

Short Procedure: Union Pacific 70-32 - P&A

Background: UP 70-32 is a Texaco well drilled to 9,360' TD in 1954; it was subsequently P&A'd that same year after being found to be non-productive. The wellbore was re-entered in 1956 to a depth of 4,192', a 7" 23# liner was installed and drilled out to 4,150' PBTD. The Entrada formation was perforated from 3,837'-3,847' and was used for Weber gas storage. There was an unsuccessful attempt to recover the injected gas in 1957 with a flow rate of 1.5 MMCFD and 8.4 BWPD at 1125 to 1430 psi; shut-in wellbore pressure was 1575 psi. An attempt to P&A the well in 1961 was made, but it was not executed. The well was shut-in and abandoned. Plan is to P&A the wellbore to surface.

It is up to the WSR, WIE and Production Engineer to make the decisions necessary to safely do what is best for the well.

Contacts:	Kevin Hejl	Well Intervention Engineer	970-250-9554
	Travis Garza	Workover Superintendent	970-210-6780
	Rose Mizell	Production Engineer	970-433-4234
	Tony Welling	Lease Operator	307-677-2411

WellSafe Procedure Required: Yes, P&A operation. **MASP:** 155 psi calculated using historical pore pressures with a full column of 8.40 ppg water.

Short Procedure: Refer to the Well Intervention standard procedure for requirements and general procedure for job. Also, utilize the fields specific Well Planning Tool for field best practices.

NOTE: Refer to Anita Sanford's Regulatory/Permitting Document for Rangely prior to executing any work on the well. Need to ensure proper notifications have been made to all regulatory bodies before initiating job. If unsure of requirements consult with workover engineer.

NOTE: Refer to COA's found in the Regulatory folder on the o:drive. Ensure operations are compliant with BLM/COGCC requirements. Notify CRVFO inspectors 48hrs prior to operations (contact info in BLM COA) and COGCC Engineer & Environmental Supervisor 72hrs prior to operations (contact info in COGCC COA).

Phase Table			
Well Phase	Steps	Equipment	

1.	MIRU workover rig and equipment. Check pressure on all casing strings (including bradenhead). <u>Record tubing and casing pressures every day on the WellView report.</u>
2.	If necessary, bullhead 10# KWF to kill well. Monitor well for flow for 15 minutes (WSEA 10A). N/D WH. N/U 11" 3K BOP with 2-7/8" pipe rams on top of blind rams (WSEA 8A). Test BOP to 250 psi low for 5 mins and 1400 psi high for 10 mins (WSEA 9) utilizing B&C Quick Test cup-type test tool.
3.	Caliper elevators and document in WellView. P/U and RIH with 9 3/4" rock bit, 9 5/8" string mill, bit sub, 2-6" DC's on 2 7/8" work string. Clean out 10 3/4" casing to 7" LT at 3,750'. POOH with same. L/D 6" DC's NOTE: During 1961 attempt to P&A the wellbore, an obstruction was encountered at 3,660' and the P&A was aborted. Unknown what the obstruction was. Use caution when approaching this depth. NOTE: Will have to strip on 11" 3M x 7 1/16" 3M spool with 7 1/16" 3M Washington head after P/U BHA.
4.	P/U and RIH with 6 1/8" tri-cone rock bit, 7" casing scraper (leave scraper out of BHA if clean out is necessary), bit sub, 2-4 3/4" DC's on 2 7/8" work string. Clean out to top perforation at 3,837'. POOH with same. L/D 4 3/4" DC's.

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ABAN ABAN BOP	2	B&C Quick Test	
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5.	P/U and RIH with 7" CIBP on 2 7/8" work string. Set 7" CIBP at +/- 3,807', or 30' above the top perforation. Sting out of CIBP and circulate/fill wellbore with river water. POOH with setting tool.
6.	P/U and RIH with 7" TST packer on 2 7/8" work string to +/- 3,800'.
7.	Test 7" CIBP set at +/- 3,807' to 655 psi, not to exceed 700 psi for 15 minutes (WSEA 10B).
8.	POOH with 2 7/8" work string and 7" TST packer.
9.	RIH with notched collar, 6'-2 7/8" perforated pup joint on 2 7/8" work string to top of 7" CIBP at +/- 3,807'.
10.	Mix and pump 130 sacks (26.5 bbls) 15.8 ppg, 1.15 yield, class G cement with additives from +/- 3,807' to +/- 3,507'. L/D to +/- 3,407' and reverse circulate clean with 1.5x tubing volume, note volume of cement returned in WV.
11.	After four hours, tag top of cement to verify placement for regulatory compliance. NOTE: In compliance with Well Barriers Global Technical Standards, Rev. C, 3.3.3, there is no requirement to pressure test or tag this cement plug. 7" CIBP mechanical barrier tested in step 7.
12.	With EOT at TOC of cement plug #1, spot/balance 283 bbls (2,937') 10 ppg brine from +/- 3,507' TOC to 570'. L/D work string to +/- 520'. Stand back remaining tubing.
13.	MIRU PLS. NU lubricator and test to 500 psi for 5 minutes. RIH with 2'-4" perforating guns loaded 4 SPF at 90 degree phasing. Perforate 10 3/4" casing at 570'. NOTE: check surface casing pressure and note any changes in bubbling or venting before and after perforating.
14.	Establish circulation pumping down the 10 3/4" and taking returns up the 10 3/4" x 16" annulus. Pump enough volume to clean up the surface annulus.
15.	P/U and RIH with 10 3/4" CICR on 2 7/8" work string to 520' and set same.
16.	MIRU Cement trucks. Mix and pump 460 sacks (94 bbls) 15.8 ppg, 1.15 yield, class G neat cement through the 10 3/4" CICR taking returns up the 10 3/4" x 16" annulus. Displace 3 bbls fresh water to displace cement below 10 3/4" CICR. Sting out and reverse circulate clean with 5 bbls fresh water. NOTE: used 14.75" OH with 15% excess for volume calculations.
17.	Test 10 3/4" CICR to 655 psi, not to exceed 700 psi for 15 minutes (WSEA 10C).
18.	Mix and pump 59 sacks (12 bbls) 15.8 ppg, 1.15 yield, class G cement with additives from +/- 520' to 395'. L/D to +/- 295' and reverse circulate clean with 1.5x tubing volume, note volume of cement returned in WV.
19.	Pressure test cement plug #2 to 655 psi, not to exceed 700 psi for 15 minutes with after reaching 500 psi compressive strength (WSEA 10D).

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20.	With EOT at TOC of cement plug #2, spot/balance 32 bbls (335') 10 ppg brine from 395' TOC to 60'. L/D work string
21.	ND 11" 3M double gate BOP
22.	<p>RIH with 1" tubing/PVC to 60'. Mix and pump 28 sacks (5.75 bbls) 15.8 ppg, 1.15 yield, class G cement from 60' to surface.</p> <p>Cutoff WH at least 4' below GL. If needed, top off 10 3/4" x 16" surface annulus. Take a picture of the cement to surface. Weld on P&A plate and take a picture. Submit the pictures to Anita for final abandonment paperwork.</p> <p>NOTE: Shallow cement surface plug for final site abandonment per regulatory requirements. Not a permanent barrier per Well Barrier Design Global Technical Standard.</p>
23.	RDMO.
24.	Notify operations that location is ready for reclamation. ENSURE LOCATION IS CLEAN.

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