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

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

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

Form C-101
Revised July 18, 2013

☐ AMENDED REPORT

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

1. Operator Name and Address	2. OGRID Number
Targa Midstream Services, LLC	24650
	3. API Number: 30-025-55805

4. Property Code	5. Property Name	6. Well No.
39078	Copperhead AGI	1

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
P	13	24S	32E		793	S	429	E	LEA

8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County

9. Pool Information

Pool Name	Pool Code
AGI - DEVONIAN	97834

Additional Well Information

11. Work Type	12. Well Type	13. Cable/Rotary	14. Lease Type	15. Ground Level Elevation
N	I	R	P	3579' GL
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
N	18,699	DEVONIAN - FUSSELMAN	NA	01/01/2026

Depth to Ground water	Distance from nearest fresh water well	Distance to nearest surface water
492'	1.70 miles completed at 492' (C-01932)	NA

☑ **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
Conductor	30"	24"	118.0 lbs. J-55	0-100'	82sx neat, 14.8 ppg	Surface
Surface	26'	20"	106.5 lbs. J-55	0-1,520'	1,680sx Class C/Lead 200sx Class C/Tail	Surface
Intermediate 1	17.5'	13.375"	68 lbs. J-55	0-5,034'	1,450sx Class C Lead 200sx CorrosaCem Tail	Surface
Intermediate 2	12.25"	9.625"	47 lbs. HCL-80	0-12,250'	**Class H** Stage1 892sx L 100sx T Stage2 362sx CorrosaCem Stage3 850sx L 200sx T	Surface
Production	8.5"	7"	32 lbs. P110 with G3 Nickel Alloy @ bottom 300'	0-17,299'	**Class H** Stage1 463sx CorrosaCem Stage2 1013sx L 200sx T	Surface

Casing/Cement Program: Additional Comments

- **Nickel Alloy Casing**: The bottom 300 ft of the 7" casing is made of Nickel Alloy for corrosion resistance and is cemented with corrosion-resistant cement.
- **Cement Curing**: Cement is allowed adequate curing time to achieve a minimum of 500 psi compressive strength at the casing shoe prior to drilling out.
- **Top Plugs**: Used to reduce contamination of cement by displacement fluid.
- **Bottom Plugs**: Utilized to isolate the cement from contamination by mud fluid.

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
ANNULAR	5000	5000	SHAFFER
DOUBLE RAM	10000	10000	SHAFFER

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: Kim Hamlet	OIL CONSERVATION DIVISION Approved By:
Printed name: Kim Hamlet	Title:
Title: ESH Coordinator	Approved Date: / Expiration Date:
E-mail Address: KHamlet@TargaResources.com	
Date: 8-12-25 / Phone: 575-810-6055	Conditions of Approval Attached

C-102 WELL LOCATION AND ACREAGE DEDICATION PLAT

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-025-55805	~~97885~~ 97834	AGI; DEVONIAN

[4] Property Code	[5] Property Name	[6] Well Number
338393	COPPERHEAD AGI	1

[7] OGRID No.	[8] Operator Name	[9] Elevation
24650	TARGA MIDSTREAM SERVICES LLC	3579'

[10] Surface Location

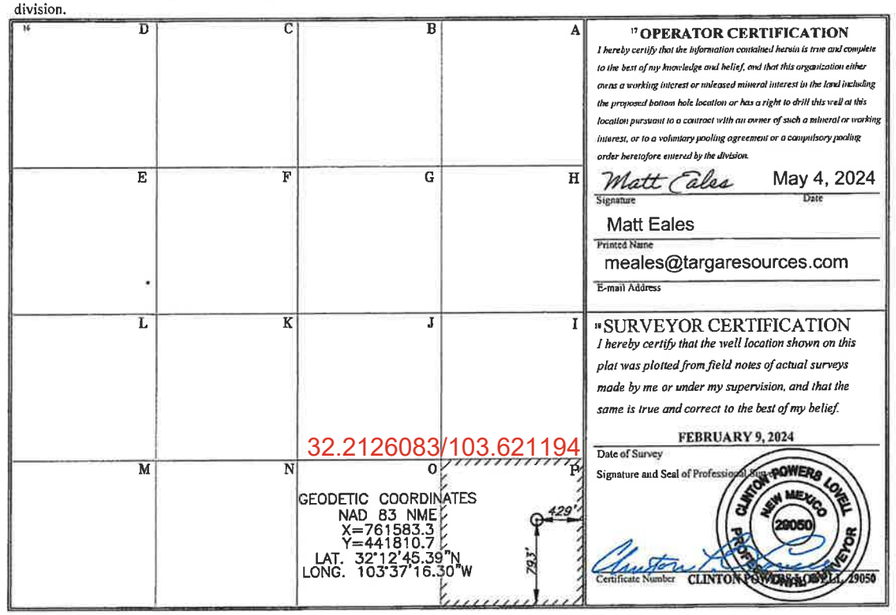
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	13	24-S	32-E		793	SOUTH	429'	EAST	LEA

[11] Bottom Hole Location If Different From Surface

UL or lot no.			Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
40.03			

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.



