

Santa Fe Main Office
 Phone: (505) 476-3441
 General Information
 Phone: (505) 629-6116

State of New Mexico
 Energy Minerals and Natural Resources

Form C-101
 Revised July 18, 2013

Oil Conservation Division

AMENDED REPORT

Online Phone Directory Visit:
<https://www.emnrd.nm.gov/ocd/contact-us/>

1220 South St. Francis Dr.
 Santa Fe, NM 87505

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

¹ Operator Name and Address NORTHWIND MIDSTREAM PARTNERS, LLC 811 LOUISIANA STREET, SUITE 2500; HOUSTON, TX 77002		² OGRID Number 331501
		³ API Number 30-025-55919
⁴ Property Code P	⁵ Property Name TITAN AGI	⁶ Well No. 4

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
E	21	26S	36E		2528	NORTH	712	WEST	LEA

8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
D	21	26S	36E		1099	NORTH	67	WEST	LEA

9. Pool Information

Pool Name AGI; DEVONIAN-FUSSELMAN	Pool Code 97834
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Additional Well Information

¹¹ Work Type N	¹² Well Type I	¹³ Cable/Rotary R	¹⁴ Lease Type P	¹⁵ Ground Level Elevation 2931 ft.
¹⁶ Multiple	¹⁷ Proposed Depth 19,203 ft.	¹⁸ Formation FUSSELMAN	¹⁹ Contractor	²⁰ Spud Date 3/1/2026
Depth to Ground water Approx. 175 FT.		Distance from nearest fresh water well 0.59 miles		Distance to nearest surface water

We will be using a closed-loop system in lieu of lined pits

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
SURF	27.25"	24"	186.4	1865	1500	Surface
1ST INT.	22"	20"	169	3770	1716	Surface
2ND INT.	17.5"	14"	115.53	5140	2005	Surface
3RD INT.	12.25"	9.625"	47	11725	774.4 bbls	Surface
PROD.	8.5"	7"	32	17728	514.3 bbls	Surface

Casing/Cement Program: Additional Comments

Production casing utilizes corrosion-resistant casing and acid resistant resin and cement slurries. See attached schematic for complete details.

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
ANNULAR	5000	4500	
DOUBLE RAM	10000	9500	

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief.

I further certify that I have complied with 19.15.14.9 (A) NMAC and/or 19.15.14.9 (B) NMAC , if applicable.

Signature: 

Printed name: David A. White, P.G.

Title: Vice President - Consultant to Northwind/MPLX

E-mail Address: dwhite@geolex.com

OIL CONSERVATION DIVISION

Approved By:

Title:

Approved Date:

Expiration Date:

Conditions of Approval Attached

C-102 Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION	Revised July 9, 2024
		Submittal Type: <input checked="" type="checkbox"/> Initial Submittal <input type="checkbox"/> Amended Report <input type="checkbox"/> As Drilled

WELL LOCATION INFORMATION

API Number 30-025-55919	Pool Code 97834	Pool Name AGI; DEVONIAN-FUSSELMAN
Property Code 338821	Property Name TITAN AGI	Well Number 4
OGRID No. 331501	Operator Name NORTHWIND MIDSTREAM PARTNERS, LP	Ground Level Elevation 2931'
Surface Owner: <input type="checkbox"/> State <input checked="" type="checkbox"/> Fee <input type="checkbox"/> Tribal <input type="checkbox"/> Federal		Mineral Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal

Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
E	21	26 S	36 E		2528' FNL	712' FWL	32.029086°	-103.276301°	LEA

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
D	21	26 S	36 E		1099' FNL	67' FWL	32.033013°	-103.278384°	LEA

Dedicated Acres	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
Order Numbers.			Well setbacks are under Common Ownership: <input type="checkbox"/> Yes <input type="checkbox"/> No	

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County

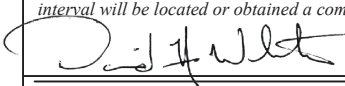


First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County

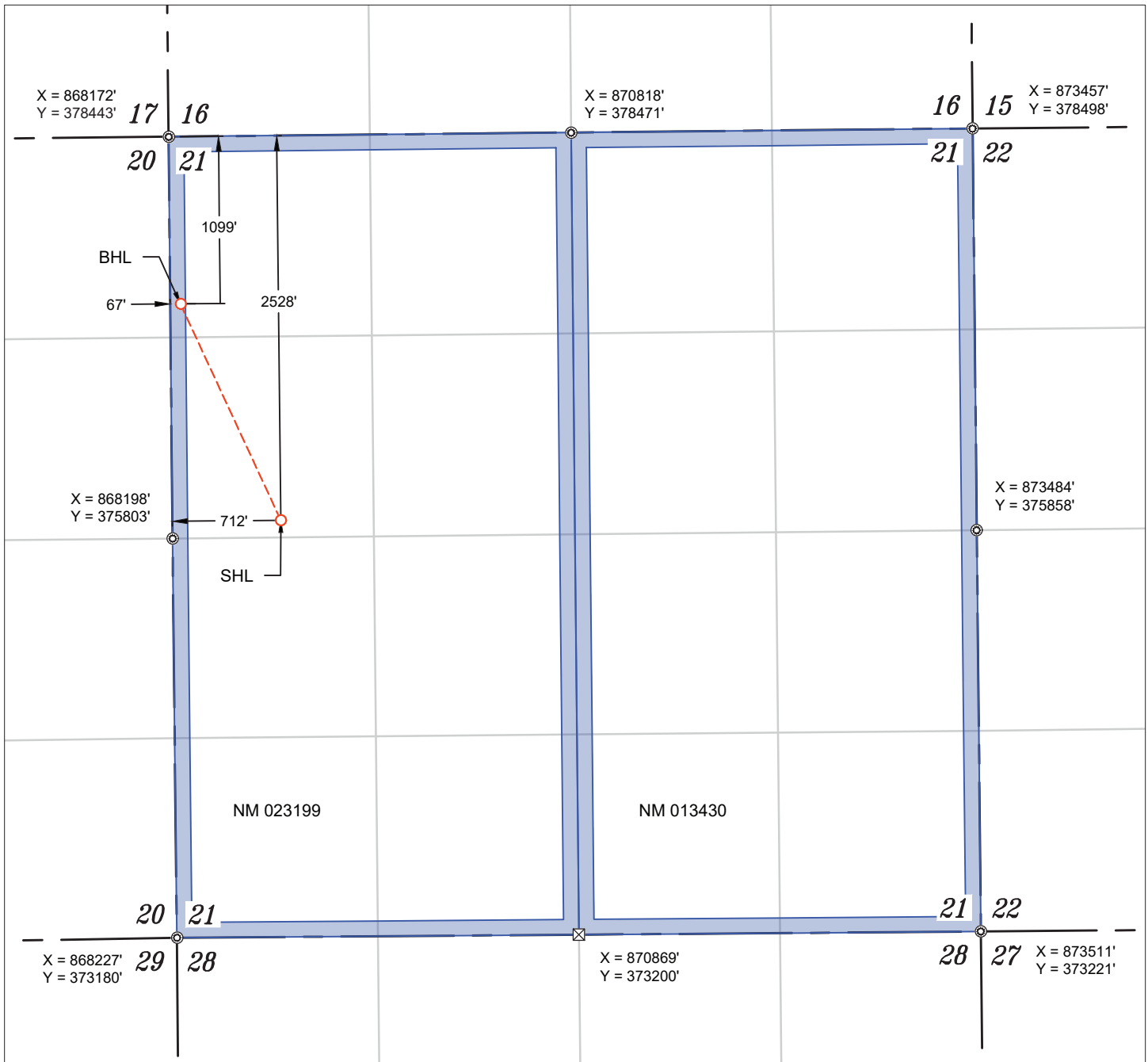
Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County

Unitized Area or Area of Uniform Interest	Spacing Unit Type <input type="checkbox"/> Horizontal <input type="checkbox"/> Vertical	Ground Floor Elevation: 2931'
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<p>OPERATOR CERTIFICATIONS</p> <p><i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i></p> <p><i>If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.</i></p> <p style="text-align: right;">  12/15/2025 </p>	<p>SURVEYOR CERTIFICATIONS</p> <p><i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</i></p> <p style="text-align: right;">  15 Dec 2025 </p> <div style="text-align: right;">  </div>
Signature DAVID A. WHITE, P.G.	Signature and Seal of Professional Surveyor 21209 DECEMBER 15, 2025
Printed Name DWHITE@GEOLEX.COM	Certificate Number Date of Survey
Email Address	

Note: No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



WELL NAME: Titan AGI #4
 ELEVATION: 2931'

