

MORNING DRILLING REPORT

For: H & D Exploration, LLC

SOUTHWIND DRILLING, INC.

RIG No. 1

Well Name: Hildebrand #1
 Location: 2016' FNL & 2229' FEL
 Section: 3-25S-12W
 County: Stafford
 API: 15-185-23845-00-00

Elevation: GL 1867'
 KB 1877'
 Est. TD: 4300'
 Conductor: N/A

Rig No. 1 (Pusher Larry Beavers) 620 617-3478
 Rig No. 1 (Doghouse) 620 794-2076
 Southwind Drilling Office 620 564-3600



Surface Casing: Ran 16 joints of new 2 3/8", 8 5/8" casing, Tally @ 679', Set @ 675', used 350 sacks total, 200 sacks SK-A-Con, 3% gel, 1/4# Cell Fluka, 150 sacks Common 2% gel, 1/4# Floseal, cement circulated, by Basic (Ticket #9341), plug down @ 3:30 pm on 12.14.13.

Production Info: Ran 94 joints of new 15.5#, 5 1/2" casing, Tally @ 4197', Set @ 4187', used 200 sacks of 60/40 Poz. 30 sacks for Rat Hole, 20 sacks for Mouse Hole, cemented by Basic (Ticket #9686), job complete @ 1:00 pm on 12.22.13.

Rotary Total Depth: 4210'
 Log Total Depth: 4217'

Geologist: Jim Musgrove

7:00 A.M. Depth: 4210'											7:00 A.M. Current Operation: TEAR DOWN
Spud Date & Time: 12/13/2013 @ 7:30pm	12/13/13 Day 1	12/14/13 Day 2	12/15/13 Day 3	12/16/13 Day 4	12/17/13 Day 5	12/18/13 Day 6	12/19/13 Day 7	12/20/13 Day 8	12/21/13 Day 9	12/22/13 Day 10	Total
Total Depth (7:00am)	0	675	782	2120	2970	3385	3729	3806	4210	4210	4210
Daily Progress	675	107	1338	850	415	344	77	404	0	0	47.17
Ft. Per Hr.	100.00	47.56	71.36	44.74	31.92	34.40	23.69	28.35	0.00	0.00	
Current Operation (7:00am)	Rig Up	Drilling	Drilling	Drilling	Drilling	TIWT	TIWT	LDTT	Drilling	Tear Down	
Formation	Surface	Red Bed	Shaly / RedBed	Lime & Shale	Lime & Shale	Lime & Shale	Viola	Viola	Arbuckle		
Fuel Used (39.6 Gal/Inch)	198.00	217.80	376.20	455.40	376.20	376.20	237.60	435.60	277.20		2950.20
Survey (degree & depth)		34' @ 675'			2 1/2" @ 3385'				??' @ 4210'		
Mud Cost	\$0.00	\$1,345.65	\$423.20	\$4,403.45	\$1,967.85	\$716.70	\$3,985.36	\$1,368.09	\$2,228.65		\$16,441.15
Weight (# / Gal)	10.4		6.0	6.0	9.0	9.0	51	46			
Vis (Funnel)	37.00		26	68	48	96	12.0	8.8			
Water Loss (cc)											
BIT #1											
BIT Make / Type	Reed M4										
BIT Size	12 1/4										6.75
BIT Hours	6.75										
BIT #2											
BIT Make / Type	Reed R 22	Reed R22	Reed R 22	Reed R22	Reed R22	Reed R22	Reed R22	Reed R22	Reed R22	Reed R22	
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	82.50
BIT Hours	2.25	18.75	19.00	13.00	10.00	3.25	14.25	2.00	0.00		89.25
BIT Cumulative Hours	6.75	2.25	18.75	19.00	13.00	10.00	3.25	14.25	2.00	0.00	
Weight on BIT (WOB)	20,000	20,000	28,000	32,000	35,000	35,000	35,000	35,000	35,000	35,000	
RPM	125	80	80	80	80	725	725	900	900		
Pump Pressure	600	600	800	700	700	725	725	900	900		
Drilling (Rotating) Hours	6.75	2.25	18.75	19.00	13.00	10.00	3.25	14.25	2.00	0.00	89.25
Daywork Hrs. (Operator's time)											
Rat Hole (> 75 Hrs)											0.00
Wait on Cement		12.00									12.00
Trip		2.00			4.75	7.75	8.75	1.75	7.00		32.00
Circulate		0.50			3.25	1.75	2.25	3.25	3.00		14.00
Tool					0.75	1.00	2.50				4.25
Testing						2.25	6.25				8.50
Clean Floor								0.25			0.25
Logging									5.25		5.25
LDDP / LDDC									4.25		4.25
Run Casing / Cement		3.00								4.00	7.00
Nipple Down / Jet Collar										0.75	0.75
Set Slips										0.50	0.50
Wait on Orders										0.00	0.00
Billable Hours	0.00	17.50	0.00	0.00	8.75	12.75	19.75	5.25	19.50	5.25	88.75
Non-Billable Hours (Southwind's time)											
Rig Up / Rig Down	12.00									9.50	21.50
Wait on Cement (if NC)											0.00
Drill Plug		1.50									1.50
Drill Rat Hole (< 75 hrs)	0.50										0.50
Circulate / Trip (Surface)		1.50						2.75	0.75		4.00
Rig Repair	0.50				1.00	0.75	0.25	0.75	0.25		12.75
Connections	4.00	0.25	3.25	2.25	1.00	0.75	0.25	0.25	0.25		5.25
Jet/Displace		0.50	1.50	1.75	0.50	0.25	0.50	0.25	0.25		1.00
Survey		0.50			0.25				0.25		3.25
Rig Check	0.25		0.50	0.50	0.50	0.25	0.25	0.75	0.25		1.50
Circulate (NB)				0.50					1.00		0.00
Trip Time for Plugged Bit											0.00
Lost Circulation (< 2 hrs)										1.25	1.25
Lay Down Kelly / RH / MH								4.50	2.50	10.75	54.00
Non-Billable Hrs.	17.25	4.25	5.25	5.00	2.25	1.25	1.00	4.50	2.50	10.75	54.00
Footage Cost	\$ 9,450.00	\$ 1,498.00	\$ 18,732.00	\$ 11,900.00	\$ 5,810.00	\$ 4,816.00	\$ 1,078.00	\$ 5,656.00	\$ -	\$ -	\$ 58,940.00
Daywork Cost	\$ -	\$ 6,125.00	\$ -	\$ -	\$ 3,062.50	\$ 4,462.50	\$ 6,912.50	\$ 1,637.50	\$ 6,825.00	\$ 1,837.50	\$ 31,062.50
Combined Est. Cost*	\$ 9,450.00	\$ 7,623.00	\$ 18,732.00	\$ 11,900.00	\$ 8,872.50	\$ 9,278.50	\$ 7,990.50	\$ 7,493.50	\$ 6,825.00	\$ 1,837.50	\$ 90,002.50