[17] OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and 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 such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Matt Eales — May 4, 2024
Signature — Date

Matt Eales
Printed Name

meales@targaresources.com
E-mail Address

[18] SURVEYOR CERTIFICATION

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.

FEBRUARY 9, 2024
Date of Survey

Signature and Seal of Professional Surveyor

CLINTON POWERS LOWELL
NEW MEXICO
29050
PROFESSIONAL SURVEYOR

Certificate Number CLINTON POWERS LOWELL, NM PLS 29050

The casing program for the Copperhead AGI #1 well includes the following specifications:

Casing Strings and Depths:

1. **Conductor Casing**:
    - Depth: 0–100 ft.
    - Borehole Diameter: 30 inches.
    - Casing Outside Diameter: 24 inches.
    - Material: 118 lb/ft, J-55.
    - Cement: Surface cement circulated.
2. **Surface Casing**:
    - Depth: 0–1,520 ft.
    - Borehole Diameter: 26 inches.
    - Casing Outside Diameter: 20 inches.
    - Material: 106.5 lb/ft, J-55.
    - Cement: Lead Class C (1,680 sacks) and Tail Class C (200 sacks). Surface cement circulated.
3. **Intermediate Casing #1**:
    - Depth: 0–5,034 ft.
    - Borehole Diameter: 17.5 inches.
    - Casing Outside Diameter: 13.375 inches.
    - Material: 68 lb/ft, J-55.
    - Cement: Lead Class C (1,450 sacks) and Tail CorrosaCem (200 sacks). Surface cement circulated.
4. **Intermediate Casing #2**:
    - Depth: 0–12,250 ft.
    - Borehole Diameter: 12.25 inches.
    - Casing Outside Diameter: 9.625 inches.

- Material: 47 lb/ft, L-80.
- Cement: Multi-stage cementing with Lead Class C and CorrosaCem. Surface cement circulated.

5. **Production Casing**:
   - Depth: 0–17,299 ft.
   - Borehole Diameter: 8.5 inches.
   - Casing Outside Diameter: 7 inches.
   - Material: 32 lb/ft, P-110 and G3 Nickel Alloy (bottom 300 ft for corrosion resistance).
   - Cement: Multi-stage cementing with Lead Class C and CorrosaCem. Surface cement circulated.
6. **Open Hole Completion**:
   - Depth: 17,299–18,699 ft.
   - Borehole Diameter: 5.875 inches.
   - Injection Interval: Open hole completion.

Tubing:

- Tubing Size: 3.5 inches.
- Material: L-80 (9.2 lb/ft) with 300 ft of G3 Nickel Alloy tubing at the bottom for corrosion resistance.
- Tubing Depth: 0–17,295 ft.

Packer:

- Type: Halliburton 7" Nickel Alloy Permanent Packer.
- Setting Depth: 17,250 ft.
- Casing Annulus: Filled with corrosion-resistant packer fluid (diesel and corrosion inhibitors).

Safety Measures:

- Subsurface safety valve installed in the tubing at 100–150 ft.

- Corrosion-resistant cement used for the bottom 300 ft of production casing.

The cement program for the Copperhead AGI #1 well is designed to ensure well integrity, isolate formations, and protect groundwater resources. Below are the details of the cement program for each casing string:

Cement Design Specifications:

1. **Conductor Casing**:
    - Depth: 100 ft.
    - Cement Volume: 82 sacks.
    - Cement Type & Yield: Type I Neat, 14.8 ppg.
    - Designed Top of Cement (TOC): Surface cement circulated.
    - Centralizers: None.
2. **Surface Casing**:
    - Depth: 1,520 ft.
    - Cement Volume: 1,680 sacks (Lead) + 200 sacks (Tail).
    - Cement Type & Yield:
        - Lead: Class C + 2% CaCl2 + 0.25 lb/sk Cello Flake + 0.2% FL, 12.9 ppg, 1.97 cuft/sk.
        - Tail: Class C, 14.8 ppg, 1.34 cuft/sk.
    - Designed TOC: Surface cement circulated.
    - Centralizers: 1 per joint on the bottom 3 joints.
3. **Intermediate Casing #1**:
    - Depth: 5,034 ft.
    - Cement Volume: 1,450 sacks (Lead) + 200 sacks (Tail).
    - Cement Type & Yield:
        - Lead: Class C + 3% CaCl2 + 0.25 lb/sk Cello Flake + 5 lb/sk LCM, 11.8 ppg, 2.453 cu ft/sk.
        - Tail: CorrosaCem, 14.5 ppg, 1.38 cu ft/sk.

