

Form	ACO1 - Well Completion
Operator	H & D Exploration LLC
Well Name	KERSCHNER 1
Doc ID	1372890

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.25	8.625	23	814	60/40 poz	400	3% cc2%gel

MORNING DRILLING REPORT

For: H&D Exploration, LLC

SOUTHWIND DRILLING, INC.

RIG No. 8

Well Name: Kerschner #1
 Location: 808' FSL & 1917' FEL
 Section: 29-24S-22W
 County: Hodgeman
 API: 15-083-21938-00-00

GL Elevation: 2399'
 KB: 2409'
 Est. TD: 5000'
 Conductor String: N/A

Rig No. 8 (Pusher Bill Sandira) 620-417-0706

Rig No. 8 (Doghouse) 620-568-7156

Southwind Drilling Office 620-564-3800

Surface Casing: Ran 19 joints of new 238, 5 5/8" casing, Tally @ 802', Set @ 814', used 400 sacks of 60/40 poz, 3%cc, 2% gel, cement circulated, by Quality (Ticket #288), plug down @ 4:30 pm on 08.11.17.

Production Info: Plugged well with 170 sacks of 60/40 Poz, 4% gel, 1/4# Flo Seal, 1st plug @ 1600' w/ 50 sacks, 2nd plug @ 880' w/ 50 sacks, 3rd plug @ 80' w/ 20 sacks, 30 sacks for Rathole, 20 sacks for Mousehole, cemented by Quality (Ticket #367), job complete @ 1:00 pm on 08.20.17.

Rotary Total Depth: 4820'

Log Total Depth: 4821'

Geologist: Jim Musgrove

7:00 A.M. Depth: 4820'

7:00 A.M. Current Operation: TEAR DOWN

Spud Date & Time: 8/10/17 @ 8:15 PM	08/10/17 Day 1	08/11/17 Day 2	08/12/17 Day 3	08/13/17 Day 4	08/14/17 Day 5	08/15/17 Day 6	08/16/17 Day 7	08/17/17 Day 8	08/18/17 Day 9	08/19/17 Day 10	08/20/17 Day 11	Total
Total Depth (7:00am)	0	790	918	2126	2983	3645	4213	4604	4699	4738	4820	4820
Daily Progress	790	128	1208	857	662	568	391	95	39	82		4820
Fl. Per Hr.	126.40	73.14	75.50	45.71	34.39	29.89	18.40	15.83	19.50	19.29	#DIV/0!	42.18
Current Operation (7:00am)	Rig Up	Drilling	Repair	Drilling	Drilling	Drilling	Drilling	Drilling	DST #1	TWBB	TWBB After Log	
Formation	Surface	Shale / Rock	Shale / Rock	Sand / Shale	Shale / Rock	Shale / Rock	Lime / Shale	Lime / Shale	Cherokee-Lime	Miss. Spengen	Mississippi	
Fuel Used (32.4 Gall/Inch)	226.80	129.60	356.40	453.60	421.20	388.80	518.40	324.00	226.80	324.00	64.80	3434.40
Survey (degree & depth)		12° @ 815'						1° @ 4699'		34° @ 4890'		

Mud Cost	\$0.00	\$1,346.94	\$0.00	\$2,577.46	\$0.00	\$3,816.09	\$466.87	\$344.01	\$301.58	\$0.00	-	\$9,852.95
Weight (# / Gal)	-	-	-	-	8.8	8.3	8.8	9.2	9.0	9.0	-	-
Vis (Funnel)	-	-	-	-	50	45	40	47	48	48	-	-
Water Loss (cc)	-	-	-	-	-	8.0	9.0	8.6	9.4	12.6	-	-

Bit #1												
Bit Make / Type	Reed RR											
Bit Size	12 1/4											
Bit Hours	6.25											6.25