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

DST #1 Info - Footage Interval: 3350' - 3385' Recovery: 30' Mud "Toronto"	DST #2 Info - Footage Interval: 3669' - 3729' Recovery: 2080' Gas in Pipe 125' Gassy Heavy Oil & Water Cut Mud 190' Gassy Heavy Oil & Muddy Cut Water Lansing "H-J"
DST #3 Info - Footage Interval: 3733' - 3806' Recovery: 100' Gassy Water, Heavy Oil Cut Mud 125' Gassy Water & Mud "Viola"	DST #4 Info - Footage Interval: Recovery:

Anhydrite @ 675' - 725'

Displaced @ 2789' - 2803'



Musgrove

**PETROLEUM
CORPORATION**
Clafflin, Kansas

COMPANY: H&D Exploration LLC

LEASE: Hildebrand #1

FIELD: Wildcat

LOCATION: Ne-Sw-Sw-Ne (2016' FNL / 2229' FEL)

SEC: 3 TWSP: 25s RGE: 12w

COUNTY: Stafford STATE: Kansas

KB: 1877 GL: 1867

API # 15-185-23845-00-00

CONTRACTOR: Southwind Drilling Company (Rig #1)

Spud: 12/13/2013 Comp: 12/21/2013

RTD: 4210' LTD: 4214'

Mud Up: 2800' Type Mud: Chemical was displaced

Samples Saved From: 2900' to RTD
Drilling Time Kept From: 2900' to RTD
Samples Examined From: 2900' to RTD
Geological Supervision From: 2900' to RTD
Geologist on Well: Josh Austin

Surface Casing: 8 5/8" @ 675'
Production Casing: 5 1/2" @

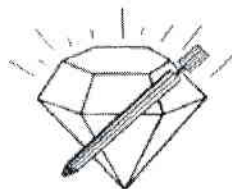
Electronic Surveys: By Pioneer Energy Services

NOTES

On the basis of the positive structural position and drill stem test, it was recommended that 5 1/2" production casing be set and cemented to test the zones with shows.

H&D Exploration, LLC
well comparison sheet

DRILLING WELL Hildebrand #1					COMPARISON WELL Fritzemeier #1			
1876 KB					1873 KB		Structural Relationship	
Formation	Sample	Sub-Sea	Log	Sub-Sea	Sample	Sub-Sea	Sample	Log
Heebner	3354	-1478	3357	-1481	3349	-1476	-2	-5
Toronto	3368	-1492	3371	-1495	3366	-1493	1	-2
Douglas	3392	-1516	3394	-1518	3379	-1506	-10	-12
Brown Lime	3511	-1635	3512	-1636	3504	-1631	-4	-5
Lansing	3533	-1657	3536	-1660	3530	-1657	0	-3
Base KC	3818	-1942	3820	-1944	3813	-1940	-2	-4
Viola	3953	-2077	3952	-2076	3942	-2069	-8	-7
Simpson Shale	4062	-2186	4072	-2196	4061	-2188	2	-8
Simpson Sand	4082	-2206	4094	-2218	4085	-2212	6	-6
Arbuckle	4138	-2262	4136	-2260	4127	-2254	-8	-6
Total Depth	4210	-2334	4214	-2338	4168	-2295		



DIAMOND TESTING
P.O. Box 157
HOISINGTON, KANSAS 67544
(800) 542-7313
DRILL-STEM TEST TICKET
FILE: HILDEBRAND1DST1

TIME ON: 05:25
TIME OFF: 10:50

Company H&D EXPLORATION, LLC Lease & Well No. HILDEBRAND #1
Contractor SOUTHWIND DRILLING, INC. RIG #1 Charge to H&D EXPLORATION, LLC
Elevation 1876 KB Formation TORONTO Effective Pay _____ Ft. Ticket No. T297
Date 12-18-13 Sec. 3 Twp. 25 S Range 12 W County STAFFORD State KANSAS
Test Approved By JOSH AUSTIN Diamond Representative TIMOTHY T. VENTERS

