



Scale 1:240 Imperial

Well Name: COLE #1  
Surface Location: SW SW SW, Sec. 1- T6S- R20W  
Bottom Location:  
API: 15-163-24404  
License Number: 34903  
Spud Date: 11/1/2019 Time: 5:45 PM  
Region: ROOKS COUNTY  
Drilling Completed: 11/7/2019 Time: 3:40 PM  
Surface Coordinates: 330' FSL & 330' FWL  
Bottom Hole Coordinates:  
Ground Elevation: 2060.00ft  
K.B. Elevation: 2066.00ft  
Logged Interval: 3000.00ft To: 3536.00ft  
Total Depth: 3536.00ft  
Formation: REAGAN SAND/ LKC  
Drilling Fluid Type: CHEMICAL

#### OPERATOR

Company: JASPAR CO. INC  
Address: P.O. BOX 1120  
  
Contact Geologist: SHANE VEHIGE  
Contact Phone Nbr: (785) 632-6982  
Well Name: COLE #1  
Location: SW SW SW, Sec. 1- T6S- R20W  
API: 15-163-24404  
Pool: Field: WILDCAT  
State: KS Country:

#### SURFACE CO-ORDINATES

Well Type: Vertical  
Longitude: -99.50771  
Latitude: 39.55437  
N/S Co-ord: 330' FSL  
E/W Co-ord: 330' FWL

#### LOGGED BY

Company:  
Address: 2717 HICKORY  
HAYS, KS 67601  
  
Phone Nbr: (785) 639-0721  
Logged By: Geologist Name: CAMERON BRIN

#### CONTRACTOR

Contractor: FLEX DRILLING INC.  
Rig #: 1  
Rig Type: MUD ROTARY  
Spud Date: 11/1/2019 Time: 5:45 PM  
TD Date: 11/7/2019 Time: 3:40 PM  
Rig Release: 11/8/2019 Time: 6:00 PM

#### ELEVATIONS

K.B. Elevation: 2066.00ft Ground Elevation: 2060.00ft  
K.B. to Ground: 6.00ft



Interval: 3355.00 ft (KB) To 3378.00 ft (KB) (TVD)  
 Total Depth: 3378.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 2066.00 ft (KB)  
 2060.00 ft (CF)  
 KB to GR/CF: 6.00 ft

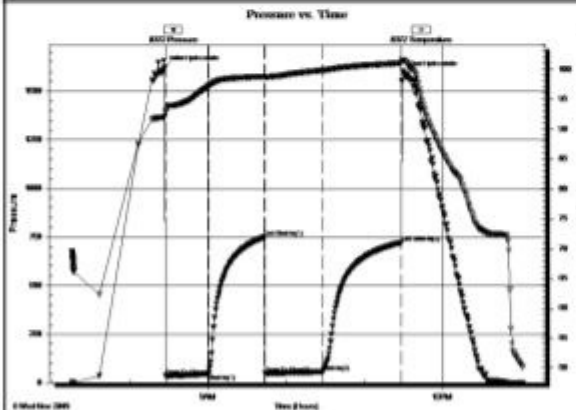
Serial #: 8372

Outside

Press@RunDepth: 57.90 psig @ 3356.00 ft (KB)  
 Start Date: 2019.11.06 End Date: 2019.11.06  
 Start Time: 07:15:01 End Time: 13:02:02

Capacity: psig  
 Last Calib.: 2019.11.06  
 Time On Btm: 2019.11.06 @ 08:26:47  
 Time Off Btm: 2019.11.06 @ 11:30:17

TEST COMMENT: 30-F-Weak; Built to 1"  
 45-ISI-No Return  
 45-FF-Weak; Built to 3"  
 60-FSI-No Return