Bit #2												
Bit Make / Type	Reed R22AP	Reed R22AP	Reed R22AP	Reed R22AP	Reed R22AP	Reed R22AP	Reed R22AP	Reed R22AP	Reed R22AP	Reed R22AP	Reed R22AP	
Bit Size	7 7/8	7 7/8	7 7/8	7 7/8	7 7/8	7 7/8	7 7/8	7 7/8	7 7/8	7 7/8	7 7/8	
Bit Hours	1.75	16.00	18.75	19.25	19.00	21.25	6.00	2.00	4.25	0.00		108.25
Bit Cumulative Hours	6.25	1.75	16.00	18.75	19.25	19.00	21.25	6.00	2.00	4.25	0.00	114.50
Weight on Bit (WOB)	15,000	25,000	30,000	30,000	35,000	35,000	35,000	35,000	35,000	35,000	35,000	
RPM	120	85	85	85	85	85	85	85	85	85	85	
Pump Pressure	800	900	1050	1050	900	1070	1130	1050	1150	1200	1200	
Drilling (Rotating) Hours	6.25	1.75	16.00	18.75	19.25	19.00	21.25	6.00	2.00	4.25	0.00	114.50

Daywork Hrs. (Operator's time)

Rat Hole (> .75 Hrs)												0.00
Wait on Cement		4.00										4.00
Short Trip												0.00
Trip		1.50						10.50	11.75	5.00	0.50	28.25
Circulate		0.50					0.50	3.75	4.25	8.50		17.50
Tool								0.50	1.50			2.00
Testing								2.00	4.00			6.00
Clean Floor after DST												0.00
Logging										5.00		5.00
LDDP / LDDC / PLUG											4.75	4.75
Run Casing / Circ / Cement		2.50										2.50
Bit Trip												0.00
Jet Collar / Set Slips											0.50	0.50
Survey (Operator Request)												0.00
Nipple Down												0.00
Billable Hours	6.00	8.50	0.00	0.00	0.00	0.00	0.50	16.75	21.50	18.50	5.75	71.50

Non-Billable Hours (Southwind's time)

Rig Up / Tear Down	12.00										9.50	21.50
Wait on Cement (NB)		8.00										8.00
Drill Rat Hole (< .75 hrs)	0.75											0.75
Drill Plug		0.50										0.50
Circulate / Trip (Surface)		0.75										0.75
Rig Repair	0.50	1.25	2.50	0.75	0.25	2.00			0.25			7.50
Connections	3.50	0.25	3.75	2.25	2.00		1.25	0.25		0.50		16.00
Jet/Displace	1.00	2.75	0.75	1.50	1.75	0.25	0.25					8.25
Surveys		0.25					0.25			0.25		0.75
Rig Check			1.00	0.75	0.75	0.75	0.75	0.75		0.50		5.25
Trip Time (NB)												0.00
Lost Circulation (< 2 hrs)												0.00
Lay Down Key / MH & RH											0.75	0.75
Non-Billable Hrs.	17.75	13.75	8.00	5.25	4.75	5.00	2.25	1.25	0.50	1.25	10.25	70.00

Footage Cost	\$ 8,690.00	\$ 1,408.00	\$ 13,288.00	\$ 9,427.00	\$ 7,282.00	\$ 6,248.00	\$ 4,301.00	\$ 1,045.00	\$ 429.00	\$ 902.00	\$ -	\$ 53,020.00
Daywork Cost	\$ -	\$ 2,847.50	\$ -	\$ -	\$ -	\$ -	\$ 167.50	\$ 5,811.25	\$ 7,202.50	\$ 6,197.50	\$ 1,926.25	\$ 23,952.50
Combined Est. Cost*	\$ 8,690.00	\$ 4,255.50	\$ 13,288.00	\$ 9,427.00	\$ 7,282.00	\$ 6,248.00	\$ 4,468.50	\$ 6,856.25	\$ 7,631.50	\$ 7,099.50	\$ 1,926.25	\$ 76,972.50

*Please note that this is estimated footage & daywork cost only. Additional charges will apply on services (fuel surcharge, water transfer pump, etc)

