

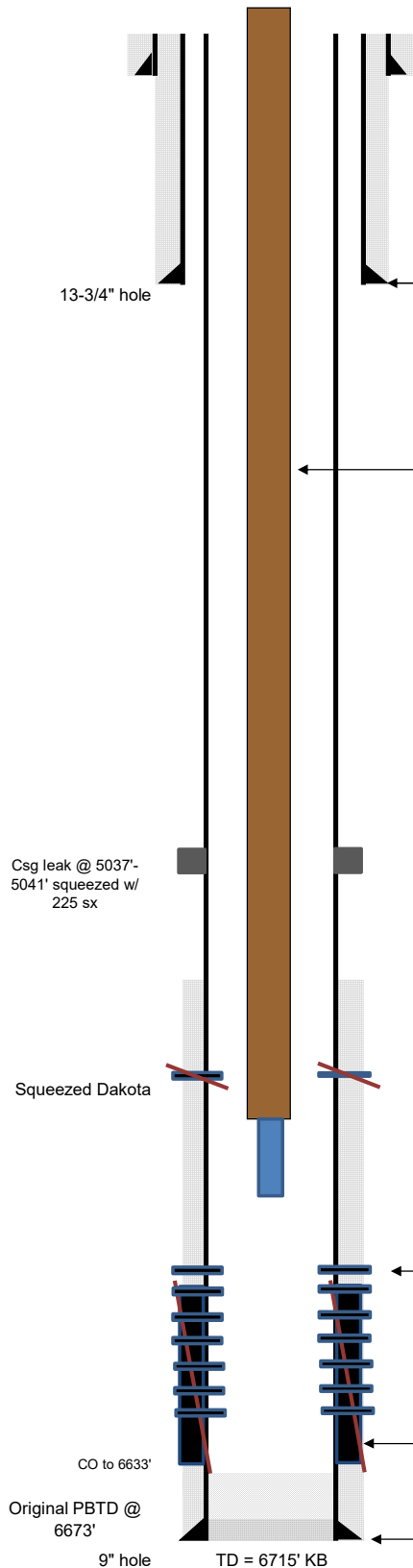


Wilson Creek Unit #31  
Rio Blanco Colorado  
Current Well Schematic as of 10/28/2020

KB: 11'  
KB Elev: 7973'  
Gr Elev: 7962'

API: 05-103-05843  
Legals: Sec 2 - TWN 2N - Range 94W  
Field: Wilson Creek

Spud Date: 6/11/1946  
Completion Date: 8/10/1946



**Conductor**  
3' of 15-1/2", 70# csg

**Surface Casing:**  
10-3/4", 40.5#, H-40, to 481' KB  
cmt'd w/ 205 sx to surface

Formation	Depth
Mancos	1096
Niobrara	4002
Frontier	5743
Mowry	6028
Dakota	6121
Morrison	6253

**Tubing Details:**

Tubing - Production set at 6,452.6ftOTH on 8/30/2019 15:00						
Tubing Description		Run Date		String Length (ft)		Set Depth (MD) (ftO...)
Tubing - Production		8/30/2019		6,442.61		6,452.6
Item Des	Jts	OD (in)	WT (lb/ft)	Grade	Len (ft)	Btm (ftOTH)
Tubing Hanger- EFT with H-type BPV	1	7 1/16			0.80	10.8
Tubing Pup Joint- 2 7/8" bare	1	2 7/8	6.50	J-55	3.90	14.7
Tubing- 2 7/8" RE-RUN bare	200	2 7/8	6.50	J-55	6,398.22	6,412.9
Pump Seating Nipple	1	2 7/8			1.10	6,414.0
Tubing Pup Joint- 2 7/8" bare	1	2 7/8	6.50	J-55	4.21	6,418.2
ESP - Pump - P-23	1	5 1/8			13.28	6,431.5
ESP - Seal	1	5 1/8			6.30	6,437.8
ESP - Motor	1	5 5/8			14.00	6,451.8
Centralizer	1	6 1/8			0.80	6,452.6

PERFORATION DETAILS / HISTORY			
ZONE	INTERVAL	HOLES	STATUS
Dakota	6410'	2 bullets	Squeezed w/ Morrison perfs (6510'-6610')
Morrison	6507' - 6530'	1 spf	Open
	6560' & 6580'	Radial Frac Notch	Open
	6510'-6516', 6521'-6533', 6540'-6610'	18 holes 36 holes 280 holes	Squeezed w/ 200 sx