PRESSURE SUMMARY

Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	1621.63	92.09	Initial Hydro-static
1	34.67	92.66	Open To Flow (1)
34	44.63	97.19	Shut-in(1)
77	748.97	98.77	End Shut-in(1)
77	48.92	98.68	Open To Flow (2)
122	57.90	99.84	Shut-in(2)
182	721.50	101.08	End Shut-in(2)
184	1595.13	101.53	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	SWCM w / oil spots 4%W 96%M	0.57
50.00	OCM 7%O 93%M	0.71
2.00	Clean Oil	0.03

Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcfd)

DST #3 LKC I-J

**TRILOBITE TESTING, INC.**

**DRILL STEM TEST REPORT**

Jaspar Co  
 PO Box 1120  
 Hays, KS 67601  
 ATTN: Cameron Brin

**1-6s-20w Rooks,KS**  
**Cole #1**  
 Job Ticket: 66358 **DST#:3**  
 Test Start: 2019.11.07 @ 02:35:00

GENERAL INFORMATION:

Formation: LKC 'I-J'  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 04:03:02  
 Time Test Ended: 08:28:02

Test Type: Conventional Bottom Hole (Reset)  
 Tester: Spencer J Staab  
 Unit No: 84

Interval: 3430.00 ft (KB) To 3467.00 ft (KB) (TVD)  
 Total Depth: 3378.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 2066.00 ft (KB)  
 2060.00 ft (CF)  
 KB to GR/CF: 6.00 ft

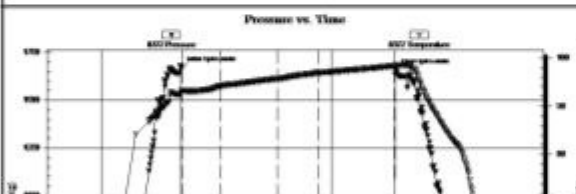
Serial #: 8372

Outside

Press@RunDepth: 20.73 psig @ 3431.00 ft (KB)  
 Start Date: 2019.11.07 End Date: 2019.11.07  
 Start Time: 02:35:01 End Time: 08:28:02

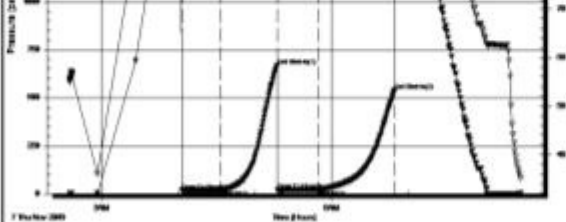
Capacity: psig  
 Last Calib.: 2019.11.07  
 Time On Btm: 2019.11.07 @ 04:02:32  
 Time Off Btm: 2019.11.07 @ 06:50:17

TEST COMMENT: 30-F-Weak; Built to 1/4"; Died back to Surface  
 45-ISI-No Return  
 30-FF-Weak Surface; Died 2 mins in  
 60-FSI-No Return



PRESSURE SUMMARY

Time (Mn.)	Pressure (psig)	Temp (deg F)	Annotation
0	1667.15	93.13	Initial Hydro-static
1	16.96	93.17	Open To Flow (1)
31	17.95	94.15	Shut-in(1)
75	668.25	95.68	End Shut-in(1)



76	19.90	95.56	Open To Flow (2)
107	20.73	96.96	Shut-in(2)
167	540.22	98.35	End Shut-in(2)
168	1653.56	98.43	Final Hydro-static

