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 |
|---|---|
| Hilcorp Energy Company<br>382 Road 3100<br>Aztec, NM 87410 | 372171 |
| | 3. API Number<br>30-045-38409 |

| 4. Property Code | 5. Property Name | 6. Well No. |
|---|---|---|
| 318864 | Allison Unit | 612H |

## 7. Surface Location

| UL - Lot | Section | Township | Range | Lot Idn | Feet from | N/S Line | Feet From | E/W Line | County |
|---|---|---|---|---|---|---|---|---|---|
| F | 12 | 32N | 07W | 3 | 604’ | N | 1635’ | W | Sam Juan |

## 8. Proposed Bottom Hole Location

| UL - Lot | Section | Township | Range | Lot Idn | Feet from | N/S Line | Feet From | E/W Line | County |
|---|---|---|---|---|---|---|---|---|---|
| H | 08 | 32N | 06W | | 1460’ | N | 256’ | E | San Juan |

## 9. Pool Information

| Pool Name | Pool Code |
|---|---|
| Basin Mancos | 97232 |

## Additional Well Information

| 11. Work Type | 12. Well Type | 13. Cable/Rotary | 14. Lease Type | 15. Ground Level Elevation |
|---|---|---|---|---|
| New Well | Gas | | Private | 6350’ |
| **16. Multiple** | **17. Proposed Depth** | **18. Formation** | **19. Contractor** | **20. Spud Date** |
| No | 19,926’ MD | Mancos | | 2025 |

| Depth to Ground water | Distance from nearest fresh water well | 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 |
|---|---|---|---|---|---|---|
| Suf | 17 1/2" | 13 3/8” | 54.5# | 350’ | 352 | 0 |
| Int | 12 1/4" | 9 5/8” | 43.5# | 6,267’ | 612 sx (381 sx lead/231 sx tail) | 0 |
| Prod | 8 1/2" | 5 1/2" | 20.0# | 19,926’ | 2,851 sx (283 sx lead/2,568 sx tail) | 5,000’ |

## Casing/Cement Program: Additional Comments

## 22. Proposed Blowout Prevention Program

| Type | Working Pressure | Test Pressure | Manufacturer |
|---|---|---|---|
| Double Ram | 4,200 | 5,000 | |

| 23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief.<br>**I further certify that I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒, if applicable.**<br>Signature: AWalker | OIL CONSERVATION DIVISION<br>Approved By: |
|---|---|
| Printed name: Amanda Walker | Title: |
| Title: Operations Regulatory Tech Sr. | Approved Date: / Expiration Date: |
| E-mail Address: mwalker@hilcorp.com | |
| Date:12/9/2024 / Phone: 346-237-2177 | 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: ☒ Initial Submittal ☐ Amended Report ☐ As Drilled

## WELL LOCATION INFORMATION

| API Number | Pool Code | Pool Name |
|---|---|---|
| 30-045-38409 | 97232 | BASIN MANCOS |

| Property Code | Property Name | Well Number |
|---|---|---|
| 318864 | ALLISON UNIT | 612H |

| OGRID No. | Operator Name | Ground Level Elevation |
|---|---|---|
| 372171 | HILCORP ENERGY COMPANY | 6350' |

Surface Owner: ☐ State ☒ Fee ☐ Tribal ☐ Federal

Mineral Owner: ☐ State ☒ Fee ☐ Tribal ☐ Federal

### Surface Location

| UL | Section | Township | Range | Lot | Feet from N/S Line | Feet from E/W Line | Latitude | Longitude | County |
|---|---|---|---|---|---|---|---|---|---|
| F | 12 | 32N | 7W | 3 | 604' NORTH | 1635' WEST | 36.998399 °N | -107.521036 °W | SAN JUAN |

### Bottom Hole Location

| UL | Section | Township | Range | Lot | Feet from N/S Line | Feet from E/W Line | Latitude | Longitude | County |
|---|---|---|---|---|---|---|---|---|---|
| H | 8 | 32N | 6W | | 1460' NORTH | 256' EAST | 36.996140 °N | -107.473502 °W | SAN JUAN |

Penetrated Spacing Unit:

| Dedicated Acres | | Infill or Defining Well | Defining Well API | Overlapping Spacing Unit | Consolidation Code |
|---|---|---|---|---|---|
| 505.84 | Lots 1-2 - Section 12, T32N R7W<br>Lots 1-5, SE/4 NW/4, S/2 NE/4<br>Section 7, T32N R6W<br>Lots 1-4, S/2 N/2 - Section 8, T32N R6W | Infill | 30-045-38326 | ☐ Yes ☒ No | Unitization |

Order Numbers

Well setbacks are under Common Ownership: ☐ Yes ☒ No

### Kick Off Point (KOP)

| UL | Section | Township | Range | Lot | Feet from N/S Line | Feet from E/W Line | Latitude | Longitude | County |
|---|---|---|---|---|---|---|---|---|---|
| F | 12 | 32N | 7W | 3 | 604' NORTH | 1635' WEST | 36.998399 °N | -107.521036 °W | SAN JUAN |

### First Take Point (FTP)

| UL | Section | Township | Range | Lot | Feet from N/S Line | Feet from E/W Line | Latitude | Longitude | County |
|---|---|---|---|---|---|---|---|---|---|
| G | 12 | 32N | 7W | | 1381' NORTH | 2221' EAST | 36.996273 °N | -107.516702 °W | SAN JUAN |

### Last Take Point (LTP)

| UL | Section | Township | Range | Lot | Feet from N/S Line | Feet from E/W Line | Latitude | Longitude | County |
|---|---|---|---|---|---|---|---|---|---|
| H | 8 | 32N | 6W | | 1459' NORTH | 382' EAST | 36.996141 °N | -107.473932 °W | SAN JUAN |

| Unitized Area or Area of Uniform Interest | Spacing Unit Type | Ground Floor Elevation |
|---|---|---|
| ALLISON UNIT | ☒ Horizontal ☐ Vertical ☐ Directional | |

### OPERATOR CERTIFICATION

*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.*

*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.*

Signature

12/9/2024
Date

Amanda Walker
Printed Name

mwalker@hilcorp.com
E-mail Address

### 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.*

JASON C. EDWARDS NEW MEXICO 15269 9/23/2024 REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS

Signature and Seal of Professional Surveyor

| Certificate Number | Date of Survey |
|---|---|
| 15269 | MAY 14, 2024 |

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.

SURFACE LOCATION (A)
604' FNL 1635' FWL
SEC 12, T32N, R7W
LAT 36.998394 °N
LONG -107.520429 °W
DATUM: NAD1927

LAT 36.998399 °N
LONG -107.521036 °W
DATUM: NAD1983

KICK OFF POINT (B)
604' FNL 1635' FWL
SEC 12, T32N, R7W
LAT 36.998394 °N
LONG -107.520429 °W
DATUM: NAD1927

LAT 36.998399 °N
LONG -107.521036 °W
DATUM: NAD1983

FIRST TAKE POINT (C)
1381' FNL 2221' FEL
SEC 12, T32N, R7W
LAT 36.996268 °N
LONG -107.516095 °W
DATUM: NAD1927

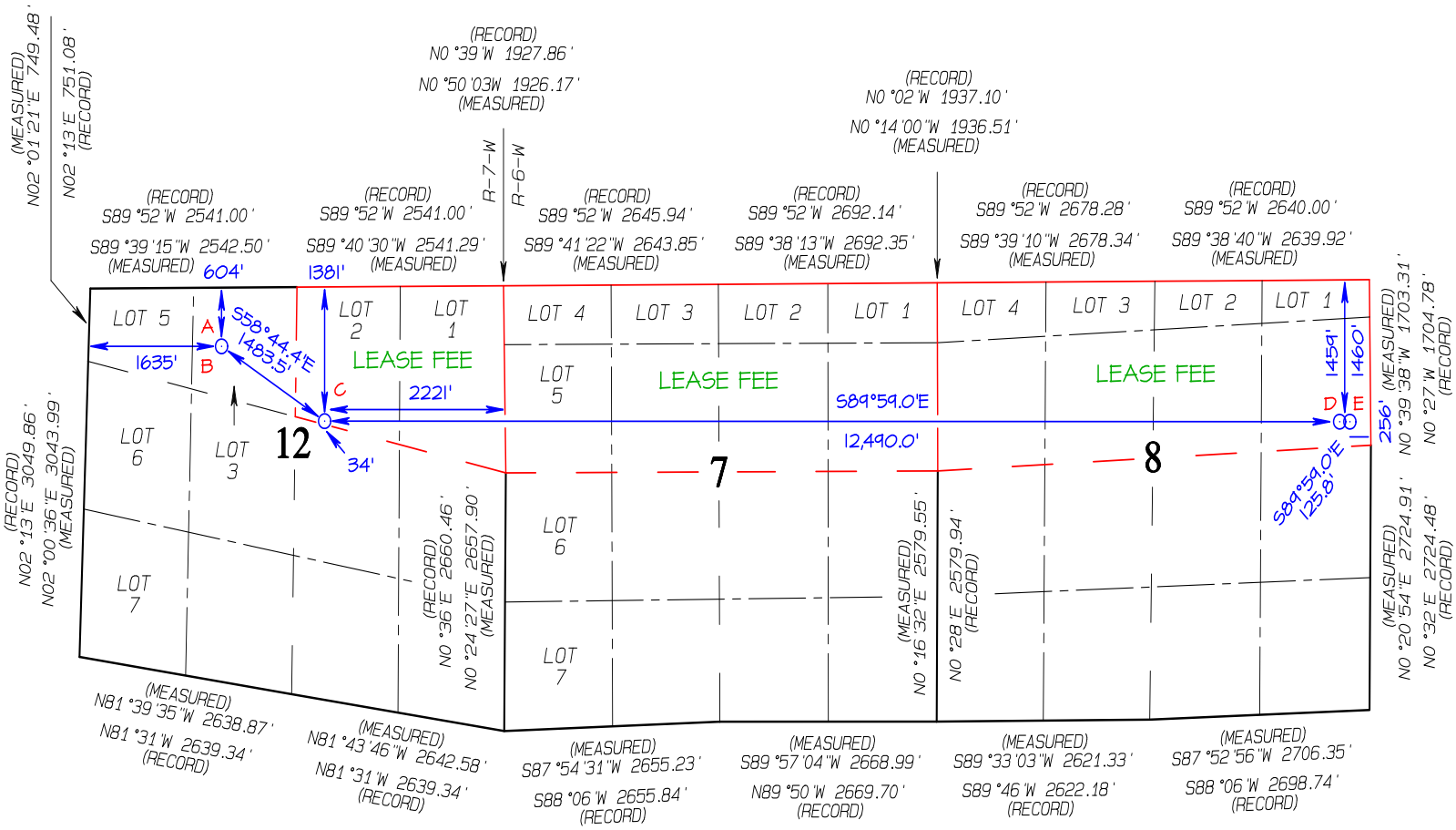
LAT 36.996273 °N
LONG -107.516702 °W
DATUM: NAD1983

LAST TAKE POINT (D)
1459' FNL 382' FEL
SEC 8, T32N, R6W
LAT 36.996136 °N
LONG -107.473327 °W
DATUM: NAD1927

LAT 36.996141 °N
LONG -107.473932 °W
DATUM: NAD1983

BOTTOM HOLE LOCATION (E)
1460' FNL 256' FEL
SEC 8, T32N, R6W
LAT 36.996135 °N
LONG -107.472896 °W
DATUM: NAD1927

LAT 36.996140 °N
LONG -107.473502 °W
DATUM: NAD1983



# HILCORP ENERGY COMPANY ALLISON UNIT #612H
## 604' FNL & 1635' FWL, SECTION 12, T32N, R7W, NMPM
## SAN JUAN COUNTY, NEW MEXICO ELEVATION: 6350'
## LAT 36.998399°N LONG –107.521036°W DATUM: NAD1983

3647.5' TOTAL LENGTH OF ACCESS
31.6' SAN JUAN COUNTY ( CR #4020 )
3570.6' SEAN & DAWNETTE WASHBURN
45.3' BRYCE SEAN WASHBURN

GRAPHIC SCALE 1"=100'
0 100 200

~ FEE SURFACE OWNERS ~
Bryce Sean Washburn & Sean and Dawnette Washburn

Sean & Dawnette Washburn 0.41 Acres

Bryce Sean Washburn 9.89 Acres

Area of Total Disturbance 10.30 Acres

POND
IRRIGATION DITCH
IRRIGATION DITCH
FENCE-LINE
EXISTING ROADWAY
HILCORP WATERLINE
~ FENCE-LINE ~ OWNERSHIP CHANGE ~
700'
TOTAL ACCESS 3647.5' ( 0-6% )
HARVEST PIPELINE
EXISTING ROADWAY
EXISTING 24" CULVERT
HILCORP WATERLINE
WASH ( 2'DX6'W )
EXISTING 24" CULVERT
WASH ( 1'DX4'W )
WASH ( 1'DX4'W )
WASH ( 2'DX6'W )
120'
160'
160'
160'
128'
50'
FRUITLAND COAL WELLBORE
METER RUNS
SOLAR PANEL
SEPARATORS
HILCORP ALLISON #13N WELLHEAD
50'
HILCORP ALLISON #13P WELLHEAD
190'
FENCE AROUND EXISTING WELLPAD
PIT
TANK
TANK
400'
Wellhead to back
310'
SOLAR PANEL
CATHODIC GROUNDBED
FENCE AROUND EXISTING WELLPAD
B01
B02
B03
B04
25'
25'
25'
F2
150'
150'
A01
A02
A03
A04
25'
25'
25'
160'
S02°W 225' LAYDOWN
Wellhead to front
260'
489'
C1
C2
C14
C15
C16
A
A'
B
B'
C
C'
F5
F7
F9
350'
300'
40'
64'
97'
~ SECTION LINE ~ COLORADO / NEW MEXICO STATE-LINE ~ SECTION LINE ~
~ 1/16th SECTION LINE ~ OWNERSHIP CHANGE ~ FENCE-LINE ~ 1/16th SECTION LINE ~

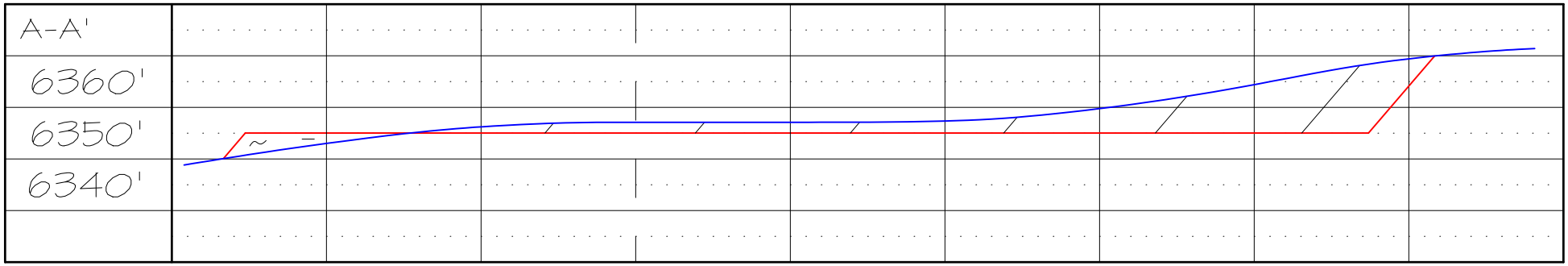
B01 - ALLISON UNIT #631H
B02 - ALLISON UNIT #630H
B03 - ALLISON UNIT #611H
B04 - ALLISON UNIT #612H

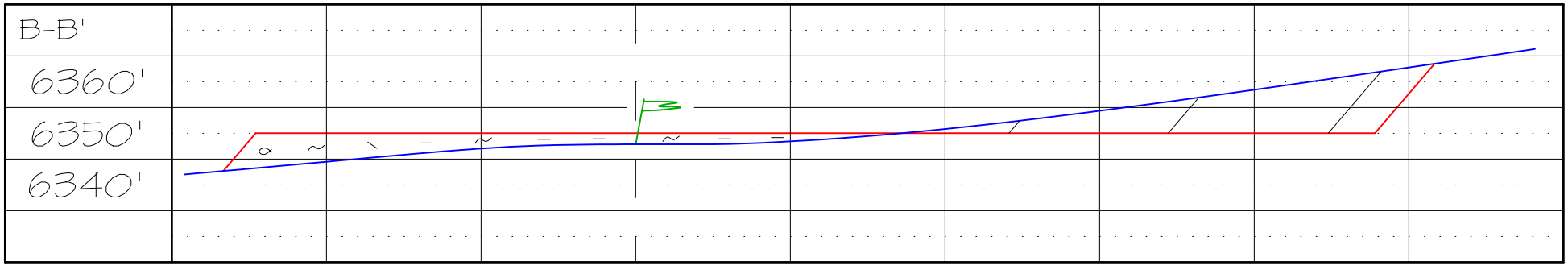
A01 - ALLISON UNIT #633H
A02 - ALLISON UNIT #632H
A03 - ALLISON UNIT #614H
A04 - ALLISON 605 FEDERAL COM #613H

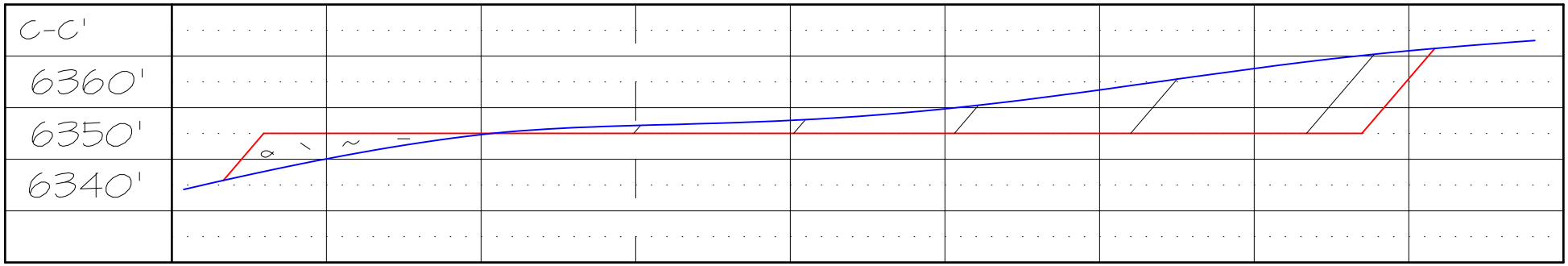
Steel T-Posts have been set to define Edge of Disturbance which is 50' wide, unless otherwise noted.

