



1001 17th Street
Suite 1600
Denver, CO 80202
April 25, 2018

Unocal 13-9D Well Details

API Number	05-045-076370000	
Spud Date	12/11/2000	
GL Elevation	5,794'	
PBTD	7,870' MD	
Conductor	16" OD, 84 lb/ft, set at 55' inside 17 1/2" OH	
Surface Casing	8 5/8" OD, 24 lb/ft, J-55, set at 2,966' inside 12 1/4" OH	
Surface Casing Properties	ID	8.097"
	Drift ID	7.972"
	Collapse	1,370 psi
	Burst	2,950 psi
	Joint Yield Strength	244,000 lb
	Capacity	.0637 bbl/ft
	Annular Capacity	.0735 bbl/ft
Production Casing	4 1/2" OD, 11.6 lb/ft, N-80 set at 7,900' inside 7 7/8" OH	
Production Casing Properties	ID	4.000"
	Drift ID	3.875"
	Collapse	6,350 psi
	Burst	7,780 psi
	Joint Yield Strength	223,000 lb
	Capacity	.0155 bbl/ft
	Annular Capacity	.0406 bbl/ft
Tubing	2 3/8" OD, 4.7 lb/ft, J-55, set at 7,505'	
Perforations	Stage 3	4,878' to 6,163' Williams Fork
	Stage 2	6,407' to 6,882' Williams Fork
	Stage 1	7,022' to 7,607' Williams Fork



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Appendix A

Procedure

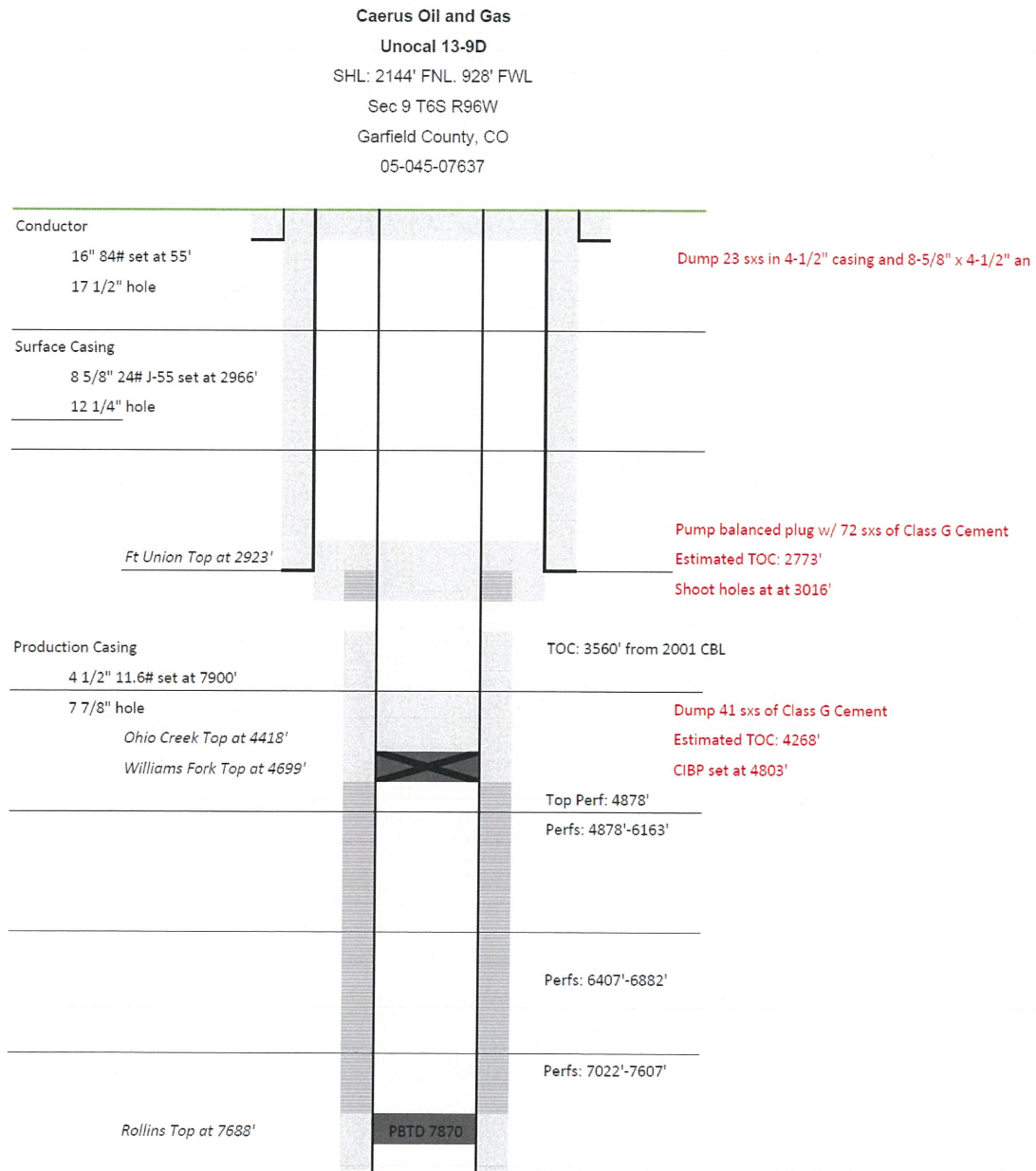
1. Notify the COGCC at least 48 hours before plugging operations commence. Ensure proper ground disturbance forms have been completed, one call for utility identification has been done and proper paper work is on location.
2. Hold a pre-job safety meeting. Discuss all aspects of the procedure with any involved personnel. Identify and address any safety concerns before the job begins.
3. MIRU workover unit. Kill well. ND wellhead, NU BOP.
4. TOH with 2 3/8" tubing (set @ 7,505').
5. RIH with 4 1/2" 11.6# CIBP to 4,803, 75' above top perf @ 4,878'. Set CIBP & ROH with wireline.
6. Pressure test casing to 500 psi.
7. Dump bail 41 sacks (4.9 bbls.) of Class G neat cement (15.8 lb/gal, 1.15 cu-ft/sx) on top of CIBP @ 4,803'. Estimated TOC @ 4,268' (535' cement cap, approx. 431' above Williams Fork top of 4,699' and 150' above Ohio Creek top of 4,418').
8. RU wireline. RIH with perf gun to 3,016' (approx. 50' below surface casing shoe at 2,966') and perforate casing with 4 holes. ROH with wireline.
9. TIH with tubing to 3,016'. Mix and pump balance plug of 72 sacks of Class G neat cement to fill casing and annulus with 243' cement. Estimated TOC @ 2,773' (approx. 150' above Fort Union top and 193' above surface casing shoe).
10. TOO H with tubing and spot 75' of Class G neat cement to surface (6 sacks)
11. Perform top job with cement between 8 5/8" and 4 1/2" casing to surface. Spot 75' (17 sacks) into annulus.
12. RDMO workover unit and ND BOP.
13. Dig down around wellhead and cut off 4 feet below ground level. Top off with cement if needed.
14. Weld information plate to casing stub with 1/4" weep hole, take GPS readings of well information plate for regulatory agencies. Inscribe information plate with:
Sec 9 T6S R96W Unocal 13-9D 05-045-07637
15. Back fill hole and release equipment. RDMO