Formation Test No. 1 Interval Tested from 3350 ft. to 3385 ft. Total Depth 3385 ft.
Packer Depth 3345 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
Packer Depth 3350 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
Depth of Selective Zone Set _____
Top Recorder Depth (Inside) 3338 ft. Recorder Number 8457 Cap. 10,000 P.S.I.
Bottom Recorder Depth (Outside) 3382 ft. Recorder Number 11029 Cap. 5,025 P.S.I.
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.
Mud Type CHEMICAL Viscosity 46 Drill Collar Length _____ ft. I.D. 2 1/4 in.
Weight 9.05 Water Loss 14.4 cc. Weight Pipe Length _____ ft. I.D. 2 7/8 in.
Chlorides 18,200 P.P.M. Drill Pipe Length 3324 ft. I.D. 3 1/2 in.
Jars: Make STERLING Serial Number _____ Test Tool Length 26 ft. Tool Size 3 1/2-IF in.
Did Well Flow? NO Reversed Out NO Anchor Length 35 ft. Size 4 1/2-FH in.
Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.
Blow: 1st Open: WEAK 1/4 INCH BLOW, BUILDING TO 1 1/2 INCHES. (NO BB)
2nd Open: WEAK SURFACE BLOW, BUILDING TO 3/4 INCH. (NO BB)

Recovered 30 ft. of M W/SL TR. O, SLIGHT TRACE OIL, 100% MUD

Recovered _____ ft. of _____

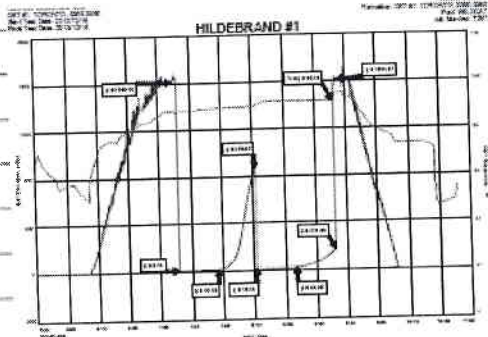
Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Remarks: _____



TOOL SAMPLE: 2% OIL, 98% MUD

Time Set Packer(s) 7:13 AM A.M. Time Started Off Bottom 9:13 AM A.M. Maximum Temperature 97 deg. P.M.

Initial Hydrostatic Pressure (A) 1606 P.S.I.

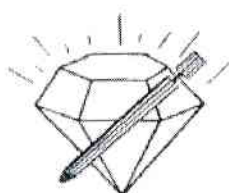
Initial Flow Period Minutes 30 (B) 9 P.S.I. to (C) 13 P.S.I.

Initial Closed In Period Minutes 30 (D) 869 P.S.I.

Final Flow Period Minutes 30 (E) 16 P.S.I. to (F) 20 P.S.I.

Final Closed In Period Minutes 30 (G) 174 P.S.I.

Final Hydrostatic Pressure (H) 1606 P.S.I.



DIAMOND TESTING
 P.O. Box 157
 HOISINGTON, KANSAS 67544
 (800) 542-7313

TIME ON: 04:45
 TIME OFF: 12:29

DRILL-STEM TEST TICKET
 FILE: HILDEBRAND1DST2

Company H&D EXPLORATION, LLC Lease & Well No. HILDEBRAND #1

Contractor SOUTHWIND DRILLING, INC. RIG #1 Charge to H&D EXPLORATION, LLC

Elevation 1876 KB Formation LANSING "H-J" Effective Pay _____ Ft. Ticket No. T298

Date 12-19-13 Sec. 3 Twp. 25 S Range 12 W County STAFFORD State KANSAS

Test Approved By JOSH AUSTIN Diamond Representative TIMOTHY T. VENTERS

Formation Test No. 2 Interval Tested from 3669 ft. to 3729 ft. Total Depth 3729 ft.

Packer Depth 3664 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Packer Depth 3669 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

Depth of Selective Zone Set

Top Recorder Depth (Inside) 3657 ft. Recorder Number 8457 Cap. 10,000 P.S.I.

Bottom Recorder Depth (Outside) 3726 ft. Recorder Number 11029 Cap. 5,025 P.S.I.

Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.

Mud Type CHEMICAL Viscosity 50 Drill Collar Length 0 ft. I.D. 2 1/4 in.

Weight 9.2 Water Loss 18.2 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.

Chlorides 28,000 P.P.M. Drill Pipe Length 3643 ft. I.D. 3 1/2 in.

Jars: Make STERLING Serial Number _____ Test Tool Length 25 ft. Tool Size 3 1/2-IF in.

Did Well Flow? NO Reversed Out NO Anchor Length 28 ft. Size 4 1/2-FH in.

Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: GOOD 2 INCH BLOW, BUILDING, REACHING BOB 1 1/2 MIN. (WS BB)

2nd Open: GOOD 1 INCH BLOW, BUILDING, REACHING BOB 3 MIN. (BOB BB)

Recovered 2080 ft. of GAS IN PIPE

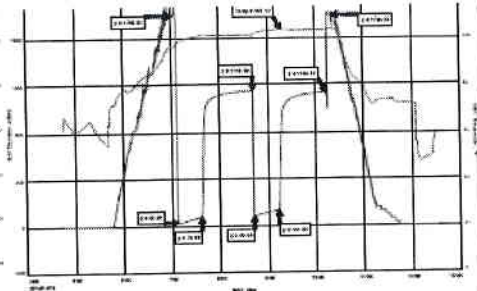
Recovered 125 ft. of G,H,O&WCM, 20% GAS, 23% OIL, 21% WATER, 36% MUD

HOISINGTON, KANSAS
 67544
 (800) 542-7313

HILDEBRAND #1

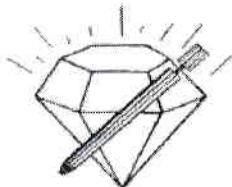
HOISINGTON, KANSAS
 67544
 (800) 542-7313

Recovered 190 ft. of G,HO&MCW, 12% GAS, 18% OIL, 47% WATER, 23% MUD
 Recovered 315 ft. of TOTAL FLUID
 Recovered _____ ft. of _____ CHLORIDES: 120,000 ppm
 Recovered _____ ft. of _____ PH: 6.0
 Remarks: _____ RW: .14 @ 66 deg.



TOOL SAMPLE: 2% GAS, 2% OIL, 77% WATER, 19% MUD

Time Set Packer(s) 7:06 AM A.M. Time Started Off Bottom 10:12 AM P.M. Maximum Temperature 109 deg.
 Initial Hydrostatic Pressure..... (A) 1800 P.S.I.
 Initial Flow Period..... Minutes 30 (B) 32 P.S.I. to (C) 79 P.S.I.
 Initial Closed In Period..... Minutes 66 (D) 1151 P.S.I.
 Final Flow Period..... Minutes 30 (E) 85 P.S.I. to (F) 136 P.S.I.
 Final Closed In Period..... Minutes 60 (G) 1135 P.S.I.
 Final Hydrostatic Pressure..... (H) 1798 P.S.I.



DIAMOND TESTING
 P.O. Box 157
HOISINGTON, KANSAS 67544
 (800) 542-7313
DRILL-STEM TEST TICKET
 FILE: HILDEBRAND1DST3

TIME ON: 21:52 12-19-13
 TIME OFF: 07:09 12-20-13

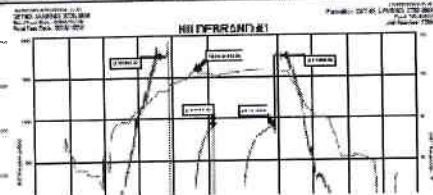
Company H&D EXPLORATION, LLC Lease & Well No. HILDEBRAND #1
 Contractor SOUTHWIND DRILLING, INC. RIG #1 Charge to H&D EXPLORATION, LLC
 Elevation 1876 KB Formation LANSING Effective Pay _____ Ft. Ticket No. T299
 Date 12-20-13 Sec. 3 Twp. _____ 25 S Range 12 W County STAFFORD State KANSAS
 Test Approved By JOSH AUSTIN Diamond Representative TIMOTHY T. VENTERS

Formation Test No. 3 Interval Tested from 3733 ft. to 3806 ft. Total Depth 3806 ft.
 Packer Depth 3728 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.
 Packer Depth 3733 ft. Size 6 3/4 in. Packer depth _____ ft. Size 6 3/4 in.

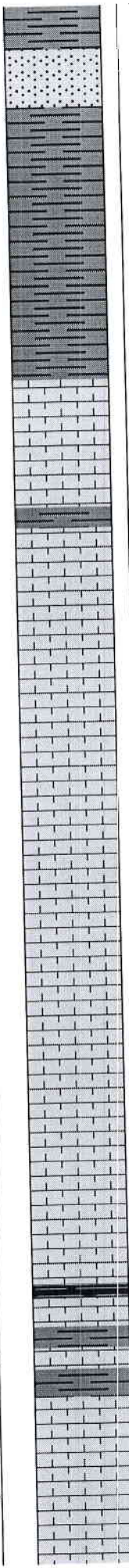
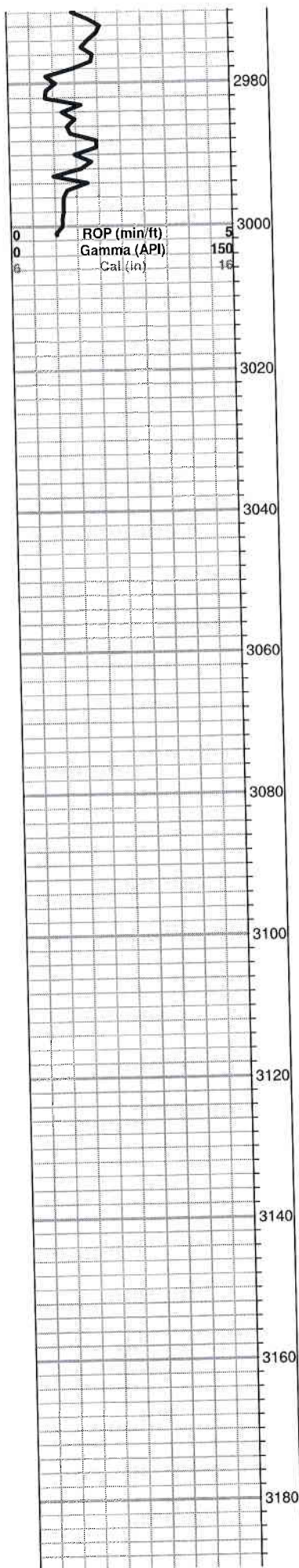
Depth of Selective Zone Set _____
 Top Recorder Depth (Inside) 3714 ft. Recorder Number 8457 Cap. 10,000 P.S.I.
 Bottom Recorder Depth (Outside) 3803 ft. Recorder Number 11029 Cap. 5,025 P.S.I.
 Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____ P.S.I.
 Mud Type CHEMICAL Viscosity 50 Drill Collar Length 0 ft. I.D. 2 1/4 in.
 Weight 9.2 Water Loss 18.2 cc. Weight Pipe Length 0 ft. I.D. 2 7/8 in.
 Chlorides 28,000 P.P.M. Drill Pipe Length 3700 ft. I.D. 3 1/2 in.
 Jars: Make STERLING Serial Number 2 Test Tool Length 33 ft. Tool Size 3 1/2-IF in.
 Did Well Flow? NO Reversed Out NO Anchor Length 41 ft. Size 4 1/2-FH in.
 Main Hole Size 7 7/8 Tool Joint Size 4 1/2 XH in. Surface Choke Size 1 in. Bottom Choke Size 5/8 in.