# HILCORP ENERGY COMPANY ALLISON UNIT #612H
# 604' FNL & 1635' FWL, SECTION 12, T32N, R7W, NMPM
# SAN JUAN COUNTY, NEW MEXICO ELEVATION: 6350'

HORIZONTAL SCALE 1"=60' VERTICAL SCALE 1"=30'



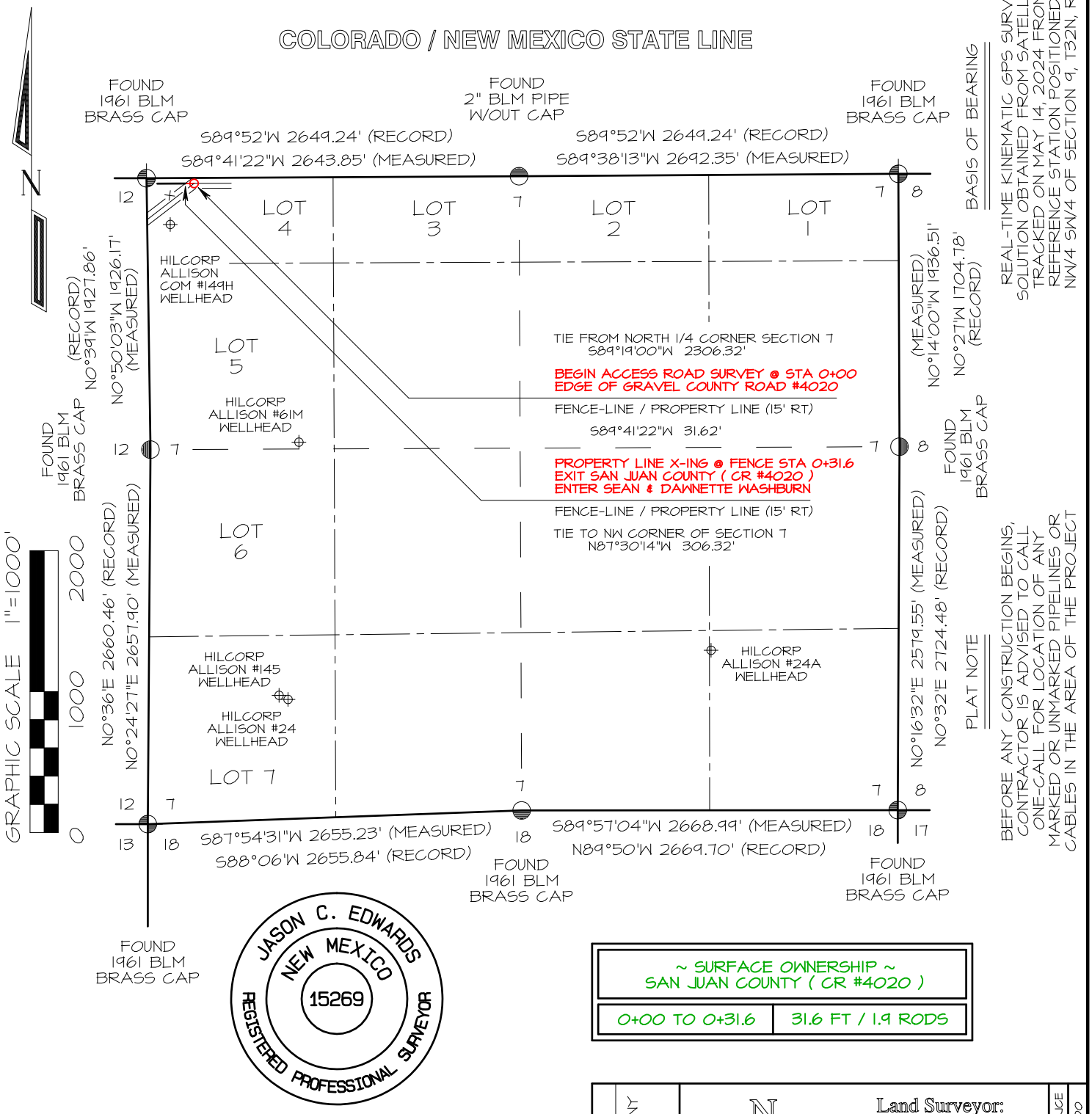




EDWARDS SURVEYING, INC. IS NOT LIABLE FOR LOCATION OF UNDERGROUND UTILITIES OR PIPELINES.

CONTRACTOR SHOULD CONTACT ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED UNDERGROUND UTILITIES OR PIPELINES ON WELLPAD AND/OR ACCESS ROAD AT LEAST TWO WORKING DAYS PRIOR TO CONSTRUCTION.

# HILCORP ENERGY ALLISON UNIT #612H ACCESS ROAD SURVEY
# LOCATED IN NW/4 NW/4 (aka LOT 4) OF SECTION 7, T32N, R6W NMPM, SAN JUAN COUNTY, NEW MEXICO




| ~ SURFACE OWNERSHIP ~ SAN JUAN COUNTY ( CR #4020 ) | |
|---|---|
| 0+00 TO 0+31.6 | 31.6 FT / 1.9 RODS |

JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

I, Jason C. Edwards, a registered Professional Surveyor under the laws of the State of New Mexico, hereby certify that this plat was prepared from field notes of an actual survey meeting the minimum requirements of the standards for easement surveys and is true and correct to the best of my knowledge and belief.

JASON C. EDWARDS Date: July 18, 2024

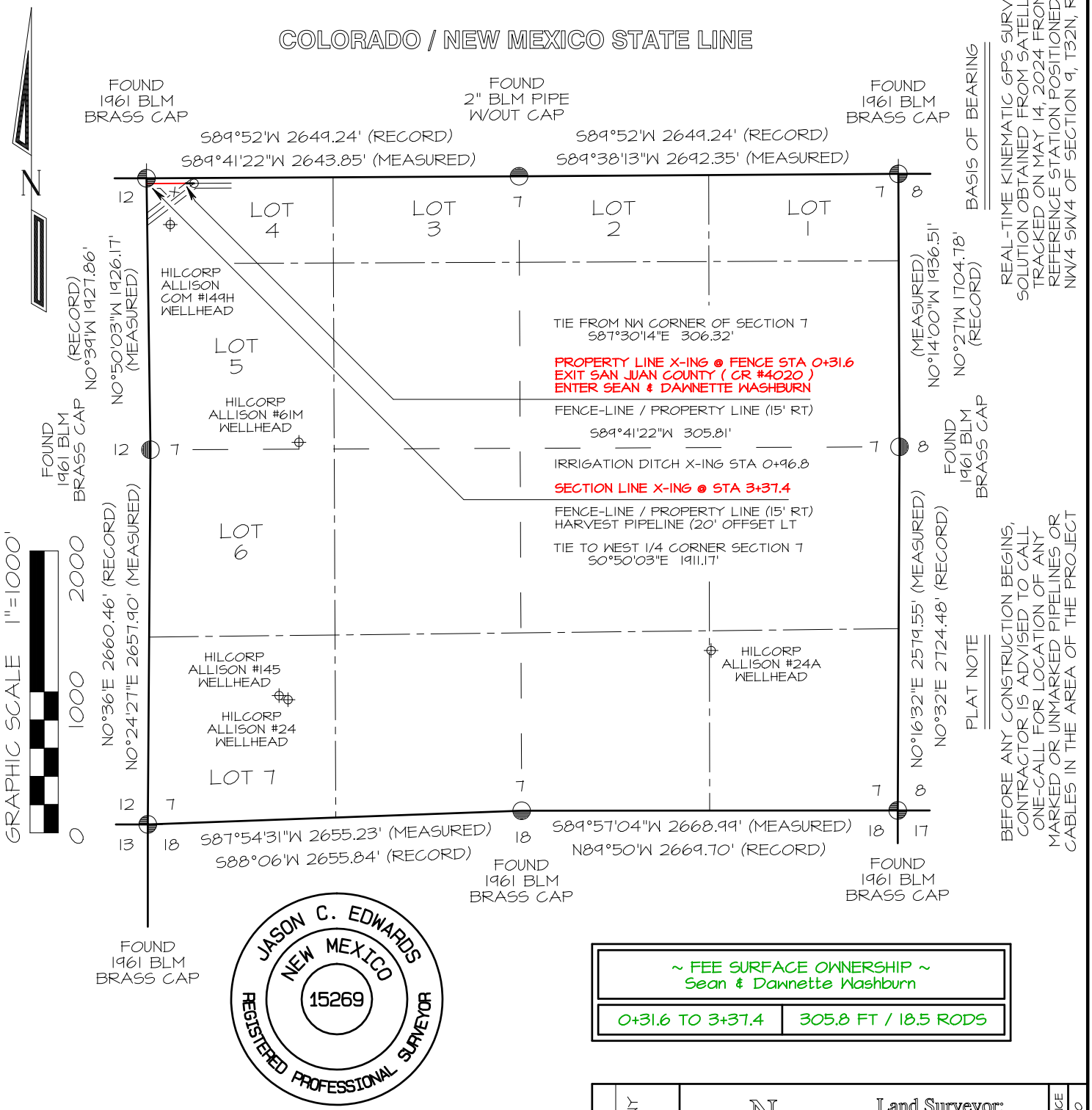
Jason C. Edwards, P.L.S.
New Mexico L.S. #15269

Prepared for:
HILCORP ENERGY COMPANY
P.O. BOX #61529
HOUSTON, TX 77208-1529

Land Surveyor:
Jason C. Edwards
Mailing Address:
Post Office Box 6612
Farmington, NM 87499
Business Address:
111 East Pinon Street
Farmington, NM 87402
(505) 486-1695 (Office)
ncesurveys@comcast.net
NCE SURVEYS, INC.

CHECKED BY: JCE
DRAWN BY: EDO
SHEET 4 OF 11
FILENAME: 3267API

# HILCORP ENERGY ALLISON UNIT #612H ACCESS ROAD SURVEY
# LOCATED IN NW/4 NW/4 (aka LOT 4) OF SECTION 7, T32N, R6W NMPM, SAN JUAN COUNTY, NEW MEXICO




JASON C. EDWARDS
NEW MEXICO
15269
REGISTERED PROFESSIONAL SURVEYOR

| ~ FEE SURFACE OWNERSHIP ~ Sean & Dawnette Washburn | |
|---|---|
| 0+31.6 TO 3+37.4 | 305.8 FT / 18.5 RODS |

I, Jason C. Edwards, a registered Professional Surveyor under the laws of the State of New Mexico, hereby certify that this plat was prepared from field notes of an actual survey meeting the minimum requirements of the standards for easement surveys and is true and correct to the best of my knowledge and belief.

JASON C. EDWARDS Date: July 18, 2024

Jason C. Edwards, P.L.S.
New Mexico L.S. #15269

Prepared for:
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P.O. BOX #61529
HOUSTON, TX 77208-1529

Land Surveyor:
Jason C. Edwards
Mailing Address:
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Farmington, NM 87499
Business Address:
111 East Pinon Street
Farmington, NM 87402
(505) 486-1695 (Office)
ncesurveys@comcast.net
NCE SURVEYS, INC.

CHECKED BY: JCE
DRAWN BY: EDO
SHEET 5 OF 11
FILENAME: 326TAP2

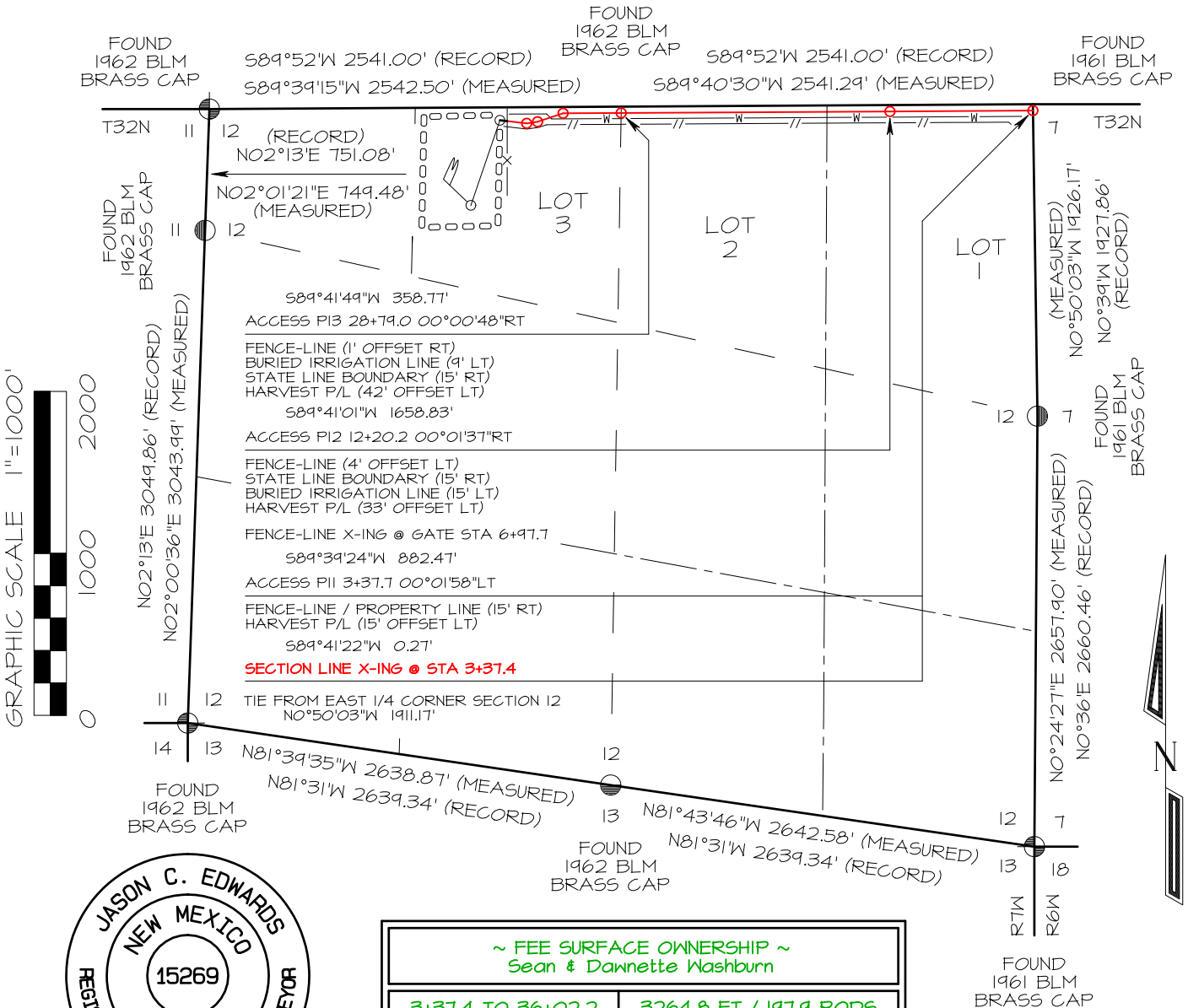
# HILCORP ENERGY ALLISON UNIT #612H ACCESS ROAD SURVEY
# LOCATED IN N/2 NE/4 & NE/4 NW/4 (aka LOTS 1 – 3) OF SECTION 12
# T32N, R7W, NMPM, SAN JUAN COUNTY, NEW MEXICO

**PLAT NOTE**

BEFORE ANY CONSTRUCTION BEGINS, CONTRACTOR IS ADVISED TO CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED PIPELINES OR CABLES IN THE AREA OF THE PROJECT

**BASIS OF BEARING**

REAL-TIME KINEMATIC GPS SURVEY SOLUTION OBTAINED FROM SATELLITES TRACKED ON MAY 14, 2024 FROM A REFERENCE STATION POSITIONED IN NW/4 SW/4 OF SECTION 9, T32N, R6W




| ~ FEE SURFACE OWNERSHIP ~ Sean & Dawnette Washburn | |
|---|---|
| 3+37.4 TO 36+02.2 | 3264.8 FT / 197.9 RODS |

JASON C. EDWARDS NEW MEXICO 15269 REGISTERED PROFESSIONAL SURVEYOR

*I, Jason C. Edwards, a registered Professional Surveyor under the laws of the State of New Mexico, hereby certify that this plat was prepared from field notes of an actual survey meeting the minimum requirements of the standards for easement surveys and is true and correct to the best of my knowledge and belief.*

JASON C. EDWARDS Date: July 18, 2024

*Jason C. Edwards, P.L.S.*
*New Mexico L.S. #15269*

Prepared for:
HILCORP ENERGY COMPANY
P.O. BOX #61529
HOUSTON, TX 77208-1529

NCE SURVEYS, INC.