DST #1 Info -

Footage Interval: 4627' - 4699' Cherokee Lime
 Recovery: 58" Gas, 60" Slightly Oil Cut Mud

DST #2 Info -

Footage Interval: 4717' - 4738' Mississippi Spengen
 Recovery: 75" Gas, 50" Oil Cut Mud

Anhydrite @ 1560' - 1600'

Displaced @ 3395' - 3428'

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. 285

Date 8-11-17 Sec. 29 Twp. 24 Range 22 County Hodgeman State Ks On Location Finish 4:30 PM

Lease Kerschner Well No. 1 Location Spearville - SW 1/4 W, N/5 Owner

Contractor Southwind 8 To Quality Oilwell Cementing, Inc.
Type Job Surface You are hereby requested to rent cementing equipment and furnish
Hole Size 12 1/4" T.D. 816' Charge HD Exploration
Csg. 8 5/8" Depth 815' To

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

Cement Left in Csg. 42' Shoe Joint 42' Cement Amount Ordered 400 60/40 4% CC 2% Gel 1/2 #Flt

Meas Line Displace 49 1/4 BLS Cement Amount Ordered 400 60/40 4% CC 2% Gel 1/2 #Flt

EQUIPMENT

Pumptrk <u>16</u>	No.	Cementer <u>Travis</u>	Common <u>240</u>
Bulktrk <u>21</u>	No.	Driver <u>David</u>	Poz. Mix <u>160</u>
Bulktrk <u>P.H.</u>	No.	Driver <u>Rick</u>	Gel. <u>8</u>
			Calcium <u>18</u>

JOB SERVICES & REMARKS

Remarks: Cement did Circulate
Rat Hole
Mouse Hole
Centralizers
Baskets
D/V or Port Collar
Hulls
Salt
Flowseal 200 Flt
Kol-Seal
Mud CLR 48
CFL-117 or CD110 CAF 38
Sand
Handling 436
Mileage

FLOAT EQUIPMENT

Guide Shoe Rubber plug
Centralizer Baffle plate
Baskets
AFU Inserts
Float Shoe
Latch Down

Pumptrk Charge Long Surface
Mileage 25

X Signature William Sanders 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. 367

Date	8-20-17	Sec.	29	Twp.	24	Range	22	County	Hodgeman	State	KS	On Location		Finish	1:00pm
Location								Spearville 5 N 1/2 W 1/4							

Lease	Kerschner	Well No.	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.
Contractor	Sprithouse #8			Charge To	H-D Exploration
Type Job	Rotary Plug			Street	
Hole Size	7 7/8	T.D.	4820	City	
Csg.		Depth		State	
Tbg. Size		Depth		The above was done to satisfaction and supervision of owner agent or contractor.	
Tool		Depth		Cement Amount Ordered	170 60/40 4 1/2 CGL 1/4 #16
Cement Left in Csg.		Shoe Joint			
Meas Line		Displace			

EQUIPMENT				
Pumptrk	5	No.	Cement	Common
			Helper	102
Bulktrk		No.	Driver	Poz. Mix
			Driver	68
Bulktrk	15	No.	Driver	Gel.
			Driver	6
			Driver	Calcium

JOB SERVICES & REMARKS		
Remarks:		Hulls
Rat Hole	30 SK	Salt
Mouse Hole	20 SK	Flowseal
Centralizers		Kol-Seal
Baskets		Mud CLR 48
D/V or Port Collar		CFL-117 or CD110 CAF 38
1st	1600' 50SK	Sand
2nd	850' 50SK	Handling
3rd	100' 20SK	Mileage
		176

FLOAT EQUIPMENT	
	Guide Shoe
	Centralizer
	Baskets
	AFU Inserts
	Float Shoe
	Latch Down

Pumptrk Charge	plug
Mileage	55

Signature	Key Robert	Tax	
		Discount	
		Total Charge	