Blow: 1st Open: GOOD 3 INCH BLOW, BUILDING, REACHING BOB 1 MIN. (NO BB)
 2nd Open: VERY STRONG BLOW, HITTING BOB INSTANTANEOUSLY. (WS BB)

Recovered 3475 ft. of GAS IN PIPE
 Recovered 100 ft. of G,SWHOCM, 10% GAS, 37% OIL, 8% WATER, 45% MUD
 Recovered 125 ft. of G, W&MCO, 19% GAS, 44% OIL, 15% WATER, 32% MUD
 Recovered 225 ft. of TOTAL FLUID



CHLORIDES: 84,000 ppm



Sand; grey, very fine grained, micaceous, sub angular, friable, no shows

Shale and Sand as above

Shale; grey, micaceous, soft, silty

TOPEKA

Limestone; cream-tan, fine xln, fossiliferous, chalky in part, dense

grey shale

Limestone; cream-grey, fine-medium xln, granular, fossiliferous, poorly deviated porosity, no shows

Limestone; as above

Limestone; cream, fine xln, chalky in part, dense, slightly fossiliferous, cherty, few parry calcite inclusions, no shows

as above

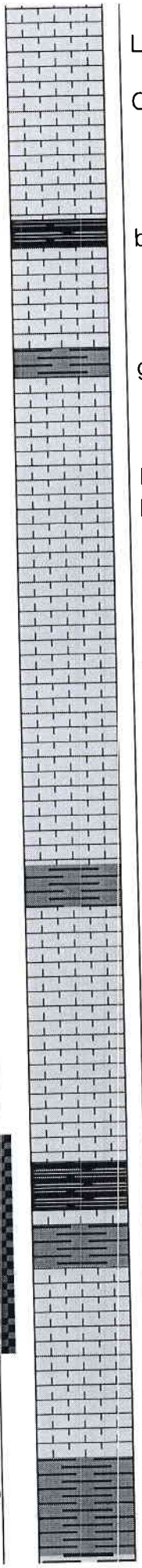
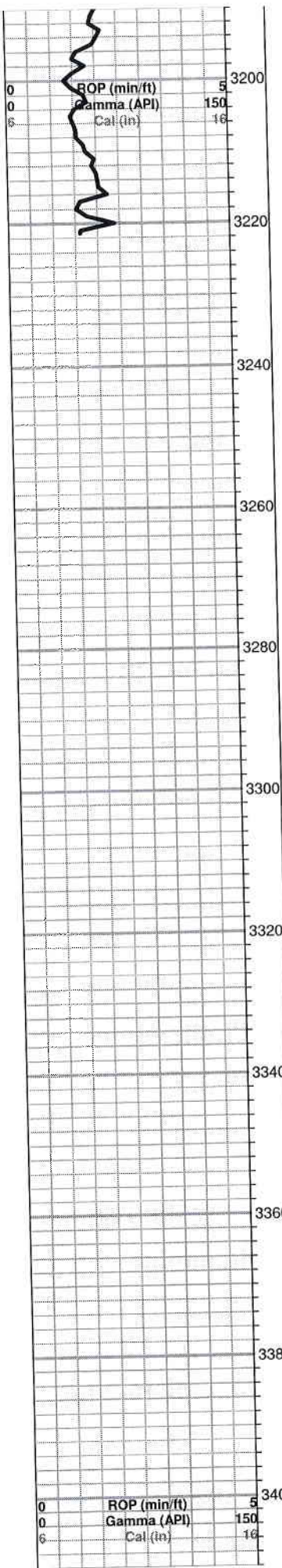
Limestone; cream-lt. grey, fine xln, chalky in part, dense, cherty, poor visible porosity, no shows

black carboniferous shale

grey-green-maroon, shale

Limestone; buff-tan-cream, fine-medium xln, granular in part, few fossiliferous pieces, scattered porosity, no shows

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



Limestone; as above

Chert; white-lt. grey boney

black carboniferous shale

grey-green shale

Limestone; cream, fine xln, dense, chalky in part, plus white-lt. grey boney Chert

Limestone; cream, fine-medium xln, fossiliferous, chalky in part, scatterd inter xln type porosity, no shows

Limestone as above

dark grey shale

Limestone; cream-buff, fine xln, dense, cherty, poor visible porosity, no shows

as above

HEEBNER 3354 (-1478)

