

casing. If unable to POH with 4-1/2" casing, omit steps 5-10 and proceed with step No. 11.

5. If 4-1/2" pipe is free and able to be moved uphole, trip back in hole with free 4-1/2" casing to its original depth (2400'). Rig up cementers and spot a 300 sx balanced cement plug from 2400' (or bottom of free casing) up to 2100' using 300 sxs of class "C" cement mixed as above. Precede cement with 25 bbls fresh water and displace cement with 1 bbl fresh water followed by 33 bbls brine mud. After spotting plug, pull slowly out of cement with 4-1/2" casing, then trip out of hole, laying down 4-1/2" pipe.

6. After pulling 4-1/2" casing from hole, change out pipe rams in BOP, then pick up open-ended 2-3/8" tubing and TIH to 1650'. Spot a balanced cement plug across the 8-5/8" casing shoe from 1650' up to 1450' using 65 sxs of class "C" neat cement mixed as above. Precede cement with 20 bbls fresh water and displace cement with 1 bbl fresh water followed by 5 bbls of 9.5 ppg brine mud.

7. POH with tubing to 100'. Circulate class "C" cement to surface. Approximately 30 sxs of cement will be required. Precede cement with 5 bbls fresh water.

8. Nipple down BOP. Install lift yoke onto casing to keep casing head from falling when cutting casing. Cut the 8-5/8" casing string off 4-foot below ground level. Weld a steel plate over the 8-5/8" surface casing. Cut a small hole in the plate and weld an XH nipple and ball valve on it.

9. Weld the following inscription on the plate:

EXXON CO., USA  
NEW MEXICO "K" STATE NO. 22  
NW SE SECTION 32, T17S, R35E  
LEA COUNTY, NEW MEXICO  
DATE WELL PLUGGED

10. RDMO WSU and reclaim location. Return pumping unit and rods to Hobbs yard. Omit steps 11 through 17.

11. Change out pipe rams in BOP. TIH with open-ended 2-3/8" tubing to just above casing part. Spot a 25 sx cement plug from 2400' up to 2040' using class "C" cement mixed as above. Precede cement with 5 bbls fresh water and follow with 2 bbls fresh water followed by 6 bbls brine mud. After spotting plug, pull slowly out of cement with tubing, then trip out of hole, laying down all but 100' of tubing.

12. MIRU electricline unit and install a class II lubricator on top of the tubinghead. Shoot the 4-1/2" casing at 1650' with 4 spf at 90° phasing using a decentralized 2-inch retrievable tubing gun with circulation charges. Retrieve perforating gun, rig down electricline unit and move unit off to side.