

**OPERATOR**

Company: TDI, INC  
 Address: 1310 BISON ROAD  
 HAYS, KS 67601

Contact Geologist: TOM DENNING  
 Contact Phone Nbr: 785-259-3141  
 Well Name: HAAS #1  
 Location: W2 SE SE NE  
 Pool: NEW POOL  
 State: KANSAS

API: 15-051-26,273-00-00  
 Field: UNNAMED  
 Country: USA



Scale 1:240 Imperial

Well Name: HAAS #1  
 Surface Location: W2 SE SE NE  
 Bottom Location:  
 API: 15-051-26,273-00-00  
 License Number: 4787  
 Spud Date: 3/19/2012 Time: 11:00 AM  
 Region: ELLIS COUNTY Time: 7:00 PM  
 Drilling Completed: 3/25/2012  
 Surface Coordinates: 2310' FNL & 400' FEL  
 Bottom Hole Coordinates:  
 Ground Elevation: 1985.00ft  
 K.B. Elevation: 1995.00ft  
 Logged Interval: 2900.00ft To: 3750.00ft  
 Total Depth: 3750.00ft  
 Formation: LANSING-KANSAS CITY  
 Drilling Fluid Type: FRESH WATER/GEL CHEMICAL

**SURFACE CO-ORDINATES**

Well Type: Vertical  
 Longitude: Latitude:  
 N/S Co-ord: 2310' FNL  
 E/W Co-ord: 400' FEL

**LOGGED BY**

Company: SOLUTIONS CONSULTING  
 Address: 108 W 35TH  
 HAYS, KS 67602

Phone Nbr: (785) 639-1337  
 Logged By: Geologist Name: HERB DEINES

**CONTRACTOR**

Contractor: SOUTHWIND DRILLING, INC.  
 Rig #: 1  
 Rig Type: MUD ROTARY  
 Spud Date: 3/19/2012 Time: 11:00 AM  
 TD Date: 3/25/2012 Time: 7:00 PM  
 Rig Release: 3/26/2012 Time: 12:00 AM

**ELEVATIONS**

K.B. Elevation: 1995.00ft Ground Elevation: 1985.00ft  
 K.B. to Ground: 10.00ft


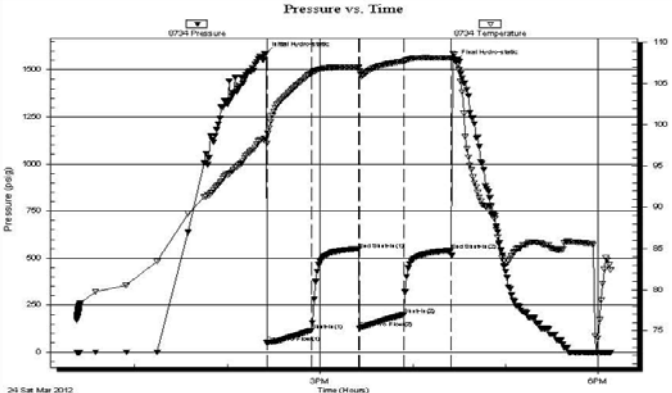
**NOTES**

RECOMMENDATION TO RUN PRODUCTION CASING BASED ON POSITIVE RESULTS OF DST #1 AND FAVORABLE STRUCTURE.

HAAS # 1  
 W2 SE SE NE SEC.24-15s-19w  
 ELLIS COUNTY, KANSAS  
 GL ELEVATION=1985' KB ELEVATION=1995'

<u>FORMATION</u>	<u>SAMPLE TOP</u>	<u>LOG TOP</u>
Anhydrite top	1164+ 831	1165 +830
Anhydrite base	1202+ 793	1200 +795
Topeka	2954 - 959	2952 - 957
Heebner Shale	3236-1241	3234-1239
Toronto	3257- 1262	3252-1257
LKC	3281 -1286	3280-1285
BKC	3525-1530	3525-1530
Conglomerate	3567-1572	3565-1570
Arbuckle		3615-1620
RTD	3750-1755	
LTD		3750-1755

3-19-2012 RU, spud  
3-20-2012 1174' CCH, run new, 23# 8 5/8" surface casing w/375 sxs SMD, Swift ticket #22032, plug down 2:30PM. WOC 12 hrs, slope 3/4 degree  
3-21-2012 1260', drilling  
3-22-2012 2215', drilling  
3-23-2012 2760', drilling  
3-24-2012 3270', drilling, short trip, DST #1 ("B"&"C"), Slope 0 degree  
3-25-2012 3470', drilling, RTD, CCH, out for logs  
3-26-2012 3750', logging, run 5 1/2" production casing.

