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 30-045-38406

4. Property Code	5. Property Name	6. Well No.
318877	Calloway	2M

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
H	34	031N	011W		2470’	North	948’	East	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	34	031N	011W		2129’	South	1955’	East	San Juan

9. Pool Information

Pool Name	Pool Code
Blanco Mesaverde / Basin 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	P	5659’ GR
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
Y	7,089’	Blanco Mesaverde/Basin Dakota		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 LTC	200’	91 sx	Surf
	8 3/4"	7”	23# / J55 LTC	3135’	160 sx	Surf
	6 1/4"	4 1/2"	11.6# / J55 LTC	7089’	205 sx	Surf

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: 11/20/2024 / Phone: 713-289-2615	Conditions of Approval Attached

C-102

Submit Electronically Via OCD Permitting

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION

Revised July 9, 2024

Submittal Type: ☒ Initial Submittal ☐ Amended Report ☐ As Drilled

WELL LOCATION INFORMATION

API Number	Pool Code	Pool Name
30-045-38406	72319	BLANCO MESAVERDE

Property Code	Property Name	Well Number
318877	CALLOWAY	2M

OGRID No.	Operator Name	Ground Level Elevation
372171	HILCORP ENERGY COMPANY	5659'

Surface Owner: ☐ State ☒ Fee ☐ Tribal ☐ Federal

Mineral Owner: ☐ State ☒ Fee ☐ Tribal ☐ Federal

Surface Location

UL	Section	Township	Range	Lot	Feet from N/S Line	Feet from E/W Line	Latitude	Longitude	County
H	34	31N	11W		2470' NORTH	948' EAST	36.855748 °N	-107.972688 °W	SAN JUAN

Bottom Hole Location

UL	Section	Township	Range	Lot	Feet from N/S Line	Feet from E/W Line	Latitude	Longitude	County
J	34	31N	11W		2129' SOUTH	1955' EAST	36.853996 °N	-107.976092 °W	SAN JUAN

Dedicated Acres	Penetrated Spacing Unit:	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit	Consolidation Code
320.00	E/2 - Section 34, T31N, R11W	Infill	30-045-23366	☐ Yes ☐ No	

Order Numbers

Well setbacks are under Common Ownership: ☐ Yes ☐ No

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet from N/S Line	Feet from E/W Line	Latitude	Longitude	County

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet from N/S Line	Feet from E/W Line	Latitude	Longitude	County

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet from N/S Line	Feet from E/W Line	Latitude	Longitude	County

Unitized Area or Area of Uniform Interest	Spacing Unit Type	Ground Floor Elevation
	☐ Horizontal ☐ Vertical ☒ Directional	5659'

OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.

Cherylene Weston
Signature

11/20/2024
Date

Cherylene Weston, Operations/Regulatory Tech-Sr.
Printed Name

cweston@hilcorp.com
E-mail Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

JASON C. EDWARDS
NEW MEXICO
15269
11/19/2024
REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Signature and Seal of Professional Surveyor

Certificate Number 15269

Date of Survey NOVEMBER 7, 2024

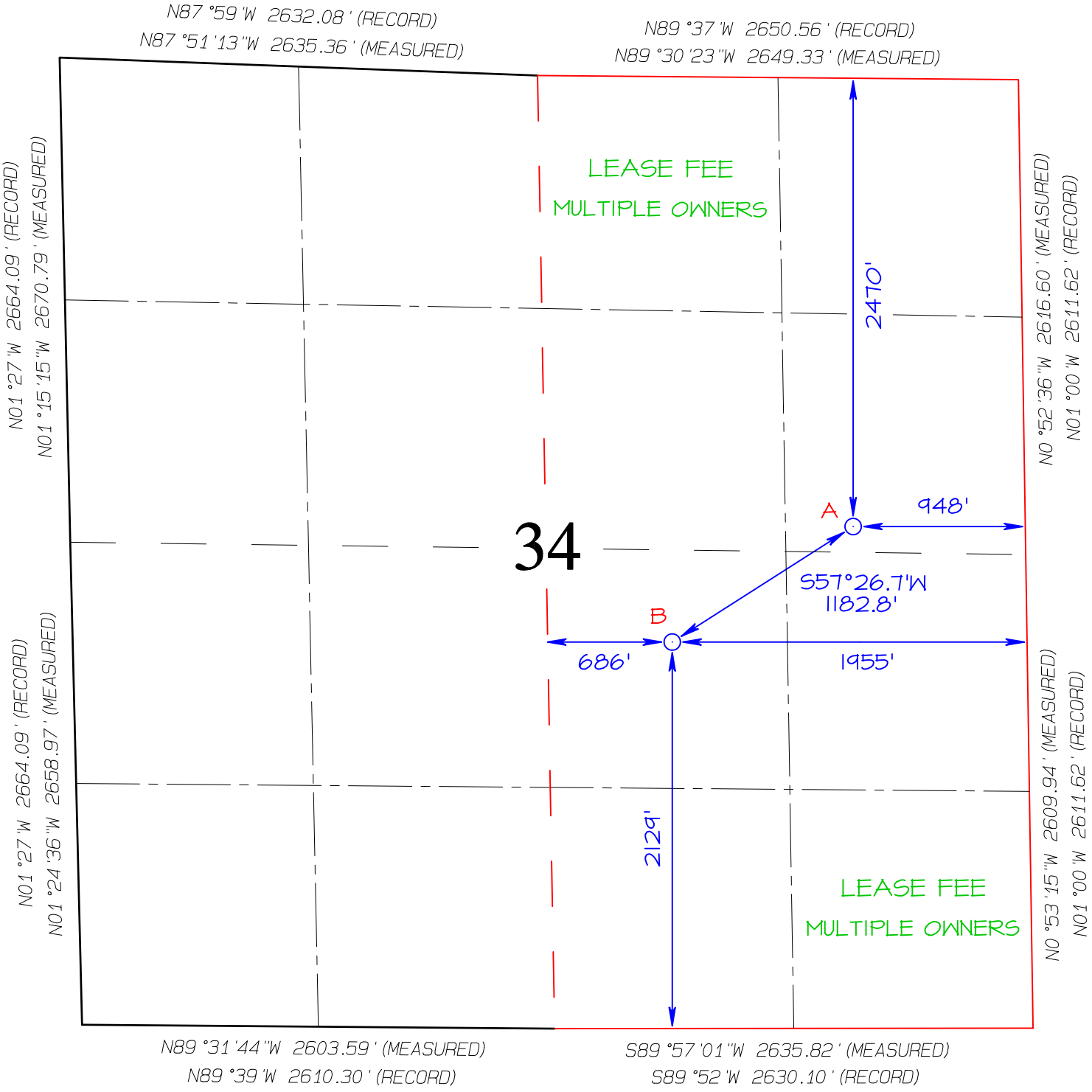
Note: No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

BOTTOM-HOLE LOC (B)
2129' FSL 1955' FEL
LAT 36.853992 °N
LONG -107.975469 °W
DATUM: NAD1927

LAT 36.853996 °N
LONG -107.976092 °W
DATUM: NAD1983

SURFACE LOCATION (A)
2470' FNL 948' FEL
LAT 36.855745 °N
LONG -107.972065 °W
DATUM: NAD1927

LAT 36.855748 °N
LONG -107.972688 °W
DATUM: NAD1983



C-102

Submit Electronically Via OCD Permitting

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION

Revised July 9, 2024

Submittal Type: ☒ Initial Submittal ☐ Amended Report ☐ As Drilled

WELL LOCATION INFORMATION

API Number	Pool Code	Pool Name
30-045-38406	71599	BASIN DAKOTA

Property Code	Property Name	Well Number
318877	CALLOWAY	2M

OGRID No.	Operator Name	Ground Level Elevation
372171	HILCORP ENERGY COMPANY	5659'

Surface Owner: ☐ State ☒ Fee ☐ Tribal ☐ Federal

Mineral Owner: ☐ State ☒ Fee ☐ Tribal ☐ Federal

Surface Location

UL	Section	Township	Range	Lot	Feet from N/S Line	Feet from E/W Line	Latitude	Longitude	County
H	34	31N	11W		2470' NORTH	948' EAST	36.855748 °N	-107.972688 °W	SAN JUAN

Bottom Hole Location

UL	Section	Township	Range	Lot	Feet from N/S Line	Feet from E/W Line	Latitude	Longitude	County
J	34	31N	11W		2129' SOUTH	1955' EAST	36.853996 °N	-107.976092 °W	SAN JUAN

Dedicated Acres	Penetrated Spacing Unit:	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit	Consolidation Code
320.00	E/2 - Section 34, T31N, R11W	Infill	30-045-35340	☐ Yes ☐ No	

Order Numbers

Well setbacks are under Common Ownership: ☐ Yes ☐ No

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet from N/S Line	Feet from E/W Line	Latitude	Longitude	County

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet from N/S Line	Feet from E/W Line	Latitude	Longitude	County

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet from N/S Line	Feet from E/W Line	Latitude	Longitude	County

Unitized Area or Area of Uniform Interest	Spacing Unit Type	Ground Floor Elevation
	☐ Horizontal ☐ Vertical ☒ Directional	5659'

OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.

Cherylene Weston
Signature

11/20/2024
Date

Cherylene Weston, Operations/Regulatory Tech-Sr.
Printed Name

cweston@hilcorp.com
E-mail Address

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

JASON C. EDWARDS NEW MEXICO 15269 11/19/2024 REGISTERED PROFESSIONAL SURVEYOR

JASON C. EDWARDS
Signature and Seal of Professional Surveyor

Certificate Number 15269 Date of Survey NOVEMBER 7, 2024

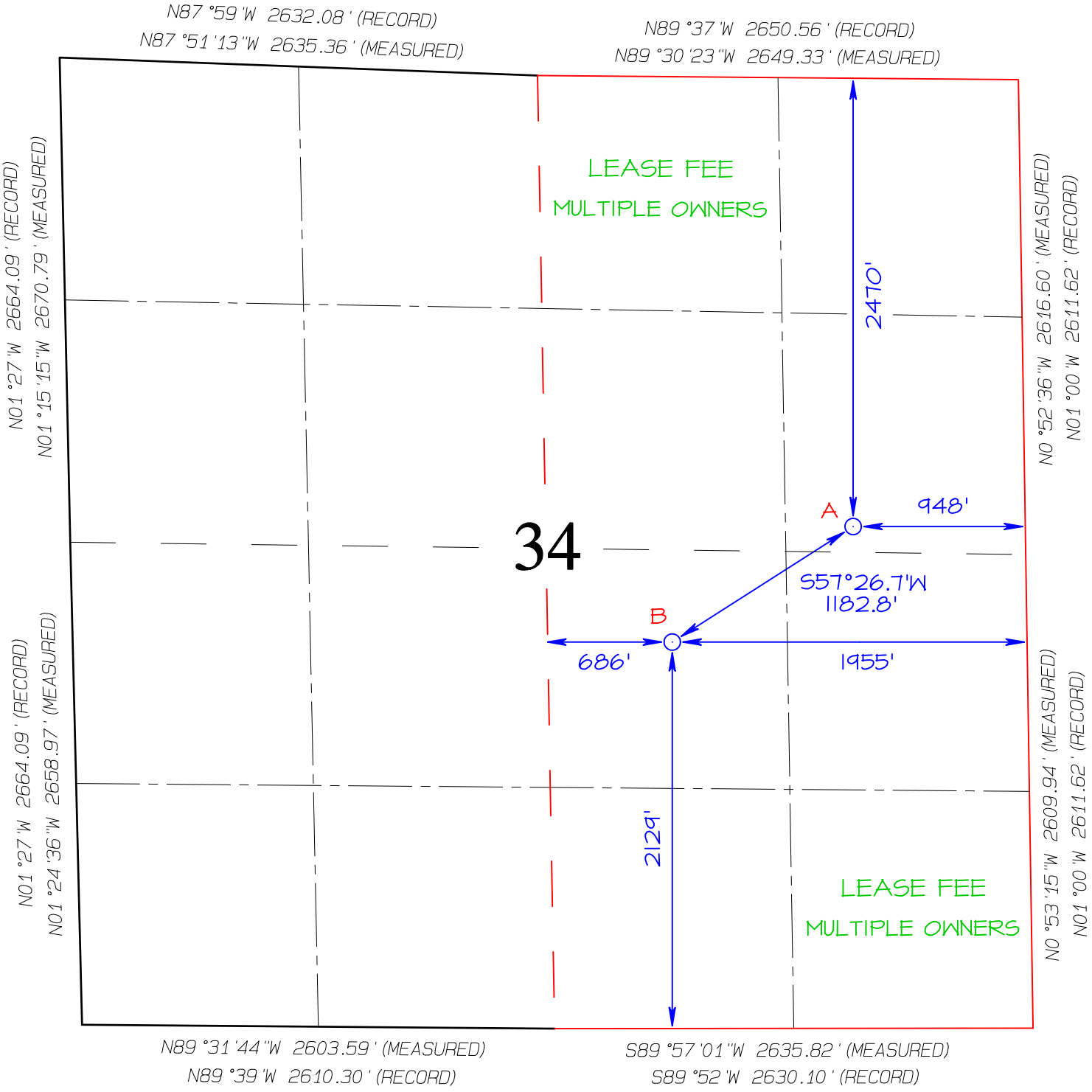
Note: No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

BOTTOM-HOLE LOC (B)
2129' FSL 1955' FEL
LAT 36.853992 °N
LONG -107.975469 °W
DATUM: NAD1927

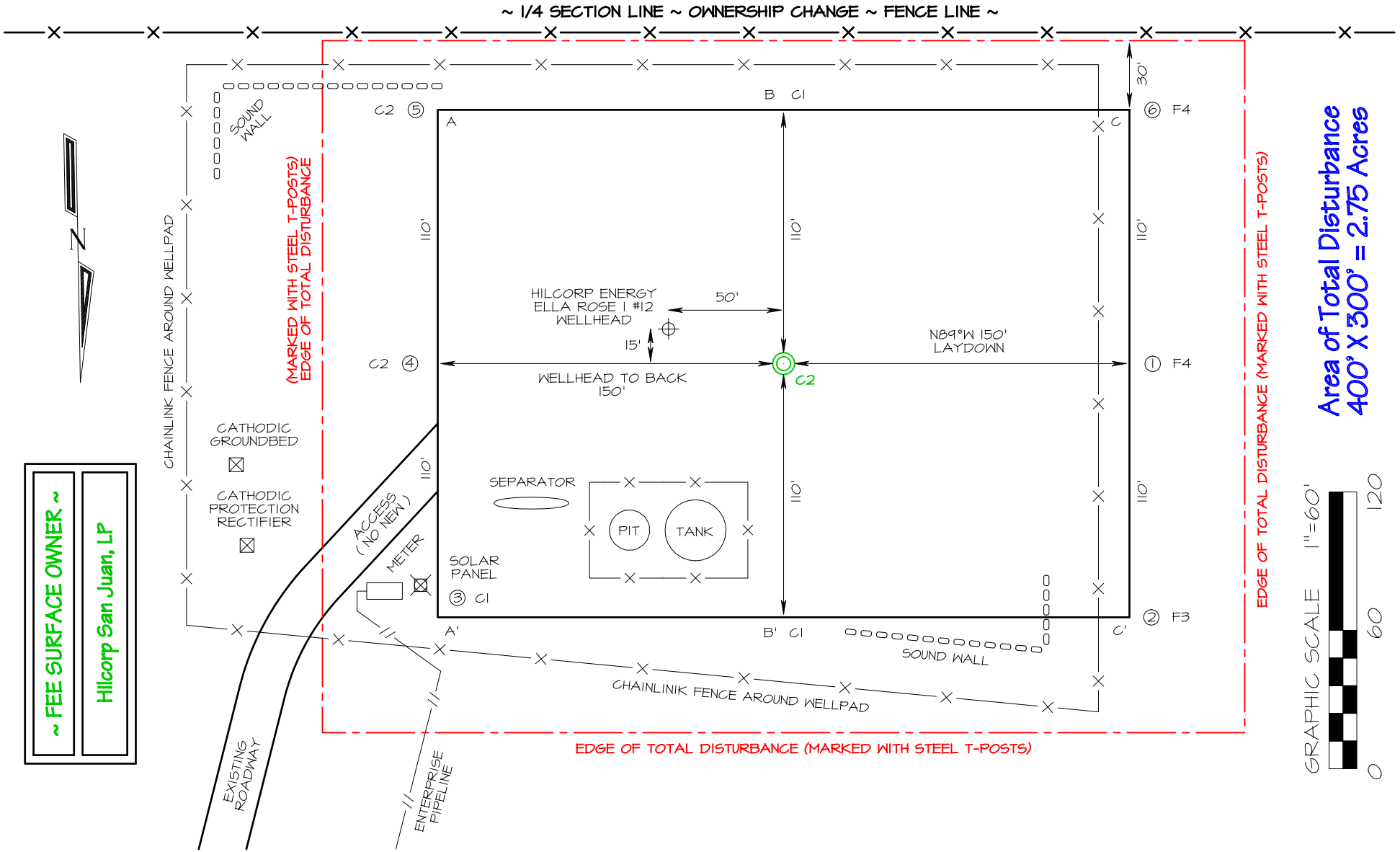
LAT 36.853996 °N
LONG -107.976092 °W
DATUM: NAD1983

SURFACE LOCATION (A)
2470' FNL 948' FEL
LAT 36.855745 °N
LONG -107.972065 °W
DATUM: NAD1927

LAT 36.855748 °N
LONG -107.972688 °W
DATUM: NAD1983



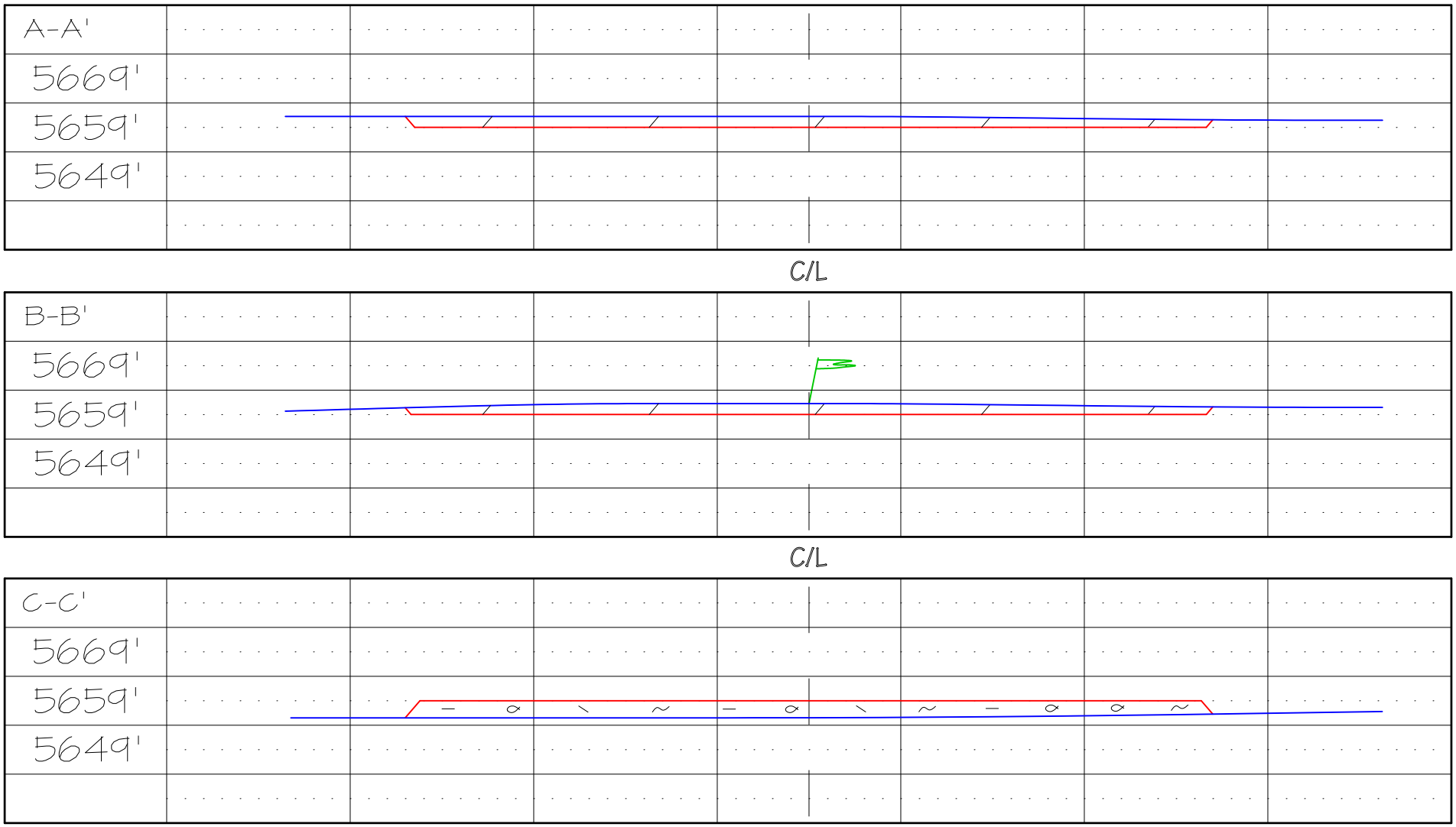
HILCORP ENERGY COMPANY CALLOWAY #2M
2470' FNL & 948' FEL, SECTION 34, T31N, R11W, NMPM
SAN JUAN COUNTY, NEW MEXICO ELEVATION: 5659'
LAT: 36.855748°N LONG: -107.972688°W DATUM NAD1983



Steel T-Posts have been set to define Edge of Disturbance limits which are 50' offset from edge of wellpad on the North, East and West sides. The South side has been restricted to 30' offset from the edge of wellpad due to a property boundary which the staked location borders.

HILCORP ENERGY COMPANY CALLOWAY #2M
2470' FNL & 948' FEL, SECTION 34, T31N, R11W, NMPM
SAN JUAN COUNTY, NEW MEXICO ELEVATION: 5659'

HORIZONTAL SCALE 1"=40' VERTICAL SCALE 1"=30'

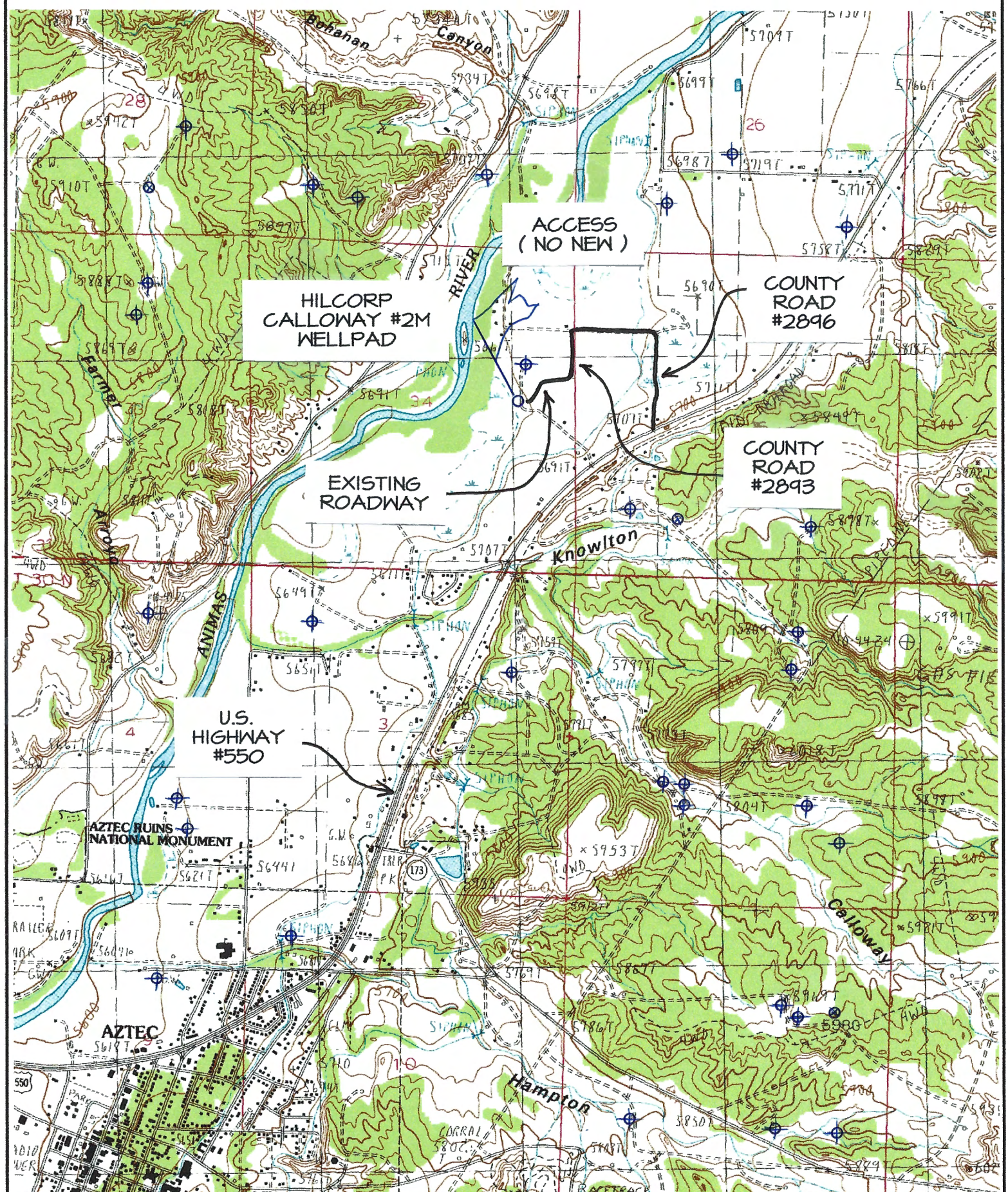


EDWARDS SURVEYING, INC. IS NOT LIABLE FOR LOCATION OF UNDERGROUND UTILITIES OR PIPELINES.

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

HILCORP ENERGY COMPANY CALLOWAY #2M

2470' FNL & 948' FEL, SECTION 34, T31N, R11W, N.M.P.M.
SAN JUAN COUNTY, NEW MEXICO



TOPO NAME : AZTEC ⊕ PRODUCING WELL ⊗ PLUGGED & ABANDONED WELL

Directions from the Intersection of US Hwy 550 & State Hwy 173

in Aztec, NM to Hilcorp Calloway #2M

2470' FNL & 948' FEL, Section 34, T31N, R11W, N.M.P.M., San Juan County, NM

Latitude: 36.855748°N Longitude: -107.972688°W Datum: NAD1983

From the intersection of US Hwy 550 & State Hwy 173 in Aztec, NM, travel Northerly on US Hwy for 1.6 miles to County Road 2896 @ Mile Marker 162.6;

Go Left (Northerly) exiting US Hwy 550 on County Road #2896 for 0.5 miles to fork in roadway;

Go Left (Southerly) exiting County Road #2896 on County Road #2893 for 0.2 miles to fork in roadway;

Go Right (Westerly) exiting County Road #2893 for 0.1 miles to fork in roadway;

Go Left (South-westerly) for 0.1 miles to Hilcorp Calloway #2M staked location which overlaps the existing Hilcorp Ella Rose 1 #12 wellpad.

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:** 11/20/2024

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 2M		H-34-31N-11W	2470’ FNL, 948’ FEL	4.5	900	10

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 2M		**2025**				**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: 11/20/2024
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 2M

Hilcorp Energy Company

Technical Drilling Plan (Rev. 0)

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

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

1. Location

Date:	October 2, 2024	Pool:	Mesaverde / Dakota
Well Name:	Calloway 2M	Ground Elevation (ft. MSL):	5,659’
Surface Hole Location:	36.855748° N, 107.972688° W	Total Depth (ft. TMD/TVD)	7,089’ / 6,842’
Bottom Hole Location:	36.853996° N, 107.976092° W	County, State:	San Juan County, NM

Note: All depths in the directional drilling plan are referenced from an estimated RKB datum of 17’ 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	780'	Water (fresh/useable)
Kirtland	898'	None
Fruitland Coal	1,810'	Gas, Water
Pictured Cliffs	2,241'	Gas
Lewis Shale	2,351'	None
Huerfanito Bentonite	2,971'	None
Chacra	3,306'	Gas
Mesa Verde / Cliff House	3,791'	Gas / Water
Menefee	4,042'	Gas
Point Lookout	4,523'	Gas
Mancos	4,859'	Gas
Upper Gallup	5,782'	Gas
Niobrara	6,026'	None
Juana Lopez	6,190'	Gas
Greenhorn	6,514'	Gas
Graneros	6,569'	Gas
Two Wells	6,622'	Gas
Paugate	6,698'	Gas
Cubero	6,738'	Gas
Encinal	6,807'	Gas

3. Pressure Control Equipment

A. BOP Equipment

See Appendix A for BOP equipment and choke manifold diagram.

- BOP equipment will be nippled up on top of the wellhead after surface casing is set and cemented.
- Pressure control configurations will be designed to meet the minimum 3M standards.
- All equipment will have 3M pressure rating at a minimum.
- A rotating head will be installed on top of the annular as seen in the attached diagram.

B. BOP Pressure Testing

- For all BOP pressure testing, a test unit with a chart recorder and a BOP test plug will be utilized.
- All tests and inspections will be recorded and logged with time and results.
- A full BOP pressure test will be conducted when initially installed for the first well on the pad or if a seal subject to test pressure is broken, following related repairs, and at a minimum in 30-day intervals.
- A BOPE shell pressure test only will be conducted for subsequent wells on the pad when seals subject to pressure have not been broken, repaired, and fall within the 30-day interval of the first full test.
- The New Mexico Oil & Gas Conservation Division and the BLM will be notified 24 hours in advance of pressure testing BOPE.
- The BOPE will be tested to 250 psi (Low) for 5 minutes and 3,000 psi (High) for 10 minutes.

C. BOP Function Testing

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

D. Casing Pressure Testing

- For all casing pressure testing, a test unit with a chart recorder will be utilized.
- Surface casing will be pressure tested to 600 psi for 30 minutes.
- Intermediate casing will be pressure tested to 1,500 psi for 30 minutes.

4. Casing Program

A. Proposed Casing Program:

Proposed Casing Design							
Casing String	Hole Size	Casing (size/weight/grade)	Top Depth (MD/TVD)	Shoe Depth (MD/TVD)	Collapse	Burst	Tensile
Surface	12-1/4"	9-5/8"-32.3#-H40 (or equiv.)-LTC/BTC	0'	200'/200'	1,370 psi	2,270 psi	254 klbs
Intermediate	8-3/4"	7"-23#-J55 (or equiv.)-LTC/BTC	0'	3,135'/2,950'	3,270 psi	4,360 psi	366 klbs
Production	6-1/4"	4-1/2"-11.6#-J55 (or equiv.)-LTC/BTC	0'	7,089'/6,842'	4,960 psi	5,350 psi	184 klbs

Proposed Casing Design Safety Factors				
Casing String	Burst Design SF	Collapse Design SF	Joint Tensile Design SF	Connection Tensile Design SF
Surface	24.3	18.6	65.5	45.6
Intermediate	3.0	2.8	5.9	7.0
Production	1.5	1.7	2.6	3.2

B. Casing Design Parameters & Calculations:

- Designed for full wellbore evacuation.
- Mud Weights used for calculations:
  - Surface = 9.0 ppg
  - Intermediate = 9.5 ppg
  - Production = 10.0 ppg
- Minimum Acceptable Safety Factors:
  - Burst: 1.15
  - Collapse: 1.15
  - Tensile: 1.50
- Casing Safety Factor Calculations:

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

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

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

Production Casing Notes:

- Production casing will be run from surface to TD.
- The 6-1/4" hole will be drilled to the top of the Encinal formation and TD will be determined onsite by the mud logger.

5. Proposed Centralizer Program:

Proposed Centralizer Program	
Casing String	Centralizers & Placement
Surface Casing	1 centralizer per joint on bottom 3 joints.
Intermediate Casing	1 centralizer per joint in shoe track. 1 centralizer every 3rd joint from float collar to base of Ojo Alamo. 1 centralizer per joint from base of Ojo Alamo to the top of the Ojo Alamo. 1 centralizer every 3rd joint from top of Ojo Alamo to surface.
Production Casing	1 centralizer per joint in shoe track. 1 centralizer every other joint for bottom 1,000' of casing.

6. Proposed Cement Program:

Proposed Cement Design								
Interval	Depth (ft. MD)	Lead/Tail	Volume (ft^3)	Sacks	Excess (%)	Slurry	Density (ppg)	Planned TOC
Surface	200'	Lead	125 ft^3	91	100%	Class G Cement Yield: 1.38 ft^3/sk	14.6	Surface
		Slurry Additives: CaCl (1%), Cello Flake (0.25 lb/sk), CD-2 (0.2%)						
Intermediate	3,135'	Lead	584 ft^3	114	50%	ASTM Type IL Yield: 5.12 ft^3/sk	9.5	Surface
		Slurry Additives: FL-24 (0.5%), FL-66 (0.5%), IntegraGuard GW-86 (0.2%), IntegraSeal PHENO (2.0 lb/sk), IntegraSeal POLI (0.25 lb/sk), LW-5E (50.0%), R-3 (0.4%), S-8 Silica Flour (35.0%), XCem-311 (0.3%)						
		Tail	113 ft^3	46	50%	ASTM Type IL Yield: 2.46 ft^3/sk	11.5	2,635'
		Slurry Additives: AEXT-1012 (60.0%), BA-90 (8.0 lb/sk), FL-66 (0.5%), GW-86 (0.3%), IntegraSeal PHENO (2.0 lb/sk), IntegraSeal POLI (0.25 lb/sk), KCl (3.0%), R-3 (0.55%), S-8 Silica Flour (25.0%), XCem-311 (0.3%)						
Production	7,089'	Lead	790 ft^3	154	25%	ASTM Type IL Yield: 5.12 ft^3/sk	9.5	Surface
		Slurry Additives: FL-24 (0.5%), FL-66 (0.5%), IntegraGuard GW-86 (0.2%), IntegraSeal PHENO (2.0 lb/sk), IntegraSeal POLI (0.25 lb/sk), LW-5E (50.0%), R-3 (0.4%), S-8 Silica Flour (35.0%), XCem-311 (0.3%)						
		Tail	125 ft^3	51	25%	ASTM Type IL Yield: 2.46 ft^3/sk	11.5	6,589'
		Slurry Additives: AEXT-1012 (60.0%), BA-90 (8.0 lb/sk), FL-66 (0.5%), GW-86 (0.3%), IntegraSeal PHENO (2.0 lb/sk), IntegraSeal POLI (0.25 lb/sk), KCl (3.0%), R-3 (0.55%), S-8 Silica Flour (25.0%), XCem-311 (0.3%)						

Cement Program Notes:

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

7. Drilling Fluids Program

A. Proposed Drilling Fluids Program:

Proposed Drilling Fluids Program					
Interval	Fluid Type	Density	Fluid Loss	Maximum Chlorides	Depth
		(ppg)	(mL/30 min)	(ppm)	(ft. MD)
Surface	Water/Gel	8.4 – 9.2	NC	1,000	0' – 200'
Intermediate	LSND / Gel	8.4 – 9.2	6-16	5,000	200' – 3,135'
Production	LSND / Gel	8.4 – 9.2	6-16	5,000	3,135' – 7,089'

Drilling Fluids Notes:

- Lost circulation material may be added to the mud systems to manage fluid losses as hole conditions dictate.
- The well will be drilled utilizing a closed-loop circulating system. Drill cuttings for all hole sections will be transported to an approved disposal site.
- Estimated total volume of drill cuttings for disposal: 397 bbls (2,232 ft^3).

8. Estimated Pressures & Drilling Hazards

A. Estimated Pressures

- Fruitland Coal: 400 psi
- Pictured Cliffs: 460 psi
- Mesa Verde: 900 psi
- Dakota: 1,400 psi

- No abnormal temperatures or drilling hazards are anticipated.
- The Mesa Verde and Dakota formations will be completed and comingled if both formations are completed.

B. Water Flows

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

C. Lost Circulation

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

D. Hydrogen Sulfide

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

9. Pilot Hole

- No pilot hole is planned for this wellbore.

10. Testing, Logging, Coring

A. Mud Logging

- Mud loggers will collect formation samples every 60' from intermediate casing shoe to TD of the well.

B. MWD

- Measurement while drilling tools will be utilized from the surface casing shoe to TD of the production hole to measure and record inclination and azimuth.

C. LWD

- There are no plans for logging while drilling.

D. Open Hole Logging

- There are no plans to open hole log the well.

E. Coring & Formation Testing

- There are no plans for coring or formation testing.

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 cement bod log will be run to verify top of cement.

11. Directional Drilling Plan

- The well is planned as a directional wellbore. Surveys will be monitored to ensure adherence to the planned wellpath.
- The directional plan is attached in the APD application.

San Juan County, NM Calloway 2M

Hilcorp Energy Company

12. Completion

A. Pressure Testing

- A pressure test of the 4-1/2" production casing will be conducted to the maximum anticipated frac pressure for 30 minutes.

B. Stimulation

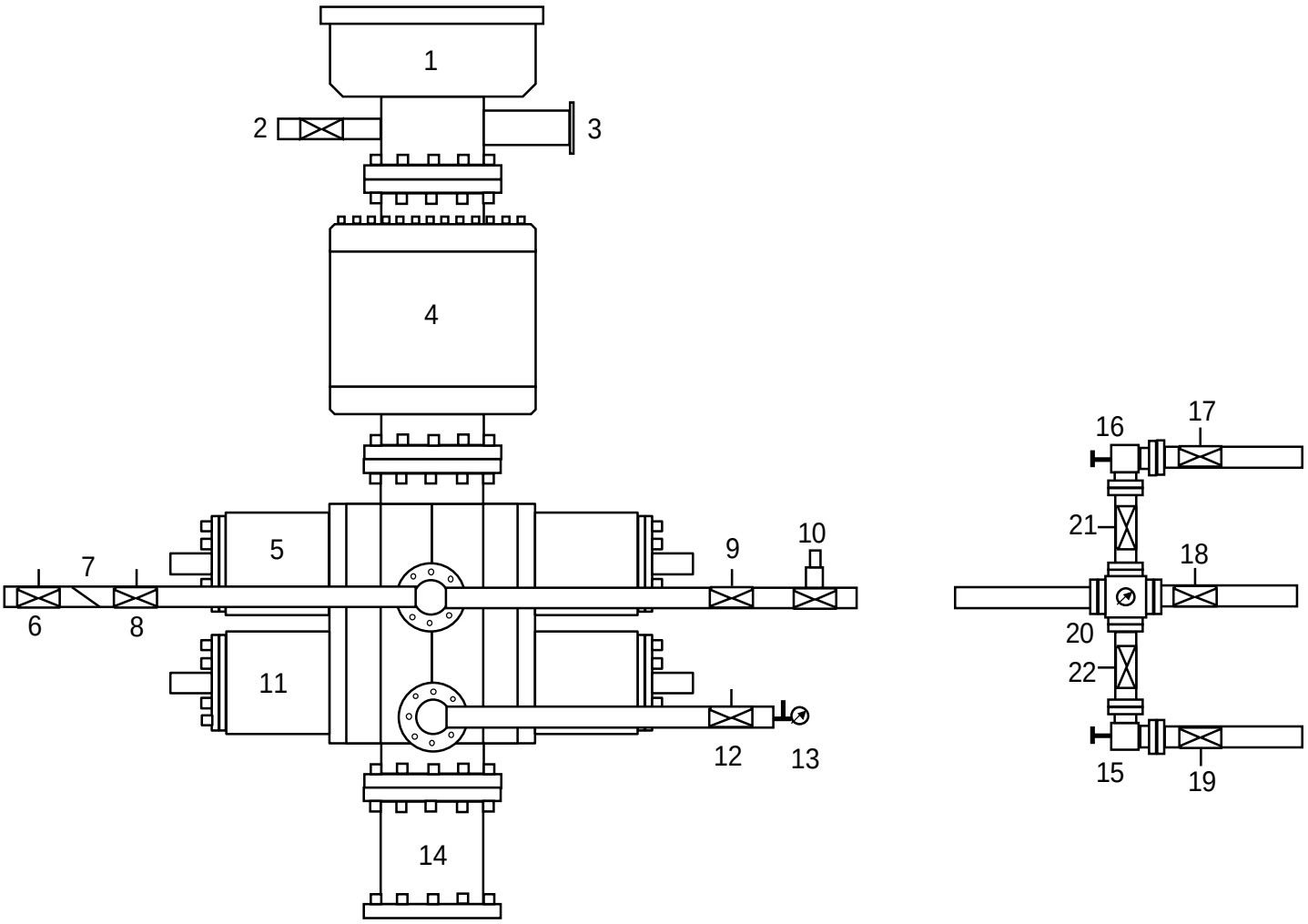
- The well will be stimulated with sand and water. The number of stages and amount of proppant used will be adjusted based on actual reservoir thickness and real-time pumping conditions during the stimulation.