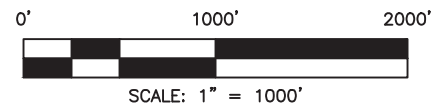
NAD 83 (SHL) 2528' FNL & 712' FWL
LATITUDE = 32.029086°
LONGITUDE = -103.276301°
NAD 27 (SURFACE HOLE LOCATION)
LATITUDE = 32.028958°
LONGITUDE = -103.275844°
STATE PLANE NAD 83 (N.M. EAST)
N: 375922.88' E: 868909.54'
STATE PLANE NAD 27 (N.M. EAST)
N: 375865.27' E: 827721.04'

NAD 83 (BHL) 1099' FNL & 67' FWL
LATITUDE = 32.033013°
LONGITUDE = -103.278384°
NAD 27 (BHL)
LATITUDE = 32.032885°
LONGITUDE = -103.277927°
STATE PLANE NAD 83 (N.M. EAST)
N: 377345.07' E: 868250.12'
STATE PLANE NAD 27 (N.M. EAST)
N: 377287.42' E: 827061.67'

- ⊙ FOUND MONUMENT
- ⊠ CALC. CORNER
- SHL/ KOP/ FTP / PPP/ LTP / BHL
- WELLBORE
- HORIZONTAL SPACING UNIT
- STATE OIL & GAS LEASE
- BLM OIL & GAS LEASE

NOTES

- ALL COORDINATES, BEARINGS, AND DISTANCES CONTAINED HEREIN ARE GRID, BASED UPON THE NEW MEXICO STATE PLANE COORDINATES SYSTEM, NORTH AMERICAN DATUM 83, NEW MEXICO EAST (3001).
- THIS DOCUMENT IS BASED UPON AN ON THE GROUND SURVEY PERFORMED DURING DECEMBER, 2024. CERTIFICATION OF THIS DOCUMENT IS ONLY TO THE LOCATION OF THIS INFORMATION IN RELATION TO RECORDED MONUMENT OF DEEDS PROVIDED BY THE CLIENT.
- ELEVATIONS MSL, DERIVED FROM G.N.S.S. OBSERVATION AND DERIVED FROM SAID ON-THE-GROUND SURVEY.



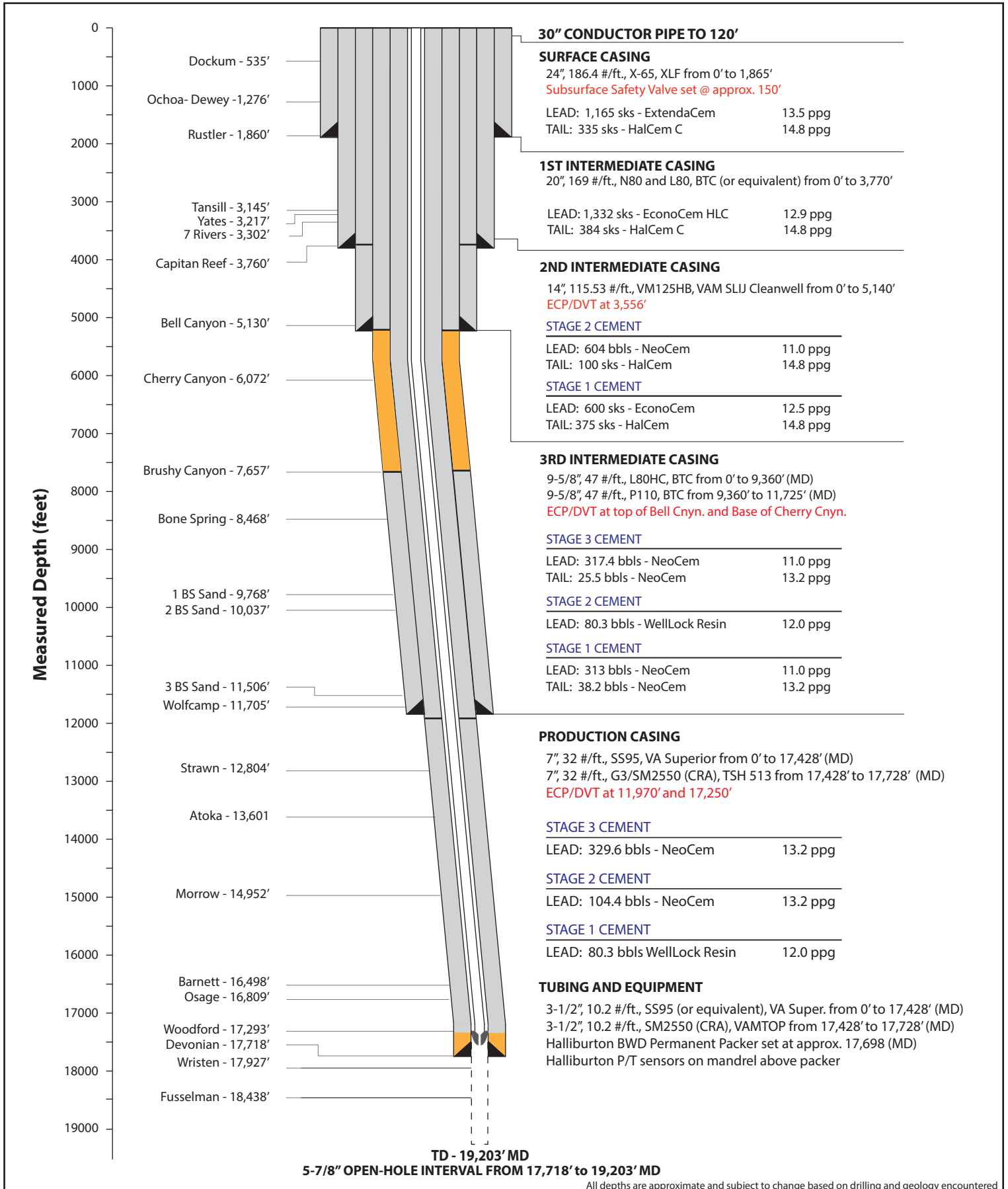
ATTACHMENT A

PROPOSED WELL BORE DIAGRAM

Titan AGI #4



DEVIATED WELL SCHEMATIC TITAN AGI #4 (S21, T26S, R36E)



All depths are approximate and subject to change based on drilling and geology encountered

Proposed Titan AGI #4 well schematic
(approved by NMOCD on 1/23/2026)

