



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: Morgenstern # 5 Location: 990 FNL - 990 FWL
SE/NW/NW
Section 9/ 16S/ 13W
Barton County, KS

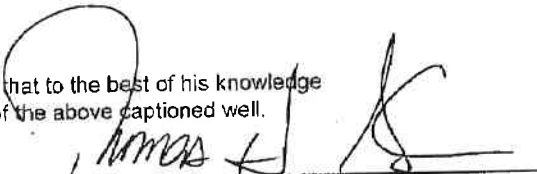
Loggers Total Depth: No Log API#15- 009-25,875-00-00
Rotary Total Depth: 3395' Elevation: 1932 GL - 1940 KB
Commenced: 9/27/2013 Completed: 10/2/2013
Casing: 8 5/8" @ 482'W/215sks Status: Oilwell
5 1/2" @ 3391'W/125sks

DEPTHS & FORMATIONS (All from KB)


Surface, Sand & Shale	<u>0'</u>	Shale	<u>917'</u>
Dakota Sand	<u>257'</u>	Shale & Lime	<u>1591'</u>
Shale	<u>284'</u>	Shale	<u>1972'</u>
Cedar Hill Sand	<u>413'</u>	Shale & Lime	<u>2401'</u>
Red Bed Shale	<u>581'</u>	Lime & Shale	<u>2778'</u>
Anhydrite	<u>887'</u>	RTD	<u>3395'</u>
Base Anhydrite	<u>917'</u>		

STATE OF KANSAS)
) ss
COUNTY OF ELLIS)

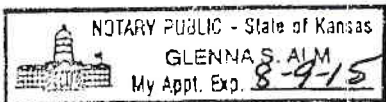
Thomas H. Alm of Discovery Drilling states that to the best of his knowledge the above and foregoing is a true and correct log of the above captioned well.


Thomas H. Alm

Subscribed and sworn to before me on 10-15-13

My Commission expires: 8-9-15

Notary Public

(Place stamp or seal below)



QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

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

No. 7525

one 785-483-2025
cell 785-324-1041

Date	10-21-13	Sec.	9	Twp.	16	Range	13	County	Barton	State	KS	On Location		Finish	5:15 AM
Location													Susank 31V 1/2 E Sinto		

Lease	Morgenstern	Well No.	6	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.
Contractor	Discovery #2				
Type Job	Surface				
Hole Size	12 1/4	T.D.	479'	Charge To	Hupter Operating
Csg.	8 5/8	Depth	479'	Street	
Tbg. Size		Depth		City	State
Tool		Depth		The above was done to satisfaction and supervision of owner agent or contractor.	
Cement Left in Csg.	30'	Shoe Joint		Cement Amount Ordered	215 com 3+2 3 1/2 cc 290 bel
Meas Line		Displace	28 1/2		

EQUIPMENT

Pumptrk	15	No.	Cementer	
			Helper	Nick
Bulktrk	8	No.	Driver	Chad
			Driver	
Bulktrk	PU	No.	Driver	Brett
			Driver	

Common 215
Poz. Mix
Gel. 4
Calcium 7

JOB SERVICES & REMARKS

Remarks:
Rat Hole
Mouse Hole
Centralizers
Baskets
D/V or Port Collar

Salt
Flowseal
Kol-Seal
Mud CLR 48
CFL-117 or CD110 CAF 38
Sand
Handling 236
Mileage

FLOAT EQUIPMENT

Guide Shoe
Centralizer
Baskets
AFU Inserts
Float Shoe
Latch Down 8 1/4 wealer plug

Cement

Circulated!!

Pumptrk Charge to Surface
Mileage 24

Tax
Discount
Total Charge

X Signature

[Handwritten Signature]