

MORNING DRILLING REPORT

For: H&D Exploration

SOUTHWIND DRILLING, INC.

RIG No. 2

Well Name: Kaufman "A" #2
 Location: 2310' FNL & 2310' FWL
 Section: 9-15S-12W
 County: Russell
 API: 15-167-24012-00-00

Elevation: GL 1842'
 KB 1851'
 Est. TD: 3400'

Rig No. 2 (Pusher Bill Sanders) 620-617-0706
 Rig No. 2 (Doghouse) 620-617-5921
 Southwind Drilling Office 620 564-3800



Surface Casing: Ran 18 joints of new 23#, 8 5/8" casing, Tally @ 742', Set @ 752', used 325 sacks of 80/20, 3% cc, 2% gel, cement circulated, by Quality (Ticket #6307), plug down @ 1:00 pm on 11.22.14.

Production info: Ran 81 joints of new 15.5#, 5 1/2" casing, Tally @ 3378', Set @ 3387', used 170 sacks of Common, 10% salt, 5% Gilsonite, cemented, by Quality (Ticket #891), job complete @ 1:00 am on 11.29.14.

Rotary Total Depth: 3389'
 Log Total Depth: 3385'

Geologist: Jim Musgrove

7:00 A.M. Depth: 3389'

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

Spud Date & Time:	11/21/14	11/22/14	11/23/14	11/24/14	11/25/14	11/26/14	11/27/14	11/28/14	11/29/14	Total
11/21/2014 @ 8:45 PM	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	
Total Depth (7:00am)	0	700	1430	2180	2885	3296	3300	3389	3389	3389
Daily Progress	700	730	750	705	411	4	89	0		3389
Fl. Per Hr.	103.70	97.33	37.97	37.11	23.15	8.00	14.63	#DIV/0!	#DIV/0!	43.87
Current Operation (7:00am)	Rig Up	Drilling	Drilling	Drilling	Drilling	CFS	CFS	Drilling	Tear Down	
Formation	Surface	Lime / Shale	Lime / Shale	Lime / Shale	Lime / Shale	Lime / Shale	Lime / Shale	Lime / Shale	Arbuckle	
Fuel Used (34.5 Gall/Inch)	172.50	276.00	517.50	379.50	554.40	356.40	356.40	198.00		2810.70
Survey (degree & depth)		3/4' @ 753'				3/4' @ 3296'				
Mud Cost	\$0.00	\$1,051.50	\$107.70	\$4,701.25	\$-293.80	\$135.80	\$66.75	\$0.00		\$5,768.80
Vis (Funnel)						9.1				
Water Loss (cc)						50				
Bit #1										
Bit Make / Type	Reed	Reed								
Bit Size	12 1/4	12 1/4								
BR Hours	6.75	0.50								7.25
Bit #2										
Bit Make / Type		Reed R24A	Reed R24A	Reed R24A	Reed R24A	Reed R24A	Reed R24A			
Bit Size		7 7/8	7 7/8	7 7/8	7 7/8	7 7/8	7 7/8			
BR Hours		7.00	19.75	19.00	17.75	0.50	6.00			70.00
Bit Cumulative Hours	6.75	7.50	19.75	19.00	17.75	0.50	6.00	0.00	0.00	77.25
Weight on Bit (WOB)	10,000	15,000	20,000	30,000	35,000	35,000	35,000			
RPM	120	80	80	80	80	80	80			
Pump Pressure	550	650	775	700	750	800	750			
Drilling (Rotating) Hours	6.75	7.50	19.75	19.00	17.75	0.50	6.00	0.00	0.00	77.25
Daywork Hrs. (Operator's time)										
Rat Hole (>.75 Hrs)	0.25									0.25
Wait on Cement		8.00								8.00
Trip		1.00				12.50	9.00	3.25		25.75
Circulate		0.50		0.75	4.25	6.25	4.25	3.50		19.50
Tool						2.00	2.00			4.00
Testing						2.50	2.00			4.50
Clean Floor after DST							0.50			0.50
Wait on Orders										0.50
Logging										0.00
Nipple Down / Jet Cellar								4.25		4.25
LDDP / LDDC								0.50		0.50
Run Casing / Circ / Cement		2.50						2.50		2.50
Set Slips								3.25		3.25
Wait on Loggers								0.50		0.50
Lost Circulation (> 2 hrs)										0.00
Billable Hours	0.25	12.00	0.00	0.75	4.25	23.25	17.75	17.75	0.00	76.00
Non-Billable Hours (Southwind's time)										
Rig Up / Tear Down	12.25									12.25
Wait on Cement (NB)								5.50		5.50
Drill Rat Hole (<.75 hrs)	0.75									0.75
Drill Plug		0.50								0.50
Circulate / Trip (Surface)		1.00								1.00
Rig Repair	0.50			0.25						0.75
Connections	3.25	1.75	2.50	2.25	1.25		0.25			11.25
Jet/Displace		0.75	1.00	1.00						2.75
Surveys						0.25		0.25		0.50
Rig Check	0.25	0.50	0.75	0.75	0.75					3.00
Lost Circulation (< 2 hrs)										0.00
Lay Down Kelly / MH & RH								0.50		0.50
Circulate (NB)										0.00
Non-Billable Hrs.	17.00	4.50	4.25	4.25	2.00	0.25	0.25	6.25	0.00	38.75
Footage Cost	\$ 9,800.00	\$ 10,220.00	\$ 10,500.00	\$ 9,870.00	\$ 5,754.00	\$ 56.00	\$ 1,246.00	\$ -	\$ -	\$ 47,446.00
Daywork Cost	\$ 87.50	\$ 4,200.00	\$ -	\$ 262.50	\$ 1,487.50	\$ 8,137.50	\$ 6,212.50	\$ 6,212.50	\$ -	\$ 26,600.00
Combined Est. Cost*	\$ 9,887.50	\$ 14,420.00	\$ 10,500.00	\$ 10,132.50	\$ 7,241.50	\$ 8,193.50	\$ 7,458.50	\$ 6,212.50	\$ -	\$ 74,046.00

