

OPERATOR

Company: TDI, INC.
 Address: 1310 BISON ROAD
 HAYS, KANSAS 67601

Contact Geologist: TOM DENNING
 Contact Phone Nbr: 785-259-3141
 Well Name: BITTEL # 1
 Location: NW NE SW SE
 Pool: INFIELD
 State: KANSAS

API: 15-051-26,271-00-00
 Field: ELLIS SOUTHEAST
 Country: USA



TDI, Inc.
 1310 BISON ROAD
 HAYS, KANSAS 67601
 (785) 628-2593

Scale 1:240 Imperial

Well Name: BITTEL # 1
 Surface Location: NW NE SW SE
 Bottom Location:
 API: 15-051-26,271-00-00
 License Number: 4787
 Spud Date: 4/13/2012 Time: 9:00 AM
 Region: ELLIS COUNTY Time: 7:07 PM
 Drilling Completed: 4/18/2012
 Surface Coordinates: 1150' FSL & 1920' FEL
 Bottom Hole Coordinates:
 Ground Elevation: 2155.00ft
 K.B. Elevation: 2164.00ft
 Logged Interval: 3100.00ft To: 3912.00ft
 Total Depth: 3910.00ft
 Formation: ARBUCKLE
 Drilling Fluid Type: PREMIUM GEL/CHEMICAL

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: Latitude:
 N/S Co-ord: 1150' FSL
 E/W Co-ord: 1920' 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 #: 2
 Rig Type: MUD ROTARY
 Spud Date: 4/13/2012 Time: 9:00 AM
 TD Date: 4/18/2012 Time: 7:07 PM
 Rig Release: 4/19/2012 Time: 6:00 PM

ELEVATIONS

K.B. Elevation: 2164.00ft Ground Elevation: 2155.00ft
 K.B. to Ground: 9.00ft

NOTES


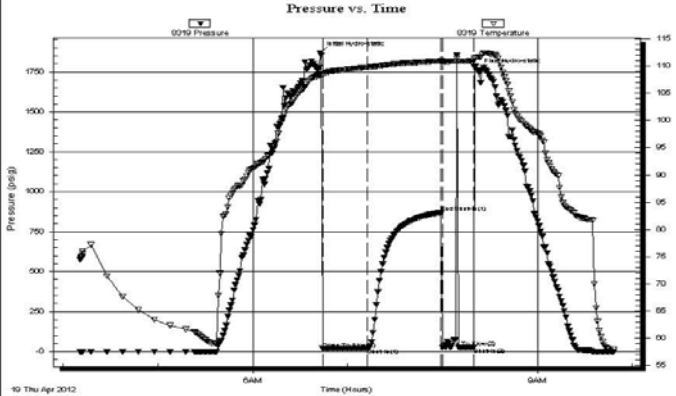
RECOMMENDATION TO PLUG AND ABANDON WELL DUE TO LACK OF RESERVOIR DEVELOPMENT IN LKC AND ARBUCKLE AND NEGATIVE RESULTS OF DST # 1.

BITTEL # 1
1150'FSL & 1920' FEL, SEC.6-13s-20w
ELLIS COUNTY, KANSAS
GL ELEVATION=2155' KB ELEVATION=2164'

FORMATION	SAMPLE TOP	LOG TOP
ANHYDRITE TOP	1501+ 653	1504+ 660
ANHYDRITE BASE	1547+ 617	1543 +621
TOPEKA	3180-1016	3182-1018
HEEBNER SHALE	3418-1254	3417-1253
TORONTO	3439-1275	3440-1276
LKC	3456-1292	3457-1293
BKC	3691-1527	3697-1533
MARMATON	3751-1587	3752-1588
REWORKED ARBUCKLE	3820-1656	3831-1667
ARBUCKLE		3848-1684
RTD	3910-1746	
LTD		3912-1748