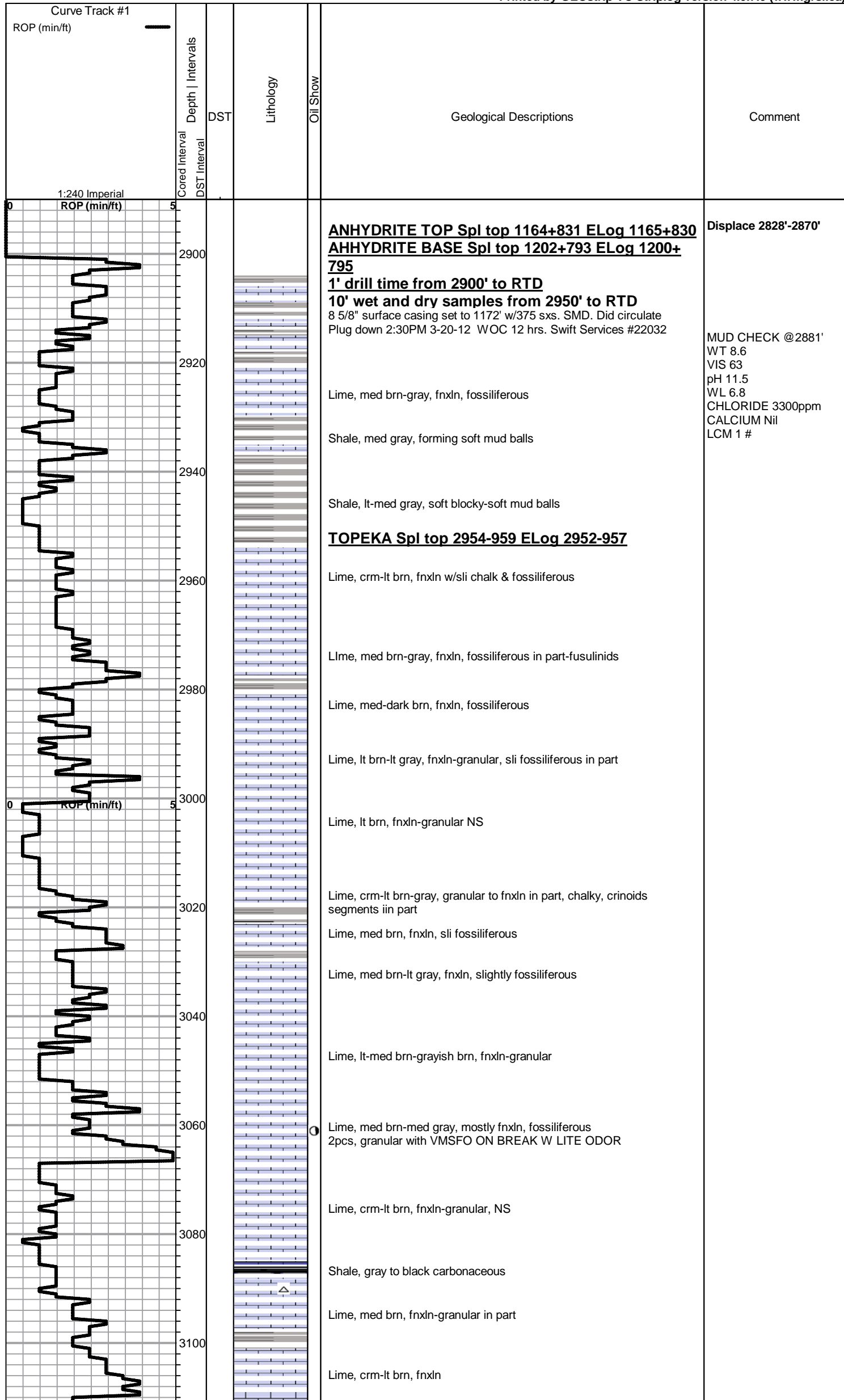
 <b>TRILOBITE TESTING, INC.</b>	<b>DRILL STEM TEST REPORT</b>																																						
	TDI 1310 Bison Rd Hays, Ks 67601 ATTN: Herb Deines	<b>24-15-19 Ellis, Ks</b> <b>Haas #1</b> Job Ticket: 36073 <b>DST#: 1</b> Test Start: 2012.03.24 @ 12:22:32																																					
<b>GENERAL INFORMATION:</b>																																							
Formation: <b>LKC "B-C"</b> Deviated: No Whipstock      ft (KB) Time Tool Opened: 14:25:32 Time Test Ended: 18:08:02		Test Type: Conventional Bottom Hole (Initial) Tester: Brian Fairbank Unit No: 41																																					
<b>Interval: 3290.00 ft (KB) To 3314.00 ft (KB) (TVD)</b> Total Depth: 3314.00 ft (KB) (TVD) Hole Diameter: 7.88 inches-Hole Condition: Good		Reference Elevations: 1996.00 ft (KB) 1988.00 ft (CF) KB to GR/CF: 8.00 ft																																					
<b>Serial #: 8734      Outside</b> Press@RunDepth: 196.87 psig @ 3291.00 ft (KB) Start Date: 2012.03.24      End Date: 2012.03.24 Start Time: 12:22:33      End Time: 18:08:02		Capacity: 8000.00 psig Last Calib.: 1899.12.30 Time On Btm: 2012.03.24 @ 14:24:32 Time Off Btm: 2012.03.24 @ 16:27:02																																					
<b>TEST COMMENT:</b> IFP - BOB 1 min ISI - BOB 3 min FFP - BOB 2 min GTS 13 min FSI - BOB 3 min																																							
		<b>PRESSURE SUMMARY</b>																																					
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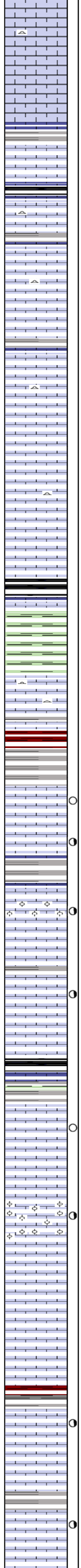
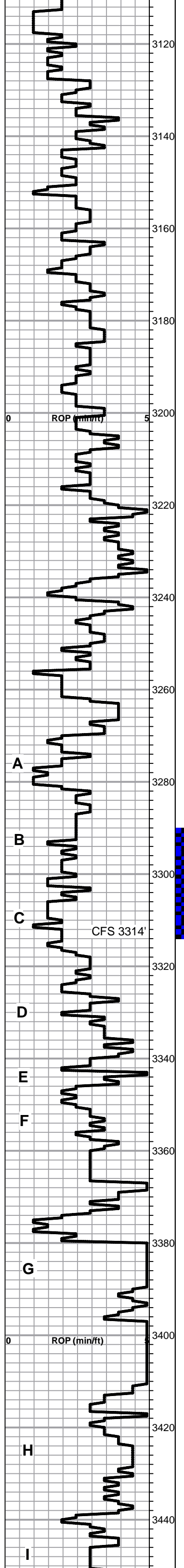
ROCK TYPES					
	Congl		Lmst fw<7		Shgy
	Chtcongl		Lmst fw7>		Carbon Sh
	Dolprim		Lscongl		shale, gry
					shale, red
					shale, grn
					Ss