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

<p>DST #1 Info - Footage Interval: 3255' - 3296' Recovery: 5' Oil Spotted Mud</p>	<p>DST #2 Info - Footage Interval: 3255' - 3298' Recovery: 15' Mud with Spec of Oil</p>
<p>DST #3 Info - Footage Interval: 3265' - 3300' Recovery: 20' Mud</p>	<p>DST #4 Info - Footage Interval: 3300' - 3305' Recovery: 35' Mud</p>
<p>DST #5 Info - Footage Interval: Recovery:</p>	<p>DST #6 Info - Footage Interval: Recovery:</p>

Anhydrite @ 777' - 793'

Displaced @

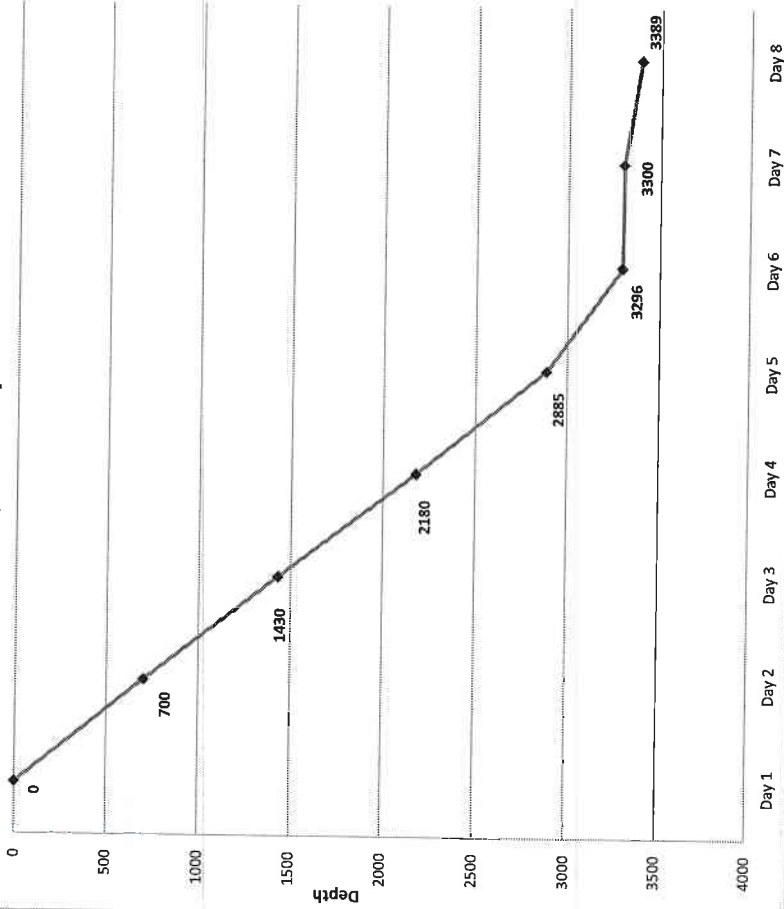


Job Summary Graphical Report

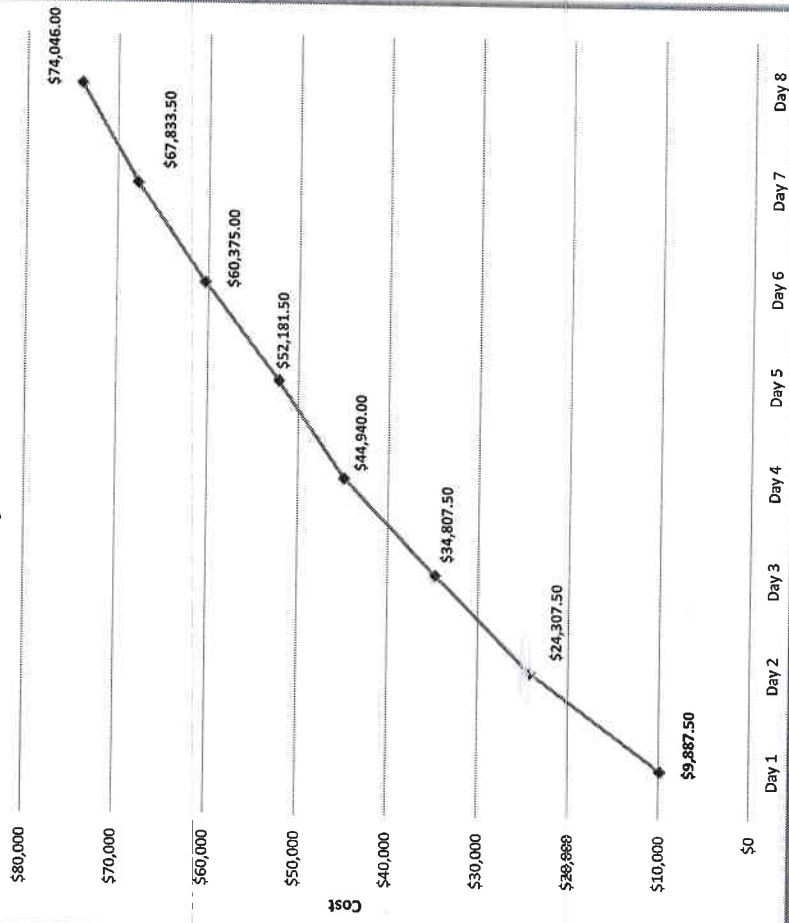
Southwind Rig No. 2

Kaufman "A" #2

Days vs Depth



Days vs Cost



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. 891
11-29-14
Finish 1:00 AM

Date 11-28-14	Sec. 9	Twp. 15	Range 12	County Russell	State KS	On Location	Finish 1:00 AM
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Lease Kaufman A	Well No. 2	Owner 25 EIS
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Contractor Southwind	2	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 production	Charge To H.D. Exploration