4-11-2012 RU
4-12-2012 Day off
4-13-2012 Spud, set SP to 212' with 150 sacks Common, 2%Gel, 3%CC, plug down 2:30PM, Quality ticket # 323, WOC 8 hours, slope survey ¾ degree.
4-14-2012 606', drilling
4-15-2012 1994', drilling, Anhydrite 1505-1548
4-16-2012 2754', drilling, displaced mud system at 2807'
4-17-2012 3329', drilling
4-18-2012 3711', drilling, RTD 3910, short trip-25 stands, CCH, Logging
4-19-2012 3910', finishing logging, DST#1 straddle test-"K" & "L" zones, P&A

DST # 1 "K" AND "L" BENCHES - STRADDLE TEST AFTER LOGS

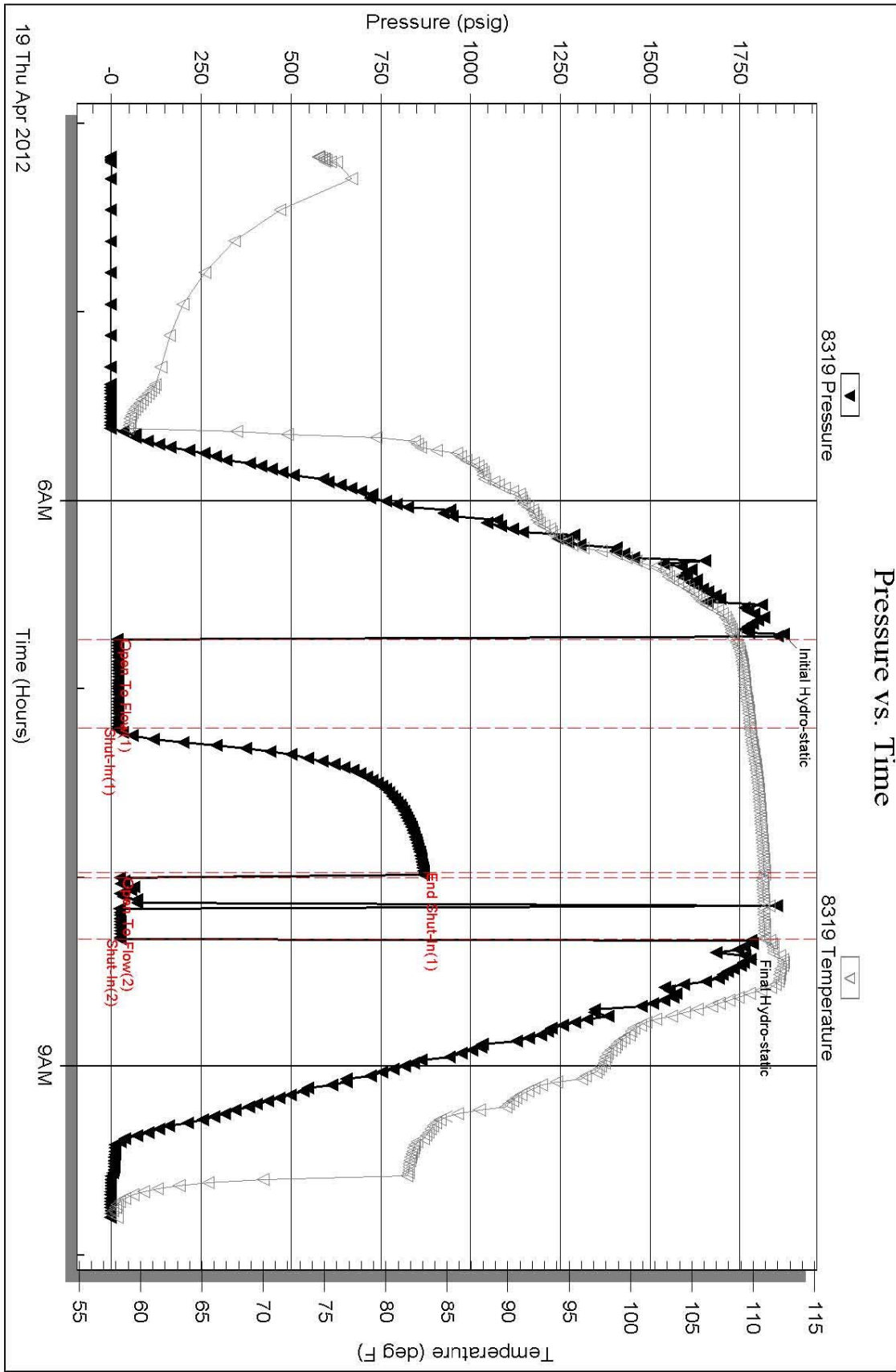
 TRILOBITE TESTING, INC.	DRILL STEM TEST REPORT																																	
	TDI, Inc. 1310 Bison Rd Hays KS 67601 ATTN: Herb Deines	6-13s-20w Ellis, KS Bitte I #1 Job Ticket: 47714 DST#: 1 Test Start: 2012.04.19 @ 04:10:27																																
GENERAL INFORMATION: Formation: KC "K-L" Deviated: No Whipstock: ft (KB) Time Tool Opened: 06:43:57 Time Test Ended: 09:48:27 Interval: 3644.00 ft (KB) To 3690.00 ft (KB) (TVD) Total Depth: 3690.00 ft (KB) (TVD) Hole Diameter: 7.88 inches Hole Condition: Fair Test Type: Conventional Straddle (Initial) Tester: Brett Dickinson Unit No: 59 Reference Elevations: 2164.00 ft (KB) 2154.00 ft (CF) KB to GR/CF: 10.00 ft																																		
Serial #: 8319 Inside Press@RunDepth: 19.75 psig @ 3651.00 ft (KB) Start Date: 2012.04.19 End Date: 2012.04.19 Start Time: 04:10:32 End Time: 09:48:26 Capacity: 8000.00 psig Last Calib.: 2012.04.19 Time On Btm: 2012.04.19 @ 06:42:27 Time Off Btm: 2012.04.19 @ 08:21:57																																		
TEST COMMENT: IF-1/4" blow died to very weak surface blow ISI-No blow FF-No blow flush tool																																		
	PRESSURE SUMMARY																																	
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DST # 1 EXPANDED CHART

