

OPERATOR

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

Contact Geologist: TOM DENNING
 Contact Phone Nbr: 785-259-3141
 Well Name: IRVIN TRUST # 2
 Location: NW SE SE SW Sec.13-15s-19w
 Pool: INFIELD
 State: KANSAS

API: 15-051-26,311-00-00
 Field: UNNAMED
 Country: USA



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

Scale 1:240 Imperial

Well Name: IRVIN TRUST # 2
 Surface Location: NW SE SE SW Sec.13-15s-19w
 Bottom Location:
 API: 15-051-26,311-00-00
 License Number: 4787
 Spud Date: 8/9/2012 Time: 3:00 PM
 Region: ELLIS COUNTY
 Drilling Completed: 8/15/2012 Time: 7:57 AM
 Surface Coordinates: 410' FSL & 2035' FWL
 Bottom Hole Coordinates:
 Ground Elevation: 2007.00ft
 K.B. Elevation: 2017.00ft
 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: 410' FSL
 E/W Co-ord: 2035' FWL

LOGGED BY

Company: SOLUTIONS CONSULTING
 Address: 108 W 35TH
 HAYS, KANSAS 67601

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

CONTRACTOR

Contractor: SOUTHWIND DRILLING, INC.
 Rig #: 1
 Rig Type: MUD ROTARY

Rig Type: MUD ROTARY
Spud Date: 8/9/2012
TD Date: 8/15/2012
Rig Release: 8/16/2012

Time: 3:00 PM
Time: 7:57 AM
Time: 1:00 AM

ELEVATIONS

K.B. Elevation: 2017.00ft
K.B. to Ground: 10.00ft

Ground Elevation: 2007.00ft

NOTES

RECOMMENDATION TO RUN CASING TO FURTHER TEST AND DEVELOP NUMEROUS SHOW ZONES BASED ON FAVORABLE STRUCTURE TO OFFSET PRODUCERS AND POSITIVE RESULTS OF DST # 2.

LOG-TECH RAN DUAL INDUCTION LOG, DUAL COMPENSATED POROSITY LOG AND MICRORESISTIVITY LOG

FORMATION TOPS SUMMARY AND CHRONOLOGY OF DAILY ACTIVITY

IRVIN TRUST # 2
410' FSL & 2035' FWL, SW/4
Sec.13-15s-19w
2007' GL 2017' KB


<u>FORMATION</u>	<u>SAMPLE TOPS</u>	<u>LOG TOPS</u>
Anhydrite	1196+ 821	1195+ 822
B-Anhydrite	1231+ 786	1230+ 787
Topeka	2978- 961	2977- 960
Heebner Shale	3262-1245	3260-1243
Toronto	3281-1267	3280-1263
LKC	3307-1290	3305-1288
BKC	3545-1528	3544-1527
Conglomerate Sand		3621-1604
Arbuckle		3629-1612
RTD	3750-1733	
LTD		3749-1732

SUMMARY OF DAILY ACTIVITY

8-09-12 RU, Spud at 3:00PM
8-10-12 1206' set 8 5/8" surface casing to 1205' w/450 sacks of Common, 2%Gel, 3% CC, plug down 12:15 PM, WOC 12 hours, slope 1 ¼ degree .

- 8-11-12 1543', drilling
- 8-12-12 2550', drilling, mud up
- 8-13-12 3265', drilling, DST # 1 3290'-3365'
- 8-14-12 3489', drilling, DST # 2, 3430'-3500'
- 8-15-12 3711', drilling, RTD 3750', Logs, run 5 ½ "production casing. Set casing to 3746' with 125 sacks EA2
- 8-16-12 3750', finish cementing bottom stage, rig down

DST # 1 TEST SUMMARY

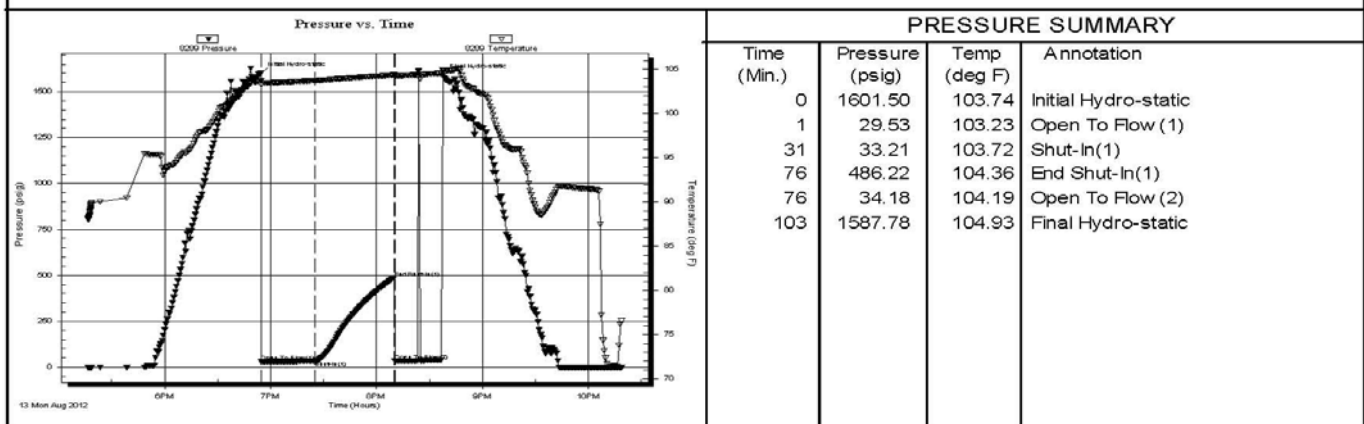
 TRILOBITE TESTING, INC.	DRILL STEM TEST REPORT	
	TDI Inc 1310 Bison Rd Hays Ks 67601 ATTN: Tom Denning	13-15s-19w Irvin Trust #2 Job Ticket: 49350 DST#: 1 Test Start: 2012.08.13 @ 17:16:26