**Morrison Perforations:**  
6507'-6530', 6560' & 6580'

Squeezed Morrison Perfs

**Production Casing:**  
7", 23#, J-55 & N-80, to 6714' KB  
cmt'd w/ 209 sx

Prepared By: R. Mizell  
Date: 10/28/2020

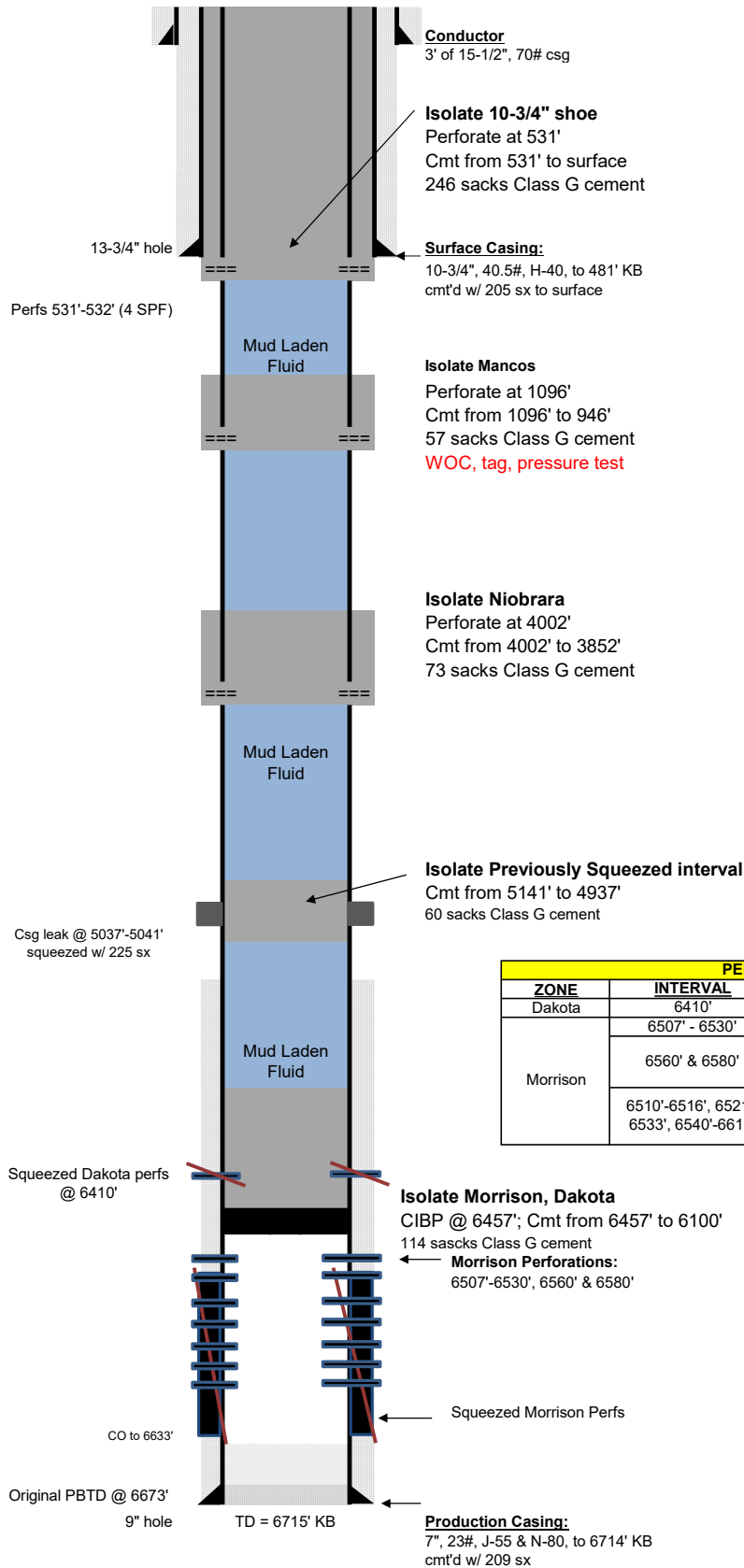


Wilson Creek Unit #31  
Rio Blanco Colorado  
Proposed Well Schematic

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PERFORATION DETAILS / HISTORY			
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	6507' - 6530'	1 spf	Squeezed
	6560' & 6580'	Radial Frac Notch	Squeezed
Morrison	6510'-6516', 6521'-6533', 6540'-6610'	18 holes 36 holes 280 holes	Squeezed w/ 200 sx

