GEOLOGICAL REPORT

SOURCE PETROLEUM

BATES # 9

CNE SE SW

3-35S-1E

SUMNER COUNTY

KANSAS

FEBRUARY 16,1988

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WELL DATA

Operator:	Source Petroleum, Wichita, Kansas
Well:	Bates #9
API#	15-191-22,048
Location:	CNE SE SW 3-35S-1E, Sumner County, Kansas
Contractor:	Allen Drilling, Rig #2
Tool Pusher:	Vince Schrepel
Geologist:	D. V. Davis, Jr.
Elevation:	GL 1128 1133 KB
Spud:	2/2/88
Surface Casing:	253 of 8-5/8" @ 262 w/190 sxs
Commenced:	2/3/88
Bit Size:	7-7/8"
Completed:	2/15/88
RTD/LTD:	3850'/3849'
Mud:	MudCo, Inc.
Tests:	Trilobite Testing, Rod Stenbrink
Logging:	Great Guns Logging
Gas Detecter:	Detector on Wheels
Samples:	K.G.S. Well Sample Library, Wichita, Kansas
Status:	Run Casing

WELL SURVEYS

262' - 1/2 °
765' - 1/4 °
1263' - 3/4 °
1760' - 3/4 °
2256' - 1/2 °
2754' - 1-1/2°
2898' - 2°
3153' - 2-1/2°
3225' - 2-3/4°
3374' - 2-7/8°
3548' - 3°
3663' - 3-1/4°
3739' - 3-1/8°
3850' - 2°

CHRONOLOGICAL DATA

Date	Depth	Description
2/2/88	0000	Moved on; set surface casing
2/3/88	0262	WOC; drilled out plug; drilling ahead; SHT @ 765'
2/4/88	0954	Drilling ahead; geologist on location, SHT @ 1263', @ 1760'
2/5/88	1986	Drilling ahead; SHT @ 2256'
2/6/88	2696	CFS @ 2898; DST #1; CFS @ 2928, DST #2
2/7/88	2928	DST #2; CFS @ 3001;, CFS @ 3153; DST #3
2/8/88	3153	CFS @ 3225; DST #4; Drilling ahead
2/9/88	3310	Drilling ahead, SHT @ 3374
2/10/88	3500	CFS @ 3548, @ 3572; DST #5; CFS @ 3584
2/11/88	3584	DST #6, CFS @ 3668; DST #7; Strap (0.76 short)
2/12/88	3663	CFS @ 3668; CFS @ 3673; DST #8; CFS @ 3678, @ 3683, @ 3688; DST #9
2/13/88	3688	CFS @ 3739; DST #10; Drilling ahead
2/14/88	3762	CFS @ 3850; log
2/15/88	3850	Run production casing

BIT RECORD

1) CP 53CH 262' - 3584'

2) Security S86F 3584'-3850'

TESTS

1 2873-2898 Layton Sandstone 30"-30"-30"-30"

IHP 1393# FHP 1347#
IFP 36-36# FFP 36-36#
ISIP 819# FSIP 692# BHT 115 F
Rec-10' Mud NS

2 2896-2928 Layton Sandstone 30"-30"-30"-60"

IHP 1393# FHP 1324#
IFP 60-60# FFP 96-96#
ISIP 934# FSIP 991# BHT 115 F
Rec- 1440' GIP,45' GOWCM (25% G,10% W, 5% O,30% M)
60' GMCW (50% G, 30% W, 20% M)
60' MW (20% M, 80% W)

3 3133-3153 Kansas City Dennis 30"-30"-30"-30"
IHP 1531# FHP 1462#
IFP 24-24# FFP 24-24#
ISIP 48# FSIP 36# BHT 116 F
Rec- 5' Mud NS

4 3179-3225' Cleveland Sandstone 30"-30"-30"-30"
IHP 1577# FHP 1554#
IFP 48-48# FFP 48-48#
ISIP 60# FSIP 60# BHT 116 F
Rec- 10' Mud NS