GENERAL INFORMATION:

Formation: Lansing A-D	Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock ft (KB)	Tester: Jeff Brown
Time Tool Opened: 18:54:41	Unit No: 54
Time Test Ended: 22:18:41	Reference Elevations: 2016.00 ft (KB)
Interval: 3290.00 ft (KB) To 3365.00 ft (KB) (TVD)	2006.00 ft (CF)
Total Depth: 3365.00 ft (KB) (TVD)	KB to GR/CF: 10.00 ft
Hole Diameter: 7.88 inches	Hole Condition: Good

Serial #: 8289 Outside	Capacity: 8000.00 psig
Press@RunDepth: 33.21 psig @ 3328.00 ft (KB)	Last Calib.: 2012.08.13
Start Date: 2012.08.13 End Date: 2012.08.13	Time On Btm: 2012.08.13 @ 18:54:26
Start Time: 17:16:28 End Time: 22:18:41	Time Off Btm: 2012.08.13 @ 20:37:26

TEST COMMENT: IFF=Weak surface blow died out in 22 min
 IS=dead no blow back
 FFF=Dead no blow flushed tool -Dead



Recovery			Gas Rates			
Length (ft)	Description	Volume (bbl)	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)	
15.00	Mud with oil spots 100%	0.21				

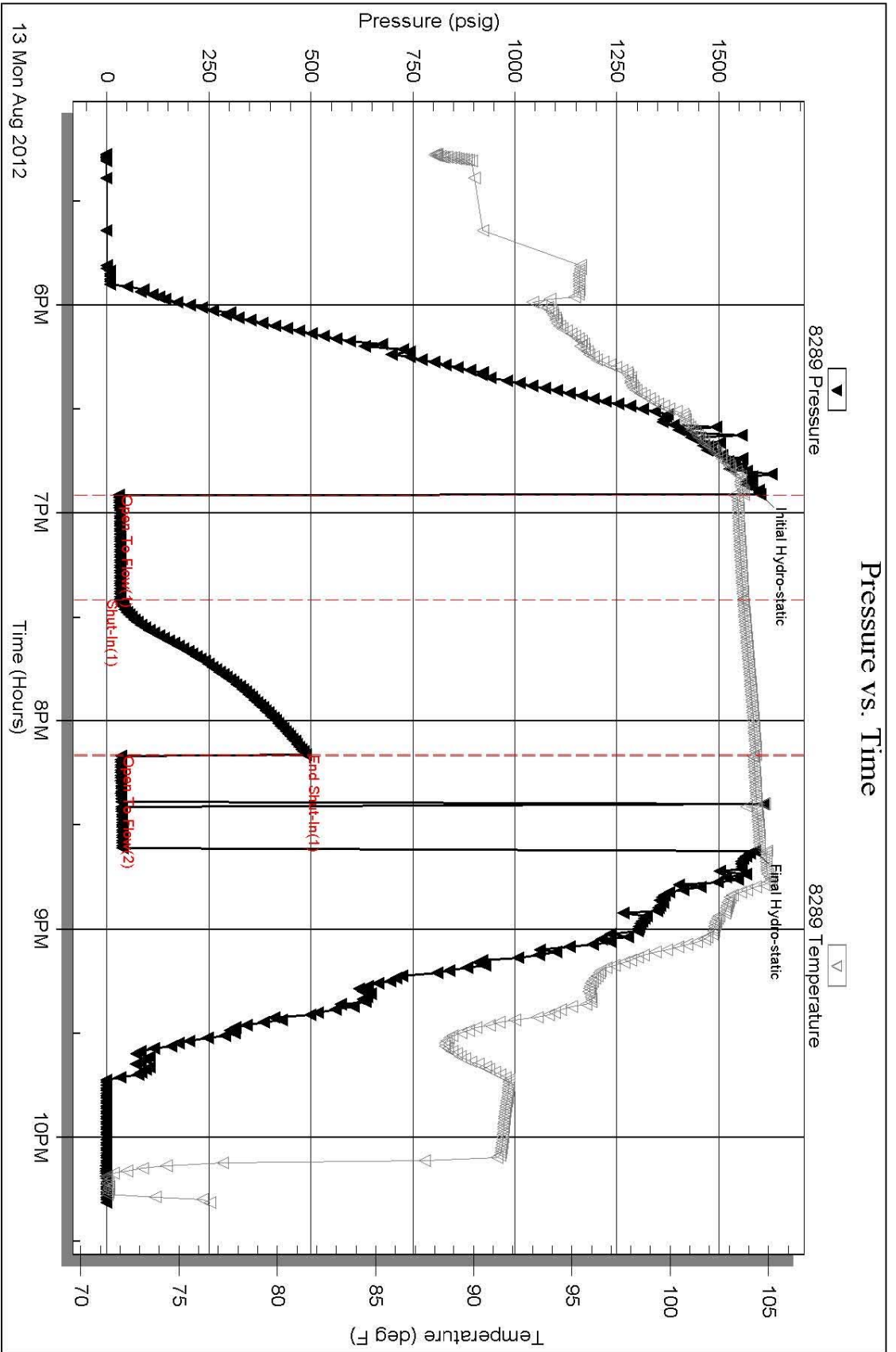
DST # 1 EXPANDED CHART

Serial #: 8289

Outside TDI Inc

Iv/in Trust #2

DST Test Number: 1




Tribbite Testing, Inc

Ref. No: 49350

Printed: 2012.08.14 @ 01:12:06

DST # 2 TEST SUMMARY

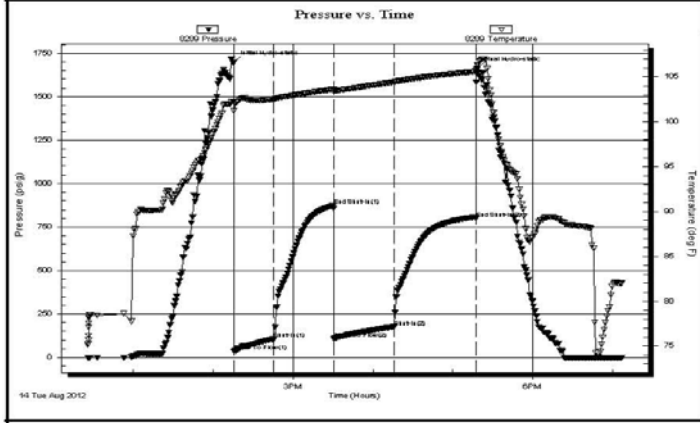
 TRILOBITE TESTING, INC	DRILL STEM TEST REPORT	
	TDI Inc 1310 Bison Rd Hays Ks 67601 ATTN: Tom Denning	13-15s-19w Irvin Trust #2 Job Ticket: 48526 DST#: 2 Test Start: 2012.08.14 @ 12:25:48

GENERAL INFORMATION:

Formation: LKC-H-I-J	Test Type: Conventional Bottom Hole (Reset)
Deviated: No Whipstock ft (KB)	Tester: Jeff Brown
Time Tool Opened: 14:15:33	Unit No: 54
Time Test Ended: 19:06:33	Reference Elevations: 2016.00 ft (KB)
Interval: 3430.00 ft (KB) To 3500.00 ft (KB) (TVD)	2006.00 ft (CF)
Total Depth: 3500.00 ft (KB) (TVD)	KB to GR/CF: 10.00 ft
Hole Diameter: 7.88 inches	Hole Condition: Good

Serial #: 8289 Outside	Capacity: 8000.00 psig
Press@RunDepth: 176.99 psig @ 3467.00 ft (KB)	Last Calib.: 2012.08.14
Start Date: 2012.08.14 End Date: 2012.08.14	Time On Btm: 2012.08.14 @ 14:15:18
Start Time: 12:25:50 End Time: 19:06:33	Time Off Btm: 2012.08.14 @ 17:18:03

TEST COMMENT: IFF=Good blow BOB in 18 min
 IS=Weak blow back built to 1 in Died back to 1/4 in
 FFP=Good blow BOB in 7 3/4 min
 FS=Weak surface blow built to 1 1/2 in Died back to 1/2 in



PRESSURE SUMMARY			
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1697.68	102.25	Initial Hydro-static
1	36.83	101.23	Open To Flow (1)
30	107.45	102.53	Shut-In(1)
75	874.46	103.63	End Shut-In(1)
76	108.41	103.39	Open To Flow (2)
121	176.99	104.44	Shut-In(2)
182	801.30	105.60	End Shut-In(2)
183	1665.80	105.96	Final Hydro-static

Recovery		
Length (ft)	Description	Volume (bbt)
126.00	MW with oil spots 20% M 0% W	1.77
126.00	V SOCGWM 8% G 2% O 5% W 85% M	1.77
73.00	GMCO 5% G 45% M 50% O	1.02
0.00	462-GIP	0.00

* Recovery from multiple tests

Gas Rates			
Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)	