Trilobite Testing, Inc

Ref. No: 47714

Printed: 2012.04.19 @ 10:13:07



Serial #: 8319

Inside

TDI, Inc.

Bitset #1

DST Test Number: 1

ROCK TYPES

	Cht vari		Lmst fw<7		Shcol		shale, grn		CglSandy
	Dolprim		Lmst fw>7		Shgy		shale, gry		Ss
	Dolsec		Dol Lime		Carbon Sh		shale, red		

ACCESSORIES

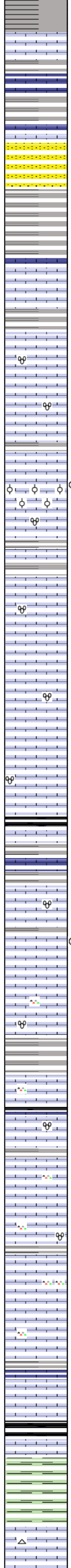
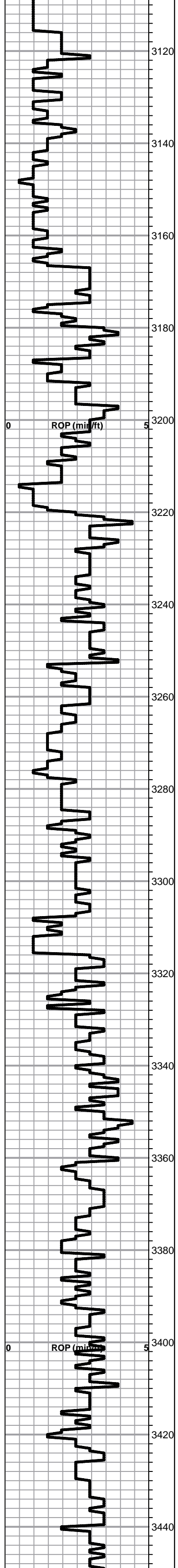
MINERAL	FOSSIL
▲ Chert, dark	☞ Foraminifera
⬢ Varicolored chert	⊙ Oolite
△ Chert White	