- Designed TOC: Surface cement circulated.
- Centralizers: 1 per joint for the bottom 3 joints, 1 on every 3 joints for remaining joints.

4. **Intermediate Casing #2**:
   - Depth: 12,250 ft.
   - Cement Volume: Multi-stage cementing:
     - Stage 1: 892 sacks (Lead) + 100 sacks (Tail).
     - Stage 2: 362 sacks (CorrosaCem).
     - Stage 3: 850 sacks (Lead) + 200 sacks (Tail).
   - Cement Type & Yield:
     - Stage 1 Lead: Class H, 12.5 ppg, 1.63 cuft/sk.
     - Stage 1 Tail: Class H, 15.6 ppg, 1.18 cuft/sk.
     - Stage 2: CorrosaCem, 12.0 ppg, 1.75 cuft/sk.
     - Stage 3 Lead: Class C, 12.5 ppg, 1.63 cuft/sk.
     - Stage 3 Tail: Class C, 14.8 ppg, 1.32 cuft/sk.
   - Designed TOC: Surface cement circulated.
   - Centralizers: 1 per joint for the bottom 3 joints, 1 on every 3 joints for remaining joints.
5. **Production Casing**:
   - Depth: 17,299 ft.
   - Cement Volume: Multi-stage cementing:
     - Stage 1: 263 sacks (Lead) + 200 sacks (Tail).
     - Stage 2: 1,013 sacks (Lead) + 200 sacks (Tail).
   - Cement Type & Yield:
     - Stage 1Lead: 463 sx CorossaCem
     - Stage 1 Tail: Class H cement 12.0 ppg 1.75 cu ft/sk (Tail).
     - Stage 2 Lead: Class H cement, 12.5 ppg, 1.63 cuft/sk.

        - Stage 2 Tail: Class H cement, 15.6 ppg, 1.18 cuft/sk.
    - Designed TOC: Surface cement circulated.
    - Centralizers: 1 every 3 joints for remaining joints.

Additional Notes:

- **Nickel Alloy Casing**: The bottom 300 ft of the 7" casing is made of Nickel Alloy for corrosion resistance and is cemented with corrosion-resistant cement.
- **Cement Curing**: Cement is allowed adequate curing time to achieve a minimum of 500 psi compressive strength at the casing shoe prior to drilling out.
- **Top Plugs**: Used to reduce contamination of cement by displacement fluid.
- **Bottom Plugs**: Utilized to isolate the cement from contamination by mud fluid.

Purpose:

The cement program is designed to:

- Provide zonal isolation.
- Protect groundwater resources.
- Ensure well integrity during injection operations.
- Prevent fluid migration between formations.

The proposed blowout prevention program for the Copperhead AGI #1 well is designed to ensure safe drilling operations and control abnormal pressure events. Below are the key elements of the program:

1. Managed Pressure Drilling Systems:

- **Installation**: Managed Pressure Drilling (MPD) systems will be installed on the rig.
- **Operation**: These systems will be actively operated to control abnormal pressure events and prevent blowouts.

2. Sufficient Mud on Location:

- **Blowout Control**: There will be sufficient mud on location to control a blowout should one occur.

- **Monitoring:** Mud flow and volume will be monitored visually and electronically using pit volume totalizers.

3. Mud Testing:

- **Frequency:** Mud tests will be performed every 24 hours after mudding up.
- **Parameters Tested:**
  - Density
  - Viscosity
  - Gel strength
  - Filtration
  - pH
- **Adjustments:** The mud program may be revised based on recommendations from the field engineer.

4. Closed-Loop System:

- **Recovery:** A closed-loop system will be used to recover drilling fluid and dry cuttings during all phases of the well and hole intervals.
- **Storage:** Above-ground tanks will be utilized to hold cuttings and fluids for rig operations.
- **Fresh Water Storage:** A frac tank will be on location to store fresh water.

