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 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 382 Road 3100 Aztec, NM 87410	372171
	3. API Number 30-045-35630

4. Property Code	5. Property Name	6. Well No.
318877	Calloway	1M

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
G	27	31N	11W		1818	N	1788	E	San Juan

8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
J	27	31N	11W		2549	S	1764	E	San Juan

9. Pool Information

Pool Name	Pool Code
Mesaverde/Dakota	72319 / 71599

Additional Well Information

11. Work Type	12. Well Type	13. Cable/Rotary	14. Lease Type	15. Ground Level Elevation
N	G	R	Fee	5732’
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
Y	7,240’	7,240’		2024/2025

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
	12 1/4"	9 5/8”	32.3#/H40 STC	200’	90 sx	Surf
	8 3/4"	7”	20# / J55 STC	3214’	300 sx/70 sx tail	Surf
	6 1/4"	4 1/2"	11.6#/J55 STC	7240’	458 sx	3,114’

Casing/Cement Program: Additional Comments

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
	3M	Low 250 psi / High 3000 psi	

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: Cherylene Weston	OIL CONSERVATION DIVISION Approved By:
Printed name: Cherylene Weston	Title:
Title: Operations/Regulatory Tech Sr.	Approved Date: / Expiration Date:
E-mail Address: cweston@hilcorp.com	
Date: 5/2/2024 / Phone: 713-289-2615	Conditions of Approval Attached

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
DISTRICT II
811 S. First St., Artesia, N.M. 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
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DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, N.M. 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, N.M. 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
30-045-35630	72319 / 71599	BLANCO MESA VERDE / BASIN DAKOTA

[4] Property Code	[5] Property Name	[6] Well Number
318877	CALLOWAY	1M

[7] OGRID No.	[8] Operator Name	[9] Elevation
372171	HILCORP SAN JUAN, L.P.	5732

[10] Surface Location

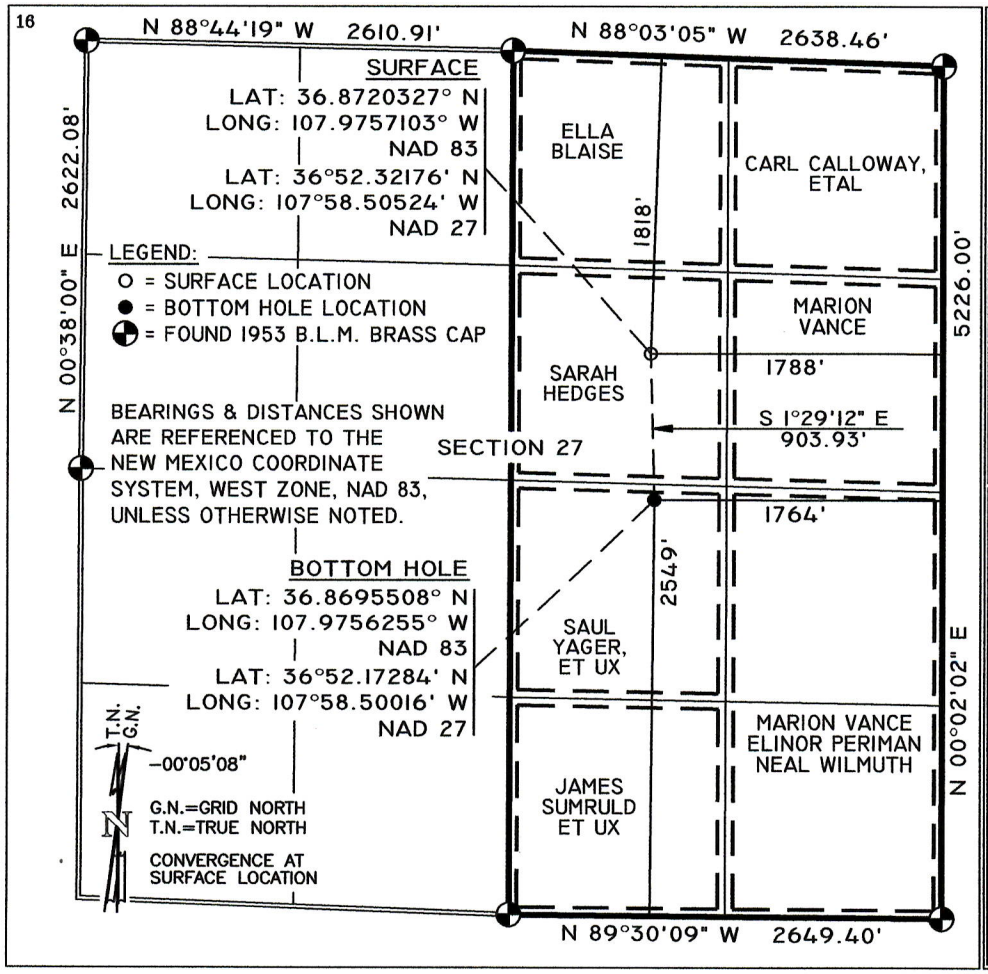
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	27	31 N	11 W		1818	NORTH	1788	EAST	SAN JUAN

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	27	31 N	11 W		2549	SOUTH	1764	EAST	SAN JUAN

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
320 (MV) E 1/2 320 (DK) E 1/2			

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.

Cherylene Weston 4/30/2024
Signature Date

Cherylene Weston, Ops/Reg Tech-Sr.
Printed Name

cweston@hilcorp.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.

06/27/14
Date of Survey
Plat Revised: 4/10/24
Signature and Seal of Professional Surveyor:

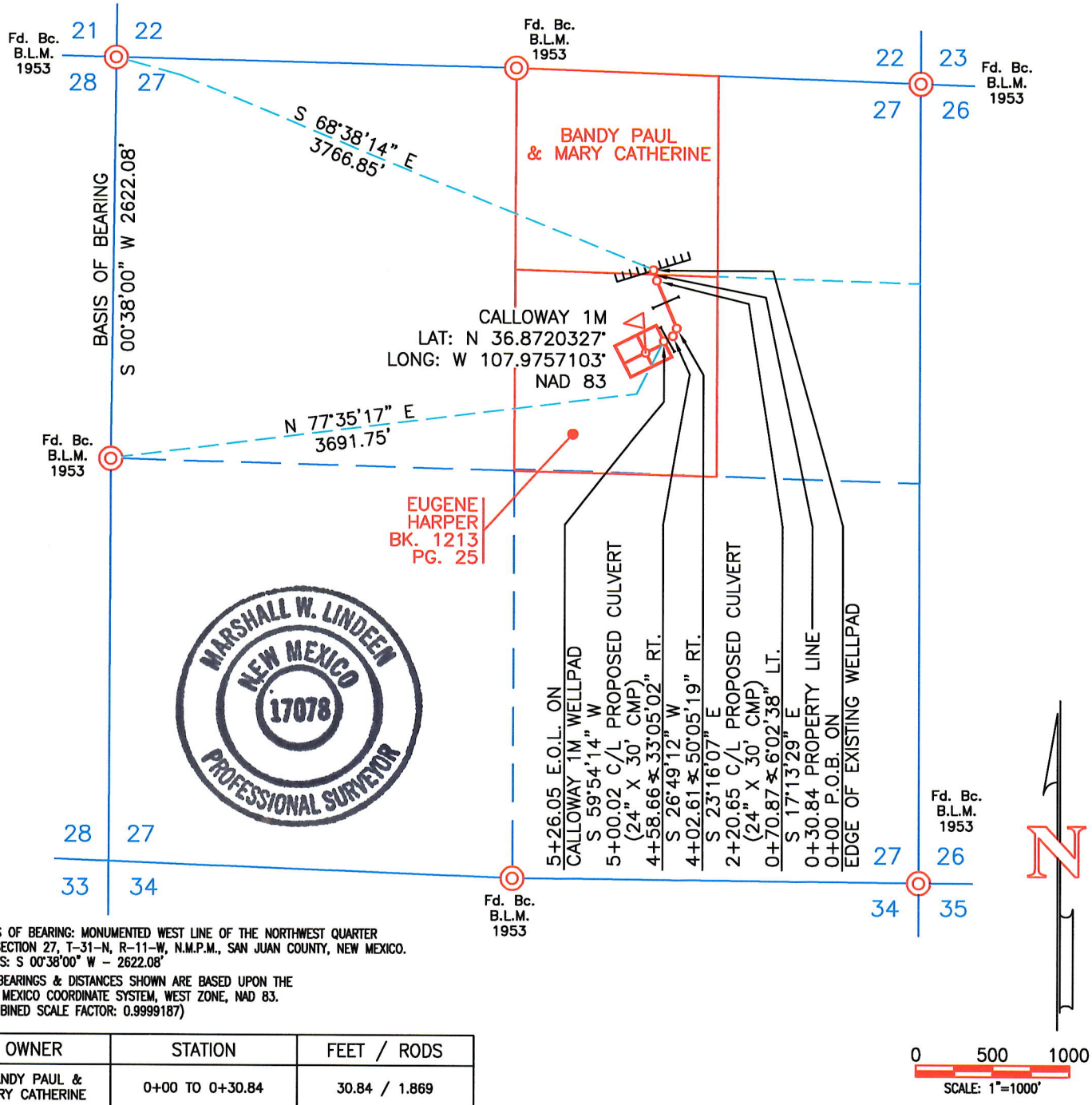
MARSHALL W. LINDEN
NEW MEXICO
17078
PROFESSIONAL SURVEYOR
4-27-24

17078
Certificate Number

HILCORP SAN JUAN, L.P.

CALLOWAY 1M PROPOSED ACCESS ROAD

NE 1/4 SEC. 27, T-31-N, R-11-W, N.M.P.M.
SAN JUAN COUNTY, NEW MEXICO



NOTES:

1. BASIS OF BEARING: MONUMENTED WEST LINE OF THE NORTHWEST QUARTER OF SECTION 27, T-31-N, R-11-W, N.M.P.M., SAN JUAN COUNTY, NEW MEXICO. BEARS: S 00°38'00" W - 2622.08'
2. ALL BEARINGS & DISTANCES SHOWN ARE BASED UPON THE NEW MEXICO COORDINATE SYSTEM, WEST ZONE, NAD 83. (COMBINED SCALE FACTOR: 0.9999187)

OWNER	STATION	FEET / RODS
BANDY PAUL & MARY CATHERINE	0+00 TO 0+30.84	30.84 / 1.869
EUGENE HARPER	0+30.84 TO 5+26.05	495.21 / 30.013

P.O.B. = POINT OF BEGINNING
E.O.L. = END OF LINE

I, MARSHALL W. LINDEEN, NEW MEXICO PROFESSIONAL SURVEYOR NO. 17078, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I FURTHER CERTIFY THAT THIS SURVEY IS NOT A LAND DIVISION OR SUBDIVISION AS DEFINED IN THE NEW MEXICO SUBDIVISION ACT.

MARSHALL W. LINDEEN P.S. #17078 — DATE 4-27-24

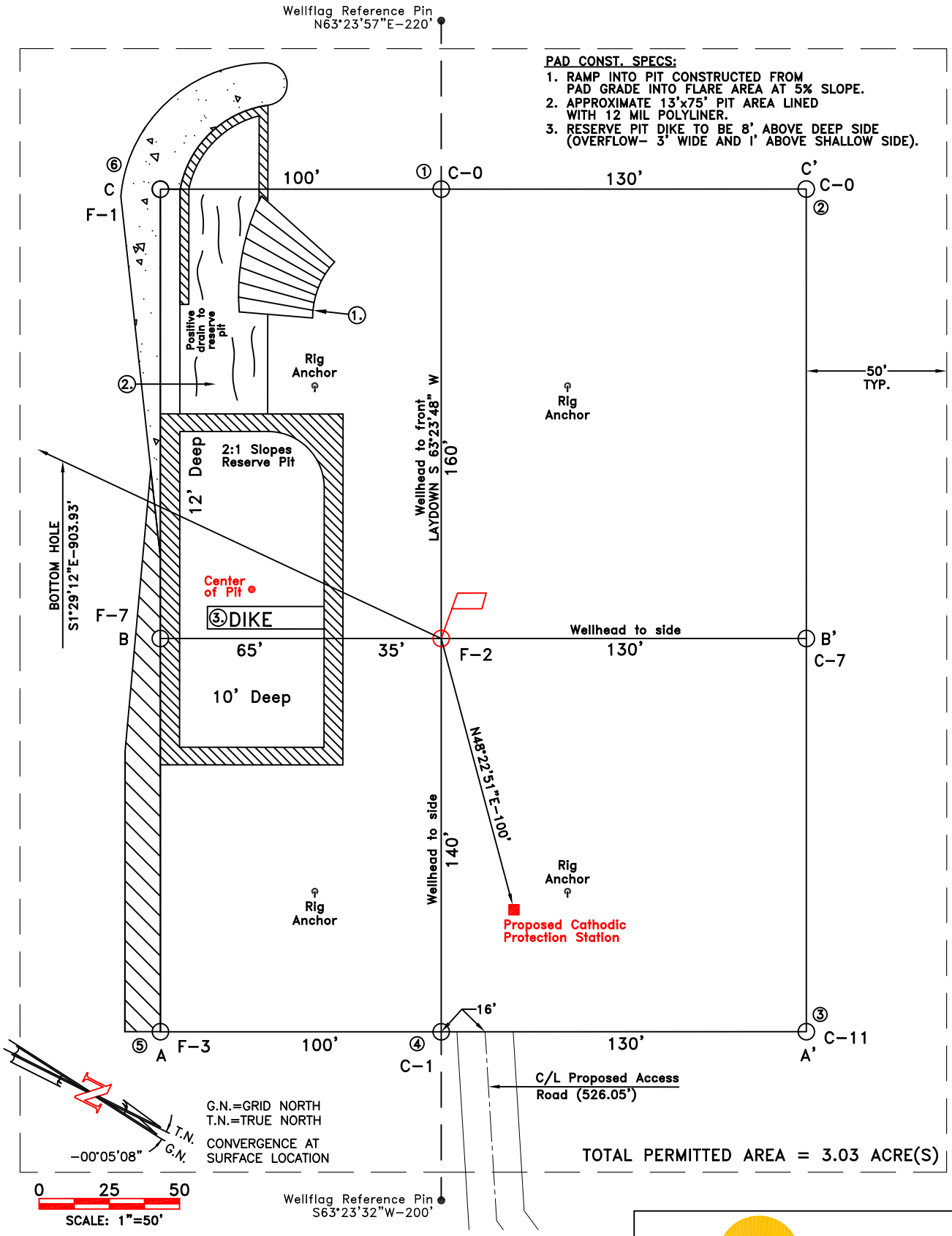
HILCORP SAN JUAN, L.P.

SURVEYED: 06/27/14	REV. DATE/BY: 04/10/24/C.B.	APP. BY M.W.L.
DRAWN BY: C.B.	DATE DRAWN: 7/15/14	FILE NAME: 11882-A02

UNITED FIELD SERVICES INC.
P.O. BOX 3651
FARMINGTON, NM 87499
OFFICE: (505) 334-0408

HILCORP SAN JUAN, L.P.

CALLOWAY 1M – 1818' FNL & 1788' FEL (SURFACE)
2549' FSL & 1764' FEL (BOTTOM HOLE)
SECTION 27, T-31-N, R-11-W, N.M.P.M., SAN JUAN COUNTY, N.M.
PROPOSED ELEVATION: 5734



CALLOWAY 1M
LATITUDE: 36.8720327° N
LONGITUDE: 107.9757103° W
NAD 83
LATITUDE: 36°52.32176' N
LONGITUDE: 107°58.50524' W
NAD 27

PROPOSED CATHODIC PROTECTION STATION
LATITUDE: 36.8722154° N
LONGITUDE: 107.9754551° W
NAD 83
LATITUDE: 36°52.33273' N
LONGITUDE: 107°58.48993' W
NAD 27

CENTER OF PIT
LATITUDE: 36.8718455° N
LONGITUDE: 107.9756601° W
NAD 83
LATITUDE: 36°52.31053' N
LONGITUDE: 107°58.50223' W
NAD 27
ELEVATION: 5722

NOTES:
1.) BEARINGS & DISTANCES SHOWN ARE REFERENCED TO THE NEW MEXICO COORDINATE SYSTEM, WEST ZONE, NAD 83.
2.) CONTRACTOR SHALL CONTACT "ONE-CALL" FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELLPAD AND/OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.
3.) UNITED FIELD SERVICES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES.

UNITED FIELD SERVICES INC.
P.O. BOX 3651
FARMINGTON, NM 87499
OFFICE: (505) 334-0408

DWG. NO. : 11882-L04		REVISION: 3
DRAWN BY: C.B.	DATE DRAWN: 07/15/14	REV. DATE: 04/10/24
SURVEYED: 06/27/14	APP. BY: M.W.L.	SHEET: 1

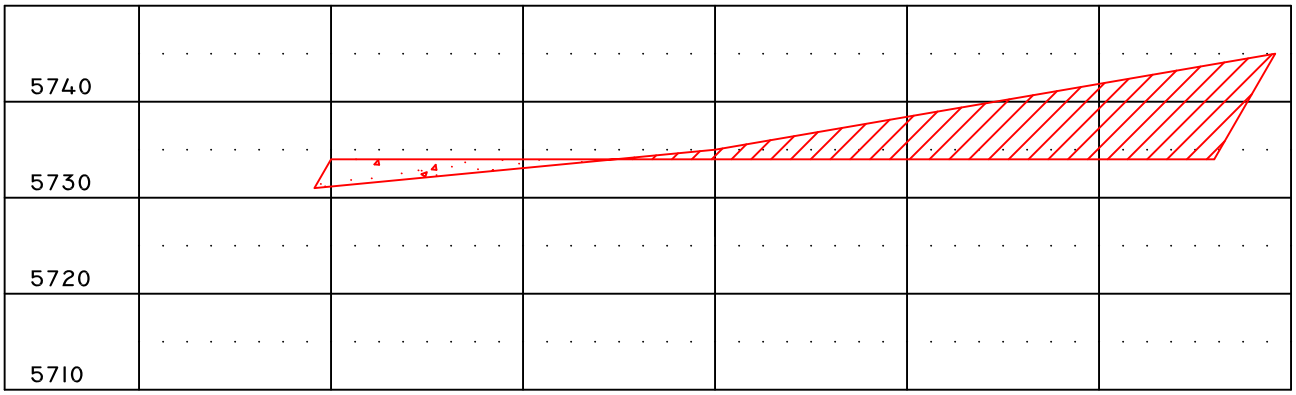
HILCORP SAN JUAN, L.P.