ATTACHMENT B

EXAMPLE DRILLING PROGRAM

Titan AGI #4

Drilling Program

MPLX – Titan AGI #4

API # TBD

NMOCD UIC Order #TBD

Field: AGI; Devonian-Fusselman

Sec. 21, Twp. 26S, Rge 36E

Lea County, NM

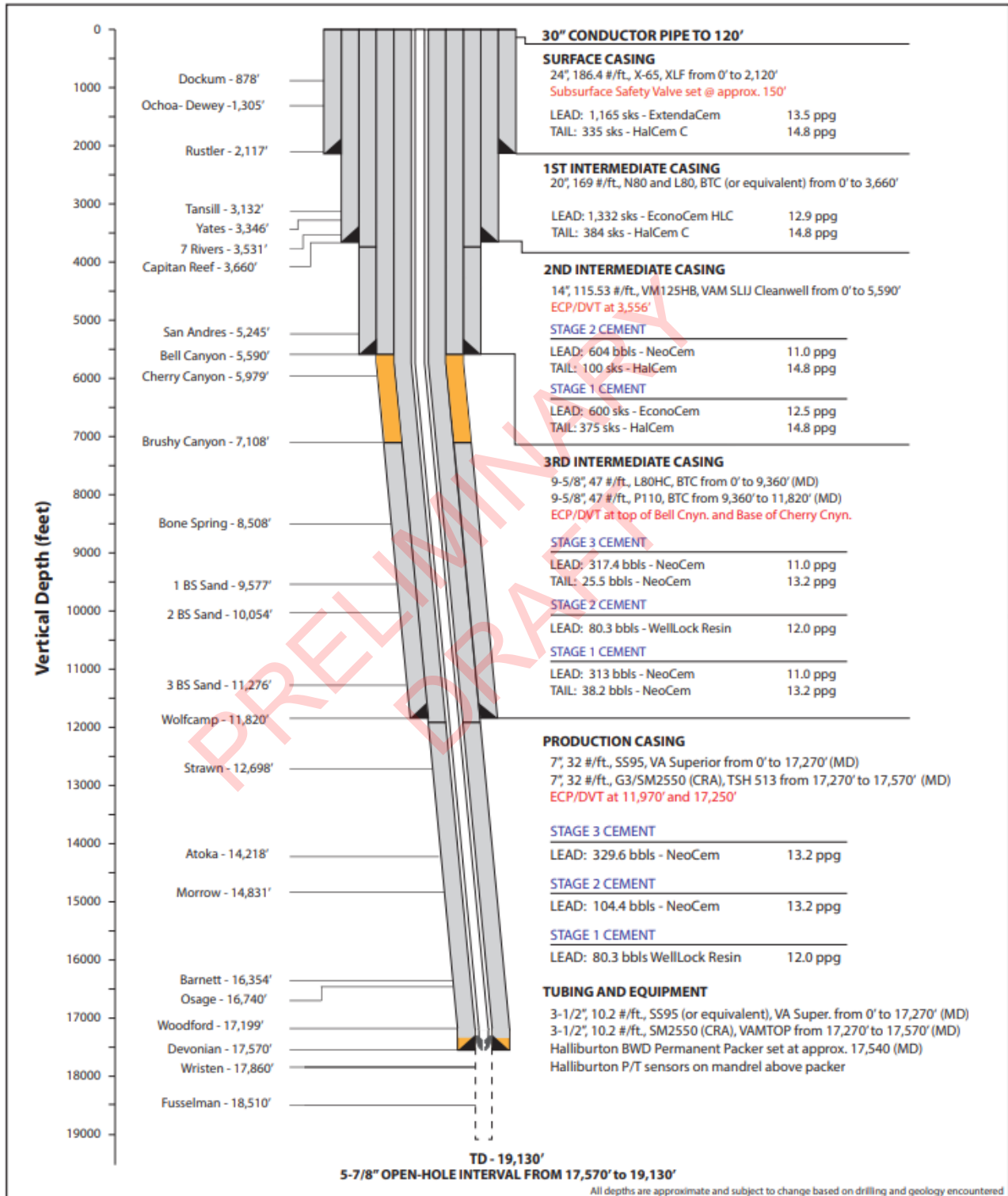
SHL: Lat 32.029089, Lon -103.276608

BHL: Lat 32.033013, Lon -103.278384

GL XXXX' KB XXXX'

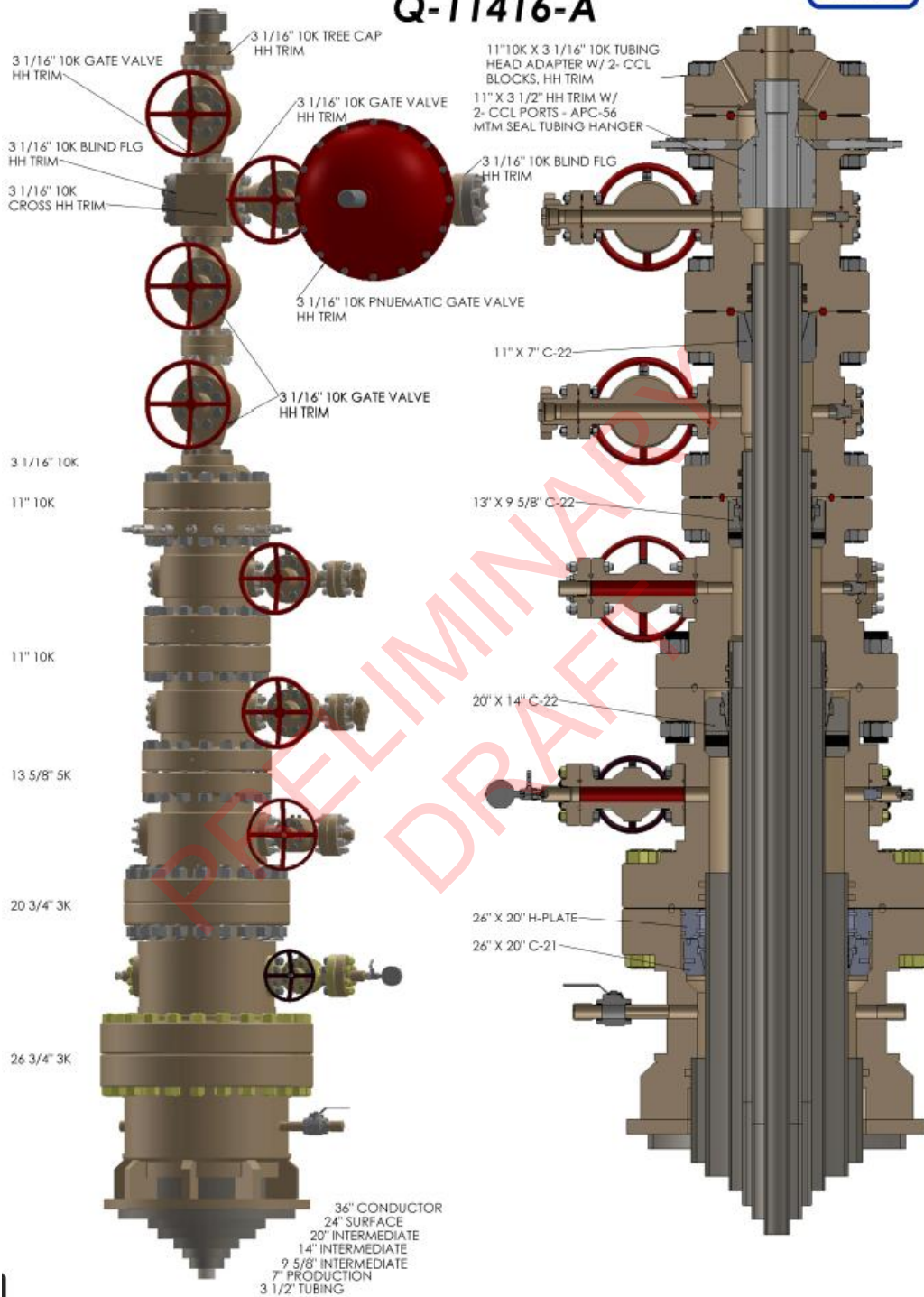


DEVIATED WELL SCHEMATIC TITAN AGI #4 (S21, T26S, R36E)





TITAN AGI # 4 HH TRIM Q-11416-A



Geologic Tops:

Table 4. Anticipated formation tops at the proposed Titan AGI #4 location

Formation	Depth (MD)	Formation	Depth (MD)
Dockum Group	878	Wolfcamp	11,820
Ochoa-Dewey Lake	1,305	Strawn	12,698
Rustler	2,117	Atoka	14,218
Tansill	3,132	Morrow	14,831
Yates	3,346	Barnett	16,354
Seven Rivers	3,531	Osage	16,740
Capitan Reef	3,660	Woodford	17,199
Bell Canyon	5,590	Devonian	17,570
Cherry Canyon	5,979	Wristen	17,860
Brushy Canyon	7,108	Fusselman	18,510
Bone Spring	8,508		

PRELIMINARY
DRAFT

Location Preparation

Pad Construction: Pad to be pre-built by MPLX.

Road & Signage Install T-post fence along road into location to prevent entry to existing gas plant. Ensure road is wide enough to allow truck traffic to pass in opposite directions, and that corners are large enough to allow semi-truck traffic to negotiate corner (approx. 30' wide road, and angled on inside of corners). Install signage to direct traffic. Install well and location signage as per regulations.

Fluid Storage: **NOTE: Entire rig footprint to be lined w/ poly. Coordinate with WDT to coordinate lining with rig move and crane activity.** Install 100' x 100' liner w/ berms in NW corner of location as per location diagram. Move in 10 fluid storage frac tanks on top of liner, manifold to East. Manifold tanks together into 2 groups of 5 tanks each. Fill assembled manifolds with fresh water to check for leaks.

Cellar & Conductor: 12' dia x 12' Deep tinhorn cellar. Drill & set 30" conductor @ 200'(or until hit redbed).

Conductor Hole size: 42"

Depth: 100'

Mud: Fresh water native mud.

Casing: From 0' to 195' – (30" CSG)
Run 30" casing with open shoe.

Cement: Class A Ready Mix

Fill annulus down backside from TD to surface. Cut off casing 6" above cellar floor. Leave remnant on location for use as drilling riser.

Wellhead: Weld on **Capping Plate**

MIRU Drilling Rig

- Drilling Rig:** MIRU Nabors X52 drilling rig. **NOTE: Entire rig footprint to be lined w/ poly. Coordinate with WDT to coordinate lining with rig move and crane activity.** Confirm receipt of DP/DC/XO inspection reports to DS-1 Cat 4 standard. Confirm all DP S-135 grade. Confirm starting DP & DC count.
- Housing:** MIRU housing, sewer and water for company man, directional, mud & solids control personnel, and mud lab. MIRU mud logger trailer. WDT to provide FW tank & effluent tank. Mark in very clear and large letters which tank is FW and which is effluent.
- Fluids & Transfer:** MIRU rental 4" transfer pump to be located on corner of liner. Build qty. 2, 4" poly lines w/ 4" Fig 100 hammer unions and bury 12" deep from edge of lined pad at transfer pump location to south end of rig mud pits. MIRU cement water frac tanks and manifold together. Fill cement water tanks with city fresh water. Fill fluid storage frac tanks 1 & 2 w/ fresh water. Fill pits with fresh water and circulate system to check for leaks.
- Solids Control:** MIRU solids control equipment & cuttings bins.
- Mud:** MIRU barite bins (this can be delayed until the start of the 12 ¼" hole section, but leave room for MIRU when needed). Deliver fresh mud products to location as per mud program.

