



Discovery Drilling

P.O. Box 763 • Hays, KS 67601 • OFFICE (785) 623-2920 • CELLULAR (785) 635-1511

DRILLER'S LOG

Operator: John O. Farmer, Inc. Lic# 5135 Contractor: Discovery Drilling Co., Inc. LIC#31548
P.O. Box 352 - 370 West Wichita Avenue PO Box 763
Russell, KS 67665 Hays, KS 67601

Lease: Froelich "C" # 1-31 Location: S/2-SW-NE-NE
Section 27/ 12S/ 16W
Ellis County, KS

Loggers Total Depth: 3505' API#15- 051-26,360-00-00
Rotary Total Depth: 3500' Elevation: 1948 GL / 1956 KB
Commenced: 8/30/2012 Completed: 9/5/2012
Casing: 8 5/8" @ 230.98'W/150sks Status: Oilwell
5 1/2" @ 3498'W/130sks
(Port Collar @ 1095')

DEPTHS & FORMATIONS (All from KB)

Surface, Sand & Shale	<u>0'</u>	Shale	<u>1132'</u>
Dakota Sand	<u>457'</u>	Shale & Lime	<u>1409'</u>
Shale	<u>531'</u>	Shale	<u>1913'</u>
Cedar Hill Sand	<u>601'</u>	Shale & Lime	<u>2308'</u>
Red Bed Shale	<u>780'</u>	Lime & Shale	<u>2879'</u>
Anhydrite	<u>1092'</u>	RTD	<u>3500'</u>
Base Anhydrite	<u>1132'</u>		

STATE OF KANSAS)
) ss
COUNTY OF ELLIS)

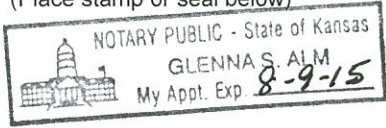
Thomas H. Alm of Discovery Drilling states that to the best of his knowledge the above and foregoing is a true and correct log of the above captioned well.

Thomas H. Alm

Subscribed and sworn to before me on 9-17-2012

My Commission expires: 8-9-2015

(Place stamp or seal below)



Notary Public

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. 729

Date	8-30-12	Sec.	27	Twp.	12	Range	16	County	Ellis	State	KS	On Location		Finish	7:30pm
Lease	Frolich - C			Well No.	1-31			Location	Well 116 N to Decatur 1 1/2 to 370 III to hope well Rd East						
Contractor	Discovery Rig 4							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.	231			Charge To	John O Farmer						
Csg.	8 5/8			Depth	230.98			Tbg. Size							
Tool				Depth				Street							
Cement Left in Csg.	20ft			Shoe Joint	20ft			City	State						
Meas Line				Displace	13.41 BBL			The above was done to satisfaction and supervision of owner agent or contractor.							
EQUIPMENT								Cement Amount Ordered	150 390cc 290gel						
Pumptrk	15	No.	Cementer	Matt		Common	150								
Bulktrk	14	No.	Driver	Nick		Poz. Mix									
Bulktrk		No.	Driver	Doug		Gel.	3								
JOB SERVICES & REMARKS								Calcium	5						
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							
								Sand							
								Handling	158						
	Cement did Circulate							Mileage							
								FLOAT EQUIPMENT							
								Guide Shoe							
								Centralizer							
								Baskets							
								AFU Inserts							
								Float Shoe							
								Latch Down							
								Pumptrk Charge	Surface						
								Mileage	24						
								Tax							
								Discount							
								Total Charge							
Signature															

JOB LOG

SWIFT Services, Inc.

DATE 9-4-12 PAGE NO. 1

CUSTOMER John O Farmer WELL NO. #1-31 LEASE Froehlich "C" JOB TYPE Longstring TICKET NO. 21881

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	2130							onloc w/FE
								RTD 3500' LTD 3505' 5 1/2" X 14# X 3502' X 17' Cent 1,3,5,8,10,12,14,60M Bask 2,15,60M PC 60 @ 1092'
	2115							Start FE
	0015							Break Circ.
0040	2115	2.5	7/5					Plug RH & MH 30/15 sks EA-2
	0050	5	0				200	Start Pref 500 gal Mudflush
		5	12/0				200	Start 20 bbl KCL flush
		5	20/0				200	Start 130 sks EA-2 Cement
	0100		31					End Cement Wash P&L Drop LD Plug
	0105	6	0				200	Start Displacement
	0115	5	60				250	Land Catch Cement
	0120		85				700/1400	Land Plug Release Pressure Float Held

Thank you
Nick, David E. & Doug

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. 737

Date	9-11-12	Sec.	27	Twp.	12	Range	16	County	Ellis	State	KS	On Location		Finish	10:30 AM
Lease	Froelich		Well No.	C232		Location	Walk N to Dead End 1W in Eastgate								

Contractor			Owner		
Type Job	port collch		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	5 1/2		T.D.		
Csg.	2 1/2		Depth	1095	
Tbg. Size			Depth		
Tool			Street	John O Farmer Inc	
Cement Left in Csg.			City		
Meas Line			State		
			The above was done to satisfaction and supervision of owner agent or contractor.		
			Cement Amount Ordered	175 Qmdc 1/4 flow	

EQUIPMENT			
Pumptrk #9	No.	Cement Helper	Matt
Bulktrk #19	No.	Driver	Dave
Bulktrk #4	No.	Driver	Cody

JOB SERVICES & REMARKS		
Remarks:		Used 120
Rat Hole		Common 120
Mouse Hole		Poz. Mix
Centralizers		Gel. 600
Baskets		Calcium
D/V or Port Collar		Hulls
		Salt
		Flowseal 40#
		Kol-Seal
		Mud CLR 48
		CFL-117 or CD110 CAF 38
		Sand
		Handling 175
		Mileage

Cement did circ late
Tested @ 900psi & held.
opened port collar
mixed 3 gel & shut
Backs in 3 more gel
& got circ. mixed 120 gel
& circ cement to surface
shut too 1. pressured to
900psi & held ran 5 ft
& wash clean.

FLOAT EQUIPMENT	
Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	
Pumptrk Charge	port collar
Mileage	23
Tax	
Discount	
Total Charge	

X Signature *Used*