Prepared By: R. Mizell  
Date: 6/23/2021



**Wilson Creek Unit #31  
Rio Blanco Colorado  
Current Well History as of 10/28/2020**

<u>Date</u>	<u>Event</u>
6/11/1946 - 8/10/1946	<p>Spud &amp; drilled well to TD of 6715'.  <b>Set 3' of 15-1/2", 70# conductor.</b>  <b>Set 10-3/4", 40.5#, H-40 casing @ 481'</b> in 13-3/4" hole. Cmt w/ 205 sx Ideal Portland cmt to surface.  <b>Set 7", 23#, J-55 &amp; N-80 casing @ 6714'</b> in 9" hole. Cmt w/ 209 sx Ideal SLO-SET cmt.  PBSD @ 6673'.</p> <p><b>Perf Morrison Formation : 6510'-6516' w/ 18 holes, 6521'-6533' w/ 36 holes &amp; 6540'-6610' w/ 280 holes (all holes 9/16").</b></p>
10/21/1949	<b>Elevation correction. NW Corner cellar mat: 7962'. Derrick floor: 7973'. 11' KB.</b>
4/18/1951	Static bottom hole survey. 1702 psi @ 6563'.
10/26/1951	Static bottom hole survey. 1720 psi @ 6563'.
5/17/1959 - 2/9/1960	Packer tests to evaluate water production.
5/5/1960	Water entry survey. Found water entry from 6510'-6543'. Tagged fill @ 6593'.
11/30/1962 - 1/4/1963	<p>Ran 6-1/8" bit &amp; scraper. Tight spot tagged @ 5034'. Rolled out tight spot in csg from 5034'-5051' w/ 7", 23# roller. Ran 6-1/8" bit &amp; scraper &amp; tagged @ 5527'. Circulated out heavy drilling mud water from 5527'-6546'. Hit solid fill-up @ 6546'. Cleaned out fill from 6546'-6673'. Ran bridge plug and packer to locate leak. Unsuccessful. Ran casing inspection log. Casing good except between 5037' and 5041'. Ran magnesium bridge plug set @ 6450'. <b>Squeezed casing leak @ 5037'-5041' w/ 75 sx 2% CaCl cement followed by 150 sx cmt 3 hours later.</b> Tagged cmt @ 4910'. Drill hard cement to 5033'. Drill bridge from 5122'-5133'. Tested casing to 100 psi. Pulled bit &amp; scraper. <b>Perf Dakota @ 6410' w/ 2 bullets.</b> Swabbed Dakota to check fluid entry. Swabbed dry. Drilled plug @ 6450'. Set <b>cement retainer @ 6310'.</b> <b>Squeeze Dakota &amp; Morrison Perfs w/ 200 sx cmt.</b> Ran 6-1/8" bit &amp; drilled retainer @ 6310'. Retainer fell thru to 6387'. Drilled/cleaned out to 6673'. Pressure tested casing to 1300 psi. Held ok. Pulled tubing &amp; bit. Ran GR-CCL log from 6675'-6100'. <b>Perf Morrison with radial frac notch @ 6560' &amp; 6580'.</b> Frac'd each notch separately w/ 6300# 20/40 sand &amp; 250# 12/20 walnut hulls in 278 bbl crude oil.</p>
10/31/1966	Pulled rods & pump for BHP survey.
4/9/1969 - 4/17/1969	<p>Tag fill @ 6627'.  <b>Perf Morrison @ 6507'-6530' w/ 1 jspf.</b>  Set bridge plug @ 6550' &amp; packer @ 6433'.  Frac down 4-1/2" tubing w/ 31,668 bbl lease crude, 10,000# 10-20 sand, 10,000# 8-12 beads, 228 gal friction reducer, &amp; 600# adomite.  Pulled packer, cleaned out fill from 6524'-6550', retrieved bridge plug. Ran new Reda pump &amp; RTP.</p>
6/8/1969	Pump & motor replacement
2/10/1970	Pump, motor, cable, & 5 jts tubing replaced.
5/18/1972	Pump, motor, & 3 jts tubing replaced.
5/24/1973	Pump, motor, & cable replacement.
12/8/1973	Flat cable replacement.
4/29/1974	Pump, motor, & cable replacement. Tubing hydro tested.
6/18/1974	Pump & flat cable replacement.
6/25/1974	Pump replacement.
2/8/1975	Pump, motor, & flat cable replacement. Tuboscoped tubing.
4/9/1975	Motor replacement.
4/22/1975	Cable replacement.
11/14/1975	Pump, motor, & cable replacement. Raised pump 900'.
11/24/1975	Cable replacement.
8/27/1976	Cable replacement.
3/21/1977	Pump, motor, & cable replacement.
7/20/1977	Pump, motor, & flat cable replacement.
2/8/1978	Cable repair & pulled 2 jts tubing.
2/10/1978	Pump, motor, & cable replacement.