San Juan County, NM Calloway 2M

Hilcorp Energy Company

Appendix A

11” 3M BOP & 3M Choke Manifold Configuration



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

Hilcorp Energy - San Juan Basin

San Juan, NM NAD27
Calloway Pad
Calloway 2M

OH
Plan #1

Anticollision Report

03 October, 2024

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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:	Stations	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum centre distance of 10,000.00ft	**Error Surface:**	Pedal Curve
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 10/1/2024

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	7,089.19	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 #1M - OH - OH	1,975.18	3,422.91	5,545.22	5,524.91	272.961	CC
Calloway #1M - OH - OH	2,004.45	3,431.54	5,545.28	5,524.74	269.946	ES
Calloway #1M - OH - OH	5,200.00	4,408.00	5,695.90	5,656.72	145.389	SF
Calloway #1M - OH - Plan #4	2,254.38	3,742.10	5,523.68	5,499.79	231.239	CC
Calloway #1M - OH - Plan #4	2,304.45	3,753.58	5,523.86	5,499.56	227.336	ES
Calloway #1M - OH - Plan #4	7,089.19	7,032.47	5,664.59	5,610.77	105.245	SF
Calloway Pad						
Alston 001 (P/A) - OH - OH	998.00	1,076.00	3,213.10	3,176.91	88.776	CC
Alston 001 (P/A) - OH - OH	1,200.00	1,277.62	3,217.50	3,174.51	74.835	ES
Alston 001 (P/A) - OH - OH	5,300.00	5,028.00	3,810.88	3,634.97	21.664	SF
Calloway 001 (P/A) - OH - OH	3,100.00	2,369.00	3,532.52	3,422.80	32.196	CC, ES
Calloway 001 (P/A) - OH - OH	3,300.00	2,369.00	3,537.34	3,426.96	32.047	SF
Calloway 001A - OH - OH	744.87	778.93	3,732.43	3,706.17	142.118	CC
Calloway 001A - OH - OH	1,200.00	1,211.04	3,737.27	3,696.29	91.211	ES
Calloway 001A - OH - OH	5,349.73	5,144.96	4,324.15	4,144.29	24.042	SF
Calloway 100S - OH - OH	998.00	1,033.08	4,478.20	4,443.31	128.355	CC
Calloway 100S - OH - OH	1,100.00	1,135.03	4,479.41	4,441.08	116.879	ES
Calloway 100S - OH - OH	3,000.00	2,567.00	4,862.30	4,769.85	52.589	SF
Calloway Area 4 - OH - Plan #1	911.40	938.40	65.96	59.45	10.133	CC
Calloway Area 4 - OH - Plan #1	1,000.00	1,026.98	65.96	58.82	9.233	ES
Calloway Area 4 - OH - Plan #1	1,100.00	1,126.51	68.94	61.11	8.802	SF
Calloway LS 002 - OH - OH	998.00	970.00	669.86	627.55	15.830	CC
Calloway LS 002 - OH - OH	1,100.00	1,071.95	671.91	625.18	14.377	ES
Calloway LS 002 - OH - OH	6,000.00	5,659.00	1,678.33	1,430.76	6.779	SF
Calloway LS 003 (P/A) - OH - OH	2,900.00	2,421.00	1,504.49	1,418.25	17.445	SF
Calloway LS 003 (P/A) - OH - OH	2,942.67	2,421.00	1,503.89	1,417.74	17.458	CC, ES
Ella Rose 1 012 - OH - OH	100.00	74.33	116.81	116.43	304.838	CC, ES
Ella Rose 1 012 - OH - OH	1,200.00	1,159.80	180.16	173.31	26.271	SF
Federal 001 - OH - OH	2,152.64	2,213.87	4,210.10	4,133.73	55.125	CC
Federal 001 - OH - OH	2,600.00	2,604.33	4,215.76	4,123.89	45.889	ES
Federal 001 - OH - OH	3,400.00	2,670.00	4,300.43	4,200.87	43.192	SF
Federal 100A - OH - OH	3,238.64	3,150.01	4,759.37	4,645.34	41.737	CC
Federal 100A - OH - OH	5,400.00	5,200.00	4,766.60	4,582.43	25.881	ES
Federal 100A - OH - OH	5,500.00	5,200.00	4,769.06	4,584.74	25.874	SF
FJ Titt 002 - OH - OH	998.00	1,083.03	2,521.49	2,485.08	69.259	CC
FJ Titt 002 - OH - OH	1,200.00	1,284.65	2,524.44	2,481.23	58.425	ES

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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

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 Pad						
FJ Titt 002 - OH - OH	7,089.19	6,927.83	3,023.89	2,784.87	12.651	SF
FJ Titt Com (P/A) - OH - OH	2,481.76	2,350.00	4,786.70	4,680.93	45.255	CC
FJ Titt Com (P/A) - OH - OH	2,500.00	2,350.00	4,786.73	4,680.82	45.194	ES
FJ Titt Com (P/A) - OH - OH	3,400.00	2,350.00	4,874.17	4,762.42	43.619	SF
Flood LS 001 (P/A) - OH - OH	3,426.57	2,474.00	2,871.25	2,752.65	24.210	CC, ES
Flood LS 001 (P/A) - OH - OH	3,600.00	2,474.00	2,877.65	2,758.39	24.129	SF
Haynie 2N - OH - Plan #1	6,800.00	6,773.33	5,856.46	5,805.02	113.849	CC
Haynie 2N - OH - Plan #1	6,900.00	6,873.33	5,856.46	5,804.39	112.489	ES
Haynie 2N - OH - Plan #1	7,089.19	6,883.52	5,859.19	5,806.36	110.902	SF
Heaton 101 - OH - OH	3,640.18	2,590.00	5,326.87	5,230.27	55.146	CC, ES
Heaton 101 - OH - OH	3,800.00	2,590.00	5,333.20	5,236.26	55.016	SF
Lester 001 - OH - OH	4,681.93	4,496.91	3,944.39	3,783.89	24.576	CC
Lester 001 - OH - OH	6,000.00	5,749.00	3,945.25	3,743.51	19.556	ES, SF
Lester 001A - OH - OH	4,910.87	4,615.68	3,786.67	3,583.51	18.639	CC
Lester 001A - OH - OH	5,000.00	4,690.00	3,786.70	3,580.29	18.346	ES
Lester 001A - OH - OH	5,100.00	4,690.00	3,788.41	3,581.69	18.327	SF
Lester 001B - OH - OH	3,599.00	2,398.00	3,534.61	3,508.02	132.943	CC
Lester 001B - OH - OH	3,600.00	2,398.00	3,534.61	3,508.02	132.924	ES
Lester 001B - OH - OH	5,100.00	4,395.00	3,805.60	3,764.02	91.528	SF
Lester 100S - OH - OH	3,064.26	2,525.00	3,226.87	3,208.56	176.238	CC
Lester 100S - OH - OH	3,100.00	2,525.00	3,227.07	3,208.46	173.418	ES
Lester 100S - OH - OH	3,900.00	2,525.00	3,361.22	3,338.12	145.498	SF
Sexton 001 (P/A) - OH - OH	3,600.00	2,195.00	3,972.23	3,873.30	40.154	SF
Sexton 001 (P/A) - OH - OH	3,637.20	2,195.00	3,971.71	3,872.85	40.178	CC, ES
Sloane Com 001F - OH - OH	4,353.63	4,211.00	1,943.27	1,916.65	73.014	CC, ES
Sloane Com 001F - OH - OH	4,600.00	4,211.00	1,958.82	1,931.49	71.657	SF
Titt 002B - OH - OH	285.96	402.97	3,684.59	3,671.39	279.093	CC
Titt 002B - OH - OH	1,100.00	1,217.11	3,686.73	3,645.91	90.321	ES
Titt 002B - OH - OH	7,089.19	6,957.92	4,532.83	4,294.74	19.038	SF
Titt 100 - OH - OH	940.03	1,023.07	3,116.04	3,081.66	90.640	CC
Titt 100 - OH - OH	1,200.00	1,283.75	3,121.03	3,077.85	72.278	ES
Titt 100 - OH - OH	2,700.00	2,575.00	3,407.10	3,316.36	37.548	SF
Turner A 001 - OH - OH	7,089.19	6,812.00	1,686.87	1,388.80	5.659	CC, ES, SF
Turner A 001A - OH - OH	5,225.00	5,027.77	2,754.50	2,576.11	15.440	CC, ES, SF
Turner A 100 - OH - OH	2,984.05	2,546.00	2,981.33	2,888.53	32.127	CC
Turner A 100 - OH - OH	3,000.00	2,546.00	2,981.38	2,888.48	32.094	ES
Turner A 100 - OH - OH	3,300.00	2,546.00	2,998.12	2,903.79	31.783	SF
Wallace Gas Com 001A - OH - OH	998.00	1,006.00	3,030.72	2,996.65	88.962	CC
Wallace Gas Com 001A - OH - OH	1,100.00	1,107.95	3,033.43	2,995.93	80.884	ES
Wallace Gas Com 001A - OH - OH	5,400.00	5,090.00	4,144.76	3,971.18	23.879	SF
Wilmuth 001 (P/A) - OH - OH	998.00	1,000.00	4,070.40	4,026.89	93.537	CC
Wilmuth 001 (P/A) - OH - OH	1,100.00	1,101.95	4,072.96	4,025.02	84.969	ES
Wilmuth 001 (P/A) - OH - OH	5,200.00	4,793.00	5,133.01	4,922.42	24.375	SF
Wilmuth 001 (PA) - OH - OH	998.00	1,009.00	4,628.06	4,584.18	105.479	CC
Wilmuth 001 (PA) - OH - OH	1,100.00	1,110.95	4,630.42	4,582.13	95.878	ES
Wilmuth 001 (PA) - OH - OH	5,200.00	4,819.00	5,624.97	5,412.52	26.477	SF
Wilmuth 002 (P/A) - OH - OH	998.00	999.01	4,194.85	4,161.00	123.906	CC
Wilmuth 002 (P/A) - OH - OH	1,100.00	1,105.29	4,197.88	4,160.46	112.174	ES
Wilmuth 002 (P/A) - OH - OH	2,600.00	2,470.00	4,711.90	4,627.22	55.648	SF
Zella Calloway 001 - OH - OH	7,089.19	6,913.00	3,214.58	2,907.60	10.471	CC, ES, SF
Zella Calloway 001M - OH - OH	4,166.21	4,129.70	3,122.34	3,078.12	70.601	CC, ES
Zella Calloway 001M - OH - OH	4,500.00	4,180.00	3,141.44	3,096.45	69.818	SF

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 #1M - OH - OH — **Offset Site Error:** 0.00 ft

Survey Program: 323-MWD+HDGM — **Rule Assigned:** — **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	1,857.66	1,807.78	0.00	7.87	-9.37	5,628.90	-929.22	5,966.21				
100.00	100.00	1,884.00	1,832.96	0.30	8.01	-9.36	5,621.60	-926.58	5,937.43	5,930.20	7.23	820.885	
200.00	200.00	1,920.51	1,867.97	0.66	8.21	-9.34	5,611.81	-923.29	5,909.66	5,902.09	7.57	780.964	
300.00	300.00	1,947.00	1,893.50	1.01	8.35	-9.33	5,605.00	-921.32	5,883.05	5,875.11	7.94	741.034	
400.00	400.00	2,010.00	1,954.35	1.37	8.68	-9.32	5,589.26	-917.06	5,857.30	5,848.80	8.50	689.282	
500.00	500.00	2,150.60	2,090.10	1.73	9.41	-9.31	5,553.23	-910.63	5,831.19	5,821.80	9.39	621.238	
600.00	600.00	2,275.19	2,210.32	2.09	10.06	-9.32	5,520.93	-905.73	5,805.03	5,794.81	10.22	568.220	
700.00	700.00	2,470.53	2,398.00	2.45	11.10	-9.32	5,467.42	-897.25	5,777.05	5,765.71	11.34	509.581	
800.00	800.00	2,540.50	2,465.11	2.81	11.48	-9.31	5,448.02	-893.45	5,748.84	5,736.88	11.96	480.708	
900.00	900.00	2,593.00	2,515.59	3.17	11.77	-9.30	5,433.93	-890.22	5,721.34	5,708.82	12.52	457.154	
998.00	998.00	2,653.58	2,573.93	3.52	12.09	-9.29	5,418.11	-886.23	5,695.02	5,681.93	13.10	434.795	
1,000.00	1,000.00	2,654.98	2,575.28	3.52	12.10	113.51	5,417.75	-886.14	5,694.49	5,681.38	13.11	434.350	
1,100.00	1,099.95	2,751.81	2,668.64	3.86	12.61	114.28	5,392.85	-879.82	5,669.12	5,655.31	13.82	410.306	
1,200.00	1,199.62	2,883.82	2,795.72	4.20	13.31	115.07	5,357.89	-872.46	5,645.17	5,630.51	14.67	384.882	
1,300.00	1,298.74	3,012.00	2,918.90	4.55	14.00	115.85	5,322.96	-866.32	5,622.76	5,607.25	15.52	362.404	
1,400.00	1,397.04	3,044.27	2,949.94	4.91	14.17	116.45	5,314.29	-864.77	5,603.16	5,587.15	16.01	350.004	
1,500.00	1,494.24	3,075.00	2,979.62	5.30	14.33	116.96	5,306.44	-863.32	5,587.10	5,570.58	16.52	338.188	
1,600.00	1,590.08	3,325.00	3,220.29	5.73	15.67	118.07	5,240.44	-848.93	5,572.31	5,554.41	17.90	311.248	
1,700.00	1,684.30	3,352.01	3,246.24	6.20	15.81	118.50	5,233.15	-847.19	5,559.75	5,541.28	18.48	300.925	
1,800.00	1,776.64	3,398.00	3,290.65	6.73	16.05	118.91	5,221.56	-844.23	5,551.21	5,532.04	19.17	289.594	
1,900.00	1,866.84	3,398.00	3,290.65	7.33	16.05	119.04	5,221.56	-844.23	5,546.26	5,526.51	19.75	280.885	
1,971.76	1,930.11	3,421.90	3,313.82	7.81	16.17	119.18	5,215.91	-842.69	5,545.23	5,524.94	20.29	273.316	
1,975.18	1,933.10	3,422.91	3,314.80	7.83	16.18	119.18	5,215.68	-842.63	5,545.22	5,524.91	20.32	272.961 CC	
2,000.00	1,954.76	3,430.23	3,321.90	8.01	16.21	119.22	5,213.99	-842.15	5,545.27	5,524.76	20.51	270.410	
2,004.45	1,958.65	3,431.54	3,323.17	8.04	16.22	119.23	5,213.69	-842.07	5,545.28	5,524.74	20.54	269.946 ES	
2,100.00	2,042.05	3,460.00	3,350.85	8.74	16.36	119.37	5,207.32	-840.22	5,546.26	5,524.96	21.30	260.375	
2,104.45	2,045.93	3,460.00	3,350.85	8.78	16.36	119.37	5,207.32	-840.22	5,546.34	5,525.01	21.33	259.994	
2,200.00	2,129.33	3,496.52	3,386.44	9.51	16.54	119.54	5,199.50	-837.84	5,548.54	5,526.40	22.14	250.561	
2,300.00	2,216.61	3,523.00	3,412.30	10.30	16.67	119.67	5,194.03	-836.12	5,552.05	5,529.08	22.97	241.719	
2,400.00	2,303.89	3,768.81	3,652.12	11.12	17.85	120.84	5,141.55	-824.27	5,555.47	5,530.85	24.62	225.641	
2,404.45	2,307.77	3,773.02	3,656.20	11.16	17.87	120.86	5,140.58	-824.12	5,555.57	5,530.90	24.67	225.194	
2,500.00	2,391.17	3,803.20	3,685.60	11.95	18.01	121.00	5,133.81	-823.01	5,558.20	5,532.70	25.50	217.937	
2,600.00	2,478.45	3,836.00	3,717.61	12.79	18.17	121.15	5,126.79	-821.67	5,562.22	5,535.83	26.39	210.789	
2,700.00	2,565.73	3,861.86	3,742.91	13.65	18.29	121.27	5,121.54	-820.53	5,567.57	5,540.32	27.25	204.323	
2,800.00	2,653.02	3,899.00	3,779.32	14.51	18.46	121.44	5,114.47	-818.79	5,574.30	5,546.14	28.15	197.994	
2,900.00	2,740.30	3,899.00	3,779.32	15.38	18.46	121.44	5,114.47	-818.79	5,582.41	5,553.49	28.92	193.023	
3,000.00	2,827.58	3,961.00	3,840.32	16.26	18.73	121.74	5,103.80	-815.62	5,591.71	5,561.79	29.92	186.914	
3,100.00	2,914.86	3,988.98	3,867.89	17.14	18.85	121.87	5,099.34	-814.08	5,602.26	5,571.47	30.78	181.996	
3,200.00	3,002.14	4,038.48	3,916.73	18.03	19.06	122.11	5,091.72	-811.25	5,613.88	5,582.15	31.73	176.947	
3,260.43	3,054.89	4,070.66	3,948.49	18.57	19.20	122.27	5,086.94	-809.34	5,621.36	5,589.06	32.30	174.016	
3,300.00	3,089.62	4,094.65	3,972.18	18.91	19.30	122.50	5,083.44	-807.88	5,626.22	5,593.54	32.69	172.122	
3,400.00	3,179.08	4,169.16	4,045.75	19.73	19.61	123.11	5,072.71	-803.10	5,636.95	5,603.29	33.66	167.447	
3,500.00	3,270.76	4,228.09	4,103.97	20.47	19.85	123.57	5,064.48	-799.08	5,645.54	5,611.02	34.52	163.554	
3,600.00	3,364.40	4,275.00	4,150.36	21.14	20.04	123.90	5,058.22	-795.96	5,652.11	5,616.85	35.26	160.289	
3,700.00	3,459.75	4,310.83	4,185.84	21.72	20.18	124.14	5,053.78	-793.76	5,656.86	5,620.96	35.90	157.579	
3,800.00	3,556.54	4,355.46	4,230.12	22.23	20.35	124.33	5,048.80	-791.35	5,659.86	5,623.36	36.51	155.031	
3,900.00	3,654.51	4,408.00	4,282.28	22.68	20.55	124.47	5,043.07	-788.60	5,660.56	5,623.47	37.09	152.619	
4,000.00	3,753.40	4,408.00	4,282.28	23.05	20.55	124.45	5,043.07	-788.60	5,659.82	5,622.41	37.41	151.289	
4,100.00	3,852.92	4,408.00	4,282.28	23.37	20.55	124.40	5,043.07	-788.60	5,657.88	5,620.21	37.67	150.177	
4,200.00	3,952.81	4,408.00	4,282.28	23.62	20.55	124.32	5,043.07	-788.60	5,654.75	5,616.87	37.89	149.260	
4,234.19	3,987.00	4,408.00	4,282.28	23.70	20.55	1.51	5,043.07	-788.60	5,653.41	5,615.46	37.94	148.990	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 #1M - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 323-MWD+HDGM

Rule Assigned:

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
4,300.00	4,052.81	4,408.00	4,282.28	23.83	20.55	1.51	5,043.07	-788.60	5,651.08	5,613.03	38.05	148.516	
4,400.00	4,152.81	4,408.00	4,282.28	24.04	20.55	1.51	5,043.07	-788.60	5,649.00	5,610.79	38.20	147.862	
4,467.47	4,220.28	4,408.00	4,282.28	24.18	20.55	1.51	5,043.07	-788.60	5,648.59	5,610.29	38.31	147.463	
4,500.00	4,252.81	4,408.00	4,282.28	24.25	20.55	1.51	5,043.07	-788.60	5,648.69	5,610.34	38.35	147.286	
4,600.00	4,352.81	4,408.00	4,282.28	24.47	20.55	1.51	5,043.07	-788.60	5,650.15	5,611.66	38.49	146.788	
4,700.00	4,452.81	4,408.00	4,282.28	24.69	20.55	1.51	5,043.07	-788.60	5,653.38	5,614.75	38.62	146.366	
4,800.00	4,552.81	4,408.00	4,282.28	24.91	20.55	1.51	5,043.07	-788.60	5,658.37	5,619.62	38.75	146.021	
4,900.00	4,652.81	4,408.00	4,282.28	25.13	20.55	1.51	5,043.07	-788.60	5,665.13	5,626.26	38.87	145.752	
5,000.00	4,752.81	4,408.00	4,282.28	25.36	20.55	1.51	5,043.07	-788.60	5,673.64	5,634.66	38.98	145.557	
5,100.00	4,852.81	4,408.00	4,282.28	25.59	20.55	1.51	5,043.07	-788.60	5,683.90	5,644.82	39.08	145.437	
5,200.00	4,952.81	4,408.00	4,282.28	25.82	20.55	1.51	5,043.07	-788.60	5,695.90	5,656.72	39.18	145.389	SF
5,300.00	5,052.81	4,408.00	4,282.28	26.06	20.55	1.51	5,043.07	-788.60	5,709.62	5,670.35	39.26	145.413	
5,400.00	5,152.81	4,408.00	4,282.28	26.30	20.55	1.51	5,043.07	-788.60	5,725.05	5,685.71	39.35	145.508	
5,500.00	5,252.81	4,408.00	4,282.28	26.54	20.55	1.51	5,043.07	-788.60	5,742.19	5,702.77	39.42	145.673	
5,600.00	5,352.81	4,408.00	4,282.28	26.79	20.55	1.51	5,043.07	-788.60	5,761.01	5,721.53	39.48	145.906	
5,700.00	5,452.81	4,408.00	4,282.28	27.03	20.55	1.51	5,043.07	-788.60	5,781.50	5,741.96	39.54	146.206	
5,800.00	5,552.81	4,408.00	4,282.28	27.28	20.55	1.51	5,043.07	-788.60	5,803.64	5,764.05	39.60	146.572	
5,900.00	5,652.81	4,408.00	4,282.28	27.53	20.55	1.51	5,043.07	-788.60	5,827.42	5,787.77	39.64	147.003	
6,000.00	5,752.81	4,408.00	4,282.28	27.79	20.55	1.51	5,043.07	-788.60	5,852.80	5,813.12	39.68	147.497	
6,100.00	5,852.81	4,408.00	4,282.28	28.04	20.55	1.51	5,043.07	-788.60	5,879.78	5,840.06	39.71	148.053	
6,200.00	5,952.81	4,408.00	4,282.28	28.30	20.55	1.51	5,043.07	-788.60	5,908.32	5,868.58	39.74	148.670	
6,300.00	6,052.81	4,408.00	4,282.28	28.56	20.55	1.51	5,043.07	-788.60	5,938.42	5,898.65	39.76	149.345	
6,400.00	6,152.81	4,408.00	4,282.28	28.83	20.55	1.51	5,043.07	-788.60	5,970.03	5,930.25	39.78	150.077	
6,500.00	6,252.81	4,408.00	4,282.28	29.09	20.55	1.51	5,043.07	-788.60	6,003.15	5,963.36	39.79	150.865	
6,600.00	6,352.81	4,408.00	4,282.28	29.36	20.55	1.51	5,043.07	-788.60	6,037.74	5,997.94	39.80	151.707	
6,700.00	6,452.81	4,408.00	4,282.28	29.63	20.55	1.51	5,043.07	-788.60	6,073.78	6,033.98	39.80	152.602	
6,800.00	6,552.81	4,408.00	4,282.28	29.90	20.55	1.51	5,043.07	-788.60	6,111.25	6,071.45	39.80	153.547	
6,900.00	6,652.81	4,408.00	4,282.28	30.17	20.55	1.51	5,043.07	-788.60	6,150.11	6,110.31	39.80	154.542	
7,000.00	6,752.81	4,408.00	4,282.28	30.45	20.55	1.51	5,043.07	-788.60	6,190.34	6,150.55	39.79	155.583	
7,089.19	6,842.00	4,408.00	4,282.28	30.69	20.55	1.51	5,043.07	-788.60	6,227.36	6,187.58	39.78	156.550	

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 #1M - OH - Plan #4

Offset Site Error: 0.00 ft

Survey Program: 0-MWD+HDGM

Rule Assigned:

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	1,824.30	1,781.85	0.00	7.81	-9.41	5,656.25	-937.06	5,985.74				
100.00	100.00	1,920.07	1,873.57	0.30	8.33	-9.39	5,629.38	-930.91	5,957.01	5,949.29	7.72	771.366	
200.00	200.00	2,015.84	1,965.29	0.66	8.84	-9.37	5,602.51	-924.77	5,928.28	5,919.97	8.30	713.960	
300.00	300.00	2,111.61	2,057.00	1.01	9.36	-9.36	5,575.64	-918.62	5,899.55	5,890.59	8.96	658.717	
400.00	400.00	2,207.37	2,148.72	1.37	9.88	-9.34	5,548.77	-912.47	5,870.82	5,861.17	9.64	608.820	
500.00	500.00	2,303.14	2,240.44	1.73	10.40	-9.32	5,521.90	-906.33	5,842.09	5,831.74	10.35	564.606	
600.00	600.00	2,398.91	2,332.15	2.09	10.92	-9.30	5,495.03	-900.18	5,813.36	5,802.29	11.06	525.558	
700.00	700.00	2,494.68	2,423.87	2.45	11.44	-9.29	5,468.16	-894.03	5,784.63	5,772.84	11.78	490.991	
800.00	800.00	2,590.45	2,515.59	2.81	11.97	-9.27	5,441.29	-887.89	5,755.90	5,743.39	12.51	460.257	
900.00	900.00	2,686.22	2,607.30	3.17	12.49	-9.25	5,414.42	-881.74	5,727.17	5,713.94	13.23	432.796	
998.00	998.00	2,780.07	2,697.18	3.52	13.00	-9.23	5,388.09	-875.72	5,699.02	5,685.07	13.95	408.602	
1,000.00	1,000.00	2,781.99	2,699.02	3.52	13.02	113.57	5,387.55	-875.59	5,698.44	5,684.48	13.96	408.144	
1,100.00	1,099.95	2,877.98	2,790.95	3.86	13.54	114.40	5,360.62	-869.43	5,670.77	5,656.11	14.67	386.648	
1,200.00	1,199.62	2,974.21	2,883.11	4.20	14.07	115.22	5,333.62	-863.26	5,645.19	5,629.82	15.38	367.078	
1,300.00	1,298.74	3,070.42	2,975.25	4.55	14.60	116.01	5,306.63	-857.08	5,621.80	5,605.70	16.10	349.099	
1,400.00	1,397.04	3,166.35	3,067.12	4.91	15.12	116.78	5,279.71	-850.93	5,600.70	5,583.86	16.85	332.482	
1,500.00	1,494.24	3,261.74	3,158.47	5.30	15.65	117.53	5,252.95	-844.80	5,581.99	5,564.38	17.61	317.011	
1,600.00	1,590.08	3,356.32	3,249.05	5.73	16.17	118.24	5,226.42	-838.73	5,565.78	5,547.38	18.40	302.494	
1,700.00	1,684.30	3,449.83	3,338.60	6.20	16.68	118.93	5,200.18	-832.73	5,552.19	5,532.96	19.23	288.770	
1,800.00	1,776.64	3,542.01	3,426.89	6.73	17.19	119.57	5,174.32	-826.81	5,541.33	5,521.23	20.10	275.709	
1,900.00	1,866.84	3,632.63	3,513.66	7.33	17.69	120.17	5,148.90	-821.00	5,533.32	5,512.30	21.02	263.218	
1,971.76	1,930.11	3,670.90	3,550.32	7.81	17.90	120.45	5,138.16	-818.54	5,529.45	5,507.83	21.62	255.701	
2,000.00	1,954.76	3,683.95	3,562.83	8.01	17.97	120.51	5,134.54	-817.71	5,528.35	5,506.48	21.86	252.865	
2,100.00	2,042.05	3,700.00	3,578.25	8.74	18.06	120.59	5,130.20	-816.72	5,525.41	5,502.80	22.62	244.322	
2,200.00	2,129.33	3,700.00	3,578.25	9.51	18.06	120.59	5,130.20	-816.72	5,524.20	5,500.87	23.33	236.763	
2,254.38	2,176.79	3,742.10	3,618.88	9.94	18.27	120.79	5,119.42	-814.26	5,523.68	5,499.79	23.89	231.239 CC	
2,300.00	2,216.61	3,752.56	3,629.00	10.30	18.33	120.84	5,116.88	-813.68	5,523.83	5,499.57	24.26	227.683	
2,304.45	2,220.49	3,753.58	3,629.99	10.34	18.33	120.85	5,116.64	-813.62	5,523.86	5,499.56	24.30	227.336 ES	
2,400.00	2,303.89	3,800.00	3,675.12	11.12	18.57	121.07	5,106.04	-811.19	5,525.42	5,500.23	25.19	219.388	
2,404.45	2,307.77	3,800.00	3,675.12	11.16	18.57	121.07	5,106.04	-811.19	5,525.49	5,500.27	25.22	219.096	
2,500.00	2,391.17	3,800.00	3,675.12	11.95	18.57	121.07	5,106.04	-811.19	5,528.03	5,502.08	25.94	213.078	
2,600.00	2,478.45	3,800.00	3,675.12	12.79	18.57	121.07	5,106.04	-811.19	5,532.44	5,505.74	26.71	207.160	
2,700.00	2,565.73	3,844.49	3,718.60	13.65	18.77	121.28	5,096.88	-809.10	5,537.97	5,510.34	27.63	200.404	
2,800.00	2,653.02	3,900.00	3,773.15	14.51	19.03	121.54	5,086.85	-806.80	5,545.46	5,516.85	28.61	193.859	
2,900.00	2,740.30	3,900.00	3,773.15	15.38	19.03	121.54	5,086.85	-806.80	5,553.66	5,524.29	29.37	189.078	
3,000.00	2,827.58	3,900.00	3,773.15	16.26	19.03	121.54	5,086.85	-806.80	5,563.66	5,533.52	30.13	184.625	
3,100.00	2,914.86	3,900.00	3,773.15	17.14	19.03	121.54	5,086.85	-806.80	5,575.42	5,544.53	30.89	180.481	
3,200.00	3,002.14	3,959.51	3,831.93	18.03	19.27	121.82	5,077.81	-804.74	5,587.73	5,555.87	31.87	175.352	
3,260.43	3,054.89	4,000.00	3,872.08	18.57	19.43	122.00	5,072.69	-803.57	5,596.37	5,563.90	32.47	172.353	
3,300.00	3,089.62	4,000.00	3,872.08	18.91	19.43	122.14	5,072.69	-803.57	5,601.79	5,569.02	32.76	170.989	
3,400.00	3,179.08	4,000.00	3,872.08	19.73	19.43	122.47	5,072.69	-803.57	5,614.77	5,581.32	33.45	167.876	
3,500.00	3,270.76	4,000.00	3,872.08	20.47	19.43	122.78	5,072.69	-803.57	5,626.71	5,592.65	34.06	165.204	
3,600.00	3,364.40	4,054.26	3,926.03	21.14	19.62	123.22	5,067.12	-802.29	5,636.58	5,601.77	34.81	161.929	
3,700.00	3,459.75	4,100.00	3,971.63	21.72	19.78	123.56	5,063.59	-801.48	5,645.40	5,609.94	35.46	159.188	
3,800.00	3,556.54	4,100.00	3,971.63	22.23	19.78	123.73	5,063.59	-801.48	5,652.38	5,616.50	35.88	157.543	
3,900.00	3,654.51	4,100.00	3,971.63	22.68	19.78	123.88	5,063.59	-801.48	5,658.21	5,621.99	36.23	156.182	
4,000.00	3,753.40	4,155.00	4,026.55	23.05	19.95	124.06	5,060.76	-800.84	5,661.86	5,625.13	36.73	154.131	
4,100.00	3,852.92	4,200.00	4,071.53	23.37	20.09	124.15	5,059.59	-800.57	5,664.32	5,627.17	37.15	152.467	
4,200.00	3,952.81	4,200.00	4,071.53	23.62	20.09	124.17	5,059.59	-800.57	5,664.91	5,627.57	37.34	151.713	
4,234.19	3,987.00	4,215.30	4,086.84	23.70	20.13	1.38	5,059.42	-800.53	5,664.77	5,627.31	37.45	151.259	
4,300.00	4,052.81	4,243.28	4,114.81	23.83	20.19	1.38	5,059.38	-800.52	5,664.59	5,626.94	37.65	150.453	
4,400.00	4,152.81	4,343.28	4,214.81	24.04	20.43	1.38	5,059.38	-800.52	5,664.59	5,626.42	38.17	148.403	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 #1M - OH - Plan #4

Offset Site Error: 0.00 ft

Survey Program: 0-MWD+HDGM

Rule Assigned:

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
4,500.00	4,252.81	4,443.28	4,314.81	24.25	20.67	1.38	5,059.38	-800.52	5,664.59	5,625.90	38.70	146.386	
4,600.00	4,352.81	4,543.28	4,414.81	24.47	20.91	1.38	5,059.38	-800.52	5,664.59	5,625.37	39.23	144.402	
4,700.00	4,452.81	4,643.28	4,514.81	24.69	21.15	1.38	5,059.38	-800.52	5,664.59	5,624.83	39.77	142.451	
4,800.00	4,552.81	4,743.28	4,614.81	24.91	21.40	1.38	5,059.38	-800.52	5,664.59	5,624.29	40.31	140.532	
4,900.00	4,652.81	4,843.28	4,714.81	25.13	21.65	1.38	5,059.38	-800.52	5,664.59	5,623.74	40.86	138.648	
5,000.00	4,752.81	4,943.28	4,814.81	25.36	21.90	1.38	5,059.38	-800.52	5,664.59	5,623.19	41.41	136.797	
5,100.00	4,852.81	5,043.28	4,914.81	25.59	22.16	1.38	5,059.38	-800.52	5,664.59	5,622.63	41.97	134.979	
5,200.00	4,952.81	5,143.28	5,014.81	25.82	22.42	1.38	5,059.38	-800.52	5,664.59	5,622.07	42.53	133.194	
5,300.00	5,052.81	5,243.28	5,114.81	26.06	22.68	1.38	5,059.38	-800.52	5,664.59	5,621.50	43.10	131.443	
5,400.00	5,152.81	5,343.28	5,214.81	26.30	22.95	1.38	5,059.38	-800.52	5,664.59	5,620.93	43.67	129.724	
5,500.00	5,252.81	5,443.28	5,314.81	26.54	23.21	1.38	5,059.38	-800.52	5,664.59	5,620.35	44.24	128.038	
5,600.00	5,352.81	5,543.28	5,414.81	26.79	23.48	1.38	5,059.38	-800.52	5,664.59	5,619.77	44.82	126.384	
5,700.00	5,452.81	5,643.28	5,514.81	27.03	23.75	1.38	5,059.38	-800.52	5,664.59	5,619.19	45.40	124.762	
5,800.00	5,552.81	5,743.28	5,614.81	27.28	24.03	1.38	5,059.38	-800.52	5,664.59	5,618.61	45.99	123.172	
5,900.00	5,652.81	5,843.28	5,714.81	27.53	24.30	1.38	5,059.38	-800.52	5,664.59	5,618.02	46.58	121.612	
6,000.00	5,752.81	5,943.28	5,814.81	27.79	24.58	1.38	5,059.38	-800.52	5,664.59	5,617.42	47.17	120.082	
6,100.00	5,852.81	6,043.28	5,914.81	28.04	24.86	1.38	5,059.38	-800.52	5,664.59	5,616.83	47.77	118.583	
6,200.00	5,952.81	6,143.28	6,014.81	28.30	25.15	1.38	5,059.38	-800.52	5,664.59	5,616.23	48.37	117.113	
6,300.00	6,052.81	6,243.28	6,114.81	28.56	25.43	1.38	5,059.38	-800.52	5,664.59	5,615.62	48.97	115.671	
6,400.00	6,152.81	6,343.28	6,214.81	28.83	25.72	1.38	5,059.38	-800.52	5,664.59	5,615.02	49.58	114.258	
6,500.00	6,252.81	6,443.28	6,314.81	29.09	26.01	1.38	5,059.38	-800.52	5,664.59	5,614.41	50.19	112.873	
6,600.00	6,352.81	6,543.28	6,414.81	29.36	26.30	1.38	5,059.38	-800.52	5,664.59	5,613.80	50.80	111.515	
6,700.00	6,452.81	6,643.28	6,514.81	29.63	26.59	1.38	5,059.38	-800.52	5,664.59	5,613.18	51.41	110.183	
6,800.00	6,552.81	6,743.28	6,614.81	29.90	26.88	1.38	5,059.38	-800.52	5,664.59	5,612.57	52.03	108.878	
6,900.00	6,652.81	6,843.28	6,714.81	30.17	27.18	1.38	5,059.38	-800.52	5,664.59	5,611.95	52.65	107.598	
7,000.00	6,752.81	6,943.28	6,814.81	30.45	27.47	1.38	5,059.38	-800.52	5,664.59	5,611.33	53.27	106.344	
7,089.19	6,842.00	7,032.47	6,904.00	30.69	27.74	1.38	5,059.38	-800.52	5,664.59	5,610.77	53.82	105.245	SF

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Alston 001 (P/A) - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 4380-INCLINOMETER

Rule Assigned:

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	78.00	78.00	0.00	2.37	122.94	-1,747.35	2,696.44	3,213.10				
100.00	100.00	178.00	178.00	0.30	5.41	122.94	-1,747.35	2,696.44	3,213.10	3,207.40	5.70	563.370	
200.00	200.00	278.00	278.00	0.66	8.44	122.94	-1,747.35	2,696.44	3,213.10	3,204.00	9.10	353.139	
300.00	300.00	378.00	378.00	1.01	11.48	122.94	-1,747.35	2,696.44	3,213.10	3,200.61	12.49	257.171	
400.00	400.00	478.00	478.00	1.37	14.52	122.94	-1,747.35	2,696.44	3,213.10	3,197.21	15.89	202.217	
500.00	500.00	578.00	578.00	1.73	17.55	122.94	-1,747.35	2,696.44	3,213.10	3,193.82	19.28	166.614	
600.00	600.00	678.00	678.00	2.09	20.59	122.94	-1,747.35	2,696.44	3,213.10	3,190.42	22.68	141.671	
700.00	700.00	778.00	778.00	2.45	23.63	122.94	-1,747.35	2,696.44	3,213.10	3,187.03	26.08	123.223	
800.00	800.00	878.00	878.00	2.81	26.66	122.94	-1,747.35	2,696.44	3,213.10	3,183.63	29.47	109.027	
900.00	900.00	978.00	978.00	3.17	29.70	122.94	-1,747.35	2,696.44	3,213.10	3,180.24	32.87	97.763	
998.00	998.00	1,076.00	1,076.00	3.52	32.68	122.94	-1,747.35	2,696.44	3,213.10	3,176.91	36.19	88.776 CC	
1,000.00	1,000.00	1,078.00	1,078.00	3.52	32.74	-114.27	-1,747.35	2,696.44	3,213.10	3,176.84	36.26	88.610	
1,100.00	1,099.95	1,177.95	1,177.95	3.86	35.77	-114.29	-1,747.35	2,696.44	3,214.22	3,174.59	39.63	81.108	
1,200.00	1,199.62	1,277.62	1,277.62	4.20	38.80	-114.33	-1,747.35	2,696.44	3,217.50	3,174.51	42.99	74.835 ES	
1,300.00	1,298.74	1,376.74	1,376.74	4.55	41.81	-114.39	-1,747.35	2,696.44	3,222.97	3,176.62	46.35	69.532	
1,400.00	1,397.04	1,475.04	1,475.04	4.91	44.80	-114.47	-1,747.35	2,696.44	3,230.66	3,180.96	49.70	65.004	
1,500.00	1,494.24	1,572.24	1,572.24	5.30	47.75	-114.57	-1,747.35	2,696.44	3,240.62	3,187.59	53.03	61.105	
1,600.00	1,590.08	1,668.08	1,668.08	5.73	50.66	-114.67	-1,747.35	2,696.44	3,252.92	3,196.56	56.36	57.722	
1,700.00	1,684.30	1,762.30	1,762.30	6.20	53.52	-114.77	-1,747.35	2,696.44	3,267.62	3,207.95	59.66	54.766	
1,800.00	1,776.64	1,854.64	1,854.64	6.73	56.32	-114.87	-1,747.35	2,696.44	3,284.80	3,221.84	62.96	52.170	
1,900.00	1,866.84	1,944.84	1,944.84	7.33	59.06	-114.95	-1,747.35	2,696.44	3,304.55	3,238.30	66.25	49.879	
1,971.76	1,930.11	2,008.11	2,008.11	7.81	60.98	-114.99	-1,747.35	2,696.44	3,320.36	3,251.75	68.60	48.399	
2,000.00	1,954.76	2,032.76	2,032.76	8.01	61.73	-115.18	-1,747.35	2,696.44	3,326.87	3,257.34	69.53	47.848	
2,100.00	2,042.05	2,120.05	2,120.05	8.74	64.38	-115.86	-1,747.35	2,696.44	3,350.29	3,277.47	72.82	46.005	
2,200.00	2,129.33	2,207.33	2,207.33	9.51	67.03	-116.53	-1,747.35	2,696.44	3,374.25	3,298.11	76.14	44.315	
2,300.00	2,216.61	2,294.61	2,294.61	10.30	69.68	-117.19	-1,747.35	2,696.44	3,398.75	3,319.27	79.48	42.765	
2,400.00	2,303.89	2,381.89	2,381.89	11.12	72.34	-117.85	-1,747.35	2,696.44	3,423.76	3,340.94	82.82	41.340	
2,500.00	2,391.17	2,469.17	2,469.17	11.95	74.99	-118.49	-1,747.35	2,696.44	3,449.29	3,363.12	86.17	40.029	
2,600.00	2,478.45	2,556.45	2,556.45	12.79	77.64	-119.13	-1,747.35	2,696.44	3,475.31	3,385.79	89.53	38.819	
2,700.00	2,565.73	2,643.73	2,643.73	13.65	80.29	-119.77	-1,747.35	2,696.44	3,501.82	3,408.94	92.88	37.702	
2,800.00	2,653.02	2,731.02	2,731.02	14.51	82.94	-120.39	-1,747.35	2,696.44	3,528.81	3,432.57	96.24	36.667	
2,900.00	2,740.30	2,818.30	2,818.30	15.38	85.59	-121.01	-1,747.35	2,696.44	3,556.26	3,456.66	99.59	35.707	
3,000.00	2,827.58	2,905.58	2,905.58	16.26	88.24	-121.61	-1,747.35	2,696.44	3,584.16	3,481.21	102.95	34.815	
3,100.00	2,914.86	2,992.86	2,992.86	17.14	90.89	-122.21	-1,747.35	2,696.44	3,612.51	3,506.21	106.30	33.985	
3,200.00	3,002.14	3,080.14	3,080.14	18.03	93.54	-122.81	-1,747.35	2,696.44	3,641.29	3,531.65	109.64	33.210	
3,260.43	3,054.89	3,132.89	3,132.89	18.57	95.14	-123.16	-1,747.35	2,696.44	3,658.89	3,547.23	111.66	32.767	
3,300.00	3,089.62	3,167.62	3,167.62	18.91	96.20	-123.69	-1,747.35	2,696.44	3,670.28	3,557.29	112.99	32.484	
3,400.00	3,179.08	3,257.08	3,257.08	19.73	98.91	-124.92	-1,747.35	2,696.44	3,697.36	3,581.02	116.34	31.781	
3,500.00	3,270.76	3,348.76	3,348.76	20.47	101.70	-126.01	-1,747.35	2,696.44	3,721.85	3,602.15	119.71	31.092	
3,600.00	3,364.40	3,442.40	3,442.40	21.14	104.54	-126.96	-1,747.35	2,696.44	3,743.58	3,620.51	123.08	30.417	
3,700.00	3,459.75	3,537.75	3,537.75	21.72	107.44	-127.77	-1,747.35	2,696.44	3,762.41	3,635.96	126.45	29.754	
3,800.00	3,556.54	3,634.54	3,634.54	22.23	110.38	-128.44	-1,747.35	2,696.44	3,778.20	3,648.38	129.82	29.104	
3,900.00	3,654.51	3,732.51	3,732.51	22.68	113.35	-128.98	-1,747.35	2,696.44	3,790.85	3,657.68	133.17	28.465	
4,000.00	3,753.40	3,831.40	3,831.40	23.05	116.35	-129.37	-1,747.35	2,696.44	3,800.28	3,663.76	136.52	27.837	
4,100.00	3,852.92	3,930.92	3,930.92	23.37	119.38	-129.62	-1,747.35	2,696.44	3,806.42	3,666.58	139.84	27.219	
4,200.00	3,952.81	4,030.81	4,030.81	23.62	122.41	-129.74	-1,747.35	2,696.44	3,809.24	3,666.09	143.14	26.611	
4,234.19	3,987.00	4,065.00	4,065.00	23.70	123.45	107.47	-1,747.35	2,696.44	3,809.43	3,665.17	144.26	26.406	
4,300.00	4,052.81	4,130.81	4,130.81	23.83	125.45	107.47	-1,747.35	2,696.44	3,809.43	3,663.03	146.41	26.019	
4,400.00	4,152.81	4,230.81	4,230.81	24.04	128.48	107.47	-1,747.35	2,696.44	3,809.43	3,659.76	149.67	25.452	
4,500.00	4,252.81	4,330.81	4,330.81	24.25	131.52	107.47	-1,747.35	2,696.44	3,809.43	3,656.49	152.94	24.908	
4,600.00	4,352.81	4,431.04	4,430.81	24.47	134.57	107.47	-1,747.35	2,696.44	3,809.43	3,653.22	156.22	24.386	
4,682.41	4,435.22	4,512.33	4,512.05	24.65	137.03	107.47	-1,747.00	2,696.44	3,809.33	3,650.45	158.88	23.976	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Alston 001 (P/A) - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 4380-INCLINOMETER

Rule Assigned:

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	4,452.81	4,519.90	4,519.62	24.69	137.26	107.47	-1,747.04	2,696.44	3,809.36	3,650.21	159.14	23.937	
4,800.00	4,552.81	4,631.39	4,630.81	24.91	140.64	107.47	-1,747.35	2,696.44	3,809.43	3,646.66	162.77	23.403	
4,900.00	4,652.81	4,731.60	4,730.81	25.13	143.68	107.47	-1,747.35	2,696.44	3,809.43	3,643.38	166.06	22.941	
5,000.00	4,752.81	4,831.88	4,830.81	25.36	146.72	107.47	-1,747.35	2,696.44	3,809.43	3,640.09	169.34	22.496	
5,100.00	4,852.81	4,931.88	4,930.81	25.59	149.75	107.47	-1,747.35	2,696.44	3,809.43	3,636.81	172.62	22.068	
5,164.89	4,917.71	4,996.77	4,995.71	25.74	151.71	107.47	-1,747.35	2,696.44	3,809.43	3,634.68	174.75	21.800	
5,200.00	4,952.81	5,028.00	5,025.76	25.82	152.66	107.47	-1,747.35	2,696.44	3,809.44	3,633.66	175.78	21.672	
5,300.00	5,052.81	5,028.00	5,025.76	26.06	152.66	107.47	-1,747.35	2,696.44	3,810.88	3,634.97	175.91	21.664	SF
5,400.00	5,152.81	5,028.00	5,025.76	26.30	152.66	107.47	-1,747.35	2,696.44	3,814.95	3,639.02	175.93	21.685	
5,500.00	5,252.81	5,028.00	5,025.76	26.54	152.66	107.47	-1,747.35	2,696.44	3,821.63	3,645.80	175.83	21.735	
5,600.00	5,352.81	5,028.00	5,025.76	26.79	152.66	107.47	-1,747.35	2,696.44	3,830.91	3,655.30	175.61	21.815	
5,700.00	5,452.81	5,028.00	5,025.76	27.03	152.66	107.47	-1,747.35	2,696.44	3,842.77	3,667.48	175.29	21.923	
5,800.00	5,552.81	5,028.00	5,025.76	27.28	152.66	107.47	-1,747.35	2,696.44	3,857.18	3,682.33	174.85	22.060	
5,900.00	5,652.81	5,028.00	5,025.76	27.53	152.66	107.47	-1,747.35	2,696.44	3,874.13	3,699.81	174.31	22.225	
6,000.00	5,752.81	5,028.00	5,025.76	27.79	152.66	107.47	-1,747.35	2,696.44	3,893.57	3,719.89	173.67	22.419	
6,100.00	5,852.81	5,028.00	5,025.76	28.04	152.66	107.47	-1,747.35	2,696.44	3,915.47	3,742.53	172.94	22.641	
6,200.00	5,952.81	5,028.00	5,025.76	28.30	152.66	107.47	-1,747.35	2,696.44	3,939.78	3,767.67	172.11	22.891	
6,300.00	6,052.81	5,028.00	5,025.76	28.56	152.66	107.47	-1,747.35	2,696.44	3,966.47	3,795.27	171.20	23.169	
6,400.00	6,152.81	5,028.00	5,025.76	28.83	152.66	107.47	-1,747.35	2,696.44	3,995.49	3,825.28	170.21	23.474	
6,500.00	6,252.81	5,028.00	5,025.76	29.09	152.66	107.47	-1,747.35	2,696.44	4,026.78	3,857.64	169.14	23.808	
6,600.00	6,352.81	5,028.00	5,025.76	29.36	152.66	107.47	-1,747.35	2,696.44	4,060.29	3,892.29	168.00	24.168	
6,700.00	6,452.81	5,028.00	5,025.76	29.63	152.66	107.47	-1,747.35	2,696.44	4,095.97	3,929.17	166.80	24.556	
6,800.00	6,552.81	5,028.00	5,025.76	29.90	152.66	107.47	-1,747.35	2,696.44	4,133.76	3,968.21	165.55	24.971	
6,900.00	6,652.81	5,028.00	5,025.76	30.17	152.66	107.47	-1,747.35	2,696.44	4,173.60	4,009.37	164.24	25.412	
7,000.00	6,752.81	5,028.00	5,025.76	30.45	152.66	107.47	-1,747.35	2,696.44	4,215.45	4,052.56	162.89	25.880	
7,089.19	6,842.00	5,028.00	5,025.76	30.69	152.66	107.47	-1,747.35	2,696.44	4,254.40	4,092.75	161.65	26.319	

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Calloway 001 (P/A) - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 100-UNKNOWN

Rule Assigned:

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	79.00	79.00	0.00	3.16	177.91	-3,811.65	139.26	3,814.20				
100.00	100.00	179.00	179.00	0.30	7.16	177.91	-3,811.65	139.26	3,814.20	3,806.74	7.46	511.455	
200.00	200.00	279.00	279.00	0.66	11.16	177.91	-3,811.65	139.26	3,814.20	3,802.38	11.82	322.799	
300.00	300.00	379.00	379.00	1.01	15.16	177.91	-3,811.65	139.26	3,814.20	3,798.02	16.17	235.816	
400.00	400.00	479.00	479.00	1.37	19.16	177.91	-3,811.65	139.26	3,814.20	3,793.66	20.53	185.760	
500.00	500.00	579.00	579.00	1.73	23.16	177.91	-3,811.65	139.26	3,814.20	3,789.30	24.89	153.233	
600.00	600.00	679.00	679.00	2.09	27.16	177.91	-3,811.65	139.26	3,814.20	3,784.95	29.25	130.400	
700.00	700.00	779.00	779.00	2.45	31.16	177.91	-3,811.65	139.26	3,814.20	3,780.59	33.61	113.489	
800.00	800.00	879.00	879.00	2.81	35.16	177.91	-3,811.65	139.26	3,814.20	3,776.23	37.97	100.461	
900.00	900.00	979.00	979.00	3.17	39.16	177.91	-3,811.65	139.26	3,814.20	3,771.87	42.33	90.116	
998.00	998.00	1,077.00	1,077.00	3.52	43.08	177.91	-3,811.65	139.26	3,814.20	3,767.60	46.60	81.856	
1,000.00	1,000.00	1,079.00	1,079.00	3.52	43.16	-59.31	-3,811.65	139.26	3,814.19	3,767.51	46.68	81.703	
1,100.00	1,099.95	1,178.95	1,178.95	3.86	47.16	-59.38	-3,811.65	139.26	3,812.81	3,761.79	51.01	74.739	
1,200.00	1,199.62	1,278.62	1,278.62	4.20	51.14	-59.59	-3,811.65	139.26	3,808.76	3,753.42	55.34	68.822	
1,300.00	1,298.74	1,377.74	1,377.74	4.55	55.11	-59.93	-3,811.65	139.26	3,802.09	3,742.43	59.66	63.734	
1,400.00	1,397.04	1,476.04	1,476.04	4.91	59.04	-60.41	-3,811.65	139.26	3,792.86	3,728.91	63.95	59.310	
1,500.00	1,494.24	1,573.24	1,573.24	5.30	62.93	-61.02	-3,811.65	139.26	3,781.14	3,712.92	68.22	55.426	
1,600.00	1,590.08	1,669.08	1,669.08	5.73	66.76	-61.77	-3,811.65	139.26	3,767.04	3,694.58	72.46	51.986	
1,700.00	1,684.30	1,763.30	1,763.30	6.20	70.53	-62.64	-3,811.65	139.26	3,750.69	3,674.01	76.68	48.915	
1,800.00	1,776.64	1,855.64	1,855.64	6.73	74.23	-63.63	-3,811.65	139.26	3,732.24	3,651.37	80.86	46.154	
1,900.00	1,866.84	1,945.84	1,945.84	7.33	77.83	-64.74	-3,811.65	139.26	3,711.85	3,626.82	85.03	43.655	
1,971.76	1,930.11	2,009.11	2,009.11	7.81	80.36	-65.61	-3,811.65	139.26	3,696.13	3,608.13	88.00	42.002	
2,000.00	1,954.76	2,033.76	2,033.76	8.01	81.35	-65.79	-3,811.65	139.26	3,689.80	3,600.63	89.17	41.380	
2,100.00	2,042.05	2,121.05	2,121.05	8.74	84.84	-66.41	-3,811.65	139.26	3,667.70	3,574.37	93.33	39.298	
2,200.00	2,129.33	2,208.33	2,208.33	9.51	88.33	-67.04	-3,811.65	139.26	3,646.12	3,548.59	97.53	37.384	
2,300.00	2,216.61	2,295.61	2,295.61	10.30	91.82	-67.67	-3,811.65	139.26	3,625.07	3,523.31	101.76	35.622	
2,400.00	2,303.89	2,369.00	2,369.00	11.12	94.76	-68.21	-3,811.65	139.26	3,604.59	3,499.12	105.47	34.177	
2,500.00	2,391.17	2,369.00	2,369.00	11.95	94.76	-68.21	-3,811.65	139.26	3,586.02	3,479.80	106.23	33.757	
2,600.00	2,478.45	2,369.00	2,369.00	12.79	94.76	-68.21	-3,811.65	139.26	3,570.17	3,463.22	106.95	33.383	
2,700.00	2,565.73	2,369.00	2,369.00	13.65	94.76	-68.21	-3,811.65	139.26	3,557.05	3,449.44	107.62	33.053	
2,800.00	2,653.02	2,369.00	2,369.00	14.51	94.76	-68.21	-3,811.65	139.26	3,546.71	3,438.48	108.23	32.770	
2,900.00	2,740.30	2,369.00	2,369.00	15.38	94.76	-68.21	-3,811.65	139.26	3,539.16	3,430.37	108.79	32.532	
3,000.00	2,827.58	2,369.00	2,369.00	16.26	94.76	-68.21	-3,811.65	139.26	3,534.43	3,425.14	109.29	32.341	
3,087.57	2,904.01	2,369.00	2,369.00	17.03	94.76	-68.21	-3,811.65	139.26	3,532.60	3,422.93	109.67	32.212	
3,100.00	2,914.86	2,369.00	2,369.00	17.14	94.76	-68.21	-3,811.65	139.26	3,532.52	3,422.80	109.72	32.196	CC, ES
3,200.00	3,002.14	2,369.00	2,369.00	18.03	94.76	-68.21	-3,811.65	139.26	3,533.44	3,423.36	110.09	32.097	
3,260.43	3,054.89	2,369.00	2,369.00	18.57	94.76	-68.21	-3,811.65	139.26	3,535.37	3,425.09	110.28	32.059	
3,300.00	3,089.62	2,369.00	2,369.00	18.91	94.76	-68.26	-3,811.65	139.26	3,537.34	3,426.96	110.38	32.047	SF
3,400.00	3,179.08	2,369.00	2,369.00	19.73	94.76	-68.49	-3,811.65	139.26	3,545.64	3,435.11	110.53	32.078	
3,500.00	3,270.76	2,369.00	2,369.00	20.47	94.76	-68.86	-3,811.65	139.26	3,558.63	3,448.12	110.52	32.200	
3,600.00	3,364.40	2,369.00	2,369.00	21.14	94.76	-69.36	-3,811.65	139.26	3,576.23	3,465.89	110.34	32.410	
3,700.00	3,459.75	2,369.00	2,369.00	21.72	94.76	-70.00	-3,811.65	139.26	3,598.33	3,488.31	110.01	32.708	
3,800.00	3,556.54	2,369.00	2,369.00	22.23	94.76	-70.77	-3,811.65	139.26	3,624.77	3,515.23	109.53	33.093	
3,900.00	3,654.51	2,369.00	2,369.00	22.68	94.76	-71.69	-3,811.65	139.26	3,655.39	3,546.48	108.92	33.561	
4,000.00	3,753.40	2,369.00	2,369.00	23.05	94.76	-72.74	-3,811.65	139.26	3,690.02	3,581.84	108.18	34.110	
4,100.00	3,852.92	2,369.00	2,369.00	23.37	94.76	-73.94	-3,811.65	139.26	3,728.43	3,621.10	107.33	34.737	
4,200.00	3,952.81	2,369.00	2,369.00	23.62	94.76	-75.28	-3,811.65	139.26	3,770.42	3,664.03	106.39	35.438	
4,234.19	3,987.00	2,369.00	2,369.00	23.70	94.76	161.45	-3,811.65	139.26	3,785.56	3,679.50	106.05	35.695	
4,300.00	4,052.81	2,369.00	2,369.00	23.83	94.76	161.45	-3,811.65	139.26	3,815.51	3,710.13	105.38	36.207	
4,400.00	4,152.81	2,369.00	2,369.00	24.04	94.76	161.45	-3,811.65	139.26	3,862.73	3,758.40	104.34	37.022	
4,500.00	4,252.81	2,369.00	2,369.00	24.25	94.76	161.45	-3,811.65	139.26	3,911.94	3,808.67	103.27	37.881	
4,600.00	4,352.81	2,369.00	2,369.00	24.47	94.76	161.45	-3,811.65	139.26	3,963.06	3,860.87	102.19	38.782	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Calloway 001 (P/A) - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 100-UNKNOWN

Rule Assigned:

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	4,452.81	2,369.00	2,369.00	24.69	94.76	161.45	-3,811.65	139.26	4,016.02	3,914.92	101.09	39.726	
4,800.00	4,552.81	2,369.00	2,369.00	24.91	94.76	161.45	-3,811.65	139.26	4,070.74	3,970.75	99.99	40.712	
4,900.00	4,652.81	2,369.00	2,369.00	25.13	94.76	161.45	-3,811.65	139.26	4,127.17	4,028.29	98.88	41.739	
5,000.00	4,752.81	2,369.00	2,369.00	25.36	94.76	161.45	-3,811.65	139.26	4,185.22	4,087.45	97.77	42.806	
5,100.00	4,852.81	2,369.00	2,369.00	25.59	94.76	161.45	-3,811.65	139.26	4,244.84	4,148.17	96.66	43.914	
5,200.00	4,952.81	2,369.00	2,369.00	25.82	94.76	161.45	-3,811.65	139.26	4,305.95	4,210.39	95.56	45.061	
5,300.00	5,052.81	2,369.00	2,369.00	26.06	94.76	161.45	-3,811.65	139.26	4,368.50	4,274.04	94.46	46.247	
5,400.00	5,152.81	2,369.00	2,369.00	26.30	94.76	161.45	-3,811.65	139.26	4,432.42	4,339.05	93.37	47.471	
5,500.00	5,252.81	2,369.00	2,369.00	26.54	94.76	161.45	-3,811.65	139.26	4,497.65	4,405.36	92.29	48.733	
5,600.00	5,352.81	2,369.00	2,369.00	26.79	94.76	161.45	-3,811.65	139.26	4,564.15	4,472.92	91.23	50.032	
5,700.00	5,452.81	2,369.00	2,369.00	27.03	94.76	161.45	-3,811.65	139.26	4,631.85	4,541.67	90.17	51.366	
5,800.00	5,552.81	2,369.00	2,369.00	27.28	94.76	161.45	-3,811.65	139.26	4,700.70	4,611.56	89.14	52.736	
5,900.00	5,652.81	2,369.00	2,369.00	27.53	94.76	161.45	-3,811.65	139.26	4,770.65	4,682.54	88.12	54.141	
6,000.00	5,752.81	2,369.00	2,369.00	27.79	94.76	161.45	-3,811.65	139.26	4,841.66	4,754.55	87.11	55.579	
6,100.00	5,852.81	2,369.00	2,369.00	28.04	94.76	161.45	-3,811.65	139.26	4,913.68	4,827.55	86.13	57.051	
6,200.00	5,952.81	2,369.00	2,369.00	28.30	94.76	161.45	-3,811.65	139.26	4,986.66	4,901.50	85.16	58.555	
6,300.00	6,052.81	2,369.00	2,369.00	28.56	94.76	161.45	-3,811.65	139.26	5,060.57	4,976.35	84.22	60.090	
6,400.00	6,152.81	2,369.00	2,369.00	28.83	94.76	161.45	-3,811.65	139.26	5,135.36	5,052.07	83.29	61.655	
6,500.00	6,252.81	2,369.00	2,369.00	29.09	94.76	161.45	-3,811.65	139.26	5,211.00	5,128.61	82.39	63.250	
6,600.00	6,352.81	2,369.00	2,369.00	29.36	94.76	161.45	-3,811.65	139.26	5,287.44	5,205.94	81.50	64.874	
6,700.00	6,452.81	2,369.00	2,369.00	29.63	94.76	161.45	-3,811.65	139.26	5,364.66	5,284.02	80.64	66.525	
6,800.00	6,552.81	2,369.00	2,369.00	29.90	94.76	161.45	-3,811.65	139.26	5,442.63	5,362.83	79.80	68.204	
6,900.00	6,652.81	2,369.00	2,369.00	30.17	94.76	161.45	-3,811.65	139.26	5,521.30	5,442.32	78.98	69.907	
7,000.00	6,752.81	2,369.00	2,369.00	30.45	94.76	161.45	-3,811.65	139.26	5,600.65	5,522.47	78.18	71.636	
7,089.19	6,842.00	2,369.00	2,369.00	30.69	94.76	161.45	-3,811.65	139.26	5,671.98	5,594.49	77.49	73.198	

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Calloway 001A - OH - OH — **Offset Site Error:** 0.00 ft

Survey Program: 60-INCLINOMETER — **Rule Assigned:** — **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	-7.72	3,698.76	-501.42	3,732.59				
100.00	100.00	99.58	99.58	0.30	3.02	-7.72	3,698.79	-501.42	3,732.62	3,729.30	3.32	1,123.763	
200.00	200.00	197.01	197.00	0.66	5.98	-7.72	3,698.76	-501.42	3,732.59	3,725.95	6.64	562.242	
300.00	300.00	297.01	297.00	1.01	9.02	-7.72	3,698.76	-501.42	3,732.59	3,722.56	10.03	371.986	
400.00	400.00	397.01	397.00	1.37	12.06	-7.72	3,698.76	-501.42	3,732.59	3,719.16	13.43	277.939	
500.00	500.00	498.33	498.31	1.73	15.13	-7.72	3,699.87	-501.42	3,733.69	3,716.82	16.86	221.389	
600.00	600.00	612.91	612.89	2.09	18.61	-7.72	3,699.60	-501.42	3,733.46	3,712.76	20.70	180.335	
700.00	700.00	727.51	727.47	2.45	22.09	-7.72	3,698.88	-501.42	3,732.84	3,708.30	24.54	152.107	
744.87	744.87	778.93	778.89	2.61	23.65	-7.72	3,698.41	-501.42	3,732.43	3,706.17	26.26	142.118 CC	
800.00	800.00	797.06	797.00	2.81	24.21	-7.72	3,698.76	-501.42	3,732.59	3,705.58	27.01	138.182	
900.00	900.00	897.06	897.00	3.17	27.24	-7.72	3,698.76	-501.42	3,732.59	3,702.18	30.41	122.752	
998.00	998.00	995.37	995.32	3.52	30.23	-7.72	3,699.30	-501.42	3,733.13	3,699.38	33.74	110.629	
998.45	998.45	995.86	995.80	3.52	30.24	115.06	3,699.30	-501.42	3,733.13	3,699.37	33.76	110.576	
1,000.00	1,000.00	997.51	997.45	3.52	30.29	115.06	3,699.30	-501.42	3,733.13	3,699.31	33.82	110.394	
1,100.00	1,099.95	1,104.42	1,104.36	3.86	33.54	115.07	3,699.19	-501.42	3,734.18	3,696.78	37.40	99.855	
1,200.00	1,199.62	1,211.04	1,210.98	4.20	36.78	115.11	3,698.87	-501.42	3,737.27	3,696.29	40.97	91.211 ES	
1,300.00	1,298.74	1,295.84	1,295.74	4.55	39.35	115.11	3,698.76	-501.42	3,742.75	3,698.85	43.90	85.258	
1,400.00	1,397.04	1,394.14	1,394.04	4.91	42.34	115.15	3,698.76	-501.42	3,750.64	3,703.39	47.25	79.383	
1,500.00	1,494.24	1,491.34	1,491.24	5.30	45.29	115.19	3,698.76	-501.42	3,760.85	3,710.26	50.58	74.350	
1,600.00	1,590.08	1,601.35	1,601.23	5.73	48.63	115.28	3,699.66	-501.42	3,774.33	3,719.99	54.34	69.464	
1,700.00	1,684.30	1,709.75	1,709.63	6.20	51.92	115.39	3,699.05	-501.42	3,788.78	3,730.71	58.07	65.240	
1,800.00	1,776.64	1,773.80	1,773.64	6.73	53.87	115.26	3,698.76	-501.42	3,805.85	3,745.33	60.51	62.892	
1,900.00	1,866.84	1,864.00	1,863.84	7.33	56.61	115.24	3,698.76	-501.42	3,825.84	3,762.04	63.80	59.966	
1,971.76	1,930.11	1,927.27	1,927.11	7.81	58.53	115.21	3,698.76	-501.42	3,841.79	3,775.64	66.15	58.076	
2,000.00	1,954.76	1,951.92	1,951.76	8.01	59.28	115.38	3,698.76	-501.42	3,848.35	3,781.28	67.08	57.372	
2,100.00	2,042.05	2,044.95	2,044.78	8.74	62.10	116.00	3,699.52	-501.42	3,872.66	3,802.12	70.54	54.897	
2,200.00	2,129.33	2,142.44	2,142.27	9.51	65.06	116.65	3,699.25	-501.42	3,896.43	3,822.26	74.17	52.534	
2,300.00	2,216.61	2,240.08	2,239.91	10.30	68.03	117.29	3,698.72	-501.42	3,920.43	3,842.62	77.82	50.381	
2,400.00	2,303.89	2,301.11	2,300.89	11.12	69.88	117.69	3,698.76	-501.42	3,945.31	3,864.95	80.36	49.095	
2,500.00	2,391.17	2,388.39	2,388.17	11.95	72.53	118.25	3,698.76	-501.42	3,970.68	3,886.97	83.71	47.433	
2,600.00	2,478.45	2,485.02	2,484.79	12.79	75.47	118.87	3,699.56	-501.42	3,997.30	3,909.94	87.35	45.761	
2,700.00	2,565.73	2,591.22	2,590.99	13.65	78.69	119.54	3,699.06	-501.42	4,023.12	3,931.83	91.29	44.072	
2,800.00	2,653.02	2,650.27	2,650.02	14.51	80.48	119.91	3,698.76	-501.42	4,049.36	3,955.58	93.78	43.178	
2,900.00	2,740.30	2,737.55	2,737.30	15.38	83.14	120.45	3,698.76	-501.42	4,076.42	3,979.28	97.14	41.964	
3,000.00	2,827.58	2,824.83	2,824.58	16.26	85.79	120.98	3,698.76	-501.42	4,103.88	4,003.39	100.50	40.835	
3,100.00	2,914.86	2,912.11	2,911.86	17.14	88.44	121.51	3,698.76	-501.42	4,131.74	4,027.89	103.85	39.785	
3,200.00	3,002.14	3,000.96	3,000.70	18.03	91.13	122.04	3,699.50	-501.42	4,160.72	4,053.47	107.25	38.794	
3,260.43	3,054.89	3,056.68	3,056.42	18.57	92.83	122.37	3,699.46	-501.42	4,177.93	4,068.56	109.37	38.201	
3,300.00	3,089.62	3,093.39	3,093.13	18.91	93.94	122.87	3,699.41	-501.42	4,189.04	4,078.29	110.75	37.823	
3,400.00	3,179.08	3,187.98	3,187.72	19.73	96.81	124.05	3,699.20	-501.42	4,215.36	4,101.09	114.27	36.889	
3,500.00	3,270.76	3,284.96	3,284.70	20.47	99.76	125.10	3,698.88	-501.42	4,239.00	4,121.19	117.80	35.984	
3,600.00	3,364.40	3,361.67	3,361.40	21.14	102.09	125.93	3,698.76	-501.42	4,260.08	4,139.42	120.66	35.307	
3,700.00	3,459.75	3,457.02	3,456.75	21.72	104.98	126.69	3,698.76	-501.42	4,278.46	4,154.43	124.03	34.495	
3,800.00	3,556.54	3,556.88	3,556.61	22.23	108.02	127.34	3,698.94	-501.42	4,294.06	4,166.56	127.49	33.680	
3,900.00	3,654.51	3,660.12	3,659.85	22.68	111.15	127.85	3,698.80	-501.42	4,306.27	4,175.25	131.01	32.869	
4,000.00	3,753.40	3,750.67	3,750.40	23.05	113.90	128.21	3,698.76	-501.42	4,315.42	4,181.32	134.10	32.181	
4,100.00	3,852.92	3,850.20	3,849.92	23.37	116.92	128.45	3,698.76	-501.42	4,321.40	4,183.98	137.42	31.446	
4,200.00	3,952.81	3,951.85	3,951.58	23.62	120.01	128.56	3,699.30	-501.42	4,324.68	4,183.91	140.77	30.721	
4,234.19	3,987.00	3,988.84	3,988.56	23.70	121.13	5.78	3,699.27	-501.42	4,324.85	4,182.87	141.98	30.461	
4,300.00	4,052.81	4,060.03	4,059.75	23.83	123.30	5.78	3,699.15	-501.42	4,324.74	4,180.45	144.29	29.972	
4,400.00	4,152.81	4,168.21	4,167.93	24.04	126.58	5.78	3,698.80	-501.42	4,324.42	4,176.60	147.82	29.255	
4,426.47	4,179.28	4,196.85	4,196.56	24.10	127.45	5.78	3,698.67	-501.42	4,324.30	4,175.55	148.75	29.071	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Calloway 001A - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 60-INCLINOMETER

Rule Assigned:

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
4,500.00	4,252.81	4,250.11	4,249.81	24.25	129.07	5.78	3,698.76	-501.42	4,324.34	4,173.81	150.53	28.727	
4,600.00	4,352.81	4,350.11	4,349.81	24.47	132.11	5.78	3,698.76	-501.42	4,324.34	4,170.53	153.81	28.115	
4,700.00	4,452.81	4,453.37	4,453.07	24.69	135.24	5.78	3,699.26	-501.42	4,324.84	4,167.65	157.19	27.513	
4,800.00	4,552.81	4,562.04	4,561.74	24.91	138.54	5.78	3,699.07	-501.42	4,324.66	4,163.92	160.74	26.904	
4,900.00	4,652.81	4,650.15	4,649.81	25.13	141.22	5.78	3,698.76	-501.42	4,324.34	4,160.68	163.66	26.422	
5,000.00	4,752.81	4,750.15	4,749.81	25.36	144.25	5.78	3,698.76	-501.42	4,324.34	4,157.39	166.95	25.902	
5,100.00	4,852.81	4,850.15	4,849.81	25.59	147.29	5.78	3,698.76	-501.42	4,324.34	4,154.10	170.24	25.401	
5,200.00	4,952.81	4,965.35	4,965.00	25.82	150.79	5.78	3,699.58	-501.42	4,325.19	4,151.18	174.01	24.856	
5,300.00	5,052.81	5,085.31	5,084.95	26.06	154.43	5.78	3,698.88	-501.42	4,324.61	4,146.69	177.92	24.307	
5,349.73	5,102.54	5,144.96	5,144.60	26.18	156.24	5.78	3,698.33	-501.42	4,324.15	4,144.29	179.86	24.042 SF	
5,400.00	5,152.81	5,109.00	5,108.61	26.30	155.15	5.78	3,698.76	-501.42	4,324.54	4,145.68	178.86	24.178	
5,500.00	5,252.81	5,109.00	5,108.61	26.54	155.15	5.78	3,698.76	-501.42	4,326.65	4,147.65	179.00	24.172	
5,600.00	5,352.81	5,109.00	5,108.61	26.79	155.15	5.78	3,698.76	-501.42	4,331.06	4,152.02	179.04	24.191	
5,700.00	5,452.81	5,109.00	5,108.61	27.03	155.15	5.78	3,698.76	-501.42	4,337.78	4,158.79	178.99	24.235	
5,800.00	5,552.81	5,109.00	5,108.61	27.28	155.15	5.78	3,698.76	-501.42	4,346.79	4,167.94	178.85	24.304	
5,900.00	5,652.81	5,109.00	5,108.61	27.53	155.15	5.78	3,698.76	-501.42	4,358.08	4,179.45	178.63	24.397	
6,000.00	5,752.81	5,109.00	5,108.61	27.79	155.15	5.78	3,698.76	-501.42	4,371.62	4,193.30	178.32	24.516	
6,100.00	5,852.81	5,109.00	5,108.61	28.04	155.15	5.78	3,698.76	-501.42	4,387.40	4,209.48	177.92	24.659	
6,200.00	5,952.81	5,109.00	5,108.61	28.30	155.15	5.78	3,698.76	-501.42	4,405.40	4,227.95	177.44	24.827	
6,300.00	6,052.81	5,109.00	5,108.61	28.56	155.15	5.78	3,698.76	-501.42	4,425.58	4,248.69	176.89	25.019	
6,400.00	6,152.81	5,109.00	5,108.61	28.83	155.15	5.78	3,698.76	-501.42	4,447.92	4,271.66	176.26	25.235	
6,500.00	6,252.81	5,109.00	5,108.61	29.09	155.15	5.78	3,698.76	-501.42	4,472.39	4,296.83	175.56	25.475	
6,600.00	6,352.81	5,109.00	5,108.61	29.36	155.15	5.78	3,698.76	-501.42	4,498.94	4,324.16	174.79	25.740	
6,700.00	6,452.81	5,109.00	5,108.61	29.63	155.15	5.78	3,698.76	-501.42	4,527.55	4,353.60	173.95	26.027	
6,800.00	6,552.81	5,109.00	5,108.61	29.90	155.15	5.78	3,698.76	-501.42	4,558.18	4,385.12	173.06	26.339	
6,900.00	6,652.81	5,109.00	5,108.61	30.17	155.15	5.78	3,698.76	-501.42	4,590.78	4,418.67	172.11	26.674	
7,000.00	6,752.81	5,109.00	5,108.61	30.45	155.15	5.78	3,698.76	-501.42	4,625.31	4,454.20	171.10	27.032	
7,089.19	6,842.00	5,109.00	5,108.61	30.69	155.15	5.78	3,698.76	-501.42	4,657.70	4,487.53	170.17	27.371	

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Calloway 100S - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 97-INCLINOMETER

Offset Well Error: 0.00 ft

Rule Assigned:

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	35.00	35.00	0.00	1.06	-6.58	4,448.71	-513.11	4,478.20				
100.00	100.00	135.02	135.00	0.30	4.10	-6.58	4,448.71	-513.11	4,478.20	4,473.80	4.40	1,018.258	
200.00	200.00	235.03	235.00	0.66	7.14	-6.58	4,448.71	-513.11	4,478.20	4,470.41	7.79	574.617	
300.00	300.00	338.54	338.51	1.01	10.28	-6.58	4,449.48	-513.11	4,478.97	4,467.67	11.30	396.533	
400.00	400.00	466.58	466.53	1.37	14.17	-6.58	4,448.97	-513.11	4,478.58	4,463.03	15.54	288.168	
500.00	500.00	535.06	535.00	1.73	16.25	-6.58	4,448.71	-513.11	4,478.20	4,460.22	17.98	249.066	
600.00	600.00	635.06	635.00	2.09	19.29	-6.58	4,448.71	-513.11	4,478.20	4,456.83	21.38	209.504	
700.00	700.00	735.06	735.00	2.45	22.32	-6.58	4,448.71	-513.11	4,478.20	4,453.43	24.77	180.787	
800.00	800.00	842.23	842.16	2.81	25.58	-6.58	4,449.18	-513.11	4,478.68	4,450.29	28.38	157.792	
900.00	900.00	950.65	950.59	3.17	28.87	-6.58	4,448.90	-513.11	4,478.42	4,446.39	32.03	139.800	
998.00	998.00	1,033.08	1,033.00	3.52	31.37	-6.58	4,448.71	-513.11	4,478.20	4,443.31	34.89	128.355	CC
1,000.00	1,000.00	1,035.08	1,035.00	3.52	31.43	116.20	4,448.71	-513.11	4,478.20	4,443.25	34.96	128.107	
1,100.00	1,099.95	1,135.03	1,134.95	3.86	34.47	116.20	4,448.71	-513.11	4,479.41	4,441.08	38.33	116.879	ES
1,200.00	1,199.62	1,234.70	1,234.62	4.20	37.50	116.20	4,448.71	-513.11	4,482.93	4,441.23	41.69	107.525	
1,300.00	1,298.74	1,340.91	1,340.83	4.55	40.72	116.20	4,449.18	-513.11	4,489.25	4,443.98	45.27	99.174	
1,400.00	1,397.04	1,447.55	1,447.47	4.91	43.96	116.21	4,448.91	-513.11	4,497.20	4,448.33	48.87	92.028	
1,500.00	1,494.24	1,529.40	1,529.24	5.30	46.44	116.15	4,448.71	-513.11	4,507.55	4,455.81	51.74	87.124	
1,600.00	1,590.08	1,651.20	1,651.03	5.73	50.14	116.20	4,449.26	-513.11	4,521.16	4,465.32	55.85	80.958	
1,700.00	1,684.30	1,719.53	1,719.30	6.20	52.22	116.05	4,448.71	-513.11	4,535.97	4,477.60	58.37	77.713	
1,800.00	1,776.64	1,811.87	1,811.64	6.73	55.02	115.97	4,448.71	-513.11	4,553.90	4,492.24	61.66	73.850	
1,900.00	1,866.84	1,935.14	1,934.88	7.33	58.77	116.03	4,449.37	-513.11	4,575.14	4,509.19	65.95	69.371	
1,971.76	1,930.11	2,043.36	2,043.08	7.81	62.05	116.19	4,448.06	-513.11	4,590.64	4,520.98	69.66	65.900	
2,000.00	1,954.76	1,990.03	1,989.76	8.01	60.43	115.89	4,448.71	-513.11	4,597.31	4,529.09	68.22	67.385	
2,100.00	2,042.05	2,077.38	2,077.05	8.74	63.08	116.38	4,448.71	-513.11	4,621.23	4,549.71	71.52	64.617	
2,200.00	2,129.33	2,225.01	2,224.65	9.51	67.57	117.19	4,448.72	-513.11	4,645.93	4,569.27	76.66	60.603	
2,300.00	2,216.61	2,252.12	2,251.61	10.30	68.39	117.34	4,448.71	-513.11	4,670.21	4,592.05	78.17	59.746	
2,400.00	2,303.89	2,339.40	2,338.89	11.12	71.04	117.82	4,448.71	-513.11	4,695.28	4,613.77	81.51	57.602	
2,500.00	2,391.17	2,426.69	2,426.17	11.95	73.69	118.29	4,448.71	-513.11	4,720.71	4,635.85	84.87	55.626	
2,600.00	2,478.45	2,513.97	2,513.45	12.79	76.34	118.76	4,448.71	-513.11	4,746.51	4,658.29	88.22	53.800	
2,700.00	2,565.73	2,567.00	2,566.06	13.65	77.95	119.04	4,448.71	-513.11	4,772.80	4,682.26	90.54	52.715	
2,800.00	2,653.02	2,567.00	2,566.06	14.51	77.95	119.04	4,448.71	-513.11	4,800.74	4,709.53	91.21	52.633	
2,900.00	2,740.30	2,567.00	2,566.06	15.38	77.95	119.04	4,448.71	-513.11	4,830.58	4,738.73	91.85	52.592	
3,000.00	2,827.58	2,567.00	2,566.06	16.26	77.95	119.04	4,448.71	-513.11	4,862.30	4,769.85	92.46	52.589	SF
3,100.00	2,914.86	2,567.00	2,566.06	17.14	77.95	119.04	4,448.71	-513.11	4,895.86	4,802.83	93.03	52.624	
3,200.00	3,002.14	2,567.00	2,566.06	18.03	77.95	119.04	4,448.71	-513.11	4,931.22	4,837.64	93.58	52.696	
3,260.43	3,054.89	2,567.00	2,566.06	18.57	77.95	119.04	4,448.71	-513.11	4,953.44	4,859.55	93.89	52.757	
3,300.00	3,089.62	2,567.00	2,566.06	18.91	77.95	119.46	4,448.71	-513.11	4,968.15	4,874.07	94.08	52.805	
3,400.00	3,179.08	2,567.00	2,566.06	19.73	77.95	120.48	4,448.71	-513.11	5,004.86	4,910.35	94.51	52.957	
3,500.00	3,270.76	2,567.00	2,566.06	20.47	77.95	121.47	4,448.71	-513.11	5,040.83	4,945.99	94.84	53.153	
3,600.00	3,364.40	2,567.00	2,566.06	21.14	77.95	122.43	4,448.71	-513.11	5,075.97	4,980.90	95.07	53.389	
3,700.00	3,459.75	2,567.00	2,566.06	21.72	77.95	123.35	4,448.71	-513.11	5,110.22	5,015.00	95.22	53.666	
3,800.00	3,556.54	2,567.00	2,566.06	22.23	77.95	124.23	4,448.71	-513.11	5,143.49	5,048.21	95.28	53.980	
3,900.00	3,654.51	2,567.00	2,566.06	22.68	77.95	125.07	4,448.71	-513.11	5,175.71	5,080.45	95.26	54.330	
4,000.00	3,753.40	2,567.00	2,566.06	23.05	77.95	125.87	4,448.71	-513.11	5,206.82	5,111.66	95.16	54.714	
4,100.00	3,852.92	2,567.00	2,566.06	23.37	77.95	126.63	4,448.71	-513.11	5,236.75	5,141.76	94.99	55.128	
4,200.00	3,952.81	2,567.00	2,566.06	23.62	77.95	127.34	4,448.71	-513.11	5,265.44	5,170.69	94.75	55.571	
4,234.19	3,987.00	2,567.00	2,566.06	23.70	77.95	4.80	4,448.71	-513.11	5,274.95	5,180.30	94.65	55.729	
4,300.00	4,052.81	2,567.00	2,566.06	23.83	77.95	4.80	4,448.71	-513.11	5,293.50	5,199.04	94.45	56.044	
4,400.00	4,152.81	2,567.00	2,566.06	24.04	77.95	4.80	4,448.71	-513.11	5,323.10	5,228.97	94.13	56.550	
4,500.00	4,252.81	2,567.00	2,566.06	24.25	77.95	4.80	4,448.71	-513.11	5,354.42	5,260.63	93.79	57.091	
4,600.00	4,352.81	2,567.00	2,566.06	24.47	77.95	4.80	4,448.71	-513.11	5,387.41	5,293.98	93.42	57.666	
4,700.00	4,452.81	2,567.00	2,566.06	24.69	77.95	4.80	4,448.71	-513.11	5,422.04	5,329.00	93.04	58.275	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Calloway 100S - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 97-INCLINOMETER

Rule Assigned:

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	4,552.81	2,567.00	2,566.06	24.91	77.95	4.80	4,448.71	-513.11	5,458.28	5,365.64	92.64	58.917	
4,900.00	4,652.81	2,567.00	2,566.06	25.13	77.95	4.80	4,448.71	-513.11	5,496.11	5,403.88	92.23	59.593	
5,000.00	4,752.81	2,567.00	2,566.06	25.36	77.95	4.80	4,448.71	-513.11	5,535.48	5,443.68	91.80	60.301	
5,100.00	4,852.81	2,567.00	2,566.06	25.59	77.95	4.80	4,448.71	-513.11	5,576.37	5,485.02	91.35	61.042	
5,200.00	4,952.81	2,567.00	2,566.06	25.82	77.95	4.80	4,448.71	-513.11	5,618.74	5,527.85	90.90	61.815	
5,300.00	5,052.81	2,567.00	2,566.06	26.06	77.95	4.80	4,448.71	-513.11	5,662.56	5,572.13	90.43	62.620	
5,400.00	5,152.81	2,567.00	2,566.06	26.30	77.95	4.80	4,448.71	-513.11	5,707.80	5,617.85	89.95	63.455	
5,500.00	5,252.81	2,567.00	2,566.06	26.54	77.95	4.80	4,448.71	-513.11	5,754.42	5,664.95	89.46	64.322	
5,600.00	5,352.81	2,567.00	2,566.06	26.79	77.95	4.80	4,448.71	-513.11	5,802.38	5,713.41	88.97	65.218	
5,700.00	5,452.81	2,567.00	2,566.06	27.03	77.95	4.80	4,448.71	-513.11	5,851.67	5,763.20	88.47	66.145	
5,800.00	5,552.81	2,567.00	2,566.06	27.28	77.95	4.80	4,448.71	-513.11	5,902.23	5,814.27	87.96	67.100	
5,900.00	5,652.81	2,567.00	2,566.06	27.53	77.95	4.80	4,448.71	-513.11	5,954.05	5,866.60	87.45	68.085	
6,000.00	5,752.81	2,567.00	2,566.06	27.79	77.95	4.80	4,448.71	-513.11	6,007.08	5,920.15	86.94	69.098	
6,100.00	5,852.81	2,567.00	2,566.06	28.04	77.95	4.80	4,448.71	-513.11	6,061.30	5,974.88	86.42	70.138	
6,200.00	5,952.81	2,567.00	2,566.06	28.30	77.95	4.80	4,448.71	-513.11	6,116.68	6,030.78	85.90	71.206	
6,300.00	6,052.81	2,567.00	2,566.06	28.56	77.95	4.80	4,448.71	-513.11	6,173.18	6,087.79	85.38	72.301	
6,400.00	6,152.81	2,567.00	2,566.06	28.83	77.95	4.80	4,448.71	-513.11	6,230.77	6,145.90	84.86	73.421	
6,500.00	6,252.81	2,567.00	2,566.06	29.09	77.95	4.80	4,448.71	-513.11	6,289.42	6,205.08	84.35	74.568	
6,600.00	6,352.81	2,567.00	2,566.06	29.36	77.95	4.80	4,448.71	-513.11	6,349.11	6,265.28	83.83	75.739	
6,700.00	6,452.81	2,567.00	2,566.06	29.63	77.95	4.80	4,448.71	-513.11	6,409.80	6,326.48	83.31	76.935	
6,800.00	6,552.81	2,567.00	2,566.06	29.90	77.95	4.80	4,448.71	-513.11	6,471.47	6,388.66	82.80	78.154	
6,900.00	6,652.81	2,567.00	2,566.06	30.17	77.95	4.80	4,448.71	-513.11	6,534.08	6,451.78	82.30	79.396	
7,000.00	6,752.81	2,567.00	2,566.06	30.45	77.95	4.80	4,448.71	-513.11	6,597.62	6,515.82	81.79	80.661	
7,089.19	6,842.00	2,567.00	2,566.06	30.69	77.95	4.80	4,448.71	-513.11	6,655.04	6,573.69	81.35	81.808	

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Calloway Area 4 - OH - Plan #1 — **Offset Site Error:** 0.00 ft

Survey Program: 0-MWD+HDGM — **Rule Assigned:** — **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	27.00	27.00	0.00	0.08	69.97	22.59	61.97	65.96				
100.00	100.00	127.00	127.00	0.30	0.39	69.97	22.59	61.97	65.96	65.26	0.69	95.334	
200.00	200.00	227.00	227.00	0.66	0.75	69.97	22.59	61.97	65.96	64.55	1.41	46.818	
300.00	300.00	327.00	327.00	1.01	1.11	69.97	22.59	61.97	65.96	63.83	2.13	31.028	
400.00	400.00	427.00	427.00	1.37	1.47	69.97	22.59	61.97	65.96	63.11	2.84	23.202	
500.00	500.00	527.00	527.00	1.73	1.83	69.97	22.59	61.97	65.96	62.40	3.56	18.529	
600.00	600.00	627.00	627.00	2.09	2.19	69.97	22.59	61.97	65.96	61.68	4.28	15.423	
700.00	700.00	727.00	727.00	2.45	2.55	69.97	22.59	61.97	65.96	60.96	4.99	13.208	
800.00	800.00	827.00	827.00	2.81	2.90	69.97	22.59	61.97	65.96	60.25	5.71	11.550	
900.00	900.00	927.00	927.00	3.17	3.26	69.97	22.59	61.97	65.96	59.53	6.43	10.262	
911.40	911.40	938.40	938.40	3.21	3.30	69.97	22.59	61.97	65.96	59.45	6.51	10.133	CC
998.00	998.00	1,024.98	1,024.98	3.52	3.61	69.92	22.64	61.95	65.96	58.83	7.13	9.251	
1,000.00	1,000.00	1,026.98	1,026.98	3.52	3.62	-167.31	22.66	61.94	65.96	58.82	7.14	9.233	ES
1,100.00	1,099.95	1,126.51	1,126.40	3.86	3.98	-171.30	26.67	60.64	68.94	61.11	7.83	8.802	SF
1,200.00	1,199.62	1,224.53	1,223.84	4.20	4.33	-179.79	36.63	57.42	78.83	70.30	8.52	9.248	
1,300.00	1,298.74	1,319.78	1,317.70	4.55	4.68	170.71	51.98	52.44	97.60	88.40	9.20	10.605	
1,400.00	1,397.04	1,411.18	1,406.66	4.91	5.03	162.60	71.91	45.97	126.11	116.26	9.86	12.794	
1,500.00	1,494.24	1,500.00	1,491.75	5.30	5.38	156.28	96.09	38.13	163.99	153.49	10.50	15.612	
1,600.00	1,590.08	1,579.21	1,566.27	5.73	5.73	151.75	121.60	29.86	210.30	199.23	11.07	18.997	
1,700.00	1,684.30	1,654.82	1,636.02	6.20	6.10	148.14	149.34	20.87	264.16	252.52	11.64	22.688	
1,800.00	1,776.64	1,724.51	1,698.96	6.73	6.46	145.16	177.78	11.65	324.69	312.49	12.20	26.623	
1,900.00	1,866.84	1,788.26	1,755.29	7.33	6.82	142.53	206.17	2.44	391.09	378.35	12.73	30.712	
1,971.76	1,930.11	1,830.41	1,791.83	7.81	7.08	140.73	226.15	-4.04	441.95	428.83	13.12	33.688	
2,000.00	1,954.76	1,846.28	1,805.43	8.01	7.18	140.60	233.93	-6.56	462.53	449.26	13.27	34.857	
2,100.00	2,042.05	1,900.00	1,850.85	8.74	7.52	140.06	261.23	-15.41	536.58	522.81	13.76	38.986	
2,200.00	2,129.33	1,951.26	1,893.21	9.51	7.89	139.48	288.67	-24.31	612.33	598.07	14.27	42.919	
2,300.00	2,216.61	2,000.00	1,932.57	10.30	8.25	138.89	316.01	-33.18	689.68	674.92	14.76	46.734	
2,400.00	2,303.89	2,044.19	1,967.45	11.12	8.61	138.32	341.82	-41.55	768.50	753.28	15.22	50.497	
2,500.00	2,391.17	2,100.00	2,010.35	11.95	9.07	137.59	375.77	-52.55	848.82	832.94	15.88	53.454	
2,600.00	2,478.45	2,126.47	2,030.24	12.79	9.31	137.24	392.38	-57.94	930.10	913.98	16.11	57.725	
2,700.00	2,565.73	2,164.02	2,057.93	13.65	9.66	136.73	416.52	-65.77	1,012.68	996.14	16.54	61.231	
2,800.00	2,653.02	2,200.00	2,083.86	14.51	9.99	136.24	440.24	-73.46	1,096.34	1,079.38	16.95	64.670	
2,900.00	2,740.30	2,232.77	2,106.97	15.38	10.32	135.79	462.34	-80.63	1,180.98	1,163.64	17.34	68.106	
3,000.00	2,827.58	2,270.70	2,133.15	16.26	10.71	135.28	488.45	-89.09	1,266.48	1,248.66	17.83	71.042	
3,100.00	2,914.86	2,321.62	2,168.14	17.14	11.24	134.65	523.64	-100.50	1,352.23	1,333.68	18.55	72.901	
3,200.00	3,002.14	2,372.54	2,203.14	18.03	11.79	134.10	558.82	-111.91	1,438.01	1,418.73	19.28	74.574	
3,260.43	3,054.89	2,403.31	2,224.28	18.57	12.12	133.80	580.09	-118.81	1,489.87	1,470.13	19.73	75.507	
3,300.00	3,089.62	2,423.66	2,238.27	18.91	12.34	134.99	594.15	-123.37	1,523.68	1,503.65	20.03	76.079	
3,400.00	3,179.08	2,476.85	2,274.83	19.73	12.93	137.56	630.90	-135.28	1,607.78	1,587.00	20.78	77.367	
3,500.00	3,270.76	2,532.45	2,313.03	20.47	13.55	139.62	669.32	-147.74	1,689.81	1,668.27	21.54	78.444	
3,600.00	3,364.40	2,590.29	2,352.79	21.14	14.20	141.27	709.29	-160.70	1,769.64	1,747.33	22.31	79.334	
3,700.00	3,459.75	2,650.23	2,393.98	21.72	14.89	142.59	750.70	-174.13	1,847.14	1,824.07	23.07	80.059	
3,800.00	3,556.54	2,712.09	2,436.49	22.23	15.60	143.64	793.45	-187.99	1,922.21	1,898.37	23.83	80.655	
3,900.00	3,654.51	2,775.71	2,480.22	22.68	16.35	144.46	837.41	-202.25	1,994.75	1,970.16	24.58	81.137	
4,000.00	3,753.40	2,840.92	2,525.03	23.05	17.11	145.10	882.47	-216.86	2,064.68	2,039.36	25.32	81.531	
4,100.00	3,852.92	2,907.53	2,570.81	23.37	17.90	145.58	928.49	-231.78	2,131.96	2,105.91	26.05	81.853	
4,200.00	3,952.81	2,975.36	2,617.43	23.62	18.70	145.93	975.37	-246.98	2,196.51	2,169.76	26.75	82.115	
4,234.19	3,987.00	2,998.80	2,633.54	23.70	18.98	23.24	991.56	-252.23	2,217.95	2,190.97	26.98	82.203	
4,300.00	4,052.81	3,044.03	2,664.62	23.83	19.52	22.54	1,022.82	-262.37	2,259.05	2,231.61	27.44	82.340	
4,400.00	4,152.81	3,112.76	2,711.86	24.04	20.35	21.50	1,070.30	-277.76	2,321.99	2,293.86	28.12	82.567	
4,500.00	4,252.81	3,181.48	2,759.09	24.25	21.18	20.51	1,117.79	-293.16	2,385.47	2,356.67	28.81	82.813	
4,600.00	4,352.81	5,035.21	4,379.81	24.47	33.91	10.04	1,794.56	-512.61	2,435.43	2,391.60	43.83	55.569	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Calloway Area 4 - OH - Plan #1

Offset Site Error: 0.00 ft

Survey Program: 0-MWD+HDGM

Rule Assigned:

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	4,452.81	5,135.21	4,479.81	24.69	34.07	10.04	1,794.56	-512.61	2,435.43	2,391.12	44.30	54.971	
4,800.00	4,552.81	5,235.21	4,579.81	24.91	34.24	10.04	1,794.56	-512.61	2,435.43	2,390.64	44.79	54.377	
4,900.00	4,652.81	5,335.21	4,679.81	25.13	34.41	10.04	1,794.56	-512.61	2,435.43	2,390.15	45.28	53.789	
5,000.00	4,752.81	5,435.21	4,779.81	25.36	34.58	10.04	1,794.56	-512.61	2,435.43	2,389.65	45.77	53.207	
5,100.00	4,852.81	5,535.21	4,879.81	25.59	34.75	10.04	1,794.56	-512.61	2,435.43	2,389.15	46.27	52.631	
5,200.00	4,952.81	5,635.21	4,979.81	25.82	34.92	10.04	1,794.56	-512.61	2,435.43	2,388.65	46.78	52.060	
5,300.00	5,052.81	5,735.21	5,079.81	26.06	35.10	10.04	1,794.56	-512.61	2,435.43	2,388.13	47.29	51.496	
5,400.00	5,152.81	5,835.21	5,179.81	26.30	35.28	10.04	1,794.56	-512.61	2,435.43	2,387.62	47.81	50.939	
5,500.00	5,252.81	5,935.21	5,279.81	26.54	35.47	10.04	1,794.56	-512.61	2,435.43	2,387.09	48.33	50.388	
5,600.00	5,352.81	6,035.21	5,379.81	26.79	35.65	10.04	1,794.56	-512.61	2,435.43	2,386.57	48.86	49.844	
5,700.00	5,452.81	6,135.21	5,479.81	27.03	35.84	10.04	1,794.56	-512.61	2,435.43	2,386.03	49.39	49.307	
5,800.00	5,552.81	6,235.21	5,579.81	27.28	36.04	10.04	1,794.56	-512.61	2,435.43	2,385.50	49.93	48.777	
5,900.00	5,652.81	6,335.21	5,679.81	27.53	36.23	10.04	1,794.56	-512.61	2,435.43	2,384.95	50.47	48.253	
6,000.00	5,752.81	6,435.21	5,779.81	27.79	36.43	10.04	1,794.56	-512.61	2,435.43	2,384.41	51.02	47.737	
6,100.00	5,852.81	6,535.21	5,879.81	28.04	36.63	10.04	1,794.56	-512.61	2,435.43	2,383.86	51.57	47.228	
6,200.00	5,952.81	6,635.21	5,979.81	28.30	36.83	10.04	1,794.56	-512.61	2,435.43	2,383.30	52.12	46.726	
6,300.00	6,052.81	6,735.21	6,079.81	28.56	37.03	10.04	1,794.56	-512.61	2,435.43	2,382.75	52.68	46.231	
6,400.00	6,152.81	6,835.21	6,179.81	28.83	37.24	10.04	1,794.56	-512.61	2,435.43	2,382.19	53.24	45.744	
6,500.00	6,252.81	6,935.21	6,279.81	29.09	37.45	10.04	1,794.56	-512.61	2,435.43	2,381.62	53.81	45.263	
6,600.00	6,352.81	7,035.21	6,379.81	29.36	37.66	10.04	1,794.56	-512.61	2,435.43	2,381.05	54.38	44.789	
6,700.00	6,452.81	7,135.21	6,479.81	29.63	37.87	10.04	1,794.56	-512.61	2,435.43	2,380.48	54.95	44.323	
6,800.00	6,552.81	7,235.21	6,579.81	29.90	38.09	10.04	1,794.56	-512.61	2,435.43	2,379.90	55.52	43.863	
6,900.00	6,652.81	7,335.21	6,679.81	30.17	38.30	10.04	1,794.56	-512.61	2,435.43	2,379.32	56.10	43.411	
7,000.00	6,752.81	7,435.21	6,779.81	30.45	38.52	10.04	1,794.56	-512.61	2,435.43	2,378.74	56.68	42.965	
7,089.19	6,842.00	7,524.40	6,869.00	30.69	38.72	10.04	1,794.56	-512.61	2,435.43	2,378.22	57.21	42.573	

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Calloway LS 002 - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 100-UNKNOWN

Offset Well Error: 0.00 ft

Rule Assigned:

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	15.86	644.35	183.12	670.45				
100.00	100.00	72.00	72.00	0.30	2.88	15.86	644.35	183.12	669.86	666.69	3.18	210.809	
200.00	200.00	172.00	172.00	0.66	6.88	15.86	644.35	183.12	669.86	662.33	7.54	88.889	
300.00	300.00	272.00	272.00	1.01	10.88	15.86	644.35	183.12	669.86	657.97	11.89	56.317	
400.00	400.00	372.00	372.00	1.37	14.88	15.86	644.35	183.12	669.86	653.61	16.25	41.215	
500.00	500.00	472.00	472.00	1.73	18.88	15.86	644.35	183.12	669.86	649.25	20.61	32.500	
600.00	600.00	572.00	572.00	2.09	22.88	15.86	644.35	183.12	669.86	644.89	24.97	26.827	
700.00	700.00	672.00	672.00	2.45	26.88	15.86	644.35	183.12	669.86	640.54	29.33	22.840	
800.00	800.00	772.00	772.00	2.81	30.88	15.86	644.35	183.12	669.86	636.18	33.69	19.885	
900.00	900.00	872.00	872.00	3.17	34.88	15.86	644.35	183.12	669.86	631.82	38.05	17.607	
998.00	998.00	970.00	970.00	3.52	38.80	15.86	644.35	183.12	669.86	627.55	42.32	15.830	CC
1,000.00	1,000.00	972.00	972.00	3.52	38.88	138.65	644.35	183.12	669.87	627.46	42.40	15.797	
1,100.00	1,099.95	1,071.95	1,071.95	3.86	42.88	138.76	644.35	183.12	671.91	625.18	46.73	14.377	ES
1,200.00	1,199.62	1,171.62	1,171.62	4.20	46.86	139.08	644.35	183.12	677.91	626.85	51.06	13.276	
1,300.00	1,298.74	1,270.74	1,270.74	4.55	50.83	139.60	644.35	183.12	687.93	632.56	55.38	12.423	
1,400.00	1,397.04	1,369.04	1,369.04	4.91	54.76	140.29	644.35	183.12	702.06	642.39	59.66	11.767	
1,500.00	1,494.24	1,466.24	1,466.24	5.30	58.65	141.12	644.35	183.12	720.41	656.49	63.92	11.271	
1,600.00	1,590.08	1,562.08	1,562.08	5.73	62.48	142.05	644.35	183.12	743.10	674.97	68.13	10.907	
1,700.00	1,684.30	1,656.30	1,656.30	6.20	66.25	143.04	644.35	183.12	770.25	697.96	72.29	10.655	
1,800.00	1,776.64	1,748.64	1,748.64	6.73	69.95	144.07	644.35	183.12	801.95	725.56	76.39	10.498	
1,900.00	1,866.84	1,838.84	1,838.84	7.33	73.55	145.08	644.35	183.12	838.26	757.85	80.41	10.424	
1,971.76	1,930.11	1,902.11	1,902.11	7.81	76.08	145.79	644.35	183.12	867.18	783.93	83.26	10.416	
2,000.00	1,954.76	1,926.76	1,926.76	8.01	77.07	146.27	644.35	183.12	879.06	794.70	84.36	10.420	
2,100.00	2,042.05	2,014.05	2,014.05	8.74	80.56	147.90	644.35	183.12	921.56	833.28	88.28	10.439	
2,200.00	2,129.33	2,101.33	2,101.33	9.51	84.05	149.39	644.35	183.12	964.65	872.45	92.20	10.463	
2,300.00	2,216.61	2,188.61	2,188.61	10.30	87.54	150.76	644.35	183.12	1,008.27	912.15	96.12	10.490	
2,400.00	2,303.89	2,275.89	2,275.89	11.12	91.04	152.03	644.35	183.12	1,052.34	952.30	100.04	10.519	
2,500.00	2,391.17	2,363.17	2,363.17	11.95	94.53	153.19	644.35	183.12	1,096.81	992.85	103.96	10.550	
2,600.00	2,478.45	2,450.45	2,450.45	12.79	98.02	154.27	644.35	183.12	1,141.63	1,033.76	107.88	10.583	
2,700.00	2,565.73	2,537.73	2,537.73	13.65	101.51	155.27	644.35	183.12	1,186.77	1,074.98	111.79	10.616	
2,800.00	2,653.02	2,625.02	2,625.02	14.51	105.00	156.20	644.35	183.12	1,232.19	1,116.48	115.71	10.649	
2,900.00	2,740.30	2,712.30	2,712.30	15.38	108.49	157.07	644.35	183.12	1,277.86	1,158.24	119.62	10.682	
3,000.00	2,827.58	2,799.58	2,799.58	16.26	111.98	157.88	644.35	183.12	1,323.75	1,200.21	123.54	10.716	
3,100.00	2,914.86	2,886.86	2,886.86	17.14	115.47	158.64	644.35	183.12	1,369.84	1,242.40	127.45	10.748	
3,200.00	3,002.14	2,974.14	2,974.14	18.03	118.97	159.35	644.35	183.12	1,416.12	1,284.76	131.36	10.780	
3,260.43	3,054.89	3,026.89	3,026.89	18.57	121.08	159.75	644.35	183.12	1,444.17	1,310.44	133.72	10.800	
3,300.00	3,089.62	3,061.62	3,061.62	18.91	122.46	160.21	644.35	183.12	1,462.22	1,326.94	135.28	10.809	
3,400.00	3,179.08	3,151.08	3,151.08	19.73	126.04	161.24	644.35	183.12	1,504.84	1,365.57	139.27	10.805	
3,500.00	3,270.76	3,242.76	3,242.76	20.47	129.71	162.10	644.35	183.12	1,543.03	1,399.70	143.33	10.765	
3,600.00	3,364.40	3,336.40	3,336.40	21.14	133.46	162.81	644.35	183.12	1,576.65	1,429.18	147.47	10.691	
3,700.00	3,459.75	3,431.75	3,431.75	21.72	137.27	163.39	644.35	183.12	1,605.57	1,453.90	151.66	10.586	
3,800.00	3,556.54	3,528.54	3,528.54	22.23	141.14	163.85	644.35	183.12	1,629.69	1,473.79	155.90	10.453	
3,900.00	3,654.51	3,626.51	3,626.51	22.68	145.06	164.20	644.35	183.12	1,648.93	1,488.75	160.18	10.294	
4,000.00	3,753.40	3,725.40	3,725.40	23.05	149.02	164.46	644.35	183.12	1,663.21	1,498.74	164.47	10.112	
4,100.00	3,852.92	3,824.92	3,824.92	23.37	153.00	164.62	644.35	183.12	1,672.49	1,503.72	168.77	9.910	
4,200.00	3,952.81	3,924.81	3,924.81	23.62	156.99	164.69	644.35	183.12	1,676.74	1,503.67	173.08	9.688	
4,234.19	3,987.00	3,959.00	3,959.00	23.70	158.36	41.92	644.35	183.12	1,677.04	1,502.49	174.54	9.608	
4,300.00	4,052.81	4,024.81	4,024.81	23.83	160.99	41.92	644.35	183.12	1,677.04	1,499.67	177.36	9.455	
4,400.00	4,152.81	4,124.81	4,124.81	24.04	164.99	41.92	644.35	183.12	1,677.04	1,495.39	181.65	9.232	
4,500.00	4,252.81	4,224.81	4,224.81	24.25	168.99	41.92	644.35	183.12	1,677.04	1,491.10	185.94	9.019	
4,600.00	4,352.81	4,324.81	4,324.81	24.47	172.99	41.92	644.35	183.12	1,677.04	1,486.81	190.23	8.816	
4,700.00	4,452.81	4,424.81	4,424.81	24.69	176.99	41.92	644.35	183.12	1,677.04	1,482.51	194.53	8.621	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Calloway LS 002 - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 100-UNKNOWN

Rule Assigned:

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	4,552.81	4,524.81	4,524.81	24.91	180.99	41.92	644.35	183.12	1,677.04	1,478.21	198.82	8.435	
4,900.00	4,652.81	4,624.81	4,624.81	25.13	184.99	41.92	644.35	183.12	1,677.04	1,473.91	203.12	8.256	
5,000.00	4,752.81	4,724.81	4,724.81	25.36	188.99	41.92	644.35	183.12	1,677.04	1,469.61	207.43	8.085	
5,100.00	4,852.81	4,824.81	4,824.81	25.59	192.99	41.92	644.35	183.12	1,677.04	1,465.31	211.73	7.921	
5,200.00	4,952.81	4,924.81	4,924.81	25.82	196.99	41.92	644.35	183.12	1,677.04	1,461.00	216.03	7.763	
5,300.00	5,052.81	5,024.81	5,024.81	26.06	200.99	41.92	644.35	183.12	1,677.04	1,456.70	220.34	7.611	
5,400.00	5,152.81	5,124.81	5,124.81	26.30	204.99	41.92	644.35	183.12	1,677.04	1,452.39	224.65	7.465	
5,500.00	5,252.81	5,224.81	5,224.81	26.54	208.99	41.92	644.35	183.12	1,677.04	1,448.08	228.96	7.325	
5,600.00	5,352.81	5,324.81	5,324.81	26.79	212.99	41.92	644.35	183.12	1,677.04	1,443.76	233.27	7.189	
5,700.00	5,452.81	5,424.81	5,424.81	27.03	216.99	41.92	644.35	183.12	1,677.04	1,439.45	237.59	7.059	
5,800.00	5,552.81	5,524.81	5,524.81	27.28	220.99	41.92	644.35	183.12	1,677.04	1,435.13	241.90	6.933	
5,900.00	5,652.81	5,624.81	5,624.81	27.53	224.99	41.92	644.35	183.12	1,677.04	1,430.82	246.22	6.811	
5,910.00	5,662.81	5,634.81	5,634.81	27.56	225.39	41.92	644.35	183.12	1,677.04	1,430.39	246.65	6.799	
6,000.00	5,752.81	5,659.00	5,659.00	27.79	226.36	41.92	644.35	183.12	1,678.33	1,430.76	247.57	6.779 SF	
6,100.00	5,852.81	5,659.00	5,659.00	28.04	226.36	41.92	644.35	183.12	1,685.21	1,438.55	246.67	6.832	
6,200.00	5,952.81	5,659.00	5,659.00	28.30	226.36	41.92	644.35	183.12	1,697.97	1,453.03	244.94	6.932	
6,300.00	6,052.81	5,659.00	5,659.00	28.56	226.36	41.92	644.35	183.12	1,716.47	1,474.02	242.45	7.080	
6,400.00	6,152.81	5,659.00	5,659.00	28.83	226.36	41.92	644.35	183.12	1,740.53	1,501.26	239.27	7.274	
6,500.00	6,252.81	5,659.00	5,659.00	29.09	226.36	41.92	644.35	183.12	1,769.91	1,534.43	235.48	7.516	
6,600.00	6,352.81	5,659.00	5,659.00	29.36	226.36	41.92	644.35	183.12	1,804.37	1,573.18	231.20	7.805	
6,700.00	6,452.81	5,659.00	5,659.00	29.63	226.36	41.92	644.35	183.12	1,843.62	1,617.11	226.50	8.140	
6,800.00	6,552.81	5,659.00	5,659.00	29.90	226.36	41.92	644.35	183.12	1,887.35	1,665.85	221.50	8.521	
6,900.00	6,652.81	5,659.00	5,659.00	30.17	226.36	41.92	644.35	183.12	1,935.26	1,718.98	216.29	8.948	
7,000.00	6,752.81	5,659.00	5,659.00	30.45	226.36	41.92	644.35	183.12	1,987.06	1,776.12	210.94	9.420	
7,089.19	6,842.00	5,659.00	5,659.00	30.69	226.36	41.92	644.35	183.12	2,036.29	1,830.18	206.11	9.880	

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Calloway LS 003 (P/A) - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 133-INCLINOMETER

Rule Assigned:

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	-166.97	-1,838.49	-425.45	1,887.07				
100.00	100.00	99.00	99.00	0.30	3.01	-166.97	-1,838.49	-425.45	1,887.07	1,883.77	3.30	571.132	
200.00	200.00	199.00	199.00	0.66	6.04	-166.97	-1,838.49	-425.45	1,887.07	1,880.37	6.70	281.677	
300.00	300.00	299.00	299.00	1.01	9.08	-166.97	-1,838.49	-425.45	1,887.07	1,876.98	10.09	186.936	
400.00	400.00	399.00	399.00	1.37	12.12	-166.97	-1,838.49	-425.45	1,887.07	1,873.58	13.49	139.886	
500.00	500.00	499.00	499.00	1.73	15.15	-166.97	-1,838.49	-425.45	1,887.07	1,870.19	16.89	111.758	
600.00	600.00	599.00	599.00	2.09	18.19	-166.97	-1,838.49	-425.45	1,887.07	1,866.79	20.28	93.048	
643.60	643.60	642.47	642.46	2.25	19.51	-166.96	-1,837.39	-425.45	1,886.01	1,864.25	21.76	86.685	
700.00	700.00	697.98	697.97	2.45	21.20	-166.96	-1,837.41	-425.45	1,886.02	1,862.38	23.64	79.764	
800.00	800.00	796.41	796.40	2.81	24.19	-166.96	-1,837.51	-425.45	1,886.12	1,859.13	26.99	69.876	
900.00	900.00	894.84	894.83	3.17	27.17	-166.96	-1,837.69	-425.45	1,886.30	1,855.96	30.34	62.172	
998.00	998.00	991.30	991.29	3.52	30.10	-166.97	-1,837.95	-425.45	1,886.56	1,852.94	33.62	56.113	
1,000.00	1,000.00	993.27	993.26	3.52	30.16	-44.19	-1,837.96	-425.45	1,886.56	1,852.88	33.69	56.002	
1,100.00	1,099.95	1,091.66	1,091.65	3.86	33.15	-44.28	-1,838.31	-425.45	1,884.96	1,847.95	37.01	50.933	
1,200.00	1,199.62	1,198.71	1,198.62	4.20	36.40	-44.58	-1,838.49	-425.45	1,879.43	1,838.83	40.60	46.291	
1,300.00	1,298.74	1,297.83	1,297.74	4.55	39.41	-45.06	-1,838.49	-425.45	1,870.06	1,826.10	43.96	42.541	
1,400.00	1,397.04	1,392.37	1,392.27	4.91	42.28	-45.71	-1,837.63	-425.45	1,856.25	1,809.06	47.19	39.337	
1,500.00	1,494.24	1,482.79	1,482.68	5.30	45.03	-46.55	-1,837.99	-425.45	1,840.15	1,789.84	50.31	36.580	
1,600.00	1,590.08	1,589.23	1,589.08	5.73	48.26	-47.70	-1,838.49	-425.45	1,820.78	1,766.85	53.93	33.761	
1,700.00	1,684.30	1,683.45	1,683.30	6.20	51.12	-48.99	-1,838.49	-425.45	1,797.80	1,740.59	57.21	31.423	
1,800.00	1,776.64	1,769.98	1,769.81	6.73	53.75	-50.44	-1,837.90	-425.45	1,771.30	1,711.00	60.30	29.375	
1,900.00	1,866.84	1,852.45	1,852.28	7.33	56.26	-52.07	-1,838.36	-425.45	1,743.19	1,679.87	63.31	27.533	
1,971.76	1,930.11	1,929.32	1,929.11	7.81	58.59	-53.62	-1,838.49	-425.45	1,721.24	1,655.19	66.05	26.060	
2,000.00	1,954.76	1,953.97	1,953.76	8.01	59.34	-53.96	-1,838.49	-425.45	1,712.39	1,645.42	66.97	25.571	
2,100.00	2,042.05	2,041.25	2,041.05	8.74	61.99	-55.19	-1,838.49	-425.45	1,681.55	1,611.32	70.23	23.943	
2,200.00	2,129.33	2,124.98	2,124.77	9.51	64.53	-56.41	-1,837.64	-425.45	1,650.75	1,577.32	73.44	22.478	
2,300.00	2,216.61	2,206.73	2,206.51	10.30	67.02	-57.63	-1,837.96	-425.45	1,622.04	1,545.42	76.62	21.169	
2,400.00	2,303.89	2,303.15	2,302.89	11.12	69.94	-59.12	-1,838.49	-425.45	1,594.46	1,514.17	80.29	19.859	
2,500.00	2,391.17	2,383.21	2,382.94	11.95	72.37	-60.39	-1,838.27	-425.45	1,567.19	1,483.70	83.50	18.770	
2,600.00	2,478.45	2,421.00	2,420.71	12.79	73.52	-61.00	-1,838.49	-425.45	1,542.43	1,457.02	85.42	18.058	
2,700.00	2,565.73	2,421.00	2,420.71	13.65	73.52	-61.00	-1,838.49	-425.45	1,523.34	1,437.37	85.97	17.719	
2,800.00	2,653.02	2,421.00	2,420.71	14.51	73.52	-61.00	-1,838.49	-425.45	1,510.64	1,424.39	86.26	17.514	
2,900.00	2,740.30	2,421.00	2,420.71	15.38	73.52	-61.00	-1,838.49	-425.45	1,504.49	1,418.25	86.24	17.445 SF	
2,942.67	2,777.54	2,421.00	2,420.71	15.76	73.52	-61.00	-1,838.49	-425.45	1,503.89	1,417.74	86.15	17.458 CC, ES	
3,000.00	2,827.58	2,421.00	2,420.71	16.26	73.52	-61.00	-1,838.49	-425.45	1,504.98	1,419.05	85.93	17.515	
3,100.00	2,914.86	2,421.00	2,420.71	17.14	73.52	-61.00	-1,838.49	-425.45	1,512.10	1,426.78	85.32	17.723	
3,200.00	3,002.14	2,421.00	2,420.71	18.03	73.52	-61.00	-1,838.49	-425.45	1,525.75	1,441.32	84.43	18.071	
3,260.43	3,054.89	2,421.00	2,420.71	18.57	73.52	-61.00	-1,838.49	-425.45	1,537.09	1,453.32	83.77	18.349	
3,300.00	3,089.62	2,421.00	2,420.71	18.91	73.52	-61.24	-1,838.49	-425.45	1,545.95	1,462.66	83.29	18.562	
3,400.00	3,179.08	2,421.00	2,420.71	19.73	73.52	-62.02	-1,838.49	-425.45	1,574.22	1,492.38	81.84	19.234	
3,500.00	3,270.76	2,421.00	2,420.71	20.47	73.52	-63.06	-1,838.49	-425.45	1,610.50	1,530.37	80.13	20.099	
3,600.00	3,364.40	2,421.00	2,420.71	21.14	73.52	-64.36	-1,838.49	-425.45	1,654.15	1,575.96	78.20	21.154	
3,700.00	3,459.75	2,421.00	2,420.71	21.72	73.52	-65.95	-1,838.49	-425.45	1,704.51	1,628.40	76.11	22.396	
3,800.00	3,556.54	2,421.00	2,420.71	22.23	73.52	-67.83	-1,838.49	-425.45	1,760.86	1,686.94	73.92	23.820	
3,900.00	3,654.51	2,421.00	2,420.71	22.68	73.52	-70.03	-1,838.49	-425.45	1,822.50	1,750.80	71.69	25.421	
4,000.00	3,753.40	2,421.00	2,420.71	23.05	73.52	-72.54	-1,838.49	-425.45	1,888.75	1,819.29	69.46	27.191	
4,100.00	3,852.92	2,421.00	2,420.71	23.37	73.52	-75.39	-1,838.49	-425.45	1,958.97	1,891.70	67.27	29.122	
4,200.00	3,952.81	2,421.00	2,420.71	23.62	73.52	-78.57	-1,838.49	-425.45	2,032.57	1,967.44	65.14	31.204	
4,234.19	3,987.00	2,421.00	2,420.71	23.70	73.52	157.49	-1,838.49	-425.45	2,058.41	1,993.99	64.43	31.949	
4,300.00	4,052.81	2,421.00	2,420.71	23.83	73.52	157.49	-1,838.49	-425.45	2,108.89	2,045.80	63.09	33.427	
4,400.00	4,152.81	2,421.00	2,420.71	24.04	73.52	157.49	-1,838.49	-425.45	2,187.15	2,126.01	61.14	35.771	
4,500.00	4,252.81	2,421.00	2,420.71	24.25	73.52	157.49	-1,838.49	-425.45	2,267.13	2,207.83	59.30	38.231	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Calloway LS 003 (P/A) - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 133-INCLINOMETER

Rule Assigned:

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
4,600.00	4,352.81	2,421.00	2,420.71	24.47	73.52	157.49	-1,838.49	-425.45	2,348.63	2,291.07	57.56	40.802	
4,700.00	4,452.81	2,421.00	2,420.71	24.69	73.52	157.49	-1,838.49	-425.45	2,431.52	2,375.60	55.92	43.482	
4,800.00	4,552.81	2,421.00	2,420.71	24.91	73.52	157.49	-1,838.49	-425.45	2,515.66	2,461.28	54.38	46.264	
4,900.00	4,652.81	2,421.00	2,420.71	25.13	73.52	157.49	-1,838.49	-425.45	2,600.91	2,547.99	52.92	49.146	
5,000.00	4,752.81	2,421.00	2,420.71	25.36	73.52	157.49	-1,838.49	-425.45	2,687.19	2,635.63	51.55	52.123	
5,100.00	4,852.81	2,421.00	2,420.71	25.59	73.52	157.49	-1,838.49	-425.45	2,774.38	2,724.11	50.27	55.190	
5,200.00	4,952.81	2,421.00	2,420.71	25.82	73.52	157.49	-1,838.49	-425.45	2,862.41	2,813.35	49.06	58.342	
5,300.00	5,052.81	2,421.00	2,420.71	26.06	73.52	157.49	-1,838.49	-425.45	2,951.21	2,903.28	47.93	61.575	
5,400.00	5,152.81	2,421.00	2,420.71	26.30	73.52	157.49	-1,838.49	-425.45	3,040.70	2,993.83	46.86	64.883	
5,500.00	5,252.81	2,421.00	2,420.71	26.54	73.52	157.49	-1,838.49	-425.45	3,130.82	3,084.96	45.86	68.262	
5,600.00	5,352.81	2,421.00	2,420.71	26.79	73.52	157.49	-1,838.49	-425.45	3,221.53	3,176.61	44.93	71.706	
5,700.00	5,452.81	2,421.00	2,420.71	27.03	73.52	157.49	-1,838.49	-425.45	3,312.78	3,268.73	44.05	75.211	
5,800.00	5,552.81	2,421.00	2,420.71	27.28	73.52	157.49	-1,838.49	-425.45	3,404.51	3,361.29	43.22	78.771	
5,900.00	5,652.81	2,421.00	2,420.71	27.53	73.52	157.49	-1,838.49	-425.45	3,496.70	3,454.26	42.45	82.381	
6,000.00	5,752.81	2,421.00	2,420.71	27.79	73.52	157.49	-1,838.49	-425.45	3,589.31	3,547.59	41.72	86.036	
6,100.00	5,852.81	2,421.00	2,420.71	28.04	73.52	157.49	-1,838.49	-425.45	3,682.31	3,641.27	41.04	89.731	
6,200.00	5,952.81	2,421.00	2,420.71	28.30	73.52	157.49	-1,838.49	-425.45	3,775.66	3,735.26	40.40	93.459	
6,300.00	6,052.81	2,421.00	2,420.71	28.56	73.52	157.49	-1,838.49	-425.45	3,869.34	3,829.54	39.80	97.217	
6,400.00	6,152.81	2,421.00	2,420.71	28.83	73.52	157.49	-1,838.49	-425.45	3,963.34	3,924.10	39.24	100.999	
6,500.00	6,252.81	2,421.00	2,420.71	29.09	73.52	157.49	-1,838.49	-425.45	4,057.62	4,018.90	38.72	104.800	
6,600.00	6,352.81	2,421.00	2,420.71	29.36	73.52	157.49	-1,838.49	-425.45	4,152.17	4,113.94	38.23	108.615	
6,700.00	6,452.81	2,421.00	2,420.71	29.63	73.52	157.49	-1,838.49	-425.45	4,246.96	4,209.19	37.77	112.438	
6,800.00	6,552.81	2,421.00	2,420.71	29.90	73.52	157.49	-1,838.49	-425.45	4,341.99	4,304.65	37.35	116.266	
6,900.00	6,652.81	2,421.00	2,420.71	30.17	73.52	157.49	-1,838.49	-425.45	4,437.24	4,400.30	36.95	120.093	
7,000.00	6,752.81	2,421.00	2,420.71	30.45	73.52	157.49	-1,838.49	-425.45	4,532.70	4,496.12	36.58	123.915	
7,089.19	6,842.00	2,421.00	2,420.71	30.69	73.52	157.49	-1,838.49	-425.45	4,618.00	4,581.72	36.27	127.315	

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Ella Rose 1 012 - OH - OH — **Offset Site Error:** 0.00 ft

Survey Program: 358-MWD SDI — **Rule Assigned:** — **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	75.55	29.10	112.90	119.24				
100.00	100.00	74.33	74.33	0.30	0.09	75.61	29.02	113.14	116.81	116.43	0.38	304.838	CC, ES
200.00	200.00	173.43	173.42	0.66	0.20	75.91	28.66	114.21	117.76	116.91	0.86	137.651	
300.00	300.00	272.50	272.47	1.01	0.32	76.43	28.02	116.13	119.49	118.16	1.33	89.995	
400.00	400.00	371.70	371.63	1.37	0.45	77.17	27.08	118.90	121.99	120.18	1.81	67.232	
500.00	500.00	471.36	471.20	1.73	0.68	78.49	24.88	122.21	124.77	122.38	2.40	52.085	
600.00	600.00	571.41	571.03	2.09	0.92	81.16	19.65	126.37	127.95	124.96	2.99	42.734	
700.00	700.00	671.65	670.78	2.45	1.19	85.27	10.80	130.44	130.95	127.34	3.61	36.279	
800.00	800.00	769.21	767.67	2.81	1.46	89.84	0.37	135.18	135.38	131.15	4.23	31.998	
900.00	900.00	866.89	864.29	3.17	1.78	95.16	-12.74	140.89	141.87	136.99	4.88	29.098	
998.00	998.00	963.04	958.88	3.52	2.13	101.17	-28.96	146.60	150.10	144.58	5.52	27.180	
1,000.00	1,000.00	964.98	960.79	3.52	2.14	-135.91	-29.33	146.72	150.29	144.76	5.54	27.152	
1,100.00	1,099.95	1,062.18	1,055.64	3.86	2.54	-129.48	-49.87	151.94	162.79	156.61	6.19	26.317	
1,200.00	1,199.62	1,159.80	1,150.52	4.20	2.97	-124.51	-72.32	156.71	180.16	173.31	6.86	26.271	SF
1,300.00	1,298.74	1,254.97	1,242.61	4.55	3.42	-121.01	-95.97	160.84	201.45	193.90	7.55	26.672	
1,400.00	1,397.04	1,346.23	1,330.35	4.91	3.89	-118.80	-120.54	165.94	227.69	219.42	8.26	27.548	
1,500.00	1,494.24	1,436.49	1,416.28	5.30	4.41	-117.26	-147.57	171.71	258.51	249.46	9.04	28.594	
1,600.00	1,590.08	1,528.94	1,503.34	5.73	4.99	-116.10	-178.13	177.38	292.87	282.96	9.91	29.555	
1,700.00	1,684.30	1,616.58	1,584.98	6.20	5.57	-115.19	-209.64	182.02	330.09	319.27	10.82	30.504	
1,800.00	1,776.64	1,697.88	1,659.77	6.73	6.15	-114.52	-241.03	187.37	371.68	359.92	11.76	31.610	
1,900.00	1,866.84	1,783.05	1,737.85	7.33	6.72	-114.39	-274.30	194.60	417.07	404.29	12.78	32.632	
1,971.76	1,930.11	1,846.07	1,795.85	7.81	7.10	-114.65	-298.24	200.45	451.10	437.55	13.55	33.280	
2,000.00	1,954.76	1,870.19	1,818.08	8.01	7.25	-115.18	-307.32	202.71	464.73	450.86	13.87	33.517	
2,100.00	2,042.05	1,952.22	1,893.44	8.74	7.82	-116.72	-338.76	210.60	513.65	498.67	14.98	34.285	
2,200.00	2,129.33	2,038.78	1,972.48	9.51	8.48	-117.95	-373.01	218.94	563.31	547.10	16.20	34.766	
2,300.00	2,216.61	2,123.55	2,049.44	10.30	9.13	-118.81	-407.74	226.55	613.07	595.65	17.42	35.190	
2,400.00	2,303.89	2,212.71	2,130.79	11.12	9.76	-119.68	-443.30	234.70	662.70	644.03	18.67	35.500	
2,500.00	2,391.17	2,288.82	2,200.22	11.95	10.32	-120.35	-473.62	242.06	712.86	693.08	19.78	36.048	
2,600.00	2,478.45	2,366.00	2,270.26	12.79	10.91	-120.92	-504.87	250.65	764.48	743.57	20.92	36.546	
2,700.00	2,565.73	2,439.83	2,336.54	13.65	11.52	-121.30	-536.22	259.28	817.24	795.19	22.05	37.058	
2,800.00	2,653.02	2,530.60	2,418.06	14.51	12.19	-121.73	-574.61	270.23	870.32	846.96	23.37	37.247	
2,900.00	2,740.30	2,627.78	2,506.48	15.38	12.85	-122.30	-613.24	281.70	922.42	897.70	24.72	37.321	
3,000.00	2,827.58	2,766.67	2,635.69	16.26	13.70	-123.41	-662.05	295.93	972.14	945.65	26.49	36.704	
3,100.00	2,914.86	2,890.18	2,754.00	17.14	14.33	-124.77	-696.27	304.82	1,017.01	989.08	27.93	36.412	
3,200.00	3,002.14	3,005.91	2,866.49	18.03	14.83	-126.22	-722.55	311.80	1,060.03	1,030.83	29.20	36.300	
3,260.43	3,054.89	3,077.91	2,936.92	18.57	15.11	-127.13	-737.14	314.95	1,084.96	1,055.01	29.95	36.225	
3,300.00	3,089.62	3,121.79	2,979.98	18.91	15.27	-128.07	-745.42	316.51	1,100.71	1,070.31	30.40	36.207	
3,400.00	3,179.08	3,225.85	3,082.44	19.73	15.63	-130.11	-763.32	319.73	1,137.89	1,106.47	31.42	36.221	
3,500.00	3,270.76	3,350.62	3,206.02	20.47	15.99	-132.04	-780.17	322.21	1,170.41	1,137.98	32.42	36.099	
3,600.00	3,364.40	3,442.00	3,297.05	21.14	16.18	-133.52	-787.89	323.59	1,198.31	1,165.19	33.12	36.177	
3,700.00	3,459.75	3,581.42	3,436.28	21.72	16.41	-135.15	-795.11	323.31	1,220.34	1,186.43	33.90	35.997	
3,800.00	3,556.54	3,682.96	3,537.71	22.23	16.56	-136.17	-799.52	322.37	1,238.45	1,203.97	34.49	35.911	
3,900.00	3,654.51	3,781.40	3,636.05	22.68	16.71	-136.88	-803.95	321.14	1,252.66	1,217.63	35.03	35.762	
4,000.00	3,753.40	3,882.07	3,736.62	23.05	16.85	-137.36	-808.02	319.61	1,262.76	1,227.23	35.53	35.536	
4,100.00	3,852.92	3,981.48	3,835.94	23.37	17.00	-137.60	-811.99	318.29	1,269.24	1,233.24	36.00	35.253	
4,200.00	3,952.81	4,087.81	3,942.19	23.62	17.15	-137.60	-815.87	316.73	1,271.66	1,235.20	36.46	34.877	
4,234.19	3,987.00	4,121.14	3,975.49	23.70	17.20	99.67	-817.20	316.14	1,271.51	1,234.91	36.60	34.738	
4,300.00	4,052.81	4,184.18	4,038.46	23.83	17.30	99.80	-819.79	315.08	1,270.88	1,234.01	36.86	34.475	
4,400.00	4,152.81	4,285.00	4,139.20	24.04	17.45	99.98	-823.63	313.49	1,269.98	1,232.70	37.27	34.072	
4,411.40	4,164.21	4,285.00	4,139.20	24.07	17.45	99.98	-823.63	313.49	1,269.92	1,232.64	37.28	34.061	
4,500.00	4,252.81	4,285.00	4,139.20	24.25	17.45	99.98	-823.63	313.49	1,273.01	1,235.74	37.27	34.155	
4,600.00	4,352.81	4,285.00	4,139.20	24.47	17.45	99.98	-823.63	313.49	1,283.85	1,246.79	37.07	34.634	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Ella Rose 1 012 - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 358-MWD SDI

Rule Assigned:

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	4,452.81	4,285.00	4,139.20	24.69	17.45	99.98	-823.63	313.49	1,302.31	1,265.62	36.68	35.503	
4,800.00	4,552.81	4,285.00	4,139.20	24.91	17.45	99.98	-823.63	313.49	1,328.05	1,291.92	36.14	36.752	
4,900.00	4,652.81	4,285.00	4,139.20	25.13	17.45	99.98	-823.63	313.49	1,360.68	1,325.22	35.46	38.372	
5,000.00	4,752.81	4,285.00	4,139.20	25.36	17.45	99.98	-823.63	313.49	1,399.70	1,365.02	34.69	40.352	
5,100.00	4,852.81	4,285.00	4,139.20	25.59	17.45	99.98	-823.63	313.49	1,444.61	1,410.76	33.85	42.678	
5,200.00	4,952.81	4,285.00	4,139.20	25.82	17.45	99.98	-823.63	313.49	1,494.86	1,461.89	32.97	45.334	
5,300.00	5,052.81	4,285.00	4,139.20	26.06	17.45	99.98	-823.63	313.49	1,549.95	1,517.86	32.09	48.303	
5,400.00	5,152.81	4,285.00	4,139.20	26.30	17.45	99.98	-823.63	313.49	1,609.37	1,578.16	31.21	51.566	
5,500.00	5,252.81	4,285.00	4,139.20	26.54	17.45	99.98	-823.63	313.49	1,672.66	1,642.30	30.36	55.102	
5,600.00	5,352.81	4,285.00	4,139.20	26.79	17.45	99.98	-823.63	313.49	1,739.40	1,709.86	29.54	58.889	
5,700.00	5,452.81	4,285.00	4,139.20	27.03	17.45	99.98	-823.63	313.49	1,809.21	1,780.44	28.76	62.904	
5,800.00	5,552.81	4,285.00	4,139.20	27.28	17.45	99.98	-823.63	313.49	1,881.74	1,853.71	28.03	67.125	
5,900.00	5,652.81	4,285.00	4,139.20	27.53	17.45	99.98	-823.63	313.49	1,956.70	1,929.34	27.36	71.526	
6,000.00	5,752.81	4,285.00	4,139.20	27.79	17.45	99.98	-823.63	313.49	2,033.81	2,007.08	26.73	76.083	
6,100.00	5,852.81	4,285.00	4,139.20	28.04	17.45	99.98	-823.63	313.49	2,112.84	2,086.69	26.16	80.773	
6,200.00	5,952.81	4,285.00	4,139.20	28.30	17.45	99.98	-823.63	313.49	2,193.59	2,167.95	25.63	85.571	
6,300.00	6,052.81	4,285.00	4,139.20	28.56	17.45	99.98	-823.63	313.49	2,275.86	2,250.70	25.16	90.454	
6,400.00	6,152.81	4,285.00	4,139.20	28.83	17.45	99.98	-823.63	313.49	2,359.51	2,334.78	24.73	95.399	
6,500.00	6,252.81	4,285.00	4,139.20	29.09	17.45	99.98	-823.63	313.49	2,444.38	2,420.03	24.35	100.386	
6,600.00	6,352.81	4,285.00	4,139.20	29.36	17.45	99.98	-823.63	313.49	2,530.36	2,506.35	24.01	105.395	
6,700.00	6,452.81	4,285.00	4,139.20	29.63	17.45	99.98	-823.63	313.49	2,617.34	2,593.63	23.71	110.406	
6,800.00	6,552.81	4,285.00	4,139.20	29.90	17.45	99.98	-823.63	313.49	2,705.21	2,681.77	23.44	115.403	
6,900.00	6,652.81	4,285.00	4,139.20	30.17	17.45	99.98	-823.63	313.49	2,793.90	2,770.69	23.21	120.369	
7,000.00	6,752.81	4,285.00	4,139.20	30.45	17.45	99.98	-823.63	313.49	2,883.33	2,860.32	23.01	125.291	
7,089.19	6,842.00	4,285.00	4,139.20	30.69	17.45	99.98	-823.63	313.49	2,963.67	2,940.80	22.86	129.632	

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Federal 001 - OH - OH — **Offset Site Error:** 0.00 ft

Survey Program: 263-INCLINOMETER — **Rule Assigned:** — **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	125.00	125.00	0.00	3.80	-37.28	3,360.30	-2,557.93	4,223.11				
100.00	100.00	225.00	225.00	0.30	6.83	-37.28	3,360.30	-2,557.93	4,223.11	4,215.98	7.13	592.258	
200.00	200.00	325.00	325.00	0.66	9.87	-37.28	3,360.30	-2,557.93	4,223.11	4,212.58	10.53	401.217	
300.00	300.00	425.00	425.00	1.01	12.91	-37.28	3,360.30	-2,557.93	4,223.11	4,209.19	13.92	303.368	
400.00	400.00	525.00	525.00	1.37	15.94	-37.28	3,360.30	-2,557.93	4,223.11	4,205.79	17.32	243.888	
500.00	500.00	627.56	627.56	1.73	19.06	-37.27	3,360.96	-2,557.93	4,223.63	4,202.84	20.79	203.172	
600.00	600.00	732.53	732.52	2.09	22.24	-37.28	3,360.80	-2,557.93	4,223.51	4,199.18	24.33	173.563	
700.00	700.00	837.49	837.48	2.45	25.43	-37.28	3,360.49	-2,557.93	4,223.27	4,195.40	27.88	151.481	
800.00	800.00	925.17	925.00	2.81	28.09	-37.28	3,360.30	-2,557.93	4,223.11	4,192.21	30.90	136.667	
900.00	900.00	1,025.24	1,025.00	3.17	31.13	-37.28	3,360.30	-2,557.93	4,223.11	4,188.81	34.30	123.131	
998.00	998.00	1,123.24	1,123.00	3.52	34.11	-37.28	3,360.30	-2,557.93	4,223.11	4,185.48	37.62	112.243	
1,000.00	1,000.00	1,125.24	1,125.00	3.52	34.17	85.50	3,360.30	-2,557.93	4,223.11	4,185.42	37.69	112.042	
1,050.50	1,050.49	1,175.73	1,175.49	3.69	35.70	85.51	3,360.30	-2,557.93	4,223.05	4,183.66	39.39	107.201	
1,100.00	1,099.95	1,242.10	1,241.79	3.86	37.72	85.58	3,362.54	-2,557.93	4,224.71	4,183.13	41.57	101.621	
1,200.00	1,199.62	1,393.30	1,392.93	4.20	42.31	85.77	3,360.63	-2,557.93	4,223.10	4,176.60	46.50	90.823	
1,300.00	1,298.74	1,424.28	1,423.74	4.55	43.25	85.88	3,360.30	-2,557.93	4,221.31	4,173.51	47.79	88.323	
1,400.00	1,397.04	1,522.58	1,522.04	4.91	46.23	86.16	3,360.30	-2,557.93	4,220.01	4,168.87	51.14	82.511	
1,500.00	1,494.24	1,619.78	1,619.24	5.30	49.19	86.51	3,360.30	-2,557.93	4,218.47	4,163.98	54.49	77.422	
1,555.00	1,547.14	1,672.68	1,672.14	5.53	50.79	86.74	3,360.30	-2,557.93	4,217.55	4,161.22	56.33	74.877	
1,600.00	1,590.08	1,726.17	1,725.59	5.73	52.42	86.99	3,362.24	-2,557.93	4,218.35	4,160.21	58.14	72.551	
1,700.00	1,684.30	1,843.88	1,843.29	6.20	55.99	87.59	3,361.47	-2,557.93	4,216.11	4,153.92	62.19	67.797	
1,800.00	1,776.64	1,959.63	1,959.00	6.73	59.51	88.26	3,359.94	-2,557.93	4,213.44	4,147.21	66.23	63.620	
1,900.00	1,866.84	1,992.68	1,991.84	7.33	60.51	88.52	3,360.30	-2,557.93	4,211.87	4,144.03	67.84	62.087	
1,971.76	1,930.11	2,055.99	2,055.11	7.81	62.43	88.95	3,360.30	-2,557.93	4,211.03	4,140.78	70.24	59.950	
2,000.00	1,954.76	2,080.64	2,079.76	8.01	63.18	89.12	3,360.30	-2,557.93	4,210.76	4,139.57	71.19	59.148	
2,100.00	2,042.05	2,167.92	2,167.05	8.74	65.83	89.69	3,360.30	-2,557.93	4,210.18	4,135.60	74.58	56.455	
2,152.64	2,087.99	2,213.87	2,212.99	9.15	67.23	90.00	3,360.30	-2,557.93	4,210.10	4,133.73	76.37	55.125 CC	
2,200.00	2,129.33	2,255.21	2,254.33	9.51	68.48	90.27	3,360.30	-2,557.93	4,210.16	4,132.17	77.99	53.981	
2,300.00	2,216.61	2,342.49	2,341.61	10.30	71.13	90.85	3,360.30	-2,557.93	4,210.72	4,129.28	81.44	51.705	
2,400.00	2,303.89	2,429.77	2,428.89	11.12	73.78	91.43	3,360.30	-2,557.93	4,211.83	4,126.93	84.90	49.609	
2,500.00	2,391.17	2,517.05	2,516.17	11.95	76.43	92.01	3,360.30	-2,557.93	4,213.51	4,125.13	88.38	47.676	
2,600.00	2,478.45	2,604.33	2,603.45	12.79	79.09	92.59	3,360.30	-2,557.93	4,215.76	4,123.89	91.87	45.889 ES	
2,700.00	2,565.73	2,670.00	2,668.78	13.65	81.08	93.02	3,360.30	-2,557.93	4,218.63	4,123.91	94.71	44.542	
2,800.00	2,653.02	2,670.00	2,668.78	14.51	81.08	93.02	3,360.30	-2,557.93	4,223.35	4,127.82	95.53	44.208	
2,900.00	2,740.30	2,670.00	2,668.78	15.38	81.08	93.02	3,360.30	-2,557.93	4,230.44	4,134.12	96.32	43.920	
3,000.00	2,827.58	2,670.00	2,668.78	16.26	81.08	93.02	3,360.30	-2,557.93	4,239.87	4,142.80	97.07	43.679	
3,100.00	2,914.86	2,670.00	2,668.78	17.14	81.08	93.02	3,360.30	-2,557.93	4,251.64	4,153.86	97.78	43.483	
3,200.00	3,002.14	2,670.00	2,668.78	18.03	81.08	93.02	3,360.30	-2,557.93	4,265.72	4,167.27	98.44	43.332	
3,260.43	3,054.89	2,670.00	2,668.78	18.57	81.08	93.02	3,360.30	-2,557.93	4,275.34	4,176.51	98.83	43.261	
3,300.00	3,089.62	2,670.00	2,668.78	18.91	81.08	93.23	3,360.30	-2,557.93	4,282.06	4,183.00	99.06	43.227	
3,400.00	3,179.08	2,670.00	2,668.78	19.73	81.08	93.79	3,360.30	-2,557.93	4,300.43	4,200.87	99.56	43.192 SF	
3,500.00	3,270.76	2,670.00	2,668.78	20.47	81.08	94.41	3,360.30	-2,557.93	4,320.70	4,220.76	99.94	43.233	
3,600.00	3,364.40	2,670.00	2,668.78	21.14	81.08	95.08	3,360.30	-2,557.93	4,342.78	4,242.60	100.18	43.348	
3,700.00	3,459.75	2,670.00	2,668.78	21.72	81.08	95.82	3,360.30	-2,557.93	4,366.59	4,266.29	100.30	43.534	
3,800.00	3,556.54	2,670.00	2,668.78	22.23	81.08	96.60	3,360.30	-2,557.93	4,392.04	4,291.74	100.30	43.789	
3,900.00	3,654.51	2,670.00	2,668.78	22.68	81.08	97.44	3,360.30	-2,557.93	4,419.03	4,318.84	100.18	44.110	
4,000.00	3,753.40	2,670.00	2,668.78	23.05	81.08	98.32	3,360.30	-2,557.93	4,447.45	4,347.49	99.96	44.493	
4,100.00	3,852.92	2,670.00	2,668.78	23.37	81.08	99.24	3,360.30	-2,557.93	4,477.21	4,377.58	99.63	44.937	
4,200.00	3,952.81	2,670.00	2,668.78	23.62	81.08	100.21	3,360.30	-2,557.93	4,508.19	4,408.98	99.22	45.437	
4,234.19	3,987.00	2,670.00	2,668.78	23.70	81.08	-22.24	3,360.30	-2,557.93	4,519.05	4,419.99	99.06	45.622	
4,300.00	4,052.81	2,670.00	2,668.78	23.83	81.08	-22.24	3,360.30	-2,557.93	4,540.50	4,441.77	98.72	45.992	
4,400.00	4,152.81	2,670.00	2,668.78	24.04	81.08	-22.24	3,360.30	-2,557.93	4,574.70	4,476.50	98.20	46.587	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Federal 001 - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 263-INCLINOMETER

Rule Assigned:

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
4,500.00	4,252.81	2,670.00	2,668.78	24.25	81.08	-22.24	3,360.30	-2,557.93	4,610.83	4,513.18	97.64	47.221	
4,600.00	4,352.81	2,670.00	2,668.78	24.47	81.08	-22.24	3,360.30	-2,557.93	4,648.82	4,551.75	97.07	47.894	
4,700.00	4,452.81	2,670.00	2,668.78	24.69	81.08	-22.24	3,360.30	-2,557.93	4,688.64	4,592.17	96.46	48.605	
4,800.00	4,552.81	2,670.00	2,668.78	24.91	81.08	-22.24	3,360.30	-2,557.93	4,730.24	4,634.39	95.84	49.354	
4,900.00	4,652.81	2,670.00	2,668.78	25.13	81.08	-22.24	3,360.30	-2,557.93	4,773.57	4,678.36	95.20	50.141	
5,000.00	4,752.81	2,670.00	2,668.78	25.36	81.08	-22.24	3,360.30	-2,557.93	4,818.58	4,724.04	94.55	50.965	
5,100.00	4,852.81	2,670.00	2,668.78	25.59	81.08	-22.24	3,360.30	-2,557.93	4,865.24	4,771.36	93.88	51.826	
5,200.00	4,952.81	2,670.00	2,668.78	25.82	81.08	-22.24	3,360.30	-2,557.93	4,913.49	4,820.29	93.20	52.722	
5,300.00	5,052.81	2,670.00	2,668.78	26.06	81.08	-22.24	3,360.30	-2,557.93	4,963.28	4,870.78	92.50	53.655	
5,400.00	5,152.81	2,670.00	2,668.78	26.30	81.08	-22.24	3,360.30	-2,557.93	5,014.57	4,922.77	91.80	54.622	
5,500.00	5,252.81	2,670.00	2,668.78	26.54	81.08	-22.24	3,360.30	-2,557.93	5,067.32	4,976.22	91.10	55.624	
5,600.00	5,352.81	2,670.00	2,668.78	26.79	81.08	-22.24	3,360.30	-2,557.93	5,121.48	5,031.09	90.39	56.661	
5,700.00	5,452.81	2,670.00	2,668.78	27.03	81.08	-22.24	3,360.30	-2,557.93	5,177.00	5,087.33	89.68	57.730	
5,800.00	5,552.81	2,670.00	2,668.78	27.28	81.08	-22.24	3,360.30	-2,557.93	5,233.85	5,144.89	88.96	58.833	
5,900.00	5,652.81	2,670.00	2,668.78	27.53	81.08	-22.24	3,360.30	-2,557.93	5,291.97	5,203.73	88.25	59.968	
6,000.00	5,752.81	2,670.00	2,668.78	27.79	81.08	-22.24	3,360.30	-2,557.93	5,351.34	5,263.80	87.53	61.135	
6,100.00	5,852.81	2,670.00	2,668.78	28.04	81.08	-22.24	3,360.30	-2,557.93	5,411.89	5,325.07	86.82	62.333	
6,200.00	5,952.81	2,670.00	2,668.78	28.30	81.08	-22.24	3,360.30	-2,557.93	5,473.61	5,387.49	86.12	63.561	
6,300.00	6,052.81	2,670.00	2,668.78	28.56	81.08	-22.24	3,360.30	-2,557.93	5,536.44	5,451.03	85.41	64.819	
6,400.00	6,152.81	2,670.00	2,668.78	28.83	81.08	-22.24	3,360.30	-2,557.93	5,600.36	5,515.64	84.72	66.107	
6,500.00	6,252.81	2,670.00	2,668.78	29.09	81.08	-22.24	3,360.30	-2,557.93	5,665.32	5,581.29	84.03	67.422	
6,600.00	6,352.81	2,670.00	2,668.78	29.36	81.08	-22.24	3,360.30	-2,557.93	5,731.28	5,647.94	83.34	68.766	
6,700.00	6,452.81	2,670.00	2,668.78	29.63	81.08	-22.24	3,360.30	-2,557.93	5,798.23	5,715.56	82.67	70.136	
6,800.00	6,552.81	2,670.00	2,668.78	29.90	81.08	-22.24	3,360.30	-2,557.93	5,866.11	5,784.10	82.01	71.533	
6,900.00	6,652.81	2,670.00	2,668.78	30.17	81.08	-22.24	3,360.30	-2,557.93	5,934.90	5,853.55	81.35	72.955	
7,000.00	6,752.81	2,670.00	2,668.78	30.45	81.08	-22.24	3,360.30	-2,557.93	6,004.57	5,923.86	80.70	74.402	
7,089.19	6,842.00	2,670.00	2,668.78	30.69	81.08	-22.24	3,360.30	-2,557.93	6,067.42	5,987.28	80.14	75.713	

