

Schneider *Energy Services, Inc.*

Providing the Quality Service You Have Come to Expect

Well Name: Sohio State # 1
Field: Shivaree. Field # 77452 Colorado.
API # 05-123-07183
SWNE, Sec 36, 9N, 61W
P&A'd well w/Cut-Off Casing

OBJECTIVE: Re-enter abandoned well with cut-off casing, Run new casing and patch on to old casing. Use well bore for Sonic Microphone monitor well.

CURRENT WELL CONDITION: Original operator: Dunwick Co. P&A'd in 1973. 5-1/2" casing stub at?

Engineering Data

Current Perfs: J Sand: 7,180' – 7,183' 510 gals of 15% Mud Acid & Frac'd with 10,250 lbs of 20/40 sand.

PBTD: No Information available.

Surface Csg: 8-5/8" 24# J-55 @ 162' cemented w/ 100sx 60/40 Pozmix

Prod Csg: 5-1/2" 15.5 lb/ft: 0' – 537', 5-1/2" 14.0 lb/ft: 537' – 5,779', and 5-1/2" 15.5 lb/ft: 5,779' to 7,297' cemented w/ 175 sx of 50/50 pozmix cmt.

Niobrara: 6,340' to 6,650'

PROCEDURE

1. Survey the location and locate the surface casing.
2. Dig out the surface casing. Add new 8-5/8" surface casing stub to a height that makes the casing head flange face come out at GL. Install a temporary casing head onto the 8-5/8" casing. Install a safety cap onto the head to deter access into the wellbore.
3. MIRU work over rig and drilling equipment.
4. Nipple up BOP and wellhead.
5. Pick up 7-7/8" Rock bit and drilling assembly.
6. Drill out 10 sks surface plug to 28'.
7. Drill out cement from 138' to 432'; bottom of surface casing at 162'.
8. Clean out the open hole to the top of the 5-1/2" casing stub at (state records do not show casing shot off depth information). Make sure to have drilling mud

- company checking drilling mud, adding chemicals as need to maintain the hole integrity. Try to keep water loss at 8 or less.
9. Circulate hole clean. Make a wiper trip to the base of the surface casing and back to the casing stub. Make certain that the hole is clean and free of obstructions from the base of surface casing to the casing stub. Circulate hole clean again.
 10. Trip for skirted metal muncher mill. Mill off the top of the casing stub to obtain a clean, smooth top on the casing stub. Circulate the hole clean.
 11. TOOH, laying down drilling assembly.
 12. Pick up 5-1/2" Weatherford Packer Type casing patch on 5-1/2" casing and TIH; make sure to place a Weatherford Port Collar tool in 5-1/2" casing string at 600' from surface.
 13. Latch onto the casing stub, pull a sufficient weight over the string weight to activate the seals and land the casing in the wellhead.
 14. Pick up 4 3-1/8" Drill Collars, 4-3/4" Rock bit and TIH. Tag up. Displace mud in hole with KCL water.
 15. Clean out to at least 6,500'. TOOH and LD Bit and Collars.
 16. MIRU WL and RIH with drift gauge ring. If it appears that significant scale has accumulated on the casing then make a bit and scraper run.
 17. Run a Gamma Ray/ Cement Bond log from the cleaned out depth to the top of the cement. Correlate to Dresser Atlas Induction Log dated 9/4/1970. PU sonic tools and run dipole sonic log, log from clean out depth to 2000'.
 18. PU 5-1/2" 10K CIBP and TIH. Set CIBP at 6,500'. Dump bail 2 sack of cement on top of CIBP. RDMO JW.
 19. Load the casing and pressure test to 1,000 PSI. Swab casing down to 1,000'.
 20. MIRU Schlumberger Wire Line. RIH with geo phones to the depth and spacing recommended by Schlumberger. Record data during the frac and POOH with the geo phones once the data has been collected. RDMO Schlumberger Wire Line.
 21. PU Shifting tool and TIH with tubing. Shift Port Collar open.
 22. Establish circulation down the 5-1/2" casing and up the surface pipe.
 23. MIRU cement company, mix and pump enough cement to bring the cement back to surface.
 24. Displace the cement, close port collar and circulate clean. Pressure test casing to 500 PSI.
 25. MIRU JW Wire Line Service and run Gamma Ray/ Cement Bond logs from 700' to surface.
 26. Pressure test casing to 3000 PSI.

TUBULAR SPECIFICATIONS

SURFACE CASING: 8-5/8", 24#

Inside Diameter: 8.078

Capacity: .0634 Bbl/Ft .3559 CuFt/Ft

Drift Diameter: 7.972

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PRODUCTION CASING: 5-1/2", 15.5#, J-55, 8rd
Inside Diameter: 4.950"
Capacity: 0.0238 Bbl/Ft 0.1336 CuFt/Ft
Drift Diameter: 4.825"
Joint Yield Strength: 202,000#
Internal Yield Pressure: 4810 psi
Collapse Resistance: 4040 psi
Displacement: 0.005584 Bbl/Ft