

J. F. Black Well No. 2

Approval was given to salvage, plug, and abandon The Texas Company's J. F. Black Well No. 2, Langlie-Mattix Field, Lea County, New Mexico, since further oil production was not economically obtainable. When contractor commenced plugging operations, after having filled hole with mud and spotted 15 sacks cement from 3070' up to approximately 2970' in 5-1/2" liner inside 7" casing and began disconnecting braden head between 7" and 8-1/4" pipe, it developed that a certain volume of gas was present.

After such contractor discovered gas between 7" and 8-1/4" pipe, tests were made which determined that there was approximately 800,000 cubic feet of sweet gas which had a GPM of .308 and gravity of .665 after well had been flowing wide open for two days. There was some water present in gas but this is considered either condensate formed since well was completed or is coming from above top of Yates sand, which is at 2735'. When well was being drilled, gas estimated at 1,000,000 cubic feet was encountered at 2925' and at 2935' increase was estimated to be from 4,000,000 to 5,000,000 cubic feet, however, measurement was taken at depth of 2950' and it was determined that the volume was 3,000,000 cubic feet. No increase was noted from thereon to top of lime. Since there is a possible sale for this gas, we propose to convert this well to a gas well along the following lines.

Since the base of salt is at 2590' and there is a good casing seat in lime at approximately 2700', it is recommended that 7" casing be perforated at 2700' with three holes. A plug pumped down to check casing above these perforations, followed by a second plug if casing OK and 75 sacks of cement followed by third plug which should be stopped at approximately 2670'. Then move in cable tools and drill out plug; bail pipe dry and test for leaks and check for top of 15 sack plug. If not filled above 2950' perforate 7" pipe from 2950' to 2925' with 2 shots per foot and test. If volume not satisfactory, acidize with 500 gallons mud acid through perforations by dumping down casing and bailing out residue - if gas from well will not flow the residue out.

2. Geological

The geological structure of the area is characterized by a series of faults and folds. The main fault is the San Andreas Fault, which runs north-south through the center of the area. To the east of this fault is the San Gabriel Mountains, which are composed of granite and metamorphic rocks. To the west of the fault is the San Joaquin Hills, which are composed of sedimentary rocks. The San Andreas Fault is a transform fault, which means that the rocks on either side of the fault are moving past each other horizontally. The San Gabriel Mountains are a block mountain, which means that they are composed of a single block of rock that has been uplifted. The San Joaquin Hills are a fold mountain, which means that they are composed of rock layers that have been folded together.

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