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Federal 100A - OH - OH — **Offset Site Error:** 0.00 ft

Survey Program: 285-INCLINOMETER — **Rule Assigned:** — **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	114.00	114.00	0.00	3.46	-43.04	3,535.13	-3,300.94	4,836.67				
100.00	100.00	214.00	214.00	0.30	6.50	-43.04	3,535.13	-3,300.94	4,836.67	4,829.87	6.80	711.642	
200.00	200.00	314.00	314.00	0.66	9.54	-43.04	3,535.13	-3,300.94	4,836.67	4,826.47	10.19	474.564	
300.00	300.00	414.00	414.00	1.01	12.57	-43.04	3,535.13	-3,300.94	4,836.67	4,823.08	13.59	355.973	
400.00	400.00	514.00	514.00	1.37	15.61	-43.04	3,535.13	-3,300.94	4,836.67	4,819.68	16.98	284.803	
500.00	500.00	616.43	616.43	1.73	18.72	-43.04	3,535.37	-3,300.94	4,836.85	4,816.39	20.45	236.501	
600.00	600.00	719.59	719.59	2.09	21.85	-43.04	3,535.26	-3,300.94	4,836.76	4,812.82	23.94	202.012	
700.00	700.00	814.01	814.00	2.45	24.72	-43.04	3,535.13	-3,300.94	4,836.67	4,809.50	27.17	178.024	
800.00	800.00	914.01	914.00	2.81	27.76	-43.04	3,535.13	-3,300.94	4,836.67	4,806.10	30.56	158.247	
900.00	900.00	1,014.01	1,014.00	3.17	30.79	-43.04	3,535.13	-3,300.94	4,836.67	4,802.71	33.96	142.425	
998.00	998.00	1,114.35	1,114.34	3.52	33.84	-43.04	3,535.37	-3,300.94	4,836.85	4,799.49	37.36	129.473	
1,000.00	1,000.00	1,116.41	1,116.41	3.52	33.90	79.75	3,535.37	-3,300.94	4,836.85	4,799.42	37.43	129.232	
1,100.00	1,099.95	1,219.56	1,219.55	3.86	37.04	79.79	3,535.26	-3,300.94	4,836.28	4,795.39	40.89	118.268	
1,200.00	1,199.62	1,313.63	1,313.62	4.20	39.89	79.92	3,535.13	-3,300.94	4,834.78	4,790.69	44.09	109.661	
1,300.00	1,298.74	1,412.75	1,412.74	4.55	42.90	80.14	3,535.13	-3,300.94	4,832.48	4,785.03	47.45	101.849	
1,400.00	1,397.04	1,511.05	1,511.04	4.91	45.89	80.45	3,535.13	-3,300.94	4,829.34	4,778.54	50.80	95.070	
1,500.00	1,494.24	1,610.47	1,610.46	5.30	48.91	80.84	3,535.38	-3,300.94	4,825.60	4,771.40	54.21	89.023	
1,600.00	1,590.08	1,709.40	1,709.39	5.73	51.91	81.31	3,535.27	-3,300.94	4,820.91	4,763.28	57.63	83.646	
1,700.00	1,684.30	1,798.32	1,798.30	6.20	54.61	81.81	3,535.13	-3,300.94	4,815.59	4,754.78	60.80	79.198	
1,800.00	1,776.64	1,890.66	1,890.64	6.73	57.42	82.40	3,535.13	-3,300.94	4,809.89	4,745.76	64.14	74.996	
1,900.00	1,866.84	1,980.86	1,980.84	7.33	60.16	83.04	3,535.13	-3,300.94	4,803.85	4,736.37	67.47	71.197	
1,971.76	1,930.11	2,044.14	2,044.11	7.81	62.08	83.53	3,535.13	-3,300.94	4,799.37	4,729.50	69.87	68.688	
2,000.00	1,954.76	2,069.61	2,069.58	8.01	62.85	83.68	3,535.71	-3,300.94	4,798.06	4,727.21	70.85	67.726	
2,100.00	2,042.05	2,162.54	2,162.52	8.74	65.67	84.22	3,535.61	-3,300.94	4,792.09	4,717.69	74.40	64.411	
2,200.00	2,129.33	2,255.56	2,255.53	9.51	68.50	84.76	3,535.38	-3,300.94	4,786.51	4,708.52	77.99	61.373	
2,300.00	2,216.61	2,330.68	2,330.61	10.30	70.78	85.20	3,535.13	-3,300.94	4,781.37	4,700.30	81.07	58.981	
2,400.00	2,303.89	2,417.96	2,417.89	11.12	73.43	85.71	3,535.13	-3,300.94	4,776.94	4,692.41	84.53	56.510	
2,500.00	2,391.17	2,505.24	2,505.17	11.95	76.08	86.22	3,535.13	-3,300.94	4,773.01	4,684.99	88.02	54.229	
2,600.00	2,478.45	2,592.52	2,592.45	12.79	78.73	86.73	3,535.13	-3,300.94	4,769.57	4,678.06	91.51	52.119	
2,700.00	2,565.73	2,685.29	2,685.21	13.65	81.55	87.28	3,536.45	-3,300.94	4,767.71	4,672.52	95.19	50.088	
2,800.00	2,653.02	2,783.26	2,783.17	14.51	84.52	87.85	3,536.18	-3,300.94	4,765.07	4,666.05	99.03	48.119	
2,900.00	2,740.30	2,881.40	2,881.30	15.38	87.50	88.43	3,535.64	-3,300.94	4,762.74	4,659.86	102.88	46.294	
3,000.00	2,827.58	2,979.70	2,979.60	16.26	90.49	89.00	3,534.83	-3,300.94	4,760.70	4,653.96	106.74	44.600	
3,100.00	2,914.86	3,029.00	3,028.86	17.14	91.99	89.29	3,535.13	-3,300.94	4,759.85	4,650.73	109.13	43.618	
3,200.00	3,002.14	3,116.28	3,116.14	18.03	94.64	89.80	3,535.13	-3,300.94	4,759.41	4,646.75	112.66	42.244	
3,238.64	3,035.87	3,150.01	3,149.87	18.37	95.66	90.00	3,535.13	-3,300.94	4,759.37	4,645.34	114.03	41.737 CC	
3,260.43	3,054.89	3,169.03	3,168.89	18.57	96.24	90.11	3,535.13	-3,300.94	4,759.39	4,644.58	114.80	41.457	
3,300.00	3,089.62	3,206.17	3,206.02	18.91	97.37	90.33	3,535.90	-3,300.94	4,760.12	4,643.84	116.28	40.937	
3,400.00	3,179.08	3,306.87	3,306.72	19.73	100.42	90.88	3,535.70	-3,300.94	4,760.46	4,640.30	120.15	39.620	
3,500.00	3,270.76	3,410.21	3,410.05	20.47	103.56	91.39	3,535.20	-3,300.94	4,760.87	4,636.84	124.03	38.385	
3,600.00	3,364.40	3,478.60	3,478.40	21.14	105.64	91.70	3,535.13	-3,300.94	4,761.71	4,634.94	126.77	37.563	
3,700.00	3,459.75	3,573.95	3,573.75	21.72	108.53	92.07	3,535.13	-3,300.94	4,762.75	4,632.51	130.24	36.568	
3,800.00	3,556.54	3,670.74	3,670.54	22.23	111.47	92.40	3,535.13	-3,300.94	4,763.76	4,630.07	133.69	35.632	
3,900.00	3,654.51	3,784.04	3,783.83	22.68	114.91	92.70	3,536.03	-3,300.94	4,765.47	4,627.90	137.57	34.640	
4,000.00	3,753.40	3,899.35	3,899.13	23.05	118.42	92.90	3,535.38	-3,300.94	4,765.70	4,624.26	141.44	33.694	
4,060.50	3,813.55	3,969.51	3,969.29	23.24	120.55	92.99	3,534.75	-3,300.94	4,765.57	4,621.81	143.76	33.149	
4,100.00	3,852.92	3,967.16	3,966.92	23.37	120.48	92.99	3,535.13	-3,300.94	4,765.87	4,622.06	143.82	33.138	
4,200.00	3,952.81	4,067.06	4,066.81	23.62	123.51	93.05	3,535.13	-3,300.94	4,766.11	4,619.00	147.11	32.399	
4,234.19	3,987.00	4,101.24	4,101.00	23.70	124.55	-29.73	3,535.13	-3,300.94	4,766.12	4,617.90	148.22	32.156	
4,300.00	4,052.81	4,167.05	4,166.81	23.83	126.55	-29.73	3,535.13	-3,300.94	4,766.12	4,615.77	150.35	31.699	
4,400.00	4,152.81	4,271.12	4,270.87	24.04	129.71	-29.73	3,535.70	-3,300.94	4,766.62	4,612.90	153.72	31.008	
4,500.00	4,252.81	4,378.06	4,377.81	24.25	132.95	-29.73	3,535.51	-3,300.94	4,766.47	4,609.28	157.18	30.325	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Federal 100A - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 285-INCLINOMETER

Offset Well Error: 0.00 ft

Rule Assigned:

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
4,600.00	4,352.81	4,485.00	4,484.75	24.47	136.20	-29.73	3,535.13	-3,300.94	4,766.16	4,605.52	160.64	29.669	
4,642.61	4,395.42	4,509.76	4,509.42	24.56	136.95	-29.73	3,535.13	-3,300.94	4,766.12	4,604.63	161.49	29.513	
4,700.00	4,452.81	4,567.15	4,566.81	24.69	138.70	-29.73	3,535.13	-3,300.94	4,766.12	4,602.76	163.36	29.176	
4,800.00	4,552.81	4,667.15	4,666.81	24.91	141.73	-29.73	3,535.13	-3,300.94	4,766.12	4,599.51	166.62	28.605	
4,900.00	4,652.81	4,767.15	4,766.81	25.13	144.77	-29.73	3,535.13	-3,300.94	4,766.12	4,596.24	169.88	28.056	
5,000.00	4,752.81	4,867.15	4,866.81	25.36	147.81	-29.73	3,535.13	-3,300.94	4,766.12	4,592.98	173.14	27.527	
5,100.00	4,852.81	4,967.15	4,966.81	25.59	150.84	-29.73	3,535.13	-3,300.94	4,766.12	4,589.71	176.41	27.017	
5,200.00	4,952.81	5,067.15	5,066.81	25.82	153.88	-29.73	3,535.13	-3,300.94	4,766.12	4,586.44	179.68	26.525	
5,300.00	5,052.81	5,167.15	5,166.81	26.06	156.91	-29.73	3,535.13	-3,300.94	4,766.12	4,583.17	182.95	26.051	
5,400.00	5,152.81	5,200.00	5,199.42	26.30	157.91	-29.73	3,535.13	-3,300.94	4,766.60	4,582.43	184.17	25.881	ES
5,500.00	5,252.81	5,200.00	5,199.42	26.54	157.91	-29.73	3,535.13	-3,300.94	4,769.06	4,584.74	184.32	25.874	SF
5,600.00	5,352.81	5,200.00	5,199.42	26.79	157.91	-29.73	3,535.13	-3,300.94	4,773.62	4,589.23	184.39	25.888	
5,700.00	5,452.81	5,200.00	5,199.42	27.03	157.91	-29.73	3,535.13	-3,300.94	4,780.26	4,595.87	184.39	25.925	
5,800.00	5,552.81	5,200.00	5,199.42	27.28	157.91	-29.73	3,535.13	-3,300.94	4,788.98	4,604.68	184.31	25.984	
5,900.00	5,652.81	5,200.00	5,199.42	27.53	157.91	-29.73	3,535.13	-3,300.94	4,799.78	4,615.63	184.15	26.065	
6,000.00	5,752.81	5,200.00	5,199.42	27.79	157.91	-29.73	3,535.13	-3,300.94	4,812.62	4,628.70	183.92	26.167	
6,100.00	5,852.81	5,200.00	5,199.42	28.04	157.91	-29.73	3,535.13	-3,300.94	4,827.51	4,643.89	183.62	26.291	
6,200.00	5,952.81	5,200.00	5,199.42	28.30	157.91	-29.73	3,535.13	-3,300.94	4,844.41	4,661.16	183.25	26.436	
6,300.00	6,052.81	5,200.00	5,199.42	28.56	157.91	-29.73	3,535.13	-3,300.94	4,863.31	4,680.50	182.81	26.603	
6,400.00	6,152.81	5,200.00	5,199.42	28.83	157.91	-29.73	3,535.13	-3,300.94	4,884.18	4,701.88	182.31	26.791	
6,500.00	6,252.81	5,200.00	5,199.42	29.09	157.91	-29.73	3,535.13	-3,300.94	4,907.01	4,725.27	181.74	27.001	
6,600.00	6,352.81	5,200.00	5,199.42	29.36	157.91	-29.73	3,535.13	-3,300.94	4,931.75	4,750.64	181.11	27.231	
6,700.00	6,452.81	5,200.00	5,199.42	29.63	157.91	-29.73	3,535.13	-3,300.94	4,958.39	4,777.97	180.42	27.482	
6,800.00	6,552.81	5,200.00	5,199.42	29.90	157.91	-29.73	3,535.13	-3,300.94	4,986.90	4,807.22	179.68	27.754	
6,900.00	6,652.81	5,200.00	5,199.42	30.17	157.91	-29.73	3,535.13	-3,300.94	5,017.23	4,838.34	178.89	28.047	
7,000.00	6,752.81	5,200.00	5,199.42	30.45	157.91	-29.73	3,535.13	-3,300.94	5,049.37	4,871.32	178.05	28.360	
7,089.19	6,842.00	5,200.00	5,199.42	30.69	157.91	-29.73	3,535.13	-3,300.94	5,079.52	4,902.26	177.26	28.656	

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - FJ Titt 002 - OH - OH — **Offset Site Error:** 0.00 ft

Survey Program: 1029-INCLINOMETER — **Rule Assigned:** — **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	85.00	85.00	0.00	2.58	131.28	-1,663.68	1,894.75	2,521.49				
100.00	100.00	185.00	185.00	0.30	5.62	131.28	-1,663.68	1,894.75	2,521.49	2,515.58	5.92	426.222	
200.00	200.00	285.00	285.00	0.66	8.66	131.28	-1,663.68	1,894.75	2,521.49	2,512.18	9.31	270.801	
300.00	300.00	385.00	385.00	1.01	11.69	131.28	-1,663.68	1,894.75	2,521.49	2,508.78	12.71	198.440	
400.00	400.00	485.00	485.00	1.37	14.73	131.28	-1,663.68	1,894.75	2,521.49	2,505.39	16.10	156.596	
500.00	500.00	585.00	585.00	1.73	17.77	131.28	-1,663.68	1,894.75	2,521.49	2,501.99	19.50	129.326	
600.00	600.00	685.00	685.00	2.09	20.80	131.28	-1,663.68	1,894.75	2,521.49	2,498.60	22.89	110.145	
700.00	700.00	785.00	785.00	2.45	23.84	131.28	-1,663.68	1,894.75	2,521.49	2,495.20	26.29	95.918	
800.00	800.00	885.00	885.00	2.81	26.88	131.28	-1,663.68	1,894.75	2,521.49	2,491.81	29.68	84.947	
900.00	900.00	985.00	985.00	3.17	29.91	131.28	-1,663.68	1,894.75	2,521.49	2,488.41	33.08	76.227	
998.00	998.00	1,083.03	1,083.00	3.52	32.89	131.28	-1,663.68	1,894.75	2,521.49	2,485.08	36.41	69.259 CC	
1,000.00	1,000.00	1,085.03	1,085.00	3.52	32.95	-105.93	-1,663.68	1,894.75	2,521.49	2,485.02	36.47	69.130	
1,100.00	1,099.95	1,184.98	1,184.95	3.86	35.99	-105.97	-1,663.68	1,894.75	2,522.24	2,482.40	39.84	63.306	
1,200.00	1,199.62	1,284.65	1,284.62	4.20	39.01	-106.08	-1,663.68	1,894.75	2,524.44	2,481.23	43.21	58.425 ES	
1,300.00	1,298.74	1,383.77	1,383.74	4.55	42.02	-106.26	-1,663.68	1,894.75	2,528.14	2,481.57	46.57	54.291	
1,400.00	1,397.04	1,482.07	1,482.04	4.91	45.01	-106.50	-1,663.68	1,894.75	2,533.39	2,483.47	49.92	50.754	
1,500.00	1,494.24	1,579.27	1,579.24	5.30	47.96	-106.79	-1,663.68	1,894.75	2,540.28	2,487.03	53.25	47.702	
1,600.00	1,590.08	1,675.11	1,675.08	5.73	50.87	-107.14	-1,663.68	1,894.75	2,548.93	2,492.35	56.58	45.048	
1,700.00	1,684.30	1,769.05	1,769.00	6.20	53.72	-107.55	-1,661.32	1,894.75	2,557.99	2,498.09	59.89	42.709	
1,800.00	1,776.64	1,860.09	1,860.05	6.73	56.49	-107.93	-1,661.38	1,894.75	2,570.59	2,507.42	63.17	40.695	
1,900.00	1,866.84	1,949.08	1,949.03	7.33	59.19	-108.32	-1,661.50	1,894.75	2,585.41	2,518.97	66.44	38.914	
1,971.76	1,930.11	2,011.53	2,011.47	7.81	61.09	-108.60	-1,661.63	1,894.75	2,597.49	2,528.71	68.79	37.762	
2,000.00	1,954.76	2,035.86	2,035.81	8.01	61.83	-108.85	-1,661.69	1,894.75	2,602.53	2,532.82	69.71	37.334	
2,100.00	2,042.05	2,122.05	2,121.99	8.74	64.44	-109.73	-1,661.95	1,894.75	2,620.89	2,547.89	73.00	35.902	
2,200.00	2,129.33	2,208.28	2,208.22	9.51	67.06	-110.60	-1,662.28	1,894.75	2,640.05	2,563.74	76.32	34.593	
2,300.00	2,216.61	2,294.55	2,294.49	10.30	69.68	-111.46	-1,662.67	1,894.75	2,660.01	2,580.36	79.65	33.396	
2,400.00	2,303.89	2,380.87	2,380.80	11.12	72.30	-112.31	-1,663.13	1,894.75	2,680.73	2,597.74	82.99	32.300	
2,500.00	2,391.17	2,476.26	2,476.17	11.95	75.20	-113.24	-1,663.68	1,894.75	2,702.20	2,615.57	86.62	31.195	
2,600.00	2,478.45	2,563.54	2,563.45	12.79	77.85	-114.09	-1,663.68	1,894.75	2,724.09	2,634.09	90.00	30.266	
2,700.00	2,565.73	2,650.82	2,650.73	13.65	80.50	-114.92	-1,663.68	1,894.75	2,746.69	2,653.30	93.39	29.412	
2,800.00	2,653.02	2,738.10	2,738.02	14.51	83.15	-115.74	-1,663.68	1,894.75	2,769.95	2,673.19	96.77	28.625	
2,900.00	2,740.30	2,825.39	2,825.30	15.38	85.80	-116.55	-1,663.68	1,894.75	2,793.88	2,693.73	100.14	27.899	
3,000.00	2,827.58	2,912.67	2,912.58	16.26	88.45	-117.35	-1,663.68	1,894.75	2,818.45	2,714.93	103.52	27.227	
3,100.00	2,914.86	2,999.95	2,999.86	17.14	91.10	-118.14	-1,663.68	1,894.75	2,843.64	2,736.76	106.88	26.605	
3,200.00	3,002.14	3,087.23	3,087.14	18.03	93.75	-118.92	-1,663.68	1,894.75	2,869.44	2,759.20	110.24	26.028	
3,260.43	3,054.89	3,139.97	3,139.89	18.57	95.36	-119.38	-1,663.68	1,894.75	2,885.32	2,773.05	112.27	25.700	
3,300.00	3,089.62	3,174.71	3,174.62	18.91	96.41	-119.96	-1,663.68	1,894.75	2,895.64	2,782.04	113.60	25.490	
3,400.00	3,179.08	3,264.17	3,264.08	19.73	99.13	-121.31	-1,663.68	1,894.75	2,920.29	2,803.33	116.96	24.968	
3,500.00	3,270.76	3,355.68	3,355.59	20.47	101.91	-122.54	-1,662.78	1,894.75	2,942.38	2,822.05	120.32	24.454	
3,600.00	3,364.40	3,449.05	3,448.96	21.14	104.74	-123.59	-1,662.81	1,894.75	2,962.40	2,838.71	123.69	23.950	
3,700.00	3,459.75	3,544.13	3,544.04	21.72	107.63	-124.50	-1,662.86	1,894.75	2,979.83	2,852.78	127.05	23.454	
3,800.00	3,556.54	3,640.66	3,640.56	22.23	110.56	-125.25	-1,662.93	1,894.75	2,994.52	2,864.11	130.41	22.963	
3,900.00	3,654.51	3,738.36	3,738.27	22.68	113.53	-125.84	-1,663.03	1,894.75	3,006.33	2,872.57	133.75	22.477	
4,000.00	3,753.40	3,836.98	3,836.89	23.05	116.52	-126.28	-1,663.16	1,894.75	3,015.16	2,878.08	137.09	21.995	
4,100.00	3,852.92	3,936.23	3,936.14	23.37	119.54	-126.56	-1,663.31	1,894.75	3,020.95	2,880.56	140.40	21.517	
4,200.00	3,952.81	4,035.85	4,035.76	23.62	122.56	-126.69	-1,663.49	1,894.75	3,023.65	2,879.96	143.69	21.043	
4,234.19	3,987.00	4,069.95	4,069.85	23.70	123.60	110.52	-1,663.56	1,894.75	3,023.85	2,879.05	144.80	20.883	
4,300.00	4,052.81	4,138.06	4,137.81	23.83	125.67	110.52	-1,663.68	1,894.75	3,023.89	2,876.88	147.02	20.568	
4,400.00	4,152.81	4,238.06	4,237.81	24.04	128.70	110.52	-1,663.68	1,894.75	3,023.89	2,873.62	150.28	20.122	
4,500.00	4,252.81	4,338.06	4,337.81	24.25	131.74	110.52	-1,663.68	1,894.75	3,023.89	2,870.35	153.54	19.694	
4,600.00	4,352.81	4,438.06	4,437.81	24.47	134.78	110.52	-1,663.68	1,894.75	3,023.89	2,867.09	156.81	19.284	
4,700.00	4,452.81	4,538.06	4,537.81	24.69	137.81	110.52	-1,663.68	1,894.75	3,023.89	2,863.82	160.08	18.890	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - FJ Titt 002 - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 1029-INCLINOMETER

Rule Assigned:

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	4,552.81	4,638.06	4,637.81	24.91	140.85	110.52	-1,663.68	1,894.75	3,023.89	2,860.54	163.35	18.511	
4,900.00	4,652.81	4,738.06	4,737.81	25.13	143.89	110.52	-1,663.68	1,894.75	3,023.89	2,857.26	166.63	18.147	
4,943.89	4,696.70	4,781.72	4,781.43	25.23	145.21	110.46	-1,660.18	1,894.75	3,022.67	2,854.61	168.06	17.986	
5,000.00	4,752.81	4,836.85	4,836.56	25.36	146.89	110.46	-1,660.22	1,894.75	3,022.68	2,852.82	169.87	17.795	
5,100.00	4,852.81	4,935.11	4,934.81	25.59	149.87	110.46	-1,660.41	1,894.75	3,022.75	2,849.66	173.10	17.463	
5,200.00	4,952.81	5,033.38	5,033.07	25.82	152.85	110.47	-1,660.77	1,894.75	3,022.88	2,846.55	176.33	17.143	
5,300.00	5,052.81	5,131.65	5,131.33	26.06	155.84	110.48	-1,661.30	1,894.75	3,023.07	2,843.50	179.56	16.836	
5,400.00	5,152.81	5,229.92	5,229.59	26.30	158.82	110.49	-1,661.99	1,894.75	3,023.31	2,840.51	182.80	16.539	
5,500.00	5,252.81	5,328.20	5,327.86	26.54	161.81	110.51	-1,662.84	1,894.75	3,023.62	2,837.57	186.05	16.252	
5,600.00	5,352.81	5,438.43	5,437.81	26.79	165.15	110.52	-1,663.68	1,894.75	3,023.89	2,834.23	189.66	15.943	
5,700.00	5,452.81	5,538.43	5,537.81	27.03	168.19	110.52	-1,663.68	1,894.75	3,023.89	2,830.93	192.96	15.671	
5,774.57	5,527.38	5,613.00	5,612.36	27.22	170.45	110.50	-1,662.36	1,894.75	3,023.43	2,828.01	195.42	15.471	
5,800.00	5,552.81	5,636.80	5,636.16	27.28	171.18	110.50	-1,662.38	1,894.75	3,023.44	2,827.23	196.21	15.409	
5,900.00	5,652.81	5,730.42	5,729.77	27.53	174.02	110.51	-1,662.81	1,894.75	3,023.60	2,824.28	199.32	15.170	
6,000.00	5,752.81	5,838.55	5,837.81	27.79	177.30	110.52	-1,663.68	1,894.75	3,023.89	2,821.02	202.88	14.905	
6,100.00	5,852.81	5,938.55	5,937.81	28.04	180.34	110.52	-1,663.68	1,894.75	3,023.89	2,817.71	206.19	14.666	
6,200.00	5,952.81	6,038.55	6,037.81	28.30	183.38	110.52	-1,663.68	1,894.75	3,023.89	2,814.40	209.50	14.434	
6,278.91	6,031.72	6,117.46	6,116.70	28.51	185.77	110.49	-1,662.03	1,894.75	3,023.32	2,811.21	212.11	14.254	
6,300.00	6,052.81	6,137.78	6,137.02	28.56	186.39	110.49	-1,662.04	1,894.75	3,023.32	2,810.54	212.78	14.208	
6,400.00	6,152.81	6,234.13	6,233.36	28.83	189.32	110.50	-1,662.28	1,894.75	3,023.41	2,807.42	215.98	13.998	
6,500.00	6,252.81	6,330.48	6,329.71	29.09	192.24	110.51	-1,662.85	1,894.75	3,023.61	2,804.43	219.19	13.795	
6,600.00	6,352.81	6,438.64	6,437.81	29.36	195.53	110.52	-1,663.68	1,894.75	3,023.89	2,801.13	222.76	13.574	
6,700.00	6,452.81	6,538.64	6,537.81	29.63	198.56	110.52	-1,663.68	1,894.75	3,023.89	2,797.81	226.08	13.375	
6,800.00	6,552.81	6,638.64	6,637.81	29.90	201.60	110.52	-1,663.68	1,894.75	3,023.89	2,794.49	229.41	13.181	
6,900.00	6,652.81	6,738.64	6,737.81	30.17	204.64	110.52	-1,663.68	1,894.75	3,023.89	2,791.17	232.73	12.993	
7,000.00	6,752.81	6,838.64	6,837.81	30.45	207.68	110.52	-1,663.68	1,894.75	3,023.89	2,787.84	236.05	12.810	
7,089.19	6,842.00	6,927.83	6,927.00	30.69	210.38	110.52	-1,663.68	1,894.75	3,023.89	2,784.87	239.02	12.651	SF

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - FJ Titt Com (P/A) - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 100-UNKNOWN

Rule Assigned:

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	74.00	74.00	0.00	2.96	155.19	-4,383.14	2,026.61	4,828.98				
100.00	100.00	174.00	174.00	0.30	6.96	155.19	-4,383.14	2,026.61	4,828.98	4,821.73	7.26	665.375	
200.00	200.00	274.00	274.00	0.66	10.96	155.19	-4,383.14	2,026.61	4,828.98	4,817.37	11.62	415.718	
300.00	300.00	374.00	374.00	1.01	14.96	155.19	-4,383.14	2,026.61	4,828.98	4,813.01	15.97	302.294	
400.00	400.00	474.00	474.00	1.37	18.96	155.19	-4,383.14	2,026.61	4,828.98	4,808.65	20.33	237.495	
500.00	500.00	574.00	574.00	1.73	22.96	155.19	-4,383.14	2,026.61	4,828.98	4,804.29	24.69	195.573	
600.00	600.00	674.00	674.00	2.09	26.96	155.19	-4,383.14	2,026.61	4,828.98	4,799.93	29.05	166.231	
700.00	700.00	774.00	774.00	2.45	30.96	155.19	-4,383.14	2,026.61	4,828.98	4,795.57	33.41	144.544	
800.00	800.00	874.00	874.00	2.81	34.96	155.19	-4,383.14	2,026.61	4,828.98	4,791.22	37.77	127.863	
900.00	900.00	974.00	974.00	3.17	38.96	155.19	-4,383.14	2,026.61	4,828.98	4,786.86	42.13	114.634	
998.00	998.00	1,072.00	1,072.00	3.52	42.88	155.19	-4,383.14	2,026.61	4,828.98	4,782.59	46.40	104.081	
1,000.00	1,000.00	1,074.00	1,074.00	3.52	42.96	-82.03	-4,383.14	2,026.61	4,828.98	4,782.50	46.48	103.886	
1,100.00	1,099.95	1,173.95	1,173.95	3.86	46.96	-82.08	-4,383.14	2,026.61	4,828.61	4,777.79	50.81	95.024	
1,200.00	1,199.62	1,273.62	1,273.62	4.20	50.94	-82.20	-4,383.14	2,026.61	4,827.52	4,772.37	55.14	87.549	
1,300.00	1,298.74	1,372.74	1,372.74	4.55	54.91	-82.41	-4,383.14	2,026.61	4,825.74	4,766.28	59.46	81.166	
1,400.00	1,397.04	1,471.04	1,471.04	4.91	58.84	-82.69	-4,383.14	2,026.61	4,823.32	4,759.57	63.75	75.656	
1,500.00	1,494.24	1,568.24	1,568.24	5.30	62.73	-83.05	-4,383.14	2,026.61	4,820.33	4,752.30	68.03	70.855	
1,600.00	1,590.08	1,664.08	1,664.08	5.73	66.56	-83.48	-4,383.14	2,026.61	4,816.84	4,744.55	72.29	66.632	
1,700.00	1,684.30	1,758.30	1,758.30	6.20	70.33	-83.97	-4,383.14	2,026.61	4,812.96	4,736.43	76.53	62.891	
1,800.00	1,776.64	1,850.64	1,850.64	6.73	74.03	-84.51	-4,383.14	2,026.61	4,808.79	4,728.04	80.75	59.551	
1,900.00	1,866.84	1,940.84	1,940.84	7.33	77.63	-85.10	-4,383.14	2,026.61	4,804.47	4,719.51	84.96	56.551	
1,971.76	1,930.11	2,004.11	2,004.11	7.81	80.16	-85.55	-4,383.14	2,026.61	4,801.35	4,713.38	87.97	54.580	
2,000.00	1,954.76	2,028.76	2,028.76	8.01	81.15	-85.69	-4,383.14	2,026.61	4,800.14	4,710.99	89.15	53.841	
2,100.00	2,042.05	2,116.05	2,116.05	8.74	84.64	-86.20	-4,383.14	2,026.61	4,796.19	4,702.81	93.38	51.363	
2,200.00	2,129.33	2,203.33	2,203.33	9.51	88.13	-86.71	-4,383.14	2,026.61	4,792.74	4,695.10	97.64	49.087	
2,300.00	2,216.61	2,290.61	2,290.61	10.30	91.62	-87.22	-4,383.14	2,026.61	4,789.78	4,687.86	101.92	46.994	
2,400.00	2,303.89	2,350.00	2,350.00	11.12	94.00	-87.57	-4,383.14	2,026.61	4,787.39	4,682.28	105.11	45.546	
2,481.76	2,375.25	2,350.00	2,350.00	11.80	94.00	-87.57	-4,383.14	2,026.61	4,786.70	4,680.93	105.77	45.255 CC	
2,500.00	2,391.17	2,350.00	2,350.00	11.95	94.00	-87.57	-4,383.14	2,026.61	4,786.73	4,680.82	105.91	45.194 ES	
2,600.00	2,478.45	2,350.00	2,350.00	12.79	94.00	-87.57	-4,383.14	2,026.61	4,788.16	4,681.46	106.70	44.877	
2,700.00	2,565.73	2,350.00	2,350.00	13.65	94.00	-87.57	-4,383.14	2,026.61	4,791.67	4,684.22	107.45	44.594	
2,800.00	2,653.02	2,350.00	2,350.00	14.51	94.00	-87.57	-4,383.14	2,026.61	4,797.26	4,689.09	108.18	44.347	
2,900.00	2,740.30	2,350.00	2,350.00	15.38	94.00	-87.57	-4,383.14	2,026.61	4,804.93	4,696.06	108.87	44.134	
3,000.00	2,827.58	2,350.00	2,350.00	16.26	94.00	-87.57	-4,383.14	2,026.61	4,814.67	4,705.14	109.53	43.956	
3,100.00	2,914.86	2,350.00	2,350.00	17.14	94.00	-87.57	-4,383.14	2,026.61	4,826.46	4,716.30	110.16	43.813	
3,200.00	3,002.14	2,350.00	2,350.00	18.03	94.00	-87.57	-4,383.14	2,026.61	4,840.28	4,729.53	110.75	43.703	
3,260.43	3,054.89	2,350.00	2,350.00	18.57	94.00	-87.57	-4,383.14	2,026.61	4,849.62	4,738.52	111.09	43.653	
3,300.00	3,089.62	2,350.00	2,350.00	18.91	94.00	-87.76	-4,383.14	2,026.61	4,856.14	4,744.84	111.30	43.630	
3,400.00	3,179.08	2,350.00	2,350.00	19.73	94.00	-88.31	-4,383.14	2,026.61	4,874.17	4,762.42	111.75	43.619 SF	
3,500.00	3,270.76	2,350.00	2,350.00	20.47	94.00	-88.93	-4,383.14	2,026.61	4,894.32	4,782.26	112.06	43.676	
3,600.00	3,364.40	2,350.00	2,350.00	21.14	94.00	-89.61	-4,383.14	2,026.61	4,916.51	4,804.26	112.25	43.800	
3,700.00	3,459.75	2,350.00	2,350.00	21.72	94.00	-90.36	-4,383.14	2,026.61	4,940.67	4,828.35	112.31	43.990	
3,800.00	3,556.54	2,350.00	2,350.00	22.23	94.00	-91.17	-4,383.14	2,026.61	4,966.68	4,854.42	112.26	44.241	
3,900.00	3,654.51	2,350.00	2,350.00	22.68	94.00	-92.04	-4,383.14	2,026.61	4,994.47	4,882.37	112.10	44.553	
4,000.00	3,753.40	2,350.00	2,350.00	23.05	94.00	-92.96	-4,383.14	2,026.61	5,023.91	4,912.07	111.84	44.922	
4,100.00	3,852.92	2,350.00	2,350.00	23.37	94.00	-93.93	-4,383.14	2,026.61	5,054.90	4,943.43	111.47	45.346	
4,200.00	3,952.81	2,350.00	2,350.00	23.62	94.00	-94.96	-4,383.14	2,026.61	5,087.33	4,976.31	111.03	45.821	
4,234.19	3,987.00	2,350.00	2,350.00	23.70	94.00	141.90	-4,383.14	2,026.61	5,098.73	4,987.88	110.85	45.996	
4,300.00	4,052.81	2,350.00	2,350.00	23.83	94.00	141.90	-4,383.14	2,026.61	5,121.19	5,010.69	110.50	46.346	
4,400.00	4,152.81	2,350.00	2,350.00	24.04	94.00	141.90	-4,383.14	2,026.61	5,156.74	5,046.79	109.94	46.903	
4,500.00	4,252.81	2,350.00	2,350.00	24.25	94.00	141.90	-4,383.14	2,026.61	5,193.97	5,084.60	109.37	47.491	
4,600.00	4,352.81	2,350.00	2,350.00	24.47	94.00	141.90	-4,383.14	2,026.61	5,232.85	5,124.08	108.77	48.110	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - FJ Titt Com (P/A) - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 100-UNKNOWN

Rule Assigned:

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	4,452.81	2,350.00	2,350.00	24.69	94.00	141.90	-4,383.14	2,026.61	5,273.33	5,165.18	108.15	48.759	
4,800.00	4,552.81	2,350.00	2,350.00	24.91	94.00	141.90	-4,383.14	2,026.61	5,315.39	5,207.88	107.52	49.438	
4,900.00	4,652.81	2,350.00	2,350.00	25.13	94.00	141.90	-4,383.14	2,026.61	5,358.99	5,252.12	106.87	50.147	
5,000.00	4,752.81	2,350.00	2,350.00	25.36	94.00	141.90	-4,383.14	2,026.61	5,404.08	5,297.88	106.20	50.886	
5,100.00	4,852.81	2,350.00	2,350.00	25.59	94.00	141.90	-4,383.14	2,026.61	5,450.64	5,345.12	105.52	51.653	
5,200.00	4,952.81	2,350.00	2,350.00	25.82	94.00	141.90	-4,383.14	2,026.61	5,498.62	5,393.79	104.84	52.449	
5,300.00	5,052.81	2,350.00	2,350.00	26.06	94.00	141.90	-4,383.14	2,026.61	5,547.99	5,443.85	104.14	53.274	
5,400.00	5,152.81	2,350.00	2,350.00	26.30	94.00	141.90	-4,383.14	2,026.61	5,598.71	5,495.28	103.44	54.127	
5,500.00	5,252.81	2,350.00	2,350.00	26.54	94.00	141.90	-4,383.14	2,026.61	5,650.75	5,548.02	102.73	55.008	
5,600.00	5,352.81	2,350.00	2,350.00	26.79	94.00	141.90	-4,383.14	2,026.61	5,704.06	5,602.05	102.01	55.916	
5,700.00	5,452.81	2,350.00	2,350.00	27.03	94.00	141.90	-4,383.14	2,026.61	5,758.62	5,657.32	101.29	56.851	
5,800.00	5,552.81	2,350.00	2,350.00	27.28	94.00	141.90	-4,383.14	2,026.61	5,814.38	5,713.81	100.57	57.813	
5,900.00	5,652.81	2,350.00	2,350.00	27.53	94.00	141.90	-4,383.14	2,026.61	5,871.32	5,771.47	99.85	58.800	
6,000.00	5,752.81	2,350.00	2,350.00	27.79	94.00	141.90	-4,383.14	2,026.61	5,929.40	5,830.27	99.13	59.814	
6,100.00	5,852.81	2,350.00	2,350.00	28.04	94.00	141.90	-4,383.14	2,026.61	5,988.58	5,890.17	98.41	60.853	
6,200.00	5,952.81	2,350.00	2,350.00	28.30	94.00	141.90	-4,383.14	2,026.61	6,048.84	5,951.15	97.69	61.917	
6,300.00	6,052.81	2,350.00	2,350.00	28.56	94.00	141.90	-4,383.14	2,026.61	6,110.14	6,013.16	96.98	63.005	
6,400.00	6,152.81	2,350.00	2,350.00	28.83	94.00	141.90	-4,383.14	2,026.61	6,172.45	6,076.19	96.27	64.117	
6,500.00	6,252.81	2,350.00	2,350.00	29.09	94.00	141.90	-4,383.14	2,026.61	6,235.75	6,140.18	95.56	65.253	
6,600.00	6,352.81	2,350.00	2,350.00	29.36	94.00	141.90	-4,383.14	2,026.61	6,299.99	6,205.13	94.86	66.411	
6,700.00	6,452.81	2,350.00	2,350.00	29.63	94.00	141.90	-4,383.14	2,026.61	6,365.16	6,270.99	94.17	67.592	
6,800.00	6,552.81	2,350.00	2,350.00	29.90	94.00	141.90	-4,383.14	2,026.61	6,431.22	6,337.74	93.48	68.795	
6,900.00	6,652.81	2,350.00	2,350.00	30.17	94.00	141.90	-4,383.14	2,026.61	6,498.15	6,405.35	92.80	70.020	
7,000.00	6,752.81	2,350.00	2,350.00	30.45	94.00	141.90	-4,383.14	2,026.61	6,565.92	6,473.79	92.13	71.265	
7,089.19	6,842.00	2,350.00	2,350.00	30.69	94.00	141.90	-4,383.14	2,026.61	6,627.06	6,535.51	91.54	72.393	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Flood LS 001 (P/A) - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 100-UNKNOWN

Offset Well Error: 0.00 ft

Rule Assigned:

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	-57.98	1,663.82	-2,660.48	3,186.43				
100.00	100.00	0.00	0.00	0.30	0.00	-57.98	1,663.82	-2,660.48	3,170.58	3,170.14	0.44	7,174.690	
200.00	200.00	0.00	0.00	0.66	0.00	-57.98	1,663.82	-2,660.48	3,157.81	3,157.11	0.70	4,501.409	
300.00	300.00	0.00	0.00	1.01	0.00	-57.98	1,663.82	-2,660.48	3,148.17	3,147.14	1.03	3,060.748	
400.00	400.00	0.00	0.00	1.37	0.00	-57.98	1,663.82	-2,660.48	3,141.68	3,140.31	1.38	2,282.727	
500.00	500.00	0.00	0.00	1.73	0.00	-57.98	1,663.82	-2,660.48	3,138.37	3,136.64	1.73	1,812.160	
572.47	572.47	18.47	18.47	1.99	0.74	-57.98	1,663.82	-2,660.48	3,137.91	3,135.18	2.73	1,149.422	
600.00	600.00	46.00	46.00	2.09	1.84	-57.98	1,663.82	-2,660.48	3,137.91	3,133.98	3.93	798.450	
700.00	700.00	146.00	146.00	2.45	5.84	-57.98	1,663.82	-2,660.48	3,137.91	3,129.62	8.29	378.592	
800.00	800.00	246.00	246.00	2.81	9.84	-57.98	1,663.82	-2,660.48	3,137.91	3,125.26	12.65	248.118	
900.00	900.00	346.00	346.00	3.17	13.84	-57.98	1,663.82	-2,660.48	3,137.91	3,120.90	17.01	184.525	
998.00	998.00	444.00	444.00	3.52	17.76	-57.98	1,663.82	-2,660.48	3,137.91	3,116.63	21.28	147.481	
1,000.00	1,000.00	446.00	446.00	3.52	17.84	64.80	1,663.82	-2,660.48	3,137.91	3,116.54	21.36	146.882	
1,100.00	1,099.95	545.95	545.95	3.86	21.84	64.88	1,663.82	-2,660.48	3,136.75	3,111.05	25.69	122.081	
1,200.00	1,199.62	645.62	645.62	4.20	25.82	65.10	1,663.82	-2,660.48	3,133.38	3,103.36	30.02	104.378	
1,300.00	1,298.74	744.74	744.74	4.55	29.79	65.47	1,663.82	-2,660.48	3,127.84	3,093.50	34.33	91.105	
1,400.00	1,397.04	843.04	843.04	4.91	33.72	65.98	1,663.82	-2,660.48	3,120.19	3,081.57	38.63	80.780	
1,500.00	1,494.24	940.24	940.24	5.30	37.61	66.63	1,663.82	-2,660.48	3,110.55	3,067.65	42.90	72.511	
1,600.00	1,590.08	1,036.08	1,036.08	5.73	41.44	67.42	1,663.82	-2,660.48	3,099.02	3,051.87	47.14	65.734	
1,700.00	1,684.30	1,130.30	1,130.30	6.20	45.21	68.34	1,663.82	-2,660.48	3,085.75	3,034.38	51.37	60.070	
1,800.00	1,776.64	1,222.64	1,222.64	6.73	48.91	69.38	1,663.82	-2,660.48	3,070.93	3,015.36	55.57	55.262	
1,900.00	1,866.84	1,312.84	1,312.84	7.33	52.51	70.53	1,663.82	-2,660.48	3,054.76	2,995.01	59.75	51.123	
1,971.76	1,930.11	1,376.11	1,376.11	7.81	55.04	71.43	1,663.82	-2,660.48	3,042.44	2,979.70	62.74	48.490	
2,000.00	1,954.76	1,400.76	1,400.76	8.01	56.03	71.65	1,663.82	-2,660.48	3,037.51	2,973.59	63.92	47.520	
2,100.00	2,042.05	1,488.05	1,488.05	8.74	59.52	72.42	1,663.82	-2,660.48	3,020.52	2,952.40	68.12	44.343	
2,200.00	2,129.33	1,575.33	1,575.33	9.51	63.01	73.21	1,663.82	-2,660.48	3,004.22	2,931.87	72.35	41.522	
2,300.00	2,216.61	1,662.61	1,662.61	10.30	66.50	74.00	1,663.82	-2,660.48	2,988.63	2,912.01	76.62	39.007	
2,400.00	2,303.89	1,749.89	1,749.89	11.12	70.00	74.80	1,663.82	-2,660.48	2,973.76	2,892.85	80.91	36.753	
2,500.00	2,391.17	1,837.17	1,837.17	11.95	73.49	75.60	1,663.82	-2,660.48	2,959.61	2,874.39	85.23	34.727	
2,600.00	2,478.45	1,924.45	1,924.45	12.79	76.98	76.41	1,663.82	-2,660.48	2,946.21	2,856.66	89.56	32.897	
2,700.00	2,565.73	2,011.73	2,011.73	13.65	80.47	77.22	1,663.82	-2,660.48	2,933.56	2,839.66	93.91	31.239	
2,800.00	2,653.02	2,099.02	2,099.02	14.51	83.96	78.04	1,663.82	-2,660.48	2,921.67	2,823.41	98.27	29.731	
2,900.00	2,740.30	2,186.30	2,186.30	15.38	87.45	78.87	1,663.82	-2,660.48	2,910.55	2,807.91	102.64	28.357	
3,000.00	2,827.58	2,273.58	2,273.58	16.26	90.94	79.70	1,663.82	-2,660.48	2,900.21	2,793.19	107.02	27.099	
3,100.00	2,914.86	2,360.86	2,360.86	17.14	94.43	80.53	1,663.82	-2,660.48	2,890.66	2,779.25	111.41	25.945	
3,200.00	3,002.14	2,448.14	2,448.14	18.03	97.93	81.37	1,663.82	-2,660.48	2,881.90	2,766.09	115.81	24.885	
3,260.43	3,054.89	2,474.00	2,474.00	18.57	98.96	81.62	1,663.82	-2,660.48	2,877.12	2,759.73	117.39	24.509	
3,300.00	3,089.62	2,474.00	2,474.00	18.91	98.96	81.55	1,663.82	-2,660.48	2,874.66	2,756.93	117.73	24.417	
3,400.00	3,179.08	2,474.00	2,474.00	19.73	98.96	81.45	1,663.82	-2,660.48	2,871.40	2,752.95	118.45	24.242	
3,426.57	3,203.24	2,474.00	2,474.00	19.93	98.96	81.45	1,663.82	-2,660.48	2,871.25	2,752.65	118.60	24.210	CC, ES
3,500.00	3,270.76	2,474.00	2,474.00	20.47	98.96	81.48	1,663.82	-2,660.48	2,872.40	2,753.44	118.96	24.146	
3,600.00	3,364.40	2,474.00	2,474.00	21.14	98.96	81.64	1,663.82	-2,660.48	2,877.65	2,758.39	119.26	24.129	SF
3,700.00	3,459.75	2,474.00	2,474.00	21.72	98.96	81.92	1,663.82	-2,660.48	2,887.11	2,767.77	119.34	24.191	
3,800.00	3,556.54	2,474.00	2,474.00	22.23	98.96	82.33	1,663.82	-2,660.48	2,900.72	2,781.50	119.22	24.331	
3,900.00	3,654.51	2,474.00	2,474.00	22.68	98.96	82.86	1,663.82	-2,660.48	2,918.38	2,799.49	118.88	24.548	
4,000.00	3,753.40	2,474.00	2,474.00	23.05	98.96	83.52	1,663.82	-2,660.48	2,939.97	2,821.61	118.36	24.840	
4,100.00	3,852.92	2,474.00	2,474.00	23.37	98.96	84.30	1,663.82	-2,660.48	2,965.34	2,847.69	117.65	25.205	
4,200.00	3,952.81	2,474.00	2,474.00	23.62	98.96	85.21	1,663.82	-2,660.48	2,994.34	2,877.56	116.78	25.641	
4,234.19	3,987.00	2,474.00	2,474.00	23.70	98.96	-37.24	1,663.82	-2,660.48	3,005.05	2,888.60	116.45	25.806	
4,300.00	4,052.81	2,474.00	2,474.00	23.83	98.96	-37.24	1,663.82	-2,660.48	3,026.70	2,910.93	115.77	26.144	
4,400.00	4,152.81	2,474.00	2,474.00	24.04	98.96	-37.24	1,663.82	-2,660.48	3,062.00	2,947.33	114.67	26.702	
4,500.00	4,252.81	2,474.00	2,474.00	24.25	98.96	-37.24	1,663.82	-2,660.48	3,100.13	2,986.63	113.50	27.313	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Flood LS 001 (P/A) - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 100-UNKNOWN