CALLOWAY 1M – 1818' FNL & 1788' FEL (SURFACE)
2549' FSL & 1764' FEL (BOTTOM HOLE)

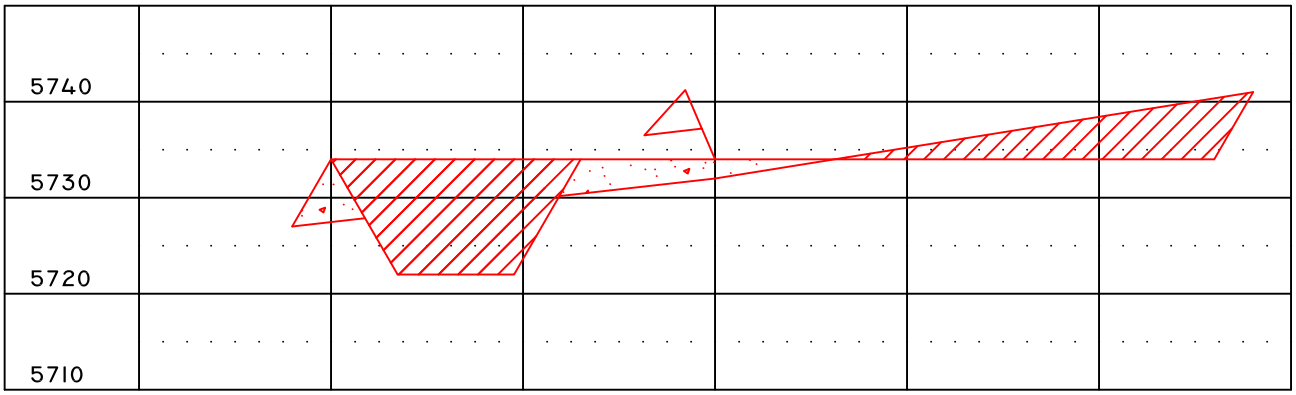
SEC. 27, T-31-N, R-11-W, N.M.P.M., SAN JUAN COUNTY, N.M.
PROPOSED ELEVATION: 5734 – DATE: JUNE 26, 2014

ELEVATION

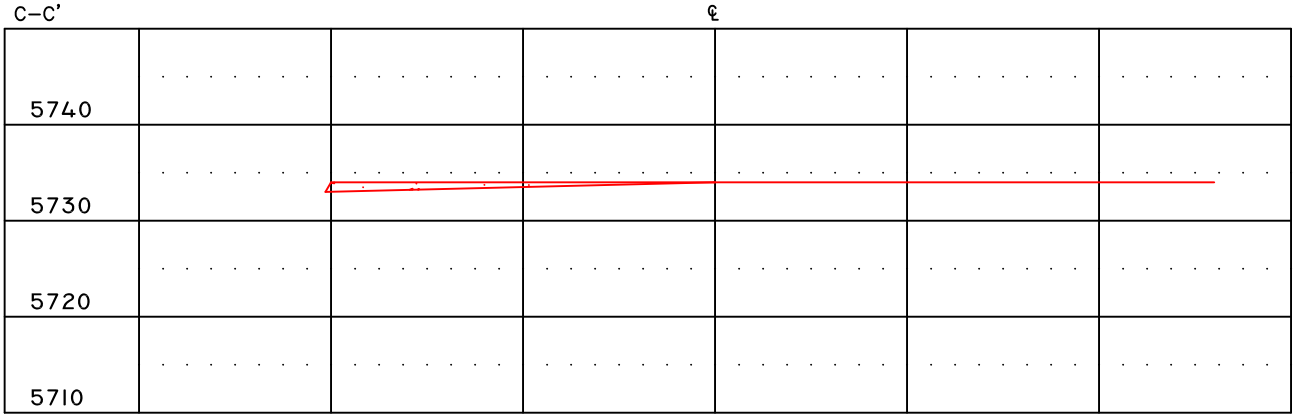
A–A'



B–B'



C–C'



1" = 50' – HORIZONTAL
1" = 20' – VERTICAL

NOTES:

1.) CONTRACTOR SHALL CONTACT "ONE-CALL" FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELLPAD AND/OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.

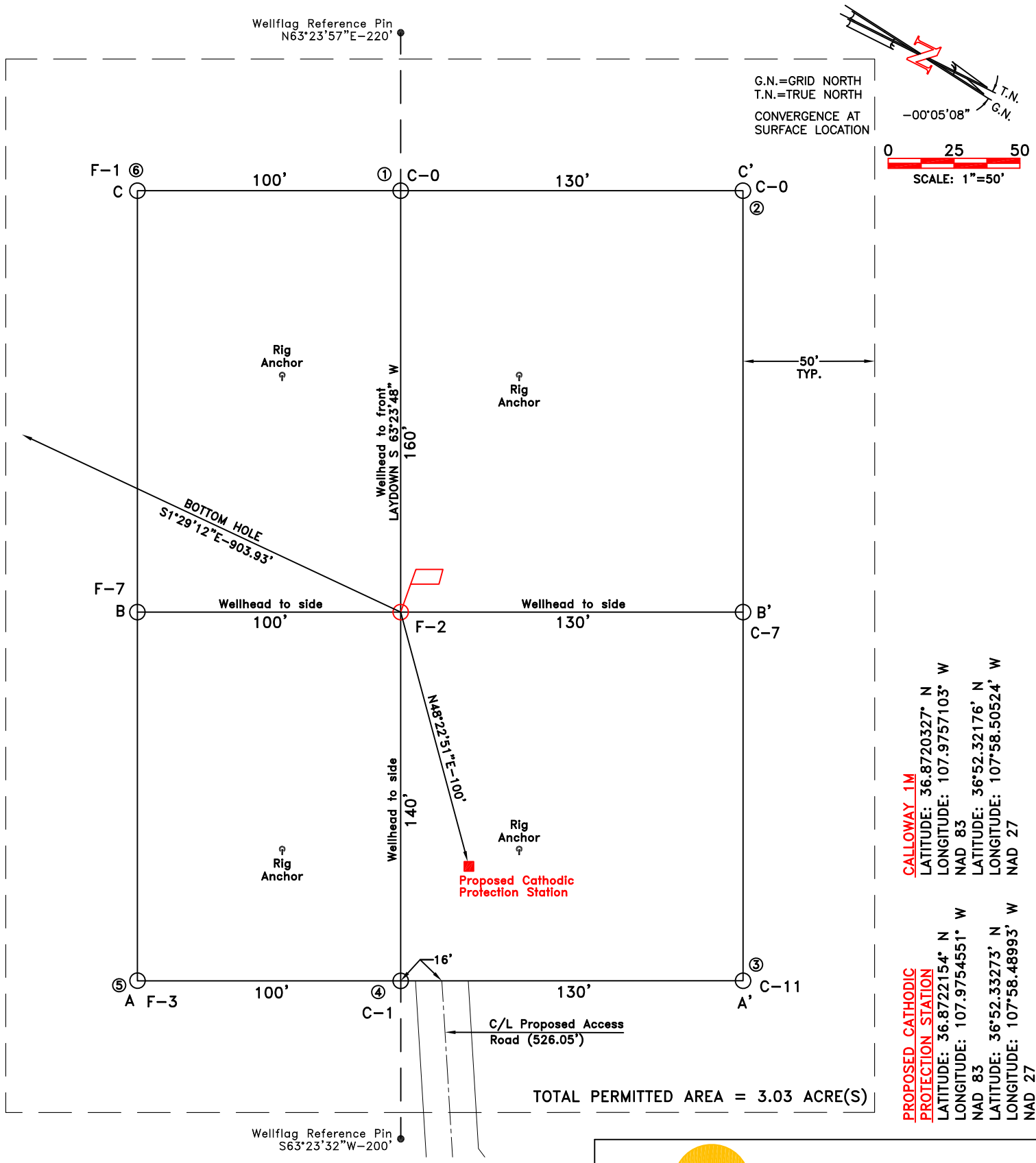
2.) UNITED FIELD SERVICES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES.

UNITED FIELD SERVICES INC.
P.O. BOX 3651
FARMINGTON, NM 87499
OFFICE: (505) 334-0408

DWG. NO. : 11882-C03		REVISION: 2
DRAWN BY: C.B.	DATE DRAWN: 07/15/14	REV. DATE: 04/10/24
SURVEYED: 06/27/14	APP. BY: M.W.L.	SHEET: 1

HILCORP SAN JUAN, L.P.

CALLOWAY 1M – 1818' FNL & 1788' FEL (SURFACE)
2549' FSL & 1764' FEL (BOTTOM HOLE)
SECTION 27, T-31-N, R-11-W, N.M.P.M., SAN JUAN COUNTY, N.M.
PROPOSED ELEVATION: 5734



CALLOWAY 1M
LATITUDE: 36.8720327° N
LONGITUDE: 107.9757103° W
NAD 83
LATITUDE: 36°52.32176' N
LONGITUDE: 107°58.50524' W
NAD 27

PROPOSED CATHODIC PROTECTION STATION
LATITUDE: 36.8722154° N
LONGITUDE: 107.9754551° W
NAD 83
LATITUDE: 36°52.33273' N
LONGITUDE: 107°58.48993' W
NAD 27

NOTES:

1.) BEARINGS & DISTANCES SHOWN ARE REFERENCED TO THE NEW MEXICO COORDINATE SYSTEM, WEST ZONE, NAD 83.

2.) CONTRACTOR SHALL CONTACT "ONE-CALL" FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELLPAD AND/OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.

3.) UNITED FIELD SERVICES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES.

UNITED FIELD SERVICES INC.
P.O. BOX 3651
FARMINGTON, NM 87499
OFFICE: (505) 334-0408

DWG. NO. : 11882-L05		REVISION: 3
DRAWN BY: C.B.	DATE DRAWN: 07/15/14	REV. DATE: 04/10/24
SURVEYED: 06/27/14	APP. BY: M.W.L.	SHEET: 1

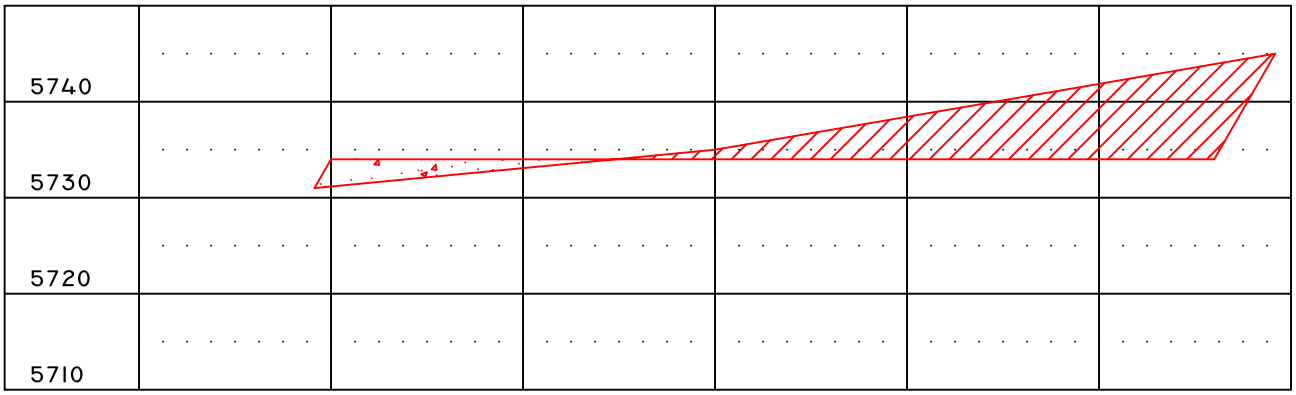
HILCORP SAN JUAN, L.P.

CALLOWAY 1M – 1818' FNL & 1788' FEL (SURFACE)
2549' FSL & 1764' FEL (BOTTOM HOLE)

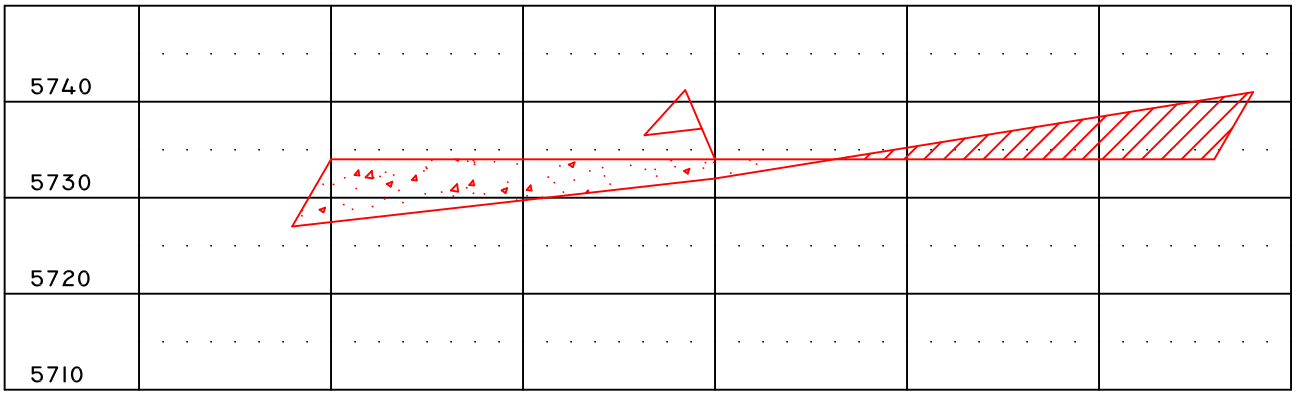
SEC. 27, T-31-N, R-11-W, N.M.P.M., SAN JUAN COUNTY, N.M.
PROPOSED ELEVATION: 5734 – DATE: JUNE 26, 2014

ELEVATION

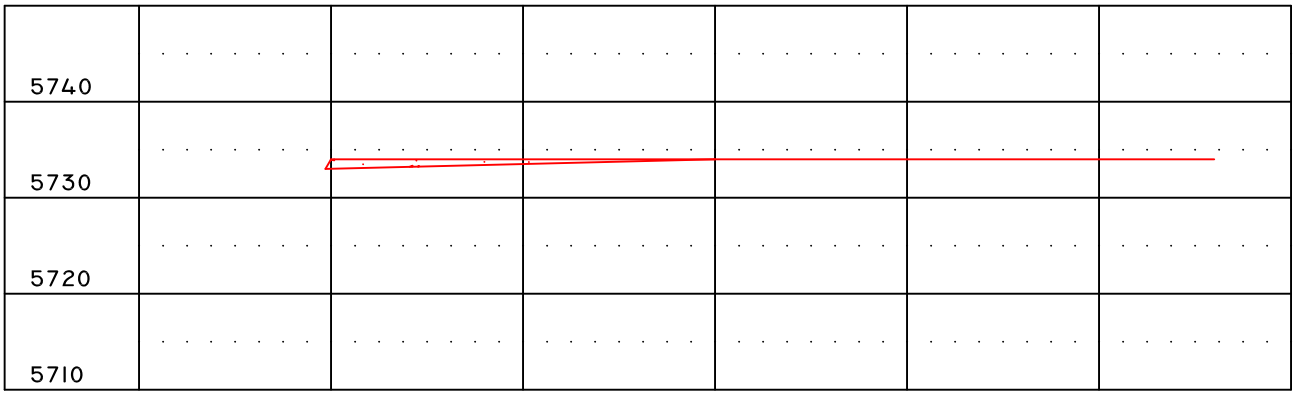
A–A'



B–B'



C–C'



1" = 50' – HORIZONTAL
1" = 20' – VERTICAL

NOTES:

1.) CONTRACTOR SHALL CONTACT "ONE-CALL" FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELLPAD AND/OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.

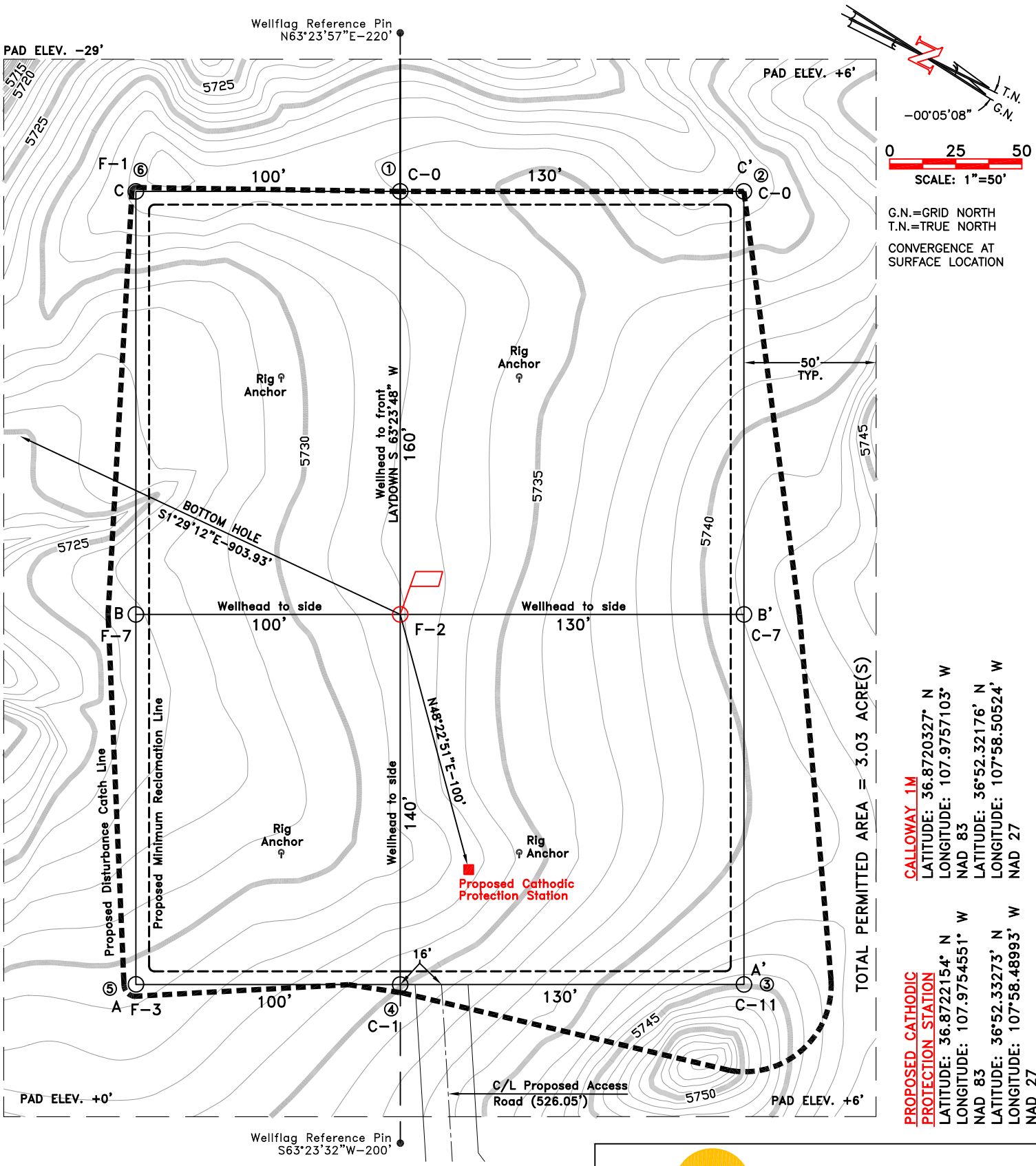
2.) UNITED FIELD SERVICES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES.

UNITED FIELD SERVICES INC.
P.O. BOX 3651
FARMINGTON, NM 87499
OFFICE: (505) 334-0408

DWG. NO. : 11882-C04		REVISION: 2
DRAWN BY: C.B.	DATE DRAWN: 07/15/14	REV. DATE: 04/10/24
SURVEYED: 06/27/14	APP. BY: M.W.L.	SHEET: 1

HILCORP SAN JUAN, L.P.