Land Surveyor:
Jason C. Edwards
Mailing Address:
Post Office Box 6612
Farmington, NM 87499
Business Address:
111 East Pinon Street
Farmington, NM 87402
(505) 486-1695 (Office)
ncesurveys@comcast.net

CHECKED BY: JCE
DRAWN BY: EDO
SHEET 6 OF 11
FILENAME: 32712AP3

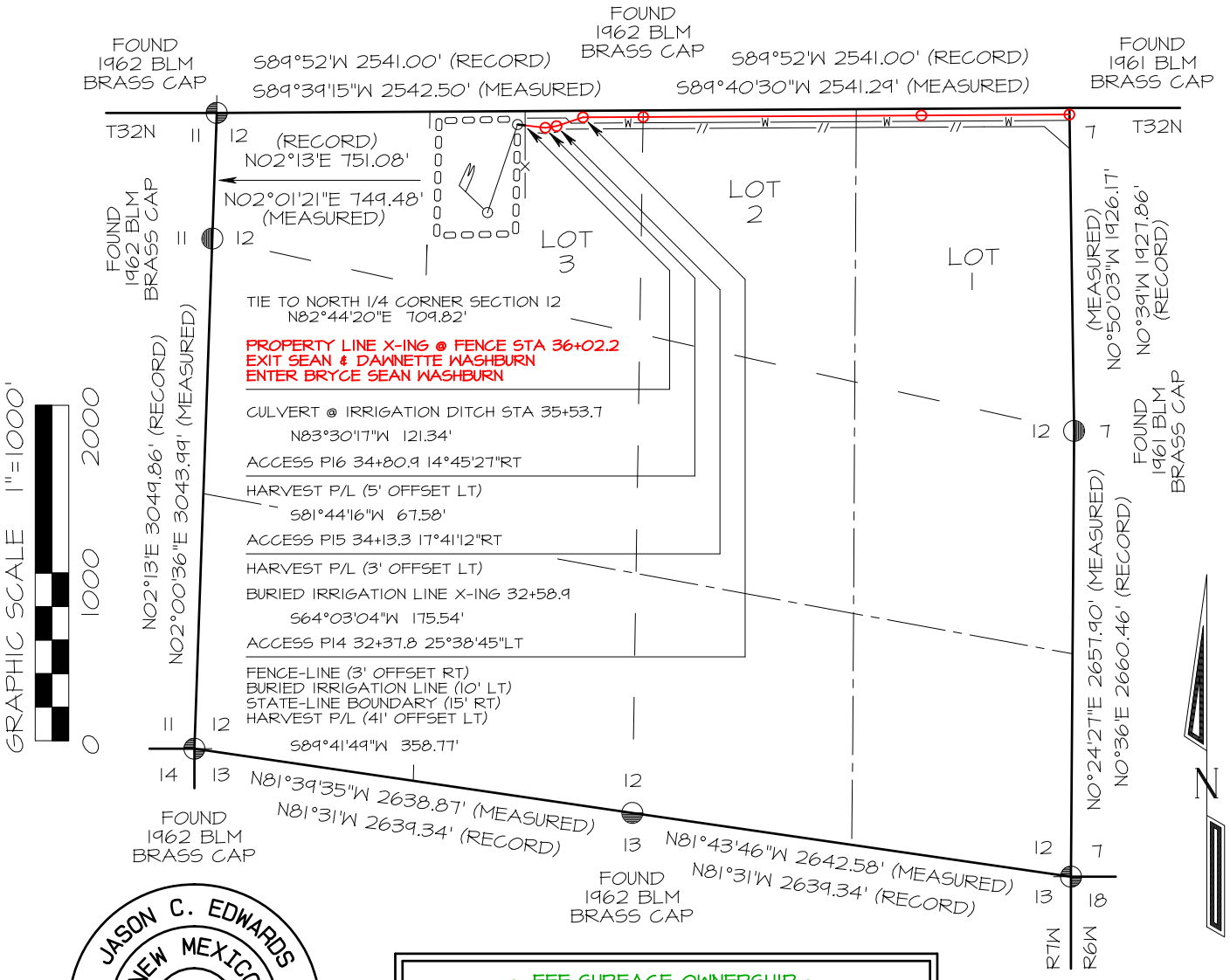
# HILCORP ENERGY ALLISON UNIT #612H ACCESS ROAD SURVEY
# LOCATED IN N/2 NE/4 & NE/4 NW/4 (aka LOTS 1 – 3) OF SECTION 12
# T32N, R7W, NMPM, SAN JUAN COUNTY, NEW MEXICO

PLAT NOTE

BEFORE ANY CONSTRUCTION BEGINS, CONTRACTOR IS ADVISED TO CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED PIPELINES OR CABLES IN THE AREA OF THE PROJECT

BASIS OF BEARING

REAL-TIME KINEMATIC GPS SURVEY SOLUTION OBTAINED FROM SATELLITES TRACKED ON MAY 14, 2024 FROM A REFERENCE STATION POSITIONED IN NW/4 SW/4 OF SECTION 9, T32N, R6W




| ~ FEE SURFACE OWNERSHIP ~ Sean & Dawnette Washburn | |
|---|---|
| 3+37.4 TO 36+02.2 | 3264.8 FT / 197.9 RODS |

JASON C. EDWARDS NEW MEXICO 15269 REGISTERED PROFESSIONAL SURVEYOR

I, Jason C. Edwards, a registered Professional Surveyor under the laws of the State of New Mexico, hereby certify that this plat was prepared from field notes of an actual survey meeting the minimum requirements of the standards for easement surveys and is true and correct to the best of my knowledge and belief.

JASON C. EDWARDS Date: July 18, 2024

Jason C. Edwards, P.L.S.
New Mexico L.S. #15269

Prepared for:
HILCORP ENERGY COMPANY
P.O. BOX #61529
HOUSTON, TX 77208-1529

Land Surveyor:
Jason C. Edwards
Mailing Address:
Post Office Box 6612
Farmington, NM 87499
Business Address:
111 East Pinon Street
Farmington, NM 87402
(505) 486-1695 (Office)
ncesurveys@comcast.net
NCE SURVEYS, INC.

CHECKED BY: JCE
DRAWN BY: EDO
SHEET 7 OF 11
FILENAME: 32712AP4

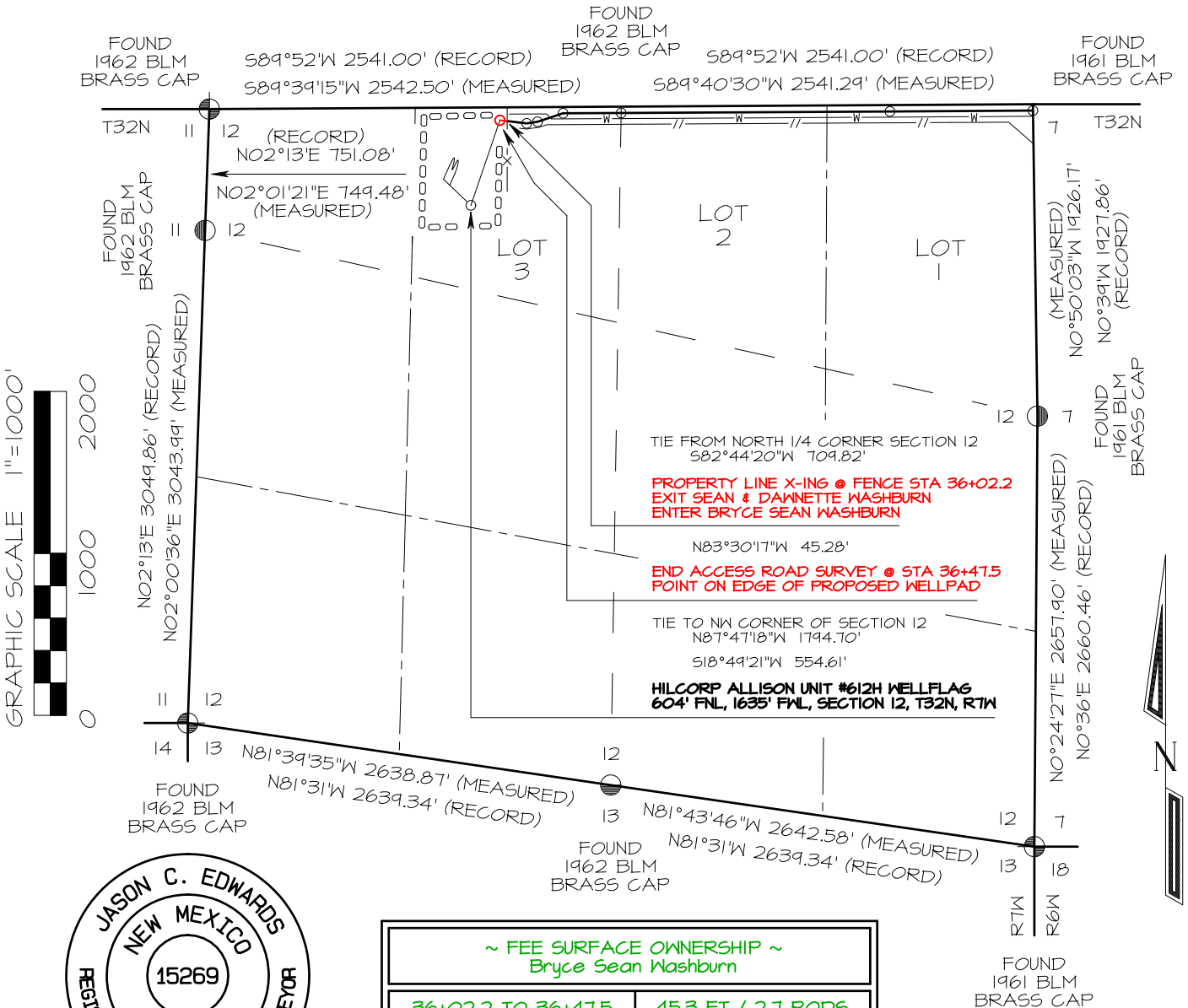
# HILCORP ENERGY ALLISON UNIT #612H ACCESS ROAD SURVEY LOCATED IN NE/4 NW/4 (aka LOT 3) OF SECTION 12, T32N, R7W NMPM, SAN JUAN COUNTY, NEW MEXICO

PLAT NOTE

BEFORE ANY CONSTRUCTION BEGINS, CONTRACTOR IS ADVISED TO CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED PIPELINES OR CABLES IN THE AREA OF THE PROJECT

BASIS OF BEARING

REAL-TIME KINEMATIC GPS SURVEY SOLUTION OBTAINED FROM SATELLITES TRACKED ON MAY 14, 2024 FROM A REFERENCE STATION POSITIONED IN NW/4 SW/4 OF SECTION 9, T32N, R6W




| ~ FEE SURFACE OWNERSHIP ~ Bryce Sean Washburn | |
|---|---|
| 36+02.2 TO 36+47.5 | 45.3 FT / 2.7 RODS |

JASON C. EDWARDS NEW MEXICO 15269 REGISTERED PROFESSIONAL SURVEYOR

I, Jason C. Edwards, a registered Professional Surveyor under the laws of the State of New Mexico, hereby certify that this plat was prepared from field notes of an actual survey meeting the minimum requirements of the standards for easement surveys and is true and correct to the best of my knowledge and belief.

JASON C. EDWARDS Date: July 18, 2024

Jason C. Edwards, P.L.S.
New Mexico L.S. #15269

Prepared for:
HILCORP ENERGY COMPANY
P.O. BOX #61529
HOUSTON, TX 77208-1529

Land Surveyor:
Jason C. Edwards
Mailing Address:
Post Office Box 6612
Farmington, NM 87499
Business Address:
111 East Pinon Street
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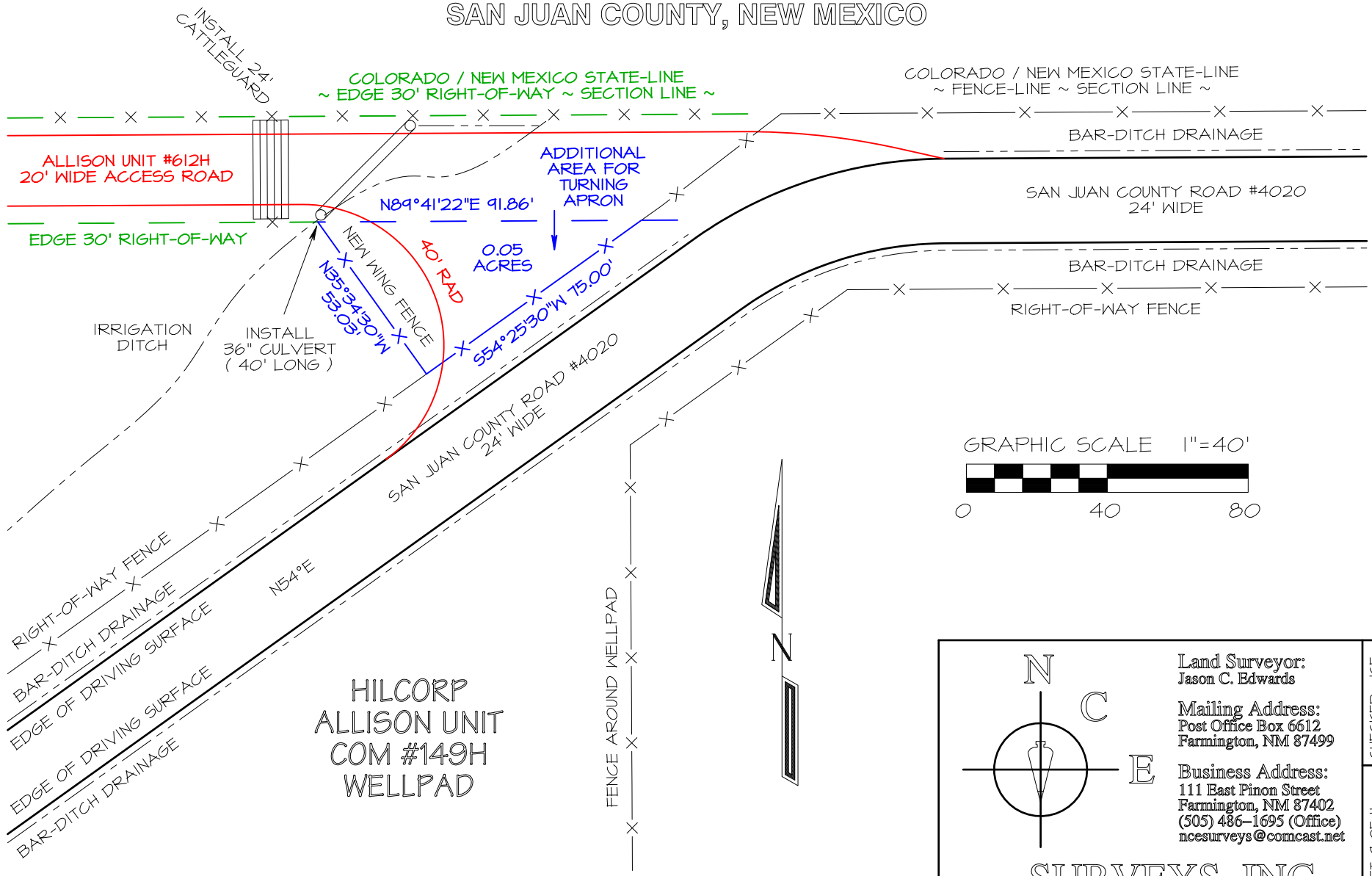
(505) 486-1695 (Office)
ncesurveys@comcast.net
NCE SURVEYS, INC.