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Hole Size 7 7/8"	T.D. 3390'	Street
Csg. 5 1/2" New	Depth 3387'	City
Tbg. Size	Depth	State

Tool	Depth	The above was done to satisfaction and supervision of owner agent or contractor.
Cement Left in Csg. 16'	Shoe Joint 16'	Cement Amount Ordered 200 Com 10% Salt 5% Gypsum

Meas Line	Displace 80 Bcs	500 gal mud Clear 48 20 Bcs KCL
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EQUIPMENT			Common
Pumptrk 16	No. Cementer Helper Billy		Poz. Mix
Bulktrk 1	No. Driver Ryan		Gel.
Bulktrk pu.	No. Driver Rick		Calcium

JOB SERVICES & REMARKS			Hulls
Remarks:			Salt

Rat Hole		Flowseal
Mouse Hole		Kol-Seal

Centralizers 1, 3, 5, 7, 9, 11, 13		Mud CLR 48
Baskets 2		CFL-117 or CD110 CAF 38

D/V or Port Collar Clear 48 pipe on bottom		Sand
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break Circulation pump 500 gal mud Clear 48 plus Bulbhab 100 3000 gal		Handling
manhole out 1500, Cement 1000 gal w/ 155 ss Cement, shut down wash pump + lines, Released plug + Displaced w/ 80 Bcs. Released hold		Mileage