NOTE! 14" casing in 2nd Intermediate hole section. Confirm 14" cementing head is in-district w/ Halliburton prior to well spud!

Surface Hole

Hole size: 17 ½", then ream to 27 ¼"

Depth: 2120' (Fit hole to set casing below top of Rustler)

Mud: Refer to attached mud program. Fresh water native spud mud. Dope mud system with 25 gal per 100 bbls of CM3315. Viscosity not to exceed 40 sec/qt. Mud weight not to exceed 9.4 ppg. Keep mud hydrated and cut with fresh water. Dump and dilute as necessary to maintain the above mud parameters to avoid red bed mud rings.

Bits: 1st choice – Ulterra 716S. 2nd choice - Baker T606KS. Get bit gauge from vendor. Ensure bit is not under gauge prior to run.

BHA #1:

1	17 ½" Bit
1	8" Bit Sub
1	25 ¾" IB Spiral Stabilizer
3	8" DC
1	XO

BHA #2:

1	17 ½" Bit
1	8" Bit Sub
1	17 ½" Vertical Scout
1	8" x 9 5/8" Combo Motor
1	8" Shock sub
1	8" Directional survey tool
1	17 ½" IB Spiral Stabilizer
9	8" DC
1	XO
21	6 ½" DC
1	XO

BHA #3:

1	17 ½" Bit
1	8" Bit Sub
1	27 ¼" Reamer
1	8" DC
1	8" Shock sub
1	8" Directional survey tool
1	25 ¾" IB Spiral Stabilizer
8	8" DC
1	XO
21	6 ½" DC
1	XO

BHA #4:

1	26" Roller Cone Bit (POP @ Jaco)
1	8" Bit Sub
1	27 ¼" Reamer
1	25 ¾" IB Spiral Stabilizer
9	8" DC
1	XO
21	6 ½" DC
1	XO

Shaker Screens:

120's

Tubulars:

Item type	Casing	Drill Pipe
Size	24"	5"
Weight (#/ft)	186.4	19.5
Grade	X-65	S-135
Thread	XLF	4 1/2 IF
ID (in)	22.500	4.276 (2.750 conn)
Burst (psi)	3250	17105
Collapse (psi)	1049	15672
Tension (klbs)	1709	712
Min MU Torque (ft-lb)	30,600	
Rec. Torque (ft-lb)		38044
Max MU Torque (ft-lb)	108,000	

Drilling:

Weld 30" drilling conductor with flow nipple onto the 30" conductor pipe at surface. **Notify NMOCD prior to spudding well and in sufficient time to witness cementing of surface casing. Ensure mud loggers are rigged up prior to spudding of surface hole. Confirm thread on bottom of Scout tool and ensure bits are compatible.** Run 17 ½" bit w/ **BHA #1**. Drill 7' pilot hole. LD BHA #1. Run 17 ½" bit w/ **BHA #2** w/ Vertical Scout, directional survey tool and 5" DP to casing point. **Deviation not to exceed 3°.** **DLS not to exceed 2°.** Seepage should be controllable with LCM sweeps. After cutting 100' of new hole, slowly increase pump rate to max allowable for rig & downhole tools. Pick up a kelly joint so all connections are made 30' off bottom. Backream full stand every connection prior to shutting pumps off. Upon reaching TD, pump heavy LCM sweep and circulate hole clean. TOOH. Run 27 ¼" reamer w/ **BHA #3** w/ survey tool and 5" DP to casing point. Ensure enough rathole for 24" casing to land at floor. Seepage should be controllable with LCM sweeps. After cutting 100' of new hole, slowly increase pump rate to max allowable for rig & downhole tools. Backream full stand every connection prior to shutting pumps off. Upon reaching TD, pump heavy LCM sweep and circulate hole clean. TOOH. **PU BHA #4** and make reamer run to casing point (**simulate casing run. Do not wash and ream unless necessary**). Upon reaching TD, pump heavy LCM sweep and circulate hole clean. Drop drillpipe drift w/ 120' wire attached. TOOH to run casing.

Casing:

Ensure 24" casing has been cleaned, drifted to 22.000" and tallied prior to running. **Confirm FC/FS welded prior to pipe delivery.**
From 0' to 2120' – (24" 186.4# X-65 XLF CSG)

Notify NMOCD in sufficient time to witness cementing of casing. Fill casing with drilling fluid as needed. RU 50 T Crane (if catwalk can't lift 24"), casing crew & torque turn. Run 24" float shoe, 1 jt 24" 186.4# X-65 XLF casing, float collar w/ **SIA welded prior to arriving** on location. Run remainder of 24" 186.4# X-65 XLF casing to surface. Centralizers to go in the middle of the first joint, on the second coupling and the fourth coupling. Float equipment should be PDC drillable. After getting casing to TD, RU API Bowl and false table. TIH w/ 5" DP and sting in cement adaptor. **Ensure bow spring centralizer installed on first DP tool joint above sting in cement adaptor. DO NOT RUN DRILL COLLARS. Ensure additional DP picked up is drifted prior to going in the hole.** Sting into float collar. Use 5" pup jts to space out. Circulate bottoms up, RU Halliburton DP cement head and chain down DP to casing to prevent sting out from 24" float collar. Prior to pumping cement, confirm sting in properly by verifying returns are taken up 24" casing annulus. **Circulate 2X hole volume with rig prior to cementing.**
ENSURE FULL HALLIBURTON ICEM MODEL IS RUN AND APPROVED PRIOR TO JOB.

Cement: Lead: 1165 sks ExtendaCem + Additives @ 13.5 ppg
Tail: 335 sks HalCem + Additives @ 14.8 ppg

Cement as prescribed in attached Halliburton cement recommendation. Have intermediate tail cement on location to ensure cement to surface prior to displacing the inner string. **DO NOT GO INTO DISPLACEMENT UNTIL CEMENT IS CIRCULATED TO SURFACE ON 24" CASING ANNULUS.** Use foam wiper balls to chase cement wiper plug. If cement *does not* circulate, notify POP supervisor for next steps. **If cement *does* circulate, displace inner string with system fluid and ensure casing floats are holding prior to stinging out of float collar.** Sting out of float collar with inner string & circulate out cement using **brine water** at maximum pump rate (1150 gpm minimum, reciprocate inner string while displacing if possible). Circulate full inner string volume to balance the string. Once cement is circulated out of inner string and the inside of the 24" casing, shut down and monitor for fluid movement within the 24" casing. If fluid inside casing is static, TOH w/ DP. If fluid inside casing is not static, notify POP supervisor for next steps. WOC 24 hours (subject to change based on cement lab report). While WOC & running wireline, clean settling pits and **return surface drilling fluid to pits for next section.** Run Baker Hughes SBT cement bond log to verify sufficient cement placement. When sufficient bond confirmed, screw in testing swage and pressure test casing to 1060 psi for 30 min, chart this test on Pason. **Cut off conductor @ proper depth to ensure starting head base plate is 109" below GL & weld on 24" wellhead (ensure 26 3/4" 3M flange face at 79" below GL).** **Orientation to be confirmed:** Valve handles to West so that Manumatic will point South (**CONFIRM**). NU 24" wellhead with 30" annular and rotating head (**confirm rotating head sized with sufficient pass through for 22" bit prior to installing**).

Wellhead: 26 3/4" 3M rated conventional weld on type wellhead

BOPE: 26 3/4" 3M rated weld on flange, conductor & rotating head.

BOPE Testing: None

First Intermediate Hole

Hole size: 22"

Depth: 3660'

Mud: Surface mud system blended with brine water displacement left in surface casing. (NOTE: offset well have not encountered contiguous salt sections through the next interval but have saturated brine water available in the event salt is encountered). If salt is encountered, refer to attached mud program using Saturated Brine. (Mud weight not to exceed 10.3 ppg). **Lost circulation is possible.**

Bits: Smith or Ulterra. Select largest gauge between the two. Get bit gauge from vendor. Ensure bit is not under gauge prior to run.

