

PETER SCIACY - CONSULTING GEOLOGIST

C. A. JOHNSON BUILDING - DENVER, COLORADO 80202 - 255-4067

3370 FOURTH STREET - BOULDER, COLORADO 80302 - 442-6339



00300270

R E S U M E

RECEIVED

AUG 13 1968

COLO. OIL & GAS CONS. COMM.

OPERATOR	Rex Monahan
WELL	No. 2 Minnie Smith
LOCATION	SW NW SW Section 29, Township 12 North, Range 52 West
FIELD	Northwest Peetz
COUNTY	Logan
STATE	Colorado
ELEVATION	4525 Ground; 4533 KB
CASING	171' 8 5/8" set at 180' w/140 sx 50-50 pos mix, 3% calcium chloride
HOLE SIZE	7 7/8"
MUD	Chemical Gel (Plains Mud Company)
SPUD	July 6, 1968
COMPLETED	July 12, 1968
CORES	None
DRILL STEM TESTS	DST No. 1 5130 - 5140 (Virg's Testers, Inc)
LOGS	Schlumberger Induction - Electrical and Compensated Formation Density run w/Microlog
BOTTOMING FORMATION	J-Sand
TOTAL DEPTH	5305 (KB, Log)
CONTRACTOR	Stuarco Drilling Company, Rig No. 6, Rolland (Swede) Young, Pusher
PRODUCTION	None

DISCUSSION

AUG 9 1968

Rex Monahan's No. 2 Minnie Smith was drilled in the Southwest Northwest Southwest of Section 29, Township 12 North, Range 52 West, Logan County, Colorado. It was drilled as a step-out to the operator's D-Sand producing Northwest Peetz Field. Several previous tests to the north and west indicated the possibility of a small structural closure existing in the vicinity of the present test. It was hoped that the No. 2 Smith would find a good section of D-Sand, structurally high enough to be above the indicated oil - water zone present in the field. The possibility of J-Sand production was also thought to exist.

The D-Sand was encountered at a depth of 5124 feet (-591 Subsea) which placed the well 4 feet structurally lower than the No. 1 Minnie Smith (which produces water with the oil) to the south. The upper bench of the "D" (the main objective) was found to be 10 feet thick, some slight shows were observed in the amples. This portion of the log was analyzed by Schlumberger to be oil bearing. A drill stem test was run in the interval and it recovered gas and water with very little oil. The bench was judged to be non-commercial in productive capacity. The remainder of the "D" was made up of thin sands and shales, coal was seen in the samples.

Top of the J-Sand was at 5250 (-717 Subsea). The "J" was found to be composed of two benches, the upper an 8 foot sand judged to be tight. The samples of this interval indicated that hydrocarbons were present. The lower J-Sand (the "massive") was water wet.

On the basis of the Drill Stem Test and the low structural position of the test, the operator elected to abandon it. The well was plugged and abandoned on July 12, 1968.

FORMATION TOPS

<u>Formation</u>	<u>Depth-Log</u>	<u>Datum</u>
Niobrara	4309	+ 224
Fort Hayes	4618	- 85
Codell	4669	- 136
Carlile	4676	- 143
Greenhorn	4895	- 362
Bentonite	5028	- 495
D-Sand	5124	- 591
J-Sand	5250	- 717
Total Depth	5305	

CHRONOLOGICAL DRILLING HISTORY

- Beginning at 8:00 A. M. -

<u>Date</u>	<u>Activity</u>	<u>Depth</u>	<u>Feet Made</u>
7-6	RURT, Drilled Surface, Set casing	0	965
7-7	Drilled out, Drilled, Tripped bit #2	965	2832
7-8	Finished trip for bit #2, drilled, stuck in Bentonite, drilled, short trip Niobrara, worked on pumphead, Trip with bit #3	3797	1003
7-9	Finished trip for bit #3, Drilled, balled up in Bentonite above D-Sand, Circ for smpls, Trip w/bit #4, Drilled, lost Circ. in D-Sand, Drilled	4800	387
7-10	Drilled, Worked on pump, Trip w/bit #5	5187	82
7-11	Finished trip for bit #5, drilled, came out for logs, ran logs, went in with DST No. 1, pulled DST	5275	30
7-12	Plugged and Abandoned	5305	0