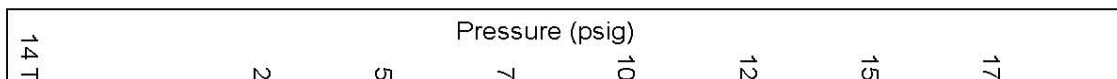
Trilobite Testing, Inc

Ref. No: 48526

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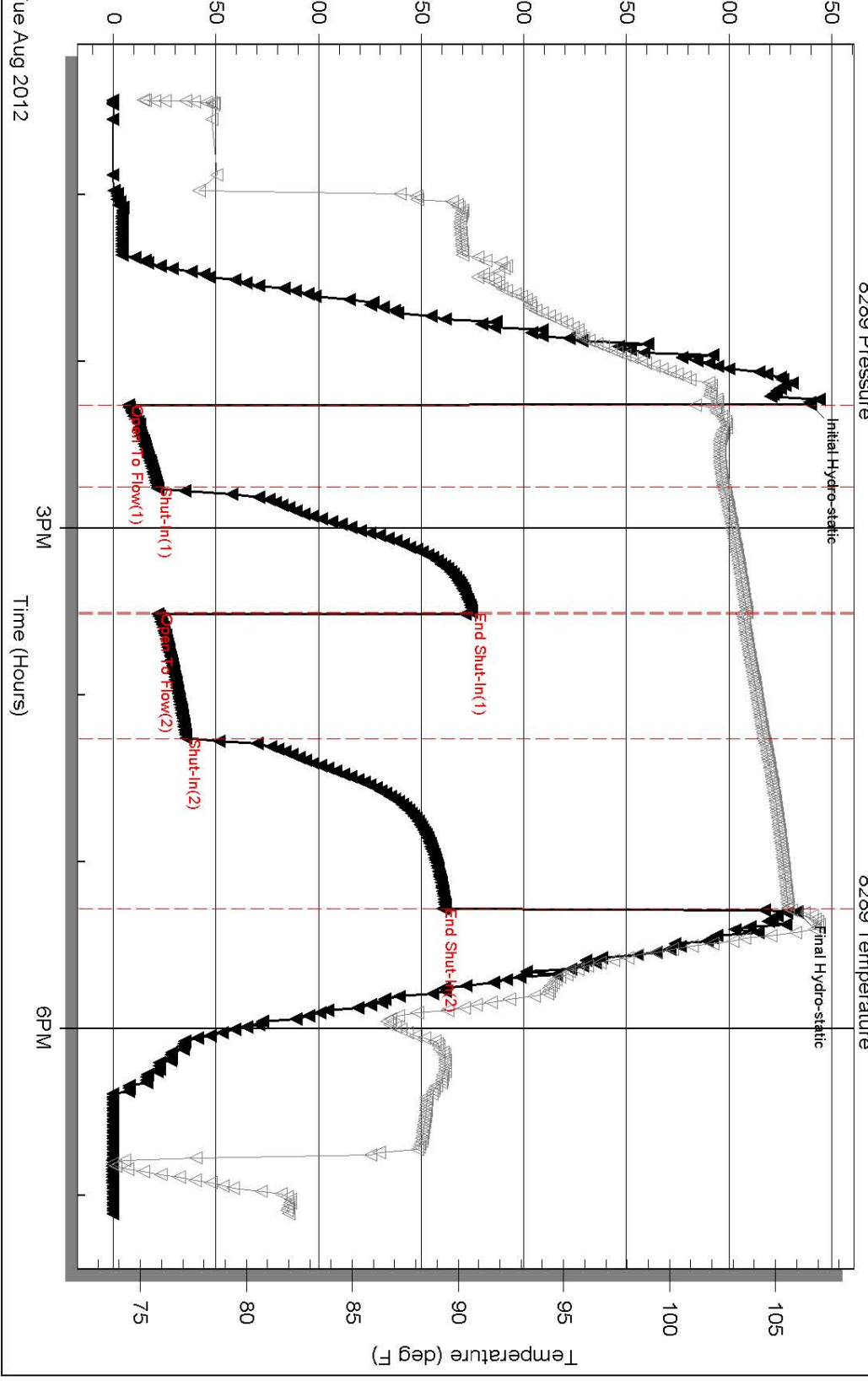
DST # 2 EXPANDED CHART

Trilobite



Serial:

Pressure vs. Time



ROCK TYPES

- | | | | | | | | |
|--|----------|--|------------|--|------------|--|---------|
| | Cht vari | | Lmst fw<7 | | shale, gry | | Shcol |
| | Clystgy | | Lmst fw>7 | | Carbon Sh | | Ss |
| | Dolprim | | shale, grn | | shale, red | | Lscongl |