Black Carboniferous Shale

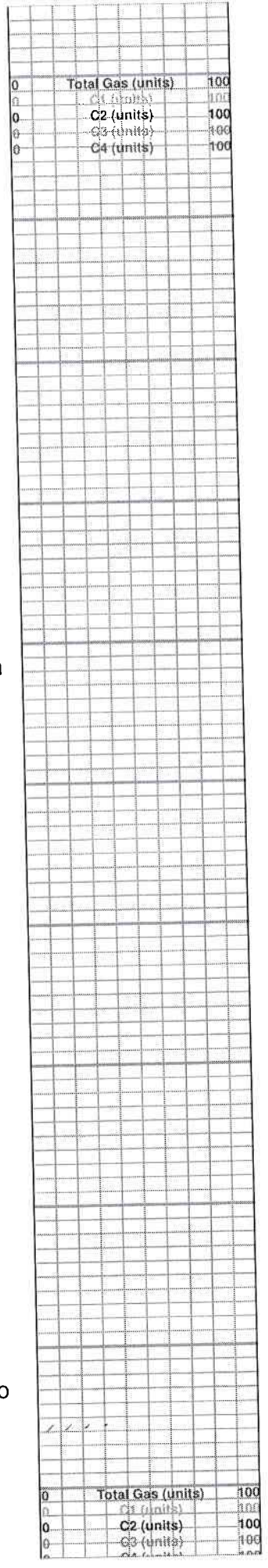
TORONTO 3368 (-1492)

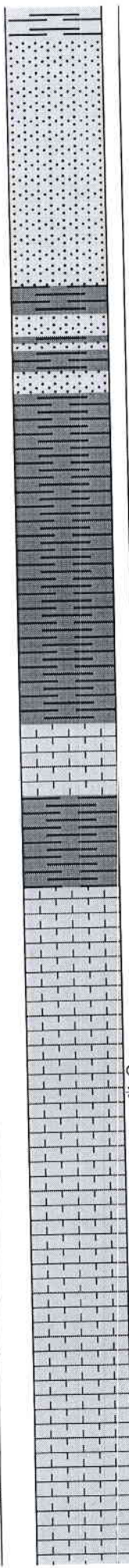
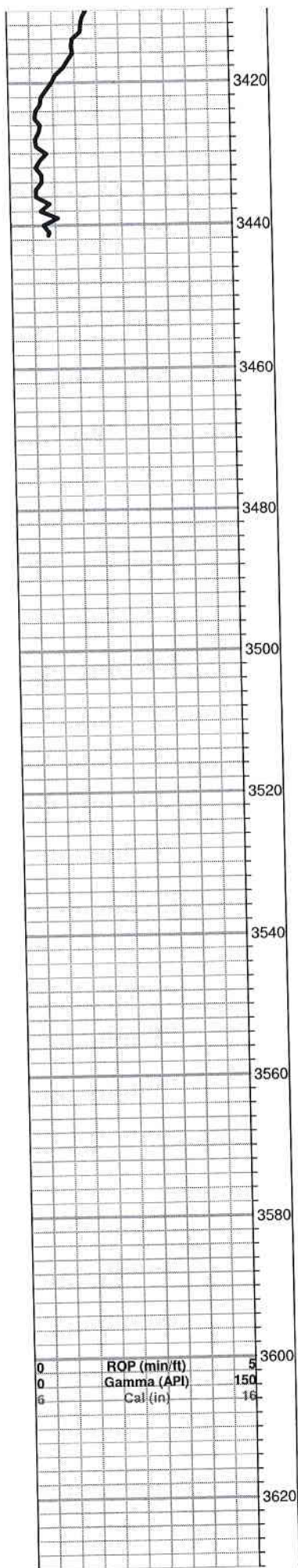
Limestone; cream-white, fine xln, chalky, trace inter xln type porosity, trace golden brown stain, trace spotty free oil, very faint odor

Limestone; cream-white, fine xln, chalky, no shows, plus white chalk

DOUGLAS SHALE (-1516)

Shale; grey-greyish green, soft, silty, micaceous





Sand; grey-greyish green, very fine grained, sud rounded, sub angular, micaceous, poor inter granular porosity, no shows

Sand as above, plus Shale; grey-greyish green, silty, micaceous, few soft pieces

Shale; grey-dark grey, silty in part, slightly micaceous

Shale as above

BROWN LIME 3511 (-1635)

Limestone; buff-grey, fine xln, dense, slightly fossiliferous, cherty

grey shale

LANSING 3533 (-1657)

Limestone; cream-grey, fine xln, fossiliferous, chalky in part, dense

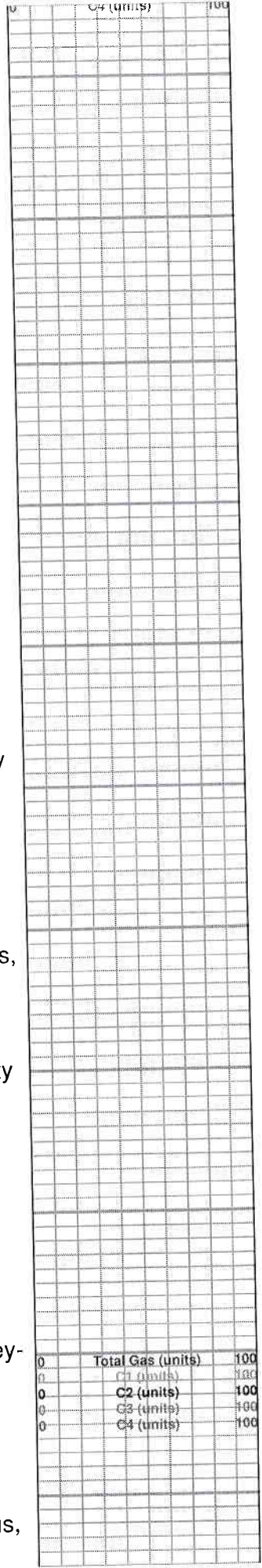
Limestone; tan, fine xln, few inter xln type porosity, few finely oolitic, trace brown spotty stain, trace spotty free oil, gas bubbles and faint odor