BHA:

1	22" Bit
1	8" Bit Sub
1	22" Vertical Scout RSS
1	8" x 9 5/8" Combo Motor
1	8" Shock sub
1	8" Directional survey tool
1	22" Stabilizer
12	8" DC
1	XO
21	6 1/2" DC
1	XO

Shaker Screens: 120's

Tubulars:

Item type	Casing	Drill Pipe
Size	20"	5"
Weight (#/ft)	169	19.5
Grade	N-80	S-135
Thread	BTC	4 1/2 IF
ID (in)	18.376	4.276 (2.750 conn)
Drift (in)	18.189	
Burst (psi)	5690	17105
Collapse (psi)	3020	15672
Tension (klbs)	3916	712
Min MU Torque (ft-lb)	46200	38044
Max MU Torque (ft-lb)	52200	

Drilling:

Ensure 24" riser w/weld on diverter & rotating head is installed prior to TIH. **INSTALL WEAR BUSHING.** Run 22" bit, BHA w/survey tool and 5" DP to casing point. Saturated brine water will be used to minimize washout in salt sections. Before drilling 20' into formation, perform a FIT to 10.0 ppg mud weight equivalent. After cutting 100' of new hole, slowly increase pump rate to max allowable for rig & downhole tools. **Deviation not to exceed 3°.** **DLS not to exceed 2°.** Seepage should be controllable with LCM sweeps. After drilling to 3660', pump heavy LCM sweep and circulate hole clean. TOOH for OH logs (GR-SONIC-CAL-RES -confirm logs vs COA's when permit issued). **LD directional assemblies and make wiper trip.** **REMOVE WEAR BUSHING.** Clean, drift & tally casing.

Casing:

Ensure 20" casing has been cleaned, drifted to 18.189" and tallied prior to running.

From 0' to 3660' – (20" 169# N-80 BTC CSG)

Fill casing with drilling fluid every 20 jts or less as needed. ENSURE WEAR BUSHING REMOVED. Run float shoe, 1 jt 20" 169# N-80 BTC casing, float collar w/ **SIA welded prior to arriving on location**, & remainder jts 20" 169# N-80 BTC to surface. **Thread - lock guide shoe and first 2 joints.** Centralizers will go in the middle of the first joint, on the second coupling on the fourth coupling, and every 4th joint thereafter. **Make sure pipe is centered in wellhead so slips can be easily set prior to landing on floor.** Float equipment should be PDC drillable. After getting casing to TD, RU API Bowl and false table. TIH w/ 5" DP and sting in adaptor. **Ensure bow spring centralizer installed on first DP tool joint above sting in cement adaptor. DO NOT RUN DRILL COLLARS. Ensure additional DP picked up is drifted prior to going in the hole.** Sting into float collar. Use 5" pup jts to space out, circulate bottoms up and RU Halliburton DP cement head and chain down DP to casing to prevent sting out from 20" float collar. Prior to

pumping cement, confirm stung in properly by verifying returns are taken up 20" casing annulus. **Circulate 2X hole volume with rig prior to cementing. ENSURE FULL HALLIBURTON CEMENT MODEL IS RUN AND APPROVED PRIOR TO JOB.**

Cement: Lead: 1332 sks EconoCem HLC + Additives @ 12.9 ppg

Tail: 384 sks HalCem C + Additives @ 14.8 ppg

Notify NMOCD in sufficient time to witness cementing of casing. Cement as prescribed in attached Halliburton cement recommendation. Have next intermediate tail cement on location to ensure cement to surface prior to displacing the inner string. **DO NOT GO INTO DISPLACEMENT UNTIL CEMENT IS CIRCULATED TO SURFACE ON 20" CASING ANNULUS.** Use foam wiper balls to chase cement wiper plug. If cement **does not** circulate, notify POP supervisor for next steps. **If cement does circulate, displace inner string with system fluid and ensure casing floats are holding prior to stinging out of float collar.** Sting out of float collar with inner string & circulate out cement using **fresh water** at maximum pump rate (reciprocate inner string while displacing if possible). Circulate full 20" casing volume plus inner string volume to balance the string. Once cement is circulated out of inner string and the inside of the 20" casing, shut down and monitor for fluid movement within the 20" casing. **Store drilling fluid or future use.** If fluid inside casing is static, TOH w/ DP. If fluid inside casing is not static, notify POP supervisor for next steps. WOC 24 hours (subject to change based on cement lab report). While WOC & running wireline, clean settling pits and **return drilling fluid to pits for next section.** Baker Hughes SBT cement bond log w/ 750 psi pressure to verify sufficient cement placement. Run wireline packoff w/ pump in sub and packoff to allow for pressure pass. When sufficient bond confirmed, screw in testing swage and pressure test casing to 1500 psi for 30 min, chart this test on Pason. After casing test, cut off casing and install 26 3/4" x 20 3/4" slip type casing spool. NU 20 3/4" Annular BOPE & choke manifold, w/ rotating head. **INSTALL WEAR BUSHING.**

Next Wellhead: 26 3/4" x 20 3/4" 3M rated slip type casing spool

Next BOPE: 20 3/4" Annular BOPE w/ rotating head & mud cross.

Next BOPE Testing: Using a test plug, test Annular and riser to 3000 psi high and 250 psi low with third party. If leak off is observed but cannot be located, stop test to avoid downhole damage and contact POP supervisor for next steps. Test all lines to pump valves, and lines to chokes to 3000 psi.

Second Intermediate Hole

Hole size: 17 ½”.

Depth: 5590’ (confirm offset Bell Canyon top depth. Set short of Bell Canyon Sand)

Mud: Refer to attached mud program. Cut brine from previous hole section. Mud weight target 9.3 ppg. Need 28 to 29 visc. **If lost circulation is encountered, utilize the stored surface and Intermediate #1 mud BEFORE using new drilling fluid.** Sweep the hole with 100 barrels of system fluid for a 50-60 sec/1000cc viscosity every 500 feet drilled to aid in cuttings removal.

Bits: 1st choice – Baker T606KS. 2nd choice - Ultrerra 716S. Get bit gauge from vendor. Ensure bit is not under gauge prior to run.

BHA:

1	17 ½” Bit
1	8” Bit Sub
1	17 ½” Vertical Scout
1	8” x 9 5/8” Combo Motor
1	8” DC
1	8” Shock sub
1	8” Directional survey tool
1	17 ½” Spiral Stabilizer
5	8” DC
1	XO
15	6 ½” DC
1	XO

Shaker Screens: 170’s

Tubulars:

Item type	Casing	Drill Pipe
Size	14"	5"
Weight (#/ft)	115.5	19.5
Grade	VM125HC	S-135
Thread	SLIJ-3	4 1/2 IF
ID (in)	12.376	4.276 (2.750 conn)
Drift (in)	12.250	
Burst (psi)	12690	17105
Collapse (psi)	11640	15672
Tension (klbs)	4205	712
Min Torque (ft-lb)	70000	
Rec. Torque (ft-lb)	75000	38044
Max Torque (ft-lb)	80000	

Drilling:

Ensure 20 3/4" Annular BOPE & rotating head are NU & tested. **INSTALL WEAR BUSHING.** Run 17 1/2" bit, BHA w/survey tool and 5" DP to 5590' casing point. In the event of partial losses, seepage should be controllable with LCM sweeps. **Deviation not to exceed 3°, DLS not to exceed 2°.** After drilling to 5590', pump heavy LCM sweep and circulate hole clean. TOOH for OH logs (GR-SONIC-CAL-RES). LD directional assemblies and make wiper trip. Clean, drift & tally casing.

Casing:

Ensure 14" casing has been cleaned, drifted to 12.250" and tallied prior to running. **Confirm 14" cementing head is in-district w/ Halliburton!**
From 0' to 5590' – (14" 115.5# VM125HC SLIJ-3 CSG)
(ECP/DV tool @ 3556')

REMOVE WEAR BUSHING. Run CRT for all 14" casing. Fill casing with drilling fluid every 20 jts or less as needed. Run float shoe, 1 jt 14" 115.5# VM125HC SLIJ-3 casing, float collar, ~2000' - 14" 115.5# VM125HC SLIJ-3, **ECP/DV TOOL**, and remainder of 14" 115.5# VM125HC SLIJ-3 casing to surface. **Thread - lock guide shoe and first 2 joints.** Run centralizers in the middle of 1st joint, top of 2nd joint, then every 3rd joint thereafter. Ensure one centralizer on first full joint below DV tool and one centralizer on first full joint above DV tool. Float equipment should be PDC drillable. Prior to starting cement job, haul off all remaining surface drilling fluid in frac tanks to make room for current drilling fluid.

ENSURE FULL HALLIBURTON CEMENT MODEL IS RUN AND APPROVED PRIOR TO JOB.