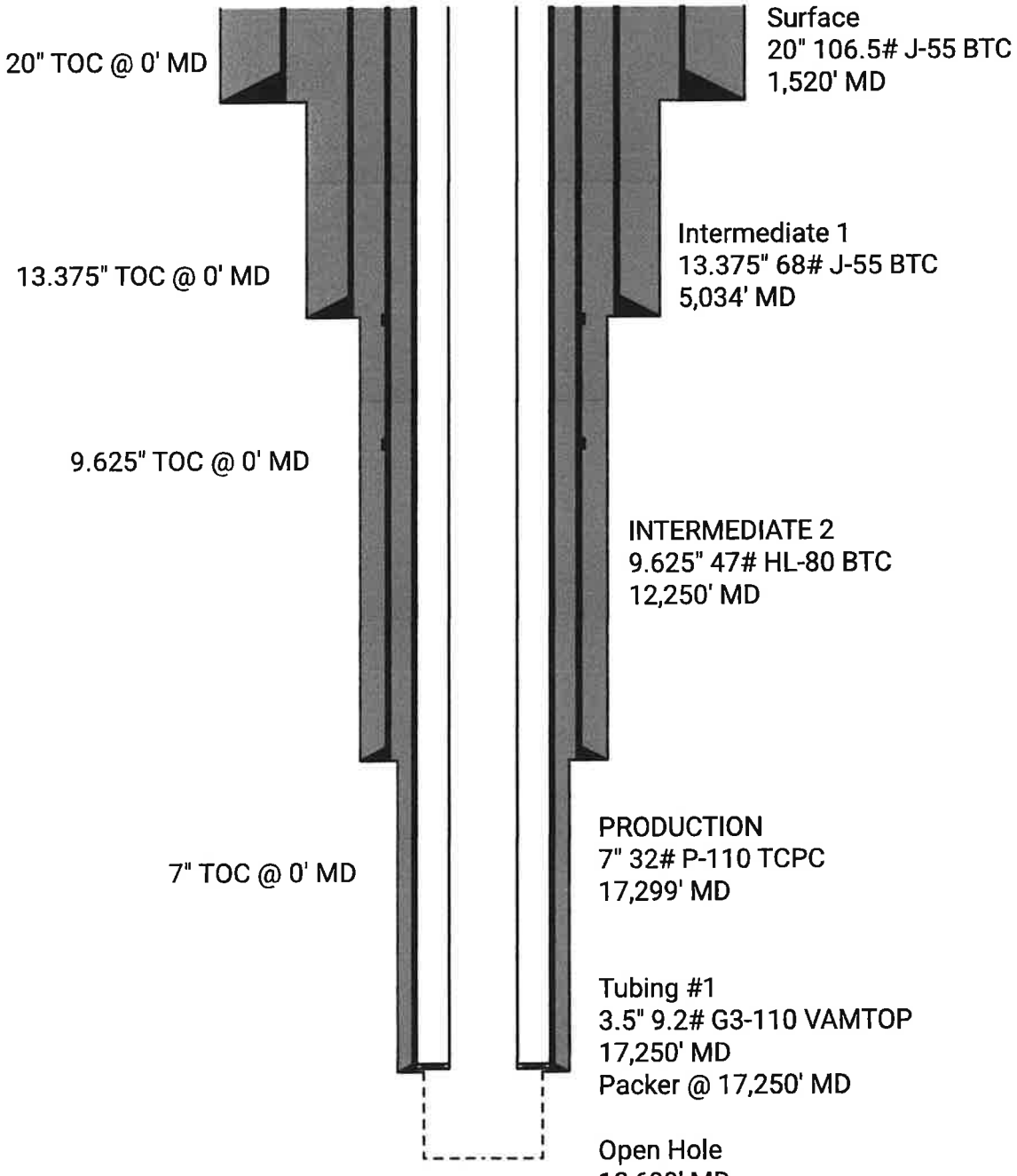
5. Waste Disposal:

- **EPA-Approved Facility:** Waste will be disposed of properly at an EPA-approved hazardous waste facility.
- **Fresh Water Cuttings:** Fresh water cuttings will be disposed of by the service company.

