob: as above, no show

3800

dolo: as above, no show

dolo: tan, grey, fn-frxtn, scat pr-fr interxtn Ø, no show

dolo: as above, inc in grey, med-coarse xtn dolob, w/ fr-gd interxtn Ø, fr-fr vuggy Ø; no show  
 dolob: tan, grey, med-coarse xtn, mostly dense; scat pr-fr interxtn Ø, no show  
 dolob: tan, grey, med-coarse xtn, fr. some gd interxtn Ø, no show

dolo: as above, scat fr-gd interxtn Ø, no show  
 dolob: mostly grey, some tan, fn-med xtn, most dense, scat pr-fr interxtn Ø, no show  
 dolob: grey, fn-med, fr. fr. interxtn Ø, sh. glauconitic, pr-fr interxtn Ø, NS  
 dolob: as above, no show

dolo: off white, tan, lt. grey, vfn-some med xtn Ø, no show  
 as above w/ few pcs grey/brown, coarse xtn dolob, w/ fr. fr. interxtn Ø, vuggy Ø, no show  
 dolob: off white, lt. grey, tan, fn-med, mostly dense, scat pr-fr interxtn Ø,

3850

dolo: as above, no show

dolo: tan, grey, fn-frxtn, scat pr-fr interxtn Ø, no show

dolo: as above, inc in grey, med-coarse xtn dolob, w/ fr-gd interxtn Ø, fr-fr vuggy Ø; no show  
 dolob: tan, grey, med-coarse xtn, mostly dense; scat pr-fr interxtn Ø, no show  
 dolob: tan, grey, med-coarse xtn, fr. some gd interxtn Ø, no show

dolo: as above, scat fr-gd interxtn Ø, no show  
 dolob: mostly grey, some tan, fn-med xtn, most dense, scat pr-fr interxtn Ø, no show  
 dolob: grey, fn-med, fr. fr. interxtn Ø, sh. glauconitic, pr-fr interxtn Ø, NS  
 dolob: as above, no show

dolo: as above, scat fr-gd interxtn Ø, no show  
 dolob: tan, grey, vfn-some med xtn Ø, no show  
 dolob: off white, tan, lt. grey, vfn-some med xtn Ø, no show  
 dolob: as above w/ few pcs grey/brown, coarse xtn dolob, w/ fr. fr. interxtn Ø, vuggy Ø, no show  
 dolob: off white, lt. grey, tan, fn-med, mostly dense, scat pr-fr interxtn Ø,

3900

dolo: as above, no show

dolo: tan, grey, fn-frxtn, scat pr-fr interxtn Ø, no show

dolo: as above, inc in grey, med-coarse xtn dolob, w/ fr-gd interxtn Ø, fr-fr vuggy Ø; no show  
 dolob: tan, grey, med-coarse xtn, mostly dense; scat pr-fr interxtn Ø, no show  
 dolob: tan, grey, med-coarse xtn, fr. some gd interxtn Ø, no show

dolo: as above, scat fr-gd interxtn Ø, no show  
 dolob: mostly grey, some tan, fn-med xtn, most dense, scat pr-fr interxtn Ø, no show  
 dolob: grey, fn-med, fr. fr. interxtn Ø, sh. glauconitic, pr-fr interxtn Ø, NS  
 dolob: as above, no show

dolo: off white, tan, lt. grey, vfn-some med xtn Ø, no show  
 as above w/ few pcs grey/brown, coarse xtn dolob, w/ fr. fr. interxtn Ø, vuggy Ø, no show  
 dolob: off white, lt. grey, tan, fn-med, mostly dense, scat pr-fr interxtn Ø,

4000

dolo: as above, no show

dolo: off white, tan, lt. grey, vfn-some med xtn Ø, no show  
 as above w/ few pcs grey/brown, coarse xtn dolob, w/ fr. fr. interxtn Ø, vuggy Ø, no show  
 dolob: off white, lt. grey, tan, fn-med, mostly dense, scat pr-fr interxtn Ø,

AIR  
FRAC

CHL: 300000 PPM SIS: 2000 PPM

HSP: 1796# - 1723#  
FP: 59#-76# / 214#-618#  
SIP: 1152#-1153#

BHT: 108 °F