ACCESSORIES

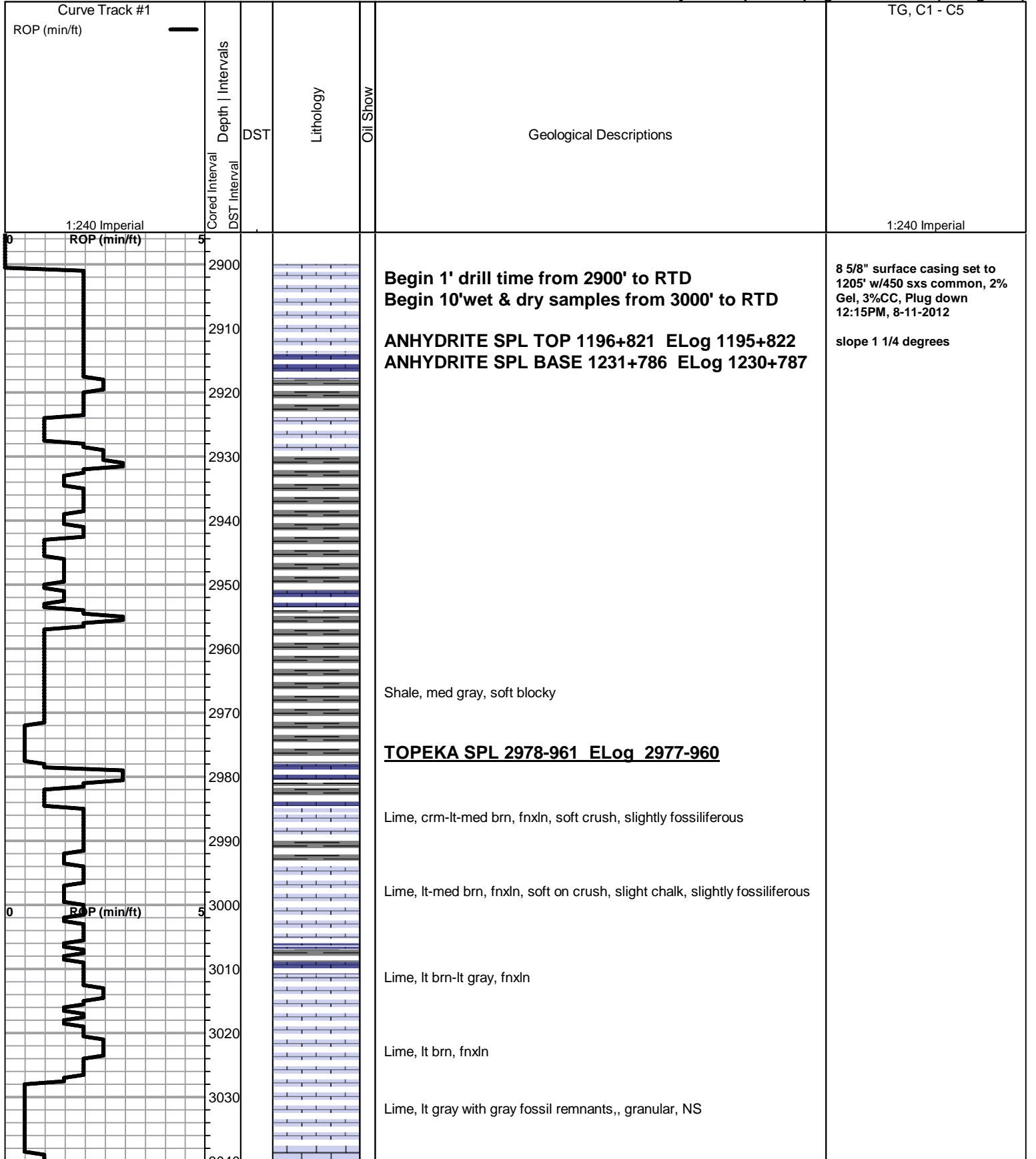
- | | |
|----------------|---------------|
| MINERAL | FOSSIL |
| Calcareous | Fossils < 20% |
| Chert, dark | Calite |

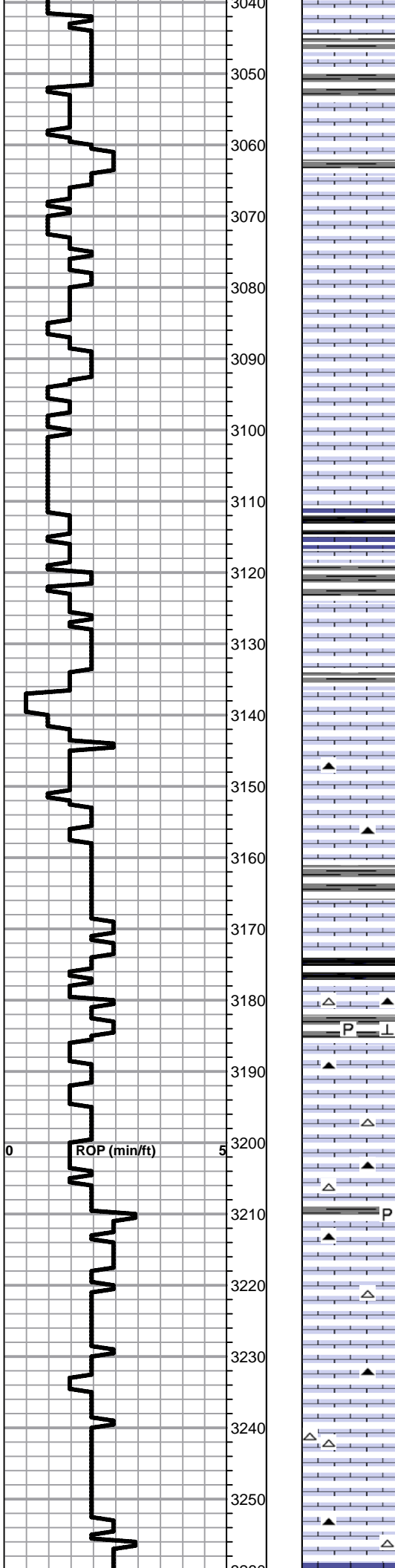
- ▲ Chert, dark
- ∩ Glauconite
- ≡ Nodules
- P Pyrite
- Sandy
- △ Chert White
- ◊ Oomoldic

