



00252655

I

WELL DATA

OPERATOR: Plains Exploration Company

WELL NAME: Svacina No. 1

LOCATION: NE NW of Section 18, T 8 N, R 54 W

FIELD: Wildcat

STATUS: Producing oil well

ELEVATION: 4395' Ground (Powers)
4403' Kelly Bushing
(All depths used in report are from Kelly Bushing)

CONTRACTOR: Exeter Drilling Company, Rig No. 6

SPUD DATE: September 20, 1970

CASING: Set 106' of 8 5/8" surface casing at 116' KB, cemented to surface with 85 sacks.
Ran 161 joints of 5 1/2" production casing to 5403' KB. Cemented with 125 sacks.

TOTAL DEPTH: 5410' Driller
5408' Dresser Atlas

LOGS RUN: Dresser Atlas - IES 117' - 5407'
Dresser Atlas - Densilog-Minilog 5100' - 5408'

DRILL STEM TESTS: DST No. 1 5335' - 5353' ("J₁" Sand)

Open 30 minutes, shut-in 60 minutes, open 60 minutes, shut-in 60 minutes. During initial flow period, tool opened with a weak blow. Had increased to good blow at end 30 minutes. In regular flow period, tool opened with a weak blow, increased to fair blow in 20 minutes and remained constant for remainder of 60 minutes. There was a slow leak of mud through a bad tool joint throughout the test. Recovered 820' of gas above 680' of fluid which consisted of 150' of mud, 385' of slightly water cut mud and 145' of heavily water cut mud.

BEST IMAGE AVAILABLE

IFP - 135 ISIP - 878 IHP - 2910
 FTP - 270 FSIP - 797 FHP - 2896

18-8N-54W

DRILL STEM TESTS: DST No. 2 5354' - 5369' (Straddle-"J₂" Sand)

Open 30 minutes, shut-in 60 minutes, open 60 minutes, shut-in 60 minutes. During each flow period, tool opened with a weak blow which soon built to a strong blow and remained strong throughout remainder of test. There was gas to surface in 67 minutes, that is, 37 minutes into the second flow period, at a rate too small to measure. Burned with a 2' to 3' flare. Recovered 565' of fluid which consisted of 360' of clean oil (2.66 bbls.), 90' of heavily gas and oil cut mud (0.63 bbls.) and 115' of murky water (0.70 bbls.). Gravity of the oil at 62°F is 40° and the Rv at 72°F is 1.9.

BEST IMAGE AVAILABLE

IFP - 122 ISIP - 538 IHP - 2951
 FTP - 205 PSIP - 338 FHP - 2937

BIT RECORD:

<u>NO.</u>	<u>SIZE</u>	<u>MAKE</u>	<u>TYPE</u>	<u>IN</u>	<u>OUT</u>	<u>FOOTAGE</u>	<u>HOURS</u>
1	7 7/8"	Sec.	S3	121	2865	2744	18 1/4
2	7 7/8"	STC	DT	2865	4485	1620	20 1/4
3	7 7/8"	STC	DT	4485	5238	853	16 3/4
4	7 7/8"	HTC	OWV	5238	5352	114	13
5	7 7/8"	Sec.	N4L	5352	5410	58	9 3/4

MUD RECORD:

<u>DATE</u>	<u>GEL</u>	<u>CAUSTIC</u>	<u>QUEBRACHO</u>	<u>SODA ASH</u>	<u>PHOSPHATE</u>	<u>DD</u>
9/20/70					100#	
9/21/70					400#	1 can
9/22/70	59 sx.	160#	450#	175#		1 can
9/23/70	19 sx.	90#	100#			
9/24/70	10 sx.					
9/25/70	17 sx.					
TOTAL	105 sx.	210#	550#	175#	900#	2 cans

FORMATION TOPS: (Adjusted to Dresser Atlas measurements) Elevation: 4395' OR
 4403' KB

Niobrara	4434	(- 31)
Carlile	4799	(-396)
Greenhorn	4903	(-580)
Bentonite	5142	(-739)
"J" Sand	5232	(-829)
"J" Sand	5336	(-933)
"J ₂ " Sand	5360	(-957)
Total Depth	5410' Driller	5408' Dresser Atlas

XII

LITHOLOGY

Note: Samples not lagged back.

5220-5238 Shale, gray to dark gray.

"D" Sand

5238 Circulated 40 Minutes

20 Minute Circulated Sample

Shale, as above; some sandstone, light gray to buff, medium grain, poor to fair porosity, friable, mostly clean, trace of carbonaceous laminae, no show.

40 Minute Circulated Sample

Sandstone, light gray, medium grain, low porosity, friable to moderately hard, trace pyrite, no show.

5238-5245 Cavings following trip; trace of sandstone, as above, no show.

5245-5255 Sandstone, as above, no show; trace sandstone, light gray, medium grain, tight, clay matrix, no show.

5255-5260 Siltstone, gray, hard.

5260-5270 Sandstone, light gray, fine grain, tight, moderately friable, dirty, slightly glauconitic, no show; some siltstone, as above.

5270-5275 Sandstone, as above, trace with clay matrix, no show.

5275 Circulated 40 Minutes

20 Minute Circulated Sample

Sandstone, as above, no show.

40 Minute Circulated Sample

Shale, gray to dark gray.

5275-5315 Shale, as above.

5315-5325 Shale, as above; trace siltstone, gray, hard.