Cement:Stage 1:

Lead: 625 sks EconoCem + Additives @ 12.5 ppg

Tail: 375 sks HalCem + Additives @ 14.8 ppg

ECP/DV TOOL @ 3556'Stage 2:

Lead: 604 sks NeoCem + Additives @ 11.0 ppg

Tail: 100 sks HalCem + Additives @ 14.8 ppg

Notify NMOCD in sufficient time to witness cementing of casing. After getting casing to TD, displace casing volume with the rig pump. RU cementers and cement as per recommendation. If cement **does not** circulate, notify POP representative & NMOCD. If cement **does** circulate, ND 20 ¾" x 20" riser, set slips, NU 20 ¾" x 20" riser and WOC 24 hours (subject to change based on cement lab report). **NOTE: (DV-ECP Tool @ 3556' TVD.** Run 12 ¼" mill tooth bit, BHA & 5" DP back to surface. Drill out DV-ECP tool and float collar. Do not drill float shoe. Use caution when drilling DV tools & float equipment to avoid damaging bit. **Test casing to 1500 psi for 30 mins with rig pump.** TOOH for bond log. Baker Hughes SBT cement bond log w/ 750 psi pressure to verify sufficient cement placement. Run wireline packoff w/ pump in sub and packoff to allow for pressure pass. When sufficient bond confirmed, ND 20 ¾" x 20" riser w/weld on diverter & rotating head, cut off casing & NU 20 ¾" x 13 ⅝" casing spool, DSA, BOPE, 10K choke system, & vent/panic/flare system.

Wellhead:**20 ¾" x 13 ⅝" 5M rated casing spool****BOPE:****13 ⅝" 10M rated triple ram BOP stack w/ 13 ⅝" 5M DSA, 5M rated annular & MPD. Think about your pressure testing procedure!! This is 10M BOPE but only 5M wellhead!!****BOPE Testing:****Test BOP Rams to 5000 psi & Annular to 5000 psi with third party. Test all lines to pump valves, and lines to chokes to 5000 psi.**

Third Intermediate Hole

Hole size: 12 ¼"

Depth: 11820' MD

Mud: Refer to attached mud program. Cut Brine from previous hole section. Mud weight target 9.1 to 9.5 ppg, 29 to 34 visc. Mud weight to be adjusted as required to keep acid gas from surface, prepare for 12.5 ppg. Drill out with existing fluid. Mix Caustic Soda for a 9.0 pH. Sweep the hole with 100 barrels of system fluid for a 50-60 sec/1000cc viscosity every 500 feet drilled to aid in cuttings removal. Sweep with Lubricated sweeps as needed to reduce torque/drag. Sweep hole with 100 bbls of high viscosity sweep prior to TOOH. **Active acid gas injection zone from 5600'-7100' TVD, ~800' to southwest. Gas plume not expected to be present at this location but is possible. Adjust mud weight on drill out to prevent acid gas influx. Seepage is preferable to influx. Run H2S scavenger and maintain pH at 10.5-11.**

Bits: Drill out with Varel Vion 616. 2nd choice – Baker D407X. 3rd choice - Halliburton GT65DMOS/Ultrerra 716. Get bit gauge from vendor. Ensure bit is not under gauge prior to run

BHA:

1	12 ¼" Bit
1	8" Bit Sub
1	12 ¼" Scout RSS
1	8" Straight Motor
1	8" Shock sub
1	8" Directional survey tool
1	12 ¼" Spiral Stabilizer
12	8" DC
1	XO
21	6 ½" DC
1	XO

Shaker Screens: 170's

Tubulars:

Item type	Casing	Casing	Drill Pipe
Size	9 5/8"	9 5/8"	5"
Weight (#/ft)	47	47	19.5
Grade	L-80HC	P-110HC	S-135
Thread	BTC	BTC	4 1/2 IF
ID (in)	8.681	8.681	4.276 (2.750 conn)
Drift (in)	8.525	8.525	
Burst (psi)	6870	9440	17105
Collapse (psi)	5740	6660	15672
Tension (klbs)	1086	1493	712
MU Torque (ft-lb)	To triangle	To triangle	
Min Torque (ft-lb)	17000	17000	
Rec. Torque (ft-lb)	47	47	38044
Max Torque (ft-lb)	21000	21000	

Drilling:

Ensure 13 5/8" triple ram BOP stack, 5M rated annular & high pressure dual element MPD system are NU & Tested to 5000 psi. **Ensure flare is installed and running. H₂S monitors and related safety equipment will be operational, with safety supervisor on duty, before drilling out 14" casing shoe. INSTALL WEAR BUSHING.** Run 12 1/4" bit, BHA w/ RSS, survey tools & 5" DP back to surface. **Before drilling 20' into formation, perform a FIT to 12.5 ppg mud equivalent.** Drill out with viscous cut brine and circulate through steel pits. **Build to 8.2° tangent @ 339° azimuth, at 1.5°/100 ft as per directional plan. Maintain 8.2° tangent until casing point.** Utilize mud cleaning equipment to keep fluid as clean as possible. Monitor pH hourly & maintain @ 10.5-11. Seepage should be controllable with LCM sweeps. After drilling to 11879' TVD (11924'MD), pump heavy LCM sweep and circulate hole clean. TOOH. Run OH logs (GR-SONIC-CAL-RES). LD directional assemblies and make wiper trip. LD all 8" DC's. **REMOVE WEAR BUSHING** Clean, drift & tally casing.

Casing:

Ensure 9 5/8" casing has been cleaned, drifted to 8.525" and tallied prior to running.

From 9360' to 11820' MD – (9 5/8" 47# HPP-110 BTC CSG)

From 0' to 9360' MD – (9 5/8" 47# HCL-80 BTC CSG)

(ECP/DV tools @ ~7150' MD and 5590' MD)

REMOVE WEAR BUSHING. Ensure CRT is rigged up prior to casing entering open hole. **Fill casing with drilling fluid every 20 jts or less as needed.** Run float shoe, 1 jt 9 5/8" 47# HCP-110 BTC casing, float collar, ~4700' - 9 5/8" 47# HCP-110 BTC casing, **ECP/DV TOOL**, ~3500' - 9 5/8" 47# HCL-80 BTC casing, **ECP/DV TOOL** & 9 5/8" 47# HCL-80 BTC casing to surface. **Thread - lock guide shoe and**

first 2 joints. Run centralizers in the middle of 1st joint, top of 2nd joint, then centralizers every 3rd joint. Ensure one centralizer on joint below each DV tool and one centralizer on joint above each DV tool. Float equipment should be PDC drillable. **ENSURE FULL HALLIBURTON CEMENT MODEL IS RUN AND APPROVED PRIOR TO JOB.**

Cement:Stage 1:

Lead: 710 sks NeoCem + Additives @ 11.0 ppg

Tail: 150 sks NeoCem + Additives @ 13.2 ppg

ECP/DV TOOL @ 7150' MDStage 2:

Lead: 80.3 bbls Well Lock resin at 12.0 ppg

ECP/DV TOOL @ 5590' MDStage 3:

Lead: 740 sks NeoCem + Additives @ 11.0 ppg

Tail: 100 sks NeoCem + Additives @ 13.2 ppg

Notify NMOCD in sufficient time to witness cementing of casing. After getting casing to TD, displace casing volume with the rig pump. RU cementers and cement as per recommendation. If cement **does not** circulate, notify POP representative & NMOCD. If cement **does** circulate, ND 13 5/8" BOPE & 13 5/8" DSA, set slips, NU 13 5/8" BOPE & 13 5/8" DSA. Test BOPE with test plug to 10000 psi (see below test procedure) while WOC 24 hours (subject to change based on cement lab report). PU 8 1/2" bit, BHA and 5" DP to surface. **INSTALL WEAR BUSHING.** Drill out DV-ECP tools and float collar. **NOTE: (DV-ECP Tools @ 5590' MD and 7150' MD.** Do not drill float shoe. Use caution when drilling DV tools & float equipment to avoid damaging bit. **Test casing to 1500 psi for 30 mins with rig pump.** Baker Hughes Intex cement bond log w/ 750 psi pressure to verify sufficient cement placement. Run wireline packoff w/ pump in sub and packoff to allow for pressure pass. While running wireline, clean all pits and haul off used drilling mud in frac tanks. Ensure sufficient quantity of OBM is on site. Load pits with OBM and begin conditioning mud.

Next Wellhead: 13 5/8" x 11" 10M rated casing spool (ensure wear bushing installed)

Next BOPE: 13 5/8" 10M psi rated triple ram BOP stack w/10M 13 5/8" x 10M 11" DSA, 5M annular & rotating head.

Next BOPE Testing: Test BOP Rams & choke manifold to 10000 psi & Annular to 5000 psi with third party. Test all lines to pump valves to 7500 psi, and lines to chokes to 10000 psi.

Production Hole

Hole size: 8 ½"

Depth: 17570' MD

Mud: Refer to attached OBM mud program. Mud up to 12.0 ppg OBM 75/25 ratio system. Expect to increase weight as required for well control. Mud properties may have to be adjusted as needed for hole conditions. Keep Baroid Steel Seal/CalCarb mix on standby.

Bits: Drill out with Varel Havox 613 for Wolfcamp. Use Baker D407 THX or D507THX for Miss/Strawn/Atoka/Morrow. No other options, use Ulterra U716S or Halliburton GTD65DMOS Get bit gauge from vendor. Ensure bit is not under gauge prior to run.