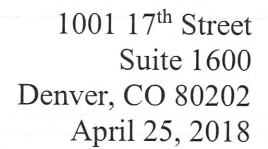



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Appendix B

PROPOSED WELLBORE DIAGRAM







Downhole Well Profile

Well Name: Unocal 13-9D

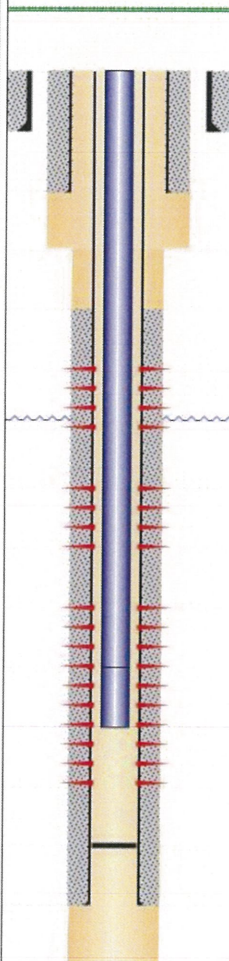
API/UWI 05045076370000	Surface Legal Location SWNW 9 6S 96W	Field Name Grand Valley	License #	State/Province CO	Well Configuration Type Directional
Original KB Elevation (ft) 5,810.00	KB-Tubing Head Distance (ft)	Spud Date 12/11/2000 00:00	Rig Release Date 4/18/2001 00:00	PBTD (All) (ft/B) Original Hole - 7,870.0	Total Depth All (TVD) (ft/B) Original Hole - 7,729.1

Wellhead and Christmas Tree Systems

Type	Make	Service	Working Pressure (psi)	Max Pres (psi)	Size (in)
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Directional, Original Hole, 5/4/2018 12:22:47 PM

Vertical schematic (actual)



Casing Strings

Csg Des	OD (in)	WT/Len (lb/ft)	Grade	Top Thread	Set Depth (ft/B)
Conductor	16	84.00	J-55		55.0
Surface	8 5/8	24.00	J-55		2,966.0
Production	4 1/2	11.60	N-80		7,900.0

Perforations

Date	Top (ft/B)	Bot (ft/B)	Linked Zone
6/5/2001	4,878.0	6,163.0	Williams Fork, Original Hole
5/29/2001	6,407.0	6,882.0	Williams Fork, Original Hole
5/18/2001	7,022.0	7,607.0	Williams Fork, Original Hole

Tubing Strings

Tubing Description	Run Date	String Length (ft)	Set Depth (ft/B)				
Tubing - Production	6/22/2009	7,489.00	7,505.0				
Item Des	Jts	Make	Model	OD (in)	WT (lb/ft)	Grade	Len (ft)
Tubing	23 9		T&C Upset	2 3/8	4.70	J-55	7,457 68
Tubing	1		T&C Upset	2 3/8	4.70	J-55	31.32

Rod Strings

Rod Description	Run Date	String Length (ft)	Set Depth (ft/B)				
Item Des	Jts	Make	Model	OD (in)	WT (lb/ft)	Grade	Len (ft)

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