OTHER SYMBOLS

- DST**
- DST Int
 - DST alt
 - Core

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





3040 Lime, lt-med brn, fnxln

3050 Lime, med grn-grayish brn, fnxln-granular, gray fossil remnants

3060 Lime, grayish brn-med brn, fnxln, slightly fossiliferous, fusulinids

3070 Lime, lt brn-lt grayish brn, fnxln, slightly fossiliferous

3080 Lime, lt-med brn, fnxln-granular, slightly chalky, slightly fossiliferous

3090 Lime, med brn-med grayish brn, fnxln, slightly fossiliferous

3100 Lime, med brn-med gray, fnxln-granular

3110 Lime, med brn-grayish brn, fnxln-granular
Shale, gray to black carbonaceous, blocky

3120 Lime, crm-lt brn, fnxln-granular, slightly fossiliferous

3130 Lime, offwhite-crm, fnxln, very clean lime in appearance

3140 Lime, crm-lt brn, fnxln-granular, bedded chalk in part NS

3150 Lime, crm-lt brn, fnxln-granular in part, slight chalk in part
Chert, lt smoky gray, sharp, fresh

3160 Lime, lt-med brn-grayish brn, fnxln, slight chalk

3170 Lime, med brn, fnxln, fossiliferous in part

3180 Shale, black carbonaceous, blocky
Lime, med brn-med gray, fnxln, slightly fossiliferous
Shale, gray, calcareous, pyrite clusters in part

3190 Lime, lt brn-lt gray, fnxln-granular in part, slightly fossiliferous

3200 Lime, lt-med brn with gray tint in part, fnxln-granular, crinoids

3210 Lime, offwhite-lt brn, fnxln-granular in part,

3220 Lime, crm-lt brn, fnxln

3230 Lime, lt brn-lt gray, fnxln-granular

3240 Lime, lt-med brn-grayish brn, fnxln

3250 Lime, lt-med brn-gray, fnxln

HEEBNER SHALE SPL 3262-1245 ELog 3260-1243

Shale, black carbonaceous, fissile, blocky
Lime, lt-med brn, fn-vfxln

Shale, lime green forming soft mud-soft blocky

TORONTO SPL 3281-1264 ELog 3280-1263

Lime, white-crm, fn-vfxln, glassy in appearance NS

Lime, crm-lt brn, fn-vfxln, NS

Shale, reddish brn-gray, soft, blocky

LKC SPL 3307-1290 ELog 3305-1288

Lime, lt-med gray, scattered oolitic/fossil fragment with light scattered stain, NFO, very light to non detectable odor.

Lime, lt-med brn, fnxln
Shale, lt gray, soft

Lime, tan-lt brn, fnxln with few chips of oolitic/fossil fragment material with scattered staining with very light odor

Shale, med gray, soft, blocky

Lime, tan-lt brn, fnxln

Lime, crm-tan, fnxln

Shale, gray-black carbonaceous, blocky
Lime, lt gray, fnxln

Lime, crm-lt brn, fnxln with bedded chalk in part, NS

Lime, crm-lt brn, fnxln, few chips with scattered stain, No Odor

Lime, crm-lt brn, fnxln with bedded chalk in part
Chert, white, oolitic, sharp, fresh

Lime, crm, fnxln, fnxln with oolitic/oomoldic in part, chalky NS

Lime, crm-tan, fnxln, chalky in part

Lime, crm-tan, fnxln, chalky in part

Lime, med-dark brn, fnxln

Shale, gray-black, soft, blocky

Lime, tan-med brn, mostly fnxln with few chips with scattered staining and gilsonitic deposits, No Odor, NFO