OTHER SYMBOLS

DST
■ DST Int
■ DST alt

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

Curve Track #1	ROP (min/ft)	Depth Intervals	DST	Lithology	Oil Show	Geological Descriptions	Comment
1:240 Imperial	ROP (min/ft)	Cored Interval DST Interval				1' DRILL TIME 3100' TO RTD 10' WET AND DRY SAMPLES 3150' TO RTD ANHYDRITE TOP Spl top 1511+653 ELog 1504+660 ANHYDRITE BASE Spl 1547-647 ELog 1542-621	



Lime, lt-med brn, fnxln, fossiliferous
Shale, lt-med gray, soft blocky
Shale, med gray, soft blocky
Sandstone, lt gray, very fine grained, poorly sorted, micaceous, NS

DISPLACE @ 2807'
MUD CHECK @2823'
WT 8.6
VIS 63
pH 11.5
WL 6.4
CL 1500ppm
Ca Nil
LCM 2#

Shale, lt-med gray, soft blocky
Lime, lt-med brn, fnxln, slightly chalky in part

TOPEKA Spl top 3180-1016 ELog 3182-1018

Lime, lt-med brn-med gray, fnxln
Lime, lt brn, fn-vfxln, slightly fossiliferous-fusulinids
Lime, lt-med brn, fnxln-granular in part, bedded chalk in part few chips, oolitic with lt gassy oil on break with light odor.
Lime, lt brn, fn-vfxln
Lime, lt brn-grayish brn, fn-vfxln, slightly fossiliferous, pyritic in part
Lime, lt-med brn, fnxln, bedded chalk in part
Lime, lt-med brn, fn-vfxln
Lime, tan-lt brn, tan-lt brn, fnxln-granular with chalk in part
Lime, med brn, fnxln-granular grading to grayish brn, fnxln

Shale, gray to black carbonaceous
Lime, lt-med brn, fnxln, Shale, lt gray, calcareous
Lime, lt-med brn, fnxln
Lime, wht-crm, fnxln-granular, few pcs with stain and lt gassy odor on break.
Lime, crm-lt brn, fn-vfxln, bedded chalk in part, slightly fossiliferous
Lime, tan-brn-gray, fnxln-granular, slightly fossiliferous
Shale, lt gray, calcareous
Lime, lt-med - med brn, fnxln
Shale, gray-black carbonaceous
Lime, med brn, fn-vfxln, slightly fossiliferous

MUD CHECK @ 3376'
WT 9.0
VIS 46
pH 11.0
WL 6.8
CL 1500 PPM
Ca Nil
LCM 2#

Lime, crm-tan, fn-vfxln
Lime, crm-lt brn, fn-vfxln
Lime, crm-lt brn-med brn in part, fn-vfxln
Lime, crm-lt brn, fnxln grading into dark brn lime, fnxln
Lime, med-dark brn, fnxln with granular in part, slightly fossiliferous