CHECKED BY: JCE
DRAWN BY: EDO
SHEET 8 OF 11
FILENAME: 32712AP5

# HILCORP ENERGY COMPANY

## COUNTY ROAD #4020 DRIVE-WAY PERMIT SKETCH
## FOR HILCORP ALLISON UNIT #612H WELL LOCATION
## LOCATED IN NW/4 NW/4 ( aka LOT 4)
## SECTION 7, T32N, R6W, NMPM
## SAN JUAN COUNTY, NEW MEXICO




Land Surveyor:
Jason C. Edwards

Mailing Address:
Post Office Box 6612
Farmington, NM 87499

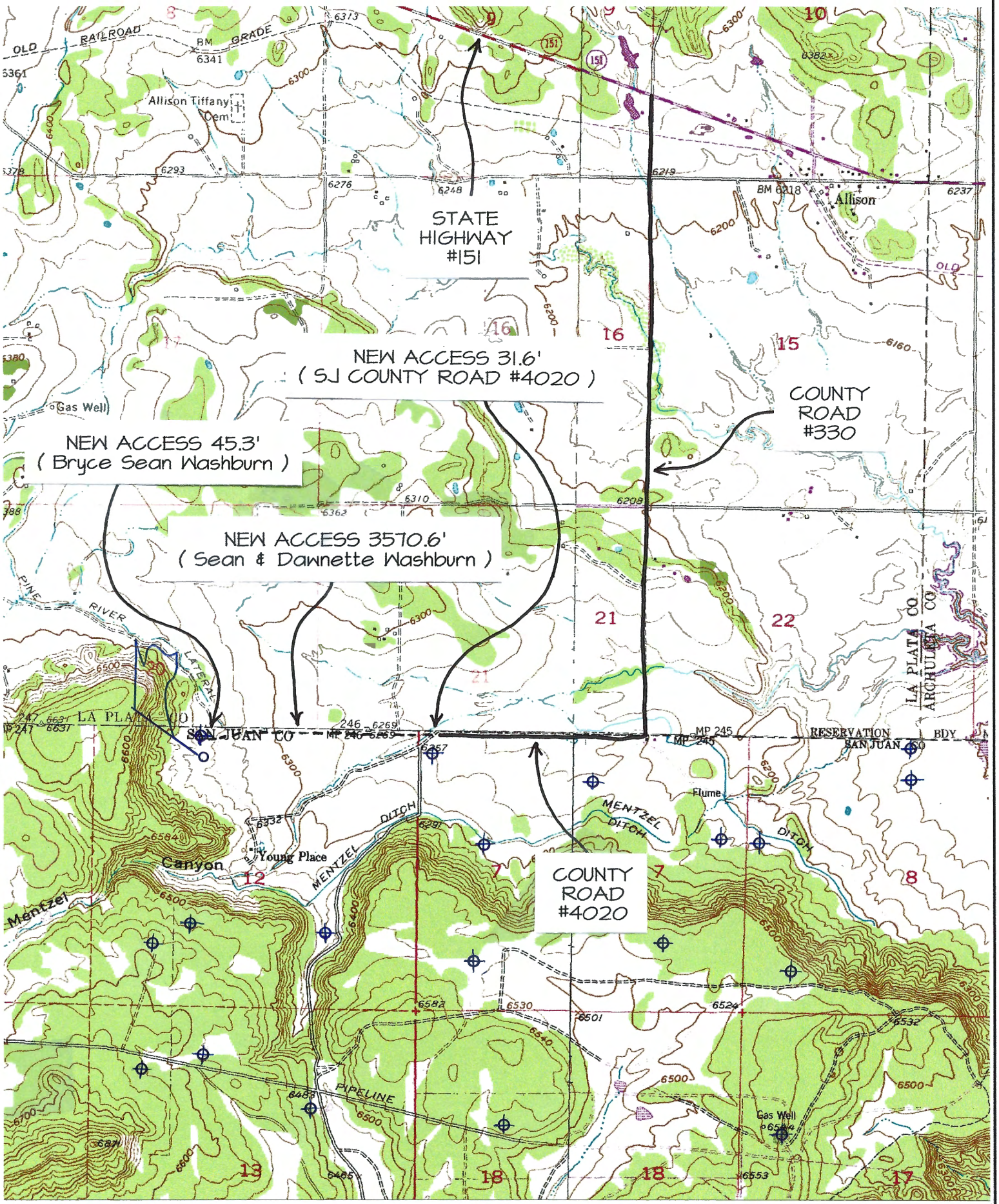
Business Address:
111 East Pinon Street
Farmington, NM 87402
(505) 486-1695 (Office)
ncesurveys@comcast.net

SURVEYS, INC.

CHECKED: JCE
DRAWN BY: EDO
SHEET 9 OF 11
FILENAME: 3261DZ1

# HILCORP ENERGY COMPANY ALLISON UNIT #612H

604' FNL & 1635' FWL, SECTION 12, T32N, R7W, N.M.P.M.
SAN JUAN COUNTY, NEW MEXICO




TOPO NAME : BURNT MESA ⊕ PRODUCING WELL ⊗ PLUGGED & ABANDONED WELL

**Directions from Intersection of State Hwy 172 & State Hwy 151 in Ignacio, CO**

**to Hilcorp Energy Company Allison Unit #612H**

**604' FNL & 1635' FWL, Section 12, T32N, R7W, N.M.P.M., San Juan County, NM**

**Latitude 36.998399°N Longitude -107.521036°W Datum: NAD1983**

From the intersection of State Hwy 172 & State Hwy 151 in Ignacio, CO, travel Easterly on State Hwy 151 for 12.0 miles to County Road #330:

Go Right (Southerly) on County Road #330 for 1.9 miles to County Road #4020;

Go Right (Westerly) on County Road #4020 for 0.6 miles to new access on right-hand side which continues for 3647.5' to Hilcorp Allison Unit #612H staked location which overlaps an existing wellpad.

San Juan County, NM Allison Unit 612H

Hilcorp Energy Company

## Technical Drilling Plan (Rev. 4)

Hilcorp Energy Company proposes to drill and complete the referenced horizontal well targeting the Mancos formation.

*Note: This technical drilling plan will be adjusted based upon actual conditions.*

### 1. Location

| | | | |
|---|---|---|---|
| **Date:** | November 7, 2024 | **Pool:** | Basin Mancos |
| **Well Name:** | Allison Unit 612H | **Ground Elevation (ft. MSL):** | 6,350’ |
| **Surface Hole Location:** | 36.9983940° N, -107.5204290° W | **Total Measured Depth (ft.)** | 19,926’ |
| **Bottom Hole Location:** | 36.9961347° N, -107.4728964° W | **County, State:** | San Juan County, NM |

*Note: All geographic coordinates on the drilling tech plan and the directional drilling plan refer to NAD 27 geodetic coordinate system. All depths on the drilling tech plan and the directional drilling plan are referenced from an estimated RKB datum of 25’ above ground level.*

### 2. Geological Markers

Anticipated formation tops with comments of any possible water, gas or oil shows are indicated below:

| Formation | Depth (ft. TVD RKB) | Remarks |
|---|---|---|
| Ojo Alamo | 2,084 | Possible Water |
| Kirtland | 2,150 | Gas & Water |
| Fruitland | 2,581 | Gas & Water |
| Pictured Cliffs | 2,950 | Possible Gas |
| Lewis Shale | 3,467 | None |
| Cliffhouse | 4,900 | Possible Gas & Water |
| Menefee | 5,274 | None |
| Point Lookout | 5,455 | Gas |
| Mancos | 5,974 | Gas |

## 3. Pressure Control Equipment

### A. BOP Equipment

See Appendix A for BOP equipment and choke manifold diagram.

- BOP equipment will be nippled up on top of the wellhead after surface casing is set and cemented.
- Pressure control configurations will be designed to meet the minimum 5M standards.
- All equipment will have 5M pressure rating at a minimum.
- A rotating head will be installed on top of the annular as seen in the attached diagram.

### B. BOP Pressure Testing

- For all BOP pressure testing, a BOP test unit with a chart recorder and a BOP test plug will be utilized.
- All tests and inspections will be recorded and logged with time and results.
- A full BOP pressure test will be conducted when initially installed for the first well on the pad or if a seal subject to test pressure is broken, following related repairs, and at a minimum in 30-day intervals.
- A BOPE shell pressure test only will be conducted for subsequent wells on the pad when seals subject to pressure have not been broken, repaired, and fall within the 30-day interval of the first full test.
- **The New Mexico Oil & Gas Conservation Division and the BLM will be notified 24 hours in advance of pressure testing BOPE**.
- The BOPE will be tested to **250 psi (Low) for 5 minutes and 5,000 psi (High) for 10 minutes.**

### C. BOP Function Testing

- Annular preventors will be functionally tested at least once per week.
- Pipe and blind rams will be function tested each trip.

### D. Casing Pressure Testing

- **Surface casing will be pressure tested to 600 psi for 30 minutes**.
- I**ntermediate casing will be pressure tested to 1,500 psi for 30 minutes.**

## 4. Casing Program

### A. Proposed Casing Program:

| Proposed Casing Design | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Casing String** | **Hole Size** | **Casing (size/weight/grade)** | **Top Depth (MD/TVD)** | **Shoe Depth (MD/TVD)** | **Collapse** | **Burst** | **Tensile** |
| Surface | 17-1/2" | 13-3/8"-54.5#-J55 or equiv-LTC/BTC | 0' | 350'/350' | 1,130 psi | 2,730 psi | 514 klbs |
| Intermediate | 12-1/4" | 9-5/8"-43.5#-L80 or equiv-LTC/BTC | 0' | 6,267'/6,193' | 3,810 psi | 6,330 psi | 737 klbs |
| Production | 8-1/2" | 5-1/2"-20.0#-P110 or equiv-LTC/BTC | 0' | 19,926'/6,830' | 11,080 psi | 12,360 psi | 548 klbs |

| Proposed Casing Design Safety Factors | | | | |
|---|---|---|---|---|
| **Casing String** | **Burst Design SF** | **Collapse Design SF** | **Joint Tensile Design SF** | **Connection Tensile Design SF** |
| Surface | 16.7 | 8.8 | 51.8 | 55.2 |
| Intermediate | 1.7 | 1.2 | 4.5 | 3.6 |
| Production | 3.0 | 3.1 | 2.0 | 1.7 |

### B. Casing Design Parameters & Calculations:

- Designed for full wellbore evacuation.
- Mud Weights used for calculations:
  - Surface = 9.0 ppg
  - Intermediate = 11.5 ppg
  - Production = 12.0 ppg
- Minimum Acceptable Safety Factors:
  - Burst: 1.15
  - Collapse: 1.15
  - Tensile: 1.50
- Casing Safety Factor Calculations:

$$Casing\ Burst\ Safety\ Factor = \frac{Casing\ Burst\ Rating(psi)}{Maximum\ Mud\ Weight\ (ppg) \times TVD(ft) \times 0.052}$$

$$Casing\ Collapse\ Safety\ Factor = Hydrostatic\ of\ Mud\ Weight\ in\ Annulus(psi) - \left[TVD\ of\ Casing\ Shoe\ (ft) \times 0.10\frac{psi}{ft}\right]$$

$$Tensile\ Safety\ Factor = \frac{Tensile\ Rating\ of\ Casing\ String\ (lbs)}{Measured\ Depth\ of\ Casing(ft) \times Casing\ Weight\ \frac{lb}{ft} \times DrillingFluid\ Bouyancy\ Factor}$$

***Production Casing Notes:***

- Production casing will be run from surface to TD.
- If the 8-1/2" hole is not drilled to the planned measured depth, casing setting depth will be adjusted accordingly.
- A toe initiation sliding sleeve will be installed at the toe of the production casing.

**5. Proposed Centralizer Program:**

| Proposed Centralizer Program | |
|---|---|
| **Casing String** | **Centralizers & Placement** |
| Surface Casing | 1 centralizer per joint on bottom 3 joints. |
| Intermediate Casing | 1 centralizer per joint in shoe track.<br>1 centralizer every 3rd joint to surface. |
| Production Casing | Centralizers determined by hole conditions from TD to top of cement. |

**6. Proposed Cement Program:**

| Proposed Cement Design | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Interval** | **Depth (ft. MD)** | **Lead/Tail** | **Volume ($ft^3$)** | **Sacks** | **Excess (%)** | **Slurry** | **Density (ppg)** | **Planned TOC** |
| Surface | 350’ | Lead | 486 $ft^3$ | 352 | 100% | Class G Cement<br>Yield: 1.38 $ft^3$/sk | 14.6 | Surface |
| | | Slurry Additives: CaCl (1%), Cello Flake (0.25 lb/sk), CD-2 (0.2%) | | | | | | |
| Intermediate | 6,267’ | Lead | 1,947 $ft^3$ | 381 | 25% | ASTM Type IL<br>Yield: 5.12 $ft^3$/sk | 9.5 | Surface |
| | | Slurry Additives: FL-24 (0.5%), FL-66 (0.5%), IntegraGuard GW-86 (0.2%), IntegraSeal PHENO (2.0 lb/sk), IntegraSeal POLI (0.25 lb/sk), LW-5E (50.0%), R-3 (0.4%), S-8 Silica Flour (35.0%), XCem-311 (0.3%) | | | | | | |
| | | Tail | 496 $ft^3$ | 231 | 25% | ASTM Type IL<br>Yield: 2.15 $ft^3$/sk | 12.5 | 5,000’ |
| | | Slurry Additives: A-10 (5.0%), A-2 (1.0 lb/sk), IntegraSeal PHENO (1.0 lb/sk), IntegraSeal POLI (0.5 lb/sk), R-7C (0.3%), StaticFree (0.01%), XCem-311 (0.3%) | | | | | | |
| Production | 19,926’ | Lead | 445 $ft^3$ | 283 | 25% | ASTM Type IL<br>Yield: 1.57 $ft^3$/sk | 12.0 | 5,000’ |
| | | Slurry Additives: AEXT-1012 (60.0%), FL-66 (0.3%), GW-86 (0.2%), IntegraSeal PHENO (2.0 lb/sk), IntegraSeal POLI (0.25 lb/sk), KCl (3.0%), R-3 (0.55%), StaticFree (0.01 lb/sk), XCem-311 (0.3%) | | | | | | |
| | | Tail | 3,801 $ft^3$ | 2,568 | 25% | Class G<br>Yield: 1.48 $ft^3$/sk | 14.0 | 6,700’ |
| | | Slurry Additives: Fly Ash (20.0%), Bentonite (4.0%), FL-66 (0.3%), GW-86 (0.1%), IntegraSeal PHENO (1.0 lb/sk), IntegraSeal POLI (0.25 lb/sk), R-3 (0.25%), StaticFree (0.01 lb/sk) | | | | | | |

***Cement Program Notes:***

- The cement slurry additives may be adjusted to accommodate required pump and compressive test times.
- Actual cement volumes will be determined and may be adjusted onsite based on well conditions.
- For the intermediate hole section, a 2-stage or 3-stage cement job may be performed if hole conditions dictate. If needed, the stage tool will be placed appropriately as conditions indicate.
- Cement will be circulated to surface on surface and intermediate casing sections to protect water bearing zones.
- A minimum of 8 hours of wait on cement time will be observed on each hole section to allow adequate time for cement to achieve a minimum of 500 psi of compressive strength. The BOP will not be nippled down, the wellhead will not be installed, the casing will not be tested and the prior casing shoe will not be drilled out until adequate wait on cement time has been observed (8 hours or time to reach 500 psi compressive strength).

## 7. Drilling Fluids Program

### A. Proposed Drilling Fluids Program:

| Proposed Drilling Fluids Program | | | | | |
|---|---|---|---|---|---|
| **Interval** | **Fluid Type** | **Density** | **Fluid Loss** | **Invert Ratio** | **Depth** |
| | | (ppg) | (mL/30 min) | (%Diesel / %Brine) | (ft. MD) |
| Surface | Water/Gel | 8.3 – 9.2 | NC | N/A | 0' – 350' |
| Intermediate | LSND / Gel | 8.4 – 10.0 | <6 | N/A | 350' – 6,267' |
| Production | Oil Base Mud | 10.0 – 12.0 | 6 – 8 | 70/30 – 75/25 | 6,267' – 19,926' |

***Drilling Fluids Notes:***

- In the 8-1/2" production section, oil base mud will be utilized which will be an invert mud. The base fluid will be diesel. Brine fluid will be $CaCl_2$ or KCl.
- Lost circulation material may be added to the mud systems to manage fluid losses as hole conditions dictate.
- The well will be drilled utilizing a closed-loop circulating system. Drill cuttings for all hole sections will be transported to an approved disposal site.
- Estimated total volume of drill cuttings for disposal: 1,925 bbls (10,809 $ft^3$).

## 8. Estimated Pressures & Drilling Hazards

### A. Estimated Pressures

- Estimated Reservoir Pressure of Mancos Shale target: 4,000 – 4,200 psi
- No over-pressured intervals expected (aside from Mancos Shale target).
- There is production from the Fruitland Coal, Mesa Verde and Pictured Cliffs formations in offset wells in the area, which could result in these formations being depleted.

### B. Water Flows

- Water flows are possible in the intermediate section. Water flows will be mitigated with increased mud weight.

### C. Lost Circulation

- Lost circulation is possible in the intermediate section. Losses will be mitigated by utilizing LCM in the mud system.

### D. Hydrogen Sulfide

- No hydrogen sulfide is expected to be encountered based on nearby well production.

**9. Pilot Hole**

- No pilot hole is planned for this wellbore.