MUD

<u>Date</u>	<u>Depth</u>	<u>lbs/gal</u>	<u>Viscosity</u>	<u>Water Loss</u>	<u>Cake</u>
7-9	4808	10.	54	4.6	2/32
7-10	5162	10.	87	4.9	2/32
7-11	5280	9.9	93	4.9	2/32

BIT RECORD

<u>No.</u>	<u>Size</u>	<u>Make</u>	<u>Type</u>	<u>Feet Out</u>	<u>Footage</u>	<u>Hours</u>
1	7 7/8"	Vareh	V3SJ	3797	3610	24 1/4
2	7 7/8"	Vareh	V3SJ	4800	1003	17
3	7 7/8"	Smith	RT	5136	336	8 3/4
4	7 7/8"	Vareh	3VHG	5275	139	16 1/2
5	7 7/8"	Hughes	OWV	5305	30	1 3/4

HOLE DEVIATION

<u>Depth</u>	<u>Deviation</u>	<u>Depth</u>	<u>Deviation</u>
1189	3/4	3797	2 1/4
2100	1 1/2	4270	1

CORES

None

DRILL STEM TESTS

DST No. 1 5130 - 5140 (Straddle) D-Sand. Open 3 minutes, Shut in 20 minutes, Open 2 hours, Shut in 30 minutes. Opened with strong blow and remained so thruought the test. Gas to surface in 4 minutes. Gas at the rate of 400,000 CFPD maximum, decreasing slightly to 325,000 CFPD Minimum.

Recovered 980 feet of fluid: 50' Oil and Water Cut Mud
 930' Gas Cut Water w/tr oil

IHP 2726
 FHP 2559

IFP 105
 FFP 293

ISIP 657
 FSIP 645

SCHLUMBERGER'S QUANTITATIVE ANALYSIS

<u>Zone</u>	<u>Poro %</u>	<u>Wtr Sat</u>
5126 - 5128	18	60
5128 - 5132	16	70
5132 - 5134	20	56
5134 - 5136	Tight	
5136 - 5140	18	60
5140 - 5143	18 - 14	60 - 80
5148 - 5150	22	80
5156 - 5162	18 - 20	100
5258 - 5263	14	100
5272 - 5280	20	100

PLUGGING RECORD

<u>Cement</u>	<u>Bottom ft</u>
35 sx	5205
15 sx	180
10 sx	40

SAMPLE DESCRIPTIONS
As Received - Uncorrected for Time Lag

- 5135 - 15min Circ. Very fine grain, dirty argillaceous sand, buff to gray in color. Slightly friable, One sand cluster had weak fluorescence, poor to fair cut. Sample also contained free quartz, pyrite, pyritic silt, some coal, bentonite.
- 30 min circ. Sand as above. Also fine to medium grain white quartz sand, well rounded particles, some clusters cut with mica. No fluorescence or staining. Sample had strong increase in sand quantity.
 - 45 min circ. As above, some sand was clayfilled, hard and tight.
 - 60 min circ. Decrease in sand quantity. Several clusters had slight brown cast, bright yellow fluorescence and good cut. These latter were friable with larger grain size, well rounded with apparent porosity.
- 5140 Decrease in sand quantity. No staining. Strong increase in free quartz, hematite staining. Coal. Fine grained arenaceous brown silt. No fluorescence observed.
- 5145 Increase in sand quantity. Fine to medium grained, well rounded., well cemented, quartz sand. Clusters varied from clean white, hard and tight to dirty gray and brown, micaceous and clayfilled. Silty, glauconitic. No staining, fluorescence.
- 5150 Increase in sand quantity as well as in coal and free quartz. Sand was medium grained, friable, poorly cemented, with apparent Porosity and permeability. Some clusters had slight brownish cast, yellow fluorescence and oil cut.
- 5155 Decrease in Sand. Sand as above, with increase in inclusions, micas and black carbonaceous material. Very poor fluorescence, dull white. Sample had some amorphous calcite with hematite staining.
- 5160 Decrease in sand as above. Sand becoming gray-brown, micaceous, silty. Increase in calcite, Coal (?), pyrite.
- 5165 More Calcite. Sample was about equal in quantities of silt, coal, calcite. Some pyrite.
- 5170 Same as above. Slight increase in medium grain, white, quartz sand, clayfilled, no show. Sand had well rounded grains, good cement, slightly glauconitic.
- 5175 Increase in sand as described above. Seems to be grading towards larger grain size, less cement. Latter sand had slight brown to pinkish color in about 50% of cases. Did not fluoresce.
- 5180 Sand as described above. Gray to white very arenaceous silt (or very fine grained quartz sand), breaks easily, clayfilled.
- 5185 Coal; brown siltstone, dense, hard, arenaceous. Some white quartz sand, matrix about 50 - 50 bentonite?
- 5190 Gray silt. White medium grained sand, sugary, slightly clayfilled, wet. No show.