ACCESSORIES	
<b>MINERAL</b>	<b>FOSSIL</b>
▲ Chert, dark	φ Oolite
∩ Glauconite	
P Pyrite	
△ Chert White	

OTHER SYMBOLS
<b>DST</b>
■ DST Int
■ DST alt

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





Lime, crm-lt brn, granular with fnxn in part, slightly chalky

Lime, crm-lt bray, fnxn, slightly chalky

Shale, lt gray-grayish green, soft, blocky

Lime, crm, fnxn

Shale, gray-black carbonaceous

Lime, crm-lt brn, fnxn

Shale, lt gray, soft forming mud balls in part

Lime, crm-lt brn, fnxn-granular in part

Lime, offwht-lt-med brn, fnxn

Lime, crm-lt-med brn, fnxn

Lime, crm-lt brn, fnxn w/slight chalk in part

Lime, lt-med brn, fnxn, slightly fossiliferous

Lime, lt-med brn, fnxn

**HEEBNER SHALE Spl top 3236-1241 ELog 3234-1239**

Shale, black carbonaceous

Lime, med brn, fnxn

Shale, lime green, soft

**TORONTO Spl top 3257-1262 ELog 3252-1257**

Lime, wht-crm, fnxn, slight chalk NS

**LKC Spl top 3281-1286 ELog 3280-1285**

Lime, crm-lt brn, mostly fnxn, V LT ODOR, scattered stain, NFO

Lime, crm, fnxn-granular in part, V LT ODOR, VMSFO on break

Shale, gray, soft blocky

Lime, crm to lt brn, fnxn with fossil fragments, oolitic with interfragment porosity. V Lt ODOR, SCAT-SAT STAINING