BHA #1:

1	8 ½" Bit
1	6" Bit Sub
1	8 ½" Scientific RSS
1	6" Straight Motor
1	6 ¼" Shock sub
1	6 ¼" NMDC
1	6 ¼" Directional survey tool
1	8 ½" IB Spiral Stabilizer
21	6 ½" DC
1	XO

BHA #2:

1	5 ⅞" Roller Cone Bit
1	4 ⅞" Bit Sub
1	6.00" Smooth OD Reamer
1	4 ⅞" Short DC PUP
1	6.00" Smooth OD Reamer
30	4 ⅞" DC's
1	XO

Shaker Screens: 170's

Tubulars:

Item type	Casing	Casing	Drill Pipe	Drill Pipe	Drill Collar
Size	7"	7"	5"	4"	4 7/8"
Weight (#/ft)	32#	32#	19.5	15.91	44
Grade	VASS-95	G3/2550	S-135	S-135	S-135
Thread	VA Superior	TSH513	4 1/2 IF	XT-39	XT-39
ID (in)	6.094	6.094	4.276 (2.750 conn)	2.963	2.963
Drift (in)	5.969	5.969			
Burst (psi)			17105		
Collapse (psi)			15672	19490	
Tension (klbs)			712	20140	
Min MU Torque (ft-lb)				404	664
Rec. Torque (ft-lb)			38044	22850	17000
Max MU Torque (ft-lb)				25150	20300

Drilling:

Ensure 13 3/8" 10M rated triple ram BOP stack, 5M rated annular & MPD system are NU & tested. Ensure H₂S monitors and related safety equipment are operational before drilling out shoe. **INSTALL WEAR BUSHING** PU 8 1/2" bit, BHA w/ RSS, survey tools and 5" drill pipe back to surface. TIH to shoe and displace hole with OBM. Drill out with OBM and circulate through steel pits. **Before drilling 20' into formation, perform a FIT to 13.5 ppg mud equivalent. Maintain 8.2° tangent until top of Woodford then decrease deviation at 1.5°/100 ft. to casing point below top of Devonian. Prior to drilling ahead, circulate and condition mud as per mud recommendation. Maintain 11.95° - (verify w/ final directional plan due to anti collision issues) tangent to a depth sufficient to allow a return to vertical by the top of the Devonian (estimated 17,570' TVD) with DLS no greater than 2°/100 ft. (NOTE: back build will have to start within the Mississippi limestone. Use caution and be gentle when drilling this portion as the Mississippi limestone is very hard drilling).** Utilize mud cleaning equipment to keep fluid as clean as possible. When nearing the top of the Devonian formation, slow ROP to 20 fph. Upon seeing drilling break at Devonian top, stop drilling & circulate samples to surface. If samples do not indicate good carbonate, continue drilling 5' & circ samples until clean dolomite/lime is observed. After drilling to TD (est. 17560' TVD, 17634' MD)- verify, pump heavy LCM sweep and circulate hole clean. TOO. Run OH logs (GR-DENS-NEU-SONIC-CAL- RES-FMI-CORES. LD directional assemblies and make wiper trip. Pump heavy LCM sweep and circulate hole clean. TOO & LDDP to run casing. Clean drift and tally casing.

Casing: Ensure 7" casing has been cleaned, drifted to 5.969" and tallied prior to running. From 17270' to 17570' MD – (7" 32# G3 CRA TSH513 CSG)
From 0' to 17270' MD – (7" 32# ECP-110 VA SS95 CSG)
(ECP/DV tools @ 11970' MD & 17270' MD)

REMOVE WEAR BUSHING. Ensure CRT is rigged up prior to running casing. Fill casing with drilling fluid every 20 jts or less as needed. Float shoe, 1 jt 7" 32# G3 CRA TSH513 casing, CRA float collar, remainder of 7" 32# G3 CRA TSH513 casing, ~5300' 7" 32# VA SS95 casing, **ECP/DV TOOL**, and remainder of 7" 32# VA SS95 casing to surface. **Thread - lock guide shoe and first 2 joints.** Run two carbon steel stop collars on top of float collar, top of 3rd joint, top of 4th joint, and top of 6th joint. Run centralizers in the middle of 1st joint, top of 2nd joint, then every 3rd coupling thereafter. Float equipment should be PDC drillable. **ENSURE FULL HALLIBURTON CEMENT MODEL IS RUN AND APPROVED PRIOR TO JOB.**

Cement:

Stage 1: Lead: 80.3 bbls Well Lock Resin + Additives @ 12.0 ppg

ECP/DV TOOL @ 17270' MD

Stage 2: Lead: 655 sks NeoCem + Additives @ 13.2 ppg

ECP/DV TOOL @ 11970' MD

Stage 3: Lead: 2067 sks NeoCem + Additives @ 13.2 ppg

Notify NMOCD in sufficient time to witness cementing of casing. After getting casing to TD, displace casing volume with the rig pump. RU cementers and cement as per recommendation. If cement **does not** circulate, notify NMOCD. If cement **does** circulate, ND 13 5/8" BOPE & 11" DSA, set slips, & NU 13 5/8" BOPE & 11" DSA. If required, remove lower rams to fit BOPE under rig. Test BOPE with test plug to 10000 psi (see below test procedure) while WOC 24 hours (subject to change based on cement lab report). Rack & Tally 4 7/8" DC's & 4" DP while WOC/Testing BOPE. **INSTALL WEAR BUSHING.** PU 5 7/8" roller cone bit, BHA #2 and 4" DP to surface. **NOTE: Upper DV-ECP Tool @ 11970' MD, Lower DV-ECP Tool @ 17270' MD.** Drill out DV-ECP tools, float collar & 2nd jt of 7" CRA. **Do not drill float shoe but ensure upper reamer is able to work lower DV tool. Work DV tools with UPPER reamers until there is no observable drag while tripping in and out.** Use caution when drilling DV tools & float equipment to avoid damaging bit. **Test casing to 1500 psi for 30 mins with rig pump & chart on Pason.** Clean sand trap & settling pit. Load pits with FW & displace hole w/FW while transferring OBM to frac tanks. TOOH & run Baker Hughes Intex cement bond log w/ 750 psi pressure to verify sufficient cement placement. Run wireline packoff w/ pump in sub and packoff to allow for pressure pass. When

sufficient bond confirmed, begin haul off OBM & PU 5 7/8" drilling BHA for next section & TIH.

Next Wellhead: 11" x 11" 10M rated tubing spool (ensure wear bushing installed)

Next BOPE: 13 5/8" 10M rated triple ram BOP stack w/11" 10M DSA & 11" 10M DSA, 5M annular & rotating head.

Next BOPE Testing: Test BOP Rams & choke manifold to 10000 psi & Annular to 5000 psi with third party. Test all lines to pump valves to 7500 psi, and lines to chokes to 10000 psi.

PRELIMINARY
DRAFT

Open Injection Hole

Hole size: 5 7/8"

Depth: 19,130' MD

Mud: Refer to attached mud program. Fresh water 29 to 32 visc. Mud weight not to exceed 9.0 ppg. Mud properties may have to be adjusted as needed for hole conditions. **Lost circulation possible. DO NOT PUMP LCM IN THIS INTERVAL. DO NOT USE GEL FOR VISCOSITY, POLY ONLY.**

Bits: Smith Z6. Get bit gauge from vendor. Ensure bit is not under gauge prior to run.

BHA:

1	5 7/8" Bit
1	4 7/8" Bit Sub
1	4 7/8" 1.5° Motor
1	4 7/8" MWD Tools w/ GR
21	4 7/8" DC
1	XO

Shaker Screens: 170's

Tubulars:

Item type	Drill Pipe	Drill Collar
Size (in)	4"	4 7/8"
Weight (#/ft)	15.91	44
Grade	S-135	S-135
Thread	XT-39	XT-39
ID (in)	2.963	2.963
Burst (psi)	19490	
Collapse (psi)	20140	
Tension (klbs)	403500	663700
Min MU Torque (ft-lb)	22850	17000
Max MU Torque (ft-lb)	25150	20300

- Drilling:** Ensure 13 5/8" 10M rated triple ram BOP stack, 5M rated annular & MPD system are NU & tested. Ensure H₂S monitors and related safety equipment are operational before drilling out 7" casing shoe. **INSTALL WEAR BUSHING.** PU 5 7/8" bit, BHA #1, & 4" XT39 DP or equivalent back to surface. Drill out 7" casing shoe and 20' of formation. **Perform a FIT to 9.0 ppg mud equivalent. Deviation not to exceed 3°.** Utilize mud cleaning equipment to keep fluid as clean as possible. Drill to 19,130' MD, pump hi vis sweep and circulate hole clean. **DO NOT PUMP LCM IN THIS INTERVAL. DO NOT USE GEL FOR VISCOSITY, POLY ONLY.** Water flows can be controlled with MPD and losses are expected. **DO NOT DRILL INTO MONTOYA FORMATION (expect Fusselman to log dolomite and may see CHERT RETURNS prior to Montoya limestone).** TOOH. Spot 10# brine as necessary to kill well. Run OH logs (Triple combo plus dipole sonic, press, temp, FMI & sidewall cores). Run WL 5.95" gauge ring to ~17560' MD. NOTE: Modify next BHA w/ reamers if wireline gauge ring does not pass. RDMO wireline. TIH w/ 5 7/8" bit, BHA #2 and 4" XT-39 DP or equivalent to surface. Circulate hole clean and spot 3000 gal 15% HCl acid. TOOH. LD directional assemblies and make wiper trip.
- Wellhead:** No Change in wellhead required
- BOPE:** 13 5/8" 10M psi rated triple ram BOP stack, 5M rated 13 5/8" X 11" 5M DSA, annular & rotating head.
- BOPE Testing:** Test BOP Rams & choke manifold to 10000 psi & Annular to 5000 psi with third party. Test all lines to pump valves to 7500 psi, and lines to chokes to 10000 psi.