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Current Well History as of 10/28/2020**

[illegible]

**Critical Well Notes**

- Artificial lift method - ESP
  - Contact Baker Centralift to spool ESP cable while TOH with tubing/ESP
- Numerous workovers for pump replacement. Workovers in 2017, 2019 tagged fill ranging from 6502' - 6510'
- 2019 Workover - tight spot observed at 4975' when RIH with 6-1/8" bit (tagged at 6502').
  - Planned gauge ring run prior to RIH with CIBP; contingency if tight spot is encountered will be to pick up bit & scraper to wipe through tight spot
- Class III BOP stack will be required - annular needed to seal against ESP/CAP STRING
- *Required 10% excess cement for every 1000' depth (included in proposed calculations)*
- *Rule 434.a.(5) Plug and Abandon - The Operator will not cap or seal the well until 5 days after placing the last plug to allow monitoring for successful plugging and will cap or seal the Well within 90 days after placing last plug.*

**Offline Activity**

- Set slickline plug in tubing and pressure test same to 1000 psi to confirm integrity.

**Procedure - Rig Only**

- 1 MIRU pulling service rig
- 2 Check pressure on all casing and tubing strings. Verify no pressure and observe well for 15 minutes to verify no flow. Kill well with available kill fluids, brine if necessary.
  - 1 Trickle kill fluid down production casing as needed to keep well dead
- 3 Set slickline plug in tubing and pressure test same to 1000 psi to confirm integrity [if not done previously]
  - 1 If this step is not feasible, plan to hydrotest tubing while POOH or TIH.
- 4 N/U stump-tested BOPE.
  - 1 Install BPV in tubing hanger. N/D production tree.
  - 2 Install 5k Class III BOP and pressure test 250 psi low and 1000 psi, MASP, or max anticipated pressure (whichever is larger) high for 5 min each.
  - 3 Annular will be required in order to shut in and seal around pipe, ESP cable
- 5 POOH with tubing, spooling ESP cable and cap string [if present]
  - 1 Ensure ESP cable spoolers are spotted, sheaves are inspected within the last year and hung with secondary retention.
  - 2 Refer to the provided guidelines for pulling ESP equipment. Request document from engineer.
- 6 Set CIBP per approved permit depth
  - 1 MIRU wireline unit. Conduct GR/Junk basket run to planned CIBP set depth. POOH w/ same.
  - 2 M/U CIBP, RIH and set per approved permit. POOH with wireline.
- 7 Conduct pressure test of casing, CIBP to 500 psi for 15 minutes. Document results in WellView.
  - 1 Discuss picking up squeeze packer if casing failed previous pressure test
- 8 Bubble test all annuli for 30 minutes each and document results in WellView under daily pressures
- 9 TIH with tubing string (and squeeze packer if necessary) to tag CIBP
- 10 Proceed to pump cement per the approved permit, refer to table below cement plug depths and calculations
  - 1 TOC in production annulus is uncertain
    - 1 Assume TOC in 7" annulus is at the casing leaks that were squeezed in prior workover
    - 2 Total of 225 sacks Class G cement was squeezed at leak interval 5037' - 5041'
  - 2 If bubble test in prod csg annulus fails after Mancos isolation, a contingency cement plug should be perf & squeezed between Mancos and 10-3/4" shoe plug. Discuss depths and volumes with engineer; forward plan will need to be confirmed with BLM, COGCC regulatory agencies prior to execution.
    - 1 WOC, tag, pressure test contingency squeeze prior to isolating shoe, fresh water zone

11 Discuss with engineer any changes to proposed plan forward during execution

Plug					
Summary Table	Base	Top	Volume	Perf & Squeeze	Notes
Formation 1	6457	6100	114	NO	
Formation 2	5141	4937	61	NO	
Formation 3	4002	3852	73	YES	
Formation 4	1096	946	58	YES	WOC, tag, pressure test
Formation 5	531	0	246	YES	
Total Sacks	551				
Total Perf & Squeeze		3			
Total Spot		2			