

Well Name: Alp Federal 24-12AA (J24NW)

Permit Estimated Formation Tops (MD / TVD)	Casing & Hole size	Actual Conditions (MD / TVD)
16" Conductor @ 60' Cement to surface with 5 yds redi-mix		16" Conductor @ 40' Cement to surface with 5 yds redi-mix
WasatchSurface / Surface 14.75" Hole to 200' MD 12.25" Hole to Surf TD		WasatchSurface/ Surface
12.25" Surface Hole		
Surface Casing1252 / 1211 9.625" - 36# - 55 Grade - 8 Round Cement to surface with: Lead: 323 sxs 12.5 Glass G 2.11 ft³/sk Tail: 134 sx, 15.8, Class G 1.17 ft³/sk Total: 457 sx (volume includes 80% excess)		Surface Casing1269' / 1223' 9-5/8" 36" J55 LTC Cemented to surface with Lead: 313 sxs 12.5# G at 2.11 ft³/ Tail 150 sxs 15.8# G at 1.18 ft³/sk Total: 463 sxs
8.75" Hole to Top of Gas 7.875" Hole to TD		8.75" Hole to 6143' MD 7.875" Production Hole
TOC Requirement 200 ft above Mesa V		TOC from CBL: 4180' MD
Ohio Creek4213 / 3866 Mesaverde Marker4213 / 3866 Williams Fork5095 / 4658 Top Gas6283 / 5812 Coal Ridge7320 / 6849 Rollins8058 / 7587 Cozzette- / - Corcoran- / - Permit TD8308 / 7837		Ohio CreekNot picked Mesaverde Marker4316 / 3944 Williams Fork5077 / 4636 Top Gas6266 / 5800 Coal Ridge7321 / 6854 Rollins8120 / 7652 CozzetteN/A / N/A CorcoranN/A / N/A Actual TD8220' / 7752'
Production Casing8308 / 7837 4.5" - 11.6# - 80 Grade - Buttrass Cement with: Lead: 506 sx, 12 TXI, 1.79 ft³/sk Tail: 419 sx, 13 TXI, 1.43 ft³/sk Total: 926 sx (volume includes 30% excess)		Production Casing8202' / 7734' 4.5" 11.6# L80 BTC Cement with: Lead: 695 sxs 12.5# TXI at 1.58 ft³/sl Tail: 305 sxs 13# TXI at 1.88 ft³/sl Total: 1000 sxs