COOLSKY ENERGY SOLUTIONS

COPPERHEAD AGI #1 - W/TUBING

SPUD DATE TBD



7/17/2025

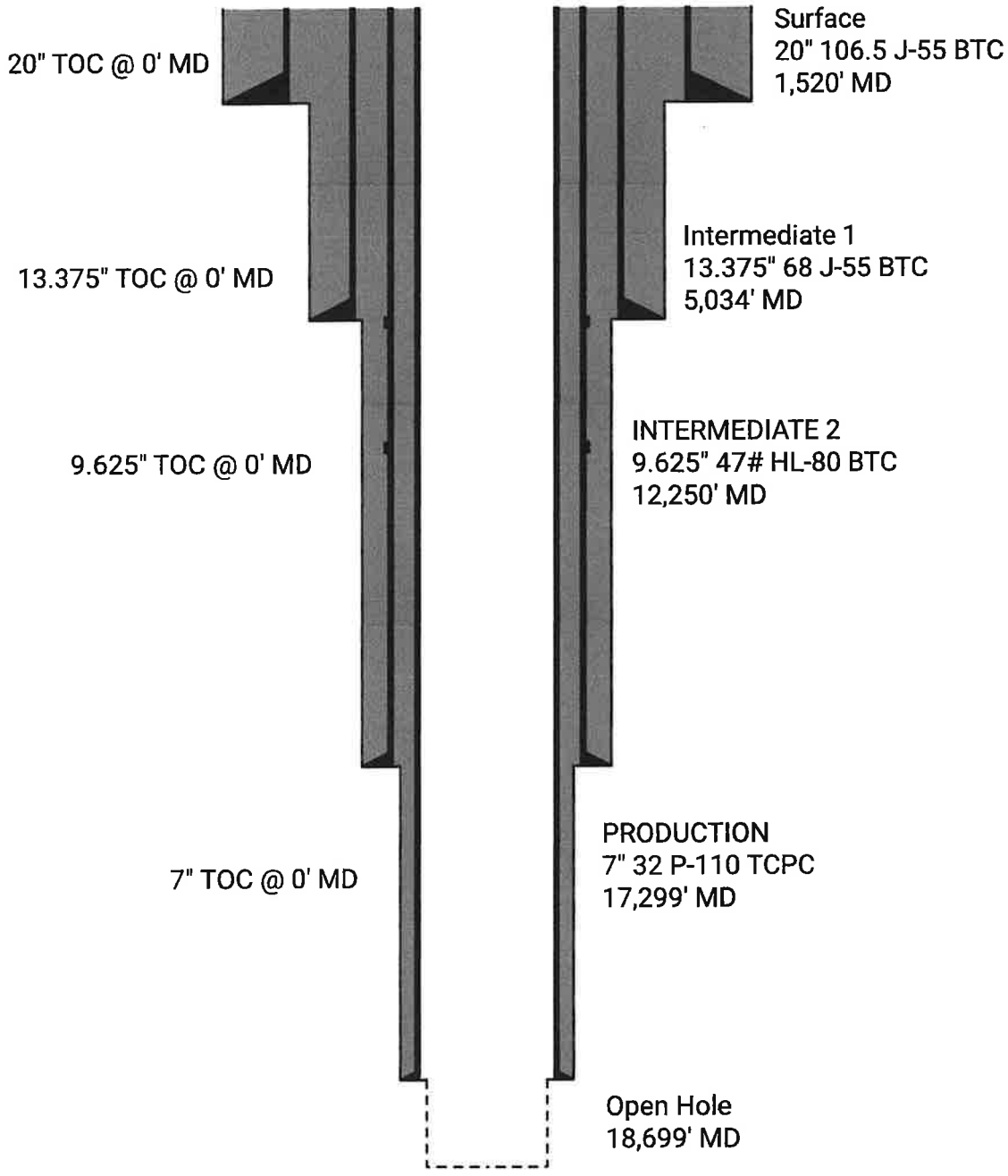
RC-2

Wellbore Diagram by WellboreBuilder.com

COOLSKY ENERGY SOLUTIONS

COPPERHEAD AGI #1

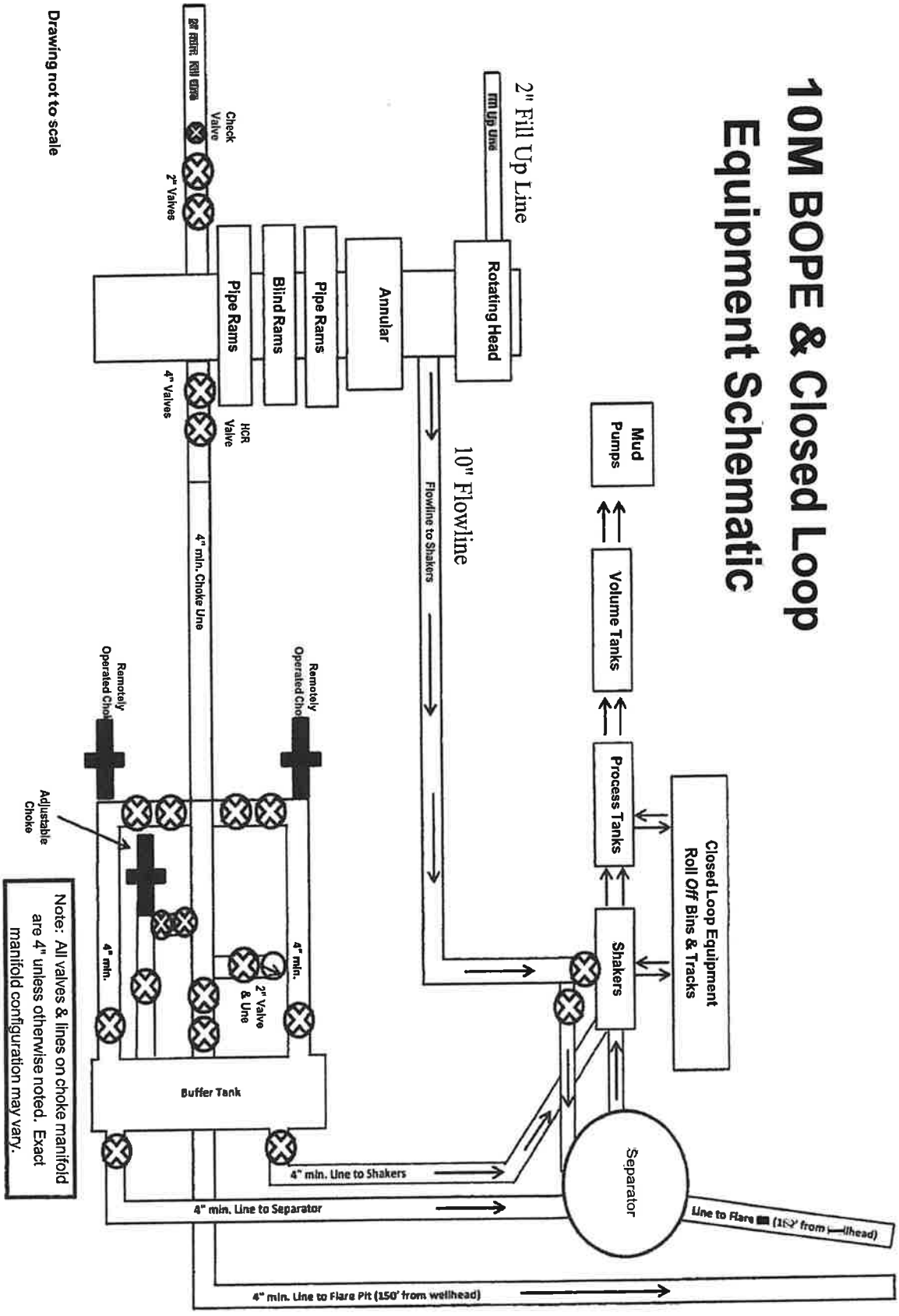
SPUD DATE TBD



7/17/2025

RC

Wellbore Diagram by WellboreBuilder.com


10M BOPE & Closed Loop
Equipment Schematic
Drawing not to scale
2" Fill Up Line
10" Flowline
Mud Pumps
Volume Tanks
Process Tanks
Shakers
Closed Loop Equipment
Roll Off Bins & Tracks
Separator
Rotating Head
Annular
Pipe Rams
Blind Rams
Pipe Rams
Check Valve
2" Valves
4" Valves
HCR Valve
4" min. Choke Line
Flowline to Shakers
Remotely Operated Choke
Adjustable Choke
4" min.
2" Valve & Line
Buffer Tank
4" min. Line to Shakers
4" min. Line to Separator
4" min. Line to Flare Pit (150' from wellhead)
Note: All valves & lines on choke manifold are 4" unless otherwise noted. Exact manifold configuration may vary.

VIII. Geologic Description and Data