### Recovery

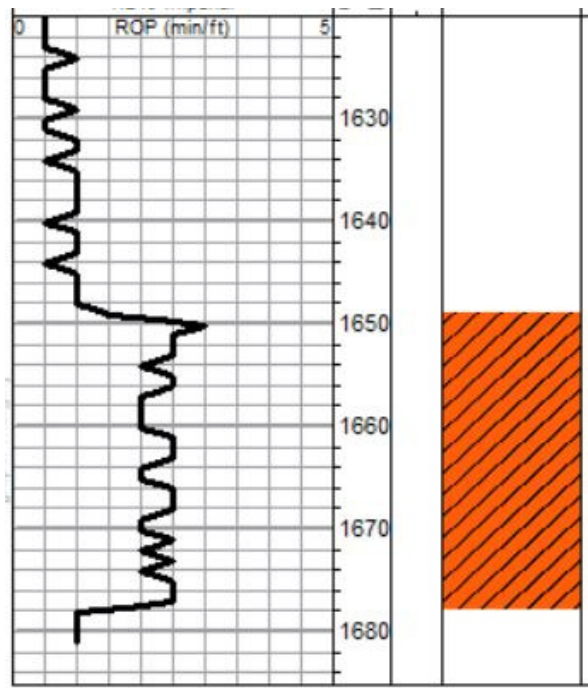
Length (ft)	Description	Volume (bbl)
9.00	OCM 10%O 90%M	0.13
1.00	Clean Oil 100%O	0.01

### Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcfd)

\* Recovery from multiple tests

## ANHYDRITE



**ANHYDRITE: SPL 1649' (+417) LOG 1647' (+419)**  
**BASE: SPL 1677' (+389) LOG 1676' (+390)**

FORMATION	COLE #1				P&A 4/9/2012				P&A 3/30/2018				AMES ENERGY EXPLORATION							
	2066		2060		HANSEN ESTATE #1				K&E PETROLEUM				AMES ENERGY EXPLORATION							
	N2 SE SW SE, Sec. 2-T6S-R20W		N2 SE SW SE, Sec. 2-T6S-R20W		HANSEN FOUNDATION #3				NICHOL #1				AMES ENERGY EXPLORATION							
	KB	GL	2066	2060	E2 SE NE NE, Sec. 11-T6S R20W				W2 E2 SE SW, Sec. 2-T6S-R18W				SE NW SE, Sec. 2-T6S-R20W							
LOG TOPS		SAMPLE TOPS		LOG	LOG	SMPL.	LOG	LOG	SMPL.	LOGS		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.	
ANHYDRITE TOP	1647	419	1649	417	1666	416	+ 3	+ 1	1692	414	+ 5	+ 3	1725	406	+ 13	+ 11	1721	417	+ 2	+ 0
ANHYDRITE BASE	1676	390	1677	389				1722	384	+ 6	+ 5	1736	395	- 5	- 6	1751	387	+ 3	+ 2	
TOPEKA	3056	-990	3058	-992	3070	-988	- 2	- 4	3092	-986	- 4	- 6	3118	-987	- 3	- 5	3129	-991	+ 1	- 1
HEEBNER SHALE	3254	-1188	3255	-1189	3266	-1184	- 4	- 5	3289	-1183	- 5	- 6	3315	-1184	- 4	- 5	3328	-1190	+ 2	+ 1
TORONTO	3276	-1210	3278	-1212	3289	-1207	- 3	- 5	3312	-1206	- 4	- 6	3339	-1208	- 2	- 4	3351	-1213	+ 3	+ 1
LKC	3290	-1224	3293	-1227	3304	-1222	- 2	- 5	3325	-1219	- 5	- 8	3353	-1222	- 2	- 5	3365	-1227	+ 3	+ 0
BKC	3487	-1421	3487	-1421	3500	-1418	- 3	- 3	3520	-1414	- 7	- 7	3546	-1415	- 6	- 6	3559	-1421	+ 0	+ 0
REAGAN SAND					3554	-1472			3577	-1471			3599	-1468			3616	-1478		
TOTAL DEPTH	3525	-1459	3536	-1470	3557	-1475	+ 16	+ 5	3575	-1469	+ 10	- 1	3603	-1472	+ 13	+ 2	3618	-1480	+ 21	+ 10