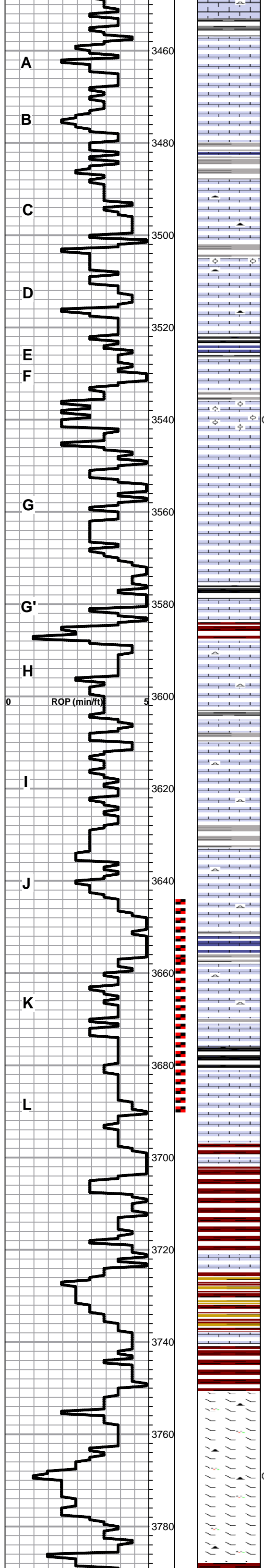
HEEBNER SHALE Spl top 3418-1254 ELog 3417-

Shale, black carbonaceous
Lime, med brn, fnxln, fossiliferous
Shale, lt gray-lime green, soft blocky

TORONTO Spl top 3439-1275 ELog 3440-1276

Lime, crm-lt brn, fnxln, NS

LKC Spl top 3456-1292 ELog 3457-1293



Lime, crm-tan, fn-vfxln

Lime, drm-brn-lt gray, fnxln, slightly fossiliferous, NS

Shale, dove gray, soft forming sticky mud balls in part

Lime, crm-lt brn, fn-vfxln, scattered brn chert fragments, fresh

Lime, crm, mostly fn-vfxln with chalk in part, few oolitic pieces, NS

Shale, gray-black carbonaceous, pyritic

Lime, very lt gray, fnxln

Lime, crm-tan, fn-vfxln

Lime, crm-tan, fnxln-granular, with fine oolitic in part but well cemented, scattered light stain, NFO< No odor

Lime, crm-lt brn, fn-vfxln, bedded chalk in part

Lime, crm-tan, fn-vfxln, slightly fossiliferous

Lime, cr-tan-lt brn, fn-vfxln, slightly fossiliferous

Shale, gray-black carbonaceous

Lime, crm, fnxln, fossiliferous

Shale, reddish brn, blocky

Lime, crm-tan, fnxln with white chert, fresh, sharp, gilsonitic

Lime, crm-lt brn, fn-vfxln, slightly chalky

Lime, crm-tan, fn-vfxln, bedded chalk in part

Lime, offwhite-lt brn, fnxln, slightly chalky in part, NS

Lime, offwhite-crm-lt brn, fn-vfxln, NS, calculates on log with indicated permeability. Tested to confirm or condemn zone.

Shale, gray to black carbonaceous, blocky forming soft mud balls

Lime, crm-tan, fn-vfxln, slightly chalky in part, NS, calculates on log with indicated permeability. Tested to confirm or condemn zone.