Rule Assigned:

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
4,600.00	4,352.81	2,474.00	2,474.00	24.47	98.96	-37.24	1,663.82	-2,660.48	3,140.98	3,028.71	112.27	27.976	
4,700.00	4,452.81	2,474.00	2,474.00	24.69	98.96	-37.24	1,663.82	-2,660.48	3,184.45	3,073.46	110.99	28.691	
4,800.00	4,552.81	2,474.00	2,474.00	24.91	98.96	-37.24	1,663.82	-2,660.48	3,230.43	3,120.77	109.67	29.456	
4,900.00	4,652.81	2,474.00	2,474.00	25.13	98.96	-37.24	1,663.82	-2,660.48	3,278.82	3,170.51	108.31	30.273	
5,000.00	4,752.81	2,474.00	2,474.00	25.36	98.96	-37.24	1,663.82	-2,660.48	3,329.51	3,222.59	106.92	31.139	
5,100.00	4,852.81	2,474.00	2,474.00	25.59	98.96	-37.24	1,663.82	-2,660.48	3,382.39	3,276.88	105.52	32.055	
5,200.00	4,952.81	2,474.00	2,474.00	25.82	98.96	-37.24	1,663.82	-2,660.48	3,437.38	3,333.28	104.10	33.020	
5,300.00	5,052.81	2,474.00	2,474.00	26.06	98.96	-37.24	1,663.82	-2,660.48	3,494.35	3,391.68	102.68	34.033	
5,400.00	5,152.81	2,474.00	2,474.00	26.30	98.96	-37.24	1,663.82	-2,660.48	3,553.23	3,451.98	101.25	35.093	
5,500.00	5,252.81	2,474.00	2,474.00	26.54	98.96	-37.24	1,663.82	-2,660.48	3,613.92	3,514.09	99.83	36.200	
5,600.00	5,352.81	2,474.00	2,474.00	26.79	98.96	-37.24	1,663.82	-2,660.48	3,676.33	3,577.91	98.42	37.354	
5,700.00	5,452.81	2,474.00	2,474.00	27.03	98.96	-37.24	1,663.82	-2,660.48	3,740.37	3,643.35	97.02	38.552	
5,800.00	5,552.81	2,474.00	2,474.00	27.28	98.96	-37.24	1,663.82	-2,660.48	3,805.96	3,710.32	95.64	39.795	
5,900.00	5,652.81	2,474.00	2,474.00	27.53	98.96	-37.24	1,663.82	-2,660.48	3,873.02	3,778.74	94.28	41.081	
6,000.00	5,752.81	2,474.00	2,474.00	27.79	98.96	-37.24	1,663.82	-2,660.48	3,941.48	3,848.54	92.94	42.410	
6,100.00	5,852.81	2,474.00	2,474.00	28.04	98.96	-37.24	1,663.82	-2,660.48	4,011.26	3,919.64	91.62	43.781	
6,200.00	5,952.81	2,474.00	2,474.00	28.30	98.96	-37.24	1,663.82	-2,660.48	4,082.30	3,991.97	90.33	45.193	
6,300.00	6,052.81	2,474.00	2,474.00	28.56	98.96	-37.24	1,663.82	-2,660.48	4,154.53	4,065.46	89.07	46.644	
6,400.00	6,152.81	2,474.00	2,474.00	28.83	98.96	-37.24	1,663.82	-2,660.48	4,227.90	4,140.06	87.83	48.135	
6,500.00	6,252.81	2,474.00	2,474.00	29.09	98.96	-37.24	1,663.82	-2,660.48	4,302.33	4,215.70	86.63	49.664	
6,600.00	6,352.81	2,474.00	2,474.00	29.36	98.96	-37.24	1,663.82	-2,660.48	4,377.79	4,292.33	85.45	51.229	
6,700.00	6,452.81	2,474.00	2,474.00	29.63	98.96	-37.24	1,663.82	-2,660.48	4,454.21	4,369.90	84.31	52.831	
6,800.00	6,552.81	2,474.00	2,474.00	29.90	98.96	-37.24	1,663.82	-2,660.48	4,531.55	4,448.35	83.20	54.467	
6,900.00	6,652.81	2,474.00	2,474.00	30.17	98.96	-37.24	1,663.82	-2,660.48	4,609.76	4,527.65	82.12	56.137	
7,000.00	6,752.81	2,474.00	2,474.00	30.45	98.96	-37.24	1,663.82	-2,660.48	4,688.80	4,607.74	81.07	57.839	
7,089.19	6,842.00	2,474.00	2,474.00	30.69	98.96	-37.24	1,663.82	-2,660.48	4,759.96	4,679.81	80.16	59.384	

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Haynie 2N - OH - Plan #1

Offset Site Error: 0.00 ft

Survey Program: 0-MWD+HDGM

Rule Assigned:

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	22.00	22.00	0.00	0.07	-121.14	-3,545.15	-5,867.56	6,855.39				
100.00	100.00	122.00	122.00	0.30	0.38	-121.14	-3,545.15	-5,867.56	6,855.39	6,854.71	0.67	N/A	
200.00	200.00	222.00	222.00	0.66	0.73	-121.14	-3,545.15	-5,867.56	6,855.39	6,854.00	1.39	4,928.847	
300.00	300.00	322.00	322.00	1.01	1.09	-121.14	-3,545.15	-5,867.56	6,855.39	6,853.28	2.11	3,252.369	
400.00	400.00	422.00	422.00	1.37	1.45	-121.14	-3,545.15	-5,867.56	6,855.39	6,852.56	2.82	2,426.895	
500.00	500.00	522.00	522.00	1.73	1.81	-121.14	-3,545.15	-5,867.56	6,855.39	6,851.85	3.54	1,935.621	
600.00	600.00	622.00	622.00	2.09	2.17	-121.14	-3,545.15	-5,867.56	6,855.39	6,851.13	4.26	1,609.759	
700.00	700.00	722.00	722.00	2.45	2.53	-121.14	-3,545.15	-5,867.56	6,855.39	6,850.41	4.98	1,377.805	
800.00	800.00	822.00	822.00	2.81	2.89	-121.14	-3,545.15	-5,867.56	6,855.39	6,849.69	5.69	1,204.278	
865.28	865.28	887.28	887.28	3.04	3.12	-121.14	-3,545.15	-5,867.56	6,855.39	6,849.23	6.16	1,112.791	
900.00	900.00	918.00	918.00	3.17	3.23	-121.14	-3,545.15	-5,867.56	6,855.39	6,848.99	6.40	1,071.970	
998.00	998.00	1,007.56	1,007.53	3.52	3.54	-121.16	-3,546.98	-5,866.55	6,855.48	6,848.43	7.05	972.217	
1,000.00	1,000.00	1,009.31	1,009.28	3.52	3.54	1.62	-3,547.06	-5,866.51	6,855.48	6,848.42	7.06	970.474	
1,100.00	1,099.95	1,100.00	1,099.72	3.86	3.84	1.57	-3,552.73	-5,863.37	6,853.04	6,845.34	7.70	890.463	
1,200.00	1,199.62	1,183.16	1,182.31	4.20	4.13	1.50	-3,561.23	-5,858.67	6,845.56	6,837.24	8.32	822.902	
1,300.00	1,298.74	1,268.17	1,266.21	4.55	4.42	1.39	-3,573.16	-5,852.07	6,833.09	6,824.13	8.96	762.433	
1,400.00	1,397.04	1,351.24	1,347.53	4.91	4.73	1.27	-3,587.97	-5,843.89	6,815.68	6,806.06	9.62	708.650	
1,500.00	1,494.24	1,431.95	1,425.77	5.30	5.05	1.11	-3,605.30	-5,834.30	6,793.39	6,783.11	10.29	660.469	
1,600.00	1,590.08	1,509.94	1,500.51	5.73	5.37	0.94	-3,624.79	-5,823.53	6,766.33	6,755.36	10.97	617.014	
1,700.00	1,684.30	1,584.91	1,571.44	6.20	5.72	0.74	-3,646.02	-5,811.80	6,734.58	6,722.91	11.66	577.334	
1,800.00	1,776.64	1,656.62	1,638.34	6.73	6.07	0.52	-3,668.59	-5,799.32	6,698.25	6,685.87	12.38	540.976	
1,900.00	1,866.84	1,724.90	1,701.11	7.33	6.44	0.27	-3,692.11	-5,786.31	6,657.48	6,644.37	13.11	507.853	
1,971.76	1,930.11	1,771.72	1,743.57	7.81	6.71	0.09	-3,709.37	-5,776.77	6,625.54	6,611.90	13.64	485.670	
2,000.00	1,954.76	1,797.05	1,766.34	8.01	6.85	-0.02	-3,719.09	-5,771.40	6,612.56	6,598.67	13.89	475.959	
2,100.00	2,042.05	1,867.47	1,829.43	8.74	7.29	-0.33	-3,746.46	-5,756.27	6,566.78	6,552.09	14.69	447.004	
2,200.00	2,129.33	1,947.12	1,900.79	9.51	7.80	-0.68	-3,777.42	-5,739.15	6,521.25	6,505.68	15.57	418.781	
2,300.00	2,216.61	2,026.77	1,972.16	10.30	8.33	-1.03	-3,808.39	-5,722.03	6,475.96	6,459.48	16.48	392.995	
2,400.00	2,303.89	2,106.42	2,043.52	11.12	8.88	-1.39	-3,839.35	-5,704.91	6,430.92	6,413.51	17.41	369.454	
2,500.00	2,391.17	2,186.08	2,114.88	11.95	9.43	-1.75	-3,870.32	-5,687.79	6,386.13	6,367.78	18.35	347.931	
2,600.00	2,478.45	2,265.73	2,186.24	12.79	10.00	-2.11	-3,901.28	-5,670.68	6,341.60	6,322.29	19.32	328.263	
2,700.00	2,565.73	2,345.38	2,257.61	13.65	10.58	-2.48	-3,932.24	-5,653.56	6,297.34	6,277.05	20.30	310.274	
2,800.00	2,653.02	2,425.03	2,328.97	14.51	11.16	-2.86	-3,963.21	-5,636.44	6,253.35	6,232.07	21.29	293.787	
2,900.00	2,740.30	2,504.69	2,400.33	15.38	11.74	-3.24	-3,994.17	-5,619.32	6,209.64	6,187.36	22.29	278.645	
3,000.00	2,827.58	2,584.34	2,471.70	16.26	12.34	-3.62	-4,025.13	-5,602.20	6,166.21	6,142.92	23.30	264.697	
3,100.00	2,914.86	2,663.99	2,543.06	17.14	12.94	-4.01	-4,056.10	-5,585.08	6,123.07	6,098.76	24.31	251.832	
3,200.00	3,002.14	2,743.64	2,614.42	18.03	13.54	-4.40	-4,087.06	-5,567.97	6,080.23	6,054.89	25.34	239.941	
3,260.43	3,054.89	2,791.78	2,657.55	18.57	13.90	-4.63	-4,105.77	-5,557.62	6,054.48	6,028.52	25.96	233.187	
3,300.00	3,089.62	2,823.46	2,685.94	18.91	14.14	-4.75	-4,118.09	-5,550.81	6,038.06	6,011.68	26.37	228.944	
3,400.00	3,179.08	2,904.94	2,758.94	19.73	14.76	-5.04	-4,149.76	-5,533.30	6,000.11	5,972.69	27.42	218.826	
3,500.00	3,270.76	2,988.27	2,833.59	20.47	15.40	-5.34	-4,182.16	-5,515.39	5,967.36	5,938.88	28.48	209.539	
3,600.00	3,364.40	3,073.21	2,909.70	21.14	16.05	-5.66	-4,215.18	-5,497.14	5,939.92	5,910.37	29.55	201.037	
3,700.00	3,459.75	3,184.46	3,010.05	21.72	16.89	-6.09	-4,257.19	-5,473.91	5,917.63	5,886.85	30.78	192.257	
3,800.00	3,556.54	3,446.50	3,255.43	22.23	18.57	-6.98	-4,337.06	-5,429.75	5,899.03	5,866.27	32.76	180.049	
3,900.00	3,654.51	3,688.79	3,491.57	22.68	19.72	-7.50	-4,383.93	-5,403.85	5,883.48	5,849.27	34.21	171.980	
4,000.00	3,753.40	3,942.75	3,744.24	23.05	20.55	-7.72	-4,404.57	-5,392.44	5,870.62	5,835.33	35.28	166.389	
4,100.00	3,852.92	4,073.44	3,874.92	23.37	20.85	-7.71	-4,405.16	-5,392.11	5,861.13	5,825.23	35.90	163.282	
4,200.00	3,952.81	4,173.33	3,974.81	23.62	21.07	-7.70	-4,405.16	-5,392.11	5,856.76	5,820.32	36.44	160.743	
4,234.19	3,987.00	4,207.52	4,009.00	23.70	21.15	-130.48	-4,405.16	-5,392.11	5,856.46	5,819.84	36.61	159.949	
4,300.00	4,052.81	4,273.33	4,074.81	23.83	21.30	-130.48	-4,405.16	-5,392.11	5,856.46	5,819.50	36.96	158.468	
4,400.00	4,152.81	4,373.33	4,174.81	24.04	21.52	-130.48	-4,405.16	-5,392.11	5,856.46	5,818.98	37.48	156.249	
4,500.00	4,252.81	4,473.33	4,274.81	24.25	21.76	-130.48	-4,405.16	-5,392.11	5,856.46	5,818.44	38.01	154.068	
4,600.00	4,352.81	4,573.33	4,374.81	24.47	21.99	-130.48	-4,405.16	-5,392.11	5,856.46	5,817.91	38.55	151.923	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Haynie 2N - OH - Plan #1

Offset Site Error: 0.00 ft

Survey Program: 0-MWD+HDGM

Rule Assigned:

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	4,452.81	4,673.33	4,474.81	24.69	22.23	-130.48	-4,405.16	-5,392.11	5,856.46	5,817.37	39.09	149.816	
4,800.00	4,552.81	4,773.33	4,574.81	24.91	22.47	-130.48	-4,405.16	-5,392.11	5,856.46	5,816.82	39.64	147.747	
4,900.00	4,652.81	4,873.33	4,674.81	25.13	22.71	-130.48	-4,405.16	-5,392.11	5,856.46	5,816.27	40.19	145.716	
5,000.00	4,752.81	4,973.33	4,774.81	25.36	22.96	-130.48	-4,405.16	-5,392.11	5,856.46	5,815.71	40.75	143.722	
5,100.00	4,852.81	5,073.33	4,874.81	25.59	23.21	-130.48	-4,405.16	-5,392.11	5,856.46	5,815.15	41.31	141.766	
5,200.00	4,952.81	5,173.33	4,974.81	25.82	23.46	-130.48	-4,405.16	-5,392.11	5,856.46	5,814.58	41.88	139.847	
5,300.00	5,052.81	5,273.33	5,074.81	26.06	23.72	-130.48	-4,405.16	-5,392.11	5,856.46	5,814.01	42.45	137.966	
5,400.00	5,152.81	5,373.33	5,174.81	26.30	23.98	-130.48	-4,405.16	-5,392.11	5,856.46	5,813.43	43.02	136.121	
5,500.00	5,252.81	5,473.33	5,274.81	26.54	24.24	-130.48	-4,405.16	-5,392.11	5,856.46	5,812.85	43.60	134.312	
5,600.00	5,352.81	5,573.33	5,374.81	26.79	24.50	-130.48	-4,405.16	-5,392.11	5,856.46	5,812.27	44.19	132.539	
5,700.00	5,452.81	5,673.33	5,474.81	27.03	24.77	-130.48	-4,405.16	-5,392.11	5,856.46	5,811.68	44.77	130.802	
5,800.00	5,552.81	5,773.33	5,574.81	27.28	25.04	-130.48	-4,405.16	-5,392.11	5,856.46	5,811.09	45.36	129.099	
5,900.00	5,652.81	5,873.33	5,674.81	27.53	25.31	-130.48	-4,405.16	-5,392.11	5,856.46	5,810.50	45.96	127.430	
6,000.00	5,752.81	5,973.33	5,774.81	27.79	25.58	-130.48	-4,405.16	-5,392.11	5,856.46	5,809.90	46.56	125.795	
6,100.00	5,852.81	6,073.33	5,874.81	28.04	25.85	-130.48	-4,405.16	-5,392.11	5,856.46	5,809.30	47.16	124.193	
6,200.00	5,952.81	6,173.33	5,974.81	28.30	26.13	-130.48	-4,405.16	-5,392.11	5,856.46	5,808.70	47.76	122.623	
6,300.00	6,052.81	6,273.33	6,074.81	28.56	26.41	-130.48	-4,405.16	-5,392.11	5,856.46	5,808.09	48.37	121.086	
6,400.00	6,152.81	6,373.33	6,174.81	28.83	26.69	-130.48	-4,405.16	-5,392.11	5,856.46	5,807.48	48.98	119.579	
6,500.00	6,252.81	6,473.33	6,274.81	29.09	26.97	-130.48	-4,405.16	-5,392.11	5,856.46	5,806.87	49.59	118.102	
6,600.00	6,352.81	6,573.33	6,374.81	29.36	27.25	-130.48	-4,405.16	-5,392.11	5,856.46	5,806.25	50.20	116.656	
6,700.00	6,452.81	6,673.33	6,474.81	29.63	27.54	-130.48	-4,405.16	-5,392.11	5,856.46	5,805.64	50.82	115.238	
6,800.00	6,552.81	6,773.33	6,574.81	29.90	27.83	-130.48	-4,405.16	-5,392.11	5,856.46	5,805.02	51.44	113.849	CC
6,900.00	6,652.81	6,873.33	6,674.81	30.17	28.12	-130.48	-4,405.16	-5,392.11	5,856.46	5,804.39	52.06	112.489	ES
7,000.00	6,752.81	6,883.52	6,685.00	30.45	28.15	-130.48	-4,405.16	-5,392.11	5,857.15	5,804.66	52.49	111.596	
7,089.19	6,842.00	6,883.52	6,685.00	30.69	28.15	-130.48	-4,405.16	-5,392.11	5,859.19	5,806.36	52.83	110.902	SF

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Heaton 101 - OH - OH — **Offset Site Error:** 0.00 ft

Survey Program: 60-INCLINOMETER — **Rule Assigned:** — **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	148.01	148.00	0.00	4.49	-75.77	1,445.85	-5,703.04	5,883.47				
100.00	100.00	248.01	248.00	0.30	7.53	-75.77	1,445.85	-5,703.04	5,883.47	5,875.64	7.83	751.482	
200.00	200.00	350.12	350.11	0.66	10.63	-75.77	1,446.61	-5,703.04	5,883.65	5,872.37	11.29	521.197	
300.00	300.00	457.68	457.66	1.01	13.90	-75.77	1,446.17	-5,703.04	5,883.55	5,868.64	14.91	394.509	
400.00	400.00	548.04	548.00	1.37	16.64	-75.77	1,445.85	-5,703.04	5,883.47	5,865.45	18.02	326.568	
500.00	500.00	648.04	648.00	1.73	19.68	-75.77	1,445.85	-5,703.04	5,883.47	5,862.06	21.41	274.782	
600.00	600.00	748.04	748.00	2.09	22.72	-75.77	1,445.85	-5,703.04	5,883.47	5,858.66	24.81	237.173	
700.00	700.00	850.58	850.54	2.45	25.83	-75.77	1,446.30	-5,703.04	5,883.58	5,855.30	28.28	208.053	
800.00	800.00	953.18	953.13	2.81	28.95	-75.77	1,446.03	-5,703.04	5,883.51	5,851.76	31.75	185.288	
900.00	900.00	1,048.08	1,048.00	3.17	31.83	-75.77	1,445.85	-5,703.04	5,883.47	5,848.47	34.99	168.128	
998.00	998.00	1,146.08	1,146.00	3.52	34.80	-75.77	1,445.85	-5,703.04	5,883.47	5,845.15	38.32	153.530	
1,000.00	1,000.00	1,148.08	1,148.00	3.52	34.87	47.01	1,445.85	-5,703.04	5,883.47	5,845.08	38.39	153.259	
1,100.00	1,099.95	1,248.04	1,247.95	3.86	37.90	47.07	1,445.85	-5,703.04	5,881.61	5,839.85	41.76	140.854	
1,200.00	1,199.62	1,350.24	1,350.15	4.20	41.00	47.26	1,447.07	-5,703.04	5,876.50	5,831.30	45.20	130.012	
1,300.00	1,298.74	1,453.92	1,453.81	4.55	44.15	47.55	1,446.73	-5,703.04	5,867.47	5,818.77	48.69	120.497	
1,400.00	1,397.04	1,556.80	1,556.69	4.91	47.28	47.97	1,446.07	-5,703.04	5,854.87	5,802.70	52.17	112.217	
1,500.00	1,494.24	1,642.38	1,642.24	5.30	49.88	48.47	1,445.85	-5,703.04	5,838.93	5,783.79	55.14	105.883	
1,600.00	1,590.08	1,738.22	1,738.08	5.73	52.79	49.12	1,445.85	-5,703.04	5,819.71	5,761.26	58.45	99.571	
1,700.00	1,684.30	1,832.86	1,832.72	6.20	55.66	49.90	1,446.36	-5,703.04	5,797.36	5,735.62	61.74	93.895	
1,800.00	1,776.64	1,927.92	1,927.78	6.73	58.55	50.80	1,446.25	-5,703.04	5,771.70	5,706.61	65.09	88.677	
1,900.00	1,866.84	2,020.88	2,020.74	7.33	61.37	51.82	1,445.97	-5,703.04	5,742.97	5,674.56	68.41	83.947	
1,971.76	1,930.11	2,078.27	2,078.11	7.81	63.11	52.60	1,445.85	-5,703.04	5,720.59	5,650.04	70.55	81.086	
2,000.00	1,954.76	2,102.92	2,102.76	8.01	63.86	52.71	1,445.85	-5,703.04	5,711.51	5,640.05	71.46	79.925	
2,100.00	2,042.05	2,190.20	2,190.05	8.74	66.51	53.07	1,445.85	-5,703.04	5,679.54	5,604.84	74.70	76.028	
2,200.00	2,129.33	2,277.48	2,277.33	9.51	69.16	53.43	1,445.85	-5,703.04	5,647.81	5,569.84	77.98	72.429	
2,300.00	2,216.61	2,366.49	2,366.34	10.30	71.87	53.81	1,446.37	-5,703.04	5,616.49	5,535.15	81.33	69.057	
2,400.00	2,303.89	2,456.42	2,456.26	11.12	74.60	54.19	1,446.21	-5,703.04	5,585.21	5,500.47	84.74	65.913	
2,500.00	2,391.17	2,546.43	2,546.27	11.95	77.33	54.57	1,445.91	-5,703.04	5,554.13	5,465.97	88.16	62.998	
2,600.00	2,478.45	2,590.00	2,589.75	12.79	78.65	54.76	1,445.85	-5,703.04	5,523.51	5,433.31	90.20	61.233	
2,700.00	2,565.73	2,590.00	2,589.75	13.65	78.65	54.76	1,445.85	-5,703.04	5,494.32	5,403.39	90.93	60.424	
2,800.00	2,653.02	2,590.00	2,589.75	14.51	78.65	54.76	1,445.85	-5,703.04	5,466.81	5,375.16	91.65	59.650	
2,900.00	2,740.30	2,590.00	2,589.75	15.38	78.65	54.76	1,445.85	-5,703.04	5,441.00	5,348.64	92.36	58.912	
3,000.00	2,827.58	2,590.00	2,589.75	16.26	78.65	54.76	1,445.85	-5,703.04	5,416.91	5,323.85	93.06	58.210	
3,100.00	2,914.86	2,590.00	2,589.75	17.14	78.65	54.76	1,445.85	-5,703.04	5,394.57	5,300.82	93.74	57.547	
3,200.00	3,002.14	2,590.00	2,589.75	18.03	78.65	54.76	1,445.85	-5,703.04	5,373.99	5,279.58	94.41	56.921	
3,260.43	3,054.89	2,590.00	2,589.75	18.57	78.65	54.76	1,445.85	-5,703.04	5,362.42	5,267.61	94.81	56.561	
3,300.00	3,089.62	2,590.00	2,589.75	18.91	78.65	54.59	1,445.85	-5,703.04	5,355.44	5,260.38	95.06	56.339	
3,400.00	3,179.08	2,590.00	2,589.75	19.73	78.65	54.24	1,445.85	-5,703.04	5,341.15	5,245.52	95.63	55.854	
3,500.00	3,270.76	2,590.00	2,589.75	20.47	78.65	54.01	1,445.85	-5,703.04	5,331.74	5,235.64	96.10	55.480	
3,600.00	3,364.40	2,590.00	2,589.75	21.14	78.65	53.90	1,445.85	-5,703.04	5,327.27	5,230.79	96.48	55.217	
3,640.18	3,402.52	2,590.00	2,589.75	21.37	78.65	53.89	1,445.85	-5,703.04	5,326.87	5,230.27	96.60	55.146	CC, ES
3,700.00	3,459.75	2,590.00	2,589.75	21.72	78.65	53.91	1,445.85	-5,703.04	5,327.76	5,231.00	96.76	55.063	
3,800.00	3,556.54	2,590.00	2,589.75	22.23	78.65	54.04	1,445.85	-5,703.04	5,333.20	5,236.26	96.94	55.016	SF
3,900.00	3,654.51	2,590.00	2,589.75	22.68	78.65	54.30	1,445.85	-5,703.04	5,343.57	5,246.55	97.02	55.075	
4,000.00	3,753.40	2,590.00	2,589.75	23.05	78.65	54.67	1,445.85	-5,703.04	5,358.81	5,261.79	97.02	55.236	
4,100.00	3,852.92	2,590.00	2,589.75	23.37	78.65	55.17	1,445.85	-5,703.04	5,378.83	5,281.91	96.92	55.495	
4,200.00	3,952.81	2,590.00	2,589.75	23.62	78.65	55.80	1,445.85	-5,703.04	5,403.54	5,306.78	96.75	55.848	
4,234.19	3,987.00	2,590.00	2,589.75	23.70	78.65	-66.73	1,445.85	-5,703.04	5,413.03	5,316.35	96.68	55.991	
4,300.00	4,052.81	2,590.00	2,589.75	23.83	78.65	-66.73	1,445.85	-5,703.04	5,432.18	5,335.68	96.51	56.287	
4,400.00	4,152.81	2,590.00	2,589.75	24.04	78.65	-66.73	1,445.85	-5,703.04	5,462.68	5,366.44	96.23	56.764	
4,500.00	4,252.81	2,590.00	2,589.75	24.25	78.65	-66.73	1,445.85	-5,703.04	5,494.82	5,398.88	95.94	57.274	
4,600.00	4,352.81	2,590.00	2,589.75	24.47	78.65	-66.73	1,445.85	-5,703.04	5,528.59	5,432.96	95.62	57.815	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Heaton 101 - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 60-INCLINOMETER

Rule Assigned:

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	4,452.81	2,590.00	2,589.75	24.69	78.65	-66.73	1,445.85	-5,703.04	5,563.94	5,468.65	95.29	58.388	
4,800.00	4,552.81	2,590.00	2,589.75	24.91	78.65	-66.73	1,445.85	-5,703.04	5,600.87	5,505.92	94.94	58.993	
4,900.00	4,652.81	2,590.00	2,589.75	25.13	78.65	-66.73	1,445.85	-5,703.04	5,639.32	5,544.74	94.57	59.628	
5,000.00	4,752.81	2,590.00	2,589.75	25.36	78.65	-66.73	1,445.85	-5,703.04	5,679.27	5,585.08	94.19	60.294	
5,100.00	4,852.81	2,590.00	2,589.75	25.59	78.65	-66.73	1,445.85	-5,703.04	5,720.69	5,626.90	93.80	60.990	
5,200.00	4,952.81	2,590.00	2,589.75	25.82	78.65	-66.73	1,445.85	-5,703.04	5,763.55	5,670.16	93.39	61.716	
5,300.00	5,052.81	2,590.00	2,589.75	26.06	78.65	-66.73	1,445.85	-5,703.04	5,807.82	5,714.85	92.97	62.472	
5,400.00	5,152.81	2,590.00	2,589.75	26.30	78.65	-66.73	1,445.85	-5,703.04	5,853.46	5,760.92	92.54	63.256	
5,500.00	5,252.81	2,590.00	2,589.75	26.54	78.65	-66.73	1,445.85	-5,703.04	5,900.44	5,808.34	92.10	64.069	
5,600.00	5,352.81	2,590.00	2,589.75	26.79	78.65	-66.73	1,445.85	-5,703.04	5,948.73	5,857.08	91.65	64.910	
5,700.00	5,452.81	2,590.00	2,589.75	27.03	78.65	-66.73	1,445.85	-5,703.04	5,998.30	5,907.11	91.19	65.779	
5,800.00	5,552.81	2,590.00	2,589.75	27.28	78.65	-66.73	1,445.85	-5,703.04	6,049.12	5,958.39	90.73	66.675	
5,900.00	5,652.81	2,590.00	2,589.75	27.53	78.65	-66.73	1,445.85	-5,703.04	6,101.15	6,010.89	90.26	67.597	
6,000.00	5,752.81	2,590.00	2,589.75	27.79	78.65	-66.73	1,445.85	-5,703.04	6,154.37	6,064.58	89.78	68.547	
6,100.00	5,852.81	2,590.00	2,589.75	28.04	78.65	-66.73	1,445.85	-5,703.04	6,208.74	6,119.43	89.31	69.522	
6,200.00	5,952.81	2,590.00	2,589.75	28.30	78.65	-66.73	1,445.85	-5,703.04	6,264.24	6,175.41	88.83	70.522	
6,300.00	6,052.81	2,590.00	2,589.75	28.56	78.65	-66.73	1,445.85	-5,703.04	6,320.83	6,232.48	88.34	71.547	
6,400.00	6,152.81	2,590.00	2,589.75	28.83	78.65	-66.73	1,445.85	-5,703.04	6,378.49	6,290.62	87.86	72.597	
6,500.00	6,252.81	2,590.00	2,589.75	29.09	78.65	-66.73	1,445.85	-5,703.04	6,437.18	6,349.80	87.38	73.671	
6,600.00	6,352.81	2,590.00	2,589.75	29.36	78.65	-66.73	1,445.85	-5,703.04	6,496.88	6,409.99	86.89	74.768	
6,700.00	6,452.81	2,590.00	2,589.75	29.63	78.65	-66.73	1,445.85	-5,703.04	6,557.57	6,471.16	86.41	75.888	
6,800.00	6,552.81	2,590.00	2,589.75	29.90	78.65	-66.73	1,445.85	-5,703.04	6,619.21	6,533.28	85.93	77.030	
6,900.00	6,652.81	2,590.00	2,589.75	30.17	78.65	-66.73	1,445.85	-5,703.04	6,681.78	6,596.32	85.45	78.194	
7,000.00	6,752.81	2,590.00	2,589.75	30.45	78.65	-66.73	1,445.85	-5,703.04	6,745.25	6,660.27	84.98	79.378	
7,089.19	6,842.00	2,590.00	2,589.75	30.69	78.65	-66.73	1,445.85	-5,703.04	6,802.60	6,718.04	84.55	80.453	

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Lester 001 - OH - OH — **Offset Site Error:** 0.00 ft

Survey Program: 938-INCLINOMETER — **Rule Assigned:** — **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	62.00	62.00	0.00	1.88	179.75	-4,430.54	19.29	4,430.58				
100.00	100.00	162.00	162.00	0.30	4.92	179.75	-4,430.54	19.29	4,430.58	4,425.37	5.22	849.189	
200.00	200.00	262.00	262.00	0.66	7.96	179.75	-4,430.54	19.29	4,430.58	4,421.97	8.61	514.421	
300.00	300.00	362.00	362.00	1.01	10.99	179.75	-4,430.54	19.29	4,430.58	4,418.58	12.01	368.967	
400.00	400.00	462.00	462.00	1.37	14.03	179.75	-4,430.54	19.29	4,430.58	4,415.18	15.40	287.637	
500.00	500.00	562.00	562.00	1.73	17.07	179.75	-4,430.54	19.29	4,430.58	4,411.78	18.80	235.685	
600.00	600.00	662.00	662.00	2.09	20.10	179.75	-4,430.54	19.29	4,430.58	4,408.39	22.19	199.629	
700.00	700.00	762.00	762.00	2.45	23.14	179.75	-4,430.54	19.29	4,430.58	4,404.99	25.59	173.142	
800.00	800.00	862.00	862.00	2.81	26.18	179.75	-4,430.54	19.29	4,430.58	4,401.60	28.98	152.859	
900.00	900.00	962.03	962.00	3.17	29.22	179.75	-4,430.54	19.29	4,430.58	4,398.20	32.38	136.827	
998.00	998.00	1,060.03	1,060.00	3.52	32.19	179.75	-4,430.54	19.29	4,430.58	4,394.87	35.71	124.077	
1,000.00	1,000.00	1,062.03	1,062.00	3.52	32.25	-57.47	-4,430.54	19.29	4,430.58	4,394.81	35.78	123.843	
1,100.00	1,099.95	1,161.98	1,161.95	3.86	35.29	-57.53	-4,430.54	19.29	4,429.12	4,389.97	39.14	113.148	
1,200.00	1,199.62	1,254.84	1,254.81	4.20	38.11	-57.72	-4,429.75	19.29	4,424.07	4,381.76	42.30	104.576	
1,300.00	1,298.74	1,343.94	1,343.90	4.55	40.81	-58.02	-4,429.99	19.29	4,417.29	4,371.93	45.36	97.384	
1,400.00	1,397.04	1,459.11	1,459.04	4.91	44.31	-58.50	-4,430.54	19.29	4,408.06	4,358.84	49.22	89.559	
1,500.00	1,494.24	1,556.31	1,556.24	5.30	47.26	-59.08	-4,430.54	19.29	4,395.66	4,343.10	52.55	83.644	
1,600.00	1,590.08	1,652.15	1,652.08	5.73	50.17	-59.78	-4,430.54	19.29	4,380.70	4,324.83	55.87	78.410	
1,700.00	1,684.30	1,743.31	1,743.23	6.20	52.94	-60.59	-4,429.69	19.29	4,362.45	4,303.37	59.08	73.840	
1,800.00	1,776.64	1,826.70	1,826.62	6.73	55.47	-61.49	-4,429.83	19.29	4,342.91	4,280.81	62.10	69.934	
1,900.00	1,866.84	1,908.25	1,908.17	7.33	57.95	-62.49	-4,430.14	19.29	4,321.40	4,256.27	65.12	66.358	
1,971.76	1,930.11	1,992.23	1,992.11	7.81	60.50	-63.44	-4,430.54	19.29	4,304.83	4,236.72	68.11	63.208	
2,000.00	1,954.76	2,016.88	2,016.76	8.01	61.25	-63.58	-4,430.54	19.29	4,297.99	4,228.96	69.03	62.259	
2,100.00	2,042.05	2,104.16	2,104.05	8.74	63.90	-64.11	-4,430.54	19.29	4,274.06	4,201.72	72.34	59.080	
2,200.00	2,129.33	2,191.44	2,191.33	9.51	66.55	-64.64	-4,430.54	19.29	4,250.56	4,174.87	75.69	56.158	
2,300.00	2,216.61	2,273.31	2,273.19	10.30	69.04	-65.15	-4,429.77	19.29	4,226.72	4,147.82	78.90	53.570	
2,400.00	2,303.89	2,351.89	2,351.76	11.12	71.42	-65.63	-4,429.95	19.29	4,204.29	4,122.25	82.04	51.248	
2,500.00	2,391.17	2,430.56	2,430.44	11.95	73.81	-66.12	-4,430.30	19.29	4,182.49	4,097.29	85.20	49.090	
2,600.00	2,478.45	2,540.61	2,540.45	12.79	77.16	-66.81	-4,430.54	19.29	4,160.94	4,071.61	89.33	46.578	
2,700.00	2,565.73	2,627.89	2,627.73	13.65	79.81	-67.37	-4,430.54	19.29	4,139.67	4,046.88	92.79	44.613	
2,800.00	2,653.02	2,715.17	2,715.02	14.51	82.46	-67.93	-4,430.54	19.29	4,118.87	4,022.61	96.27	42.787	
2,900.00	2,740.30	2,802.45	2,802.30	15.38	85.11	-68.49	-4,430.54	19.29	4,098.55	3,998.79	99.75	41.087	
3,000.00	2,827.58	2,887.88	2,887.72	16.26	87.70	-69.05	-4,429.27	19.29	4,077.45	3,974.25	103.20	39.511	
3,100.00	2,914.86	2,969.69	2,969.52	17.14	90.19	-69.58	-4,429.37	19.29	4,058.20	3,951.66	106.54	38.090	
3,200.00	3,002.14	3,051.56	3,051.39	18.03	92.67	-70.12	-4,429.57	19.29	4,039.56	3,929.66	109.90	36.757	
3,260.43	3,054.89	3,101.07	3,100.90	18.57	94.18	-70.45	-4,429.75	19.29	4,028.60	3,916.67	111.93	35.991	
3,300.00	3,089.62	3,133.69	3,133.51	18.91	95.17	-70.47	-4,429.89	19.29	4,021.68	3,908.41	113.27	35.506	
3,400.00	3,179.08	3,217.73	3,217.56	19.73	97.72	-70.52	-4,430.34	19.29	4,005.80	3,889.16	116.64	34.344	
3,500.00	3,270.76	3,332.99	3,332.76	20.47	101.22	-70.75	-4,430.54	19.29	3,991.68	3,870.80	120.88	33.022	
3,600.00	3,364.40	3,426.63	3,426.40	21.14	104.06	-70.85	-4,430.54	19.29	3,979.46	3,855.07	124.39	31.991	
3,700.00	3,459.75	3,512.50	3,512.27	21.72	106.67	-70.91	-4,430.00	19.29	3,968.67	3,841.07	127.60	31.102	
3,800.00	3,556.54	3,598.05	3,597.81	22.23	109.27	-70.98	-4,430.34	19.29	3,960.63	3,829.90	130.72	30.298	
3,900.00	3,654.51	3,716.76	3,716.51	22.68	112.87	-71.12	-4,430.54	19.29	3,954.17	3,819.39	134.78	29.339	
4,000.00	3,753.40	3,806.73	3,806.48	23.05	115.61	-71.17	-4,430.36	19.29	3,949.17	3,811.27	137.90	28.639	
4,100.00	3,852.92	3,915.18	3,914.92	23.37	118.90	-71.23	-4,430.54	19.29	3,946.22	3,804.71	141.51	27.886	
4,200.00	3,952.81	4,009.40	4,009.14	23.62	121.76	-71.25	-4,430.33	19.29	3,944.59	3,799.96	144.64	27.272	
4,221.43	3,974.25	4,028.04	4,027.78	23.67	122.33	-71.25	-4,430.36	19.29	3,944.55	3,799.30	145.25	27.157	
4,234.19	3,987.00	4,039.13	4,038.87	23.70	122.66	165.97	-4,430.39	19.29	3,944.56	3,798.95	145.62	27.088	
4,300.00	4,052.81	4,115.08	4,114.81	23.83	124.97	165.97	-4,430.54	19.29	3,944.70	3,796.64	148.06	26.642	
4,400.00	4,152.81	4,215.08	4,214.81	24.04	128.01	165.97	-4,430.54	19.29	3,944.70	3,793.39	151.31	26.070	
4,428.18	4,180.99	4,240.28	4,240.01	24.10	128.77	165.97	-4,430.26	19.29	3,944.43	3,792.29	152.14	25.926	
4,500.00	4,252.81	4,304.12	4,303.85	24.25	130.71	165.97	-4,430.38	19.29	3,944.55	3,790.32	154.24	25.574	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Lester 001 - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 938-INCLINOMETER

Rule Assigned:

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
4,600.00	4,352.81	4,415.09	4,414.81	24.47	134.08	165.97	-4,430.54	19.29	3,944.70	3,786.87	157.83	24.994	
4,681.93	4,434.74	4,496.91	4,496.64	24.65	136.57	165.97	-4,430.22	19.29	3,944.39	3,783.89	160.50	24.576	CC
4,700.00	4,452.81	4,513.13	4,512.85	24.69	137.06	165.97	-4,430.23	19.29	3,944.40	3,783.36	161.03	24.494	
4,800.00	4,552.81	4,602.87	4,602.59	24.91	139.78	165.97	-4,430.39	19.29	3,944.58	3,780.59	163.99	24.054	
4,900.00	4,652.81	4,715.10	4,714.81	25.13	143.19	165.97	-4,430.54	19.29	3,944.70	3,777.08	167.63	23.533	
5,000.00	4,752.81	4,815.10	4,814.81	25.36	146.23	165.97	-4,430.54	19.29	3,944.70	3,773.80	170.90	23.082	
5,100.00	4,852.81	4,915.10	4,914.81	25.59	149.26	165.97	-4,430.54	19.29	3,944.70	3,770.53	174.17	22.648	
5,200.00	4,952.81	5,015.10	5,014.81	25.82	152.30	165.97	-4,430.54	19.29	3,944.70	3,767.25	177.45	22.230	
5,300.00	5,052.81	5,115.10	5,114.81	26.06	155.34	165.97	-4,430.54	19.29	3,944.70	3,763.97	180.73	21.827	
5,400.00	5,152.81	5,215.10	5,214.81	26.30	158.38	165.97	-4,430.54	19.29	3,944.70	3,760.69	184.01	21.437	
5,500.00	5,252.81	5,315.10	5,314.81	26.54	161.41	165.97	-4,430.54	19.29	3,944.70	3,757.40	187.30	21.061	
5,600.00	5,352.81	5,415.10	5,414.81	26.79	164.45	165.97	-4,430.54	19.29	3,944.70	3,754.12	190.59	20.698	
5,700.00	5,452.81	5,515.10	5,514.81	27.03	167.49	165.97	-4,430.54	19.29	3,944.70	3,750.82	193.88	20.347	
5,800.00	5,552.81	5,615.10	5,614.81	27.28	170.52	165.97	-4,430.54	19.29	3,944.70	3,747.53	197.17	20.007	
5,900.00	5,652.81	5,715.10	5,714.81	27.53	173.56	165.97	-4,430.54	19.29	3,944.70	3,744.24	200.46	19.678	
5,910.00	5,662.81	5,725.10	5,724.81	27.56	173.86	165.97	-4,430.54	19.29	3,944.70	3,743.91	200.79	19.646	
6,000.00	5,752.81	5,749.00	5,748.67	27.79	174.59	165.97	-4,430.54	19.29	3,945.25	3,743.51	201.74	19.556	ES, SF
6,100.00	5,852.81	5,749.00	5,748.67	28.04	174.59	165.97	-4,430.54	19.29	3,948.20	3,746.32	201.88	19.557	
6,200.00	5,952.81	5,749.00	5,748.67	28.30	174.59	165.97	-4,430.54	19.29	3,953.67	3,751.77	201.89	19.583	
6,300.00	6,052.81	5,749.00	5,748.67	28.56	174.59	165.97	-4,430.54	19.29	3,961.66	3,759.87	201.78	19.633	
6,400.00	6,152.81	5,749.00	5,748.67	28.83	174.59	165.97	-4,430.54	19.29	3,972.15	3,770.59	201.55	19.708	
6,500.00	6,252.81	5,749.00	5,748.67	29.09	174.59	165.97	-4,430.54	19.29	3,985.12	3,783.92	201.20	19.806	
6,600.00	6,352.81	5,749.00	5,748.67	29.36	174.59	165.97	-4,430.54	19.29	4,000.55	3,799.81	200.74	19.929	
6,700.00	6,452.81	5,749.00	5,748.67	29.63	174.59	165.97	-4,430.54	19.29	4,018.41	3,818.25	200.16	20.076	
6,800.00	6,552.81	5,749.00	5,748.67	29.90	174.59	165.97	-4,430.54	19.29	4,038.67	3,839.20	199.47	20.247	
6,900.00	6,652.81	5,749.00	5,748.67	30.17	174.59	165.97	-4,430.54	19.29	4,061.29	3,862.61	198.69	20.441	
7,000.00	6,752.81	5,749.00	5,748.67	30.45	174.59	165.97	-4,430.54	19.29	4,086.23	3,888.44	197.80	20.658	
7,089.19	6,842.00	5,749.00	5,748.67	30.69	174.59	165.97	-4,430.54	19.29	4,110.41	3,913.48	196.93	20.872	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Lester 001A - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 100-UNKNOWN

Offset Well Error: 0.00 ft

Rule Assigned:

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	-137.91	-3,600.31	-3,252.04	4,851.84				
100.00	100.00	52.00	52.00	0.30	2.08	-137.91	-3,600.31	-3,252.04	4,851.60	4,849.22	2.38	2,040.522	
200.00	200.00	152.00	152.00	0.66	6.08	-137.91	-3,600.31	-3,252.04	4,851.60	4,844.86	6.74	720.249	
300.00	300.00	252.00	252.00	1.01	10.08	-137.91	-3,600.31	-3,252.04	4,851.60	4,840.51	11.09	437.299	
400.00	400.00	352.00	352.00	1.37	14.08	-137.91	-3,600.31	-3,252.04	4,851.60	4,836.15	15.45	313.960	
500.00	500.00	452.00	452.00	1.73	18.08	-137.91	-3,600.31	-3,252.04	4,851.60	4,831.79	19.81	244.889	
600.00	600.00	552.00	552.00	2.09	22.08	-137.91	-3,600.31	-3,252.04	4,851.60	4,827.43	24.17	200.729	
700.00	700.00	652.00	652.00	2.45	26.08	-137.91	-3,600.31	-3,252.04	4,851.60	4,823.07	28.53	170.062	
800.00	800.00	752.00	752.00	2.81	30.08	-137.91	-3,600.31	-3,252.04	4,851.60	4,818.71	32.89	147.524	
900.00	900.00	852.00	852.00	3.17	34.08	-137.91	-3,600.31	-3,252.04	4,851.60	4,814.36	37.25	130.261	
998.00	998.00	950.00	950.00	3.52	38.00	-137.91	-3,600.31	-3,252.04	4,851.60	4,810.08	41.52	116.859	
1,000.00	1,000.00	952.00	952.00	3.52	38.08	-15.13	-3,600.31	-3,252.04	4,851.60	4,810.00	41.60	116.615	
1,100.00	1,099.95	1,051.95	1,051.95	3.86	42.08	-15.16	-3,600.31	-3,252.04	4,848.97	4,803.04	45.93	105.562	
1,200.00	1,199.62	1,151.62	1,151.62	4.20	46.06	-15.24	-3,600.31	-3,252.04	4,841.30	4,791.04	50.26	96.321	
1,300.00	1,298.74	1,250.74	1,250.74	4.55	50.03	-15.39	-3,600.31	-3,252.04	4,828.60	4,774.03	54.57	88.480	
1,400.00	1,397.04	1,349.04	1,349.04	4.91	53.96	-15.59	-3,600.31	-3,252.04	4,810.92	4,752.07	58.85	81.743	
1,500.00	1,494.24	1,446.24	1,446.24	5.30	57.85	-15.85	-3,600.31	-3,252.04	4,788.31	4,725.21	63.10	75.889	
1,600.00	1,590.08	1,542.08	1,542.08	5.73	61.68	-16.18	-3,600.31	-3,252.04	4,760.83	4,693.54	67.29	70.753	
1,700.00	1,684.30	1,636.30	1,636.30	6.20	65.45	-16.58	-3,600.31	-3,252.04	4,728.57	4,657.15	71.42	66.207	
1,800.00	1,776.64	1,728.64	1,728.64	6.73	69.15	-17.06	-3,600.31	-3,252.04	4,691.62	4,616.14	75.49	62.152	
1,900.00	1,866.84	1,818.84	1,818.84	7.33	72.75	-17.63	-3,600.31	-3,252.04	4,650.10	4,570.62	79.47	58.512	
1,971.76	1,930.11	1,882.11	1,882.11	7.81	75.28	-18.09	-3,600.31	-3,252.04	4,617.55	4,535.26	82.28	56.117	
2,000.00	1,954.76	1,906.76	1,906.76	8.01	76.27	-18.14	-3,600.31	-3,252.04	4,604.29	4,520.91	83.38	55.219	
2,100.00	2,042.05	1,994.05	1,994.05	8.74	79.76	-18.33	-3,600.31	-3,252.04	4,557.39	4,470.13	87.26	52.228	
2,200.00	2,129.33	2,081.33	2,081.33	9.51	83.25	-18.53	-3,600.31	-3,252.04	4,510.53	4,419.38	91.15	49.485	
2,300.00	2,216.61	2,168.61	2,168.61	10.30	86.74	-18.72	-3,600.31	-3,252.04	4,463.70	4,368.65	95.05	46.961	
2,400.00	2,303.89	2,255.89	2,255.89	11.12	90.24	-18.92	-3,600.31	-3,252.04	4,416.93	4,317.96	98.97	44.631	
2,500.00	2,391.17	2,343.17	2,343.17	11.95	93.73	-19.13	-3,600.31	-3,252.04	4,370.19	4,267.30	102.89	42.475	
2,600.00	2,478.45	2,430.45	2,430.45	12.79	97.22	-19.34	-3,600.31	-3,252.04	4,323.50	4,216.68	106.82	40.475	
2,700.00	2,565.73	2,517.73	2,517.73	13.65	100.71	-19.55	-3,600.31	-3,252.04	4,276.86	4,166.10	110.76	38.614	
2,800.00	2,653.02	2,605.02	2,605.02	14.51	104.20	-19.77	-3,600.31	-3,252.04	4,230.27	4,115.56	114.71	36.879	
2,900.00	2,740.30	2,692.30	2,692.30	15.38	107.69	-19.99	-3,600.31	-3,252.04	4,183.73	4,065.06	118.66	35.258	
3,000.00	2,827.58	2,779.58	2,779.58	16.26	111.18	-20.22	-3,600.31	-3,252.04	4,137.23	4,014.61	122.62	33.740	
3,100.00	2,914.86	2,866.86	2,866.86	17.14	114.67	-20.45	-3,600.31	-3,252.04	4,090.80	3,964.21	126.59	32.315	
3,200.00	3,002.14	2,954.14	2,954.14	18.03	118.17	-20.69	-3,600.31	-3,252.04	4,044.42	3,913.85	130.56	30.977	
3,260.43	3,054.89	3,006.89	3,006.89	18.57	120.28	-20.84	-3,600.31	-3,252.04	4,016.42	3,883.45	132.97	30.206	
3,300.00	3,089.62	3,041.62	3,041.62	18.91	121.66	-20.72	-3,600.31	-3,252.04	3,998.44	3,863.89	134.55	29.717	
3,400.00	3,179.08	3,131.08	3,131.08	19.73	125.24	-20.45	-3,600.31	-3,252.04	3,956.11	3,817.50	138.60	28.542	
3,500.00	3,270.76	3,222.76	3,222.76	20.47	128.91	-20.22	-3,600.31	-3,252.04	3,918.31	3,775.58	142.73	27.452	
3,600.00	3,364.40	3,316.40	3,316.40	21.14	132.66	-20.03	-3,600.31	-3,252.04	3,885.15	3,738.23	146.93	26.443	
3,700.00	3,459.75	3,411.75	3,411.75	21.72	136.47	-19.88	-3,600.31	-3,252.04	3,856.70	3,705.53	151.17	25.512	
3,800.00	3,556.54	3,508.54	3,508.54	22.23	140.34	-19.76	-3,600.31	-3,252.04	3,833.02	3,677.57	155.45	24.658	
3,900.00	3,654.51	3,606.51	3,606.51	22.68	144.26	-19.67	-3,600.31	-3,252.04	3,814.17	3,654.42	159.75	23.876	
4,000.00	3,753.40	3,705.40	3,705.40	23.05	148.22	-19.60	-3,600.31	-3,252.04	3,800.19	3,636.12	164.06	23.163	
4,100.00	3,852.92	3,804.92	3,804.92	23.37	152.20	-19.56	-3,600.31	-3,252.04	3,791.11	3,622.73	168.38	22.515	
4,200.00	3,952.81	3,904.81	3,904.81	23.62	156.19	-19.54	-3,600.31	-3,252.04	3,786.96	3,614.28	172.68	21.930	
4,234.19	3,987.00	3,939.00	3,939.00	23.70	157.56	-142.32	-3,600.31	-3,252.04	3,786.67	3,612.53	174.15	21.744	
4,300.00	4,052.81	4,004.81	4,004.81	23.83	160.19	-142.32	-3,600.31	-3,252.04	3,786.67	3,609.71	176.96	21.398	
4,400.00	4,152.81	4,104.81	4,104.81	24.04	164.19	-142.32	-3,600.31	-3,252.04	3,786.67	3,605.43	181.24	20.893	
4,500.00	4,252.81	4,204.81	4,204.81	24.25	168.19	-142.32	-3,600.31	-3,252.04	3,786.67	3,601.14	185.53	20.410	
4,600.00	4,352.81	4,304.81	4,304.81	24.47	172.19	-142.32	-3,600.31	-3,252.04	3,786.67	3,596.86	189.82	19.949	
4,700.00	4,452.81	4,404.81	4,404.81	24.69	176.19	-142.32	-3,600.31	-3,252.04	3,786.67	3,592.57	194.11	19.508	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Lester 001A - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 100-UNKNOWN

Rule Assigned:

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	4,552.81	4,504.81	4,504.81	24.91	180.19	-142.32	-3,600.31	-3,252.04	3,786.67	3,588.27	198.40	19.086	
4,900.00	4,652.81	4,604.81	4,604.81	25.13	184.19	-142.32	-3,600.31	-3,252.04	3,786.67	3,583.98	202.69	18.682	
4,910.87	4,663.68	4,615.68	4,615.68	25.16	184.63	-142.32	-3,600.31	-3,252.04	3,786.67	3,583.51	203.16	18.639	CC
5,000.00	4,752.81	4,690.00	4,690.00	25.36	187.60	-142.32	-3,600.31	-3,252.04	3,786.70	3,580.29	206.41	18.346	ES
5,100.00	4,852.81	4,690.00	4,690.00	25.59	187.60	-142.32	-3,600.31	-3,252.04	3,788.41	3,581.69	206.72	18.327	SF
5,200.00	4,952.81	4,690.00	4,690.00	25.82	187.60	-142.32	-3,600.31	-3,252.04	3,792.76	3,585.88	206.88	18.333	
5,300.00	5,052.81	4,690.00	4,690.00	26.06	187.60	-142.32	-3,600.31	-3,252.04	3,799.73	3,592.83	206.91	18.364	
5,400.00	5,152.81	4,690.00	4,690.00	26.30	187.60	-142.32	-3,600.31	-3,252.04	3,809.32	3,602.53	206.80	18.421	
5,500.00	5,252.81	4,690.00	4,690.00	26.54	187.60	-142.32	-3,600.31	-3,252.04	3,821.51	3,614.96	206.55	18.502	
5,600.00	5,352.81	4,690.00	4,690.00	26.79	187.60	-142.32	-3,600.31	-3,252.04	3,836.26	3,630.09	206.17	18.608	
5,700.00	5,452.81	4,690.00	4,690.00	27.03	187.60	-142.32	-3,600.31	-3,252.04	3,853.55	3,647.89	205.66	18.738	
5,800.00	5,552.81	4,690.00	4,690.00	27.28	187.60	-142.32	-3,600.31	-3,252.04	3,873.34	3,668.32	205.02	18.892	
5,900.00	5,652.81	4,690.00	4,690.00	27.53	187.60	-142.32	-3,600.31	-3,252.04	3,895.61	3,691.34	204.27	19.071	
6,000.00	5,752.81	4,690.00	4,690.00	27.79	187.60	-142.32	-3,600.31	-3,252.04	3,920.30	3,716.90	203.40	19.274	
6,100.00	5,852.81	4,690.00	4,690.00	28.04	187.60	-142.32	-3,600.31	-3,252.04	3,947.36	3,744.94	202.43	19.500	
6,200.00	5,952.81	4,690.00	4,690.00	28.30	187.60	-142.32	-3,600.31	-3,252.04	3,976.76	3,775.41	201.35	19.750	
6,300.00	6,052.81	4,690.00	4,690.00	28.56	187.60	-142.32	-3,600.31	-3,252.04	4,008.44	3,808.26	200.18	20.024	
6,400.00	6,152.81	4,690.00	4,690.00	28.83	187.60	-142.32	-3,600.31	-3,252.04	4,042.35	3,843.42	198.93	20.321	
6,500.00	6,252.81	4,690.00	4,690.00	29.09	187.60	-142.32	-3,600.31	-3,252.04	4,078.42	3,880.83	197.59	20.640	
6,600.00	6,352.81	4,690.00	4,690.00	29.36	187.60	-142.32	-3,600.31	-3,252.04	4,116.61	3,920.42	196.19	20.983	
6,700.00	6,452.81	4,690.00	4,690.00	29.63	187.60	-142.32	-3,600.31	-3,252.04	4,156.86	3,962.14	194.72	21.348	
6,800.00	6,552.81	4,690.00	4,690.00	29.90	187.60	-142.32	-3,600.31	-3,252.04	4,199.10	4,005.91	193.18	21.736	
6,900.00	6,652.81	4,690.00	4,690.00	30.17	187.60	-142.32	-3,600.31	-3,252.04	4,243.27	4,051.67	191.60	22.146	
7,000.00	6,752.81	4,690.00	4,690.00	30.45	187.60	-142.32	-3,600.31	-3,252.04	4,289.33	4,099.35	189.97	22.578	
7,089.19	6,842.00	4,690.00	4,690.00	30.69	187.60	-142.32	-3,600.31	-3,252.04	4,331.94	4,143.45	188.49	22.982	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Lester 001B - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 265-MWD SDI

Offset Well Error: 0.00 ft

Rule Assigned:

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	-134.31	-2,817.64	-2,886.20	4,033.83				
100.00	100.00	53.71	53.71	0.30	0.06	-134.31	-2,817.62	-2,886.19	4,033.50	4,033.14	0.36	N/A	
200.00	200.00	161.12	161.12	0.66	0.18	-134.31	-2,817.48	-2,886.05	4,033.31	4,032.48	0.84	4,817.618	
300.00	300.00	268.54	268.54	1.01	0.30	-134.31	-2,817.20	-2,885.77	4,032.94	4,031.63	1.32	3,063.749	
358.47	358.47	308.47	308.47	1.22	0.39	-134.31	-2,817.25	-2,885.61	4,032.82	4,031.21	1.61	2,503.005	
400.00	400.00	327.00	327.00	1.37	0.43	-134.32	-2,817.38	-2,885.51	4,032.90	4,031.10	1.80	2,242.766	
500.00	500.00	388.00	387.97	1.73	0.55	-134.34	-2,818.96	-2,884.91	4,033.99	4,031.71	2.28	1,769.443	
600.00	600.00	427.93	427.84	2.09	0.64	-134.37	-2,821.04	-2,884.27	4,036.36	4,033.64	2.73	1,480.701	
700.00	700.00	483.04	482.78	2.45	0.77	-134.42	-2,825.10	-2,883.09	4,039.98	4,036.77	3.21	1,257.880	
800.00	800.00	541.74	541.18	2.81	0.92	-134.49	-2,830.83	-2,881.28	4,044.62	4,040.90	3.72	1,087.936	
900.00	900.00	604.36	603.27	3.17	1.10	-134.60	-2,838.51	-2,878.68	4,050.28	4,046.03	4.25	953.094	
998.00	998.00	667.38	665.53	3.52	1.31	-134.72	-2,847.63	-2,875.35	4,056.66	4,051.86	4.79	846.329	
1,000.00	1,000.00	668.59	666.73	3.52	1.31	-11.94	-2,847.82	-2,875.28	4,056.79	4,051.99	4.80	844.473	
1,100.00	1,099.95	726.90	724.12	3.86	1.52	-12.05	-2,857.52	-2,871.72	4,061.63	4,056.30	5.33	761.918	
1,200.00	1,199.62	787.39	783.37	4.20	1.76	-12.22	-2,868.94	-2,867.55	4,062.42	4,056.54	5.88	690.340	
1,300.00	1,298.74	880.95	874.76	4.55	2.16	-12.53	-2,887.70	-2,860.55	4,058.68	4,052.09	6.60	615.322	
1,400.00	1,397.04	977.35	968.76	4.91	2.59	-12.92	-2,907.60	-2,852.67	4,049.92	4,042.57	7.35	551.359	
1,500.00	1,494.24	1,046.00	1,035.34	5.30	2.91	-13.28	-2,922.98	-2,846.15	4,036.63	4,028.63	8.00	504.642	
1,600.00	1,590.08	1,104.52	1,091.73	5.73	3.23	-13.67	-2,937.33	-2,839.90	4,019.23	4,010.59	8.64	465.004	
1,700.00	1,684.30	1,137.00	1,122.85	6.20	3.40	-13.99	-2,945.83	-2,836.20	3,998.06	3,988.90	9.16	436.392	
1,800.00	1,776.64	1,204.38	1,187.00	6.73	3.80	-14.55	-2,964.75	-2,828.08	3,973.00	3,963.10	9.90	401.270	
1,900.00	1,866.84	1,274.72	1,253.42	7.33	4.24	-15.21	-2,986.09	-2,819.00	3,944.32	3,933.63	10.69	369.105	
1,971.76	1,930.11	1,332.53	1,307.78	7.81	4.62	-15.79	-3,004.06	-2,811.04	3,921.04	3,909.73	11.32	346.526	
2,000.00	1,954.76	1,349.52	1,323.70	8.01	4.73	-15.91	-3,009.46	-2,808.61	3,911.51	3,899.97	11.53	339.107	
2,100.00	2,042.05	1,407.00	1,377.32	8.74	5.13	-16.31	-3,028.31	-2,800.02	3,878.38	3,866.09	12.29	315.591	
2,200.00	2,129.33	1,465.02	1,431.07	9.51	5.55	-16.74	-3,048.17	-2,790.91	3,846.31	3,833.22	13.09	293.888	
2,300.00	2,216.61	1,520.14	1,481.79	10.30	5.96	-17.17	-3,067.79	-2,781.92	3,815.38	3,801.49	13.89	274.748	
2,400.00	2,303.89	1,588.00	1,543.81	11.12	6.49	-17.70	-3,092.86	-2,770.55	3,785.68	3,770.88	14.80	255.798	
2,500.00	2,391.17	1,633.66	1,585.27	11.95	6.86	-18.08	-3,110.29	-2,762.65	3,757.10	3,741.52	15.58	241.151	
2,600.00	2,478.45	1,708.15	1,652.43	12.79	7.47	-18.70	-3,139.54	-2,749.16	3,729.65	3,713.05	16.59	224.789	
2,700.00	2,565.73	1,803.82	1,738.26	13.65	8.26	-19.53	-3,177.52	-2,730.61	3,702.62	3,684.84	17.77	208.308	
2,800.00	2,653.02	1,858.00	1,786.81	14.51	8.69	-20.01	-3,199.09	-2,719.96	3,676.39	3,657.74	18.64	197.216	
2,900.00	2,740.30	1,909.33	1,832.70	15.38	9.10	-20.47	-3,219.85	-2,710.07	3,651.55	3,632.06	19.49	187.346	
3,000.00	2,827.58	1,951.27	1,870.05	16.26	9.43	-20.84	-3,237.26	-2,702.27	3,628.45	3,608.18	20.27	178.976	
3,100.00	2,914.86	2,057.48	1,964.59	17.14	10.25	-21.80	-3,281.46	-2,682.60	3,606.28	3,584.76	21.52	167.596	
3,200.00	3,002.14	2,147.89	2,044.66	18.03	11.00	-22.64	-3,319.30	-2,664.42	3,584.46	3,561.76	22.70	157.904	
3,260.43	3,054.89	2,186.18	2,078.37	18.57	11.35	-23.01	-3,335.58	-2,656.33	3,571.75	3,548.44	23.32	153.170	
3,300.00	3,089.62	2,218.00	2,106.28	18.91	11.64	-23.22	-3,349.24	-2,649.50	3,564.07	3,540.29	23.78	149.878	
3,400.00	3,179.08	2,308.00	2,185.18	19.73	12.43	-23.88	-3,387.63	-2,629.49	3,548.05	3,523.05	24.99	141.974	
3,500.00	3,270.76	2,363.17	2,233.27	20.47	12.93	-24.28	-3,411.46	-2,616.74	3,537.95	3,512.05	25.90	136.616	
3,599.00	3,363.46	2,398.00	2,263.30	21.13	13.25	-24.56	-3,427.09	-2,608.53	3,534.61	3,508.02	26.59	132.943 CC	
3,600.00	3,364.40	2,398.00	2,263.30	21.14	13.25	-24.56	-3,427.09	-2,608.53	3,534.61	3,508.02	26.59	132.924 ES	
3,700.00	3,459.75	2,443.35	2,302.20	21.72	13.68	-25.00	-3,447.92	-2,598.06	3,537.90	3,510.56	27.34	129.383	
3,800.00	3,556.54	2,488.00	2,340.44	22.23	14.10	-25.51	-3,468.79	-2,588.29	3,547.77	3,519.72	28.05	126.489	
3,900.00	3,654.51	2,762.30	2,579.17	22.68	16.36	-27.86	-3,590.73	-2,530.39	3,561.74	3,531.23	30.51	116.750	
4,000.00	3,753.40	2,848.00	2,655.10	23.05	17.04	-28.72	-3,626.27	-2,512.63	3,578.08	3,546.68	31.41	113.933	
4,100.00	3,852.92	2,933.44	2,731.72	23.37	17.69	-29.59	-3,660.83	-2,497.31	3,599.47	3,567.25	32.23	111.688	
4,200.00	3,952.81	2,984.08	2,777.48	23.62	18.09	-30.28	-3,681.08	-2,489.63	3,626.19	3,593.44	32.75	110.720	
4,234.19	3,987.00	3,000.60	2,792.38	23.70	18.21	-153.32	-3,687.80	-2,487.19	3,636.63	3,603.71	32.92	110.485	
4,300.00	4,052.81	3,036.42	2,824.61	23.83	18.49	-153.51	-3,702.55	-2,481.97	3,657.61	3,624.36	33.25	110.009	
4,400.00	4,152.81	3,522.52	3,271.17	24.04	21.89	-155.81	-3,878.95	-2,408.57	3,685.74	3,649.20	36.53	100.884	
4,500.00	4,252.81	3,618.91	3,361.96	24.25	22.48	-156.20	-3,908.23	-2,394.83	3,708.43	3,671.19	37.24	99.570	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Lester 001B - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 265-MWD SDI

Rule Assigned:

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
4,600.00	4,352.81	3,721.90	3,459.41	24.47	23.09	-156.59	-3,938.77	-2,381.44	3,731.04	3,693.07	37.97	98.254	
4,700.00	4,452.81	4,028.84	3,753.03	24.69	24.75	-157.61	-4,019.64	-2,344.31	3,751.22	3,711.59	39.63	94.645	
4,800.00	4,552.81	4,395.00	4,113.62	24.91	25.94	-158.17	-4,077.76	-2,329.19	3,762.85	3,722.05	40.80	92.229	
4,900.00	4,652.81	4,395.00	4,113.62	25.13	25.94	-158.17	-4,077.76	-2,329.19	3,774.51	3,733.42	41.08	91.875	
5,000.00	4,752.81	4,395.00	4,113.62	25.36	25.94	-158.17	-4,077.76	-2,329.19	3,788.76	3,747.42	41.34	91.642	
5,100.00	4,852.81	4,395.00	4,113.62	25.59	25.94	-158.17	-4,077.76	-2,329.19	3,805.60	3,764.02	41.58	91.528	SF
5,200.00	4,952.81	4,395.00	4,113.62	25.82	25.94	-158.17	-4,077.76	-2,329.19	3,824.97	3,783.18	41.79	91.528	
5,300.00	5,052.81	4,395.00	4,113.62	26.06	25.94	-158.17	-4,077.76	-2,329.19	3,846.85	3,804.87	41.98	91.640	
5,400.00	5,152.81	4,395.00	4,113.62	26.30	25.94	-158.17	-4,077.76	-2,329.19	3,871.19	3,829.04	42.14	91.859	
5,500.00	5,252.81	4,395.00	4,113.62	26.54	25.94	-158.17	-4,077.76	-2,329.19	3,897.94	3,855.65	42.28	92.183	
5,600.00	5,352.81	4,395.00	4,113.62	26.79	25.94	-158.17	-4,077.76	-2,329.19	3,927.06	3,884.65	42.41	92.608	
5,700.00	5,452.81	4,395.00	4,113.62	27.03	25.94	-158.17	-4,077.76	-2,329.19	3,958.48	3,915.98	42.50	93.130	
5,800.00	5,552.81	4,395.00	4,113.62	27.28	25.94	-158.17	-4,077.76	-2,329.19	3,992.17	3,949.59	42.58	93.746	
5,900.00	5,652.81	4,395.00	4,113.62	27.53	25.94	-158.17	-4,077.76	-2,329.19	4,028.06	3,985.42	42.65	94.453	
6,000.00	5,752.81	4,395.00	4,113.62	27.79	25.94	-158.17	-4,077.76	-2,329.19	4,066.09	4,023.40	42.69	95.247	
6,100.00	5,852.81	4,395.00	4,113.62	28.04	25.94	-158.17	-4,077.76	-2,329.19	4,106.21	4,063.49	42.72	96.125	
6,200.00	5,952.81	4,395.00	4,113.62	28.30	25.94	-158.17	-4,077.76	-2,329.19	4,148.35	4,105.62	42.73	97.084	
6,300.00	6,052.81	4,395.00	4,113.62	28.56	25.94	-158.17	-4,077.76	-2,329.19	4,192.45	4,149.72	42.73	98.121	
6,400.00	6,152.81	4,395.00	4,113.62	28.83	25.94	-158.17	-4,077.76	-2,329.19	4,238.45	4,195.74	42.71	99.231	
6,500.00	6,252.81	4,395.00	4,113.62	29.09	25.94	-158.17	-4,077.76	-2,329.19	4,286.29	4,243.61	42.69	100.413	
6,600.00	6,352.81	4,395.00	4,113.62	29.36	25.94	-158.17	-4,077.76	-2,329.19	4,335.91	4,293.26	42.65	101.663	
6,700.00	6,452.81	4,395.00	4,113.62	29.63	25.94	-158.17	-4,077.76	-2,329.19	4,387.25	4,344.65	42.60	102.977	
6,800.00	6,552.81	4,395.00	4,113.62	29.90	25.94	-158.17	-4,077.76	-2,329.19	4,440.25	4,397.70	42.55	104.353	
6,900.00	6,652.81	4,395.00	4,113.62	30.17	25.94	-158.17	-4,077.76	-2,329.19	4,494.85	4,452.36	42.49	105.788	
7,000.00	6,752.81	4,395.00	4,113.62	30.45	25.94	-158.17	-4,077.76	-2,329.19	4,550.99	4,508.57	42.42	107.278	
7,089.19	6,842.00	4,395.00	4,113.62	30.69	25.94	-158.17	-4,077.76	-2,329.19	4,602.32	4,559.96	42.36	108.651	

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Lester 100S - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 275-Standard Keeper

Offset Well Error: 0.00 ft

Rule Assigned:

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	64.13	64.13	0.00	0.06	176.16	-3,644.23	244.69	3,652.44				
100.00	100.00	874.25	865.36	0.30	0.88	175.36	-3,563.20	289.06	3,641.91	3,640.64	1.27	2,868.530	
200.00	200.00	962.00	951.05	0.66	0.98	175.23	-3,545.71	296.11	3,622.64	3,621.02	1.62	2,235.592	
300.00	300.00	1,025.00	1,012.63	1.01	1.06	175.12	-3,533.52	301.38	3,604.11	3,602.11	2.00	1,803.656	
400.00	400.00	1,115.58	1,101.26	1.37	1.17	174.97	-3,516.76	309.68	3,586.36	3,583.92	2.44	1,471.365	
500.00	500.00	1,200.69	1,184.57	1.73	1.27	174.82	-3,501.23	317.50	3,568.91	3,566.03	2.88	1,239.463	
600.00	600.00	1,277.00	1,259.37	2.09	1.36	174.68	-3,487.79	324.48	3,552.09	3,548.77	3.32	1,071.158	
700.00	700.00	1,319.32	1,300.99	2.45	1.41	174.62	-3,480.86	327.73	3,536.35	3,532.63	3.72	951.768	
800.00	800.00	1,341.00	1,322.38	2.81	1.44	174.60	-3,477.55	329.02	3,522.25	3,518.16	4.09	860.224	
900.00	900.00	1,404.00	1,384.77	3.17	1.51	174.54	-3,469.26	331.67	3,509.68	3,505.15	4.52	775.781	
998.00	998.00	1,431.14	1,411.73	3.52	1.54	174.52	-3,466.34	332.48	3,499.18	3,494.27	4.91	713.216	
1,000.00	1,000.00	1,431.90	1,412.49	3.52	1.54	-62.70	-3,466.27	332.50	3,498.98	3,494.06	4.91	712.044	
1,100.00	1,099.95	1,467.00	1,447.43	3.86	1.58	-63.01	-3,463.01	333.44	3,488.83	3,483.54	5.29	659.636	
1,200.00	1,199.62	1,507.88	1,488.18	4.20	1.63	-63.37	-3,459.93	334.56	3,478.06	3,472.39	5.68	612.741	
1,300.00	1,298.74	1,557.71	1,537.90	4.55	1.69	-63.81	-3,457.08	336.11	3,466.67	3,460.59	6.08	570.191	
1,400.00	1,397.04	1,635.84	1,615.90	4.91	1.79	-64.42	-3,453.30	338.56	3,454.01	3,447.49	6.53	529.299	
1,500.00	1,494.24	1,709.60	1,689.56	5.30	1.88	-65.11	-3,450.05	340.77	3,439.69	3,432.71	6.98	492.542	
1,600.00	1,590.08	1,755.09	1,735.00	5.73	1.94	-65.76	-3,448.51	342.14	3,424.39	3,416.96	7.43	460.671	
1,700.00	1,684.30	1,783.00	1,762.89	6.20	1.97	-66.35	-3,447.94	342.93	3,408.74	3,400.83	7.90	431.247	
1,800.00	1,776.64	1,846.00	1,825.88	6.73	2.02	-67.19	-3,447.72	344.05	3,392.58	3,384.15	8.42	402.722	
1,900.00	1,866.84	1,925.22	1,905.09	7.33	2.03	-68.21	-3,448.44	344.23	3,375.69	3,366.71	8.98	375.862	
1,971.76	1,930.11	1,987.34	1,967.21	7.81	2.03	-69.05	-3,449.03	344.22	3,362.70	3,353.27	9.43	356.645	
2,000.00	1,954.76	2,008.98	1,988.86	8.01	2.03	-69.22	-3,449.25	344.27	3,357.51	3,347.89	9.62	349.149	
2,100.00	2,042.05	2,085.52	2,065.38	8.74	2.06	-69.84	-3,450.13	344.68	3,339.68	3,329.37	10.31	323.929	
2,200.00	2,129.33	2,161.00	2,140.85	9.51	2.10	-70.45	-3,451.27	345.23	3,322.79	3,311.75	11.05	300.746	
2,300.00	2,216.61	2,257.98	2,237.82	10.30	2.15	-71.24	-3,452.83	346.12	3,306.67	3,294.84	11.83	279.457	
2,400.00	2,303.89	2,360.54	2,340.37	11.12	2.22	-72.08	-3,453.93	346.76	3,290.67	3,278.01	12.65	260.057	
2,500.00	2,391.17	2,453.56	2,433.39	11.95	2.28	-72.85	-3,454.69	347.09	3,275.05	3,261.54	13.50	242.540	
2,600.00	2,478.45	2,525.00	2,504.82	12.79	2.32	-73.44	-3,455.28	347.30	3,260.10	3,245.73	14.37	226.882	
2,700.00	2,565.73	2,525.00	2,504.82	13.65	2.32	-73.44	-3,455.28	347.30	3,247.37	3,232.15	15.22	213.410	
2,800.00	2,653.02	2,525.00	2,504.82	14.51	2.32	-73.44	-3,455.28	347.30	3,237.68	3,221.61	16.07	201.495	
2,900.00	2,740.30	2,525.00	2,504.82	15.38	2.32	-73.44	-3,455.28	347.30	3,231.05	3,214.13	16.92	190.961	
3,000.00	2,827.58	2,525.00	2,504.82	16.26	2.32	-73.44	-3,455.28	347.30	3,227.51	3,209.74	17.77	181.648	
3,064.26	2,883.66	2,525.00	2,504.82	16.83	2.32	-73.44	-3,455.28	347.30	3,226.87	3,208.56	18.31	176.238 CC	
3,100.00	2,914.86	2,525.00	2,504.82	17.14	2.32	-73.44	-3,455.28	347.30	3,227.07	3,208.46	18.61	173.418 ES	
3,200.00	3,002.14	2,525.00	2,504.82	18.03	2.32	-73.44	-3,455.28	347.30	3,229.73	3,210.29	19.44	166.149	
3,260.43	3,054.89	2,525.00	2,504.82	18.57	2.32	-73.44	-3,455.28	347.30	3,232.83	3,212.90	19.93	162.177	
3,300.00	3,089.62	2,525.00	2,504.82	18.91	2.32	-73.52	-3,455.28	347.30	3,235.59	3,215.34	20.25	159.792	
3,400.00	3,179.08	2,525.00	2,504.82	19.73	2.32	-73.81	-3,455.28	347.30	3,245.73	3,224.75	20.97	154.744	
3,500.00	3,270.76	2,525.00	2,504.82	20.47	2.32	-74.24	-3,455.28	347.30	3,260.35	3,238.75	21.60	150.951	
3,600.00	3,364.40	2,525.00	2,504.82	21.14	2.32	-74.80	-3,455.28	347.30	3,279.34	3,257.22	22.12	148.251	
3,700.00	3,459.75	2,525.00	2,504.82	21.72	2.32	-75.49	-3,455.28	347.30	3,302.59	3,280.05	22.54	146.513	
3,800.00	3,556.54	2,525.00	2,504.82	22.23	2.32	-76.32	-3,455.28	347.30	3,329.95	3,307.08	22.87	145.626	
3,900.00	3,654.51	2,525.00	2,504.82	22.68	2.32	-77.28	-3,455.28	347.30	3,361.22	3,338.12	23.10	145.498 SF	
4,000.00	3,753.40	2,525.00	2,504.82	23.05	2.32	-78.38	-3,455.28	347.30	3,396.24	3,372.98	23.25	146.052	
4,100.00	3,852.92	2,525.00	2,504.82	23.37	2.32	-79.61	-3,455.28	347.30	3,434.77	3,411.44	23.33	147.220	
4,200.00	3,952.81	2,525.00	2,504.82	23.62	2.32	-80.97	-3,455.28	347.30	3,476.61	3,453.27	23.34	148.942	
4,234.19	3,987.00	2,525.00	2,504.82	23.70	2.32	155.75	-3,455.28	347.30	3,491.64	3,468.30	23.33	149.657	
4,300.00	4,052.81	2,525.00	2,504.82	23.83	2.32	155.75	-3,455.28	347.30	3,521.39	3,498.09	23.30	151.147	
4,400.00	4,152.81	2,525.00	2,504.82	24.04	2.32	155.75	-3,455.28	347.30	3,568.44	3,545.20	23.24	153.531	
4,500.00	4,252.81	2,525.00	2,504.82	24.25	2.32	155.75	-3,455.28	347.30	3,617.64	3,594.46	23.18	156.051	
4,600.00	4,352.81	2,525.00	2,504.82	24.47	2.32	155.75	-3,455.28	347.30	3,668.92	3,645.80	23.12	158.700	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Lester 100S - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 275-Standard Keeper

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)	Rule Assigned: Distance Between Centres (ft)	Distance Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
4,700.00	4,452.81	2,525.00	2,504.82	24.69	2.32	155.75	-3,455.28	347.30	3,722.17	3,699.12	23.05	161.470	
4,800.00	4,552.81	2,525.00	2,504.82	24.91	2.32	155.75	-3,455.28	347.30	3,777.32	3,754.34	22.98	164.353	
4,900.00	4,652.81	2,525.00	2,504.82	25.13	2.32	155.75	-3,455.28	347.30	3,834.28	3,811.37	22.91	167.341	
5,000.00	4,752.81	2,525.00	2,504.82	25.36	2.32	155.75	-3,455.28	347.30	3,892.99	3,870.14	22.84	170.428	
5,100.00	4,852.81	2,525.00	2,504.82	25.59	2.32	155.75	-3,455.28	347.30	3,953.34	3,930.57	22.77	173.605	
5,200.00	4,952.81	2,525.00	2,504.82	25.82	2.32	155.75	-3,455.28	347.30	4,015.29	3,992.58	22.70	176.866	
5,300.00	5,052.81	2,525.00	2,504.82	26.06	2.32	155.75	-3,455.28	347.30	4,078.74	4,056.11	22.63	180.201	
5,400.00	5,152.81	2,525.00	2,504.82	26.30	2.32	155.75	-3,455.28	347.30	4,143.64	4,121.07	22.57	183.605	
5,500.00	5,252.81	2,525.00	2,504.82	26.54	2.32	155.75	-3,455.28	347.30	4,209.91	4,187.40	22.50	187.070	
5,600.00	5,352.81	2,525.00	2,504.82	26.79	2.32	155.75	-3,455.28	347.30	4,277.49	4,255.05	22.44	190.587	
5,700.00	5,452.81	2,525.00	2,504.82	27.03	2.32	155.75	-3,455.28	347.30	4,346.32	4,323.94	22.39	194.151	
5,800.00	5,552.81	2,525.00	2,504.82	27.28	2.32	155.75	-3,455.28	347.30	4,416.35	4,394.01	22.33	197.754	
5,900.00	5,652.81	2,525.00	2,504.82	27.53	2.32	155.75	-3,455.28	347.30	4,487.51	4,465.22	22.28	201.389	
6,000.00	5,752.81	2,525.00	2,504.82	27.79	2.32	155.75	-3,455.28	347.30	4,559.75	4,537.51	22.24	205.048	
6,100.00	5,852.81	2,525.00	2,504.82	28.04	2.32	155.75	-3,455.28	347.30	4,633.02	4,610.83	22.20	208.726	
6,200.00	5,952.81	2,525.00	2,504.82	28.30	2.32	155.75	-3,455.28	347.30	4,707.28	4,685.12	22.16	212.416	
6,300.00	6,052.81	2,525.00	2,504.82	28.56	2.32	155.75	-3,455.28	347.30	4,782.48	4,760.35	22.13	216.110	
6,400.00	6,152.81	2,525.00	2,504.82	28.83	2.32	155.75	-3,455.28	347.30	4,858.57	4,836.47	22.10	219.804	
6,500.00	6,252.81	2,525.00	2,504.82	29.09	2.32	155.75	-3,455.28	347.30	4,935.51	4,913.43	22.08	223.489	
6,600.00	6,352.81	2,525.00	2,504.82	29.36	2.32	155.75	-3,455.28	347.30	5,013.27	4,991.20	22.07	227.162	
6,700.00	6,452.81	2,525.00	2,504.82	29.63	2.32	155.75	-3,455.28	347.30	5,091.81	5,069.75	22.06	230.815	
6,800.00	6,552.81	2,525.00	2,504.82	29.90	2.32	155.75	-3,455.28	347.30	5,171.08	5,149.03	22.06	234.443	
6,900.00	6,652.81	2,525.00	2,504.82	30.17	2.32	155.75	-3,455.28	347.30	5,251.07	5,229.01	22.06	238.042	
7,000.00	6,752.81	2,525.00	2,504.82	30.45	2.32	155.75	-3,455.28	347.30	5,331.72	5,309.66	22.07	241.605	
7,089.19	6,842.00	2,525.00	2,504.82	30.69	2.32	155.75	-3,455.28	347.30	5,404.21	5,382.13	22.08	244.748	

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Sexton 001 (P/A) - OH - OH — **Offset Site Error:** 0.00 ft

Survey Program: 100-UNKNOWN — **Rule Assigned:** — **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	-137.53	-3,523.87	-3,225.70	4,777.50				
100.00	100.00	58.00	58.00	0.30	2.32	-137.53	-3,523.87	-3,225.70	4,777.32	4,774.70	2.62	1,825.064	
200.00	200.00	158.00	158.00	0.66	6.32	-137.53	-3,523.87	-3,225.70	4,777.32	4,770.34	6.98	684.821	
300.00	300.00	258.00	258.00	1.01	10.32	-137.53	-3,523.87	-3,225.70	4,777.32	4,765.98	11.33	421.485	
400.00	400.00	358.00	358.00	1.37	14.32	-137.53	-3,523.87	-3,225.70	4,777.32	4,761.62	15.69	304.424	
500.00	500.00	458.00	458.00	1.73	18.32	-137.53	-3,523.87	-3,225.70	4,777.32	4,757.27	20.05	238.253	
600.00	600.00	558.00	558.00	2.09	22.32	-137.53	-3,523.87	-3,225.70	4,777.32	4,752.91	24.41	195.712	
700.00	700.00	658.00	658.00	2.45	26.32	-137.53	-3,523.87	-3,225.70	4,777.32	4,748.55	28.77	166.061	
800.00	800.00	758.00	758.00	2.81	30.32	-137.53	-3,523.87	-3,225.70	4,777.32	4,744.19	33.13	144.213	
900.00	900.00	858.00	858.00	3.17	34.32	-137.53	-3,523.87	-3,225.70	4,777.32	4,739.83	37.49	127.445	
998.00	998.00	956.00	956.00	3.52	38.24	-137.53	-3,523.87	-3,225.70	4,777.32	4,735.56	41.76	114.409	
1,000.00	1,000.00	958.00	958.00	3.52	38.32	-14.75	-3,523.87	-3,225.70	4,777.32	4,735.47	41.84	114.171	
1,100.00	1,099.95	1,057.95	1,057.95	3.86	42.32	-14.78	-3,523.87	-3,225.70	4,774.68	4,728.51	46.17	103.405	
1,200.00	1,199.62	1,157.62	1,157.62	4.20	46.30	-14.86	-3,523.87	-3,225.70	4,767.00	4,716.49	50.50	94.392	
1,300.00	1,298.74	1,256.74	1,256.74	4.55	50.27	-15.00	-3,523.87	-3,225.70	4,754.28	4,699.47	54.81	86.737	
1,400.00	1,397.04	1,355.04	1,355.04	4.91	54.20	-15.20	-3,523.87	-3,225.70	4,736.57	4,677.47	59.09	80.153	
1,500.00	1,494.24	1,452.24	1,452.24	5.30	58.09	-15.46	-3,523.87	-3,225.70	4,713.91	4,650.58	63.34	74.427	
1,600.00	1,590.08	1,548.08	1,548.08	5.73	61.92	-15.78	-3,523.87	-3,225.70	4,686.38	4,618.86	67.53	69.399	
1,700.00	1,684.30	1,642.30	1,642.30	6.20	65.69	-16.18	-3,523.87	-3,225.70	4,654.06	4,582.40	71.66	64.946	
1,800.00	1,776.64	1,734.64	1,734.64	6.73	69.39	-16.65	-3,523.87	-3,225.70	4,617.05	4,541.32	75.72	60.972	
1,900.00	1,866.84	1,824.84	1,824.84	7.33	72.99	-17.20	-3,523.87	-3,225.70	4,575.44	4,495.73	79.71	57.401	
1,971.76	1,930.11	1,888.11	1,888.11	7.81	75.52	-17.66	-3,523.87	-3,225.70	4,542.83	4,460.31	82.52	55.051	
2,000.00	1,954.76	1,912.76	1,912.76	8.01	76.51	-17.71	-3,523.87	-3,225.70	4,529.55	4,445.94	83.62	54.169	
2,100.00	2,042.05	2,000.05	2,000.05	8.74	80.00	-17.90	-3,523.87	-3,225.70	4,482.56	4,395.07	87.49	51.233	
2,200.00	2,129.33	2,087.33	2,087.33	9.51	83.49	-18.09	-3,523.87	-3,225.70	4,435.61	4,344.22	91.38	48.539	
2,300.00	2,216.61	2,174.61	2,174.61	10.30	86.98	-18.29	-3,523.87	-3,225.70	4,388.69	4,293.41	95.28	46.059	
2,400.00	2,303.89	2,195.00	2,195.00	11.12	87.80	-18.33	-3,523.87	-3,225.70	4,342.33	4,245.81	96.53	44.985	
2,500.00	2,391.17	2,195.00	2,195.00	11.95	87.80	-18.33	-3,523.87	-3,225.70	4,297.75	4,200.81	96.94	44.334	
2,600.00	2,478.45	2,195.00	2,195.00	12.79	87.80	-18.33	-3,523.87	-3,225.70	4,255.06	4,157.73	97.33	43.718	
2,700.00	2,565.73	2,195.00	2,195.00	13.65	87.80	-18.33	-3,523.87	-3,225.70	4,214.30	4,116.62	97.69	43.140	
2,800.00	2,653.02	2,195.00	2,195.00	14.51	87.80	-18.33	-3,523.87	-3,225.70	4,175.55	4,077.53	98.02	42.601	
2,900.00	2,740.30	2,195.00	2,195.00	15.38	87.80	-18.33	-3,523.87	-3,225.70	4,138.84	4,040.54	98.31	42.101	
3,000.00	2,827.58	2,195.00	2,195.00	16.26	87.80	-18.33	-3,523.87	-3,225.70	4,104.25	4,005.69	98.56	41.642	
3,100.00	2,914.86	2,195.00	2,195.00	17.14	87.80	-18.33	-3,523.87	-3,225.70	4,071.82	3,973.05	98.77	41.225	
3,200.00	3,002.14	2,195.00	2,195.00	18.03	87.80	-18.33	-3,523.87	-3,225.70	4,041.60	3,942.66	98.94	40.851	
3,260.43	3,054.89	2,195.00	2,195.00	18.57	87.80	-18.33	-3,523.87	-3,225.70	4,024.43	3,925.42	99.01	40.646	
3,300.00	3,089.62	2,195.00	2,195.00	18.91	87.80	-18.23	-3,523.87	-3,225.70	4,014.02	3,914.97	99.05	40.525	
3,400.00	3,179.08	2,195.00	2,195.00	19.73	87.80	-18.03	-3,523.87	-3,225.70	3,992.73	3,893.64	99.09	40.293	
3,500.00	3,270.76	2,195.00	2,195.00	20.47	87.80	-17.90	-3,523.87	-3,225.70	3,978.76	3,879.71	99.05	40.169	
3,600.00	3,364.40	2,195.00	2,195.00	21.14	87.80	-17.84	-3,523.87	-3,225.70	3,972.23	3,873.30	98.92	40.154	SF
3,637.20	3,399.69	2,195.00	2,195.00	21.36	87.80	-17.83	-3,523.87	-3,225.70	3,971.71	3,872.85	98.85	40.178	CC, ES
3,700.00	3,459.75	2,195.00	2,195.00	21.72	87.80	-17.84	-3,523.87	-3,225.70	3,973.19	3,874.47	98.71	40.250	
3,800.00	3,556.54	2,195.00	2,195.00	22.23	87.80	-17.92	-3,523.87	-3,225.70	3,981.63	3,883.22	98.41	40.458	
3,900.00	3,654.51	2,195.00	2,195.00	22.68	87.80	-18.07	-3,523.87	-3,225.70	3,997.49	3,899.45	98.03	40.777	
4,000.00	3,753.40	2,195.00	2,195.00	23.05	87.80	-18.29	-3,523.87	-3,225.70	4,020.63	3,923.05	97.58	41.204	
4,100.00	3,852.92	2,195.00	2,195.00	23.37	87.80	-18.60	-3,523.87	-3,225.70	4,050.87	3,953.81	97.06	41.737	
4,200.00	3,952.81	2,195.00	2,195.00	23.62	87.80	-18.98	-3,523.87	-3,225.70	4,087.96	3,991.48	96.48	42.371	
4,234.19	3,987.00	2,195.00	2,195.00	23.70	87.80	-141.92	-3,523.87	-3,225.70	4,102.17	4,005.89	96.27	42.609	
4,300.00	4,052.81	2,195.00	2,195.00	23.83	87.80	-141.92	-3,523.87	-3,225.70	4,130.67	4,034.81	95.86	43.093	
4,400.00	4,152.81	2,195.00	2,195.00	24.04	87.80	-141.92	-3,523.87	-3,225.70	4,175.60	4,080.40	95.20	43.863	
4,500.00	4,252.81	2,195.00	2,195.00	24.25	87.80	-141.92	-3,523.87	-3,225.70	4,222.41	4,127.90	94.51	44.676	
4,600.00	4,352.81	2,195.00	2,195.00	24.47	87.80	-141.92	-3,523.87	-3,225.70	4,271.06	4,177.25	93.81	45.530	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Sexton 001 (P/A) - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 100-UNKNOWN