Lime, crm-tan, fnxln, slight chalk

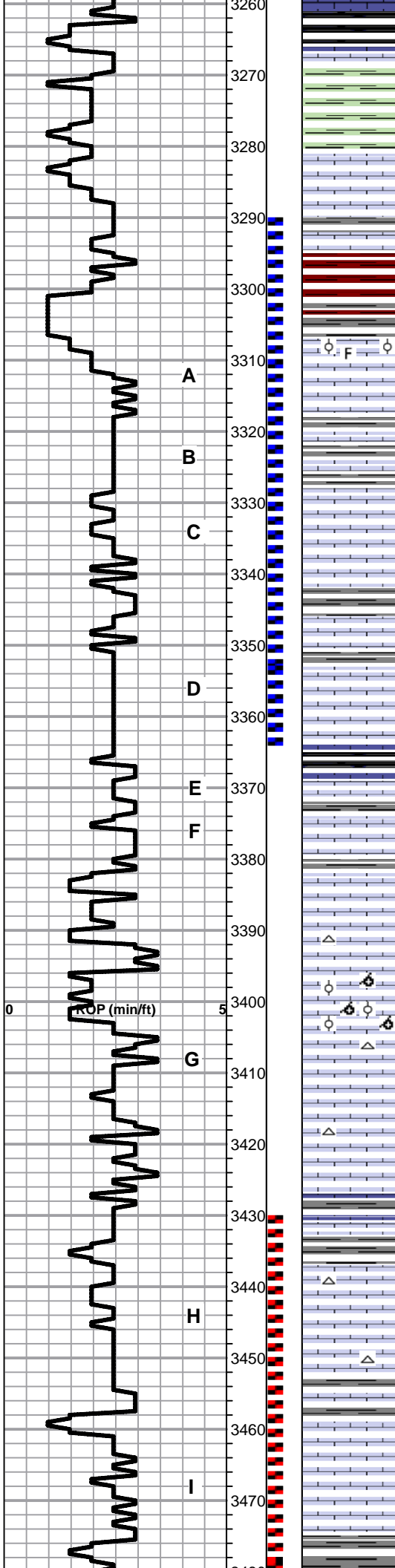
Lime, crm-tan, fnxln, slight chalk

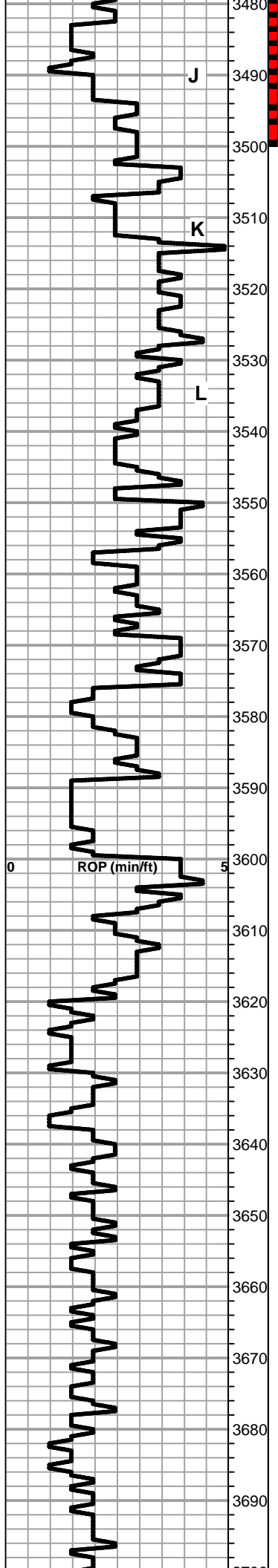
Lime, crm-tan, fnxln with fine pinpoint porosity in part with speckled staining, NFO, very light odor

Lime, crm-tan, fnxln

DST # 1 3290' TO 3365'
SEE HEADER FOR TEST SUMMARY

DST # 2 3430' TO 3500'
SEE HEADER FOR TEST SUMMARY





Lime, crm-tan, fnxln with oolitic/oomoldic chips in part with fine honeycomb oomoldic with scattered-saturated staining, VMSFO on break with fair odor