FLOAT EQUIPMENT		
		Guide Shoe
		Centralizer 7 tubos

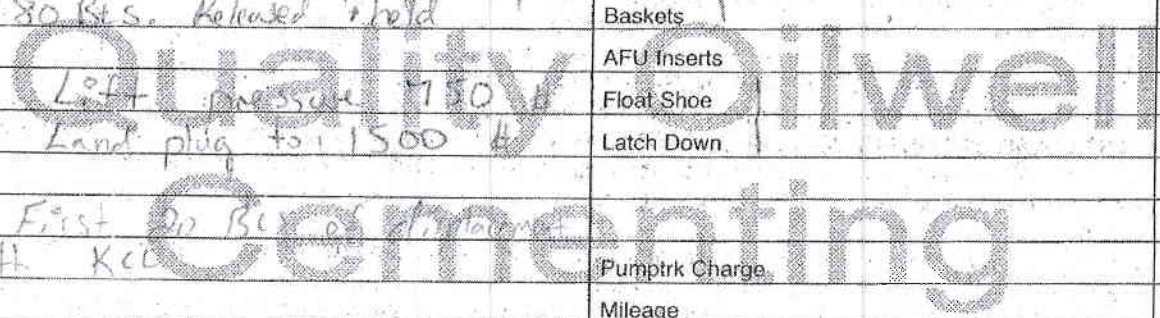
		Baskets 1
		AFU Inserts

Left pressure 750 #		Float Shoe
Land plug to 1500 #		Latch Down

First 20 Bcs of displacement with KCL		Pumptrk Charge
		Mileage

		Tax
		Discount
		Total Charge

X Signature *William Anderson*



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. 8907

Date	Sec.	Twp.	Range	County	State	On Location	Finish
11-22-41	9	15	12	Russell	KS		1007m

Location Kirkhill Stone 20 25 Finto

Lease <u>Kaufman A</u>	Well No. <u>2</u>	Owner
Contractor <u>Sutherland</u>	<u>2</u>	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 <u>Surface</u>		
Hole Size <u>12 1/4</u>	T.D. <u>753</u>	Charge To <u>H D</u>
Csg. <u>8 5/8</u>	Depth <u>753</u>	Street
Tbg. Size	Depth	City
Tool	Depth	State
Cement Left in Csg. <u>40'</u>	Shoe Joint <u>40'</u>	The above was done to satisfaction and supervision of owner agent or contractor.
Meas Line	Displace <u>4 1/2 1/2 1/2</u>	Cement Amount Ordered <u>325% 5% 3% 2%</u>

EQUIPMENT

Pumptrk <u>20</u>	No. Cementer	Helper	Common
Bulktrk <u>13</u>	No. Driver	Driver	Poz. Mix
Bulktrk <u>PA</u>	No. Driver	Driver	Gel.
	No. Driver	Driver	Calcium

JOB SERVICES & REMARKS

Remarks: <u>Cement did circulate</u>	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
	Mileage

FLOAT EQUIPMENT

	Guide Shoe
	Centralizer
	Baskets
	AFU Inserts
	Float Shoe
	Latch Down
	<u>Bubble Hole Rubber Plug</u>
	Pumptrk Charge
	Mileage

X Signature William Sutherland

Tax
Discount
Total Charge



Mudgrove

Petroleum Geology
212 Main Street, Claflin KS

NOTES

Company: H & D Exploration, LLC
 Lease: Kaufman A 2
 Field: Wildcat
 Location: SE-SE-NW
 Sec: 9 Twsp: 15S Rge: 12W
 County: Russell State: Kansas
 KB: 1851' GL: 1842'
 API #: 15-167-24012-00-00
 Contractor: Southwind Drilling Inc. (Rig #2)
 Spud: 11/21/2014 Comp: 11/28/2014
 RTD: 3389' LTD: 3385'
 Mud Up: 2200' Type Mud: Chemical
 Samples Saved From: 2300' to RTD
 Drilling Time Kept From: 2300' to RTD
 Samples Examined From: 2300' to RTD
 Geological Supervision from: 2300' to RTD
 Geologist on Well: Wyatt Urban
 Surface Casing: 8 5/8@ 753'
 Electronic Surveys: Logged by Pioneer Energy Services, DIL, MEL, BHCS, CNL/CDL

H&D Exploration, LLC





Formation	DRILLING WELL				COMPARISON WELL				COMPARISON WELL			
	H&D Exploration- Kaufman A2				H&D Exploration- #1 Kaufman A				Vonfeldt Drilling- #9 Kaufman			
	Sample	Sub-Sea	Log	Sub-Sea	Log	Sub-Sea	Sample	Log	Log	Sub-Sea	Sample	Log
	SE-SE-NW 9-15-12W oil 1851 KB				W2-SW-SE-NW 9-15S-12w oil 1861 KB				NE-NE-SE 24-17S-12W 1854 KB			
					Structural Relationship				Structural Relationship			
Grand Haven	2330	-479	2324	-473					2337	-483	4	10
Topeka	2631	-780	2628	-777	2643	-782	2	5	2680	-826	46	49
Heebner	2912	-1061	2903	-1052	2912	-1051	-10	-1	2917	-1063	2	11
Toronto	2923	-1072	2916	-1065	2927	-1066	-6	1	2935	-1081	9	16
Douglas	2942	-1091	2933	-1082	2943	-1082	-9	0	2950	-1096	5	14
Brown Lime	2998	-1147	2992	-1141	2997	-1136	-11	-5				
Lansing	3012	-1161	3003	-1152	3011	-1150	-11	-2	3019	-1165	4	13
BKC	3264	-1413	3258	-1407	3272	-1411	-2	4	3279	-1425	12	18
Gorham Sd.	3288	-1437	3284	-1433	3298	-1437	0	4	3296	-1442	5	9
Regan Sd.	3311	-1460	3311	-1460								
RTD	3389	-1538	3389	-1538	3306	-1445	-93	-93	3321	-1467	-71	-71