5 3562-3572' Mississippian 30"-60"-60"-60"
IHP 1762# FHP 1692#
IFP 24-24# FFP 24-24#
ISIP 1174# FSIP 1186# BHT 118 F
Rec- 5' Mud NS

Time	PSI	MCF
0	4	39.0
10	4	39.0
20	5	44.2
30	5	44.2
40	5.5	46.4
50	6	48.8
60	7	53.2

6 3572-3584' Mississippian 30"-60"-60"-60"
IHP 1819# FHP 1174#
IFP 24-24# FFP 36-36#
ISIP 1174# FSIP 1174# BHT 118 F
Rec- 50' Mud (2% oil, 98% Mud)

Time	PSI	MCF
0	3	33.5
10	1	19.0
20	6	7.06
30	8.5	8.59
40	12	10.5
50	15	12.1
60	17	13.1

7 3651-3663' Simpson Sandstone 30"-30"-30"-30"
IHP 1833# FHP 1779#
IFP 21-21# FFP 21-21#
ISIP 21# FSIP 21# BHT 118 F
Rec- 20' Mud NS

8 3663-3673' Simpson Sandstone 30"-45"-15"-30"
IHP 1831# FHP 1773#
IFP 24-24# FFP 24-24#
ISIP 24# FAIP 24# BHT 118 F
Red- 5' Mud NS

9 3673-3688 Simpson Dolomite 30"-60"-60"-60"
IHP 1819# FHP 1727#
IFP 24-24# FFP 36-36#
ISIP 692# FSIP 496# BHT 120 F
Rec- 40 SOCM (25% G, 2% O, 3% W, 70% M)

10 3719-3739' Arbuckle 60"-60"-60"-60"
IHP 1889# FHP 1796#
IFP 144-309# FFP 461-531#
ISIP 807# FSIP 945# BHT
Rec- 1120' Water Chlorides 70000ppm

FORMATION TOPS

FORMATION	E LOG	Datum	Sample	Datum	Bates #4	Bates #5
Wabaunsee	1224	- 91	1224	- 91	- 93	- 99
Tarkio	1425	- 292	1425	- 292	- 291	- 300
Howard	1609	- 476	1610	- 477	- 476	- 484
Topeka	1750	- 617	1750	- 617	- 618	-623
Oread	2027	- 894	2026	- 893	- 892	- 900
Heebner	2132	- 999	2130	- 997	- 995	-1004
Douglas	2287	-1154	2289	-1156	-1151	-1158
Iatan	2437	-1304	2436	-1303	-1299	-1307
Stalnaker	2537	-1404	2547	-1414	-1403	-1404
Layton	2895	-1762	2889	-1756	-1747	-1760
Kansas City	3082	-1949	3081	-1948	-1938	-1946
Drum	3094	-1961	3091	-1958	-1949	-1956
Dennis	3126	-1993	3125	-1992	-1981	-1988
Swope	3171	-2038	3170	-2037	-2025	-2034
Cleveland	3206	-2073	3207	-2074	-2058	-2070
Marmaton	3276	-2143	3274	-2141	-2128	-2136
Cherokee	3390	-2257	3388	-2255	-2247	-2250
Mississippi	3534	-2401	3531	-2398	-	
Miss. Por.	3551	-2418	3551	-2418	-2363	-2414
Kinderhook	3612	-2479	3610	-2477	2409	-2460
Simpson Sd.	3657	-2524	3656	-2523	-2475	-2480
Simpson Dol.	3674	-2541	3675	-2542		
Arbuckle	3698	-2565	3699	-2566	-2605	

GEOLOGICAL COMMENTS

There were no shows seen in samples or recorded by the gas detector from surface to the base of the Stalnaker Sandstone.