5325-5340 Siltstone, as above.

5340-5345 Very poor sample - no description possible.

BEST IMAGE
AVAILABLE

"J" Sand

5349-5352

Sandstone, light gray, fine grain, tight, some quartzitic, some clay matrix, glauconitic, sideritic, no show; trace sandstone, as before, except with poor porosity, excellent fluorescence, good cut, very light stain.

5352

Circulated 60 Minutes

20 Minute Circulated Sample

Sandstone, light gray, fine grain, tight, moderately hard, slightly glauconitic, no show.

40 Minute Circulated Sample

Sandstone, as above, no show; sandstone, buff, very fine grain, very low porosity, clean, excellent fluorescence and cut, even light stain.

BEST IMAGE
AVAILABLE

60 Minute Circulated Sample

Sandstone, light gray, fine grain, tight, hard, clean, slightly glauconitic and sideritic, no show; some sandstone, with show, as above.

5352-5360

Cavings following DST No. 1.

5360-5365

Sandstone, light gray to buff, fine grain, low porosity, clean except some with black film, good fluorescence, excellent cut, even light stain; trace sandstone, light gray, fine grain, quartzitic, slightly glauconitic, no show.

5365-5370

Sandstone, light gray, fine grain, tight, moderately hard to quartzitic, slightly sideritic and glauconitic, no show; sandstone, light gray to buff, fine grain, fair porosity, excellent fluorescence, good cut, very light stain.

5373

Circulated 60 Minutes

20 Minute Circulated Sample

Sandstone, light gray to buff, fine to medium grain, poor to fair porosity, friable, excellent fluorescence, good cut, spotty light stain; sandstone, gray, quartzitic, no show.

40 Minute Circulated Sample

Sandstone, with show, as above; sandstone, light gray, medium grain, tight, clay matrix, no show.

60 Minute Circulated Sample

Sandstone, light gray, fine to medium grain, tight, part quartzitic, part clay matrix, friable to hard, sideritic, no show; sandstone, as before, with excellent fluorescence and cut, spotty light stain.

II

WELL HISTORY

- 9/20/70 Had pre-set 106' of 8 5/8" surface casing at 116' KB with 85 sacks of cement. Had had great difficulty digging mud pits because of the presence of extremely hard sandstone a few inches below the surface. Drilled 7 7/8" hole to 1997'. The drift is 1/4° at 1010'. Added 100 lbs. phosphate to the mud.
- 9/21/70 Drilled 7 7/8" hole to 3970'. Pulled Bit No. 1 at 2865'. The drift is 1/2° at 2026', 2° at 2865' and 1 1/2° at 3794'. Added 400 lbs. of phosphate and 1 can DD to the mud.
- 9/22/70 Drilled 7 7/8" hole to 5095'. Pulled Bit No. 2 at 4489'. The drift is 1/2° at 4485'. Mudded up with 59 sacks of gel, 160 lbs. of caustic, 450 lbs. of quebracho, 175 lbs. of soda ash and 1 can of DD. At 9:00 A.M., the mud weight is 9.1, the funnel viscosity is 38 and the water loss is 6.6.
- 9/23/70 Drilled 7 7/8" hole to 5352'. Pulled Bit No. 3 at 5238' and Bit No. 4 at 5352'. The drift is 3/4° at 5238'. Added 19 sacks of gel, 50 lbs. of caustic and 100 lbs. of quebracho. At 8:30 A.M., the mud weight is 9.9, the funnel viscosity is 53 and the water loss is 4.9. Circulated for "D" and for "J₁" samples.
- 9/24/70 On basis of "J_{1b}" shows in samples, ran DST No. 1. See Part I for details. Drilled 7 7/8" hole to 5387'. Added 10 sacks of gel. At 3:15 P.M., the mud weight is 9.9, the funnel viscosity is 61 and the water loss is 5.0.
- 9/25/70 Drilled 7 7/8" hole to TD of 5410'. Added 17 sacks of gel. Circulated for "J₂" samples and at TD. Ran Dresser Atlas IES and Densilog-Minilog. On the basis of log calculations and observation of shows in the samples of the "J₂", ran DST No. 2. See Part I for details. The results of this DST resulted in a decision to run production string. At approximately 9:00 P.M., this geologist turned the hole to Plains' Production Department for completion.

BEST IMAGE
AVAILABLE

5373-5375 Sandstone, white to light gray, fine to medium grain, tight, clay matrix, no show; sandstone, light gray, medium grain, low porosity, friable to moderately hard, sideritic, excellent fluorescence, stain and cut.

5375-5380 Sandstone, light gray, fine grain, tight, friable, sideritic, no show; trace sandstone, as before, good fluorescence, very scattered stain. (Very little sand in sample)

5380-5385 Sandstone, white to light gray, fine grain, tight to low porosity, friable, slightly sideritic, no show.

5385-5410 Trace sandstone, white to light gray, fine grain, poor to fair porosity, hard, clean, no show; trace sandstone, light gray, medium grain, tight, moderately friable, no show. (Very little sand in these samples)

5410 Circulated 60 Minutes

20 Minute Circulated Sample

Trace of sandstones, as above. (Very little sand in sample)

40 Minute Circulated Sample

Trace of sandstones, as above. (Very little sand in sample)

60 Minute Circulated Sample

Trace of sandstones, as above. (Very little sand in sample)

A. H. Bergum

BEST IMAGE
AVAILABLE