**10. Testing, Logging, Coring**

**A. Mud Logging**

- Mud loggers will collect formation samples every 30'-90' from intermediate casing shoe to TD of the well.

**B. MWD**

- Measurement while drilling tools will be utilized on all sections of the well to measure and record inclination and azimuth.

**C. LWD**

- Logging while drilling tools (gamma ray) will be utilized while drilling the production section from the intermediate casing shoe to the production hole section TD to assist in staying in the desired production formation interval while drilling the horizontal section.

**D. Open Hole Logging**

- None

**E. Coring**

- None

**F. Cased Hole Logging**

- The 9-5/8" intermediate casing will be cemented to surface to protect water bearing zones. If cement is not circulated to surface on the intermediate cement job, a cement bod log will be run to verify top of cement.

**11. Directional Drilling Plan**

- The directional drilling plan and plot are attached.
- The directional plan is built from geologic targets from offset wells and lease boundaries. The production hole section will be landed and drilled horizontally within the target formation utilizing LWD tools to steer the wellbore. On-site adjustments to the directional plan will be made as formation and wellbore dictate.

**12. Completion**

**A. Pressure Testing**

- A pressure test of the 5-1/2" production casing will be conducted to the maximum anticipated frac pressure for 30 minutes.
- Pressure will be cycled to shift the toe sleeve open.

**B. Stimulation**

- The well will be stimulated with sand and water. The number of stages and amount of proppant used will be adjusted based on actual lateral length and real-time pumping conditions during the stimulation.
- Individual stages will be perforated on wireline and isolated using frac plugs or dissolvable frac plugs.
- Upon completion of the stimulation operation, frac plugs will be drilled out and the stimulation fluid will be flowed back.

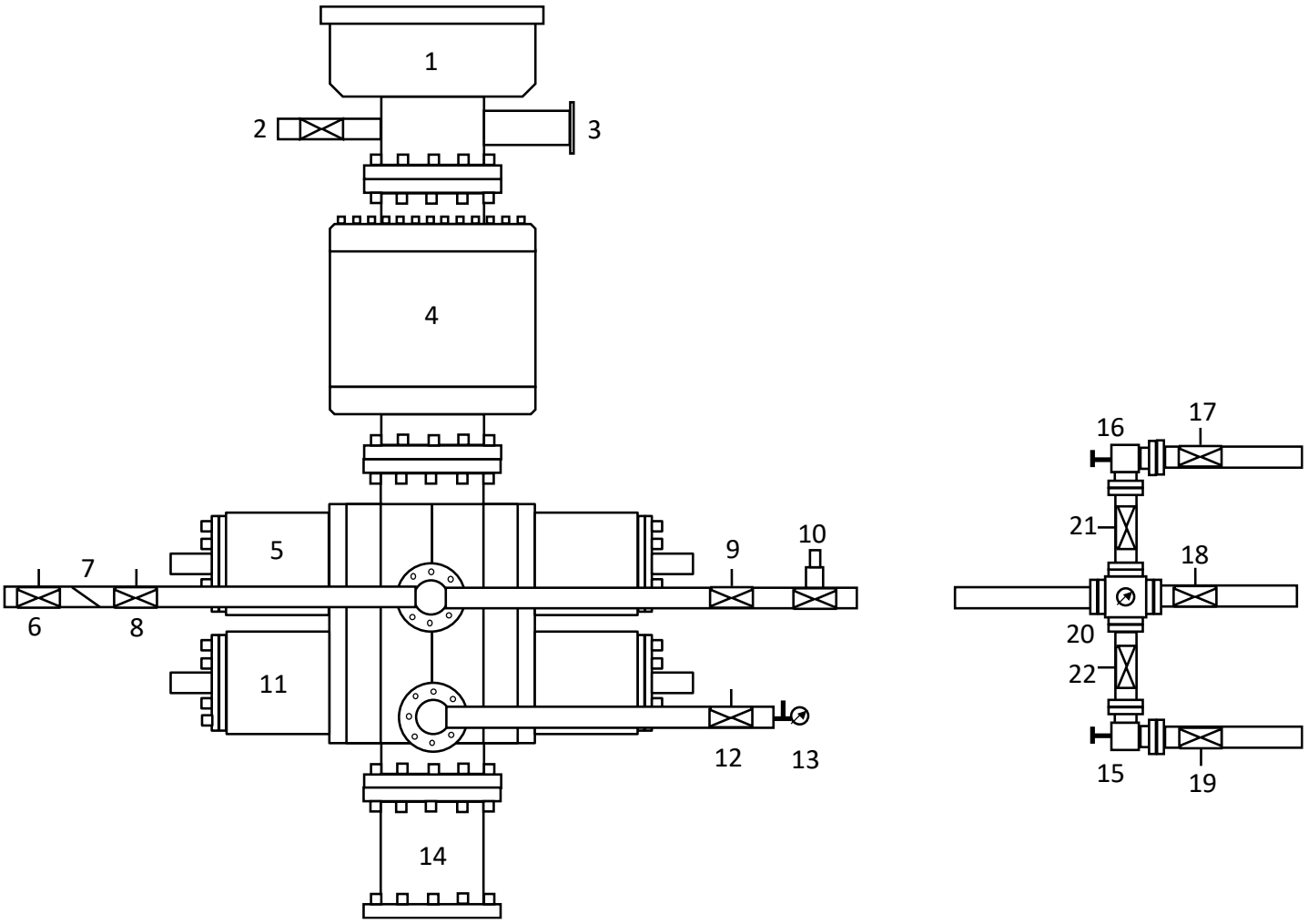
*NOTE: Hilcorp will file an unorthodox location application for the southern setback. This approach complies with all applicable rules, including 19.15.16.14 A(3) NMAC, 19.15.16.14 8(2) NMAC, 19.15.16.15 8(2)NMAC, and 19.15.16.15 8(4) NMAC.

San Juan County, NM Allison Unit 612H

Hilcorp Energy Company

# Appendix A

**13-5/8" 5M BOP & 5M Choke Manifold Configuration**




| | | | |
|---|---|---|---|
| 1 | Rotating Head | 12 | Manual Isolation Valve |
| 2 | Fill-Up Line | 13 | Needle Valve & Pressure Gauge |
| 3 | Flow Line | 14 | Spacer Spool (if needed) |
| 4 | 5M Annular Preventer | 15 | Manual Choke |
| 5 | 5M Pipe Rams | 16 | Hydraulicly Operated Choke |
| 6 | Manual Isolation Valve | 17 | Manual Isolation Valve |
| 7 | Check Valve | 18 | Manual Isolation Valve |
| 8 | Manual Isolation Valve | 19 | Manual Isolation Valve |
| 9 | Manual Isolation Valve | 20 | Valve Block & Pressure Gauge |
| 10 | High Closing Ratio Valve | 21 | Manual Isolation Valve |
| 11 | 5M Blind Rams | 22 | Manual Isolation Valve |

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

# NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

## Section 1 – Plan Description
**Effective May 25, 2021**

**I. Operator:** Hilcorp Energy Company **OGRID:** 372171 **Date:** 12/9/2024

**II. Type:** ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

**III. Well(s):** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

| Well Name | API | ULSTR | Footages | Anticipated Oil BBL/D | Anticipated Gas MCF/D | Anticipated Produced Water BBL/D |
|---|---|---|---|---|---|---|
| Allison Unit 612H | | F, Sec 12, T32N, R07W | 604' FNL & 1635' FWL | 0 | 16,000 | 300 |
| Allison Unit 630H | | F, Sec 12, T32N, R07W | 554' FNL & 1635' FWL | 0 | 16,000 | 300 |
| Allison Unit 631H | | F, Sec 12, T32N, R07W | 529' FNL & 1635' FWL | 0 | 16,000 | 300 |
| Allison Unit 632H | | F, Sec 12, T32N, R07W | 479' FNL & 1485' FWL | 0 | 16,000 | 300 |
| Allison Unit 633H | | F, Sec 12, T32N, R07W | 454' FNL & 1485' FWL | 0 | 16,000 | 300 |
| Allison Unit 614H | | F, Sec 12, T32N, R07W | 504' FNL & 1485' FWL | 0 | 16,000 | 300 |
| Allison 605 Federal Com 613H | | F, Sec 12, T32N, R07W | 529' FNL & 1485' FWL | 0 | 16,000 | 300 |

**IV. Central Delivery Point Name:** Milagro/Ignacio Gas Plant [See 19.15.27.9(D)(1) NMAC]

**V. Anticipated Schedule:** Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

| Well Name | API | Spud Date | TD Reached Date | Completion Commencement Date | Initial Flow Back Date | First Production Date |
|---|---|---|---|---|---|---|
| **Allison Unit 612H** | | **2025** | | | | |
| **Allison Unit 630H** | | **2025** | | | | |
| **Allison Unit 631H** | | **2025** | | | | |
| **Allison Unit 632H** | | **2025** | | | | |
| **Allison Unit 633H** | | **2025** | | | | |
| **Allison Unit 614H** | | **2025** | | | | |
| **Allison 605 Federal Com 613H** | | **2025** | | | | |

**VI. Separation Equipment:** ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

**VII. Operational Practices:** ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

**VIII. Best Management Practices:** ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

## Section 2 – Enhanced Plan

**EFFECTIVE APRIL 1, 2022**

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☒ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

**IX. Anticipated Natural Gas Production:**

| Well | API | Anticipated Average Natural Gas Rate MCF/D | Anticipated Volume of Natural Gas for the First Year MCF |
|---|---|---|---|
| | | | |
| | | | |

**X. Natural Gas Gathering System (NGGS):**

| Operator | System | ULSTR of Tie-in | Anticipated Gathering Start Date | Available Maximum Daily Capacity of System Segment Tie-in |
|---|---|---|---|---|
| | | | | |
| | | | | |

**XI. Map.** ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

**XII. Line Capacity.** The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

**XIII. Line Pressure.** Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

**XIV. Confidentiality:** ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

## Section 3 - Certifications

**Effective May 25, 2021**

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system. ***If Operator checks this box, Operator will select one of the following:***

**Well Shut-In.** ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

**Venting and Flaring Plan.** ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- **(a)** power generation on lease;
- **(b)** power generation for grid;
- **(c)** compression on lease;
- **(d)** liquids removal on lease;
- **(e)** reinjection for underground storage;
- **(f)** reinjection for temporary storage;
- **(g)** reinjection for enhanced oil recovery;
- **(h)** fuel cell production; and
- **(i)** other alternative beneficial uses approved by the division.

## Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

**(a)** Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

**(b)** Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

**I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.**

| |
|---|
| Signature:  |
| Printed Name: Amanda Walker |
| Title: Operations Regulatory Tech Sr. |
| E-mail Address: mwalker@hilcorp.com |
| Date: 12/9/2024 |
| Phone: 346-237-2177 |

| **OIL CONSERVATION DIVISION**<br>**(Only applicable when submitted as a standalone form)** |
|---|
| Approved By: |
| Title: |
| Approval Date: |
| Conditions of Approval: |

# Hilcorp Energy Natural Gas Management Plan Attachments

VI. Separation Equipment

The operator will select separation equipment for the maximum anticipated throughput and pressure to optimize gas capture. Separation equipment is sized according to manufacturer's design specifications. Separation vessels are built following the A.S.M.E. section VII division 1 codes for pressure vessel design, fabrication, inspection, testing and certification. Anticipated well pressures and production rates are evaluated to select separation equipment according to the equipment's designed operating pressure and throughput.

After completion, the operator utilizes flowback equipment, including separators, to manage wellbore fluids and solids during the initial separation period. After the initial flowback period is complete the operator utilizes iterative facility separation equipment to ensure that optimal separation is achieved.

VII. Operational Practices 19.15.27.8 NMAC A through F

A. The operator will maximize the recovery of natural gas and minimize the amount of gas vented or flared when technically and safely feasible as further described and detailed within the following subsections (B-F of 19.15.27.8). In all cases where natural gas venting and flaring requires regulatory reporting, reporting will be submitted accurately and within the required time frames.
B. Venting and flaring during drilling operations:
    a. New Drill HZ Gas Wells: The operator drills wells in the area by utilizing a balanced mud to safely drill the wellbore. This technique prevents gas from coming to surface during the drilling process. If there is an emergency or malfunction and natural gas does come to surface the natural gas will be captured and routed to sales if technically and safely feasible.
C. Venting and flaring during completion or recompletion operations:
    a. New Drill HZ Gas Wells: The operator's facilities are designed to handle the maximum throughput and pressures from the newly drilled and completed wellbores. The amount of gas vented and flared will be minimized when technically and safely feasible. During initial flowback and initial separation flowback the operator will utilize contracted flowback equipment, including separators, to manage wellbore fluids and solids. The initial flowback period will be minimized and flow will be sent to separation equipment as soon as possible to reduce the amount of gas that is vented to atmosphere. The natural gas will be utilized on site as needed for fuel gas and natural gas will be sold.

D. Venting and flaring during production operations:
    a. New Drill HZ Gas Wells: The operator's facilities are designed to handle the maximum throughput and pressures from producing wellbores. The amount of gas vented and flared will be minimized when technically and safely feasible.

    Operations will effectively manage the following scenarios to minimize the quantity of natural gas that is vented or flared:

(a) If there is an emergency or malfunction vented or flared natural gas will be reported, if required, and the emergency or malfunction will be resolved as soon as technically and safely feasible.
(b) If the wellbore needs to be unloaded to atmosphere the operator will not vent the well after the well has achieved a stabilized rate and pressure. The operator will remain on site during unloading. Plunger lift systems will be optimized to reduce the amount of natural gas venting. Downhole maintenance, such as workovers, swabbing, etc. will only be conducted as needed and best management practices will be utilized to reduce venting of natural gas.
(c) The operator will minimize the amount of time that natural gas is vented to atmosphere from gauging and sampling a storage tank or low pressure vessel. The formation is only anticipated to produce water and therefore tank emissions are anticipated to be negligible.
(d) The operator will reduce the amount of time needed for loading out liquids from a storage tanks or other low-pressure vessels whenever feasible. Operations will always utilize the water transfer systems when available. Water loading emissions are anticipated to be negligible.
(e) Equipment will be repaired and maintained routinely to minimize the venting or flaring of natural gas. Repairs and maintenance will be conducted in a manner that minimizes the amount of natural gas vented to atmosphere through the isolation of the equipment that is being repaired or maintained.
(f) Electric controllers and pumps will be installed to replace pneumatic controllers whenever feasible. Pneumatic controllers and pumps will be inspected frequently to ensure that no excess gas is vented to atmosphere.
(g) No dehydration or amine units are anticipated to be set on location.
(h) Compressors, compressor engines, turbines, flanges, connectors, valves, storage tanks, and other low-pressure vessels and flanges will be routinely inspected to ensure that no excess venting occurs outside of normal operations.
(i) Regulatory required testing, such as bradenhead and packer testing will be performed in a manner that minimizes the amount of natural gas vented to atmosphere.
(j) If natural gas does not meet gathering pipeline specifications gas samples will be collected twice per week to determine when pipeline specification gas content has been achieved. During this time frame gas will be flared and not vented to atmosphere. Natural gas that meets pipeline specifications will be sold via pipeline and natural gas that can be utilized for fuel gas will be used during this time.
(k) If pipeline, equipment, or facilities need purged of impurities gas losses will be minimized as much as technically and safely feasible.

E. Performance standards:

a. The production facilities are designed to handle the maximum throughput and pressures from producing wellbores and will be designed to minimize waste. The amount of gas vented and flared will be minimized when technically and safely feasible.
b. All tanks that are routed to a control device that is installed after 5/25/2021 will have an automatic gauging system to minimize the amount of vented natural gas.
c. If a flare stack is installed or replaced after 5/25/2021 it will be equipped with an automatic ignitor or continuous pilot. The flare stack will be properly sized and designed to ensure proper combustion efficiency. The flare stack will be located 100 feet away from the nearest wellhead or storage tank.
d. AVO inspections will be conducted weekly for the year after completion and for all wells producing greater than 60,000 cubic feet of natural gas daily. The AVO inspection will include all components, including flare stacks, thief hatches, closed vent systems, pumps, compressors, pressure relief devices, valves, lines, flanges, connectors, and associated pipeline to identify any leaks and releases by comprehensive auditory, visual, and olfactory inspection. The AVO inspection records will be maintained for 5 years which will be available at the department's request. Identified leaks will be repaired as soon as feasible to minimize the amount of vented natural gas. F. Measurement or estimation of vented and flared natural gas.

a. The volume of natural gas that is vented, flared or consumed for beneficial use will be measured when possible, or estimated, during drilling, completions, or production operations.
b. Equipment will be installed to measure the volume of natural gas flared for all APD's issued after 5/25/2021 on facilities that will have an average daily gas rate greater than 60,000 cubic feet of natural gas. Measurement equipment will conform to API MPMS Chapter 14.10 regulations. The measurement equipment will not have a manifold that allows the diversion of natural gas around the metering element except for the sole purpose of inspecting and servicing the measurement equipment. If metering is not practical then the volume of gas will be estimated.