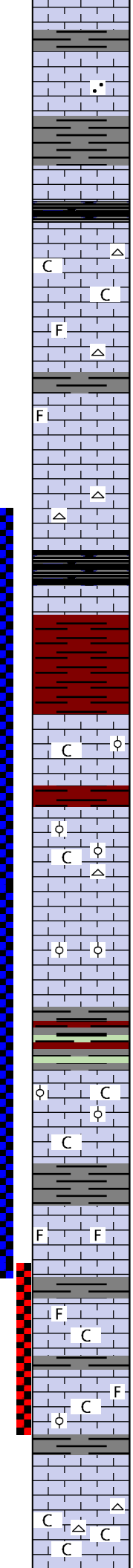
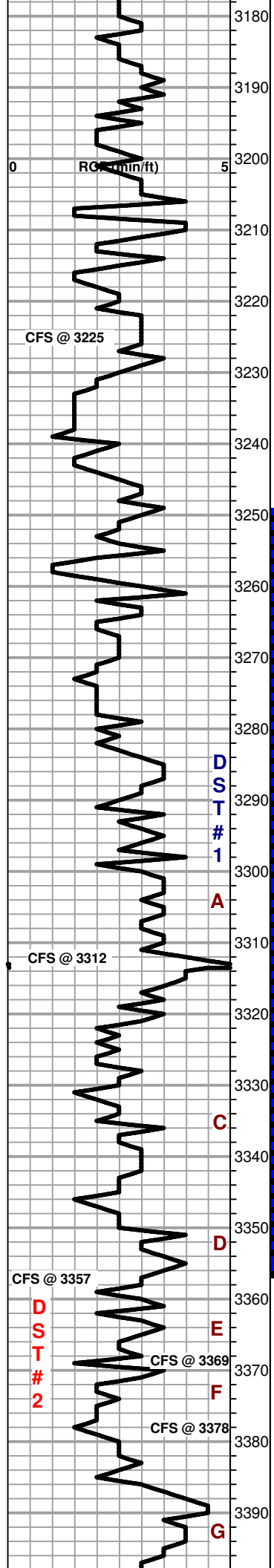
### ROCK TYPES

	Cht vari		shale, grn		Carbon Sh
	Lmst fw7>		shale, gry		shale, red

### ACCESSORIES

<b>MINERAL</b>	<b>FOSSIL</b>	<b>STRINGER</b>	<b>TEXTURE</b>
• Sandy	F Fossils < 20%	~~~~ Chert	C Chalky
△ Chert White	φ Oolite		

Curve Track #1 ROP (min/ft)	Depth   Intervals Cored Interval DST Interval	DST	Lithology	Oil Show	Geological Descriptions	Curve Track #3
<p>1:240 Imperial</p>	<p>0 5</p> <p>3010</p> <p>3020</p> <p>3030</p> <p>3040</p> <p>3050</p> <p>3060</p> <p>3070</p> <p>3080</p> <p>3090</p> <p>3100</p> <p>3110</p> <p>3120</p> <p>3130</p> <p>3140</p> <p>3150</p> <p>3160</p> <p>3170</p>				<p><b><u>START 1' DRILL TIME FROM 1620'-1700' FOR ANHYDRITE</u></b>  <b><u>START 1' DRILL TIME FROM 3000'- RTD</u></b>  <b><u>START 10' WET/ DRY SAMPLES FROM 3030'- RTD</u></b></p> <p>Sh- gray, sltly sandy</p> <p>Lm- gray, fnxln, dense</p> <p>Sh- gray- red, muddy red wash in part</p> <p>Sh- gray, sltly muddy, scat well consolidated Ss clusters</p> <p>Sh- red, muddy, soft</p> <p><b><u>TOPKEA: SPL 3058' (-992) LOG 3056' (-990)</u></b></p> <p>Lm- crm- gray, fnxln, scat foss, some dense, sandy in prt</p> <p>Lm- A/A</p> <p>Lm- gray- crm, fnxln, foss, scat sandy, few scat Ss clusters, cherty in prt</p> <p>Sh- gray</p> <p>Lm- gray- crm, fnxln, scat foss, scat sandy, mostly soft</p> <p>Sh- gray, sandy in prt</p> <p>Lm- crm, v. fn-fnxln, few scat pcs w/ pr inxln por, NSO</p> <p>Sh- gray</p> <p>Lm- crm- gray, fnxln- sltly granular, foss, few scat pcs w/ ppt por, NSO</p> <p>Lm- crm, fnxln- sltly granular, foss throughout, sandy, few pcs w/ pr inxln por, NSO</p> <p>Lm- crm, fnxln, foss throughout, scat chert, mostly dense</p> <p>Lm- crm, vfn-fnxln, foss, mostly dense, sandy in prt</p> <p>Lm- crm-gray, fnxln, soft, chalky, sandy</p>	<p>1:240 Imperial</p> <p><b>GEO ON LOCATION @ 2:00 P.M. 9/4/19</b></p> <p><b>8 5/8" SURFACE CASING SET @ 220' w/ 150 SKS 80/20, 3% cc, 2% GEL. DID CIRCULATE</b></p> <p><b>SURVERY @ 221' 1/2°</b></p>