CALLOWAY 1M – 1818' FNL & 1788' FEL (SURFACE)
2549' FSL & 1764' FEL (BOTTOM HOLE)
SECTION 27, T-31-N, R-11-W, N.M.P.M., SAN JUAN COUNTY, N.M.
PROPOSED ELEVATION: 5734



CALLOWAY 1M
LATITUDE: 36.8720327' N
LONGITUDE: 107.9757103' W
NAD 83
LATITUDE: 36°52.32176' N
LONGITUDE: 107°58.50524' W
NAD 27

PROPOSED CATHODIC PROTECTION STATION
LATITUDE: 36.8722154' N
LONGITUDE: 107.9754551' W
NAD 83
LATITUDE: 36°52.33273' N
LONGITUDE: 107°58.48993' W
NAD 27

NOTES:

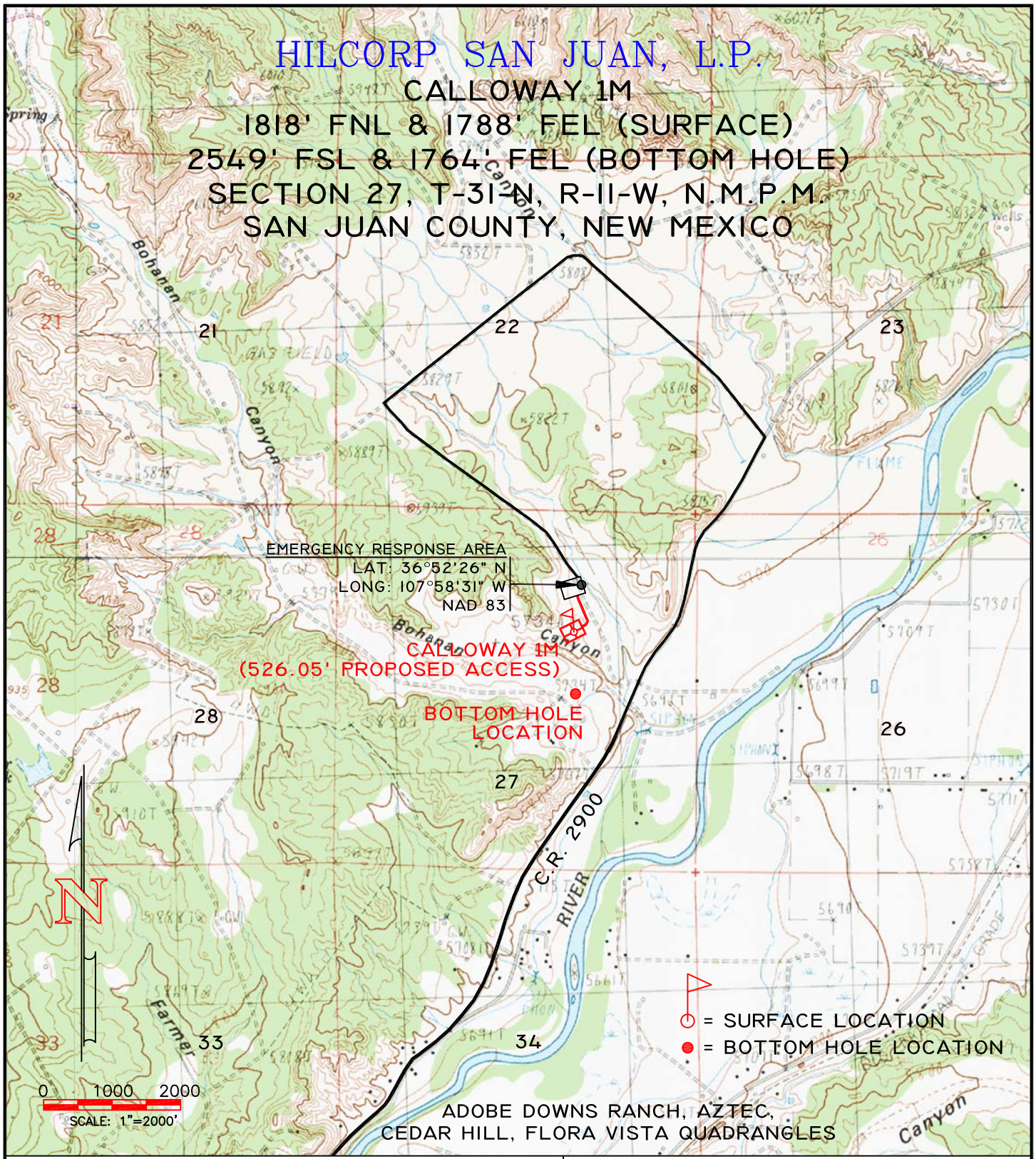
1.) BEARINGS & DISTANCES SHOWN ARE REFERENCED TO THE NEW MEXICO COORDINATE SYSTEM, WEST ZONE, NAD 83.

2.) CONTRACTOR SHALL CONTACT "ONE-CALL" FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELLPAD AND/OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.

3.) UNITED FIELD SERVICES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES.

UNITED FIELD SERVICES INC.
P.O. BOX 3651
FARMINGTON, NM 87499
OFFICE: (505) 334-0408

DWG. NO. : 11882-L06		REVISION: 3
DRAWN BY: C.B.	DATE DRAWN: 07/15/14	REV. DATE: 04/10/24
SURVEYED: 06/27/14	APP. BY: M.W.L.	SHEET: 1



SURFACE TYPE: EUGENE HARPER

FOOTAGES: 1818' FNL 1788' FEL (SURFACE) 2549' FSL 1764' FEL (BOTTOM HOLE)

SEC. 27 TWN. 31 N RNG. 11 W N.M.P.M.

LAT: N 36.8720327° LONG: W 107.9757103° (NAD 83)

PROPOSED ELEVATION: 5734

HILCORP SAN JUAN, L.P.

UNITED FIELD SERVICES INC.

P.O. BOX 3651
FARMINGTON, NM 87499
OFFICE: (505) 334-0408

DWG. NO. : 11882-T02		REVISION: 3
DRAWN BY: C.B.	DATE DRAWN: 07/15/24	REV. DATE: 04/10/24
SURVEYED: 06/27/14	APP. BY: M.W.L.	SHEET: 1

HILCORP SAN JUAN, L.P.

CALLOWAY 1M

1818’ FNL & 1788’ FEL (SURFACE)

2549’ FSL & 1764’ FEL (BOTTOM HOLE LOCATION)

LATITUDE: 36.8720327º N

LONGITUDE: 107.9757103º W

NAD 83

SECTION 27, T-31-N, R-11-W, N.M.P.M.

SAN JUAN COUNTY, NEW MEXICO

FROM THE INTERSECTION OF U.S. HIGHWAY 518 AND
RUINS ROAD (C.R. 2900) IN AZTEC, NEW MEXICO.

TRAVEL NORTHERLY ON RUINS ROAD 4.5 MILES.
TURN LEFT AND TRAVEL NORTHWESTERLY TO A “Y” INTERSECTION 0.7 MILE.
TURN LEFT AND TRAVEL SOUTHWESTERLY TO A “Y” INTERSECTION 0.6 MILE.
TURN LEFT AND TRAVEL SOUTHEASTERLY TO EXISTING CALLOWAY 1, 1B & 100
WELL LOCATIONS, 0.7 MILE.
CONTINUE SOUTHEASTERLY THROUGH THE WELL LOCATIONS TO THE
PROPOSED ACCESS ROAD LEADING TO CALLOWAY 1M WELL LOCATION.

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:** 5/2/2024

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
Calloway 1M	3004535630	G-27-31N-11W	1818' FNL & 1788' FEL	5.85	825	4

IV. Central Delivery Point Name: Chaco-Blanco Processing 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
Calloway 1M	**3004535630**	**2024-2025**				**2024-2025**

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: Cherylene Weston
Printed Name: Cherylene Weston
Title: Operations Regulatory Tech-Sr.
E-mail Address: cweston@hilcorp.com
Date: 5/2/2024
Phone: 713-289-2615

OIL CONSERVATION DIVISION **(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.

San Juan County, NM Calloway #1M

Hilcorp Energy Company

Technical Drilling Plan (Rev. 0)

Hilcorp Energy Company proposes to drill and complete the referenced well targeting Mesa Verde & Dakota formations.

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

1. Location

Date:	April 11, 2024	Pool:	MV/DK
Well Name:	Calloway #1M	Ground Elevation	5,732'
Surface Hole Location:	36.8720327° N, -107.9757103° W	County, State:	San Juan County, NM
Production Depth (ft.)	7,240' MD / 7,026' TVD	Production BHL:	36.8695474° N, -107.9750026° W

Note: All depths in the directional drilling plan are referenced from an estimated RKB datum of 15' 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)	Remarks
Ojo Alamo	898'	Water (fresh/useable)
Kirtland	986'	None
Fruitland	1,815'	Gas, Water
Pictured Cliffs	2,340'	Gas
Lewis	2,456'	None
Huerfanito Bentonite	3,014'	None
Chacra	3,363'	None
Upper Cliff House	3,891'	Gas
Massive Cliff House	4,046'	Gas, Water
Menefee	4,101'	None
Pt. Lookout	4,532'	Gas
Mancos	5,113'	Gas
Upper Gallup	6,058'	Gas
Greenhorn	6,748'	Gas
Graneros	6,804'	Gas
Two Wells	6,852'	Gas
Paguate	6,881'	Gas
Upper Cubero	6,933'	Gas
Lower Cubero	6,973'	Gas
Encinal	7,026'	None

3. Pressure Control Equipment

See attached BOP equipment and choke manifold schematics for a diagram of pressure control equipment.

- 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 3M standards.
- All equipment will have a minimum of 3M pressure rating and will be rated for 7,000' (TVD).
- A rotating head will be installed on top of the annular as seen in the attached diagram.

- BOP Testing: The BOPE will be tested to 250 psi (Low) for 5 minutes and 3,000 psi (High) for 10 minutes. Pressure test surface casing to 600 psi for 30 minutes and intermediate casing to 1,500 psi for 30 minutes. Utilize a BOPE Testing Unit with a recording chart and appropriate test plug for testing. BOP equipment will be tested upon installation, every 30 days, and after any repairs are made to the BOP equipment. Annular preventors will be functionally tested at least once per week. Pipe and blind rams will be function tested each trip. The NMOCD and the BLM will be notified 24 hours in advance of testing BOPE. All tests and inspections will be recorded and logged with time and results. A full BOP test will be conducted if a seal subject to test pressure is broken, following related repairs, and at a minimum of 30-day intervals.

4. Casing & Cement Program

A. Proposed Casing Program:

Proposed Casing Design					
Casing String	Hole Size	Casing Size	Weight/Grade	Top Depth (MD/TVD)	Shoe Depth (MD/TVD)
Surface	12-1/4"	9-5/8"	32.3# H40 (or equiv.) STC	0'	200' / 200'
Intermediate	8-3/4"	7"	23# J55 (or equiv.) LTC	0'	3,214' / 3,000'
Production Casing	6-1/4"	4-1/2"	11.6# J55 (or equiv.) LTC	0'	7,240' / 7,026'

Proposed Casing Design Safety Factors					
Casing String	Casing Description	Burst Design SF	Collapse Design SF	Joint Tensile Design SF	Connection Tensile Design SF
Surface	9-5/8" 32.3# H40 STC	24.3	18.6	56.5	39.3
Intermediate	7" 23# J55 LTC	2.4	2.2	5.0	4.2
Production	4-1/2" 11.6# J55 LTC	1.3	1.5	2.2	1.9

Notes:

- The 6-1/4" hole will be drilled to the top of the Encinal formation and TD will be called onsite by mud loggers.
- Production casing will be run from surface to TD.
- If the 6-1/4" hole is not drilled to the total planned measured depth, the production casing setting depth and length will be adjusted accordingly.
- Casing Design Parameters – Designed for full evacuation. Mud Weights used for calculations: Surface = 9.0 ppg, Intermediate = 11.5 ppg, Production = 11.0 ppg. Burst: 1.15; Collapse: 1.125; Tensile: 1.6.
  - Burst: (Casing Burst Rating) / (Maximum Burst Load (Max MW x TVD x .052))
  - Collapse: (Full hydrostatic of MW in annulus) – (Hydrostatic of vacated casing, 0.1 psi/ft)
  - Tensile: (Tensile rating) / (measured depth x casing weight)

B. Proposed Centralizer Program:

Proposed Centralizer Program	
Interval	Centralizers & Placement
Surface	1 centralizer per joint on bottom 3 joints.
Intermediate	1 centralizer 10' above the shoe with lock collar. 1 centralizer every other joint on bottom 10 joints. 1 centralizer every 4th joint to Ojo Alamo base.

	1 Turbolizer at base of Ojo Alamo. 1 centralizer every joint to Ojo Alamo top. 1 Turbolizer placed midway through Ojo Alamo. 1 centralizer every 4th joint from top of Ojo Alamo to surface shoe. 1 centralizer inside the surface casing.
Production (Air Drilled)	1 centralizer 10' above the shoe with a lock collar. 1 centralizer every other joint on bottom 10 joints.

C. Proposed Cement Program:

Proposed Cement Design							
Interval	Depth (ft. MD)	Lead/Tail	Volume (ft^3)	Sacks	Slurry	Density	Planned TOC
Surface	200'	Lead	125 ft^3	90	Type III Cement 0.25% FL-52, 0.25 pps celloflake 1.25 ft^3/sk – 5.75 gal/sk	15.2 ppg	Surface
Intermediate	3,214'	Lead	640 ft^3	300	Premium Lite 3% CaCl, 0.25 pps celloflake, 5 ppm LCM-1, 0.4% FL-52, 8% bentonite, 0.4% SMS 2.13 ft^3/sk – 11.29 gal/sk	12.1 ppg	Surface
		Tail	120 ft^3	70	Type III Cement 1% CaCl, 0.25 pps celloflake, 0.2% FL-52 1.38ft^3/sk – 6.64 gal/sk	14.6 ppg	2,714'
Production	7,240'	Lead	659 ft^3	458	50/50 POZ: Class G cement + 0.25 lb/sx D029 Cellophane Flakes + 3% D020 Bentonite + 1.0 lb/sx D024 Gilsonite Extender + 0.25% D167 Fluid Loss + 0.25% D065 Dispersant + 0.1% D800 Retarder + 0.1% D046 Antifoamer + 3.5 lb/sx Phenoseal 1.44ft^3/sk – 6.47 gal/sk	13.0 ppg	3,114'

Notes:

- The cement slurry additives may be adjusted to accommodate required pump and compressive test times.
- For the intermediate hole section, a 2-stage cement job may be performed if hole conditions dictate. If needed, the stage tool will be placed at an approximate depth near the top of the Fruitland Coal.
- 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).

5. Drilling Fluids Program

A. Proposed Drilling Fluids Program:

Interval	Fluid Type	Density	Fluid Loss	Max Chlorides	Depth
		(ppg)	(mL/30 min)	(mg/L)	(ft. MD)
Surface	Water/Gel	8.4 – 9.2	NC	1,000	0' – 200'
Intermediate	LSND / Gel System	8.4 – 9.2	6-16	1,000	200' – 3,214'
Production	Air/mist/N2	1.0	NC	N/A	3,214' – 7,240'

Notes:

- The following equipment will be operational while gas/mist drilling:
  - An anchored blooie line will be utilized to discharge all cuttings and circulating medium to the blow pit a minimum of 100' from the wellhead.
  - The blooie line will be equipped with an automatic igniter or pilot light.
  - Deduster equipment will be utilized.
  - The rotating head will be properly lubricated and maintained.
  - A float valve will be utilized above the bit.
  - Mud circulating equipment, water, and mud materials will be sufficient to maintain control of the well.
- 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 will be transported to an approved disposal site.
- Estimated total volume of drill cuttings for disposal: 406 bbls (2,278 ft^3).

6. Estimated Pressures & Drilling Hazards

A. Estimated Pressures

- The Mesa Verde and/or Dakota formations will be completed and commingled if both formations are completed.
- No abnormal temperatures or hazards are anticipated.
- Anticipated pore pressures are as follows:
  - Fruitland Coal 400 psi
  - Pictured Cliffs 850 psi
  - Mesa Verde 650 psi
  - Dakota 2200 psi

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 coal section. Losses will be mitigated by adding LCM to the mud system.
- Sufficient LCM will be added to the mud system to maintain well control if lost circulation is encountered.

D. Hydrogen Sulfide

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

7. Testing, Logging, Coring

A. Mud Logging

- Mud loggers will collect formation samples every 30' from the Intermediate casing shoe to the TD of production hole section.

B. MWD

- Measurement while drilling tools will be utilized from the surface casing shoe to the TD of the intermediate section to measure and record inclination. A wireline survey will be run after cementing the production casing to verify bottom hole position.

C. LWD

- No logging while drilling tools will be utilized.

D. Open Hole Logging

- There are no planned open hole logs post drilling.

E. Coring

- There is no coring or formation testing planned.

F. Cased Hole Logging

- The 7" 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 temperature survey or a cement bod log will be run to verify top of cement.

8. Directional Drilling Plan

- The directional drilling plans and plots are attached.

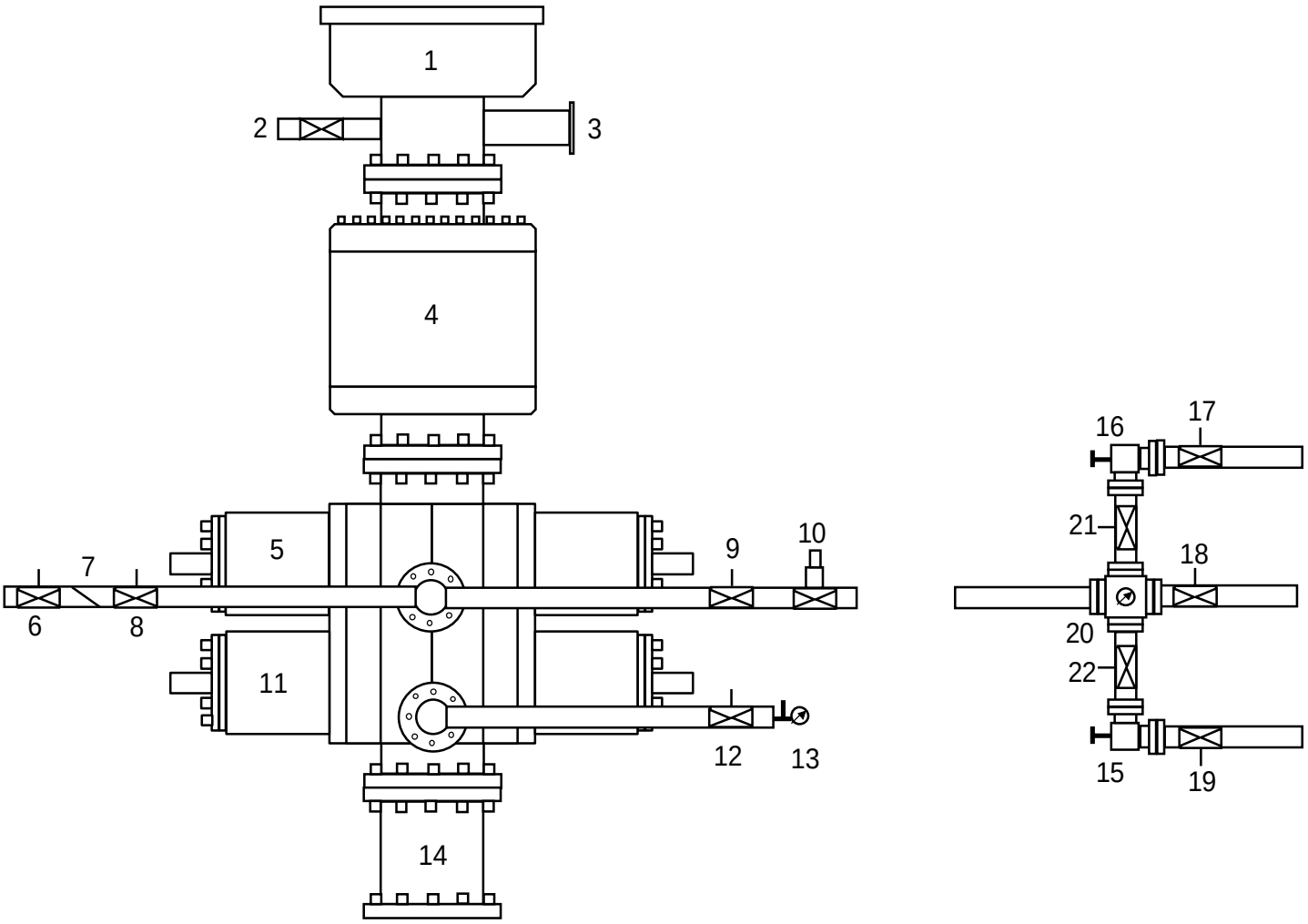
- The directional plan is built from geologic targets from offset wells and lease boundaries. On-site adjustments to the directional plans will be made as formation and wellbore dictate.