Lime, crm-tan, fnxln

Shale, med gray, soft, blocky with pyrite clusters

Lime, crm-tan, fnxln

Lime, crm-lt brn, fn-cryptoxln

Lime, crm-lt brn, scattered bedded chalk, vfxln

Lime, offwhite-crm, fnxln, slight chalk in part

BKC SPL 3545-1528 ELog 3544-1527

Shale, reddish brn, soft, blocky, scattered chert

Lime, tan-lt brn, fn-vfxln, dolomitic

Shale, vari colored

Lime, clastic mix with red staining

Shales, vari colored, soft, blocky

Shale, reddish brn, soft, blocky with small chert nodules

Shales, vari-colored-soft white, sticky clumps

Cherts, vari-colored, scattered gilsonitic deposits, NFO, No Odor

Shales, vari-colored, soft, blocky with vari-color cherts+pyrite

CONGLOMERATE SAND ELog 3621-1604

Sandstone, mixed grain, poorly sorted, lt gassy SFO, thin zone

ARBUCKLE ELog 3629-1612

Dolomite, crm-ivory, fn-med xln, sucrosic in part, NS

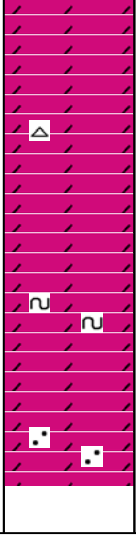
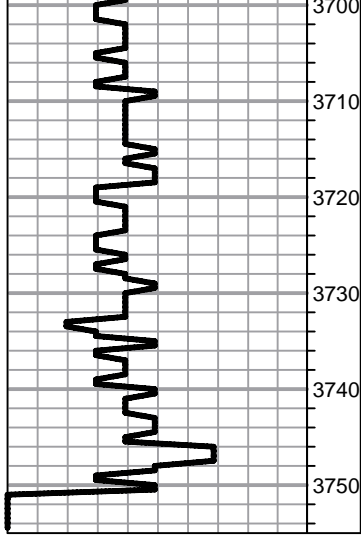
Dolomite, crm-ivory, fn-med xln, granular w sucrosic in part, NS

Dolomite, crm-ivory, fn-med xln, sucrosic

Dolomite, crm-ivory, fn-med xln, sucrosic

Dolomite, crm-ivory, fn-med xln, sucrosic with increasing good visible interxln porosity

Dolomite, crm-ivory, fn-cxln



Dolomite, crm-ivory, fn-cxln

Dolomite, crm-ivory, fn-cxln

Dolomite, crm-ivory, fn-cxln, scattered glauconite specks

Dolomite, crm-ivory fn-cxln, scattered, imbedded, quartz sand grains

RTD 3750-1733 LTD 3749-1732

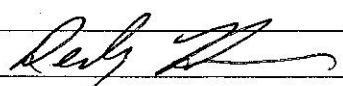
QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

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

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

No. 938

Date	8-10-12	Sec.	13	Twp.	15	Range	19	County	Ellis	State	Ks	On Location		Finish	12:15 PM
Lease	Irwin trust			Well No.	2			Location	Antonino Ks - 35, 1/2 E, N 1/4						
Contractor	Southwind #1							Owner	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.						
Type Job	Surface							Charge To	TDI Inc.						
Hole Size	12 1/4"		T.D.	1206'			Depth	1205'							
Csg.	8 5/8"		Depth												
Tbg. Size													Street		
Tool													City	State	
Cement Left in Csg.	42'		Shoe Joint	42'		The above was done to satisfaction and supervision of owner agent or contractor.									
Meas Line			Displace	74 BLS		Cement Amount Ordered 450 sx Common 3% Cl									
EQUIPMENT								2% Gel							
Pumptrk	9	No.	Cementer	Dave		Common 450									
			Helper												
Bulktrk	12	No.	Driver	Lonnie		Poz. Mix									
			Driver												
Bulktrk	p.u.	No.	Driver	Rich		Gel. 9									
			Driver												
JOB SERVICES & REMARKS								Calcium 16							
Remarks:	Cement did Circulate.														
Rat Hole	Salt														
Mouse Hole	Flowseal														
Centralizers	Kol-Seal														
Baskets	Mud CLR 48														
D/V or Port Collar	CFL-117 or CD110 CAF 38														
	Sand														
	Handling 475														
	Mileage														
FLOAT EQUIPMENT															
	Guide Shoe														
	Centralizer 3														
	Baskets 3														
	AFU Inserts														
	Float Shoe														
	Latch Down														
	1 - Baffle plate														
	1 - Rubber plug														
	Pumptrk Charge Long Surface														
	Mileage 12														
	Tax														
	Discount														
	Total Charge														
X Signature															

JOB LOG

SWIFT Services, Inc.

DATE 8-15-12 PAGE NO. 1

CUSTOMER T.D.F WELL NO. #2 LEASE Irwin Trust JOB TYPE Cement Logging TICKET NO. 21859

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
8/15	2100					14 #4	5 1/2	In location w/ Float Equip
	2130							Start 5 1/2 14 #4 casing to 3747'
								Insert float shoe/w fill up
								L.D. Baffle - 5.5' - 42' = 3705' = 90 1/2 BBL
								Cent NO #1 - 3-5-7-95-10-12
								Cut Baskets Pin end #3 #13
	2245							Drop Ball 5 JTS out
	2300							Fin Run casing - Tapped High
	2315							Pipe not full - Pump mud - RGS
8/16	0015							Ball thru & out 30 min - Then Desco
								Fin cut
								Plug RH BSKS / MH-20SKS cut
		5	12				200	Pump 500 gal Mud flush
		6	20				350	Pump 20 BBL 100 flush
		7 1/2					200	Start 175 SKS EA-2 cut
			30				Vis	Fin cut
								Washout Pump Lines
								Drop LD - Plug
		9					350	Start Drop
		2 5/8	70					Caught left - slow rate / Rotate casing
	0100		90 1/2				400	Plug Down - Hold - Release & Hold
								Job complete
								Washing & Pick up
	0130							

[Signature]
L. Dan, Brian & John