BKC Spl top 3691-1527 ELog 3697-1533

Shale, reddish brn, soft blocky

Lime mix, off white, fnxln-vfxln

Shale, vari colored

Lime, offwhite, fnxln

Shale, reddish brn-red, soft blocky

MARMATON Spl top 3751-1587 ELog 3752-1588

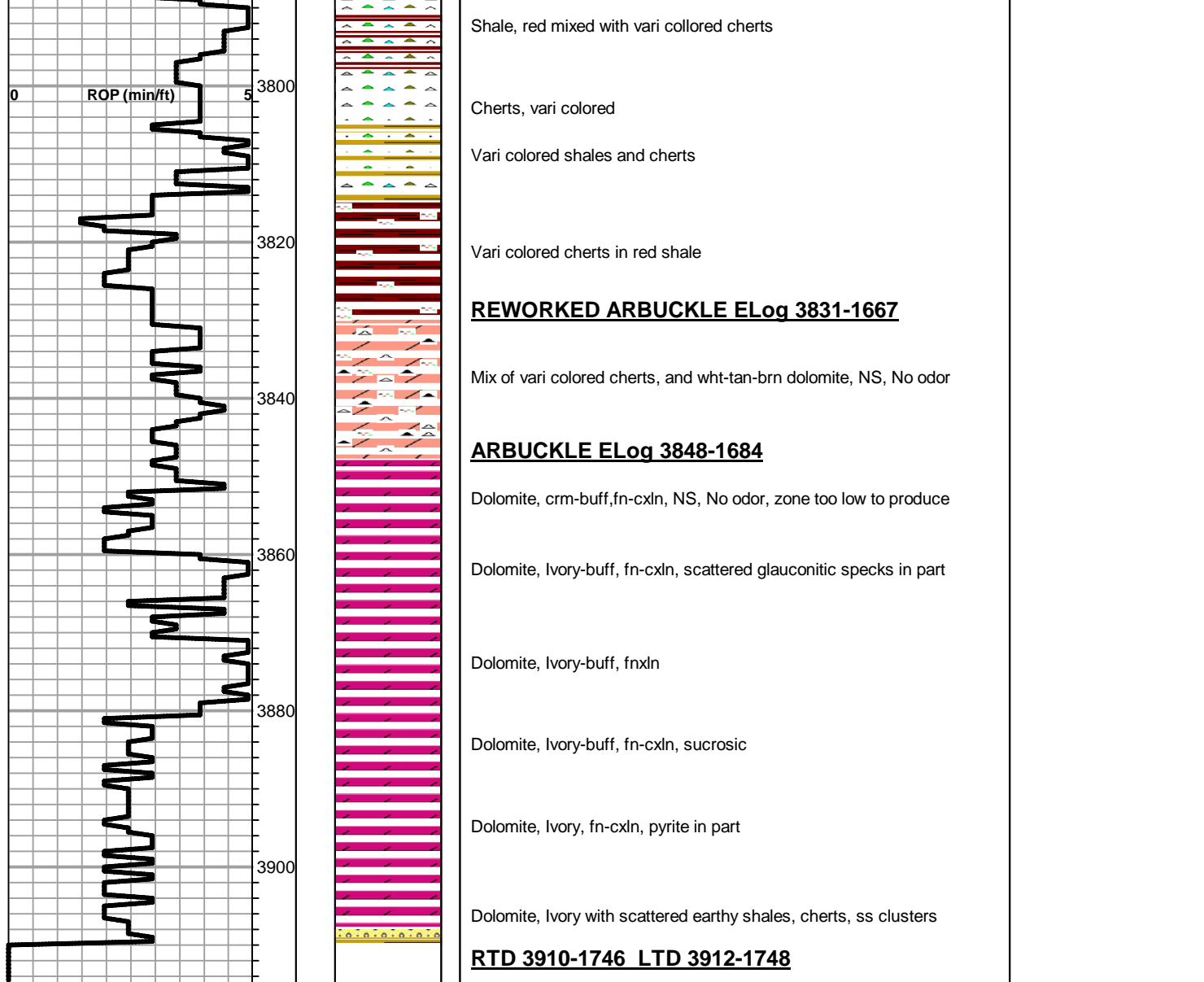
Dolomitic lime, crm, fn-vfxln, cherty

Dolomitic lime, tan-med brn, fn-med xln, fine interxln porosity in part, very light halo wet cut, No odor, NFO

Dolomitic lime, crm-tan, fnxln

DST #1 STRADDLE TST
3644'-3690'
30-45-20-0
REC: 15' MUD NS
ISIP: 869#
FP; 17-20,24
BHT: 111 DEGREES
1ST OPEN: WEAK 1/4 "
NO BLOW BACK
2ND OPEN: NO BLOW
FLUSHED TOOL
NO BLOW