San Juan County, NM Calloway #1M

Hilcorp Energy Company

Appendix A

Pressure Control Equipment 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	3M Annular Preventer	15	Manual Choke
5	3M Pipe Rams	16	Manual 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	3M Blind Rams	22	Manual Isolation Valve

Hilcorp Energy Company

Hilcorp Energy Corp.

San Juan, NM NAD27
Calloway
Calloway #1M

OH
Plan #1

Anticollision Report

11 April, 2024

Scientific Drilling

www.scientificdrilling.com

Hilcorp Energy Company

Scientific Drilling

Anticollision Report

Scientific Drilling

Company:	Hilcorp Energy Corp.	**Local Co-ordinate Reference:**	Well Calloway #1M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5732' @ 5732.00ft
Reference Site:	Calloway	**MD Reference:**	GL 5732' @ 5732.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway #1M	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference Plan #1

Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD + Stations Interval 100.00ft	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum ellipse separation of 1,000.00 ft	**Error Surface:**	Pedal Curve
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 4/11/2024

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	7,239.79	Plan #1 (OH)	MWD+HDGM	OWSG MWD + HDGM

Summary

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Calloway						
Calloway 001 - OH - OH	450.00	456.00	844.31	824.46	42.528	CC
Calloway 001 - OH - OH	500.00	505.99	844.89	822.87	38.363	ES
Calloway 001 - OH - OH	5,100.00	4,890.00	1,719.35	1,505.77	8.050	SF
Calloway 001A - OH - OH	5,302.91	5,041.12	1,393.11	1,173.09	6.332	CC
Calloway 001A - OH - OH	5,400.00	5,109.00	1,393.41	1,170.34	6.246	ES, SF
Calloway 001B - OH - OH	0.00	8.91	747.34	747.33	10,000.000	CC
Calloway 001B - OH - OH	400.00	404.67	748.14	746.13	371.841	ES
Calloway 001B - OH - OH	7,239.79	7,204.53	1,410.93	1,356.04	25.705	SF
Calloway 100 - OH - OH	450.00	457.00	667.18	647.29	33.538	CC
Calloway 100 - OH - OH	600.00	606.85	672.01	645.62	25.463	ES
Calloway 100 - OH - OH	2,800.00	2,592.00	1,480.18	1,365.45	12.902	SF
Calloway 100S - OH - OH	2,900.00	2,567.00	708.76	595.62	6.265	CC, ES, SF

Offset Design Calloway - Calloway 001 - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 100-UNKNOWN

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	6.00	6.00	0.00	0.24	15.27	814.50	222.39	844.31	844.07	0.24	3,515.213	
100.00	100.00	106.00	106.00	0.36	4.24	15.27	814.50	222.39	844.31	839.71	4.60	183.607	
200.00	200.00	206.00	206.00	0.72	8.24	15.27	814.50	222.39	844.31	835.36	8.96	94.263	
300.00	300.00	306.00	306.00	1.08	12.24	15.27	814.50	222.39	844.31	831.00	13.32	63.409	
400.00	400.00	406.00	406.00	1.43	16.24	15.27	814.50	222.39	844.31	826.64	17.67	47.772	
450.00	450.00	456.00	456.00	1.61	18.24	15.27	814.50	222.39	844.31	824.46	19.85	42.528	CC
500.00	499.99	505.99	505.99	1.78	20.24	-151.85	814.50	222.39	844.89	822.87	22.02	38.363	ES
600.00	599.85	605.85	605.85	2.12	24.23	-151.96	814.50	222.39	849.51	823.16	26.35	32.237	
700.00	699.29	705.29	705.29	2.47	28.21	-152.15	814.50	222.39	858.75	828.07	30.68	27.992	
800.00	798.04	804.04	804.04	2.83	32.16	-152.44	814.50	222.39	872.64	837.65	34.99	24.942	
900.00	895.85	901.85	901.85	3.22	36.07	-152.80	814.50	222.39	891.18	851.92	39.27	22.695	
1,000.00	992.43	998.43	998.43	3.65	39.94	-153.21	814.50	222.39	914.41	870.89	43.51	21.016	
1,100.00	1,087.52	1,093.52	1,093.52	4.13	43.74	-153.66	814.50	222.39	942.31	894.61	47.71	19.753	
1,200.00	1,180.87	1,186.87	1,186.87	4.66	47.47	-154.14	814.50	222.39	974.90	923.06	51.84	18.805	
1,300.00	1,272.22	1,278.22	1,278.22	5.25	51.13	-154.62	814.50	222.39	1,012.16	956.25	55.91	18.104	
1,400.00	1,361.31	1,367.31	1,367.31	5.91	54.69	-155.08	814.50	222.39	1,054.04	994.14	59.89	17.599	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Hilcorp Energy Company

Scientific Drilling

Anticollision Report

Scientific Drilling

Company:	Hilcorp Energy Corp.	**Local Co-ordinate Reference:**	Well Calloway #1M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5732' @ 5732.00ft
Reference Site:	Calloway	**MD Reference:**	GL 5732' @ 5732.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway #1M	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Calloway - Calloway 001 - OH - OH — **Offset Site Error:** 0.00 ft

Survey Program: 100-UNKNOWN — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
1,500.00	1,447.90	1,453.90	1,453.90	6.63	58.16	-155.51	814.50	222.39	1,100.48	1,036.70	63.78	17.253	
1,570.49	1,507.30	1,513.30	1,513.30	7.18	60.53	-155.78	814.50	222.39	1,135.92	1,069.45	66.47	17.090	
1,600.00	1,531.88	1,537.88	1,537.88	7.42	61.52	-156.11	814.50	222.39	1,151.24	1,083.66	67.58	17.035	
1,700.00	1,615.16	1,621.16	1,621.16	8.25	64.85	-157.15	814.50	222.39	1,203.33	1,132.00	71.33	16.870	
1,800.00	1,698.44	1,704.44	1,704.44	9.09	68.18	-158.11	814.50	222.39	1,255.70	1,180.62	75.08	16.724	
1,900.00	1,781.72	1,787.72	1,787.72	9.95	71.51	-159.00	814.50	222.39	1,308.32	1,229.48	78.84	16.595	
2,000.00	1,865.00	1,871.00	1,871.00	10.82	74.84	-159.82	814.50	222.39	1,361.15	1,278.55	82.60	16.479	
2,093.30	1,942.70	1,948.70	1,948.70	11.64	77.95	-160.53	814.50	222.39	1,410.62	1,324.52	86.10	16.383	
2,100.00	1,948.28	1,954.28	1,954.28	11.70	78.17	-160.62	814.50	222.39	1,414.17	1,327.81	86.36	16.376	
2,200.00	2,033.16	2,039.16	2,039.16	12.56	81.57	-161.85	814.50	222.39	1,464.96	1,374.79	90.17	16.246	
2,300.00	2,120.68	2,126.68	2,126.68	13.35	85.07	-162.89	814.50	222.39	1,511.54	1,417.45	94.09	16.065	
2,400.00	2,210.62	2,216.62	2,216.62	14.09	88.66	-163.76	814.50	222.39	1,553.73	1,455.64	98.10	15.839	
2,500.00	2,302.71	2,308.71	2,308.71	14.77	92.35	-164.48	814.50	222.39	1,591.39	1,489.21	102.18	15.574	
2,600.00	2,396.72	2,402.72	2,402.72	15.39	96.11	-165.07	814.50	222.39	1,624.39	1,518.05	106.34	15.275	
2,700.00	2,492.39	2,498.39	2,498.39	15.94	99.94	-165.55	814.50	222.39	1,652.60	1,542.05	110.55	14.949	
2,800.00	2,589.44	2,595.44	2,595.44	16.43	103.82	-165.93	814.50	222.39	1,675.95	1,561.15	114.80	14.599	
2,900.00	2,687.62	2,693.62	2,693.62	16.86	107.74	-166.22	814.50	222.39	1,694.34	1,575.26	119.08	14.228	
3,000.00	2,786.66	2,792.66	2,792.66	17.23	111.71	-166.43	814.50	222.39	1,707.72	1,584.34	123.38	13.841	
3,100.00	2,886.28	2,892.28	2,892.28	17.54	115.69	-166.55	814.50	222.39	1,716.05	1,588.37	127.69	13.440	
3,200.00	2,986.21	2,992.21	2,992.21	17.80	119.69	-166.60	814.50	222.39	1,719.30	1,587.32	131.98	13.027	
3,213.79	3,000.00	3,006.00	3,006.00	17.83	120.24	0.51	814.50	222.39	1,719.35	1,586.77	132.57	12.969	
3,300.00	3,086.21	3,092.21	3,092.21	17.99	123.69	0.51	814.50	222.39	1,719.35	1,583.09	136.26	12.618	
3,400.00	3,186.21	3,192.21	3,192.21	18.19	127.69	0.51	814.50	222.39	1,719.35	1,578.82	140.53	12.234	
3,500.00	3,286.21	3,292.21	3,292.21	18.39	131.69	0.51	814.50	222.39	1,719.35	1,574.54	144.81	11.873	
3,600.00	3,386.21	3,392.21	3,392.21	18.60	135.69	0.51	814.50	222.39	1,719.35	1,570.25	149.10	11.532	
3,700.00	3,486.21	3,492.21	3,492.21	18.82	139.69	0.51	814.50	222.39	1,719.35	1,565.97	153.38	11.209	
3,800.00	3,586.21	3,592.21	3,592.21	19.03	143.69	0.51	814.50	222.39	1,719.35	1,561.68	157.67	10.904	
3,900.00	3,686.21	3,692.21	3,692.21	19.25	147.69	0.51	814.50	222.39	1,719.35	1,557.38	161.97	10.615	
4,000.00	3,786.21	3,792.21	3,792.21	19.48	151.69	0.51	814.50	222.39	1,719.35	1,553.09	166.26	10.341	
4,100.00	3,886.21	3,892.21	3,892.21	19.71	155.69	0.51	814.50	222.39	1,719.35	1,548.79	170.56	10.080	
4,200.00	3,986.21	3,992.21	3,992.21	19.94	159.69	0.51	814.50	222.39	1,719.35	1,544.49	174.86	9.832	
4,300.00	4,086.21	4,092.21	4,092.21	20.18	163.69	0.51	814.50	222.39	1,719.35	1,540.18	179.17	9.596	
4,400.00	4,186.21	4,192.21	4,192.21	20.42	167.69	0.51	814.50	222.39	1,719.35	1,535.87	183.47	9.371	
4,500.00	4,286.21	4,292.21	4,292.21	20.66	171.69	0.51	814.50	222.39	1,719.35	1,531.57	187.78	9.156	
4,600.00	4,386.21	4,392.21	4,392.21	20.91	175.69	0.51	814.50	222.39	1,719.35	1,527.26	192.09	8.951	
4,700.00	4,486.21	4,492.21	4,492.21	21.16	179.69	0.51	814.50	222.39	1,719.35	1,522.94	196.41	8.754	
4,800.00	4,586.21	4,592.21	4,592.21	21.42	183.69	0.51	814.50	222.39	1,719.35	1,518.63	200.72	8.566	
4,900.00	4,686.21	4,692.21	4,692.21	21.67	187.69	0.51	814.50	222.39	1,719.35	1,514.31	205.04	8.386	
5,000.00	4,786.21	4,792.21	4,792.21	21.93	191.69	0.51	814.50	222.39	1,719.35	1,510.00	209.35	8.213	
5,065.91	4,852.13	4,858.13	4,858.13	22.10	194.33	0.51	814.50	222.39	1,719.35	1,507.15	212.20	8.102	
5,100.00	4,886.21	4,890.00	4,890.00	22.19	195.60	0.51	814.50	222.39	1,719.35	1,505.77	213.58	8.050	SF
5,200.00	4,986.21	4,890.00	4,890.00	22.46	195.60	0.51	814.50	222.39	1,722.38	1,509.04	213.34	8.073	
5,300.00	5,086.21	4,890.00	4,890.00	22.72	195.60	0.51	814.50	222.39	1,731.20	1,518.79	212.41	8.150	
5,400.00	5,186.21	4,890.00	4,890.00	22.99	195.60	0.51	814.50	222.39	1,745.71	1,534.90	210.81	8.281	
5,500.00	5,286.21	4,890.00	4,890.00	23.27	195.60	0.51	814.50	222.39	1,765.77	1,557.18	208.59	8.465	
5,600.00	5,386.21	4,890.00	4,890.00	23.54	195.60	0.51	814.50	222.39	1,791.20	1,585.37	205.83	8.702	
5,700.00	5,486.21	4,890.00	4,890.00	23.82	195.60	0.51	814.50	222.39	1,821.76	1,619.18	202.59	8.993	
5,800.00	5,586.21	4,890.00	4,890.00	24.10	195.60	0.51	814.50	222.39	1,857.22	1,658.28	198.94	9.335	
5,900.00	5,686.21	4,890.00	4,890.00	24.38	195.60	0.51	814.50	222.39	1,897.29	1,702.30	194.99	9.730	
6,000.00	5,786.21	4,890.00	4,890.00	24.66	195.60	0.51	814.50	222.39	1,941.69	1,750.90	190.78	10.177	
6,100.00	5,886.21	4,890.00	4,890.00	24.95	195.60	0.51	814.50	222.39	1,990.12	1,803.71	186.41	10.676	
6,200.00	5,986.21	4,890.00	4,890.00	25.23	195.60	0.51	814.50	222.39	2,042.31	1,860.37	181.94	11.225	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Hilcorp Energy Company

Scientific Drilling

Anticollision Report

Scientific Drilling

Company:	Hilcorp Energy Corp.	**Local Co-ordinate Reference:**	Well Calloway #1M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5732' @ 5732.00ft
Reference Site:	Calloway	**MD Reference:**	GL 5732' @ 5732.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway #1M	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Calloway - Calloway 001 - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 100-UNKNOWN

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
6,300.00	6,086.21	4,890.00	4,890.00	25.52	195.60	0.51	814.50	222.39	2,097.97	1,920.56	177.41	11.825	
6,400.00	6,186.21	4,890.00	4,890.00	25.81	195.60	0.51	814.50	222.39	2,156.83	1,983.95	172.88	12.476	
6,500.00	6,286.21	4,890.00	4,890.00	26.10	195.60	0.51	814.50	222.39	2,218.64	2,050.24	168.40	13.175	
6,600.00	6,386.21	4,890.00	4,890.00	26.40	195.60	0.51	814.50	222.39	2,283.16	2,119.18	163.98	13.923	
6,700.00	6,486.21	4,890.00	4,890.00	26.69	195.60	0.51	814.50	222.39	2,350.16	2,190.50	159.66	14.720	
6,800.00	6,586.21	4,890.00	4,890.00	26.99	195.60	0.51	814.50	222.39	2,419.44	2,263.98	155.46	15.563	
6,900.00	6,686.21	4,890.00	4,890.00	27.29	195.60	0.51	814.50	222.39	2,490.81	2,339.43	151.38	16.454	
7,000.00	6,786.21	4,890.00	4,890.00	27.59	195.60	0.51	814.50	222.39	2,564.09	2,416.65	147.45	17.390	
7,100.00	6,886.21	4,890.00	4,890.00	27.89	195.60	0.51	814.50	222.39	2,639.13	2,495.47	143.66	18.371	
7,200.00	6,986.21	4,890.00	4,890.00	28.19	195.60	0.51	814.50	222.39	2,715.78	2,575.76	140.02	19.396	
7,239.79	7,026.00	4,890.00	4,890.00	28.31	195.60	0.51	814.50	222.39	2,746.69	2,608.08	138.61	19.816	

Hilcorp Energy Company

Scientific Drilling

Anticollision Report

Scientific Drilling

Company:	Hilcorp Energy Corp.	**Local Co-ordinate Reference:**	Well Calloway #1M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5732' @ 5732.00ft
Reference Site:	Calloway	**MD Reference:**	GL 5732' @ 5732.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway #1M	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Calloway - Calloway 001A - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 100-UNKNOWN