Hilcorp

Allison Unit 612H
Plan #1

GL 6350' & RKB 25.1' @ 6375.10ft (Nabors B29)

| Northing | Easting | Latitude | Longitude |
|---|---|---|---|
| 2182835.14 | 591374.88 | 36.9983940 | -107.5204290 |

PROJECT DETAILS: San Juan, NM NAD27

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico West 3003
System Datum: Mean Sea Level

LONESTAR CONSULTING

Plan: Plan #1 (Allison Unit 612H/OH)

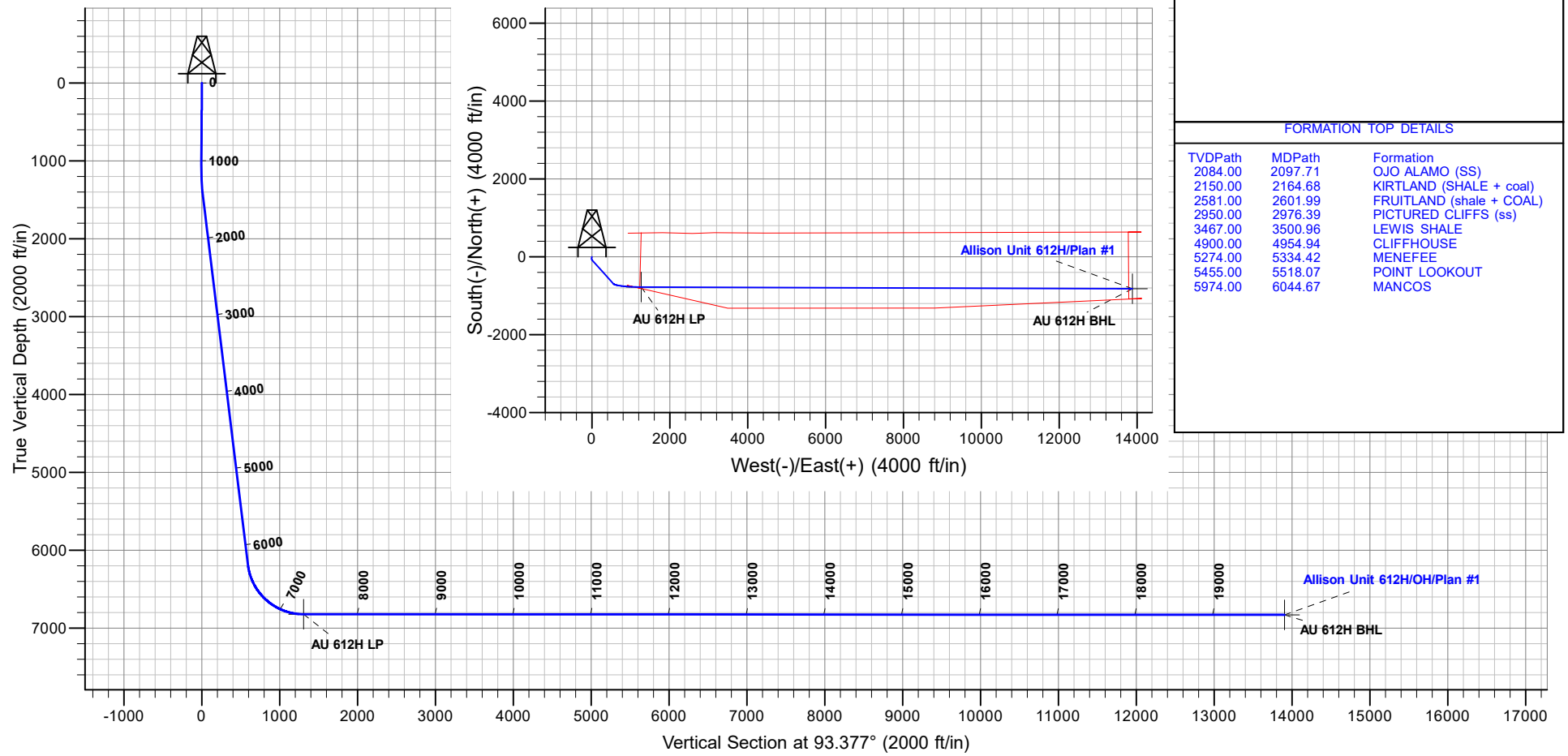
Created By: Janie Collins Date: 11:45, June 27 2024

PLAN DETAILS

| MD | Inc | Azi | TVD | +N/-S | +E/-W | Dleg | VSect |
|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 0.000 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 350.00 | 0.00 | 0.000 | 350.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 575.00 | 4.50 | 190.000 | 574.77 | -8.70 | -1.53 | 2.00 | -1.02 |
| 1075.00 | 4.50 | 190.000 | 1073.23 | -47.33 | -8.35 | 0.00 | -5.54 |
| 1465.74 | 9.75 | 138.023 | 1461.15 | -87.07 | 11.14 | 2.00 | 16.25 |
| 6267.15 | 9.75 | 138.023 | 6193.28 | -691.26 | 554.71 | 0.00 | 594.47 |
| 7310.18 | 89.97 | 90.205 | 6823.00 | -773.91 | 1265.58 | 8.00 | 1308.97 |
| 19925.81 | 89.97 | 90.205 | 6830.00 | -819.07 | 13881.13 | 0.00 | 13905.27 |

DESIGN TARGET DETAILS

| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
|---|---|---|---|---|---|---|---|
| AU 612H LP | 6823.00 | -773.91 | 1265.58 | 2182065.40 | 592643.00 | 36.9962682 | -107.5160953 |
| AU 612H BHL | 6830.00 | -819.07 | 13881.13 | 2182061.70 | 605258.60 | 36.9961347 | -107.4728964 |




Azimuths to True North
Magnetic North: 8.58°

Magnetic Field
Strength: 49353.4nT
Dip Angle: 63.33°
Date: 5/30/2024
Model: HDGM2024

CASING DETAILS

No casing data is available

FORMATION TOP DETAILS

| TVDPath | MDPath | Formation |
|---|---|---|
| 2084.00 | 2097.71 | OJO ALAMO (SS) |
| 2150.00 | 2164.68 | KIRTLAND (SHALE + coal) |
| 2581.00 | 2601.99 | FRUITLAND (shale + COAL) |
| 2950.00 | 2976.39 | PICTURED CLIFFS (ss) |
| 3467.00 | 3500.96 | LEWIS SHALE |
| 4900.00 | 4954.94 | CLIFFHOUSE |
| 5274.00 | 5334.42 | MENEFEE |
| 5455.00 | 5518.07 | POINT LOOKOUT |
| 5974.00 | 6044.67 | MANCOS |

# HilCorp

**San Juan, NM NAD27**
**Allison 611 Pad**
**Allison Unit 612H**

**OH**

**Plan: Plan #1**

# Standard Planning Report

**27 June, 2024**

Hilcorp

# Lonestar Consulting, LLC

Planning Report

LONESTAR CONSULTING

| | | | |
|---|---|---|---|
| **Database:** | EDMDB | **Local Co-ordinate Reference:** | Well Allison Unit 612H |
| **Company:** | HilCorp | **TVD Reference:** | GL 6350' & RKB 25.1' @ 6375.10ft (Nabors B29) |
| **Project:** | San Juan, NM NAD27 | **MD Reference:** | GL 6350' & RKB 25.1' @ 6375.10ft (Nabors B29) |
| **Site:** | Allison 611 Pad | **North Reference:** | True |
| **Well:** | Allison Unit 612H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | Plan #1 | | |

**Project** San Juan, NM NAD27

| | | | |
|---|---|---|---|
| **Map System:** | US State Plane 1927 (Exact solution) | **System Datum:** | Mean Sea Level |
| **Geo Datum:** | NAD 1927 (NADCON CONUS) | | |
| **Map Zone:** | New Mexico West 3003 | | |

**Site** Allison 611 Pad

| | | | | | |
|---|---|---|---|---|---|
| **Site Position:** | | **Northing:** | 2,182,860.26 usft | **Latitude:** | 36.9984630 |
| **From:** | Lat/Long | **Easting:** | 591,375.68 usft | **Longitude:** | -107.5204260 |
| **Position Uncertainty:** | 0.00 ft | **Slot Radius:** | 13-3/16 " | | |

**Well** Allison Unit 612H

| | | | | | | |
|---|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | 0.00 ft | **Northing:** | 2,182,835.14 usft | **Latitude:** | 36.9983940 |
| | **+E/-W** | 0.00 ft | **Easting:** | 591,374.88 usft | **Longitude:** | -107.5204290 |
| **Position Uncertainty** | | 0.00 ft | **Wellhead Elevation:** | ft | **Ground Level:** | 6,350.00 ft |
| **Grid Convergence:** | | 0.19 ° | | | | |

**Wellbore** OH

| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
|---|---|---|---|---|---|
| | HDGM2024 | 5/30/2024 | 8.58 | 63.33 | 49,353.40000000 |

**Design** Plan #1

**Audit Notes:**

| | | | | | |
|---|---|---|---|---|---|
| **Version:** | | **Phase:** | PLAN | **Tie On Depth:** | 0.00 |

| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) |
|---|---|---|---|---|
| | 0.00 | 0.00 | 0.00 | 93.377 |

**Plan Survey Tool Program** **Date** 6/25/2024

| | Depth From (ft) | Depth To (ft) | Survey (Wellbore) | Tool Name | Remarks |
|---|---|---|---|---|---|
| 1 | 0.00 | 19,925.81 | Plan #1 (OH) | MWD+HDGM | |
| | | | | OWSG MWD + HDGM | |

Hilcorp

# Lonestar Consulting, LLC

Planning Report

LONESTAR CONSULTING

| | | | |
|---|---|---|---|
| **Database:** | EDMDB | **Local Co-ordinate Reference:** | Well Allison Unit 612H |
| **Company:** | HilCorp | **TVD Reference:** | GL 6350' & RKB 25.1' @ 6375.10ft (Nabors B29) |
| **Project:** | San Juan, NM NAD27 | **MD Reference:** | GL 6350' & RKB 25.1' @ 6375.10ft (Nabors B29) |
| **Site:** | Allison 611 Pad | **North Reference:** | True |
| **Well:** | Allison Unit 612H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | Plan #1 | | |

**Plan Sections**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) | TFO (°) | Target |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 0.000 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 350.00 | 0.00 | 0.000 | 350.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 575.00 | 4.50 | 190.000 | 574.77 | -8.70 | -1.53 | 2.00 | 2.00 | 0.00 | 190.00 | |
| 1,075.00 | 4.50 | 190.000 | 1,073.23 | -47.33 | -8.35 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1,465.75 | 9.75 | 138.023 | 1,461.15 | -87.07 | 11.14 | 2.00 | 1.34 | -13.30 | -78.71 | |
| 6,267.15 | 9.75 | 138.023 | 6,193.28 | -691.26 | 554.71 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 7,310.18 | 89.97 | 90.205 | 6,823.00 | -773.91 | 1,265.58 | 8.00 | 7.69 | -4.58 | -48.24 | AU 612H LP |
| 19,925.81 | 89.97 | 90.205 | 6,830.00 | -819.07 | 13,881.13 | 0.00 | 0.00 | 0.00 | 0.00 | AU 612H BHL |

Hilcorp

# Lonestar Consulting, LLC

Planning Report

LONESTAR CONSULTING

| | | | |
|---|---|---|---|
| **Database:** | EDMDB | **Local Co-ordinate Reference:** | Well Allison Unit 612H |
| **Company:** | HilCorp | **TVD Reference:** | GL 6350' & RKB 25.1' @ 6375.10ft (Nabors B29) |
| **Project:** | San Juan, NM NAD27 | **MD Reference:** | GL 6350' & RKB 25.1' @ 6375.10ft (Nabors B29) |
| **Site:** | Allison 611 Pad | **North Reference:** | True |
| **Well:** | Allison Unit 612H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | Plan #1 | | |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 0.00 | 0.00 | 0.000 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 100.00 | 0.00 | 0.000 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 200.00 | 0.00 | 0.000 | 200.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 300.00 | 0.00 | 0.000 | 300.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 350.00 | 0.00 | 0.000 | 350.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 400.00 | 1.00 | 190.000 | 400.00 | -0.43 | -0.08 | -0.05 | 2.00 | 2.00 | 0.00 |
| 500.00 | 3.00 | 190.000 | 499.93 | -3.87 | -0.68 | -0.45 | 2.00 | 2.00 | 0.00 |
| 575.00 | 4.50 | 190.000 | 574.77 | -8.70 | -1.53 | -1.02 | 2.00 | 2.00 | 0.00 |
| 600.00 | 4.50 | 190.000 | 599.69 | -10.63 | -1.87 | -1.24 | 0.00 | 0.00 | 0.00 |
| 700.00 | 4.50 | 190.000 | 699.38 | -18.36 | -3.24 | -2.15 | 0.00 | 0.00 | 0.00 |
| 800.00 | 4.50 | 190.000 | 799.08 | -26.08 | -4.60 | -3.05 | 0.00 | 0.00 | 0.00 |
| 900.00 | 4.50 | 190.000 | 898.77 | -33.81 | -5.96 | -3.96 | 0.00 | 0.00 | 0.00 |
| 1,000.00 | 4.50 | 190.000 | 998.46 | -41.54 | -7.32 | -4.86 | 0.00 | 0.00 | 0.00 |
| 1,075.00 | 4.50 | 190.000 | 1,073.23 | -47.33 | -8.35 | -5.54 | 0.00 | 0.00 | 0.00 |
| 1,100.00 | 4.62 | 183.906 | 1,098.15 | -49.30 | -8.58 | -5.67 | 2.00 | 0.50 | -24.38 |
| 1,200.00 | 5.56 | 163.791 | 1,197.76 | -57.97 | -7.51 | -4.08 | 2.00 | 0.93 | -20.12 |
| 1,300.00 | 6.96 | 150.558 | 1,297.17 | -67.90 | -3.18 | 0.83 | 2.00 | 1.40 | -13.23 |
| 1,400.00 | 8.59 | 142.026 | 1,396.25 | -79.06 | 4.40 | 9.05 | 2.00 | 1.64 | -8.53 |
| 1,465.75 | 9.75 | 138.023 | 1,461.15 | -87.07 | 11.14 | 16.25 | 2.00 | 1.75 | -6.09 |
| 1,500.00 | 9.75 | 138.023 | 1,494.91 | -91.38 | 15.02 | 20.38 | 0.00 | 0.00 | 0.00 |
| 1,600.00 | 9.75 | 138.023 | 1,593.47 | -103.97 | 26.34 | 32.42 | 0.00 | 0.00 | 0.00 |
| 1,700.00 | 9.75 | 138.023 | 1,692.03 | -116.55 | 37.66 | 44.46 | 0.00 | 0.00 | 0.00 |
| 1,800.00 | 9.75 | 138.023 | 1,790.58 | -129.13 | 48.98 | 56.50 | 0.00 | 0.00 | 0.00 |
| 1,900.00 | 9.75 | 138.023 | 1,889.14 | -141.72 | 60.30 | 68.55 | 0.00 | 0.00 | 0.00 |
| 2,000.00 | 9.75 | 138.023 | 1,987.70 | -154.30 | 71.62 | 80.59 | 0.00 | 0.00 | 0.00 |
| 2,100.00 | 9.75 | 138.023 | 2,086.26 | -166.89 | 82.95 | 92.63 | 0.00 | 0.00 | 0.00 |
| 2,200.00 | 9.75 | 138.023 | 2,184.81 | -179.47 | 94.27 | 104.67 | 0.00 | 0.00 | 0.00 |
| 2,300.00 | 9.75 | 138.023 | 2,283.37 | -192.05 | 105.59 | 116.72 | 0.00 | 0.00 | 0.00 |
| 2,400.00 | 9.75 | 138.023 | 2,381.93 | -204.64 | 116.91 | 128.76 | 0.00 | 0.00 | 0.00 |
| 2,500.00 | 9.75 | 138.023 | 2,480.48 | -217.22 | 128.23 | 140.80 | 0.00 | 0.00 | 0.00 |
| 2,600.00 | 9.75 | 138.023 | 2,579.04 | -229.80 | 139.55 | 152.84 | 0.00 | 0.00 | 0.00 |
| 2,700.00 | 9.75 | 138.023 | 2,677.60 | -242.39 | 150.87 | 164.89 | 0.00 | 0.00 | 0.00 |
| 2,800.00 | 9.75 | 138.023 | 2,776.15 | -254.97 | 162.19 | 176.93 | 0.00 | 0.00 | 0.00 |
| 2,900.00 | 9.75 | 138.023 | 2,874.71 | -267.55 | 173.51 | 188.97 | 0.00 | 0.00 | 0.00 |
| 3,000.00 | 9.75 | 138.023 | 2,973.27 | -280.14 | 184.84 | 201.02 | 0.00 | 0.00 | 0.00 |
| 3,100.00 | 9.75 | 138.023 | 3,071.83 | -292.72 | 196.16 | 213.06 | 0.00 | 0.00 | 0.00 |
| 3,200.00 | 9.75 | 138.023 | 3,170.38 | -305.31 | 207.48 | 225.10 | 0.00 | 0.00 | 0.00 |
| 3,300.00 | 9.75 | 138.023 | 3,268.94 | -317.89 | 218.80 | 237.14 | 0.00 | 0.00 | 0.00 |
| 3,400.00 | 9.75 | 138.023 | 3,367.50 | -330.47 | 230.12 | 249.19 | 0.00 | 0.00 | 0.00 |
| 3,500.00 | 9.75 | 138.023 | 3,466.05 | -343.06 | 241.44 | 261.23 | 0.00 | 0.00 | 0.00 |
| 3,600.00 | 9.75 | 138.023 | 3,564.61 | -355.64 | 252.76 | 273.27 | 0.00 | 0.00 | 0.00 |
| 3,700.00 | 9.75 | 138.023 | 3,663.17 | -368.22 | 264.08 | 285.31 | 0.00 | 0.00 | 0.00 |
| 3,800.00 | 9.75 | 138.023 | 3,761.72 | -380.81 | 275.40 | 297.36 | 0.00 | 0.00 | 0.00 |
| 3,900.00 | 9.75 | 138.023 | 3,860.28 | -393.39 | 286.72 | 309.40 | 0.00 | 0.00 | 0.00 |
| 4,000.00 | 9.75 | 138.023 | 3,958.84 | -405.97 | 298.05 | 321.44 | 0.00 | 0.00 | 0.00 |
| 4,100.00 | 9.75 | 138.023 | 4,057.40 | -418.56 | 309.37 | 333.48 | 0.00 | 0.00 | 0.00 |
| 4,200.00 | 9.75 | 138.023 | 4,155.95 | -431.14 | 320.69 | 345.53 | 0.00 | 0.00 | 0.00 |
| 4,300.00 | 9.75 | 138.023 | 4,254.51 | -443.73 | 332.01 | 357.57 | 0.00 | 0.00 | 0.00 |
| 4,400.00 | 9.75 | 138.023 | 4,353.07 | -456.31 | 343.33 | 369.61 | 0.00 | 0.00 | 0.00 |
| 4,500.00 | 9.75 | 138.023 | 4,451.62 | -468.89 | 354.65 | 381.66 | 0.00 | 0.00 | 0.00 |
| 4,600.00 | 9.75 | 138.023 | 4,550.18 | -481.48 | 365.97 | 393.70 | 0.00 | 0.00 | 0.00 |
| 4,700.00 | 9.75 | 138.023 | 4,648.74 | -494.06 | 377.29 | 405.74 | 0.00 | 0.00 | 0.00 |