Table 8 lists formations, depths and thicknesses. The subsurface geology is composed of a very thick sequence of sedimentary rocks including evaporites, carbonates, sandstones and shales representing a variety of depositional environments, underlain by Precambrian bedrock. Details of injection and confining zones are given below.

Table 8. Formation tops, depths, and thicknesses

	Measured Depth	Thickness	Porosity (%)	Permeability (md)	Behavior
Rustler	1155	*346*			Seal*
Salado	1501	*1288*			Seal*
Castile	2789	*2185*			Seal*
Lamar	4974	*50*			
Bell Canyon	5024	*1028*			Injection zone*
Cherry Canyon	6052	*1627*			Injection zone*
Brushy Canyon	7679	*1265*			
Bone Spring	8944	*3255*			
Wolfcamp	12199	*1880*			
Strawn	14079	*340*			
Atoka	14419	*1365*			
Morrow	15784	*745*			
Barnett Shale	16529	*253*	1.00%	0.1	Seal
Mississippian Ls	16782	*392*	1.50%	0.1	Seal
Woodford Sh	17174	*125*	1.00%	0.04	Seal
Thirtyone Fm	17299	*890*	2.20%	1.5	Injection zone
Wristen Gp			3.50%	6	Injection zone
Fusselman	18189	*500*	4.00%	2	Injection
Montoya	18689	*80*	2.00%	1	Seal
Simpson shales	18769	*1615*	1.00%	0.6	Seal
Ellenburger Dolomite	20384	*550*	1.50%	0.01	Seal
Ground elevation	3579				
*not proposed for injection at this location					