- 5195 Decrease in sand. Gray and brown micaceous silt, slightly arrenaceous, some coal.
- 5200 Steel gray, micaceous silt. White quartz sand as described in 5190.
- 5205 Fine grained white to tannish quartz sand, slightly glauconitic, friable, wet, no show
- 5210 Sand as above, slight increase in grain size, well rounded, grain size uniform. Sand seems to have "cleaned up" since previous sample catch.
- 5215 (Poor sample recovery) Steel gray siltstone.
- 5220 (Poor sample recovery) As above, some coal, pyrite
- 5225 (Poor sample recovery) As above, some free quartz pebbles
- 5230 (Not valid because of pump trouble)
- 5235 Gray Siltstone, arrenaceous, mica and glauconite inclusions, free quartz, white and hematite staining
- 5240 As above. Gray - brown mottled shale, black inclusions, more free quartz
- 5245 Predominantly shale as above
- 5250 Brownish gray to steel gray silty shale, micaceous, with black speckles.
- 5255 Shale as above, some white, chalky lime, bentonite.
- 5260 Shale as above; brown, highly arrenaceous siltstone, soft, crumbles. Also some hard quartzose, gray, with numerous inclusions. A few pieces of free quartz. Almost no sand in sample.
- 5265 Gray silt, arrenaceous, glauconitic. A few clusters of white, medium grained, quartz sand; sand fairly well cemented, slightly silt cut, No show.
- 5270 Sand, as described above, abundant in sample. Sample also contained a very fine grained, hard quartz sand, very slightly silty and slightly glauconitic, no stain. Latter sand had bright yellow fluorescence, poor cut. Fluorescence diminished with time on old surfaces, much brighter on new break. Carbon - tet turned yellow after short immersion of sample. Fluorescence was uniform.
- 5275 Increase in sand as above. Sand was whiter, with apparent increase in cementation. Same fluorescence as above, but decreasing percentage of sample catch (about 75% of sand in sample).
- 5275 - 15min Circ. Sharp decrease in amount of sand. Slightly weaker fluorescence.
- 30 min circ Decrease in amount of sand - same proportion had flour.
- 45min circ As above, sand decreasing in amount
- 60min circ Slight increase in amount of sand present. Sand still had fluorescence, but in lesser proportion to amount of sand present.

**Samples to 5285 Not valid because of trip

- 5290 Very little sand present in sample (almost none). Reddish free quartz, gray brown silt.
- 5295 As above, sharp increase in free quartz.
- 5300 Red quartz pebbles, black pokerchip shale, gray siltstone. Some fine grained white, quartz sand, slightly micaceous and glauconitic, looks wet.
- 5305 As above, slight increase in amount of sand in sample.
- 5305 - 15min circ. Sand as described above. Also a dirty gray, silty sand, highly cut with pyrite. Abundant free quartz in sample.
- 30min circ As above. Some large grained, milky, white quartz sand; pebbles angular, with inclusions of silt and coal pebbles, slightly argillaceous.
- 45min circ As above. Also some black pokerchip shale.
- 60 min circ As above, mostly shale and free quartz.