Hilcorp

# Lonestar Consulting, LLC

Planning Report

LONESTAR CONSULTING

| | | | |
|---|---|---|---|
| **Database:** | EDMDB | **Local Co-ordinate Reference:** | Well Allison Unit 612H |
| **Company:** | HilCorp | **TVD Reference:** | GL 6350' & RKB 25.1' @ 6375.10ft (Nabors B29) |
| **Project:** | San Juan, NM NAD27 | **MD Reference:** | GL 6350' & RKB 25.1' @ 6375.10ft (Nabors B29) |
| **Site:** | Allison 611 Pad | **North Reference:** | True |
| **Well:** | Allison Unit 612H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | Plan #1 | | |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 4,800.00 | 9.75 | 138.023 | 4,747.29 | -506.64 | 388.61 | 417.78 | 0.00 | 0.00 | 0.00 |
| 4,900.00 | 9.75 | 138.023 | 4,845.85 | -519.23 | 399.94 | 429.83 | 0.00 | 0.00 | 0.00 |
| 5,000.00 | 9.75 | 138.023 | 4,944.41 | -531.81 | 411.26 | 441.87 | 0.00 | 0.00 | 0.00 |
| 5,100.00 | 9.75 | 138.023 | 5,042.97 | -544.39 | 422.58 | 453.91 | 0.00 | 0.00 | 0.00 |
| 5,200.00 | 9.75 | 138.023 | 5,141.52 | -556.98 | 433.90 | 465.95 | 0.00 | 0.00 | 0.00 |
| 5,300.00 | 9.75 | 138.023 | 5,240.08 | -569.56 | 445.22 | 478.00 | 0.00 | 0.00 | 0.00 |
| 5,400.00 | 9.75 | 138.023 | 5,338.64 | -582.15 | 456.54 | 490.04 | 0.00 | 0.00 | 0.00 |
| 5,500.00 | 9.75 | 138.023 | 5,437.19 | -594.73 | 467.86 | 502.08 | 0.00 | 0.00 | 0.00 |
| 5,600.00 | 9.75 | 138.023 | 5,535.75 | -607.31 | 479.18 | 514.12 | 0.00 | 0.00 | 0.00 |
| 5,700.00 | 9.75 | 138.023 | 5,634.31 | -619.90 | 490.50 | 526.17 | 0.00 | 0.00 | 0.00 |
| 5,800.00 | 9.75 | 138.023 | 5,732.87 | -632.48 | 501.83 | 538.21 | 0.00 | 0.00 | 0.00 |
| 5,900.00 | 9.75 | 138.023 | 5,831.42 | -645.06 | 513.15 | 550.25 | 0.00 | 0.00 | 0.00 |
| 6,000.00 | 9.75 | 138.023 | 5,929.98 | -657.65 | 524.47 | 562.29 | 0.00 | 0.00 | 0.00 |
| 6,100.00 | 9.75 | 138.023 | 6,028.54 | -670.23 | 535.79 | 574.34 | 0.00 | 0.00 | 0.00 |
| 6,200.00 | 9.75 | 138.023 | 6,127.09 | -682.81 | 547.11 | 586.38 | 0.00 | 0.00 | 0.00 |
| 6,267.15 | 9.75 | 138.023 | 6,193.28 | -691.26 | 554.71 | 594.47 | 0.00 | 0.00 | 0.00 |
| 6,300.00 | 11.66 | 128.282 | 6,225.55 | -695.39 | 559.18 | 599.17 | 8.00 | 5.83 | -29.66 |
| 6,400.00 | 18.58 | 112.448 | 6,322.07 | -707.75 | 581.87 | 622.55 | 8.00 | 6.92 | -15.83 |
| 6,500.00 | 26.11 | 105.251 | 6,414.51 | -719.64 | 617.89 | 659.20 | 8.00 | 7.53 | -7.20 |
| 6,600.00 | 33.85 | 101.140 | 6,501.08 | -730.83 | 666.52 | 708.42 | 8.00 | 7.74 | -4.11 |
| 6,700.00 | 41.68 | 98.421 | 6,580.08 | -741.10 | 726.83 | 769.23 | 8.00 | 7.83 | -2.72 |
| 6,800.00 | 49.55 | 96.431 | 6,649.98 | -750.24 | 797.65 | 840.45 | 8.00 | 7.87 | -1.99 |
| 6,900.00 | 57.45 | 94.861 | 6,709.41 | -758.09 | 877.58 | 920.71 | 8.00 | 7.90 | -1.57 |
| 7,000.00 | 65.37 | 93.547 | 6,757.24 | -764.48 | 965.08 | 1,008.43 | 8.00 | 7.92 | -1.31 |
| 7,100.00 | 73.29 | 92.390 | 6,792.51 | -769.30 | 1,058.44 | 1,101.91 | 8.00 | 7.93 | -1.16 |
| 7,200.00 | 81.22 | 91.327 | 6,814.55 | -772.45 | 1,155.84 | 1,199.34 | 8.00 | 7.93 | -1.06 |
| 7,300.00 | 89.16 | 90.308 | 6,822.92 | -773.86 | 1,255.40 | 1,298.81 | 8.00 | 7.94 | -1.02 |
| 7,310.18 | 89.97 | 90.205 | 6,823.00 | -773.91 | 1,265.58 | 1,308.97 | 8.00 | 7.94 | -1.01 |
| 7,400.00 | 89.97 | 90.205 | 6,823.05 | -774.23 | 1,355.40 | 1,398.65 | 0.00 | 0.00 | 0.00 |
| 7,500.00 | 89.97 | 90.205 | 6,823.11 | -774.59 | 1,455.40 | 1,498.50 | 0.00 | 0.00 | 0.00 |
| 7,600.00 | 89.97 | 90.205 | 6,823.16 | -774.95 | 1,555.40 | 1,598.35 | 0.00 | 0.00 | 0.00 |
| 7,700.00 | 89.97 | 90.205 | 6,823.22 | -775.30 | 1,655.40 | 1,698.19 | 0.00 | 0.00 | 0.00 |
| 7,800.00 | 89.97 | 90.205 | 6,823.27 | -775.66 | 1,755.40 | 1,798.04 | 0.00 | 0.00 | 0.00 |
| 7,900.00 | 89.97 | 90.205 | 6,823.33 | -776.02 | 1,855.40 | 1,897.89 | 0.00 | 0.00 | 0.00 |
| 8,000.00 | 89.97 | 90.205 | 6,823.38 | -776.38 | 1,955.40 | 1,997.73 | 0.00 | 0.00 | 0.00 |
| 8,100.00 | 89.97 | 90.205 | 6,823.44 | -776.74 | 2,055.40 | 2,097.58 | 0.00 | 0.00 | 0.00 |
| 8,200.00 | 89.97 | 90.205 | 6,823.49 | -777.09 | 2,155.40 | 2,197.43 | 0.00 | 0.00 | 0.00 |
| 8,300.00 | 89.97 | 90.205 | 6,823.55 | -777.45 | 2,255.39 | 2,297.27 | 0.00 | 0.00 | 0.00 |
| 8,400.00 | 89.97 | 90.205 | 6,823.60 | -777.81 | 2,355.39 | 2,397.12 | 0.00 | 0.00 | 0.00 |
| 8,500.00 | 89.97 | 90.205 | 6,823.66 | -778.17 | 2,455.39 | 2,496.97 | 0.00 | 0.00 | 0.00 |
| 8,600.00 | 89.97 | 90.205 | 6,823.72 | -778.53 | 2,555.39 | 2,596.81 | 0.00 | 0.00 | 0.00 |
| 8,700.00 | 89.97 | 90.205 | 6,823.77 | -778.88 | 2,655.39 | 2,696.66 | 0.00 | 0.00 | 0.00 |
| 8,800.00 | 89.97 | 90.205 | 6,823.83 | -779.24 | 2,755.39 | 2,796.51 | 0.00 | 0.00 | 0.00 |
| 8,900.00 | 89.97 | 90.205 | 6,823.88 | -779.60 | 2,855.39 | 2,896.35 | 0.00 | 0.00 | 0.00 |
| 9,000.00 | 89.97 | 90.205 | 6,823.94 | -779.96 | 2,955.39 | 2,996.20 | 0.00 | 0.00 | 0.00 |
| 9,100.00 | 89.97 | 90.205 | 6,823.99 | -780.32 | 3,055.39 | 3,096.05 | 0.00 | 0.00 | 0.00 |
| 9,200.00 | 89.97 | 90.205 | 6,824.05 | -780.67 | 3,155.39 | 3,195.89 | 0.00 | 0.00 | 0.00 |
| 9,300.00 | 89.97 | 90.205 | 6,824.10 | -781.03 | 3,255.39 | 3,295.74 | 0.00 | 0.00 | 0.00 |
| 9,400.00 | 89.97 | 90.205 | 6,824.16 | -781.39 | 3,355.39 | 3,395.59 | 0.00 | 0.00 | 0.00 |
| 9,500.00 | 89.97 | 90.205 | 6,824.22 | -781.75 | 3,455.39 | 3,495.44 | 0.00 | 0.00 | 0.00 |
| 9,600.00 | 89.97 | 90.205 | 6,824.27 | -782.11 | 3,555.39 | 3,595.28 | 0.00 | 0.00 | 0.00 |
| 9,700.00 | 89.97 | 90.205 | 6,824.33 | -782.46 | 3,655.39 | 3,695.13 | 0.00 | 0.00 | 0.00 |

Hilcorp

# Lonestar Consulting, LLC

Planning Report

LONESTAR CONSULTING

| | | | |
|---|---|---|---|
| **Database:** | EDMDB | **Local Co-ordinate Reference:** | Well Allison Unit 612H |
| **Company:** | HilCorp | **TVD Reference:** | GL 6350' & RKB 25.1' @ 6375.10ft (Nabors B29) |
| **Project:** | San Juan, NM NAD27 | **MD Reference:** | GL 6350' & RKB 25.1' @ 6375.10ft (Nabors B29) |
| **Site:** | Allison 611 Pad | **North Reference:** | True |
| **Well:** | Allison Unit 612H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | Plan #1 | | |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 9,800.00 | 89.97 | 90.205 | 6,824.38 | -782.82 | 3,755.39 | 3,794.98 | 0.00 | 0.00 | 0.00 |
| 9,900.00 | 89.97 | 90.205 | 6,824.44 | -783.18 | 3,855.38 | 3,894.82 | 0.00 | 0.00 | 0.00 |
| 10,000.00 | 89.97 | 90.205 | 6,824.49 | -783.54 | 3,955.38 | 3,994.67 | 0.00 | 0.00 | 0.00 |
| 10,100.00 | 89.97 | 90.205 | 6,824.55 | -783.90 | 4,055.38 | 4,094.52 | 0.00 | 0.00 | 0.00 |
| 10,200.00 | 89.97 | 90.205 | 6,824.60 | -784.25 | 4,155.38 | 4,194.36 | 0.00 | 0.00 | 0.00 |
| 10,300.00 | 89.97 | 90.205 | 6,824.66 | -784.61 | 4,255.38 | 4,294.21 | 0.00 | 0.00 | 0.00 |
| 10,400.00 | 89.97 | 90.205 | 6,824.71 | -784.97 | 4,355.38 | 4,394.06 | 0.00 | 0.00 | 0.00 |
| 10,500.00 | 89.97 | 90.205 | 6,824.77 | -785.33 | 4,455.38 | 4,493.90 | 0.00 | 0.00 | 0.00 |
| 10,600.00 | 89.97 | 90.205 | 6,824.83 | -785.69 | 4,555.38 | 4,593.75 | 0.00 | 0.00 | 0.00 |
| 10,700.00 | 89.97 | 90.205 | 6,824.88 | -786.04 | 4,655.38 | 4,693.60 | 0.00 | 0.00 | 0.00 |
| 10,800.00 | 89.97 | 90.205 | 6,824.94 | -786.40 | 4,755.38 | 4,793.44 | 0.00 | 0.00 | 0.00 |
| 10,900.00 | 89.97 | 90.205 | 6,824.99 | -786.76 | 4,855.38 | 4,893.29 | 0.00 | 0.00 | 0.00 |
| 11,000.00 | 89.97 | 90.205 | 6,825.05 | -787.12 | 4,955.38 | 4,993.14 | 0.00 | 0.00 | 0.00 |
| 11,100.00 | 89.97 | 90.205 | 6,825.10 | -787.48 | 5,055.38 | 5,092.98 | 0.00 | 0.00 | 0.00 |
| 11,200.00 | 89.97 | 90.205 | 6,825.16 | -787.83 | 5,155.38 | 5,192.83 | 0.00 | 0.00 | 0.00 |
| 11,300.00 | 89.97 | 90.205 | 6,825.21 | -788.19 | 5,255.38 | 5,292.68 | 0.00 | 0.00 | 0.00 |
| 11,400.00 | 89.97 | 90.205 | 6,825.27 | -788.55 | 5,355.37 | 5,392.52 | 0.00 | 0.00 | 0.00 |
| 11,500.00 | 89.97 | 90.205 | 6,825.32 | -788.91 | 5,455.37 | 5,492.37 | 0.00 | 0.00 | 0.00 |
| 11,600.00 | 89.97 | 90.205 | 6,825.38 | -789.27 | 5,555.37 | 5,592.22 | 0.00 | 0.00 | 0.00 |
| 11,700.00 | 89.97 | 90.205 | 6,825.44 | -789.62 | 5,655.37 | 5,692.06 | 0.00 | 0.00 | 0.00 |
| 11,800.00 | 89.97 | 90.205 | 6,825.49 | -789.98 | 5,755.37 | 5,791.91 | 0.00 | 0.00 | 0.00 |
| 11,900.00 | 89.97 | 90.205 | 6,825.55 | -790.34 | 5,855.37 | 5,891.76 | 0.00 | 0.00 | 0.00 |
| 12,000.00 | 89.97 | 90.205 | 6,825.60 | -790.70 | 5,955.37 | 5,991.61 | 0.00 | 0.00 | 0.00 |
| 12,100.00 | 89.97 | 90.205 | 6,825.66 | -791.06 | 6,055.37 | 6,091.45 | 0.00 | 0.00 | 0.00 |
| 12,200.00 | 89.97 | 90.205 | 6,825.71 | -791.41 | 6,155.37 | 6,191.30 | 0.00 | 0.00 | 0.00 |
| 12,300.00 | 89.97 | 90.205 | 6,825.77 | -791.77 | 6,255.37 | 6,291.15 | 0.00 | 0.00 | 0.00 |
| 12,400.00 | 89.97 | 90.205 | 6,825.82 | -792.13 | 6,355.37 | 6,390.99 | 0.00 | 0.00 | 0.00 |
| 12,500.00 | 89.97 | 90.205 | 6,825.88 | -792.49 | 6,455.37 | 6,490.84 | 0.00 | 0.00 | 0.00 |
| 12,600.00 | 89.97 | 90.205 | 6,825.94 | -792.85 | 6,555.37 | 6,590.69 | 0.00 | 0.00 | 0.00 |
| 12,700.00 | 89.97 | 90.205 | 6,825.99 | -793.20 | 6,655.37 | 6,690.53 | 0.00 | 0.00 | 0.00 |
| 12,800.00 | 89.97 | 90.205 | 6,826.05 | -793.56 | 6,755.37 | 6,790.38 | 0.00 | 0.00 | 0.00 |
| 12,900.00 | 89.97 | 90.205 | 6,826.10 | -793.92 | 6,855.36 | 6,890.23 | 0.00 | 0.00 | 0.00 |
| 13,000.00 | 89.97 | 90.205 | 6,826.16 | -794.28 | 6,955.36 | 6,990.07 | 0.00 | 0.00 | 0.00 |
| 13,100.00 | 89.97 | 90.205 | 6,826.21 | -794.64 | 7,055.36 | 7,089.92 | 0.00 | 0.00 | 0.00 |
| 13,200.00 | 89.97 | 90.205 | 6,826.27 | -794.99 | 7,155.36 | 7,189.77 | 0.00 | 0.00 | 0.00 |
| 13,300.00 | 89.97 | 90.205 | 6,826.32 | -795.35 | 7,255.36 | 7,289.61 | 0.00 | 0.00 | 0.00 |
| 13,400.00 | 89.97 | 90.205 | 6,826.38 | -795.71 | 7,355.36 | 7,389.46 | 0.00 | 0.00 | 0.00 |
| 13,500.00 | 89.97 | 90.205 | 6,826.43 | -796.07 | 7,455.36 | 7,489.31 | 0.00 | 0.00 | 0.00 |
| 13,600.00 | 89.97 | 90.205 | 6,826.49 | -796.43 | 7,555.36 | 7,589.15 | 0.00 | 0.00 | 0.00 |
| 13,700.00 | 89.97 | 90.205 | 6,826.55 | -796.78 | 7,655.36 | 7,689.00 | 0.00 | 0.00 | 0.00 |
| 13,800.00 | 89.97 | 90.205 | 6,826.60 | -797.14 | 7,755.36 | 7,788.85 | 0.00 | 0.00 | 0.00 |
| 13,900.00 | 89.97 | 90.205 | 6,826.66 | -797.50 | 7,855.36 | 7,888.69 | 0.00 | 0.00 | 0.00 |
| 14,000.00 | 89.97 | 90.205 | 6,826.71 | -797.86 | 7,955.36 | 7,988.54 | 0.00 | 0.00 | 0.00 |
| 14,100.00 | 89.97 | 90.205 | 6,826.77 | -798.22 | 8,055.36 | 8,088.39 | 0.00 | 0.00 | 0.00 |
| 14,200.00 | 89.97 | 90.205 | 6,826.82 | -798.57 | 8,155.36 | 8,188.23 | 0.00 | 0.00 | 0.00 |
| 14,300.00 | 89.97 | 90.205 | 6,826.88 | -798.93 | 8,255.36 | 8,288.08 | 0.00 | 0.00 | 0.00 |
| 14,400.00 | 89.97 | 90.205 | 6,826.93 | -799.29 | 8,355.36 | 8,387.93 | 0.00 | 0.00 | 0.00 |
| 14,500.00 | 89.97 | 90.205 | 6,826.99 | -799.65 | 8,455.35 | 8,487.78 | 0.00 | 0.00 | 0.00 |
| 14,600.00 | 89.97 | 90.205 | 6,827.05 | -800.01 | 8,555.35 | 8,587.62 | 0.00 | 0.00 | 0.00 |
| 14,700.00 | 89.97 | 90.205 | 6,827.10 | -800.36 | 8,655.35 | 8,687.47 | 0.00 | 0.00 | 0.00 |
| 14,800.00 | 89.97 | 90.205 | 6,827.16 | -800.72 | 8,755.35 | 8,787.32 | 0.00 | 0.00 | 0.00 |
| 14,900.00 | 89.97 | 90.205 | 6,827.21 | -801.08 | 8,855.35 | 8,887.16 | 0.00 | 0.00 | 0.00 |