Lime, lt brn, fnxn

Lime, wht-crm, fossil fragments & oolites w/scattered vuggy porosity. V LT ODOR, LT SCATTERED STAIN, NFO

Shale, gray to black carbonaceous

Lime, lt gray, fn-vfxn.

Shale, gray-grayish green, soft, blocky

Lime, crm-tan, mostly fnxn w/fair amount of scattered stain in a mostly vuggy porosity. No odor, NFO

Lime, crm-tan, fn-vfxn, slight chalk in part.

Lime, crm-tan, oolitic-oomoldic, SCATTERED STAIN in top of section with some barren chips in part, V LT ODOR, NFO, scattered vugs in part

Lime, crm-tan, fn-vfxn, slight chalk in part

Lime, crm-lt brn, fn-vfxn, slight chalk in part

Shale, reddish brn-lt gray, calcareous in part

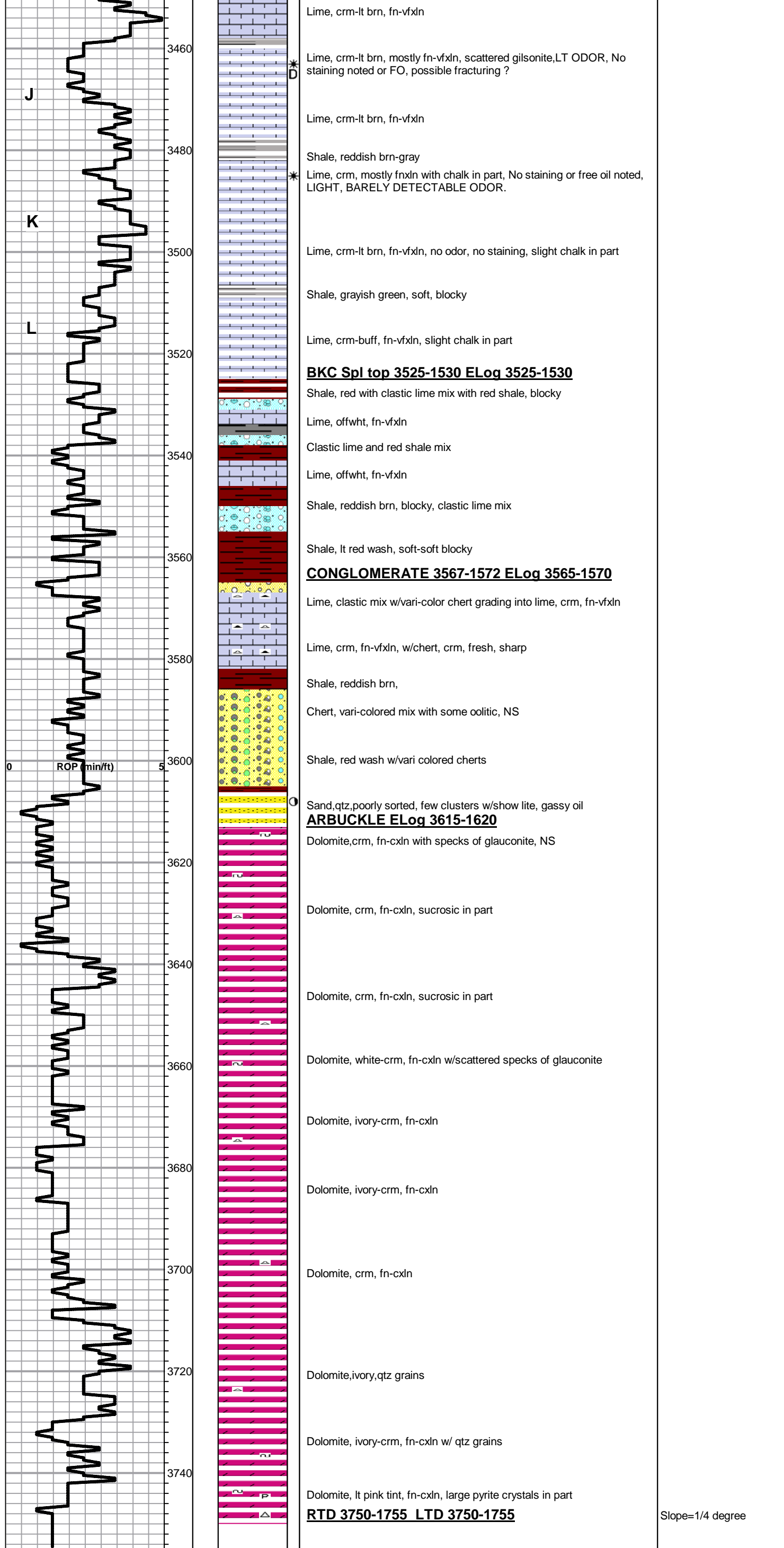
Lime, crm-lt brn, scattered oolitic and fossil fragments with scattered staining, NO ODOR, NFO