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	167.41	-2,265.39	506.16	2,321.75				
100.00	100.00	52.00	52.00	0.36	2.08	167.41	-2,265.39	506.16	2,321.25	2,318.81	2.44	951.891	
200.00	200.00	152.00	152.00	0.72	6.08	167.41	-2,265.39	506.16	2,321.25	2,314.45	6.80	341.514	
300.00	300.00	252.00	252.00	1.08	10.08	167.41	-2,265.39	506.16	2,321.25	2,310.09	11.16	208.083	
400.00	400.00	352.00	352.00	1.43	14.08	167.41	-2,265.39	506.16	2,321.25	2,305.74	15.51	149.624	
450.00	450.00	402.00	402.00	1.61	16.08	167.41	-2,265.39	506.16	2,321.25	2,303.56	17.69	131.195	
500.00	499.99	451.99	451.99	1.78	18.08	0.29	-2,265.39	506.16	2,320.60	2,300.73	19.86	116.825	
600.00	599.85	551.85	551.85	2.12	22.07	0.29	-2,265.39	506.16	2,315.36	2,291.17	24.19	95.704	
700.00	699.29	651.29	651.29	2.47	26.05	0.30	-2,265.39	506.16	2,304.91	2,276.39	28.52	80.820	
800.00	798.04	750.04	750.04	2.83	30.00	0.30	-2,265.39	506.16	2,289.27	2,256.44	32.83	69.741	
900.00	895.85	847.85	847.85	3.22	33.91	0.31	-2,265.39	506.16	2,268.48	2,231.38	37.10	61.146	
1,000.00	992.43	944.43	944.43	3.65	37.78	0.32	-2,265.39	506.16	2,242.60	2,201.27	41.33	54.260	
1,100.00	1,087.52	1,039.52	1,039.52	4.13	41.58	0.33	-2,265.39	506.16	2,211.70	2,166.20	45.51	48.601	
1,200.00	1,180.87	1,132.87	1,132.87	4.66	45.31	0.34	-2,265.39	506.16	2,175.87	2,126.25	49.62	43.851	
1,300.00	1,272.22	1,224.22	1,224.22	5.25	48.97	0.35	-2,265.39	506.16	2,135.20	2,081.55	53.66	39.794	
1,400.00	1,361.31	1,313.31	1,313.31	5.91	52.53	0.37	-2,265.39	506.16	2,089.81	2,032.20	57.61	36.277	
1,500.00	1,447.90	1,399.90	1,399.90	6.63	56.00	0.39	-2,265.39	506.16	2,039.82	1,978.36	61.46	33.189	
1,570.49	1,507.30	1,459.30	1,459.30	7.18	58.37	0.41	-2,265.39	506.16	2,001.89	1,937.77	64.12	31.223	
1,600.00	1,531.88	1,483.88	1,483.88	7.42	59.36	0.41	-2,265.39	506.16	1,985.55	1,920.33	65.22	30.445	
1,700.00	1,615.16	1,567.16	1,567.16	8.25	62.69	0.42	-2,265.39	506.16	1,930.19	1,861.27	68.93	28.004	
1,800.00	1,698.44	1,650.44	1,650.44	9.09	66.02	0.43	-2,265.39	506.16	1,874.83	1,802.19	72.64	25.809	
1,900.00	1,781.72	1,733.72	1,733.72	9.95	69.35	0.45	-2,265.39	506.16	1,819.47	1,743.11	76.37	23.826	
2,000.00	1,865.00	1,817.00	1,817.00	10.82	72.68	0.46	-2,265.39	506.16	1,764.11	1,684.02	80.10	22.025	
2,093.30	1,942.70	1,894.70	1,894.70	11.64	75.79	0.48	-2,265.39	506.16	1,712.46	1,628.88	83.58	20.488	
2,100.00	1,948.28	1,900.28	1,900.28	11.70	76.01	0.48	-2,265.39	506.16	1,708.76	1,624.93	83.83	20.383	
2,200.00	2,033.16	1,985.16	1,985.16	12.56	79.41	0.48	-2,265.39	506.16	1,655.91	1,568.28	87.63	18.897	
2,300.00	2,120.68	2,072.68	2,072.68	13.35	82.91	0.48	-2,265.39	506.16	1,607.57	1,516.03	91.53	17.563	
2,400.00	2,210.62	2,162.62	2,162.62	14.09	86.50	0.48	-2,265.39	506.16	1,563.87	1,468.34	95.53	16.370	
2,500.00	2,302.71	2,254.71	2,254.71	14.77	90.19	0.48	-2,265.39	506.16	1,524.94	1,425.32	99.62	15.308	
2,600.00	2,396.72	2,348.72	2,348.72	15.39	93.95	0.48	-2,265.39	506.16	1,490.89	1,387.11	103.78	14.366	
2,700.00	2,492.39	2,444.39	2,444.39	15.94	97.78	0.48	-2,265.39	506.16	1,461.80	1,353.81	107.99	13.537	
2,800.00	2,589.44	2,541.44	2,541.44	16.43	101.66	0.48	-2,265.39	506.16	1,437.76	1,325.51	112.25	12.809	
2,900.00	2,687.62	2,639.62	2,639.62	16.86	105.58	0.49	-2,265.39	506.16	1,418.83	1,302.29	116.53	12.175	
3,000.00	2,786.66	2,738.66	2,738.66	17.23	109.55	0.49	-2,265.39	506.16	1,405.06	1,284.22	120.84	11.627	
3,100.00	2,886.28	2,838.28	2,838.28	17.54	113.53	0.49	-2,265.39	506.16	1,396.50	1,271.34	125.15	11.158	
3,200.00	2,986.21	2,938.21	2,938.21	17.80	117.53	0.49	-2,265.39	506.16	1,393.16	1,263.70	129.46	10.762	
3,213.79	3,000.00	2,952.00	2,952.00	17.83	118.08	167.60	-2,265.39	506.16	1,393.11	1,263.06	130.05	10.712	
3,300.00	3,086.21	3,038.21	3,038.21	17.99	121.53	167.60	-2,265.39	506.16	1,393.11	1,259.37	133.74	10.417	
3,400.00	3,186.21	3,138.21	3,138.21	18.19	125.53	167.60	-2,265.39	506.16	1,393.11	1,255.09	138.02	10.094	
3,500.00	3,286.21	3,238.21	3,238.21	18.39	129.53	167.60	-2,265.39	506.16	1,393.11	1,250.80	142.31	9.790	
3,600.00	3,386.21	3,338.21	3,338.21	18.60	133.53	167.60	-2,265.39	506.16	1,393.11	1,246.51	146.59	9.503	
3,700.00	3,486.21	3,438.21	3,438.21	18.82	137.53	167.60	-2,265.39	506.16	1,393.11	1,242.22	150.89	9.233	
3,800.00	3,586.21	3,538.21	3,538.21	19.03	141.53	167.60	-2,265.39	506.16	1,393.11	1,237.92	155.18	8.977	
3,900.00	3,686.21	3,638.21	3,638.21	19.25	145.53	167.60	-2,265.39	506.16	1,393.11	1,233.63	159.48	8.735	
4,000.00	3,786.21	3,738.21	3,738.21	19.48	149.53	167.60	-2,265.39	506.16	1,393.11	1,229.32	163.78	8.506	
4,100.00	3,886.21	3,838.21	3,838.21	19.71	153.53	167.60	-2,265.39	506.16	1,393.11	1,225.02	168.09	8.288	
4,200.00	3,986.21	3,938.21	3,938.21	19.94	157.53	167.60	-2,265.39	506.16	1,393.11	1,220.71	172.39	8.081	
4,300.00	4,086.21	4,038.21	4,038.21	20.18	161.53	167.60	-2,265.39	506.16	1,393.11	1,216.40	176.70	7.884	
4,400.00	4,186.21	4,138.21	4,138.21	20.42	165.53	167.60	-2,265.39	506.16	1,393.11	1,212.09	181.01	7.696	
4,500.00	4,286.21	4,238.21	4,238.21	20.66	169.53	167.60	-2,265.39	506.16	1,393.11	1,207.78	185.33	7.517	
4,600.00	4,386.21	4,338.21	4,338.21	20.91	173.53	167.60	-2,265.39	506.16	1,393.11	1,203.46	189.64	7.346	
4,700.00	4,486.21	4,438.21	4,438.21	21.16	177.53	167.60	-2,265.39	506.16	1,393.11	1,199.15	193.96	7.182	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Hilcorp Energy Company

Scientific Drilling

Anticollision Report

Scientific Drilling

Company:	Hilcorp Energy Corp.	**Local Co-ordinate Reference:**	Well Calloway #1M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5732' @ 5732.00ft
Reference Site:	Calloway	**MD Reference:**	GL 5732' @ 5732.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway #1M	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Calloway - Calloway 001A - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 100-UNKNOWN

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,800.00	4,586.21	4,538.21	4,538.21	21.42	181.53	167.60	-2,265.39	506.16	1,393.11	1,194.83	198.28	7.026	
4,900.00	4,686.21	4,638.21	4,638.21	21.67	185.53	167.60	-2,265.39	506.16	1,393.11	1,190.51	202.60	6.876	
5,000.00	4,786.21	4,738.21	4,738.21	21.93	189.53	167.60	-2,265.39	506.16	1,393.11	1,186.19	206.92	6.733	
5,100.00	4,886.21	4,838.21	4,838.21	22.19	193.53	167.60	-2,265.39	506.16	1,393.11	1,181.87	211.24	6.595	
5,200.00	4,986.21	4,938.21	4,938.21	22.46	197.53	167.60	-2,265.39	506.16	1,393.11	1,177.54	215.57	6.463	
5,300.00	5,086.21	5,038.21	5,038.21	22.72	201.53	167.60	-2,265.39	506.16	1,393.11	1,173.22	219.89	6.335	
5,302.91	5,089.12	5,041.12	5,041.12	22.73	201.64	167.60	-2,265.39	506.16	1,393.11	1,173.09	220.02	6.332	CC
5,400.00	5,186.21	5,109.00	5,109.00	22.99	204.36	167.60	-2,265.39	506.16	1,393.41	1,170.34	223.07	6.246	ES, SF
5,500.00	5,286.21	5,109.00	5,109.00	23.27	204.36	167.60	-2,265.39	506.16	1,399.09	1,176.34	222.75	6.281	
5,600.00	5,386.21	5,109.00	5,109.00	23.54	204.36	167.60	-2,265.39	506.16	1,411.84	1,190.51	221.33	6.379	
5,700.00	5,486.21	5,109.00	5,109.00	23.82	204.36	167.60	-2,265.39	506.16	1,431.48	1,212.59	218.89	6.540	
5,800.00	5,586.21	5,109.00	5,109.00	24.10	204.36	167.60	-2,265.39	506.16	1,457.73	1,242.17	215.56	6.763	
5,900.00	5,686.21	5,109.00	5,109.00	24.38	204.36	167.60	-2,265.39	506.16	1,490.24	1,278.77	211.47	7.047	
6,000.00	5,786.21	5,109.00	5,109.00	24.66	204.36	167.60	-2,265.39	506.16	1,528.61	1,321.84	206.77	7.393	
6,100.00	5,886.21	5,109.00	5,109.00	24.95	204.36	167.60	-2,265.39	506.16	1,572.42	1,370.79	201.63	7.799	
6,200.00	5,986.21	5,109.00	5,109.00	25.23	204.36	167.60	-2,265.39	506.16	1,621.22	1,425.04	196.18	8.264	
6,300.00	6,086.21	5,109.00	5,109.00	25.52	204.36	167.60	-2,265.39	506.16	1,674.57	1,484.03	190.54	8.788	
6,400.00	6,186.21	5,109.00	5,109.00	25.81	204.36	167.60	-2,265.39	506.16	1,732.06	1,547.23	184.83	9.371	
6,500.00	6,286.21	5,109.00	5,109.00	26.10	204.36	167.60	-2,265.39	506.16	1,793.29	1,614.15	179.14	10.011	
6,600.00	6,386.21	5,109.00	5,109.00	26.40	204.36	167.60	-2,265.39	506.16	1,857.88	1,684.36	173.52	10.707	
6,700.00	6,486.21	5,109.00	5,109.00	26.69	204.36	167.60	-2,265.39	506.16	1,925.50	1,757.47	168.03	11.459	
6,800.00	6,586.21	5,109.00	5,109.00	26.99	204.36	167.60	-2,265.39	506.16	1,995.85	1,833.13	162.72	12.266	
6,900.00	6,686.21	5,109.00	5,109.00	27.29	204.36	167.60	-2,265.39	506.16	2,068.63	1,911.04	157.60	13.126	
7,000.00	6,786.21	5,109.00	5,109.00	27.59	204.36	167.60	-2,265.39	506.16	2,143.62	1,990.93	152.68	14.040	
7,100.00	6,886.21	5,109.00	5,109.00	27.89	204.36	167.60	-2,265.39	506.16	2,220.57	2,072.58	147.99	15.005	
7,200.00	6,986.21	5,109.00	5,109.00	28.19	204.36	167.60	-2,265.39	506.16	2,299.30	2,155.77	143.52	16.020	
7,239.79	7,026.00	5,109.00	5,109.00	28.31	204.36	167.60	-2,265.39	506.16	2,331.08	2,189.27	141.81	16.438	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Hilcorp Energy Company

Scientific Drilling

Anticollision Report

Scientific Drilling

Company:	Hilcorp Energy Corp.	**Local Co-ordinate Reference:**	Well Calloway #1M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5732' @ 5732.00ft
Reference Site:	Calloway	**MD Reference:**	GL 5732' @ 5732.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway #1M	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Calloway - Calloway 001B - OH - OH — **Offset Site Error:** 0.00 ft

Survey Program: 263-MWD — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	8.91	8.91	0.00	0.01	17.55	712.56	225.31	747.34	747.33	0.01	N/A	CC
100.00	100.00	107.92	107.92	0.36	0.12	17.54	712.67	225.22	747.41	746.93	0.48	1,557.162	
200.00	200.00	206.93	206.93	0.72	0.23	17.51	712.96	224.99	747.63	746.68	0.95	787.175	
300.00	300.00	308.41	308.40	1.08	0.39	17.49	713.32	224.77	747.90	746.43	1.46	511.578	
400.00	400.00	404.67	404.65	1.43	0.58	17.60	713.09	226.26	748.14	746.13	2.01	371.841	ES
450.00	450.00	452.15	452.09	1.61	0.68	17.75	712.86	228.19	748.52	746.23	2.29	326.530	
500.00	499.99	501.70	501.57	1.78	0.80	-149.16	712.46	230.96	749.56	746.99	2.57	291.206	
600.00	599.85	591.59	591.17	2.12	1.01	-148.73	711.74	237.97	755.71	752.58	3.13	241.675	
700.00	699.29	679.37	678.44	2.47	1.24	-148.21	711.37	247.39	767.64	763.92	3.71	206.843	
800.00	798.04	778.22	776.26	2.83	1.54	-147.53	711.21	261.60	785.38	781.02	4.36	180.023	
900.00	895.85	881.67	878.44	3.22	1.87	-146.88	709.03	277.54	806.01	800.95	5.05	159.453	
1,000.00	992.43	998.07	992.77	3.65	2.30	-146.11	704.73	298.94	830.56	824.69	5.87	141.534	
1,100.00	1,087.52	1,100.86	1,092.97	4.13	2.74	-145.28	697.30	320.61	856.91	850.20	6.71	127.666	
1,200.00	1,180.87	1,216.76	1,205.13	4.66	3.29	-144.38	686.76	347.84	886.61	878.92	7.70	115.161	
1,300.00	1,272.22	1,329.99	1,313.66	5.25	3.90	-143.45	672.49	376.72	917.87	909.10	8.77	104.681	
1,400.00	1,361.31	1,461.34	1,437.87	5.91	4.70	-142.42	650.17	413.11	949.86	939.80	10.06	94.431	
1,500.00	1,447.90	1,566.96	1,536.93	6.63	5.39	-141.53	629.39	443.29	983.84	972.57	11.27	87.301	
1,570.49	1,507.30	1,635.67	1,601.33	7.18	5.81	-141.01	615.40	462.72	1,009.61	997.52	12.08	83.545	
1,600.00	1,531.88	1,664.76	1,628.61	7.42	6.00	-141.03	609.43	470.88	1,020.72	1,008.29	12.44	82.078	
1,700.00	1,615.16	1,763.82	1,721.26	8.25	6.65	-141.06	588.48	498.99	1,057.96	1,044.31	13.65	77.481	
1,800.00	1,698.44	1,856.54	1,807.72	9.09	7.29	-141.06	568.42	525.79	1,094.96	1,080.09	14.87	73.629	
1,900.00	1,781.72	1,948.65	1,893.84	9.95	7.89	-141.08	548.81	551.96	1,132.09	1,116.03	16.06	70.506	
2,000.00	1,865.00	2,047.32	1,986.01	10.82	8.56	-141.10	527.50	579.98	1,168.94	1,151.62	17.32	67.482	
2,093.30	1,942.70	2,137.53	2,070.12	11.64	9.20	-141.10	507.54	605.76	1,202.96	1,184.44	18.52	64.942	
2,100.00	1,948.28	2,143.82	2,075.98	11.70	9.24	-141.15	506.15	607.56	1,205.39	1,186.78	18.61	64.781	
2,200.00	2,033.16	2,241.63	2,167.15	12.56	9.92	-141.73	484.32	635.48	1,239.50	1,219.62	19.88	62.347	
2,300.00	2,120.68	2,341.10	2,259.75	13.35	10.63	-142.04	461.66	663.86	1,269.31	1,248.13	21.18	59.939	
2,400.00	2,210.62	2,435.54	2,347.56	14.09	11.29	-142.14	439.97	691.03	1,295.11	1,272.70	22.41	57.788	
2,500.00	2,302.71	2,531.16	2,436.68	14.77	11.94	-142.06	418.36	718.14	1,317.16	1,293.54	23.62	55.762	
2,600.00	2,396.72	2,628.20	2,527.17	15.39	12.60	-141.78	396.52	745.50	1,335.32	1,310.50	24.82	53.793	
2,700.00	2,492.39	2,714.75	2,608.21	15.94	13.15	-141.44	377.62	769.32	1,349.95	1,324.07	25.88	52.163	
2,800.00	2,589.44	2,805.13	2,693.25	16.43	13.70	-140.95	358.95	793.57	1,361.51	1,334.59	26.92	50.575	
2,900.00	2,687.62	2,908.12	2,790.45	16.86	14.35	-140.19	338.11	820.48	1,369.41	1,341.36	28.05	48.820	
3,000.00	2,786.66	3,000.95	2,878.32	17.23	14.92	-139.38	319.54	843.95	1,373.50	1,344.44	29.06	47.263	
3,100.00	2,886.28	3,095.00	2,967.54	17.54	15.49	-138.38	301.21	867.42	1,374.34	1,344.29	30.05	45.738	
3,200.00	2,986.21	3,187.35	3,054.85	17.80	16.09	-137.17	282.97	891.33	1,372.04	1,341.01	31.04	44.209	
3,213.79	3,000.00	3,200.89	3,067.64	17.83	16.18	30.13	280.28	894.88	1,371.48	1,340.31	31.18	43.990	
3,300.00	3,086.21	3,284.18	3,146.23	17.99	16.73	31.28	263.56	916.80	1,368.00	1,335.96	32.04	42.697	
3,400.00	3,186.21	3,377.28	3,234.16	18.19	17.32	32.56	245.07	941.18	1,364.80	1,331.82	32.98	41.379	
3,500.00	3,286.21	3,469.46	3,321.17	18.39	17.92	33.83	226.67	965.41	1,362.36	1,328.43	33.92	40.160	
3,600.00	3,386.21	3,566.91	3,412.88	18.60	18.57	35.22	206.86	991.75	1,360.84	1,325.91	34.93	38.958	
3,700.00	3,486.21	3,681.09	3,519.38	18.82	19.39	36.95	181.40	1,024.07	1,359.39	1,323.25	36.14	37.614	
3,800.00	3,586.21	3,780.78	3,612.27	19.03	20.09	38.48	158.11	1,051.79	1,357.82	1,320.63	37.18	36.518	
3,882.23	3,668.44	3,850.39	3,677.44	19.22	20.54	39.51	142.41	1,070.53	1,357.31	1,319.42	37.89	35.825	
3,900.00	3,686.21	3,859.00	3,685.53	19.25	20.60	39.63	140.53	1,072.82	1,357.35	1,319.36	37.98	35.736	
4,000.00	3,786.21	3,933.18	3,755.88	19.48	21.02	40.62	126.26	1,091.45	1,358.98	1,320.31	38.67	35.144	
4,100.00	3,886.21	4,024.55	3,844.14	19.71	21.47	41.61	113.24	1,111.11	1,362.49	1,323.09	39.39	34.586	
4,200.00	3,986.21	4,119.50	3,936.91	19.94	21.87	42.44	102.68	1,128.36	1,366.48	1,326.42	40.06	34.109	
4,300.00	4,086.21	4,213.40	4,029.14	20.18	22.22	43.16	94.14	1,143.77	1,371.03	1,330.36	40.67	33.711	
4,400.00	4,186.21	4,329.20	4,143.60	20.42	22.57	43.86	86.20	1,159.39	1,375.40	1,334.07	41.33	33.279	
4,500.00	4,286.21	4,467.63	4,281.38	20.66	22.88	44.39	79.96	1,170.96	1,378.08	1,336.11	41.97	32.836	
4,600.00	4,386.21	4,569.42	4,382.99	20.91	23.07	44.64	76.39	1,175.86	1,378.96	1,336.53	42.42	32.504	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Hilcorp Energy Company

