

CARBONIC CHEMICALS CORPORATION

MITCHELL NO. 8

MITCHELL FIELD

HARDING COUNTY, NEW MEXICO

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## DISCUSSION

Due to the number of fishing jobs on this well, it is difficult to arrive at a true bit record. It is understood that after a fishing job was completed the bit was usually replaced. If it had not been pulled in connection with the fishing job, the bit may have remained in the hole for considerably more footage. Likewise the normal time consumed in drilling to the coring point of 1920 feet becomes an estimate. If all time lost through fishing or other major interruptions were deducted, about ten days would have been required to drill to the coring point.

A Hughes Type J conventional core barrel was used in coring and very good recovery was obtained in the producing horizon. Recoveries were poor in the conglomerates, shales and granite wash zone below the Abo sand. Samples of the Abo sand were submitted to The Western Company for analysis and recommendations on acidizing. The Western Company representative gave a verbal report stating that the sand would not be helped by acidizing and that it might do more harm than good to the shaly sands.

Due to low volume of gas and the impedance to flow caused by the drilling water penetrating the sand, the mud cake on the walls, and the hydrostatic head of the rat hole mud, the drill stem tests showed a very slow pressure build up at the surface. By closing in the top valve and allowing a build up of pressure, then opening the valve and allowing a surging or rocking action, the well was induced to flow for intervals. The performance of the well improved with the continued rocking action and indicated the possibility of a fairly good flow if the well were completed and allowed to clean itself of mud and water.

The well was completed in open hole. The producing zone is composed of hard sands broken by sandy shales and shales and a liner was not considered necessary. After the rig had moved off, the bleeder string became plugged. During the completion of Well No. 9, it was found that a great amount of caving occurred around the 2000 foot level. This material is very fine, silty sand and shale. From appearance it is questionable that even a fine screen would prevent this material coming into the hole. Subsequently, the rig was moved back to No. 8 and the well was washed down and circulated until the cavings no longer filled the hole to any great extent.

The production from this well was very much lower than anticipated. It was located one-half mile north of Well No. 3 which is a high volume well, and the location is approximately one-half mile south of Well No. 6 which had an initial daily open flow of one and one-half million cubic feet. Structurally, this well is higher than Well No. 3 and lower than Well No. 6. Local sand conditions at No. 8 apparently account for the difference. These sands are hard and shaly. From first tests run on the well, it has a daily open flow of approximately one-quarter million cubic feet of gas.

  
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BIT RECORD NO. 8 MITCHELL

	<u>Make</u>	<u>Size</u>	<u>Type</u>	<u>No.</u>	<u>Depth</u>
1.	Reed	12-1/2	CONTRACTOR	Re-tip	0-44
2.	Hughes	7-7/8	OSC	Re-tip	44-330
3.	"	"	OSC	75802	
4.	"	"	OSC	53889	810
5.	"	"	OWS	62948	1013
6.	"	"	OWC	62939	1211
7.	"	"	OWC	68228	1429
8.	"	"	W7R	63355	1521
9.	"	"	OWC	68221	1571
10.	"	"	OSC	53890	1668
11.	"	"	OWC	68219	1747
12.	"	"	OSC	75802	1788
13.	"	7-1/2 x 12	W7R	63358	1837-1850
14.	"	"	W7R	70178	
15.	"	"	W7	76844	1891-1920
16.	Hughes Corehead	6	Type J	8319	1920-2055
17.*	"	5-3/4			2055-2076

\* Not listed on bit record.

DST No. 1:

1928.5 - 2015' 2 hr Test.

No top choke, 1/2" bottom choke, slot pipe on bottom  
W.P. 16#, BHP 200#, BHSIP none recorded. MW 950#.  
Recovered 700' mud and fresh water.

6	2015-35	20/6	3 conglom	hd dk purplish shly conglom of large nodular & crys mins gran wash
			3 sdy sh	hd purplish sdy shalestone
7	2035-55	20/15 1/2	3 sdy sh	brick col sdy shalestone
			2 conglom	hd dk pur congl in shly mass, nodular & crys min, gr wash
			1 sd	hd white fl grn sd w/few large crystals
			9 1/2 con & sd	hd dk pur congl nodular & crys in shly backgrd w/strks wh sd

DST No. 2:

1928- 2055' 6 hr Test.

6-30-50

1/4" top, 1/2" bottom chokes, 45' per pipe on bottom  
W.P. 35# 1 hr. 15 min. (rocked by closing & opening top valve-caused to flow water and continue build up of shut in top press to 265#). BHP 275#, BHSIP 375#.  
MW 975#. Recovered 450' fresh water and mud.

8	2055-75	20/6	1/2 sd	hd white sd
			5 1/2 congl	hd dense pur congl in shly material, gr wash

DST No. 3:

1962 - 2075' 5 hr Test.

7-1-50

1/4" top, 1" bottom chokes.

Steady blow, W.P. 1#, 15 minutes (rocked and got 110# SIP top) BHP 275#, BHSIP 475#. MW 975#.

No recovery (left valve out of tool to enlarge bottom choke.)

SUMMARY  
DRILLING REPORT

1950

June

- 1 Spudded and drilled to 44 feet.
- 2 Ran surface casing and cemented.
- 3 Drilled out cement and drilled ahead.
- 4 Drilled to 562 feet and twisted off.
- 5 Waiting on overshot.  
Recovered fish.
- 6 Drilling. Lost 16 hours.
- 7 Drilling. Lost 8 hours.
- 11 Drilled to 1571 feet and twisted off drill collar.
- 12 Recovered fish.  
Shut down waiting on drill collars.
- 13 Waiting on drill collars.
- 14 Drilling.
- 15 Drilled to 1668 feet and twisted off.
- 16 Fishing.
- 17 Recovered fish.
- 18 Drilled to 1747 feet and twisted off.  
Recovered fish.
- 19 Drilled to 1788 feet and twisted off drill collar.  
Recovered fish.  
Drilling.  
Jumped threads in pin at 1644 feet.
- 20 Recovered fish.  
Ran deviation survey - off 3/4 degree.
- 21 Drilled to 1850 feet and twisted off.

1950

- June 22 Fishing.
- 23 Fishing and waiting on additional tools.
- 24 Fished collars out.  
Fishing for cones from rock bit.  
Drilling.
- 27 Drilled to 1920 feet and commenced coring.
- 28 Coring.
- 29 Drill stem testing with Johnston.  
Coring.
- 30 Coring.  
Testing with Johnston Test Tool.
- July 1 Cored to 2076 feet.  
Ran Schlumberger electric log.
- 2 Drill stem testing with Johnston Test Tool.  
Conditioning hole for casing.
- 3 Waiting on Halliburton. (Failed to bring adapter for shoe.)  
Laid down drill pipe.  
Ran casing.
- 4 Finished running casing and cemented.  
Waiting on cement.
- 5 Waiting on cement.
- 6 Drilling out cement.
- 7 Finished drilling out and cleaning out hole.  
Rigging up to swab through tubing.  
Swabbed well in.
- 8 Well cleaning up.  
Ran perforated nipple on tubing and hung at 2070 feet.  
Tied well into line.  
Rigging down.