LTD	3385	-1534	3385	-1534	3300	-1439	-95	-95	1854	-3388	-3388
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Image Header 03

Image Header 04

ROCK TYPES

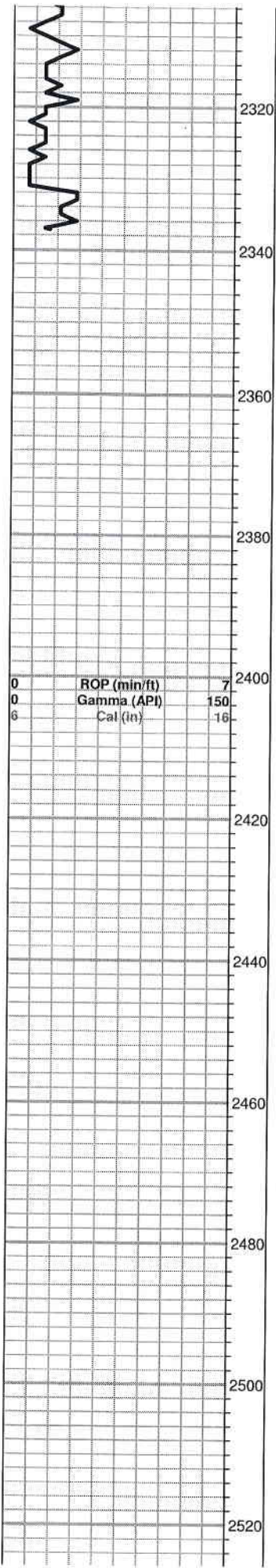
 Lmst fw<7 shale, gry	 Carbon Sh shale, red	 Ss	 Meta
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OTHER SYMBOLS

<p>Oil Show</p> <ul style="list-style-type: none"> ● Good Show ○ Fair Show ○ Poor Show ○ Spotted or Trace ○ Questionable Stn D Dead Oil Stn ■ Fluorescence * Gas 	<p>DST</p> <ul style="list-style-type: none"> ■ DST Int ■ DST alt ■ Core tail pipe
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Printed by GEOstrip VC Striplog version 4.0.8.7 (www.grsi.ca)

Curve Track #1	Depth Intervals	DST	Lithology	Oil Show	Geological Descriptions	TG, C1 - C5
ROP (min/ft)	Cored Interval DST Interval					Total Gas (units)
Gamma (API)						C1 (units)
Cal (in)						C2 (units)
						C3 (units)
						C4 (units)
1:240 Imperial						1:240 Imperial
0 ROP (min/ft) 7			Lithology			0 Total Gas (units) 100
0 Gamma (API) 150						0 C1 (units) 100
6 Cal (in) 16						0 C2 (units) 100
						0 C3 (units) 100
						0 C4 (units) 100
	2220					
	2240					
	2260					
	2280					
	2300					
						P O O R S A M P L E S



LS, tan, foss, chalky, poor visible porosity, no shows

Grand Haven 2330.0 (-479.0)

LS, tan, cream, FXL, dense, chalky in parts, no shows,

Sd. gry, f. grain, sub rounded, well sorted, no shows

Dover 2352.0 (0.0)

LS, tan, FXL, chalky, poor visible porosity

Sd. V. F. grain, well sorted, sub rounded, mica, no shows

Sd. A/A, well sorted, mica, no shows

Tarkio Lime 2402.0 (-551.0)