Completion

Stimulation: PU 7" test packer (K3 type) & 4" XT39 DP back to surface. Set test packer at ~17550' MD (depth may adjust depending on actual casing set depths). RU wireline & run 15 kpsi rated SRO pressure gauges to 10' below packer. RU pump crew w/ 3", 10K iron. Pump SRT as per design (TBD). **Monitor downhole pressures until stabilized (est. 7 days).** RDMO wireline unit and pump acid stimulation job as per design (TBD, 40K gal 15% HCL + salt block). Unseat test packer and TOOH. LD test packer & PU 5 7/8" bit, BHA & 4" XT39 DP back to surface. Pump FW and circulate hole clean. TOOH to shoe then LDDP.

Packer: 7" x 3 1/2" Inconel 925 permanent packer w/ R profile nipple

Packer Fluid: Diesel, with anti-corrosion additives

Packer Setting: MIRU wireline truck. PU Setting Tool, CCL & 3 1/2" x 7" Perma-Pak Packer with 1 jt 3 1/2" 9.2# G3 CRA tubing tail pipe & pump out plug. RIH on wireline to packer setting depth (~17550' MD, < 100' to 7" csg shoe req'd) & set packer. POOH w/ wireline. Shut blinds & pressure test casing/packer to 500 psi for 1 hour. If packer holds, RDMO wireline truck. Rig provided **13 5/8" 10M rated BOPE stack & 5M rated annular will be utilized for completion operations.** **REMOVE WEAR BUSHING**

Tubing:

Item type	Tubing	Tubing
Size (in)	3 1/2	3 1/2
Weight (#/ft)	10.2	9.2
Grade	VASS-95	G3 CRA/2550
Thread	VA Super	VAMTOP
ID (in)	2.922	2.992
Drift (in)	2.797	2.867
Burst (psi)	13720	13970
Collapse (psi)	14390	13530
Tension (klbs)	277	285
Min MU Torque (ft-lb)		2860
Rec. MU Torque (ft-lb)	3020	
Max MU Torque (ft-lb)		3480

From 0' to ~17200' TVD, 17100' MD (3 1/2" 10.2# SS-95 VA Superior)
 From 17200 to 17500', 17300'-17600' MD (3 1/2" 9.3# G3 CRA VAMTOP)
Note: Subsurface safety valve w/ X profile nipple (SSSV) set @ 150', and bottomhole pressure-temperature annular and tubing gauges will be run

concurrently with tubing. Each tubing connection to be pressure tested at time of assembly using 3rd party internal helium test equipment. Clean, drift & tally tubing. **Ensure 3.5" 12.7# P-110 EUE landing joint on location (B&L). DO NOT USE LOWER GRADE PIPE. CONFIRM CONNECTION AT TOP OF TUBING HANGER PRIOR TO SPUD.**

NOTE: Perform wellhead stackup test prior to well spud-DONE-2 wraps OK. 3 possible. Clean, drift & tally tubing. **REMOVE WEAR BUSHING.** RU casing crew w/ torque turn w/tubing tongs with **integral backups.** RU spoolers. Run **self ratcheting** packer seal assembly, P-T mandrel assembly and control line, 300' of 3 ½" 9.2# G3 CRA VAMTOP tubing, 3 ½" VAMTOP x VA Superior crossover, ~17200' of 3 ½" 10.2# SS-95 VA Superior tubing, SSSV & control line, 3 ½" 9.2# SS-95 VA Superior tubing to surface & tubing hanger as per design. PU landing joint and space out packer to correspond with proper landing depth. **Confirm drag on tubing prior to tagging packer.** Sting into packer w/Halliburton recommended set down weight to confirm space out. **Pressure up on inside of tubing string to 500 psi to confirm stung in.** Sting out of packer. LD upper tubing jt(s) & PU proper space out subs, tubing hanger w/landing jt. RU kill truck w/ containment and circulate diesel packer fluid throughout. Pump 25% excess & confirm clean fluid to surface. Sting into packer & set weight on packer as per Halliburton packer representative specifications. **Pressure up on SSSV control line to open SSSV. Pressure up on inside of tubing string to 500 psi to confirm stung in.** ND BOP & set tubing hanger with remaining string weight. **Test backside to 500 psi with tubing open to confirm tubing hanger seal (will need to open SSSV again).** ND BOPE & NU 11" x 3 ⅛" 10M injection head. Make pass through TEC & control line terminations & pressure test to wellhead rep specs. Pressure test annulus to 500 psi minimum for 30 minutes using 3rd party tester w/ 8", 1000 psi calibrated chart recorder. 10% deviation from initial pressure is maximum allowable in 1st 15 minutes, 0 psi thereafter. **Function test SSSV, & P-T gauges and all associated surface equipment prior to releasing vendor crews and RDMO.**

Note: Schedule MIT with Barbara Lydick, NMOCD Hobbs (575)-703-4641, as soon as possible.

Wellhead: 11" 10M x 3 ⅛" 10M injection tree

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

ACKNOWLEDGMENTS

Action 547845

ACKNOWLEDGMENTS

Operator: Northwind Midstream Partners LLC 811 Louisiana St Houston, TX 77002	OGRID: 331501
	Action Number: 547845
	Action Type: [C-101] Drilling Non-Federal/Indian (APD)

ACKNOWLEDGMENTS

<input checked="" type="checkbox"/>	I hereby certify that no additives containing PFAS chemicals will be added to the completion or recompletion of this well.
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Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 547845

CONDITIONS

Operator: Northwind Midstream Partners LLC 811 Louisiana St Houston, TX 77002	OGRID: 331501
	Action Number: 547845
	Action Type: [C-101] Drilling Non-Federal/Indian (APD)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	2/11/2026
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	2/11/2026
ward.rikala	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string.	2/11/2026
ward.rikala	Conduct a step-rate test and a fall-off test on the completed well before commencing injection. The maximum injection pressure for the proposed well may be appropriately adjusted after step-rate test with the approval of the Division Director.	2/11/2026
ward.rikala	Include a biocide and corrosion inhibited diesel in the annular fluid of this well.	2/11/2026
ward.rikala	Incorporate temperature-activated controls to govern the temperatures of the injected fluid within the parameters set by the operator and provide an alarm system for those controls should the parameters be exceeded.	2/11/2026
ward.rikala	All well drilling logs (including mudlogs, electric logs and daily logs) and the static bottom-hole pressure measured at the completion of drilling the well shall be submitted to the Division using the appropriate form in E-Permitting.	2/11/2026
ward.rikala	All casing shall have cement circulated to the surface.	2/11/2026
ward.rikala	Well construction shall be designed for exposure to corrosive environment including, but not limited to, casing, casing cement, and the packer in the proximity of the injection interval.	2/11/2026
ward.rikala	Operator shall complete a cement bond log (CBL) for each string of casing and submit the CBL's to OCD for review..	2/11/2026
ward.rikala	Successful MIT must be performed prior to injection commencement and only after UIC approval.	2/11/2026
ward.rikala	Subsurface Safety Valve (SSSV) must be suitably designed and/or sized to permit passage of a barrier isolation device to isolate the reservoir below the packer using a bridge plug or a locking mandrel set in a landing nipple.	2/24/2026
ward.rikala	If static bottomhole temperature of 230 deg F or above is encountered, the cement blend must contain additives such as silica sand or silica flour to mitigate the effects of Strength Retrogression in the set cement.	2/24/2026
ward.rikala	Adequate casing centralization must be achieved to ensure optimal casing stand-off to facilitate effective mud removal and optimal cement placement around the entire circumference of each casing string.	2/24/2026
ward.rikala	Equip the well with a pressure-limiting device and a one-way safety valve (with the proper interior drift diameter) on the tubing approximately 250' below the surface.	2/24/2026