MUD CHECK @ 3766'
WT 9.2
VIS 52
pH 10.5
WL 6.8
CL 1500 ppm
Ca Trace
LCM 2#



QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025

Home Office P.O. Box 32 Russell, KS 67665

No. **828**

Cell 785-324-1041

Date	4-13-12	Sec.	6	Twp.	13	Range	20	County	Ellis	State	KS	On Location		Finish	2:30 p.m.	
Lease	Bitter		Well No.		1		Location Ellis 5 6th Street 1/4 W N into									
Contractor	Southwind #2							Owner								
Type Job	Surface							To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.								
Hole Size	12 1/4		T.D.		212		Charge To TD ±									
Csg.	8 5/8		Depth		211		Street									
Tbg. Size			Depth				City									
Tool			Depth				State									
Cement Left in Csg.	15		Shoe Joint				The above was done to satisfaction and supervision of owner agent or contractor.									
Meas Line			Displace		12 1/2 BCL		Cement Amount Ordered 150 csm 30 bcl 20 bbl									

EQUIPMENT

Pumptrk	15	No.	Cementer	10	Helper		Common
Bulktrk		No.	Driver	150	Driver		Poz. Mix
Bulktrk	14	No.	Driver	100	Driver		Gel.

JOB SERVICES & REMARKS

Remarks:	Hulls
Rat Hole	Salt
Mouse Hole	Flowseal
Centralizers	Kol-Seal
Baskets	Mud CLR 48
D/V or Port Collar	CFL-117 or CD110 CAF 38

8 5/8 on bottom. Est. Circulation
M.V. 150 SK + Displace
Cement + Circulation

FLOAT EQUIPMENT

Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	Swage
Float Shoe	
Latch Down	

Pumptrk Charge	
Mileage	

Signature	<i>William Anderson</i>	Tax	
		Discount	
		Total Charge	

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 5496

Date	4-19-12	Sec.	6	Twp.	13	Range	20	County	Ellis	State	Ks	On Location		Finish	4:30 PM
Lease	Bittel			Well No.	#1			Location	I-70 + Ellis, S to 6th Street, 1/4 W						
Contractor	Southwind #2							Owner	M/Into						
Type Job	Plug							To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.							
Hole Size	7 7/8"			T.D.	3910'			Charge To	TDI Inc.						
Csg.				Depth				Street							
Tbg. Size	4 1/2" D.P.			Depth	3812'			City	State						
Tool				Depth				The above was done to satisfaction and supervision of owner agent or contractor.							
Cement Left in Csg.				Shoe Joint				Cement Amount Ordered	245 SX 60140 4% Gel 1/4 F.S.						
Meas Line				Displace	H2O / mud										

EQUIPMENT

Pumptrk	9	No.	Cementer	Matt	Common	147
			Helper			
Bulktrk	10	No.	Driver	Lonnie	Poz. Mix	98
			Driver			
Bulktrk	p.u.	No.	Driver	Rick	Gel.	9
			Driver			

JOB SERVICES & REMARKS

Remarks:	Calcium
Rat Hole	Hulls
305X	Salt
Mouse Hole	Flowseal
155X	61E
Centralizers	Kol-Seal
Baskets	Mud CLR 48
D/V or Port Collar	CFL-117 or CD110 CAF 38
3812' - 25 SX	Sand
1525' - 25 SX	Handling
740' - 100 SX	260
260' - 40 SX	Mileage

FLOAT EQUIPMENT

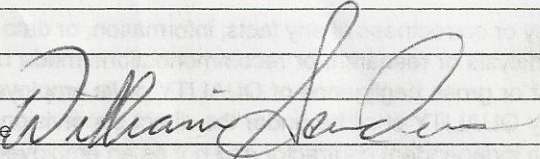
40' - 10 SX w/ plug	Guide Shoe
Rathole - 305X	Centralizer
Mousehole - 155X	Baskets
	AFU Inserts
	Float Shoe
	Latch Down

Cement did Circulate.

1 - Dry hole plug

Pumptrk Charge plug

Mileage 18

X Signature 	Tax
	Discount
	Total Charge