LS, tan, brown, few foss, poor visible porosity, no shows

LS, tan, few foss, chalky, no shows

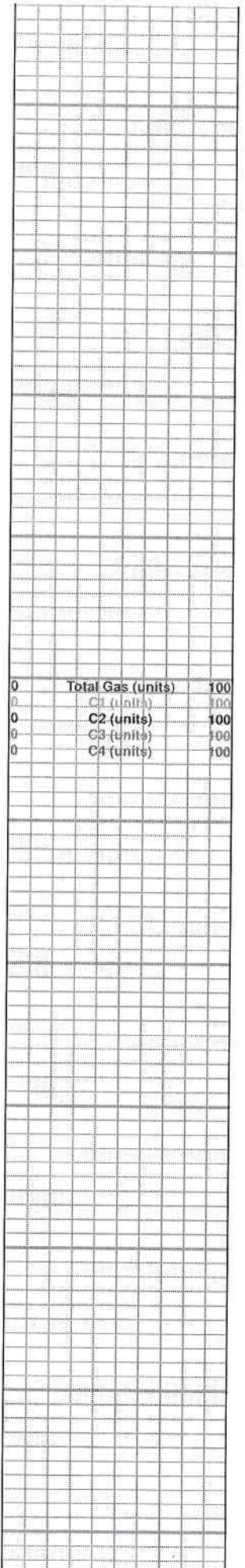
Sd. gry, V. F. grain, mica, well sorted, no shows

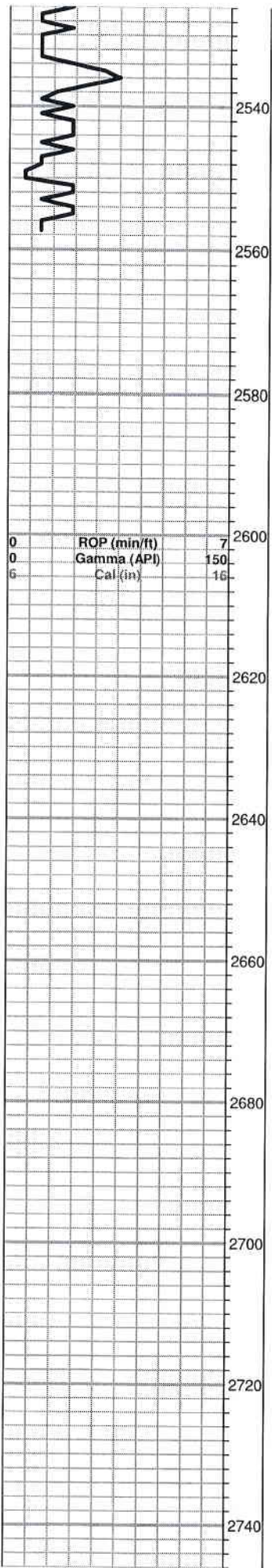
LS, tan, gry, FXL, dense, poor visible porosity, no shows

LS, tan, gry, FXL, dense, poor visible porosity

Sh, gry silty no shows

LS, gry, tan, few foss, poor visible porosity, chalky, no shows





LS, tan, brown, gry, FXL, chalky in parts, no shows

LS, tan, brown, chalky, poor visible porosity, no shows

Sh, gry, silty soft

LS, tan, chalky, poor visible porosity no shows

Sh. gry, silty soft

Topeka 2631.0 (-780.0)

LS, tan, brown, FXL, dense, poor visible porosity, no shows

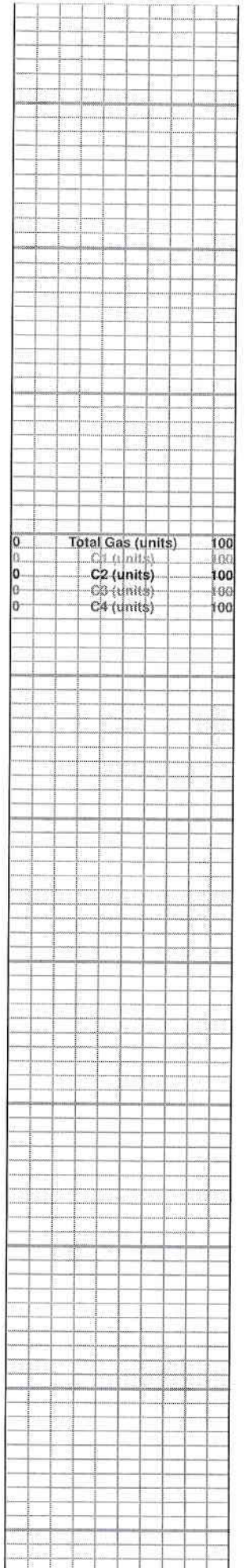
LS, tan, cream, chalky, poor visible porosity, no shows