Lime, Lt-med brn, fn-vfxn, slight chalk in part, few pieces dark chert

Lime, crm-lt brn, mostly fnxn, with few pieces oolitic with heavy, dark staining, NFO, NO ODOR

.89' short board  
 Slope 1/2 degree  
 DST # 1 3290'-3314'  
 30-30-30-30  
 REC: GTS 43 min.  
 90' GMO  
 370' FREE OIL  
 50'GM&WCO  
 BHT:109 DEGREES  
 GRAVITY: 38  
 API Rw .156@86 deg.  
 Chlorides=40,000ppm  
 ISIP: 546#  
 FSIP: 539#  
 FP: 48-116, 129-197  
 1st Open: BOB 1 min  
 Blow back-BOB 3 min  
 2nd Open: BOB 2min  
 GTS 13 minutes  
 Blow back-BOB 3 min

MUD CHECK 3426'  
 Wt 8.9  
 Vis 59  
 pH 11.0  
 WL 6.2  
 Chloride 3200ppm  
 Calcium Trace  
 LCM 1 #



Slope=1/4 degree

JOB LOG

SWIFT Services, Inc.

DATE 20 MAR 12 PAGE NO.

CUSTOMER TDI WELL NO. 1 LEASE Hoas JOB TYPE Cement deep surface pipe TICKET NO. 22032

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
								375sk SMD w/ 1/4" floater 27 joints 8 5/8" 23" - 1172' baffle plate 1142' Centralizers
	0800							on loc TRK 114
	1130							start 8 5/8" 23" casing in well
	1330							circulate
	1340	4 3/4	12				200	Pump 500gal mud flush
		4 3/4	20				200	Pump 20 bbl KCL flush
	1345	6	46				300	Mix SMD cement @ 11.8 ppg 100sk
		6	38				300	Mix SMD cement @ 12.5 ppg 100sk
		6	34				350	Mix SMD cement @ 13 ppg 100sk
		6	21				350	Mix SMD cement @ 14.2 ppg 75sk
								150 bbl total
								Release plug
	1415	6	74				400	Displace plug
		6	65				400	cement to surface (65 Displacement pumps)
	1420						450	plug down
								close in casing
	1425							wash truck
								RACK UP
	1500							job complete
								Thanks TJ, Dan & Blaine

375 sks total mixed  
25 sks to pit

JOB LOG

SWIFT Services, Inc.

DATE 26 MAR 12 PAGE NO. 1

CUSTOMER TDI WELL NO. #1 LEASE Haas JOB TYPE Cement long string TICKET NO. 22035

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
								180sks EA-2 w/ 1/2" # flange 5 1/2" 14# casing 3750' sheet 3295' Centralizer Cement Basket #2
	1100							on loc TRK 114
	1220							Start 5 1/2" 14# casing in well
	1415							Drop ball - circulate - ROTATE
	1500	4 3/4	12				200	Pump 200 gal mud flush
		4 3/4	20				200	Pump 20 bbl KCL flush
	1507		7					Plug RH - MH <u>30 sks</u> - <u>20 sks</u>
	1515	4 3/4	36				250	mix EA-2 cement @ 15.3 ppg <u>130 sks</u>
	1525							Drop latch down plug wash out pump & line
	1528	6 3/4					200	Displace plug
	<del>43</del>	6 3/4	43				800	
	1545	6 3/4	92				1600	Land plug
								Release pressure to truck - dried up
	1550							wash truck Rack up
	1620							job complete Thru Blaine, Brandon, Isaac & Dave