Sh- gray- green

Lm- crm, v. fn-fnxln, sltly sandy

Sh- gray

Sh- blk, carb

Lm- crm, fnxln, foss, chalky in prt, cherty in prt, v. few scat pcs w/ pr ppt por, pr brn stn, NSFO, fr odor, fr streaming dry cut, fr yellow flour.

Lm- crm- v. fnxln, tight, scat foss, scat chert

Lm- crm, fnxln, sltly foss

Lm- crm, fnxln, dense cherty

**HEEBNER: SPL 3255' (-1189) LOG 3254' (-1188)**

Sh- blk, carb

Lm- crm- tan, fnxln, dense

Sh- red, gummy, muddy red wash

**TORONTO: SPL 3278' (-1212) LOG 3276' (-1210)**

Lm- crm, fnxln, oolitic, mostly tight, sltly chlky, few scat pcs w/ pr inxln por, pr brn stn, fr SFO upon crush, no odor, good streaming dry cut, dull yellow flour

**LKC: SPL 3293' (-1227) LOG 3290' (-1224)**

Lm- wt-crm, v. fn-fnxln, oolitic in prt, sltly chlky, sltly cherty, mostly v. barren & tight, few scat pcs w/ pr ppt-inxln por, pr brn stn, few FO droplets upon crush, slight odor, fr streaming dry cut, dull yellow flour

Lm- wt- crm- fnxln, oolitic, v. barren

Sh- maroon- gray- green

Lm- crm, fnxln, oolitic, chalky, few scat pcs w/ pr inxln-inoolitic por 1-2 pcs fr inoolitic por, few scat pcs w/ pr brn stn, FO droplets upon crush, fr odor, scat pcs w/ dead blk flaky oil

Sh- maroon- gray

Lm- crm- fnxln, foss, scat pr- fr infoss-inxln por w/ a few scat vugs, mostly pr w/ a few fr brn stn, FO droplets upon crush, pr odor

Lm-wt, fnxln, chalky throughout, foss, few scat pcs w/ pr infoss por, 1-2 pcs w/ v. pr brn stn, NSFO, no odor