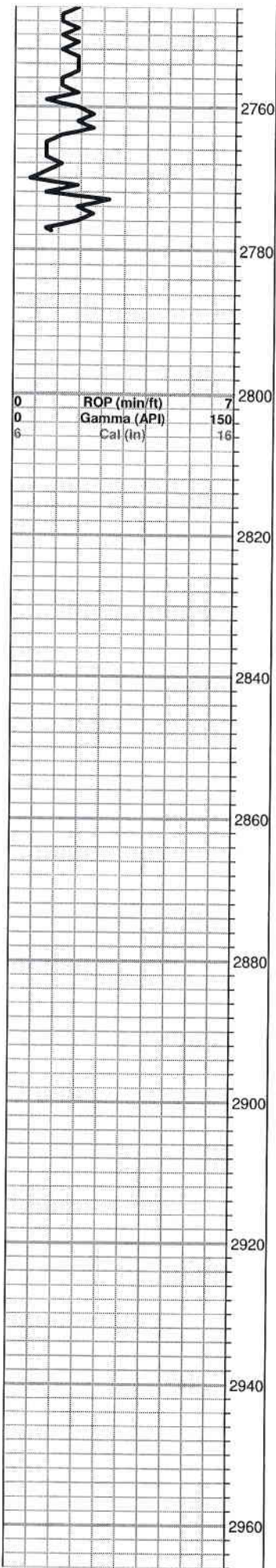
Sh, gry, silty, soft

LS, gry, tan, FXL, cherty, poor visible porosity, no shows

LS, cream, tan, chalky, poor visible porosity, few foss, no shows

LS, tan, cream, FXL, dense, poor visible porosity, no shows





Black carb Sh

LS, tan, brown, chalky, few foss, no shows

LS, tan, brown, FXL, dense, poor visible porosity, no shows

LS, tan, brown, few foss, poor visible porosity, chalky in parts, no shows, no odor

LS, tan, brown, foss, chalky, no shows, no odor

LS, cream, tan, FXL, poor visible porosity, no shows, no odor

Heebner 2906.0 (-1055.0)

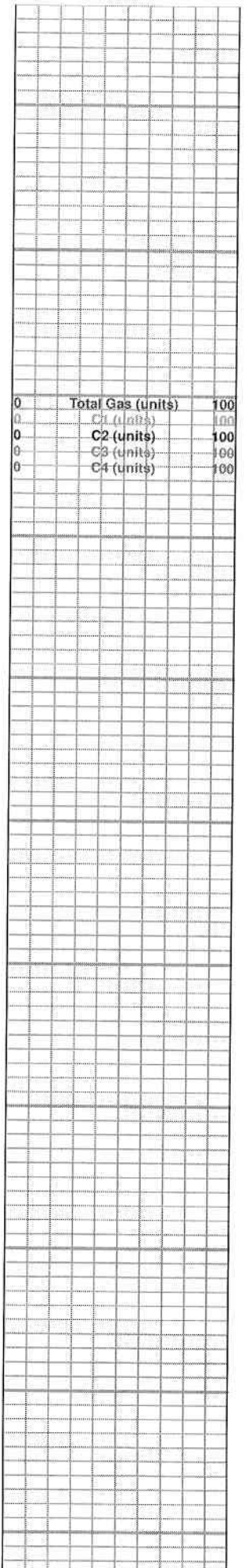
Black carb Sh.

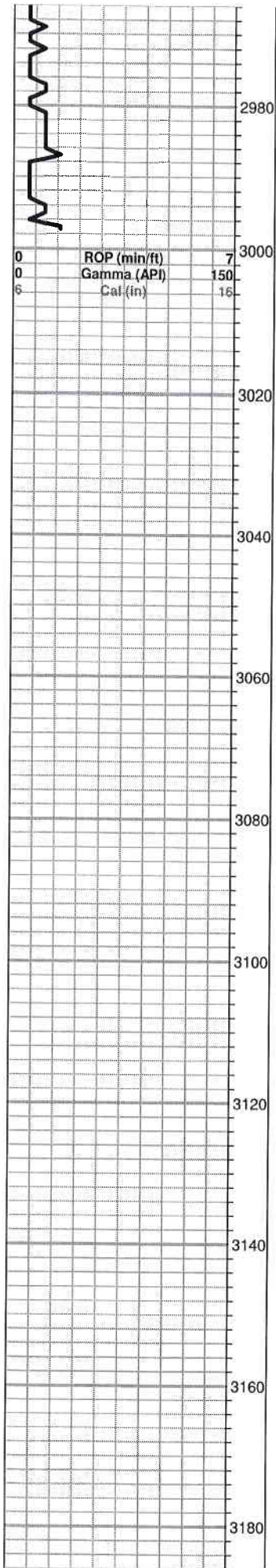
Toronto 2924.0 (-1072.0)

LS, tan, gry, FXL, few dolomitic, poor visible porosity, no shows, no odor

Douglas 2941.0 (-1091.0)

Sd. V.F.grain, sub rounded, friable, ??? stain, NSFO, ft. odor





Sh, maroon, gry

Sd. gry, greenish, V. F. grain, sub rounded, mica, friable in parts, no shows

Brown Lime 2998.0 (-1147.0)

LS, tan, brown,FXL, dense

Lansing 3012.0 (-1161.0)

LS, gry, white, FXL, foss, chalky, trc. brown, gry, stain,k trc. SFO, faint odor

LS, gry, cream, sub oom, chalky, poorly developed porosity, trc. stain, NSFO, no odor

LS, tan, brown, FXL, dense, poor visible porosity, no shows

LS, tan, brown, cream, oom, fair vuggy oom porosity, chalky, no shows, no odor

LS, cream, tan, ool, good oom vuggy porosity, Trc. SFO, odor???