The Layton sandstone log top was chosen at 2895 (-1462). This would be 15 feet low to the Bates #4; 2 feet low to the Bates #5; and 4 feet high to the Bates #6. Samples from 2889 to 2899 were grey, subangualar-subrounded, very fine-grained micaceous quartz sandstone, with moderate to good sorting and a poor to fair inter-granular porosity. There were gas bubbles and a trace of oil bleeding from the samples. Approximately 20% of all samples had good fluorescence and a moderate cut with a faint odor (see the results of DST #1). There was a 160 unit show on the gas detector.

Samples from 2901 to 2912 were the same as those above, but approximately 90% of all samples had staining, yellow fluorescence. There was a moderate to good cut with a strong odor (see the results of DST #2).

The lower Layton sandstone log top was chosen at 2989 (-1856). Samples were light grey and white very fine-grained micaceous quartz sandstone, with poor inter-granular porosity. There were no shows in the samples or detected by gas detector.

The Kansas City log top was chosen at 3082 (-1949). This would be 11 feet low to the Bates #4; 3 feet low to the Bates #5; and 27 feet high to the Bates #6.

The Dennis limestone formation of the Kansas City was a cream to tan, to light brown, finely crystalline limestone with poor inter-crystalline porosity. There was a fair fluorescence, poor to fair cut, with a trace of free oil and gas bubbles (see DST #3).

The Celveland sandstone samples were light grey, very fine-grained subangular to subrounded, slightly shaley quartz sandstone and siltstone. There was poor to moderate sorting and poor inter-granular porosity. Approximately 40% of samples had a yellow fluorescence and poor to moderate cut. There was a 200 unit show on the gas detector (see results of DST #4).

There were no shows recorded by the gas detector or seen in samples throughout the Marmaton and Cherokee groups.

The Mississippian chert porosity log top was chosen at 3551 (-2418). This would be 55 feet low to the Bates #4; 4 feet low to the Bates #5; and 8 feet high to the Bates #6. The samples from 3566 to 3571 were white, transluscent, fresh to mostly weathered, fractured chert and some tripolitic chert. There was a brown staining in approximately 80% of the samples, which had a trace of free and gas bleeding. There was a yellow fluorescence and a moderate to good cut (see results of DST #5).

Samples from 3573 to 3582 were tan and white, transluscent, mostly fresh to weathered fractured chert, with some tripolitic chert. Approximately 25% of samples were stained brown and were bleeding gas with a trace of free oil. There was a yellow fluorescence and a moderate cut (see results of DST #6).

The Simpson log top was chosen at 3657 (-2524). This would be 49 feet low to the Bates #4; 44 feet low ot the Bates #5; and 76 feet high to the Bates #6. Samples from 3656 to 3666 were clear, fine to medium grained, slightly friable, sub-angular to sub-rounded quartz sandstone, with poor to moderate sorting and no visible porosity. There was a light brown staining of approximately 20% of the samples, but no free oil (see DST #7).

Samples from 3667 to 3675 were clear, friable, fine grained sub-angular to sub-rounded quartz sandstone, with moderate sorting and no visible porosity. There was a light brown staining and a trace of free oil involving 75% of the samples (see DST #8).

Samples from 3675 to 3686, were tan to cream, finely crystalline to finely sucrosic, slightly cherty, sandy dolomite, with poor inter-crystalline and solution pinpoint porosity. There was a light brown staining and a trace of free oil (see the results of DST #9).

The Arbuckle dolomite log top was chosen 3698 (-2565). This would be 40 feet high to the Bates #4. Samples from 3699 to 3710 were tan to light brown, finely crystalline dolomite with poor to fair inter-crystalline porosity. There was a light brown staining but no free oil.

Samples from 3712 to 3722 were light grey to tan finely crystalline cherty sandy dolomite, with no visible porosity. There were no shows.

Samples from 3727 to 3734 were tan to brown, fine to medium crystalline dolomite with fair to good vug and inter-crystalline porosity. There was a light brown staining and a fair to good show of free oil (see results of DST #10).

Respectfully submitted,
Douglas V. Davis
Douglas V. Davis Jr.
Petroleum Geologist