Hilcorp

# Lonestar Consulting, LLC
Planning Report

LONESTAR CONSULTING

| | | | |
|---|---|---|---|
| **Database:** | EDMDB | **Local Co-ordinate Reference:** | Well Allison Unit 612H |
| **Company:** | HilCorp | **TVD Reference:** | GL 6350' & RKB 25.1' @ 6375.10ft (Nabors B29) |
| **Project:** | San Juan, NM NAD27 | **MD Reference:** | GL 6350' & RKB 25.1' @ 6375.10ft (Nabors B29) |
| **Site:** | Allison 611 Pad | **North Reference:** | True |
| **Well:** | Allison Unit 612H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | Plan #1 | | |

**Planned Survey**

| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 15,000.00 | 89.97 | 90.205 | 6,827.27 | -801.44 | 8,955.35 | 8,987.01 | 0.00 | 0.00 | 0.00 |
| 15,100.00 | 89.97 | 90.205 | 6,827.32 | -801.80 | 9,055.35 | 9,086.86 | 0.00 | 0.00 | 0.00 |
| 15,200.00 | 89.97 | 90.205 | 6,827.38 | -802.15 | 9,155.35 | 9,186.70 | 0.00 | 0.00 | 0.00 |
| 15,300.00 | 89.97 | 90.205 | 6,827.43 | -802.51 | 9,255.35 | 9,286.55 | 0.00 | 0.00 | 0.00 |
| 15,400.00 | 89.97 | 90.205 | 6,827.49 | -802.87 | 9,355.35 | 9,386.40 | 0.00 | 0.00 | 0.00 |
| 15,500.00 | 89.97 | 90.205 | 6,827.54 | -803.23 | 9,455.35 | 9,486.24 | 0.00 | 0.00 | 0.00 |
| 15,600.00 | 89.97 | 90.205 | 6,827.60 | -803.59 | 9,555.35 | 9,586.09 | 0.00 | 0.00 | 0.00 |
| 15,700.00 | 89.97 | 90.205 | 6,827.66 | -803.94 | 9,655.35 | 9,685.94 | 0.00 | 0.00 | 0.00 |
| 15,800.00 | 89.97 | 90.205 | 6,827.71 | -804.30 | 9,755.35 | 9,785.78 | 0.00 | 0.00 | 0.00 |
| 15,900.00 | 89.97 | 90.205 | 6,827.77 | -804.66 | 9,855.35 | 9,885.63 | 0.00 | 0.00 | 0.00 |
| 16,000.00 | 89.97 | 90.205 | 6,827.82 | -805.02 | 9,955.34 | 9,985.48 | 0.00 | 0.00 | 0.00 |
| 16,100.00 | 89.97 | 90.205 | 6,827.88 | -805.38 | 10,055.34 | 10,085.32 | 0.00 | 0.00 | 0.00 |
| 16,200.00 | 89.97 | 90.205 | 6,827.93 | -805.73 | 10,155.34 | 10,185.17 | 0.00 | 0.00 | 0.00 |
| 16,300.00 | 89.97 | 90.205 | 6,827.99 | -806.09 | 10,255.34 | 10,285.02 | 0.00 | 0.00 | 0.00 |
| 16,400.00 | 89.97 | 90.205 | 6,828.04 | -806.45 | 10,355.34 | 10,384.86 | 0.00 | 0.00 | 0.00 |
| 16,500.00 | 89.97 | 90.205 | 6,828.10 | -806.81 | 10,455.34 | 10,484.71 | 0.00 | 0.00 | 0.00 |
| 16,600.00 | 89.97 | 90.205 | 6,828.15 | -807.17 | 10,555.34 | 10,584.56 | 0.00 | 0.00 | 0.00 |
| 16,700.00 | 89.97 | 90.205 | 6,828.21 | -807.52 | 10,655.34 | 10,684.40 | 0.00 | 0.00 | 0.00 |
| 16,800.00 | 89.97 | 90.205 | 6,828.27 | -807.88 | 10,755.34 | 10,784.25 | 0.00 | 0.00 | 0.00 |
| 16,900.00 | 89.97 | 90.205 | 6,828.32 | -808.24 | 10,855.34 | 10,884.10 | 0.00 | 0.00 | 0.00 |
| 17,000.00 | 89.97 | 90.205 | 6,828.38 | -808.60 | 10,955.34 | 10,983.95 | 0.00 | 0.00 | 0.00 |
| 17,100.00 | 89.97 | 90.205 | 6,828.43 | -808.96 | 11,055.34 | 11,083.79 | 0.00 | 0.00 | 0.00 |
| 17,200.00 | 89.97 | 90.205 | 6,828.49 | -809.31 | 11,155.34 | 11,183.64 | 0.00 | 0.00 | 0.00 |
| 17,300.00 | 89.97 | 90.205 | 6,828.54 | -809.67 | 11,255.34 | 11,283.49 | 0.00 | 0.00 | 0.00 |
| 17,400.00 | 89.97 | 90.205 | 6,828.60 | -810.03 | 11,355.34 | 11,383.33 | 0.00 | 0.00 | 0.00 |
| 17,500.00 | 89.97 | 90.205 | 6,828.65 | -810.39 | 11,455.33 | 11,483.18 | 0.00 | 0.00 | 0.00 |
| 17,600.00 | 89.97 | 90.205 | 6,828.71 | -810.75 | 11,555.33 | 11,583.03 | 0.00 | 0.00 | 0.00 |
| 17,700.00 | 89.97 | 90.205 | 6,828.77 | -811.10 | 11,655.33 | 11,682.87 | 0.00 | 0.00 | 0.00 |
| 17,800.00 | 89.97 | 90.205 | 6,828.82 | -811.46 | 11,755.33 | 11,782.72 | 0.00 | 0.00 | 0.00 |
| 17,900.00 | 89.97 | 90.205 | 6,828.88 | -811.82 | 11,855.33 | 11,882.57 | 0.00 | 0.00 | 0.00 |
| 18,000.00 | 89.97 | 90.205 | 6,828.93 | -812.18 | 11,955.33 | 11,982.41 | 0.00 | 0.00 | 0.00 |
| 18,100.00 | 89.97 | 90.205 | 6,828.99 | -812.54 | 12,055.33 | 12,082.26 | 0.00 | 0.00 | 0.00 |
| 18,200.00 | 89.97 | 90.205 | 6,829.04 | -812.89 | 12,155.33 | 12,182.11 | 0.00 | 0.00 | 0.00 |
| 18,300.00 | 89.97 | 90.205 | 6,829.10 | -813.25 | 12,255.33 | 12,281.95 | 0.00 | 0.00 | 0.00 |
| 18,400.00 | 89.97 | 90.205 | 6,829.15 | -813.61 | 12,355.33 | 12,381.80 | 0.00 | 0.00 | 0.00 |
| 18,500.00 | 89.97 | 90.205 | 6,829.21 | -813.97 | 12,455.33 | 12,481.65 | 0.00 | 0.00 | 0.00 |
| 18,600.00 | 89.97 | 90.205 | 6,829.26 | -814.33 | 12,555.33 | 12,581.49 | 0.00 | 0.00 | 0.00 |
| 18,700.00 | 89.97 | 90.205 | 6,829.32 | -814.68 | 12,655.33 | 12,681.34 | 0.00 | 0.00 | 0.00 |
| 18,800.00 | 89.97 | 90.205 | 6,829.38 | -815.04 | 12,755.33 | 12,781.19 | 0.00 | 0.00 | 0.00 |
| 18,900.00 | 89.97 | 90.205 | 6,829.43 | -815.40 | 12,855.33 | 12,881.03 | 0.00 | 0.00 | 0.00 |
| 19,000.00 | 89.97 | 90.205 | 6,829.49 | -815.76 | 12,955.33 | 12,980.88 | 0.00 | 0.00 | 0.00 |
| 19,100.00 | 89.97 | 90.205 | 6,829.54 | -816.12 | 13,055.32 | 13,080.73 | 0.00 | 0.00 | 0.00 |
| 19,200.00 | 89.97 | 90.205 | 6,829.60 | -816.47 | 13,155.32 | 13,180.58 | 0.00 | 0.00 | 0.00 |
| 19,300.00 | 89.97 | 90.205 | 6,829.65 | -816.83 | 13,255.32 | 13,280.42 | 0.00 | 0.00 | 0.00 |
| 19,400.00 | 89.97 | 90.205 | 6,829.71 | -817.19 | 13,355.32 | 13,380.27 | 0.00 | 0.00 | 0.00 |
| 19,500.00 | 89.97 | 90.205 | 6,829.76 | -817.55 | 13,455.32 | 13,480.12 | 0.00 | 0.00 | 0.00 |
| 19,600.00 | 89.97 | 90.205 | 6,829.82 | -817.91 | 13,555.32 | 13,579.96 | 0.00 | 0.00 | 0.00 |
| 19,700.00 | 89.97 | 90.205 | 6,829.87 | -818.26 | 13,655.32 | 13,679.81 | 0.00 | 0.00 | 0.00 |
| 19,800.00 | 89.97 | 90.205 | 6,829.93 | -818.62 | 13,755.32 | 13,779.66 | 0.00 | 0.00 | 0.00 |
| 19,900.00 | 89.97 | 90.205 | 6,829.99 | -818.98 | 13,855.32 | 13,879.50 | 0.00 | 0.00 | 0.00 |
| 19,925.81 | 89.97 | 90.205 | 6,830.00 | -819.07 | 13,881.13 | 13,905.27 | 0.00 | 0.00 | 0.00 |

Hilcorp

# Lonestar Consulting, LLC
Planning Report

LONESTAR CONSULTING

| | | | |
|---|---|---|---|
| **Database:** | EDMDB | **Local Co-ordinate Reference:** | Well Allison Unit 612H |
| **Company:** | HilCorp | **TVD Reference:** | GL 6350' & RKB 25.1' @ 6375.10ft (Nabors B29) |
| **Project:** | San Juan, NM NAD27 | **MD Reference:** | GL 6350' & RKB 25.1' @ 6375.10ft (Nabors B29) |
| **Site:** | Allison 611 Pad | **North Reference:** | True |
| **Well:** | Allison Unit 612H | **Survey Calculation Method:** | Minimum Curvature |
| **Wellbore:** | OH | | |
| **Design:** | Plan #1 | | |

**Design Targets**

| Target Name - hit/miss target - Shape | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| AU 612H LP<br>- plan hits target center<br>- Point | 0.00 | 0.000 | 6,823.00 | -773.91 | 1,265.58 | 2,182,065.40 | 592,643.00 | 36.9962681 | -107.5160953 |
| AU 612H BHL<br>- plan hits target center<br>- Point | 0.00 | 0.000 | 6,830.00 | -819.07 | 13,881.13 | 2,182,061.70 | 605,258.60 | 36.9961347 | -107.4728964 |

**Formations**

| Measured Depth (ft) | Vertical Depth (ft) | Name | Lithology | Dip (°) | Dip Direction (°) |
|---|---|---|---|---|---|
| 2,097.71 | 2,084.00 | OJO ALAMO (SS) | | 0.00 | 0.000 |
| 2,164.68 | 2,150.00 | KIRTLAND (SHALE + coal) | | 0.00 | 0.000 |
| 2,601.99 | 2,581.00 | FRUITLAND (shale + COAL) | | 0.00 | 0.000 |
| 2,976.39 | 2,950.00 | PICTURED CLIFFS (ss) | | 0.00 | 0.000 |
| 3,500.96 | 3,467.00 | LEWIS SHALE | | 0.00 | 0.000 |
| 4,954.94 | 4,900.00 | CLIFFHOUSE | | 0.00 | 0.000 |
| 5,334.42 | 5,274.00 | MENEFEE | | 0.00 | 0.000 |
| 5,518.07 | 5,455.00 | POINT LOOKOUT | | 0.00 | 0.000 |
| 6,044.67 | 5,974.00 | MANCOS | | 0.00 | 0.000 |

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 412025

## CONDITIONS

| | |
|---|---|
| Operator:<br>HILCORP ENERGY COMPANY<br>1111 Travis Street<br>Houston, TX 77002 | OGRID:<br>372171 |
| | Action Number:<br>412025 |
| | Action Type:<br>[C-101] Drilling Non-Federal/Indian (APD) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| ward.rikala | Notify the OCD 24 hours prior to casing & cement. | 1/10/2025 |
| ward.rikala | File As Drilled C-102 and a directional Survey with C-104 completion packet. | 1/10/2025 |
| 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. | 1/10/2025 |
| 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. | 1/10/2025 |
| ward.rikala | Cement is required to circulate on both surface and intermediate1 strings of casing. | 1/10/2025 |
| ward.rikala | If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing. | 1/10/2025 |
| ward.rikala | A [C-103] Sub. Drilling (C-103N) is required within (10) days of spud. | 1/10/2025 |