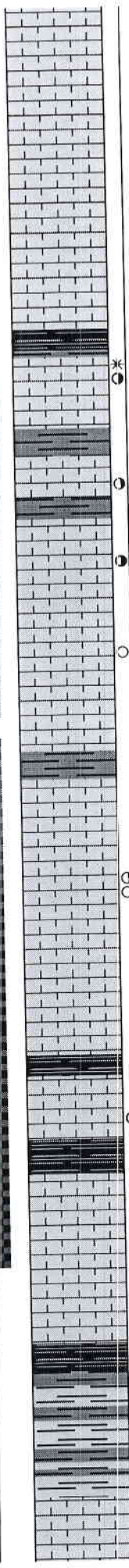
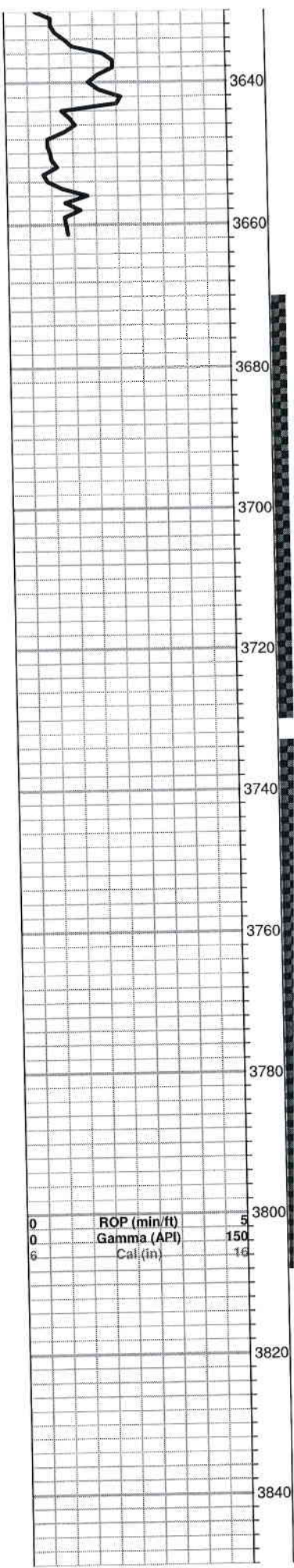
Limestone; cream-grey, fine-medium xln, chalky, dense, poorly deviated porosity, no shows

Limestone; cream-grey-buff, fine xln, fossiliferous in part, chalky, dense, plus grey-opaque boney Chert

Limestone and Chert as above

Limestone; cream-buff, fine xln, fossiliferous, cherty, few inter xln type porosity, brown





stain, slight SFO, very faint odor

Limestone; cream-buff, fine xln, finely oolitic, dense, cherty, plus grey-white boney Chert

Limestone; cream-tan, fine xln, dense, cherty, plus grey Chert

black-dark grey shale

Limestone; cream, inter xln porosity, trace brown stain, slight SFO, faint odor

Limestone; cream-white, oolitic, chalky, few oolitic pieces, black stain, SFO, faint-fair odor

Limestone; cream-buff, fine xln, fossiliferous, vuggy type porosity, brown stain, SFO, SAT in part, faint odor

Limestone; cream-lt. grey, oomoldic, chalky in part, fair-good oomoldic porosity, (barren)

grey-dark grey shale

Limestone; cream-grey, fine xln, chalky, fossiliferous in part, brown-dark brown stain, NSFO, very faint odor

Limestone; grey, fine xln, dense, chalky in part, dense, cherty, no shows

black carboniferous shale

Limestone; cream, white, highly oolitic, fine-medium xln, brown stain, SFO/SAT, fair odor

black carboniferous shale

Limestone; tan-buff, fine xln, dense, cherty

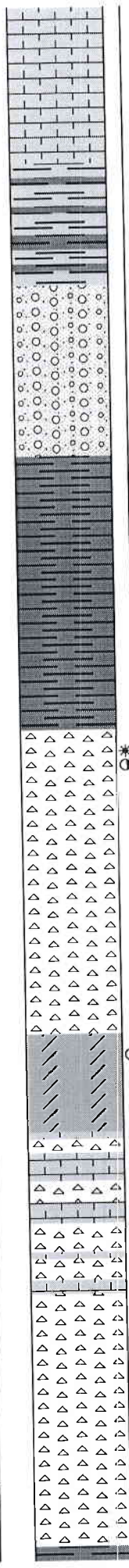
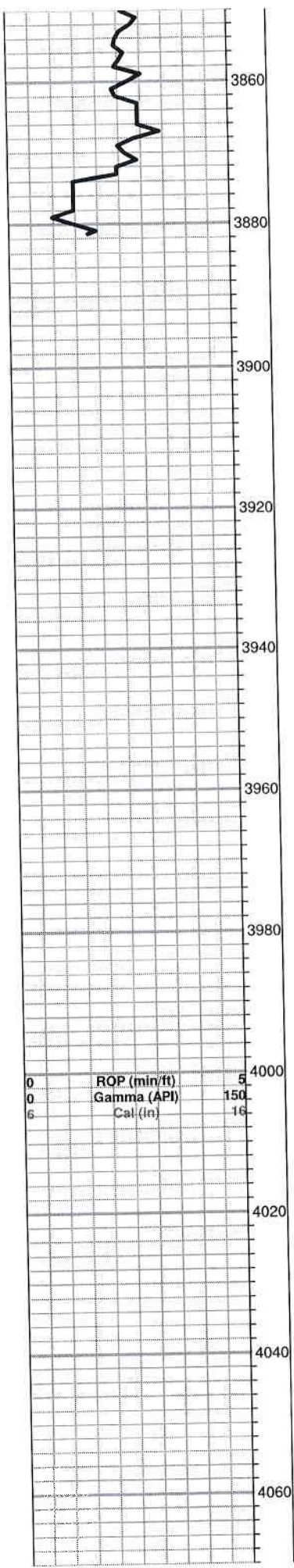
BASE KANSAS CITY 3818 (-1942)