Scientific Drilling

Anticollision Report

Scientific Drilling

Company:	Hilcorp Energy Corp.	**Local Co-ordinate Reference:**	Well Calloway #1M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5732' @ 5732.00ft
Reference Site:	Calloway	**MD Reference:**	GL 5732' @ 5732.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway #1M	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Calloway - Calloway 001B - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 263-MWD

Offset Well Error: 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,700.00	4,486.21	4,669.24	4,482.63	21.16	23.25	44.88	72.90	1,180.66	1,379.85	1,336.98	42.88	32.181	
4,800.00	4,586.21	4,769.07	4,582.28	21.42	23.44	45.13	69.40	1,185.46	1,380.78	1,337.45	43.33	31.865	
4,900.00	4,686.21	4,868.89	4,681.93	21.67	23.62	45.37	65.90	1,190.26	1,381.73	1,337.94	43.79	31.554	
5,000.00	4,786.21	4,968.71	4,781.57	21.93	23.80	45.61	62.41	1,195.06	1,382.70	1,338.46	44.25	31.249	
5,100.00	4,886.21	5,068.54	4,881.22	22.19	23.99	45.85	58.91	1,199.85	1,383.70	1,338.99	44.71	30.950	
5,200.00	4,986.21	5,168.36	4,980.86	22.46	24.17	46.10	55.41	1,204.65	1,384.73	1,339.55	45.17	30.655	
5,300.00	5,086.21	5,268.18	5,080.51	22.72	24.35	46.34	51.92	1,209.45	1,385.77	1,340.14	45.63	30.367	
5,400.00	5,186.21	5,368.00	5,180.16	22.99	24.54	46.58	48.42	1,214.25	1,386.85	1,340.75	46.10	30.083	
5,500.00	5,286.21	5,467.83	5,279.80	23.27	24.72	46.82	44.92	1,219.05	1,387.95	1,341.38	46.57	29.805	
5,600.00	5,386.21	5,567.65	5,379.45	23.54	24.90	47.06	41.43	1,223.85	1,389.07	1,342.03	47.04	29.531	
5,700.00	5,486.21	5,667.47	5,479.09	23.82	25.09	47.30	37.93	1,228.65	1,390.22	1,342.71	47.51	29.263	
5,800.00	5,586.21	5,767.30	5,578.74	24.10	25.27	47.54	34.43	1,233.45	1,391.39	1,343.41	47.98	29.000	
5,900.00	5,686.21	5,867.12	5,678.39	24.38	25.46	47.78	30.94	1,238.24	1,392.58	1,344.13	48.45	28.742	
6,000.00	5,786.21	5,966.94	5,778.03	24.66	25.64	48.02	27.44	1,243.04	1,393.80	1,344.88	48.93	28.488	
6,100.00	5,886.21	6,066.77	5,877.68	24.95	25.82	48.26	23.94	1,247.84	1,395.05	1,345.65	49.40	28.239	
6,200.00	5,986.21	6,166.59	5,977.33	25.23	26.01	48.50	20.45	1,252.64	1,396.32	1,346.44	49.88	27.995	
6,300.00	6,086.21	6,266.41	6,076.97	25.52	26.19	48.73	16.95	1,257.44	1,397.61	1,347.25	50.36	27.755	
6,400.00	6,186.21	6,366.23	6,176.62	25.81	26.38	48.97	13.45	1,262.24	1,398.93	1,348.09	50.83	27.519	
6,500.00	6,286.21	6,466.06	6,276.26	26.10	26.56	49.21	9.96	1,267.04	1,400.27	1,348.96	51.31	27.288	
6,600.00	6,386.21	6,565.88	6,375.91	26.40	26.75	49.44	6.46	1,271.84	1,401.63	1,349.84	51.79	27.061	
6,700.00	6,486.21	6,665.70	6,475.56	26.69	26.93	49.68	2.96	1,276.63	1,403.02	1,350.75	52.28	26.839	
6,800.00	6,586.21	6,765.53	6,575.20	26.99	27.12	49.92	-0.53	1,281.43	1,404.44	1,351.68	52.76	26.620	
6,900.00	6,686.21	6,865.35	6,674.85	27.29	27.30	50.15	-4.03	1,286.23	1,405.87	1,352.63	53.24	26.405	
7,000.00	6,786.21	6,965.17	6,774.50	27.59	27.49	50.39	-7.53	1,291.03	1,407.33	1,353.61	53.73	26.195	
7,100.00	6,886.21	7,065.00	6,874.14	27.89	27.67	50.62	-11.02	1,295.83	1,408.82	1,354.61	54.21	25.988	
7,200.00	6,986.21	7,164.82	6,973.79	28.19	27.86	50.85	-14.52	1,300.63	1,410.33	1,355.63	54.70	25.785	
7,239.79	7,026.00	7,204.53	7,013.43	28.31	27.93	50.95	-15.91	1,302.54	1,410.93	1,356.04	54.89	25.705 SF	

Hilcorp Energy Company

Scientific Drilling

Anticollision Report

Scientific Drilling

Company:	Hilcorp Energy Corp.	**Local Co-ordinate Reference:**	Well Calloway #1M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5732' @ 5732.00ft
Reference Site:	Calloway	**MD Reference:**	GL 5732' @ 5732.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway #1M	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Calloway - Calloway 100 - OH - OH — **Offset Site Error:** 0.00 ft

Survey Program: 100-UNKNOWN — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	7.00	7.00	0.00	0.28	22.16	617.91	251.64	667.18	666.90	0.28	2,381.215	
100.00	100.00	107.00	107.00	0.36	4.28	22.16	617.91	251.64	667.18	662.54	4.64	143.837	
200.00	200.00	207.00	207.00	0.72	8.28	22.16	617.91	251.64	667.18	658.19	9.00	74.157	
300.00	300.00	307.00	307.00	1.08	12.28	22.16	617.91	251.64	667.18	653.83	13.36	49.956	
400.00	400.00	407.00	407.00	1.43	16.28	22.16	617.91	251.64	667.18	649.47	17.71	37.664	
450.00	450.00	457.00	457.00	1.61	18.28	22.16	617.91	251.64	667.18	647.29	19.89	33.538	CC
500.00	499.99	506.99	506.99	1.78	20.28	-144.98	617.91	251.64	667.72	645.66	22.06	30.263	
600.00	599.85	606.85	606.85	2.12	24.27	-145.16	617.91	251.64	672.01	645.62	26.39	25.463	ES
700.00	699.29	706.29	706.29	2.47	28.25	-145.52	617.91	251.64	680.62	649.91	30.72	22.158	
800.00	798.04	805.04	805.04	2.83	32.20	-146.02	617.91	251.64	693.61	658.58	35.03	19.802	
900.00	895.85	902.85	902.85	3.22	36.11	-146.66	617.91	251.64	711.03	671.72	39.31	18.087	
1,000.00	992.43	999.43	999.43	3.65	39.98	-147.40	617.91	251.64	732.96	689.41	43.56	16.827	
1,100.00	1,087.52	1,094.52	1,094.52	4.13	43.78	-148.21	617.91	251.64	759.48	711.72	47.76	15.901	
1,200.00	1,180.87	1,187.87	1,187.87	4.66	47.51	-149.05	617.91	251.64	790.62	738.72	51.91	15.232	
1,300.00	1,272.22	1,279.22	1,279.22	5.25	51.17	-149.90	617.91	251.64	826.43	770.45	55.98	14.762	
1,400.00	1,361.31	1,368.31	1,368.31	5.91	54.73	-150.73	617.91	251.64	866.91	806.93	59.98	14.454	
1,500.00	1,447.90	1,454.90	1,454.90	6.63	58.20	-151.50	617.91	251.64	912.03	848.15	63.88	14.277	
1,570.49	1,507.30	1,514.30	1,514.30	7.18	60.57	-152.01	617.91	251.64	946.58	880.01	66.57	14.219	
1,600.00	1,531.88	1,538.88	1,538.88	7.42	61.56	-152.45	617.91	251.64	961.54	893.86	67.69	14.206	
1,700.00	1,615.16	1,622.16	1,622.16	8.25	64.89	-153.86	617.91	251.64	1,012.56	941.12	71.44	14.173	
1,800.00	1,698.44	1,705.44	1,705.44	9.09	68.22	-155.13	617.91	251.64	1,064.01	988.81	75.20	14.149	
1,900.00	1,781.72	1,788.72	1,788.72	9.95	71.55	-156.30	617.91	251.64	1,115.84	1,036.87	78.96	14.131	
2,000.00	1,865.00	1,872.00	1,872.00	10.82	74.88	-157.37	617.91	251.64	1,167.99	1,085.26	82.72	14.119	
2,093.30	1,942.70	1,949.70	1,949.70	11.64	77.99	-158.28	617.91	251.64	1,216.90	1,130.67	86.23	14.112	
2,100.00	1,948.28	1,955.28	1,955.28	11.70	78.21	-158.39	617.91	251.64	1,220.41	1,133.93	86.48	14.112	
2,200.00	2,033.16	2,040.16	2,040.16	12.56	81.61	-159.86	617.91	251.64	1,270.70	1,180.41	90.30	14.072	
2,300.00	2,120.68	2,127.68	2,127.68	13.35	85.11	-161.09	617.91	251.64	1,316.88	1,222.67	94.21	13.978	
2,400.00	2,210.62	2,217.62	2,217.62	14.09	88.70	-162.11	617.91	251.64	1,358.74	1,260.53	98.22	13.834	
2,500.00	2,302.71	2,309.71	2,309.71	14.77	92.39	-162.96	617.91	251.64	1,396.14	1,293.83	102.31	13.647	
2,600.00	2,396.72	2,403.72	2,403.72	15.39	96.15	-163.65	617.91	251.64	1,428.92	1,322.46	106.46	13.422	
2,700.00	2,492.39	2,499.39	2,499.39	15.94	99.98	-164.21	617.91	251.64	1,456.96	1,346.30	110.67	13.165	
2,800.00	2,589.44	2,592.00	2,592.00	16.43	103.68	-164.65	617.91	251.64	1,480.18	1,365.45	114.73	12.902	SF
2,900.00	2,687.62	2,592.00	2,592.00	16.86	103.68	-164.82	617.91	251.64	1,501.98	1,387.39	114.59	13.107	
3,000.00	2,786.66	2,592.00	2,592.00	17.23	103.68	-165.01	617.91	251.64	1,525.17	1,411.21	113.96	13.383	
3,100.00	2,886.28	2,592.00	2,592.00	17.54	103.68	-165.20	617.91	251.64	1,549.64	1,436.75	112.88	13.728	
3,200.00	2,986.21	2,592.00	2,592.00	17.80	103.68	-165.41	617.91	251.64	1,575.25	1,463.87	111.38	14.144	
3,213.79	3,000.00	2,592.00	2,592.00	17.83	103.68	1.68	617.91	251.64	1,578.86	1,467.73	111.13	14.207	
3,300.00	3,086.21	2,592.00	2,592.00	17.99	103.68	1.68	617.91	251.64	1,603.68	1,494.20	109.48	14.648	
3,400.00	3,186.21	2,592.00	2,592.00	18.19	103.68	1.68	617.91	251.64	1,637.69	1,530.38	107.31	15.262	
3,500.00	3,286.21	2,592.00	2,592.00	18.39	103.68	1.68	617.91	251.64	1,676.99	1,572.08	104.91	15.985	
3,600.00	3,386.21	2,592.00	2,592.00	18.60	103.68	1.68	617.91	251.64	1,721.20	1,618.85	102.35	16.817	
3,700.00	3,486.21	2,592.00	2,592.00	18.82	103.68	1.68	617.91	251.64	1,769.96	1,670.29	99.68	17.757	
3,800.00	3,586.21	2,592.00	2,592.00	19.03	103.68	1.68	617.91	251.64	1,822.91	1,725.97	96.94	18.804	
3,900.00	3,686.21	2,592.00	2,592.00	19.25	103.68	1.68	617.91	251.64	1,879.69	1,785.50	94.20	19.955	
4,000.00	3,786.21	2,592.00	2,592.00	19.48	103.68	1.68	617.91	251.64	1,939.97	1,848.51	91.46	21.210	
4,100.00	3,886.21	2,592.00	2,592.00	19.71	103.68	1.68	617.91	251.64	2,003.43	1,914.66	88.77	22.568	
4,200.00	3,986.21	2,592.00	2,592.00	19.94	103.68	1.68	617.91	251.64	2,069.78	1,983.63	86.15	24.025	
4,300.00	4,086.21	2,592.00	2,592.00	20.18	103.68	1.68	617.91	251.64	2,138.74	2,055.14	83.61	25.581	
4,400.00	4,186.21	2,592.00	2,592.00	20.42	103.68	1.68	617.91	251.64	2,210.08	2,128.93	81.15	27.234	
4,500.00	4,286.21	2,592.00	2,592.00	20.66	103.68	1.68	617.91	251.64	2,283.57	2,204.77	78.80	28.980	
4,600.00	4,386.21	2,592.00	2,592.00	20.91	103.68	1.68	617.91	251.64	2,359.01	2,282.47	76.55	30.818	
4,700.00	4,486.21	2,592.00	2,592.00	21.16	103.68	1.68	617.91	251.64	2,436.23	2,361.83	74.40	32.745	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Hilcorp Energy Company

Scientific Drilling
Anticollision Report

Scientific Drilling

Company:	Hilcorp Energy Corp.	**Local Co-ordinate Reference:**	Well Calloway #1M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5732' @ 5732.00ft
Reference Site:	Calloway	**MD Reference:**	GL 5732' @ 5732.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway #1M	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Calloway - Calloway 100 - OH - OH — **Offset Site Error:** 0.00 ft

Survey Program: 100-UNKNOWN — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,800.00	4,586.21	2,592.00	2,592.00	21.42	103.68	1.68	617.91	251.64	2,515.04	2,442.69	72.36	34.759	
4,900.00	4,686.21	2,592.00	2,592.00	21.67	103.68	1.68	617.91	251.64	2,595.32	2,524.90	70.42	36.857	
5,000.00	4,786.21	2,592.00	2,592.00	21.93	103.68	1.68	617.91	251.64	2,676.92	2,608.35	68.58	39.036	
5,100.00	4,886.21	2,592.00	2,592.00	22.19	103.68	1.68	617.91	251.64	2,759.74	2,692.91	66.83	41.293	
5,200.00	4,986.21	2,592.00	2,592.00	22.46	103.68	1.68	617.91	251.64	2,843.66	2,778.48	65.18	43.626	
5,300.00	5,086.21	2,592.00	2,592.00	22.72	103.68	1.68	617.91	251.64	2,928.59	2,864.97	63.62	46.031	
5,400.00	5,186.21	2,592.00	2,592.00	22.99	103.68	1.68	617.91	251.64	3,014.45	2,952.30	62.15	48.505	
5,500.00	5,286.21	2,592.00	2,592.00	23.27	103.68	1.68	617.91	251.64	3,101.15	3,040.40	60.75	51.045	
5,600.00	5,386.21	2,592.00	2,592.00	23.54	103.68	1.68	617.91	251.64	3,188.63	3,129.20	59.44	53.647	
5,700.00	5,486.21	2,592.00	2,592.00	23.82	103.68	1.68	617.91	251.64	3,276.83	3,218.64	58.19	56.310	
5,800.00	5,586.21	2,592.00	2,592.00	24.10	103.68	1.68	617.91	251.64	3,365.69	3,308.67	57.02	59.028	
5,900.00	5,686.21	2,592.00	2,592.00	24.38	103.68	1.68	617.91	251.64	3,455.16	3,399.25	55.91	61.798	
6,000.00	5,786.21	2,592.00	2,592.00	24.66	103.68	1.68	617.91	251.64	3,545.19	3,490.32	54.86	64.618	
6,100.00	5,886.21	2,592.00	2,592.00	24.95	103.68	1.68	617.91	251.64	3,635.74	3,581.86	53.88	67.484	
6,200.00	5,986.21	2,592.00	2,592.00	25.23	103.68	1.68	617.91	251.64	3,726.77	3,673.83	52.94	70.392	
6,300.00	6,086.21	2,592.00	2,592.00	25.52	103.68	1.68	617.91	251.64	3,818.26	3,766.19	52.06	73.339	
6,400.00	6,186.21	2,592.00	2,592.00	25.81	103.68	1.68	617.91	251.64	3,910.16	3,858.92	51.23	76.321	
6,500.00	6,286.21	2,592.00	2,592.00	26.10	103.68	1.68	617.91	251.64	4,002.44	3,952.00	50.45	79.335	
6,600.00	6,386.21	2,592.00	2,592.00	26.40	103.68	1.68	617.91	251.64	4,095.10	4,045.38	49.71	82.378	
6,700.00	6,486.21	2,592.00	2,592.00	26.69	103.68	1.68	617.91	251.64	4,188.08	4,139.07	49.01	85.446	
6,800.00	6,586.21	2,592.00	2,592.00	26.99	103.68	1.68	617.91	251.64	4,281.39	4,233.03	48.36	88.535	
6,900.00	6,686.21	2,592.00	2,592.00	27.29	103.68	1.68	617.91	251.64	4,374.99	4,327.25	47.74	91.643	
7,000.00	6,786.21	2,592.00	2,592.00	27.59	103.68	1.68	617.91	251.64	4,468.87	4,421.71	47.16	94.766	
7,100.00	6,886.21	2,592.00	2,592.00	27.89	103.68	1.68	617.91	251.64	4,563.01	4,516.40	46.61	97.901	
7,200.00	6,986.21	2,592.00	2,592.00	28.19	103.68	1.68	617.91	251.64	4,657.39	4,611.30	46.09	101.044	
7,239.79	7,026.00	2,592.00	2,592.00	28.31	103.68	1.68	617.91	251.64	4,695.00	4,649.11	45.90	102.296	

Hilcorp Energy Company

Scientific Drilling

Anticollision Report

Scientific Drilling

Company:	Hilcorp Energy Corp.	**Local Co-ordinate Reference:**	Well Calloway #1M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5732' @ 5732.00ft
Reference Site:	Calloway	**MD Reference:**	GL 5732' @ 5732.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway #1M	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Calloway - Calloway 100S - OH - OH — **Offset Site Error:** 0.00 ft