LS, cream, tan, ool, poor oom vuggy porosity, chalky, no shows, no odor

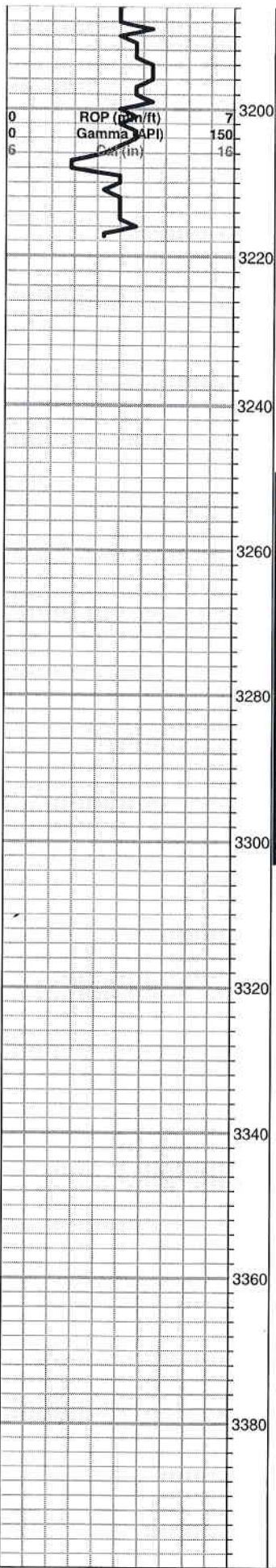
LS, tan, brown, FXL, dense, poor visible porosity, no shows, no odor

LS, cream, white, FXL, few foss, chalky, no shows

LS, tan, brown, cream, chalky, few foss, no shows

LS, cream, tan, foss, few ool, poor visible porosity, no shows, no odor

	Total Gas (units)	
0	C1 (units)	100
0	C2 (units)	100
0	C3 (units)	100
0	C4 (units)	100



LS, tan, brown, FXL, dense, cherty poor visible porosity, no shows

Sh, black, gry, mica,

LS, white, FXL, few ool, poor scattered porosity, chalky, Lt. SFO, faint odor when broken

Sh, black carb

LS, white, gry, tan, FXL, dense, poor visible porosity, no shows, no odor

BKC 3264.0 (-1413.0)

Sh, gry, greenish, maroon

LS, cream, tan, FXL, few foss, poor visible porosity, no shows, no odor

Gorham Sand 3288.0 (-1438.0)

Sd, Qtz, clear, sub rounded, friable, SFO, fair odor

Qtz, dense, heavily fractured, solid, dark brown stains, good odor

Regan Sand 3311.0 (-1461.0)

Sd. Qtz, white, rose, F. grain, well sorted, clean, Faint odor, few cherts, white, smokey, ool,

Sd. white, rose, F-med grain, dense, sub rounded, few cherts, A/A,

Sd. white, cream, rose, well sorted, dense, no shows, no odor

Sd, Qtz, white, rose, dense, sub rounded, well sorted, no shows, no odor

Granite 3373.0 (-1523.0)

Gran, clear, dense, biotite, K feldspar, no shows no odor

RTD 3389.0 (0.0)

Total Gas (units)	100
C1 (units)	100
C2 (units)	100

DST #1 3255-3296

20-30

Blow: Dead

Recovery 4' OSM

Pressures:
ISIP 262 psi
IFP 11-13 psi
HSH 1618-1610 psi

DST #2 3255-3298

30-30

Blow: Dead

Recovery: 10' OSM

Pressures:
ISIP 994 psi
IFP 12-22 psi
HSH 1622-1600 psi

DST #3 3255-

3300

30-30

Blow: Dead

Recovery 20' OSM

Pressures:
ISIP 998 psi
IFP 13-21 psi
HSH 1622-1600

DST #4 3255-3305

30-30

Blow: Dead

Recovery:
20' Drilling Mud

ISIP 972 psi
IFP 16-28 psi
HSH 1616-1608