PLUGGING OPERATIONS FOR THE M.S.B.W. COMPANY
L. A. MC COY #L, G-28-30N-12W, SAN JUAN COUNTY

The records filed by the operator indicated that the well had 8 5/8 inch casing cemented from the surface to 21 feet of depth and 5½ inch OD casing from 1320 to 1568 feet of depth. All other casing had been removed from the well.

The well was covered over with ready-mix concrete in an uncessful attempt to stop a water flow from the well.

The actual conditions found when the concrete was removed was that the casing at the surface was 13 3/8 inch OD.

Pieces of junk iron or boulders were encountered inside the13 3/8 inch casing from about 6 to 21 feet of depth. Drilled down to 21 feet and had to redrill part of the hole each time the drill bit was pulled out of the hole. Unable to drill below 21 feet with rotary bit.

Made a special bit of 2 inch tubing with a hardened blade or fishtail on bottom and attempted to drill outside of the 13 3/8 inch casing. Encountered boulders or junk iron outside of casing. Drilled to 18 feet. Drilling stopped.

Moved back to drill inside of casing with flat-bottomed mill bit. Drilled one foot of junk or boulders before bit wore out.

Cut sharp point on joint of one inch tubing. Attempted to work the sharpened end of tubing between pieces in hole at 23 feet of depth. Attempt failed.

Put suction hose from pump into well. Pumped water from well until water level lowered to end of suction hose causing pump to loose its prime. Observed what was thought to be the top of a piece of 8 5/8 inch casing with a piece of smaller casing inside it in the 13 3/8 inch casing. Well filled with water again. Moved rig four feet east and drilled a new 4 3/4 inch hole down to 17 feet where drilling ceased. Changed the bit size to 3 3/4 inch. Drilled to 23 feet where penetration ceased. Attempted to work one inch tubing through debris-failed. Attempted to drill through debris with two inch fishtail bit - failed.

Dug a cellar around casing about three feet deep. Found that water flow inside the casing was in communication with water flow in both holes drilled outside of casing.

A piece of one inch tubing was stood on bottom at 22 feet inside the casing. Mixed and pumped cement down the one inch tubing in an attempt to stop the water flow from the three holes. Cement did not stop the water flow.

Placed cement into each hole outside the casing. Had cement return to cellar in both. Did not stop water flow. Cement washed out.

Attempted to drill cement out of casing with rotary tools - did not succeed. Moved rotary rig off hole. Moved cable tool rig on.

Drilled cement out of casing using 8 inch cable tool bit. Drilling stopped at 23 feet. Put on 10¼ inch bit - drilled to 23 feet - drilling stopped. Reduced bit size to 6¼ inch bit- drilled to 23 feet- drilling stopped.

Action of bit indicated to be drilling on boulders and/or junk. Eleven feet of one inch tubing had been added to junk and boulders in well.

Picked up 30 foot joint of 7 inch casing. Started drilling and driving 7 inch casing inside 13 3/8 inch casing.

Began to make hole. Rate too fast for drilling in natural formation and too slow for cleaning out an old hole. The 7 inch casing was driven to a depth of 27 feet.

Water flow remained outside of 7 inch casing. Surface of water in cellar indicated each bit stroke down to below 130 feet of depth. Occasionally bit action would be indicated again at surface in cellar below 130 feet down to approximately 180 feet.

Rate of penetration slowed below 180 feet.

Cuttings in bailer dumps indicated sand and shale. Below 180 feet the cuttings contained considerable iron filings indicating that iron was being drilled either as junk or as casing.

It was decided that the hole being cleaned out was outside a string of casing left in the hole by the operator and not shown in the well records.

Because of the slow rate of penetration, the bit action indication in the cellar, and iron filings in the cuttings it was determined that the hole was being cleaned out outside an existing string of casing which had a hole in it near 130 feet of depth and which may have smaller holes deeper.

An attempt to plug and abandon was scheduled using a string of 2 7/8 inch tubing to near total depth of the cleaned out hole and using a cement volume of 200 percent of calculated hole volume and to pump cement until cement was returned to the cellar or until the cement was expended, then to clear the tubing by pumping a wiper plug down to the bottom. This was to make access available to perforate into the casing alongside the tubing for a second cement job if the first one failed.

The cement was to be accelerated with 3% calcium chloride.

Heavy cement was pumped down the tubing - approximately 20 sacks were circulated to surface with the last few being good cement. Slightly over 200 sacks were used.

The water in the cellar started to recede slightly as the cement began to set.

After 12 hours the water in the bottom of the cellar was not moving and the gas seep was stopped.

The first cement attempt was successful.

AR Kendrick