Survey Program: 100-UNKNOWN — **Offset Well Error:** 0.00 ft

Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	161.93	-1,515.44	494.45	1,594.10				
100.00	100.00	90.00	90.00	0.36	3.60	161.93	-1,515.44	494.45	1,594.06	1,590.11	3.96	402.695	
200.00	200.00	190.00	190.00	0.72	7.60	161.93	-1,515.44	494.45	1,594.06	1,585.75	8.32	191.665	
300.00	300.00	290.00	290.00	1.08	11.60	161.93	-1,515.44	494.45	1,594.06	1,581.39	12.68	125.760	
400.00	400.00	390.00	390.00	1.43	15.60	161.93	-1,515.44	494.45	1,594.06	1,577.03	17.03	93.582	
450.00	450.00	440.00	440.00	1.61	17.60	161.93	-1,515.44	494.45	1,594.06	1,574.85	19.21	82.967	
500.00	499.99	489.99	489.99	1.78	19.60	-5.19	-1,515.44	494.45	1,593.41	1,572.03	21.38	74.515	
600.00	599.85	589.85	589.85	2.12	23.59	-5.22	-1,515.44	494.45	1,588.20	1,562.49	25.71	61.767	
700.00	699.29	689.29	689.29	2.47	27.57	-5.28	-1,515.44	494.45	1,577.79	1,547.75	30.04	52.525	
800.00	798.04	788.04	788.04	2.83	31.52	-5.38	-1,515.44	494.45	1,562.22	1,527.87	34.35	45.486	
900.00	895.85	885.85	885.85	3.22	35.43	-5.51	-1,515.44	494.45	1,541.52	1,502.90	38.62	39.915	
1,000.00	992.43	982.43	982.43	3.65	39.30	-5.68	-1,515.44	494.45	1,515.75	1,472.90	42.85	35.372	
1,100.00	1,087.52	1,077.52	1,077.52	4.13	43.10	-5.90	-1,515.44	494.45	1,485.00	1,437.97	47.03	31.576	
1,200.00	1,180.87	1,170.87	1,170.87	4.66	46.83	-6.17	-1,515.44	494.45	1,449.34	1,398.20	51.14	28.339	
1,300.00	1,272.22	1,262.22	1,262.22	5.25	50.49	-6.49	-1,515.44	494.45	1,408.88	1,353.69	55.18	25.531	
1,400.00	1,361.31	1,351.31	1,351.31	5.91	54.05	-6.89	-1,515.44	494.45	1,363.73	1,304.59	59.14	23.060	
1,500.00	1,447.90	1,437.90	1,437.90	6.63	57.52	-7.37	-1,515.44	494.45	1,314.03	1,251.03	63.00	20.858	
1,570.49	1,507.30	1,497.30	1,497.30	7.18	59.89	-7.76	-1,515.44	494.45	1,276.33	1,210.67	65.66	19.439	
1,600.00	1,531.88	1,521.88	1,521.88	7.42	60.88	-7.86	-1,515.44	494.45	1,260.10	1,193.34	66.76	18.875	
1,700.00	1,615.16	1,605.16	1,605.16	8.25	64.21	-8.22	-1,515.44	494.45	1,205.12	1,134.64	70.48	17.099	
1,800.00	1,698.44	1,688.44	1,688.44	9.09	67.54	-8.62	-1,515.44	494.45	1,150.17	1,075.96	74.21	15.499	
1,900.00	1,781.72	1,771.72	1,771.72	9.95	70.87	-9.05	-1,515.44	494.45	1,095.27	1,017.32	77.95	14.051	
2,000.00	1,865.00	1,855.00	1,855.00	10.82	74.20	-9.53	-1,515.44	494.45	1,040.42	958.71	81.70	12.734	
2,093.30	1,942.70	1,932.70	1,932.70	11.64	77.31	-10.02	-1,515.44	494.45	989.29	904.08	85.21	11.610	
2,100.00	1,948.28	1,938.28	1,938.28	11.70	77.53	-10.03	-1,515.44	494.45	985.63	900.17	85.46	11.533	
2,200.00	2,033.16	2,023.16	2,023.16	12.56	80.93	-10.26	-1,515.44	494.45	933.37	844.08	89.29	10.454	
2,300.00	2,120.68	2,110.68	2,110.68	13.35	84.43	-10.52	-1,515.44	494.45	885.64	792.42	93.22	9.501	
2,400.00	2,210.62	2,200.62	2,200.62	14.09	88.02	-10.79	-1,515.44	494.45	842.55	745.30	97.25	8.664	
2,500.00	2,302.71	2,292.71	2,292.71	14.77	91.71	-11.06	-1,515.44	494.45	804.22	702.85	101.37	7.934	
2,600.00	2,396.72	2,386.72	2,386.72	15.39	95.47	-11.33	-1,515.44	494.45	770.74	665.18	105.56	7.302	
2,700.00	2,492.39	2,482.39	2,482.39	15.94	99.30	-11.59	-1,515.44	494.45	742.18	632.39	109.80	6.760	
2,800.00	2,589.44	2,567.00	2,567.00	16.43	102.68	-11.78	-1,515.44	494.45	718.72	605.10	113.62	6.325	
2,900.00	2,687.62	2,567.00	2,567.00	16.86	102.68	-11.72	-1,515.44	494.45	708.76	595.62	113.14	6.265	CC, ES, SF
2,904.45	2,692.01	2,567.00	2,567.00	16.88	102.68	-11.72	-1,515.44	494.45	708.76	595.70	113.07	6.269	
3,000.00	2,786.66	2,567.00	2,567.00	17.23	102.68	-11.78	-1,515.44	494.45	717.91	607.44	110.46	6.499	
3,100.00	2,886.28	2,567.00	2,567.00	17.54	102.68	-11.96	-1,515.44	494.45	745.43	639.44	105.98	7.033	
3,200.00	2,986.21	2,567.00	2,567.00	17.80	102.68	-12.27	-1,515.44	494.45	789.33	688.88	100.45	7.858	
3,213.79	3,000.00	2,567.00	2,567.00	17.83	102.68	154.79	-1,515.44	494.45	796.53	696.87	99.66	7.993	
3,300.00	3,086.21	2,567.00	2,567.00	17.99	102.68	154.79	-1,515.44	494.45	845.47	750.92	94.55	8.942	
3,400.00	3,186.21	2,567.00	2,567.00	18.19	102.68	154.79	-1,515.44	494.45	909.21	820.56	88.66	10.256	
3,500.00	3,286.21	2,567.00	2,567.00	18.39	102.68	154.79	-1,515.44	494.45	979.03	896.00	83.04	11.790	
3,600.00	3,386.21	2,567.00	2,567.00	18.60	102.68	154.79	-1,515.44	494.45	1,053.73	975.91	77.83	13.540	
3,700.00	3,486.21	2,567.00	2,567.00	18.82	102.68	154.79	-1,515.44	494.45	1,132.34	1,059.27	73.07	15.497	
3,800.00	3,586.21	2,567.00	2,567.00	19.03	102.68	154.79	-1,515.44	494.45	1,214.10	1,145.33	68.77	17.654	
3,900.00	3,686.21	2,567.00	2,567.00	19.25	102.68	154.79	-1,515.44	494.45	1,298.41	1,233.51	64.90	20.005	
4,000.00	3,786.21	2,567.00	2,567.00	19.48	102.68	154.79	-1,515.44	494.45	1,384.82	1,323.39	61.43	22.542	
4,100.00	3,886.21	2,567.00	2,567.00	19.71	102.68	154.79	-1,515.44	494.45	1,472.94	1,414.63	58.32	25.258	
4,200.00	3,986.21	2,567.00	2,567.00	19.94	102.68	154.79	-1,515.44	494.45	1,562.50	1,506.98	55.52	28.145	
4,300.00	4,086.21	2,567.00	2,567.00	20.18	102.68	154.79	-1,515.44	494.45	1,653.25	1,600.26	53.00	31.195	
4,400.00	4,186.21	2,567.00	2,567.00	20.42	102.68	154.79	-1,515.44	494.45	1,745.02	1,694.29	50.73	34.401	
4,500.00	4,286.21	2,567.00	2,567.00	20.66	102.68	154.79	-1,515.44	494.45	1,837.64	1,788.97	48.67	37.754	
4,600.00	4,386.21	2,567.00	2,567.00	20.91	102.68	154.79	-1,515.44	494.45	1,931.00	1,884.19	46.82	41.247	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Scientific Drilling

Anticollision Report

Company:	Hilcorp Energy Corp.	**Local Co-ordinate Reference:**	Well Calloway #1M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5732' @ 5732.00ft
Reference Site:	Calloway	**MD Reference:**	GL 5732' @ 5732.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway #1M	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Calloway - Calloway 100S - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 100-UNKNOWN

Offset Well Error: 0.00 ft

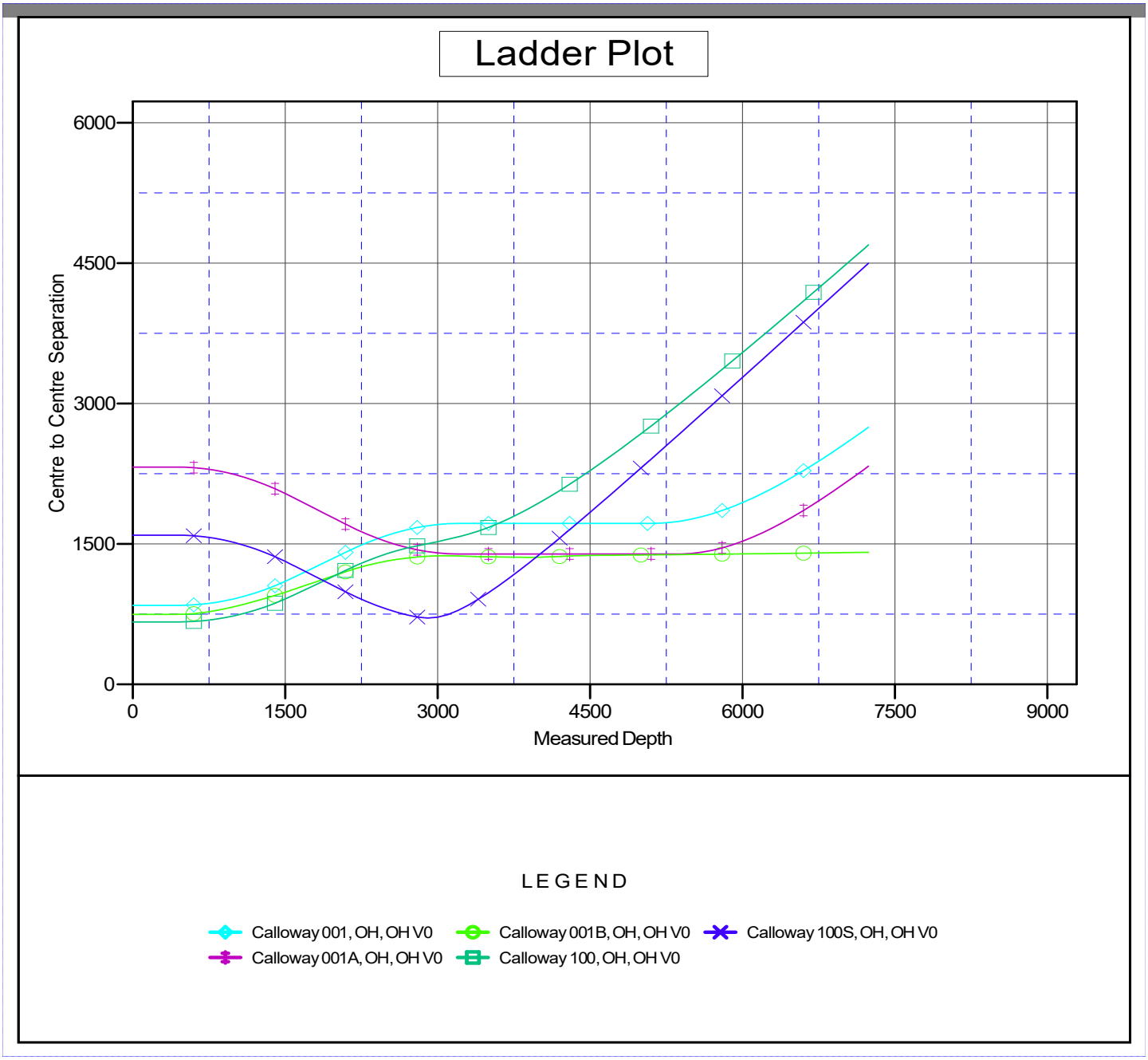
Reference Measured Depth (ft)	Reference Vertical Depth (ft)	Offset Measured Depth (ft)	Offset Vertical Depth (ft)	Semi Major Axis Reference (ft)	Semi Major Axis Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,700.00	4,486.21	2,567.00	2,567.00	21.16	102.68	154.79	-1,515.44	494.45	2,025.00	1,979.87	45.13	44.871	
4,800.00	4,586.21	2,567.00	2,567.00	21.42	102.68	154.79	-1,515.44	494.45	2,119.54	2,075.95	43.59	48.619	
4,900.00	4,686.21	2,567.00	2,567.00	21.67	102.68	154.79	-1,515.44	494.45	2,214.57	2,172.37	42.20	52.482	
5,000.00	4,786.21	2,567.00	2,567.00	21.93	102.68	154.79	-1,515.44	494.45	2,310.01	2,269.09	40.92	56.452	
5,100.00	4,886.21	2,567.00	2,567.00	22.19	102.68	154.79	-1,515.44	494.45	2,405.82	2,366.07	39.75	60.521	
5,200.00	4,986.21	2,567.00	2,567.00	22.46	102.68	154.79	-1,515.44	494.45	2,501.97	2,463.28	38.68	64.680	
5,300.00	5,086.21	2,567.00	2,567.00	22.72	102.68	154.79	-1,515.44	494.45	2,598.40	2,560.70	37.70	68.922	
5,400.00	5,186.21	2,567.00	2,567.00	22.99	102.68	154.79	-1,515.44	494.45	2,695.09	2,658.29	36.80	73.238	
5,500.00	5,286.21	2,567.00	2,567.00	23.27	102.68	154.79	-1,515.44	494.45	2,792.02	2,756.05	35.97	77.619	
5,600.00	5,386.21	2,567.00	2,567.00	23.54	102.68	154.79	-1,515.44	494.45	2,889.15	2,853.94	35.21	82.058	
5,700.00	5,486.21	2,567.00	2,567.00	23.82	102.68	154.79	-1,515.44	494.45	2,986.48	2,951.97	34.51	86.547	
5,800.00	5,586.21	2,567.00	2,567.00	24.10	102.68	154.79	-1,515.44	494.45	3,083.97	3,050.11	33.86	91.078	
5,900.00	5,686.21	2,567.00	2,567.00	24.38	102.68	154.79	-1,515.44	494.45	3,181.62	3,148.36	33.27	95.643	
6,000.00	5,786.21	2,567.00	2,567.00	24.66	102.68	154.79	-1,515.44	494.45	3,279.42	3,246.70	32.72	100.235	
6,100.00	5,886.21	2,567.00	2,567.00	24.95	102.68	154.79	-1,515.44	494.45	3,377.34	3,345.13	32.21	104.845	
6,200.00	5,986.21	2,567.00	2,567.00	25.23	102.68	154.79	-1,515.44	494.45	3,475.38	3,443.63	31.75	109.467	
6,300.00	6,086.21	2,567.00	2,567.00	25.52	102.68	154.79	-1,515.44	494.45	3,573.53	3,542.21	31.32	114.094	
6,400.00	6,186.21	2,567.00	2,567.00	25.81	102.68	154.79	-1,515.44	494.45	3,671.78	3,640.85	30.93	118.719	
6,500.00	6,286.21	2,567.00	2,567.00	26.10	102.68	154.79	-1,515.44	494.45	3,770.12	3,739.55	30.57	123.335	
6,600.00	6,386.21	2,567.00	2,567.00	26.40	102.68	154.79	-1,515.44	494.45	3,868.54	3,838.31	30.24	127.935	
6,700.00	6,486.21	2,567.00	2,567.00	26.69	102.68	154.79	-1,515.44	494.45	3,967.05	3,937.11	29.94	132.515	
6,800.00	6,586.21	2,567.00	2,567.00	26.99	102.68	154.79	-1,515.44	494.45	4,065.63	4,035.96	29.66	137.067	
6,900.00	6,686.21	2,567.00	2,567.00	27.29	102.68	154.79	-1,515.44	494.45	4,164.27	4,134.86	29.41	141.586	
7,000.00	6,786.21	2,567.00	2,567.00	27.59	102.68	154.79	-1,515.44	494.45	4,262.98	4,233.80	29.19	146.067	
7,100.00	6,886.21	2,567.00	2,567.00	27.89	102.68	154.79	-1,515.44	494.45	4,361.75	4,332.77	28.98	150.505	
7,200.00	6,986.21	2,567.00	2,567.00	28.19	102.68	154.79	-1,515.44	494.45	4,460.57	4,431.77	28.80	154.895	
7,239.79	7,026.00	2,567.00	2,567.00	28.31	102.68	154.79	-1,515.44	494.45	4,499.90	4,471.17	28.73	156.627	

Scientific Drilling
Anticollision Report

Company:	Hilcorp Energy Corp.	**Local Co-ordinate Reference:**	Well Calloway #1M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5732' @ 5732.00ft
Reference Site:	Calloway	**MD Reference:**	GL 5732' @ 5732.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway #1M	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to GL 5732' @ 5732.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -107.8333334

Coordinates are relative to: Calloway #1M
Coordinate System is US State Plane 1927 (Exact solution), New Mexico West 30
Grid Convergence at Surface is: -0.09°

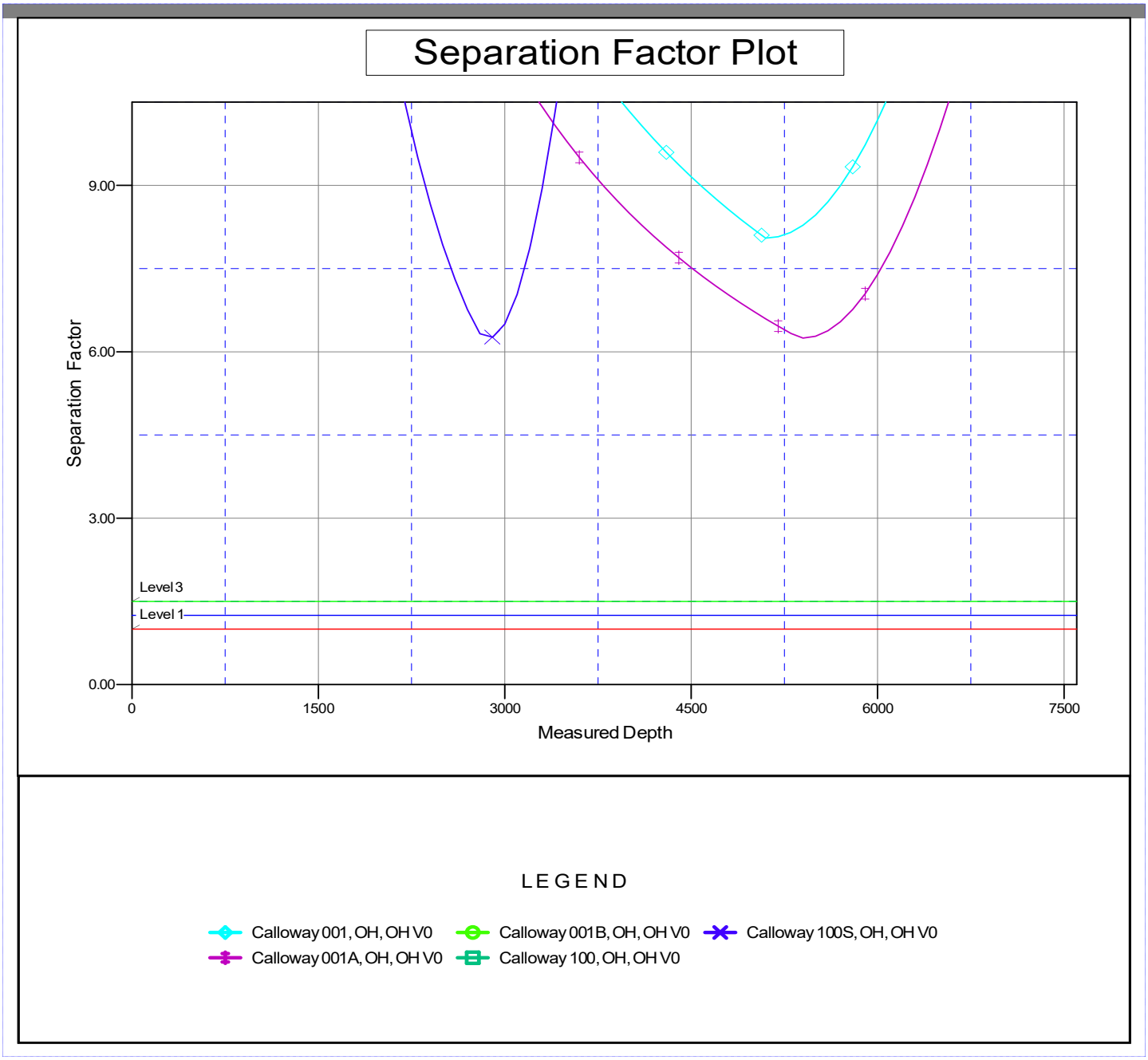


Scientific Drilling
Anticollision Report

Company:	Hilcorp Energy Corp.	**Local Co-ordinate Reference:**	Well Calloway #1M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5732' @ 5732.00ft
Reference Site:	Calloway	**MD Reference:**	GL 5732' @ 5732.00ft
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway #1M	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 ft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Grand Junction
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to GL 5732' @ 5732.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -107.8333334