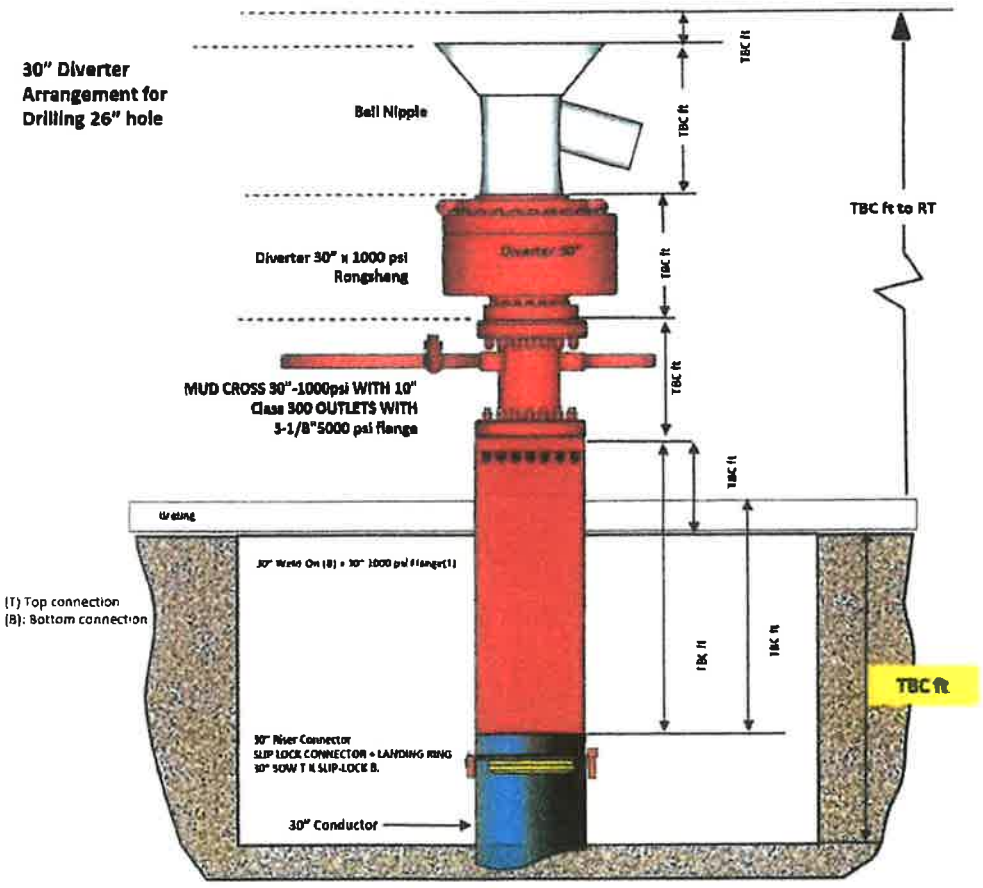
Injection Zone

The injection zone encompasses the rocks of the Ordovician, Silurian, and Devonian age including the Fusselman, Thirtyone and Wristen strata; at depths of ~17,299-18,689 feet. The total thickness of the injection interval is estimated to be ~ 1,390 feet (**Table 8**).

