



Discovery Drilling

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

DRILLER'S LOG

Operator: Hupfer Operating, Inc. Lic# 30380 Contractor: Discovery Drilling Co., Inc. LIC#31548
P.O. Box 3912 PO Box 763
Shawnee, KS 66203 + 0912 Hays, KS 67601

Lease: Burmeister "A" # A-2 Location: 360 FSL - 430 FWL
NE/SW/SW/SW
Section 33/ 19S/ 11W
Barton County, KS

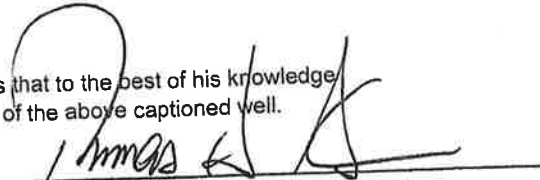
Loggers Total Depth: 3347 @ 3355'RTD API#15- 009-26,223-00-00
Rotary Total Depth: 3365' Elevation: 1776 GL - 1784 KB
Commenced: 8/13/2018 Completed: 8/20/2018
Casing: 8 5/8" @ 258'W/275sks Status: Oil Well
5 1/2" @ 3352'W/135sks

DEPTHS & FORMATIONS (All from KB)

Surface, Sand & Shale	<u>0'</u>	Shale	<u>545'</u>
Dakota Sand	<u>158'</u>	Shale & Lime	<u>1374'</u>
Shale	<u>214'</u>	Shale	<u>1540'</u>
Cedar Hill Sand	<u>225'</u>	Shale & Lime	<u>1821'</u>
Red Bed Shale	<u>343'</u>	Lime & Shale	<u>3042'</u>
Anhydrite	<u>524'</u>	RTD	<u>3365'</u>
Base Anhydrite	<u>545'</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 8-30-18

My Commission expires: 6-28-2022

(Place stamp or seal below)


Notary Public



QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025

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

No. 923

Cell 785-324-1041

Date	8-13-18	Sec.	33	Twp.	19	Range	11	County	Barton	State	Ks	On Location		Finish	9:30 PM
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Lease	Burmeister A	Well No.	A-2	Owner	E/into
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Contractor	Discovery	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.	
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Type Job	Surface	Charge To	Hupfer operating
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Hole Size	12 1/4"	T.D.	258'
Csg.	8 5/8"	Depth	258'

Tbg. Size		Depth		City		State	
Tool		Depth		The above was done to satisfaction and supervision of owner agent or contractor.			

Cement Left in Csg.	15'	Shoe Joint	15'	Cement Amount Ordered	275 80% 3% CC 2% Gel 1/2 # Flowseal
Meas Line		Displace	15 1/2 BLS		

EQUIPMENT

Pumptrk	16	No.	Cementer	David	Common	220
			Helper		Poz. Mix	55
Bulktrk	9	No.	Driver	James	Gel.	10.5
			Driver		Calcium	10
Bulktrk	P.U.	No.	Driver	Rick		

JOB SERVICES & REMARKS

Remarks:	Cement did Circulate	Hulls	
Rat Hole		Salt	
Mouse Hole		Flowseal	137 #
Centralizers		Kol-Seal	13
Baskets		Mud CLR 48	
D/V or Port Collar		CFL-117 or CD110 CAF 38	
		Sand	
		Handling	290
		Mileage	

Thanks

FLOAT EQUIPMENT

Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	

Pumptrk Charge	Surface
Mileage	15 (111 mi)

Signature: *Gene Wick*

Tax	
Discount	
Total Charge	

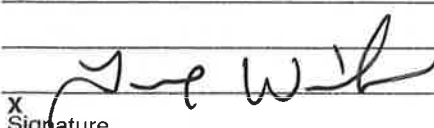
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Home Office P.O. Box 32 Russell, KS 67665

No. 928

Date	8-26-18	Sec.	33	Twp.	19	Range	11	County	Barton	State	Ks	On Location		Finish	3:15 PM	
Lease	Burmeisters							Location	Ellinwood - E around 2nd Curve, 1/4 N, E 1/4							
Contractor	Discovery #2							Well No.	A-2							
Type Job	Longstring							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.							
Hole Size	7 7/8"							T.D.	3365'							
Csg.	5 1/2" used 14#							Depth	3352'							
Tbg. Size								Charge To	Hupfer Operating Inc.							
Tool								Street								
Cement Left in Csg.	23'							Depth								
Meas Line								City	State							
								Depth								
								The above was done to satisfaction and supervision of owner agent or contractor.								
								Cement Amount Ordered	180 Q Pro C 10% Salt 5% Gilsomite							
								Displace	81 1/4 BLS							
EQUIPMENT								500 gal mud clear	48							
Pumptrk	16	No.	Cementer Helper David					Common	180							
Bulktrk	15	No.	Driver Doug					Poz. Mix								
Bulktrk	P.U.	No.	Driver Rick					Gel.								
JOB SERVICES & REMARKS								Calcium								
Remarks:								Hulls								
Rat Hole								Salt	15							
Mouse Hole								Flowseal								
Centralizers	1, 3, 5, 7, 9, 11 2, 4, 6, 8, 10, 12							Kol-Seal	750 #							
Baskets	5							Mud CLR 48	500 gal							
D/V or Port Collar	Pipe on bottom break Circulation							CFL-117 or CD110 CAF	38							
	pump 500 gal mud clear 48 plug Rathole							Sand								
	w/ 20 sx plug mousehole w/ 15 sx. Hook							Handling	202							
	to 5 1/2" casing + mix 135 sx cement.							Mileage								
	shut down wash pump + lines. Displace							FLOAT EQUIPMENT								
	plug w/ 81 1/4 BLS. Released + hold.							Guide Shoe								
Lift pressure	700 #							Centralizer	6							
Land plug to	1500 #							Baskets	1							
								AFU Inserts								
								Float Shoe	1							
								Latch Down	1							
								Pumptrk Charge								
								Mileage								
								Tax Discount Total Charge								