Coordinates are relative to: Calloway #1M
Coordinate System is US State Plane 1927 (Exact solution), New Mexico West 30
Grid Convergence at Surface is: -0.09°



Company: Hilcorp Energy Corp.
Project: San Juan, NM NAD27
Site: Calloway
Well: Calloway #1M
Wellbore: OH
Design: Plan #1

Scientific Drilling

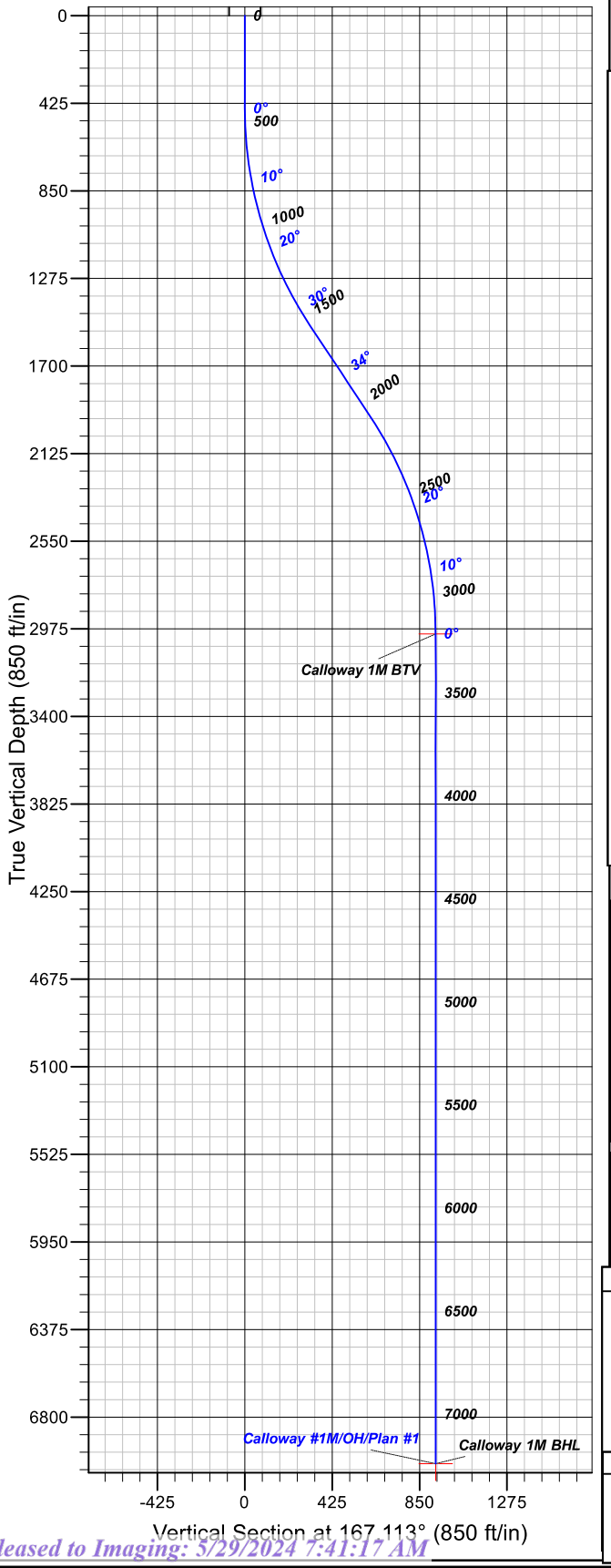
Well Details: Calloway #1M

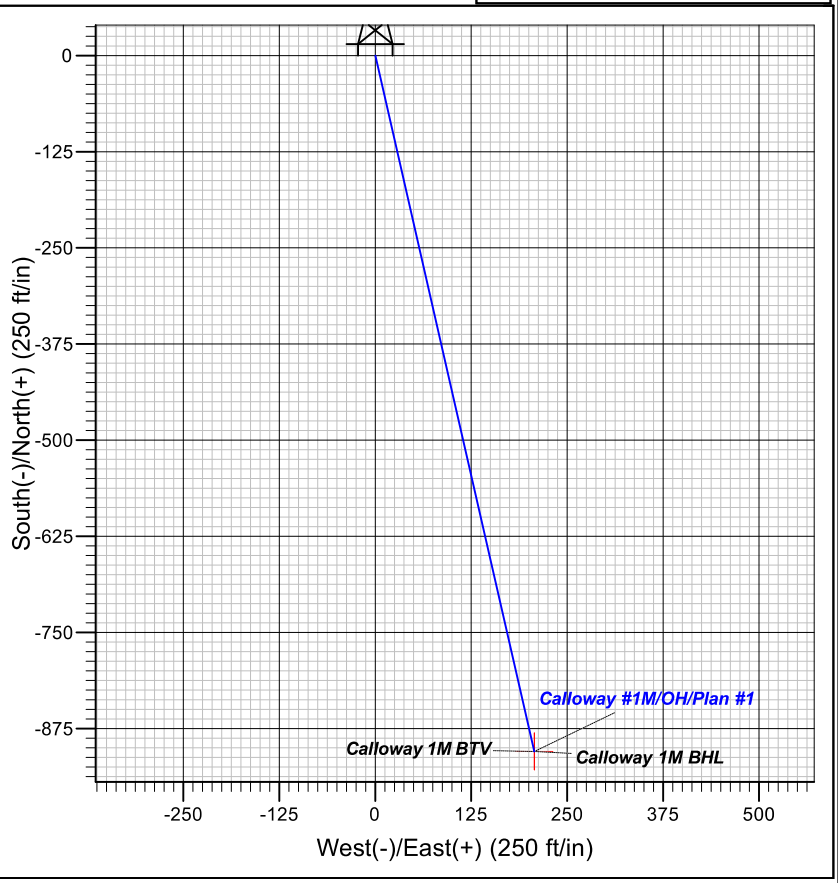
GL 5732' @ 5732.00ft

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	2136713.42	458354.18	36.8720327	-107.9757103	

Azimuths to True North
Magnetic North: 8.50°

Magnetic Field
Strength: 49240.3nT
Dip Angle: 63.18°
Date: 4/10/2024
Model: HDGM2024





FORMATION TOP DETAILS

No formation data is available

CASING DETAILS

No casing data is available

Plan: Plan #1

8:37, April 10 2024
Created By: Janie Collins

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

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00
450.00	0.00	0.000	450.00	0.00	0.00	0.00	0.00	0.00
1570.49	33.61	167.113	1507.30	-311.32	71.23	3.00	167.11	319.36
2093.30	33.61	167.113	1942.70	-593.46	135.78	0.00	0.00	608.80
3213.79	0.00	0.000	3000.00	-904.78	207.01	3.00	180.00	928.16
7239.79	0.00	0.000	7026.00	-904.78	207.01	0.00	0.00	928.16

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Calloway 1M BTV - plan hits target center	3000.00	-904.78	207.01	2135808.33	458559.84	36.8695474	-107.9750026
Calloway 1M BHL - plan hits target center	7026.00	-904.78	207.01	2135808.33	458559.84	36.8695474	-107.9750026

Hilcorp
Energy Company

Hilcorp Energy Corp.

San Juan, NM NAD27
Calloway
Calloway #1M

OH

Plan: Plan #1

Standard Planning Report

10 April, 2024

Scientific Drilling

www.scientificdrilling.com

Hilcorp Energy Company

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Planning Report

Scientific Drilling

Database:	Grand Junction	**Local Co-ordinate Reference:**	Well Calloway #1M
Company:	Hilcorp Energy Corp.	**TVD Reference:**	GL 5732' @ 5732.00ft
Project:	San Juan, NM NAD27	**MD Reference:**	GL 5732' @ 5732.00ft
Site:	Calloway	**North Reference:**	True
Well:	Calloway #1M	**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 Calloway

Site Position:		**Northing:**	2,136,713.41 usft	**Latitude:**	36.8720327
From:	Lat/Long	**Easting:**	458,354.18 usft	**Longitude:**	-107.9757103
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.20 in	**Grid Convergence:**	-0.09 °

Well Calloway #1M

Well Position	**+N/-S**	0.00 ft	**Northing:**	2,136,713.41 usft	**Latitude:**	36.8720327
	+E/-W	0.00 ft	**Easting:**	458,354.18 usft	**Longitude:**	-107.9757103
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**Ground Level:**	5,732.00 ft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2024	4/10/2024	8.50	63.18	49,240.30000000

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	167.113

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	
450.00	0.00	0.000	450.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,570.49	33.61	167.113	1,507.30	-311.32	71.23	3.00	3.00	0.00	167.11	
2,093.30	33.61	167.113	1,942.70	-593.46	135.78	0.00	0.00	0.00	0.00	
3,213.79	0.00	0.000	3,000.00	-904.78	207.01	3.00	-3.00	0.00	180.00	Calloway 1M BTV
7,239.79	0.00	0.000	7,026.00	-904.78	207.01	0.00	0.00	0.00	0.00	Calloway 1M BHL

Hilcorp Energy Company

Scientific Drilling

Planning Report

Scientific Drilling

Database:	Grand Junction	**Local Co-ordinate Reference:**	Well Calloway #1M
Company:	Hilcorp Energy Corp.	**TVD Reference:**	GL 5732' @ 5732.00ft
Project:	San Juan, NM NAD27	**MD Reference:**	GL 5732' @ 5732.00ft
Site:	Calloway	**North Reference:**	True
Well:	Calloway #1M	**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
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00
450.00	0.00	0.000	450.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	1.50	167.113	499.99	-0.64	0.15	0.65	3.00	3.00	0.00
600.00	4.50	167.113	599.85	-5.74	1.31	5.89	3.00	3.00	0.00
700.00	7.50	167.113	699.29	-15.93	3.64	16.34	3.00	3.00	0.00
800.00	10.50	167.113	798.04	-31.18	7.13	31.98	3.00	3.00	0.00
900.00	13.50	167.113	895.85	-51.44	11.77	52.77	3.00	3.00	0.00
1,000.00	16.50	167.113	992.43	-76.67	17.54	78.65	3.00	3.00	0.00
1,100.00	19.50	167.113	1,087.52	-106.79	24.43	109.55	3.00	3.00	0.00
1,200.00	22.50	167.113	1,180.87	-141.72	32.42	145.38	3.00	3.00	0.00
1,300.00	25.50	167.113	1,272.22	-181.36	41.50	186.05	3.00	3.00	0.00
1,400.00	28.50	167.113	1,361.31	-225.61	51.62	231.44	3.00	3.00	0.00
1,500.00	31.50	167.113	1,447.90	-274.35	62.77	281.44	3.00	3.00	0.00
1,570.49	33.61	167.113	1,507.30	-311.32	71.23	319.37	3.00	3.00	0.00
1,600.00	33.61	167.113	1,531.88	-327.25	74.87	335.70	0.00	0.00	0.00
1,700.00	33.61	167.113	1,615.16	-381.21	87.22	391.06	0.00	0.00	0.00
1,800.00	33.61	167.113	1,698.44	-435.18	99.57	446.42	0.00	0.00	0.00
1,900.00	33.61	167.113	1,781.72	-489.15	111.92	501.79	0.00	0.00	0.00
2,000.00	33.61	167.113	1,865.00	-543.11	124.26	557.15	0.00	0.00	0.00
2,093.30	33.61	167.113	1,942.70	-593.46	135.78	608.80	0.00	0.00	0.00
2,100.00	33.41	167.113	1,948.28	-597.07	136.61	612.50	3.00	-3.00	0.00
2,200.00	30.41	167.113	2,033.16	-648.59	148.40	665.35	3.00	-3.00	0.00
2,300.00	27.41	167.113	2,120.68	-695.72	159.18	713.70	3.00	-3.00	0.00
2,400.00	24.41	167.113	2,210.62	-738.31	168.93	757.39	3.00	-3.00	0.00
2,500.00	21.41	167.113	2,302.71	-776.26	177.61	796.32	3.00	-3.00	0.00
2,600.00	18.41	167.113	2,396.72	-809.46	185.20	830.38	3.00	-3.00	0.00
2,700.00	15.41	167.113	2,492.39	-837.82	191.69	859.47	3.00	-3.00	0.00
2,800.00	12.41	167.113	2,589.44	-861.26	197.05	883.51	3.00	-3.00	0.00
2,900.00	9.41	167.113	2,687.62	-879.71	201.28	902.44	3.00	-3.00	0.00
3,000.00	6.41	167.113	2,786.66	-893.13	204.35	916.21	3.00	-3.00	0.00
3,100.00	3.41	167.113	2,886.28	-901.48	206.26	924.77	3.00	-3.00	0.00
3,200.00	0.41	167.113	2,986.21	-904.73	207.00	928.11	3.00	-3.00	0.00
3,213.79	0.00	0.000	3,000.00	-904.78	207.01	928.16	3.00	-3.00	0.00
3,300.00	0.00	0.000	3,086.21	-904.78	207.01	928.16	0.00	0.00	0.00
3,400.00	0.00	0.000	3,186.21	-904.78	207.01	928.16	0.00	0.00	0.00
3,500.00	0.00	0.000	3,286.21	-904.78	207.01	928.16	0.00	0.00	0.00
3,600.00	0.00	0.000	3,386.21	-904.78	207.01	928.16	0.00	0.00	0.00
3,700.00	0.00	0.000	3,486.21	-904.78	207.01	928.16	0.00	0.00	0.00
3,800.00	0.00	0.000	3,586.21	-904.78	207.01	928.16	0.00	0.00	0.00
3,900.00	0.00	0.000	3,686.21	-904.78	207.01	928.16	0.00	0.00	0.00
4,000.00	0.00	0.000	3,786.21	-904.78	207.01	928.16	0.00	0.00	0.00
4,100.00	0.00	0.000	3,886.21	-904.78	207.01	928.16	0.00	0.00	0.00
4,200.00	0.00	0.000	3,986.21	-904.78	207.01	928.16	0.00	0.00	0.00
4,300.00	0.00	0.000	4,086.21	-904.78	207.01	928.16	0.00	0.00	0.00
4,400.00	0.00	0.000	4,186.21	-904.78	207.01	928.16	0.00	0.00	0.00
4,500.00	0.00	0.000	4,286.21	-904.78	207.01	928.16	0.00	0.00	0.00
4,600.00	0.00	0.000	4,386.21	-904.78	207.01	928.16	0.00	0.00	0.00
4,700.00	0.00	0.000	4,486.21	-904.78	207.01	928.16	0.00	0.00	0.00
4,800.00	0.00	0.000	4,586.21	-904.78	207.01	928.16	0.00	0.00	0.00
4,900.00	0.00	0.000	4,686.21	-904.78	207.01	928.16	0.00	0.00	0.00

Hilcorp Energy Company

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Wellbore:	OH		
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5,000.00	0.00	0.000	4,786.21	-904.78	207.01	928.16	0.00	0.00	0.00
5,100.00	0.00	0.000	4,886.21	-904.78	207.01	928.16	0.00	0.00	0.00
5,200.00	0.00	0.000	4,986.21	-904.78	207.01	928.16	0.00	0.00	0.00
5,300.00	0.00	0.000	5,086.21	-904.78	207.01	928.16	0.00	0.00	0.00
5,400.00	0.00	0.000	5,186.21	-904.78	207.01	928.16	0.00	0.00	0.00
5,500.00	0.00	0.000	5,286.21	-904.78	207.01	928.16	0.00	0.00	0.00
5,600.00	0.00	0.000	5,386.21	-904.78	207.01	928.16	0.00	0.00	0.00
5,700.00	0.00	0.000	5,486.21	-904.78	207.01	928.16	0.00	0.00	0.00
5,800.00	0.00	0.000	5,586.21	-904.78	207.01	928.16	0.00	0.00	0.00
5,900.00	0.00	0.000	5,686.21	-904.78	207.01	928.16	0.00	0.00	0.00
6,000.00	0.00	0.000	5,786.21	-904.78	207.01	928.16	0.00	0.00	0.00
6,100.00	0.00	0.000	5,886.21	-904.78	207.01	928.16	0.00	0.00	0.00
6,200.00	0.00	0.000	5,986.21	-904.78	207.01	928.16	0.00	0.00	0.00
6,300.00	0.00	0.000	6,086.21	-904.78	207.01	928.16	0.00	0.00	0.00
6,400.00	0.00	0.000	6,186.21	-904.78	207.01	928.16	0.00	0.00	0.00
6,500.00	0.00	0.000	6,286.21	-904.78	207.01	928.16	0.00	0.00	0.00
6,600.00	0.00	0.000	6,386.21	-904.78	207.01	928.16	0.00	0.00	0.00
6,700.00	0.00	0.000	6,486.21	-904.78	207.01	928.16	0.00	0.00	0.00
6,800.00	0.00	0.000	6,586.21	-904.78	207.01	928.16	0.00	0.00	0.00
6,900.00	0.00	0.000	6,686.21	-904.78	207.01	928.16	0.00	0.00	0.00
7,000.00	0.00	0.000	6,786.21	-904.78	207.01	928.16	0.00	0.00	0.00
7,100.00	0.00	0.000	6,886.21	-904.78	207.01	928.16	0.00	0.00	0.00
7,200.00	0.00	0.000	6,986.21	-904.78	207.01	928.16	0.00	0.00	0.00
7,239.79	0.00	0.000	7,026.00	-904.78	207.01	928.16	0.00	0.00	0.00

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
Calloway 1M BTV - plan hits target center - Point	0.00	0.000	3,000.00	-904.78	207.01	2,135,808.33	458,559.84	36.8695474	-107.9750026
Calloway 1M BHL - plan hits target center - Point	0.00	0.000	7,026.00	-904.78	207.01	2,135,808.33	458,559.84	36.8695474	-107.9750026

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 Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 340668

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 340668
	Action Type: [C-101] Drilling Non-Federal/Indian (APD)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Notify OCD 24 hours prior to casing & cement	5/29/2024
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104	5/29/2024
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	5/29/2024
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing	5/29/2024
ward.rikala	If cement does not circulate on any string, a CBL is required for that string of casing	5/29/2024
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	5/29/2024
ward.rikala	The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud	5/29/2024