Diverter Preparation and N/U

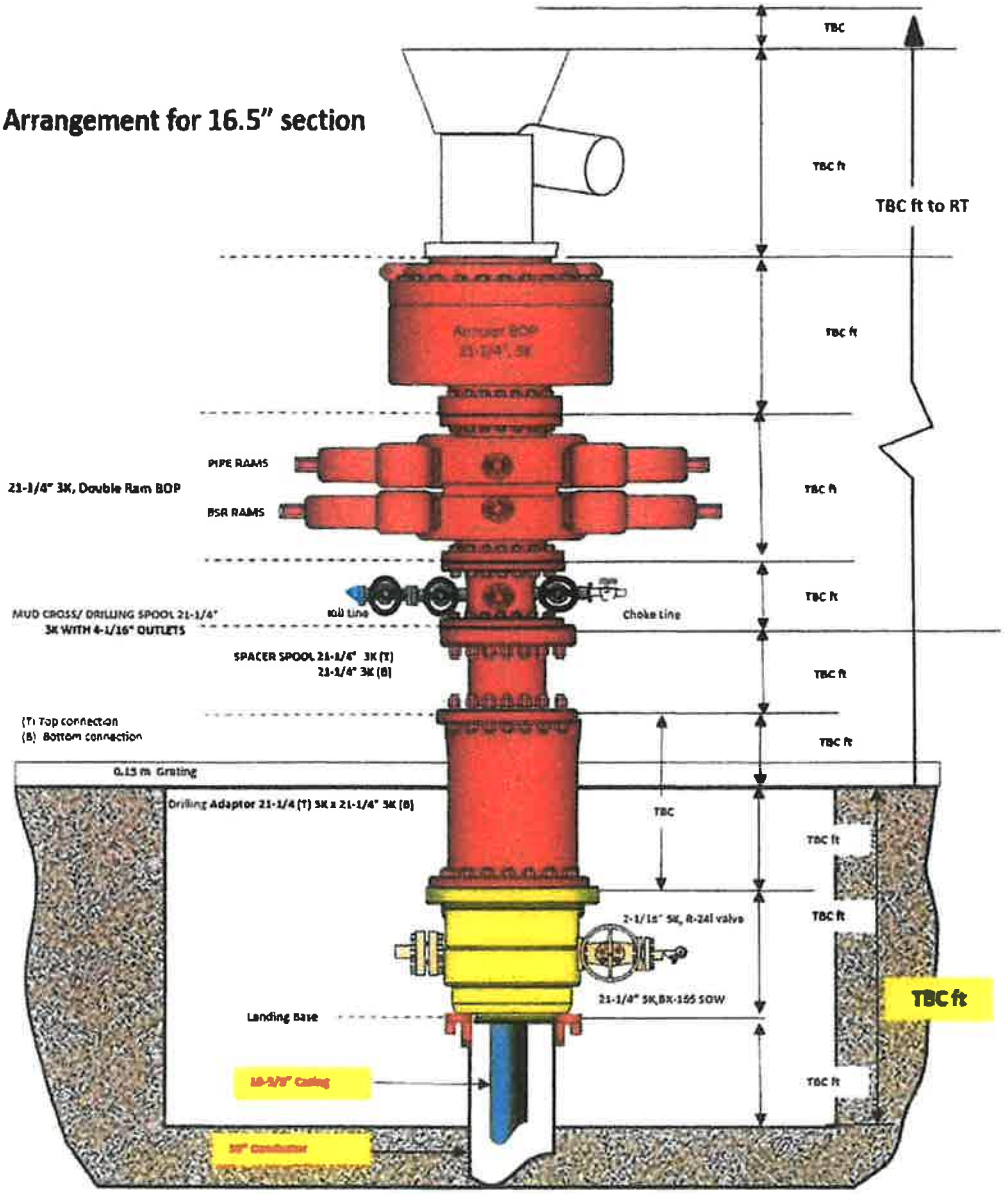
1. Connect Cameron Adapter that slips over and seals on the 30" Conductor and the top will be pre-welded to the riser before it gets to location.
2. N/U 30" 1M Diverter with mud cross.
3. Install flowline
4. Function test diverter. Run a joint of 5" drill pipe, close and open the diverter and ensure that the vent lines HCR operates accordingly.
   - Ensure flowlines don't have any obstructions prior to performing test.
5. **Diverter to be pressure tested to a minimum of 200 psi.**

'Confirm vent is routed so that it will most likely vent wellbore fluids downwind (or crosswind) from the rig
'Final cut depths will be confirmed once the Cellar constructed and conductor drilled and matched with Rig Dimension.



Wellhead & BOP

BOP Arrangement for 16.5" section



Sante Fe Main Office
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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

Operator: TARGA MIDSTREAM SERVICES LLC 811 Louisiana Street Houston, TX 77002	OGRID: 24650
	Action Number: 531462
	Action Type: [C-101] Drilling Non-Federal/Indian (APD)

ACKNOWLEDGMENTS

☑	I hereby certify that no additives containing PFAS chemicals will be added to the completion or recompletion of this well.

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

CONDITIONS

Action 531462

CONDITIONS

Operator: TARGA MIDSTREAM SERVICES LLC 811 Louisiana Street Houston, TX 77002	OGRID: 24650
	Action Number: 531462
	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.	1/14/2026
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	1/14/2026
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.	1/14/2026
ward.rikala	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.	1/14/2026
ward.rikala	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	1/14/2026
ward.rikala	Casing and cement program for the Intermediate Casing 2 (9 5/8-in 0 ft to 12,250 ft) shall be corrosion-resistant for that portion of the casing that is within the Delaware Mountain Group [Bell Canyon, Cherry Canyon, Brushy Canyon] from the base of the Lamar to the upper contact of the Bone Spring Fm.	1/14/2026
ward.rikala	Operator shall complete the proposed geophysical log suites listed on page 115 of 162 of Operator's Exhibit B in Case No. 24594.	1/14/2026
ward.rikala	An MIT must be performed and pass prior to injection commencing.	1/14/2026
ward.rikala	Must obtain approval from UIC prior to commencing injection into this well.	1/14/2026