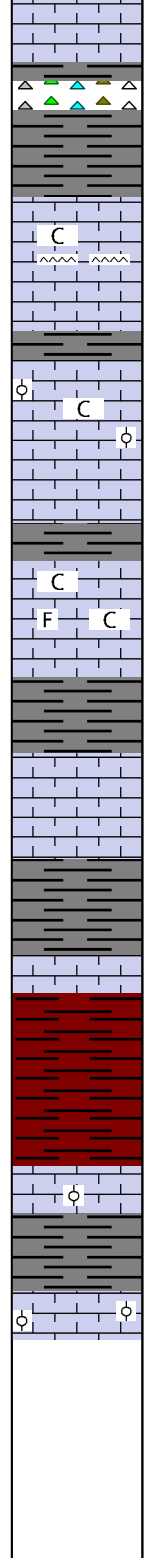
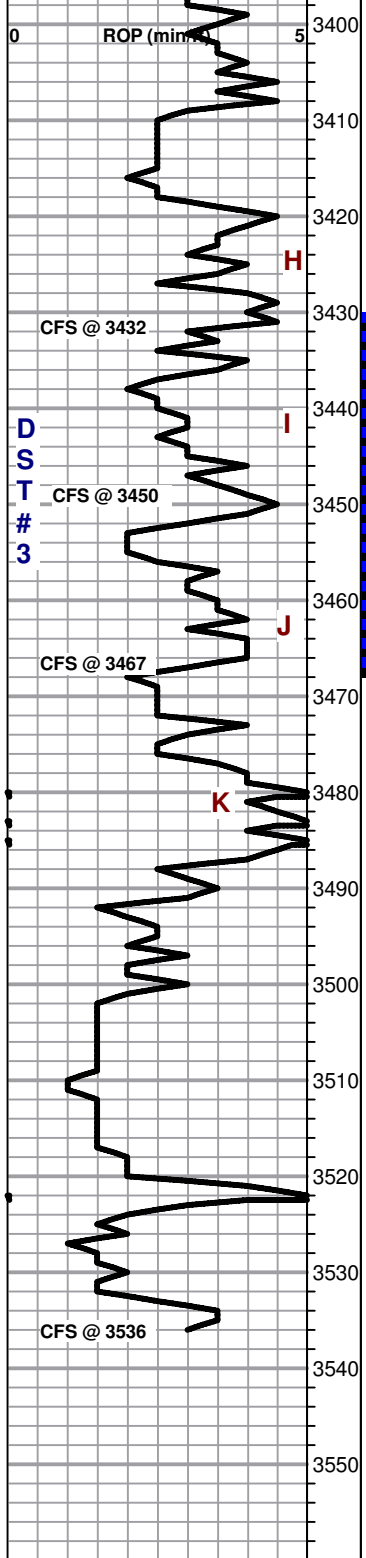
Lm- crm- fnxln, foss, oolitic, chalky in prt, scat mostly pr w/ a few scat fr pcs inxln-inoolitic por, mostly pr w/ a few pcs fr brn stn, fr SFO droplets upon crush, pr- fr odor, good streaming dry cut, dull yellow flour

Lm- crm- fnxln, chalky, cherty in prt, barren

Lm- crm-tan- fnxln, A/A

WT 8.6  
VIS 55  
LCM 2#

SURVEY @ 3357' 3/4°



Chert- brn- orange

Sh- gray red

Lm- crm- tan, fnxln, chalky in prt, chert throughout, slightly oolitic, NSO

Lm- crm- fnxln, chalky in prt, sltly foss, oolitic, scat pr w/ a few pcs fr inoolitic-inxln por, pr- fr brn stn, fr FO dropltes upon crush, slight odor, fr streaming dry cut, v dull yellow flour

Lm- crm- fnxln, slightly chlky, foss in prt, scat pr- fr inxln-ppt- infoss por, pr- fr brn stn, pr-fr SFO droplets upon crush, slit odor, fr streaming dry cut, dull yellow flour

Lm- crm, v. fn- fnxln, v clean and barren, tight

**BKC: SPL 3487' (-1421) LOG 3487' (-1421)**

Sh- gray

Lm- crm- fnxln, barren

Sh- red-gray, trashy, muddy red wash

Lm- crm- fnxln, dense, slightly oolitic

Lm- crm- lt purple, fnxln, oolitic in prt, some clastic mix

**RTD: SPL 3536' (-1470) LOG 3525' (-1459)**

**FILL IN THE BOTTOM OF THE HOLE CAUSED THE LOGGING TOOL TO LAND 11' SHORT OF RTD**

WT 8.9  
VIS 59  
LCM 4#

SURVEY @ 3536' 1 1/4°

**PIPE STRAP @ RTD  
-0.87 TO BOARD**

**GEO OFF LOCATION  
@ 12:15 A.M. 11/8/19**