Shale; black carboniferous plus dark grey-green, slightly silty in part

MARMATON

Limestone; cream-white, fine xln, chalky,

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



dense, slightly fossiliferous, poorly developed porosity, no shows

Limestone; as above, glauconitic in part, trace Chert; orange-cream, boney/fresh

grey-green Shale

Shale; variety of colors, gummy/soft, plus Chert; multi colors

Shale; brick red-grey-green, soft, waxy

Shale; grey-green-maroon-brick red

VIOLA 3953 (-2076)

Chert; white-cream, semi tripolitic, boney, brown edge staining, trace free oil, gassy odor

Chert as above plus white chalk

Chert; white, semi tripolitic, boney, trace stain, NSFO, no odor, plus Dolomite; cream, fine-medium xln, sucrosic, no shows

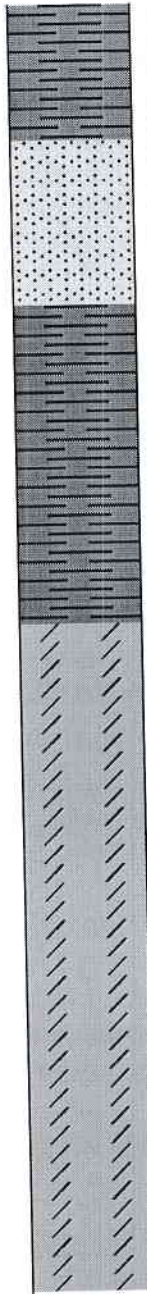
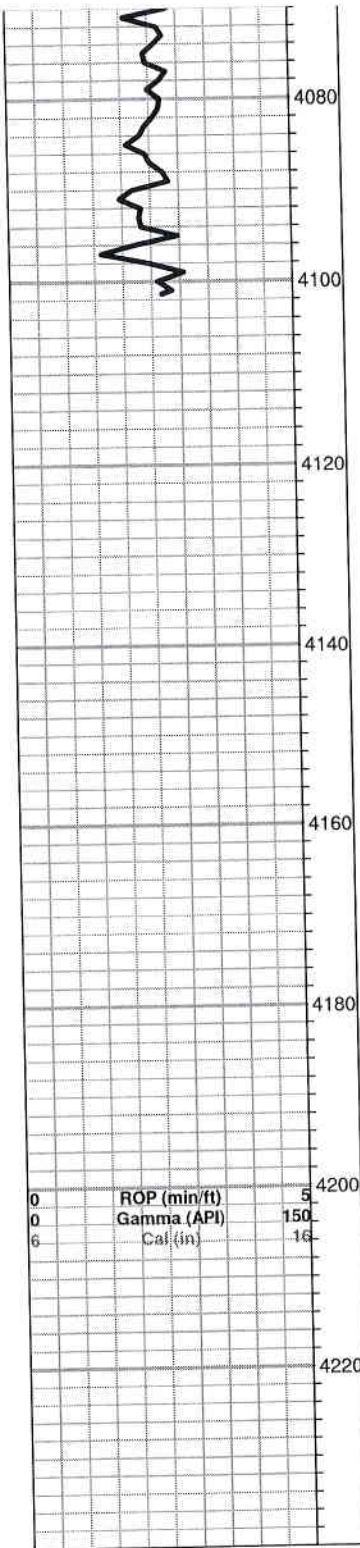
Chert; white-cream, boney, semi tripolitic, plus Limestone; buff-cream-white, fine xln, dense, slightly dolomitic, no shows

Limestone; lt. grey-cream, fine xln, dense, cherty, plus Chert; white-cream, boney, semi tripolitic

as above

SIMPSON SHALE 4062 (-2185)

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



Shale; grey-green, maroon, soft, gummy in part

SIMPSON SAND 4082 (-2206)

Sand; grey-clear, sub rounded, sub angular, micaceous in part, fair inter granular porosity, trace black stain, NSFO, no odor

Sand; cream, fine-medium grained, sub angular, sub rounded, dolomitic in part, friable in part, fair inter granular porosity, no shows

Shale; green-grey-dark grey

ARBUCKLE 4138 (-2261)

Dolomite; pink-cream, fine-medium xln, sucrosic dense, poorly developed porosity, no shows

Dolomite; grey-cream, fin xln, dense, sucrosic, poorly developed porosity, no shows, plus FeS2

Dolomite; as above

Dolomite; cream-lt. grey, fine-medium xln, dense, poor porosity, cherty, no shows

As above plus grey-white Chert

ROTARY TOTAL DEPTH 4210