Offset Well Error: 0.00 ft

Rule Assigned:

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	4,452.81	2,195.00	2,195.00	24.69	87.80	-141.92	-3,523.87	-3,225.70	4,321.47	4,228.38	93.09	46.425	
4,800.00	4,552.81	2,195.00	2,195.00	24.91	87.80	-141.92	-3,523.87	-3,225.70	4,373.59	4,281.24	92.35	47.360	
4,900.00	4,652.81	2,195.00	2,195.00	25.13	87.80	-141.92	-3,523.87	-3,225.70	4,427.35	4,335.75	91.60	48.334	
5,000.00	4,752.81	2,195.00	2,195.00	25.36	87.80	-141.92	-3,523.87	-3,225.70	4,482.70	4,391.86	90.84	49.347	
5,100.00	4,852.81	2,195.00	2,195.00	25.59	87.80	-141.92	-3,523.87	-3,225.70	4,539.57	4,449.50	90.07	50.398	
5,200.00	4,952.81	2,195.00	2,195.00	25.82	87.80	-141.92	-3,523.87	-3,225.70	4,597.92	4,508.62	89.30	51.487	
5,300.00	5,052.81	2,195.00	2,195.00	26.06	87.80	-141.92	-3,523.87	-3,225.70	4,657.69	4,569.16	88.53	52.612	
5,400.00	5,152.81	2,195.00	2,195.00	26.30	87.80	-141.92	-3,523.87	-3,225.70	4,718.82	4,631.06	87.75	53.774	
5,500.00	5,252.81	2,195.00	2,195.00	26.54	87.80	-141.92	-3,523.87	-3,225.70	4,781.25	4,694.27	86.98	54.970	
5,600.00	5,352.81	2,195.00	2,195.00	26.79	87.80	-141.92	-3,523.87	-3,225.70	4,844.95	4,758.74	86.21	56.201	
5,700.00	5,452.81	2,195.00	2,195.00	27.03	87.80	-141.92	-3,523.87	-3,225.70	4,909.86	4,824.42	85.44	57.466	
5,800.00	5,552.81	2,195.00	2,195.00	27.28	87.80	-141.92	-3,523.87	-3,225.70	4,975.93	4,891.25	84.68	58.764	
5,900.00	5,652.81	2,195.00	2,195.00	27.53	87.80	-141.92	-3,523.87	-3,225.70	5,043.12	4,959.20	83.92	60.095	
6,000.00	5,752.81	2,195.00	2,195.00	27.79	87.80	-141.92	-3,523.87	-3,225.70	5,111.38	5,028.21	83.17	61.456	
6,100.00	5,852.81	2,195.00	2,195.00	28.04	87.80	-141.92	-3,523.87	-3,225.70	5,180.67	5,098.24	82.43	62.849	
6,200.00	5,952.81	2,195.00	2,195.00	28.30	87.80	-141.92	-3,523.87	-3,225.70	5,250.95	5,169.25	81.70	64.271	
6,300.00	6,052.81	2,195.00	2,195.00	28.56	87.80	-141.92	-3,523.87	-3,225.70	5,322.19	5,241.21	80.98	65.722	
6,400.00	6,152.81	2,195.00	2,195.00	28.83	87.80	-141.92	-3,523.87	-3,225.70	5,394.33	5,314.06	80.27	67.202	
6,500.00	6,252.81	2,195.00	2,195.00	29.09	87.80	-141.92	-3,523.87	-3,225.70	5,467.36	5,387.79	79.57	68.709	
6,600.00	6,352.81	2,195.00	2,195.00	29.36	87.80	-141.92	-3,523.87	-3,225.70	5,541.22	5,462.34	78.89	70.242	
6,700.00	6,452.81	2,195.00	2,195.00	29.63	87.80	-141.92	-3,523.87	-3,225.70	5,615.90	5,537.68	78.21	71.801	
6,800.00	6,552.81	2,195.00	2,195.00	29.90	87.80	-141.92	-3,523.87	-3,225.70	5,691.35	5,613.80	77.56	73.385	
6,900.00	6,652.81	2,195.00	2,195.00	30.17	87.80	-141.92	-3,523.87	-3,225.70	5,767.55	5,690.64	76.91	74.992	
7,000.00	6,752.81	2,195.00	2,195.00	30.45	87.80	-141.92	-3,523.87	-3,225.70	5,844.47	5,768.19	76.28	76.623	
7,089.19	6,842.00	2,195.00	2,195.00	30.69	87.80	-141.92	-3,523.87	-3,225.70	5,913.65	5,837.93	75.72	78.095	

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Sloane Com 001F - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 413-MWD SDI

Offset Well Error: 0.00 ft

Rule Assigned:

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	-133.19	-2,712.07	-2,889.12	3,962.90				
100.00	100.00	47.77	47.77	0.30	0.05	-133.19	-2,712.07	-2,889.15	3,962.64	3,962.29	0.35	N/A	
200.00	200.00	139.63	139.63	0.66	0.16	-133.19	-2,712.06	-2,889.42	3,962.85	3,962.04	0.81	4,872.292	
300.00	300.00	231.50	231.50	1.01	0.26	-133.18	-2,712.06	-2,889.94	3,963.27	3,961.99	1.28	3,107.971	
400.00	400.00	323.36	323.35	1.37	0.37	-133.17	-2,712.06	-2,890.73	3,963.89	3,962.15	1.74	2,281.983	
500.00	500.00	415.72	415.71	1.73	0.47	-133.16	-2,712.05	-2,891.78	3,964.71	3,962.51	2.20	1,800.332	
600.00	600.00	514.28	514.26	2.09	0.69	-133.15	-2,711.83	-2,893.12	3,965.55	3,962.78	2.77	1,430.369	
700.00	700.00	1,799.72	1,778.68	2.45	4.67	-132.99	-2,581.02	-2,769.04	3,949.51	3,943.52	5.99	658.826	
800.00	800.00	1,933.04	1,906.16	2.81	5.35	-132.89	-2,550.21	-2,745.17	3,920.66	3,913.96	6.70	585.048	
900.00	900.00	2,488.37	2,421.52	3.17	8.94	-132.04	-2,376.53	-2,635.64	3,880.46	3,871.70	8.76	443.100	
998.00	998.00	2,552.56	2,480.10	3.52	9.37	-131.95	-2,355.37	-2,620.13	3,841.10	3,831.80	9.30	412.958	
1,000.00	1,000.00	2,553.81	2,481.25	3.52	9.38	-9.18	-2,354.97	-2,619.82	3,840.30	3,830.99	9.31	412.386	
1,100.00	1,099.95	2,614.00	2,536.43	3.86	9.78	-9.34	-2,336.20	-2,604.80	3,798.38	3,788.54	9.84	385.963	
1,200.00	1,199.62	2,678.62	2,595.89	4.20	10.21	-9.55	-2,316.98	-2,588.39	3,752.46	3,742.07	10.39	361.177	
1,300.00	1,298.74	2,855.03	2,757.85	4.55	11.47	-9.82	-2,265.92	-2,540.67	3,701.49	3,690.24	11.25	328.923	
1,400.00	1,397.04	2,884.00	2,784.29	4.91	11.69	-10.17	-2,257.44	-2,532.37	3,645.29	3,633.60	11.69	311.713	
1,500.00	1,494.24	2,936.79	2,832.70	5.30	12.06	-10.60	-2,242.67	-2,517.38	3,585.58	3,573.39	12.19	294.169	
1,600.00	1,590.08	2,974.00	2,867.14	5.73	12.32	-11.09	-2,233.08	-2,507.06	3,523.13	3,510.49	12.64	278.799	
1,700.00	1,684.30	2,974.00	2,867.14	6.20	12.32	-11.60	-2,233.08	-2,507.06	3,457.89	3,444.90	12.99	266.277	
1,800.00	1,776.64	3,026.27	2,915.90	6.73	12.64	-12.27	-2,220.39	-2,493.16	3,389.47	3,376.02	13.45	251.952	
1,900.00	1,866.84	3,064.00	2,951.34	7.33	12.87	-13.03	-2,211.56	-2,483.69	3,318.46	3,304.57	13.88	239.039	
1,971.76	1,930.11	3,064.00	2,951.34	7.81	12.87	-13.56	-2,211.56	-2,483.69	3,265.85	3,251.72	14.13	231.074	
2,000.00	1,954.76	3,090.66	2,976.48	8.01	13.02	-13.64	-2,205.48	-2,477.22	3,244.80	3,230.51	14.29	227.093	
2,100.00	2,042.05	3,127.90	3,011.70	8.74	13.24	-13.76	-2,197.17	-2,468.41	3,170.91	3,156.21	14.70	215.697	
2,200.00	2,129.33	3,170.82	3,052.41	9.51	13.48	-13.89	-2,187.85	-2,458.53	3,097.66	3,082.53	15.14	204.640	
2,300.00	2,216.61	3,225.08	3,103.97	10.30	13.79	-14.09	-2,176.65	-2,445.87	3,024.82	3,009.21	15.60	193.849	
2,400.00	2,303.89	3,277.74	3,154.09	11.12	14.08	-14.30	-2,166.28	-2,433.45	2,952.32	2,936.24	16.08	183.623	
2,500.00	2,391.17	3,335.00	3,208.68	11.95	14.40	-14.52	-2,154.91	-2,420.47	2,880.24	2,863.67	16.57	173.825	
2,600.00	2,478.45	3,418.62	3,288.30	12.79	14.87	-14.86	-2,137.96	-2,401.33	2,807.86	2,790.75	17.11	164.082	
2,700.00	2,565.73	3,482.24	3,348.81	13.65	15.24	-15.14	-2,125.20	-2,386.43	2,735.39	2,717.75	17.63	155.147	
2,800.00	2,653.02	3,532.30	3,396.56	14.51	15.52	-15.38	-2,115.60	-2,374.82	2,663.49	2,645.35	18.14	146.822	
2,900.00	2,740.30	3,588.24	3,450.00	15.38	15.82	-15.66	-2,105.03	-2,362.12	2,592.03	2,573.37	18.67	138.869	
3,000.00	2,827.58	3,636.76	3,496.44	16.26	16.07	-15.91	-2,095.93	-2,351.40	2,521.05	2,501.85	19.19	131.346	
3,100.00	2,914.86	3,695.00	3,552.37	17.14	16.38	-16.20	-2,085.24	-2,339.18	2,450.82	2,431.08	19.74	124.149	
3,200.00	3,002.14	3,727.54	3,583.71	18.03	16.53	-16.37	-2,079.38	-2,332.69	2,381.27	2,360.98	20.28	117.394	
3,260.43	3,054.89	3,754.61	3,609.84	18.57	16.67	-16.51	-2,074.59	-2,327.50	2,339.68	2,319.05	20.62	113.445	
3,300.00	3,089.62	3,786.00	3,640.20	18.91	16.82	-16.35	-2,069.10	-2,321.71	2,312.97	2,292.12	20.85	110.924	
3,400.00	3,179.08	3,786.00	3,640.20	19.73	16.82	-15.66	-2,069.10	-2,321.71	2,248.98	2,227.56	21.42	105.018	
3,500.00	3,270.76	3,842.86	3,695.49	20.47	17.07	-15.30	-2,059.96	-2,312.11	2,190.07	2,168.06	22.00	99.529	
3,600.00	3,364.40	3,882.93	3,734.72	21.14	17.24	-14.95	-2,054.38	-2,306.12	2,137.44	2,114.84	22.60	94.575	
3,700.00	3,459.75	3,966.00	3,816.18	21.72	17.56	-14.77	-2,043.44	-2,294.13	2,090.12	2,066.92	23.20	90.099	
3,800.00	3,556.54	4,026.10	3,875.22	22.23	17.78	-14.56	-2,036.05	-2,285.63	2,048.10	2,024.31	23.79	86.083	
3,900.00	3,654.51	4,056.00	3,904.65	22.68	17.90	-14.35	-2,032.70	-2,281.55	2,012.57	1,988.19	24.38	82.554	
4,000.00	3,753.40	4,113.78	3,961.75	23.05	18.07	-14.23	-2,027.20	-2,274.73	1,983.92	1,958.98	24.94	79.547	
4,100.00	3,852.92	4,157.92	4,005.60	23.37	18.20	-14.13	-2,023.98	-2,270.83	1,963.21	1,937.73	25.48	77.059	
4,200.00	3,952.81	4,211.00	4,058.44	23.62	18.32	-14.04	-2,020.19	-2,267.44	1,949.63	1,923.65	25.98	75.048	
4,234.19	3,987.00	4,211.00	4,058.44	23.70	18.32	-136.80	-2,020.19	-2,267.44	1,946.93	1,920.80	26.13	74.501	
4,300.00	4,052.81	4,211.00	4,058.44	23.83	18.32	-136.80	-2,020.19	-2,267.44	1,944.01	1,917.60	26.41	73.613	
4,353.63	4,106.44	4,211.00	4,058.44	23.95	18.32	-136.80	-2,020.19	-2,267.44	1,943.27	1,916.65	26.62	73.014	CC, ES
4,400.00	4,152.81	4,211.00	4,058.44	24.04	18.32	-136.80	-2,020.19	-2,267.44	1,943.82	1,917.04	26.78	72.588	
4,500.00	4,252.81	4,211.00	4,058.44	24.25	18.32	-136.80	-2,020.19	-2,267.44	1,948.77	1,921.68	27.09	71.941	
4,600.00	4,352.81	4,211.00	4,058.44	24.47	18.32	-136.80	-2,020.19	-2,267.44	1,958.82	1,931.49	27.34	71.657	SF

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Sloane Com 001F - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 413-MWD SDI

Rule Assigned:

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	4,452.81	4,211.00	4,058.44	24.69	18.32	-136.80	-2,020.19	-2,267.44	1,973.90	1,946.37	27.52	71.720	
4,800.00	4,552.81	4,211.00	4,058.44	24.91	18.32	-136.80	-2,020.19	-2,267.44	1,993.87	1,966.23	27.65	72.114	
4,900.00	4,652.81	4,211.00	4,058.44	25.13	18.32	-136.80	-2,020.19	-2,267.44	2,018.62	1,990.90	27.72	72.825	
5,000.00	4,752.81	4,211.00	4,058.44	25.36	18.32	-136.80	-2,020.19	-2,267.44	2,047.95	2,020.21	27.74	73.836	
5,100.00	4,852.81	4,211.00	4,058.44	25.59	18.32	-136.80	-2,020.19	-2,267.44	2,081.67	2,053.97	27.71	75.131	
5,200.00	4,952.81	4,211.00	4,058.44	25.82	18.32	-136.80	-2,020.19	-2,267.44	2,119.58	2,091.95	27.64	76.695	
5,300.00	5,052.81	4,211.00	4,058.44	26.06	18.32	-136.80	-2,020.19	-2,267.44	2,161.46	2,133.93	27.53	78.512	
5,400.00	5,152.81	4,211.00	4,058.44	26.30	18.32	-136.80	-2,020.19	-2,267.44	2,207.08	2,179.68	27.39	80.567	
5,500.00	5,252.81	4,211.00	4,058.44	26.54	18.32	-136.80	-2,020.19	-2,267.44	2,256.20	2,228.97	27.23	82.845	
5,600.00	5,352.81	4,211.00	4,058.44	26.79	18.32	-136.80	-2,020.19	-2,267.44	2,308.62	2,281.57	27.06	85.330	
5,700.00	5,452.81	4,211.00	4,058.44	27.03	18.32	-136.80	-2,020.19	-2,267.44	2,364.11	2,337.25	26.86	88.006	
5,800.00	5,552.81	4,211.00	4,058.44	27.28	18.32	-136.80	-2,020.19	-2,267.44	2,422.45	2,395.79	26.66	90.860	
5,900.00	5,652.81	4,211.00	4,058.44	27.53	18.32	-136.80	-2,020.19	-2,267.44	2,483.46	2,457.00	26.45	93.875	
6,000.00	5,752.81	4,211.00	4,058.44	27.79	18.32	-136.80	-2,020.19	-2,267.44	2,546.93	2,520.68	26.25	97.039	
6,100.00	5,852.81	4,211.00	4,058.44	28.04	18.32	-136.80	-2,020.19	-2,267.44	2,612.68	2,586.64	26.04	100.335	
6,200.00	5,952.81	4,211.00	4,058.44	28.30	18.32	-136.80	-2,020.19	-2,267.44	2,680.56	2,654.72	25.84	103.751	
6,300.00	6,052.81	4,211.00	4,058.44	28.56	18.32	-136.80	-2,020.19	-2,267.44	2,750.39	2,724.75	25.64	107.272	
6,400.00	6,152.81	4,211.00	4,058.44	28.83	18.32	-136.80	-2,020.19	-2,267.44	2,822.04	2,796.59	25.45	110.885	
6,500.00	6,252.81	4,211.00	4,058.44	29.09	18.32	-136.80	-2,020.19	-2,267.44	2,895.38	2,870.11	25.27	114.577	
6,600.00	6,352.81	4,211.00	4,058.44	29.36	18.32	-136.80	-2,020.19	-2,267.44	2,970.27	2,945.17	25.10	118.334	
6,700.00	6,452.81	4,211.00	4,058.44	29.63	18.32	-136.80	-2,020.19	-2,267.44	3,046.60	3,021.66	24.94	122.146	
6,800.00	6,552.81	4,211.00	4,058.44	29.90	18.32	-136.80	-2,020.19	-2,267.44	3,124.26	3,099.47	24.80	125.999	
6,900.00	6,652.81	4,211.00	4,058.44	30.17	18.32	-136.80	-2,020.19	-2,267.44	3,203.17	3,178.51	24.66	129.883	
7,000.00	6,752.81	4,211.00	4,058.44	30.45	18.32	-136.80	-2,020.19	-2,267.44	3,283.23	3,258.69	24.54	133.786	
7,089.19	6,842.00	4,211.00	4,058.44	30.69	18.32	-136.80	-2,020.19	-2,267.44	3,355.53	3,331.09	24.44	137.276	

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Titt 002B - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 12-INCLINOMETER

Rule Assigned:

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	117.00	117.00	0.00	3.55	103.03	-830.85	3,589.94	3,684.83				
100.00	100.00	217.01	217.00	0.30	6.59	103.03	-830.85	3,589.94	3,684.83	3,677.94	6.89	534.960	
200.00	200.00	317.01	317.00	0.66	9.63	103.03	-830.85	3,589.94	3,684.83	3,674.55	10.28	358.329	
285.96	285.96	402.97	402.95	0.96	12.24	103.01	-829.77	3,589.94	3,684.59	3,671.39	13.20	279.093	CC
300.00	300.00	416.61	416.59	1.01	12.65	103.01	-829.77	3,589.94	3,684.59	3,670.92	13.67	269.604	
400.00	400.00	513.79	513.77	1.37	15.60	103.02	-829.99	3,589.94	3,684.64	3,667.66	16.98	217.046	
500.00	500.00	610.97	610.94	1.73	18.55	103.03	-830.53	3,589.94	3,684.76	3,664.48	20.29	181.640	
600.00	600.00	717.08	717.00	2.09	21.78	103.03	-830.85	3,589.94	3,684.83	3,660.96	23.87	154.390	
700.00	700.00	817.08	817.00	2.45	24.81	103.03	-830.85	3,589.94	3,684.83	3,657.57	27.26	135.162	
773.38	773.38	890.47	890.38	2.71	27.04	103.02	-829.81	3,589.94	3,684.60	3,654.84	29.75	123.835	
800.00	800.00	916.30	916.21	2.81	27.83	103.02	-829.82	3,589.94	3,684.60	3,653.97	30.63	120.278	
900.00	900.00	1,013.39	1,013.29	3.17	30.78	103.02	-830.08	3,589.94	3,684.66	3,650.72	33.94	108.561	
998.00	998.00	1,108.53	1,108.43	3.52	33.66	103.03	-830.67	3,589.94	3,684.80	3,647.62	37.18	99.103	
1,000.00	1,000.00	1,110.47	1,110.37	3.52	33.72	-134.19	-830.69	3,589.94	3,684.80	3,647.55	37.25	98.928	
1,100.00	1,099.95	1,217.11	1,216.95	3.86	36.96	-134.18	-830.85	3,589.94	3,686.73	3,645.91	40.82	90.321	ES
1,200.00	1,199.62	1,316.78	1,316.62	4.20	39.99	-134.15	-830.85	3,589.94	3,692.28	3,648.09	44.18	83.566	
1,300.00	1,298.74	1,415.21	1,415.04	4.55	42.98	-134.11	-829.73	3,589.94	3,701.23	3,653.71	47.52	77.889	
1,400.00	1,397.04	1,510.94	1,510.77	4.91	45.89	-134.02	-829.96	3,589.94	3,714.14	3,663.36	50.78	73.139	
1,500.00	1,494.24	1,605.69	1,605.51	5.30	48.76	-133.90	-830.50	3,589.94	3,730.78	3,676.75	54.03	69.052	
1,600.00	1,590.08	1,707.30	1,707.08	5.73	51.85	-133.77	-830.85	3,589.94	3,751.02	3,693.52	57.50	65.232	
1,700.00	1,684.30	1,801.52	1,801.30	6.20	54.71	-133.60	-830.85	3,589.94	3,774.86	3,714.08	60.78	62.111	
1,800.00	1,776.64	1,893.62	1,893.40	6.73	57.51	-133.39	-830.09	3,589.94	3,802.20	3,738.19	64.01	59.396	
1,900.00	1,866.84	1,982.05	1,981.83	7.33	60.19	-133.11	-830.23	3,589.94	3,833.37	3,766.20	67.18	57.064	
1,971.76	1,930.11	2,044.17	2,043.94	7.81	62.08	-132.87	-830.46	3,589.94	3,858.01	3,788.58	69.43	55.568	
2,000.00	1,954.76	2,068.38	2,068.16	8.01	62.81	-133.00	-830.58	3,589.94	3,868.08	3,797.77	70.31	55.012	
2,100.00	2,042.05	2,159.29	2,159.05	8.74	65.57	-133.51	-830.85	3,589.94	3,903.92	3,830.31	73.61	53.036	
2,200.00	2,129.33	2,246.57	2,246.33	9.51	68.23	-133.99	-830.85	3,589.94	3,939.98	3,863.17	76.81	51.295	
2,300.00	2,216.61	2,333.85	2,333.61	10.30	70.88	-134.47	-830.85	3,589.94	3,976.32	3,896.30	80.03	49.688	
2,400.00	2,303.89	2,420.39	2,420.14	11.12	73.50	-134.94	-830.38	3,589.94	4,012.86	3,929.63	83.23	48.216	
2,500.00	2,391.17	2,506.82	2,506.57	11.95	76.13	-135.39	-830.56	3,589.94	4,049.75	3,963.31	86.43	46.855	
2,600.00	2,478.45	2,595.73	2,595.45	12.79	78.83	-135.84	-830.85	3,589.94	4,086.90	3,997.18	89.72	45.553	
2,700.00	2,565.73	2,683.01	2,682.73	13.65	81.48	-136.29	-830.85	3,589.94	4,124.25	4,031.29	92.96	44.368	
2,800.00	2,653.02	2,770.29	2,770.02	14.51	84.13	-136.73	-830.85	3,589.94	4,161.84	4,065.65	96.20	43.264	
2,900.00	2,740.30	2,857.17	2,856.89	15.38	86.77	-137.17	-830.09	3,589.94	4,199.58	4,100.16	99.42	42.240	
3,000.00	2,827.58	2,943.46	2,943.18	16.26	89.39	-137.58	-830.27	3,589.94	4,237.65	4,135.02	102.63	41.290	
3,100.00	2,914.86	3,029.89	3,029.60	17.14	92.01	-137.99	-830.66	3,589.94	4,275.96	4,170.11	105.84	40.399	
3,200.00	3,002.14	3,119.44	3,119.14	18.03	94.73	-138.41	-830.85	3,589.94	4,314.45	4,205.30	109.15	39.528	
3,260.43	3,054.89	3,172.19	3,171.89	18.57	96.33	-138.65	-830.85	3,589.94	4,337.81	4,226.70	111.11	39.042	
3,300.00	3,089.62	3,206.92	3,206.62	18.91	97.39	-139.13	-830.85	3,589.94	4,352.85	4,240.47	112.39	38.731	
3,400.00	3,179.08	3,296.36	3,296.06	19.73	100.11	-140.24	-830.35	3,589.94	4,388.39	4,272.74	115.65	37.945	
3,500.00	3,270.76	3,387.53	3,387.22	20.47	102.87	-141.19	-830.43	3,589.94	4,420.33	4,301.40	118.93	37.167	
3,600.00	3,364.40	3,480.71	3,480.40	21.14	105.70	-142.01	-830.68	3,589.94	4,448.50	4,326.26	122.24	36.393	
3,700.00	3,459.75	3,577.07	3,576.75	21.72	108.63	-142.70	-830.85	3,589.94	4,472.77	4,347.17	125.60	35.610	
3,800.00	3,556.54	3,673.86	3,673.54	22.23	111.57	-143.27	-830.85	3,589.94	4,493.03	4,364.08	128.95	34.844	
3,900.00	3,654.51	3,771.83	3,771.51	22.68	114.55	-143.71	-830.85	3,589.94	4,509.20	4,376.91	132.30	34.084	
4,000.00	3,753.40	3,870.42	3,870.09	23.05	117.54	-144.04	-830.32	3,589.94	4,521.20	4,385.57	135.63	33.335	
4,100.00	3,852.92	3,969.58	3,969.26	23.37	120.55	-144.25	-830.53	3,589.94	4,529.02	4,390.07	138.95	32.594	
4,200.00	3,952.81	4,070.22	4,069.81	23.62	123.61	-144.34	-830.85	3,589.94	4,532.62	4,390.33	142.29	31.854	
4,234.19	3,987.00	4,104.41	4,104.00	23.70	124.64	92.87	-830.85	3,589.94	4,532.87	4,389.45	143.42	31.606	
4,300.00	4,052.81	4,170.22	4,169.81	23.83	126.64	92.87	-830.85	3,589.94	4,532.87	4,387.29	145.58	31.137	
4,325.28	4,078.09	4,195.12	4,194.70	23.89	127.40	92.86	-830.08	3,589.94	4,532.83	4,386.43	146.39	30.963	
4,400.00	4,152.81	4,268.07	4,267.64	24.04	129.61	92.87	-830.49	3,589.94	4,532.85	4,384.06	148.79	30.464	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Titt 002B - OH - OH — **Offset Site Error:** 0.00 ft

Survey Program: 12-INCLINOMETER — **Rule Assigned:** — **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
4,500.00	4,252.81	4,370.28	4,369.81	24.25	132.72	92.87	-830.85	3,589.94	4,532.87	4,380.72	152.15	29.792	
4,600.00	4,352.81	4,470.28	4,469.81	24.47	135.76	92.87	-830.85	3,589.94	4,532.87	4,377.43	155.44	29.161	
4,700.00	4,452.81	4,570.28	4,569.81	24.69	138.79	92.87	-830.85	3,589.94	4,532.87	4,374.13	158.74	28.556	
4,800.00	4,552.81	4,670.28	4,669.81	24.91	141.83	92.87	-830.85	3,589.94	4,532.87	4,370.83	162.03	27.975	
4,900.00	4,652.81	4,770.28	4,769.81	25.13	144.87	92.87	-830.85	3,589.94	4,532.87	4,367.53	165.33	27.417	
5,000.00	4,752.81	4,870.28	4,869.81	25.36	147.90	92.87	-830.85	3,589.94	4,532.87	4,364.23	168.64	26.880	
5,100.00	4,852.81	4,970.28	4,969.81	25.59	150.94	92.87	-830.85	3,589.94	4,532.87	4,360.92	171.94	26.363	
5,200.00	4,952.81	5,070.28	5,069.81	25.82	153.98	92.87	-830.85	3,589.94	4,532.87	4,357.62	175.25	25.865	
5,300.00	5,052.81	5,170.28	5,169.81	26.06	157.01	92.87	-830.85	3,589.94	4,532.87	4,354.31	178.56	25.385	
5,400.00	5,152.81	5,270.28	5,269.81	26.30	160.05	92.87	-830.85	3,589.94	4,532.87	4,350.99	181.88	24.923	
5,500.00	5,252.81	5,370.28	5,369.81	26.54	163.09	92.87	-830.85	3,589.94	4,532.87	4,347.68	185.19	24.477	
5,600.00	5,352.81	5,470.28	5,469.81	26.79	166.12	92.87	-830.85	3,589.94	4,532.87	4,344.36	188.51	24.046	
5,700.00	5,452.81	5,570.28	5,569.81	27.03	169.16	92.87	-830.85	3,589.94	4,532.87	4,341.04	191.83	23.630	
5,799.39	5,552.21	5,669.67	5,669.15	27.28	172.18	92.80	-824.88	3,589.94	4,532.57	4,337.45	195.12	23.229	
5,800.00	5,552.81	5,670.28	5,669.76	27.28	172.20	92.80	-824.88	3,589.94	4,532.57	4,337.43	195.14	23.227	
5,900.00	5,652.81	5,770.15	5,769.63	27.53	175.23	92.80	-824.91	3,589.94	4,532.57	4,334.11	198.46	22.838	
6,000.00	5,752.81	5,870.02	5,869.49	27.79	178.26	92.80	-825.00	3,589.94	4,532.58	4,330.79	201.79	22.462	
6,100.00	5,852.81	5,969.90	5,969.36	28.04	181.30	92.80	-825.16	3,589.94	4,532.58	4,327.47	205.11	22.098	
6,200.00	5,952.81	6,069.77	6,069.24	28.30	184.33	92.81	-825.39	3,589.94	4,532.60	4,324.16	208.44	21.746	
6,300.00	6,052.81	6,169.65	6,169.11	28.56	187.36	92.81	-825.67	3,589.94	4,532.61	4,320.84	211.76	21.404	
6,400.00	6,152.81	6,269.53	6,268.98	28.83	190.39	92.81	-826.02	3,589.94	4,532.63	4,317.53	215.09	21.073	
6,500.00	6,252.81	6,369.41	6,368.86	29.09	193.43	92.82	-826.44	3,589.94	4,532.65	4,314.22	218.43	20.751	
6,600.00	6,352.81	6,469.29	6,468.73	29.36	196.46	92.82	-826.91	3,589.94	4,532.67	4,310.91	221.76	20.439	
6,700.00	6,452.81	6,569.17	6,568.61	29.63	199.49	92.83	-827.45	3,589.94	4,532.70	4,307.60	225.10	20.137	
6,800.00	6,552.81	6,669.06	6,668.49	29.90	202.53	92.84	-828.06	3,589.94	4,532.73	4,304.30	228.43	19.843	
6,900.00	6,652.81	6,768.94	6,768.36	30.17	205.56	92.85	-828.73	3,589.94	4,532.76	4,300.99	231.77	19.557	
7,000.00	6,752.81	6,868.83	6,868.24	30.45	208.59	92.86	-829.46	3,589.94	4,532.80	4,297.69	235.11	19.279	
7,089.19	6,842.00	6,957.92	6,957.32	30.69	211.30	92.87	-830.16	3,589.94	4,532.83	4,294.74	238.09	19.038	SF

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Titt 100 - OH - OH — **Offset Site Error:** 0.00 ft

Survey Program: 12-INCLINOMETER — **Rule Assigned:** — **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	84.00	84.00	0.00	2.55	122.98	-1,696.39	2,614.51	3,116.63				
100.00	100.00	184.00	184.00	0.30	5.59	122.98	-1,696.39	2,614.51	3,116.63	3,110.75	5.89	529.538	
200.00	200.00	284.01	284.00	0.66	8.63	122.98	-1,696.39	2,614.51	3,116.63	3,107.35	9.28	335.802	
300.00	300.00	384.01	384.00	1.01	11.66	122.98	-1,696.39	2,614.51	3,116.63	3,103.96	12.68	245.859	
400.00	400.00	484.01	484.00	1.37	14.70	122.98	-1,696.39	2,614.51	3,116.63	3,100.56	16.07	193.919	
440.19	440.19	522.85	522.84	1.52	15.88	122.96	-1,695.54	2,614.51	3,116.17	3,098.78	17.40	179.137	
500.00	500.00	580.25	580.23	1.73	17.62	122.97	-1,695.62	2,614.51	3,116.22	3,096.87	19.35	161.020	
600.00	600.00	676.21	676.19	2.09	20.54	122.97	-1,695.95	2,614.51	3,116.41	3,093.78	22.63	137.738	
700.00	700.00	784.07	784.00	2.45	23.81	122.98	-1,696.39	2,614.51	3,116.63	3,090.37	26.26	118.685	
800.00	800.00	884.07	884.00	2.81	26.85	122.98	-1,696.39	2,614.51	3,116.63	3,086.98	29.66	105.096	
900.00	900.00	984.07	984.00	3.17	29.89	122.98	-1,696.39	2,614.51	3,116.63	3,083.58	33.05	94.300	
940.03	940.03	1,023.07	1,022.99	3.31	31.07	122.96	-1,695.29	2,614.51	3,116.04	3,081.66	34.38	90.640 CC	
998.00	998.00	1,077.82	1,077.74	3.52	32.73	122.96	-1,695.38	2,614.51	3,116.09	3,079.84	36.25	85.964	
1,000.00	1,000.00	1,079.71	1,079.63	3.52	32.79	-114.26	-1,695.38	2,614.51	3,116.09	3,079.78	36.31	85.812	
1,100.00	1,099.95	1,174.14	1,174.05	3.86	35.66	-114.26	-1,695.78	2,614.51	3,117.44	3,077.93	39.51	78.897	
1,200.00	1,199.62	1,283.75	1,283.62	4.20	38.99	-114.30	-1,696.39	2,614.51	3,121.03	3,077.85	43.18	72.278 ES	
1,300.00	1,298.74	1,382.87	1,382.74	4.55	42.00	-114.37	-1,696.39	2,614.51	3,126.49	3,079.95	46.54	67.181	
1,400.00	1,397.04	1,481.17	1,481.04	4.91	44.98	-114.46	-1,696.39	2,614.51	3,134.18	3,084.29	49.89	62.828	
1,500.00	1,494.24	1,575.32	1,575.18	5.30	47.84	-114.56	-1,695.64	2,614.51	3,143.74	3,090.62	53.13	59.174	
1,600.00	1,590.08	1,667.22	1,667.08	5.73	50.63	-114.65	-1,695.92	2,614.51	3,156.20	3,099.87	56.33	56.032	
1,700.00	1,684.30	1,768.46	1,768.30	6.20	53.71	-114.80	-1,696.39	2,614.51	3,171.15	3,111.30	59.85	52.984	
1,800.00	1,776.64	1,860.79	1,860.64	6.73	56.51	-114.91	-1,696.39	2,614.51	3,188.36	3,125.21	63.15	50.489	
1,900.00	1,866.84	1,951.00	1,950.84	7.33	59.25	-115.01	-1,696.39	2,614.51	3,208.15	3,141.71	66.44	48.289	
1,971.76	1,930.11	2,014.01	2,013.85	7.81	61.16	-115.07	-1,695.84	2,614.51	3,223.72	3,154.94	68.78	46.869	
2,000.00	1,954.76	2,038.01	2,037.85	8.01	61.89	-115.26	-1,695.85	2,614.51	3,230.26	3,160.57	69.69	46.353	
2,100.00	2,042.05	2,123.05	2,122.89	8.74	64.47	-115.94	-1,695.96	2,614.51	3,253.82	3,180.90	72.91	44.626	
2,200.00	2,129.33	2,208.16	2,208.00	9.51	67.06	-116.61	-1,696.20	2,614.51	3,277.98	3,201.82	76.16	43.039	
2,300.00	2,216.61	2,300.80	2,300.61	10.30	69.87	-117.33	-1,696.39	2,614.51	3,302.66	3,223.01	79.66	41.460	
2,400.00	2,303.89	2,388.08	2,387.89	11.12	72.52	-118.01	-1,696.39	2,614.51	3,327.80	3,244.80	83.00	40.094	
2,500.00	2,391.17	2,470.34	2,470.15	11.95	75.02	-118.64	-1,696.06	2,614.51	3,353.32	3,267.12	86.20	38.903	
2,600.00	2,478.45	2,562.67	2,562.45	12.79	77.83	-119.33	-1,696.39	2,614.51	3,379.61	3,289.91	89.70	37.675	
2,700.00	2,565.73	2,575.00	2,574.77	13.65	78.20	-119.42	-1,696.39	2,614.51	3,407.10	3,316.36	90.74	37.548 SF	
2,800.00	2,653.02	2,575.00	2,574.77	14.51	78.20	-119.42	-1,696.39	2,614.51	3,437.26	3,345.92	91.34	37.633	
2,900.00	2,740.30	2,575.00	2,574.77	15.38	78.20	-119.42	-1,696.39	2,614.51	3,470.03	3,378.16	91.87	37.771	
3,000.00	2,827.58	2,575.00	2,574.77	16.26	78.20	-119.42	-1,696.39	2,614.51	3,505.36	3,413.01	92.34	37.960	
3,100.00	2,914.86	2,575.00	2,574.77	17.14	78.20	-119.42	-1,696.39	2,614.51	3,543.15	3,450.39	92.76	38.197	
3,200.00	3,002.14	2,575.00	2,574.77	18.03	78.20	-119.42	-1,696.39	2,614.51	3,583.34	3,490.22	93.12	38.481	
3,260.43	3,054.89	2,575.00	2,574.77	18.57	78.20	-119.42	-1,696.39	2,614.51	3,608.75	3,515.44	93.31	38.675	
3,300.00	3,089.62	2,575.00	2,574.77	18.91	78.20	-119.91	-1,696.39	2,614.51	3,625.66	3,532.24	93.42	38.811	
3,400.00	3,179.08	2,575.00	2,574.77	19.73	78.20	-121.13	-1,696.39	2,614.51	3,668.30	3,574.68	93.61	39.186	
3,500.00	3,270.76	2,575.00	2,574.77	20.47	78.20	-122.32	-1,696.39	2,614.51	3,710.72	3,617.02	93.69	39.605	
3,600.00	3,364.40	2,575.00	2,574.77	21.14	78.20	-123.49	-1,696.39	2,614.51	3,752.81	3,659.15	93.66	40.068	
3,700.00	3,459.75	2,575.00	2,574.77	21.72	78.20	-124.63	-1,696.39	2,614.51	3,794.48	3,700.96	93.52	40.573	
3,800.00	3,556.54	2,575.00	2,574.77	22.23	78.20	-125.74	-1,696.39	2,614.51	3,835.63	3,742.35	93.28	41.119	
3,900.00	3,654.51	2,575.00	2,574.77	22.68	78.20	-126.81	-1,696.39	2,614.51	3,876.16	3,783.21	92.94	41.704	
4,000.00	3,753.40	2,575.00	2,574.77	23.05	78.20	-127.84	-1,696.39	2,614.51	3,915.98	3,823.46	92.51	42.329	
4,100.00	3,852.92	2,575.00	2,574.77	23.37	78.20	-128.84	-1,696.39	2,614.51	3,955.00	3,863.00	92.00	42.990	
4,200.00	3,952.81	2,575.00	2,574.77	23.62	78.20	-129.80	-1,696.39	2,614.51	3,993.14	3,901.74	91.40	43.687	
4,234.19	3,987.00	2,575.00	2,574.77	23.70	78.20	107.10	-1,696.39	2,614.51	4,005.97	3,914.79	91.18	43.935	
4,300.00	4,052.81	2,575.00	2,574.77	23.83	78.20	107.10	-1,696.39	2,614.51	4,031.01	3,940.28	90.73	44.428	
4,400.00	4,152.81	2,575.00	2,574.77	24.04	78.20	107.10	-1,696.39	2,614.51	4,070.81	3,980.78	90.03	45.216	
4,500.00	4,252.81	2,575.00	2,574.77	24.25	78.20	107.10	-1,696.39	2,614.51	4,112.65	4,023.34	89.30	46.052	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Titt 100 - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 12-INCLINOMETER

Rule Assigned:

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
4,600.00	4,352.81	2,575.00	2,574.77	24.47	78.20	107.10	-1,696.39	2,614.51	4,156.48	4,067.92	88.56	46.935	
4,700.00	4,452.81	2,575.00	2,574.77	24.69	78.20	107.10	-1,696.39	2,614.51	4,202.23	4,114.43	87.79	47.865	
4,800.00	4,552.81	2,575.00	2,574.77	24.91	78.20	107.10	-1,696.39	2,614.51	4,249.84	4,162.82	87.01	48.841	
4,900.00	4,652.81	2,575.00	2,574.77	25.13	78.20	107.10	-1,696.39	2,614.51	4,299.25	4,213.02	86.22	49.863	
5,000.00	4,752.81	2,575.00	2,574.77	25.36	78.20	107.10	-1,696.39	2,614.51	4,350.39	4,264.97	85.42	50.929	
5,100.00	4,852.81	2,575.00	2,574.77	25.59	78.20	107.10	-1,696.39	2,614.51	4,403.22	4,318.61	84.61	52.039	
5,200.00	4,952.81	2,575.00	2,574.77	25.82	78.20	107.10	-1,696.39	2,614.51	4,457.66	4,373.86	83.80	53.193	
5,300.00	5,052.81	2,575.00	2,574.77	26.06	78.20	107.10	-1,696.39	2,614.51	4,513.66	4,430.68	82.99	54.390	
5,400.00	5,152.81	2,575.00	2,574.77	26.30	78.20	107.10	-1,696.39	2,614.51	4,571.17	4,488.99	82.17	55.629	
5,500.00	5,252.81	2,575.00	2,574.77	26.54	78.20	107.10	-1,696.39	2,614.51	4,630.11	4,548.75	81.36	56.909	
5,600.00	5,352.81	2,575.00	2,574.77	26.79	78.20	107.10	-1,696.39	2,614.51	4,690.45	4,609.90	80.55	58.229	
5,700.00	5,452.81	2,575.00	2,574.77	27.03	78.20	107.10	-1,696.39	2,614.51	4,752.13	4,672.38	79.75	59.589	
5,800.00	5,552.81	2,575.00	2,574.77	27.28	78.20	107.10	-1,696.39	2,614.51	4,815.10	4,736.15	78.95	60.987	
5,900.00	5,652.81	2,575.00	2,574.77	27.53	78.20	107.10	-1,696.39	2,614.51	4,879.30	4,801.14	78.16	62.423	
6,000.00	5,752.81	2,575.00	2,574.77	27.79	78.20	107.10	-1,696.39	2,614.51	4,944.69	4,867.31	77.39	63.896	
6,100.00	5,852.81	2,575.00	2,574.77	28.04	78.20	107.10	-1,696.39	2,614.51	5,011.23	4,934.61	76.62	65.405	
6,200.00	5,952.81	2,575.00	2,574.77	28.30	78.20	107.10	-1,696.39	2,614.51	5,078.86	5,003.00	75.86	66.949	
6,300.00	6,052.81	2,575.00	2,574.77	28.56	78.20	107.10	-1,696.39	2,614.51	5,147.54	5,072.43	75.12	68.526	
6,400.00	6,152.81	2,575.00	2,574.77	28.83	78.20	107.10	-1,696.39	2,614.51	5,217.24	5,142.86	74.39	70.136	
6,500.00	6,252.81	2,575.00	2,574.77	29.09	78.20	107.10	-1,696.39	2,614.51	5,287.91	5,214.24	73.67	71.778	
6,600.00	6,352.81	2,575.00	2,574.77	29.36	78.20	107.10	-1,696.39	2,614.51	5,359.52	5,286.55	72.97	73.451	
6,700.00	6,452.81	2,575.00	2,574.77	29.63	78.20	107.10	-1,696.39	2,614.51	5,432.02	5,359.74	72.28	75.153	
6,800.00	6,552.81	2,575.00	2,574.77	29.90	78.20	107.10	-1,696.39	2,614.51	5,505.38	5,433.78	71.61	76.883	
6,900.00	6,652.81	2,575.00	2,574.77	30.17	78.20	107.10	-1,696.39	2,614.51	5,579.58	5,508.63	70.95	78.641	
7,000.00	6,752.81	2,575.00	2,574.77	30.45	78.20	107.10	-1,696.39	2,614.51	5,654.56	5,584.25	70.31	80.425	
7,089.19	6,842.00	2,575.00	2,574.77	30.69	78.20	107.10	-1,696.39	2,614.51	5,722.09	5,652.34	69.75	82.036	

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Turner A 001 - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 100-UNKNOWN

Rule Assigned:

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	-108.94	-891.83	-2,599.28	2,748.18				
100.00	100.00	70.00	70.00	0.30	2.80	-108.94	-891.83	-2,599.28	2,748.02	2,744.92	3.10	887.148	
200.00	200.00	170.00	170.00	0.66	6.80	-108.94	-891.83	-2,599.28	2,748.02	2,740.56	7.46	368.565	
300.00	300.00	270.00	270.00	1.01	10.80	-108.94	-891.83	-2,599.28	2,748.02	2,736.21	11.81	232.598	
400.00	400.00	370.00	370.00	1.37	14.80	-108.94	-891.83	-2,599.28	2,748.02	2,731.85	16.17	169.915	
500.00	500.00	470.00	470.00	1.73	18.80	-108.94	-891.83	-2,599.28	2,748.02	2,727.49	20.53	133.845	
600.00	600.00	570.00	570.00	2.09	22.80	-108.94	-891.83	-2,599.28	2,748.02	2,723.13	24.89	110.407	
700.00	700.00	670.00	670.00	2.45	26.80	-108.94	-891.83	-2,599.28	2,748.02	2,718.77	29.25	93.955	
800.00	800.00	770.00	770.00	2.81	30.80	-108.94	-891.83	-2,599.28	2,748.02	2,714.41	33.61	81.770	
900.00	900.00	870.00	870.00	3.17	34.80	-108.94	-891.83	-2,599.28	2,748.02	2,710.06	37.97	72.382	
998.00	998.00	968.00	968.00	3.52	38.72	-108.94	-891.83	-2,599.28	2,748.02	2,705.78	42.24	65.063	
1,000.00	1,000.00	970.00	970.00	3.52	38.80	13.84	-891.83	-2,599.28	2,748.02	2,705.70	42.32	64.929	
1,100.00	1,099.95	1,069.95	1,069.95	3.86	42.80	13.88	-891.83	-2,599.28	2,745.38	2,698.72	46.65	58.845	
1,200.00	1,199.62	1,169.62	1,169.62	4.20	46.78	13.97	-891.83	-2,599.28	2,737.66	2,686.68	50.98	53.700	
1,300.00	1,298.74	1,268.74	1,268.74	4.55	50.75	14.13	-891.83	-2,599.28	2,724.89	2,669.60	55.29	49.283	
1,400.00	1,397.04	1,367.04	1,367.04	4.91	54.68	14.36	-891.83	-2,599.28	2,707.11	2,647.54	59.57	45.444	
1,500.00	1,494.24	1,464.24	1,464.24	5.30	58.57	14.66	-891.83	-2,599.28	2,684.38	2,620.57	63.81	42.068	
1,600.00	1,590.08	1,560.08	1,560.08	5.73	62.40	15.04	-891.83	-2,599.28	2,656.76	2,588.75	68.00	39.069	
1,700.00	1,684.30	1,654.30	1,654.30	6.20	66.17	15.50	-891.83	-2,599.28	2,624.33	2,552.20	72.13	36.382	
1,800.00	1,776.64	1,746.64	1,746.64	6.73	69.87	16.05	-891.83	-2,599.28	2,587.22	2,511.02	76.20	33.954	
1,900.00	1,866.84	1,836.84	1,836.84	7.33	73.47	16.71	-891.83	-2,599.28	2,545.51	2,465.33	80.18	31.746	
1,971.76	1,930.11	1,900.11	1,900.11	7.81	76.00	17.26	-891.83	-2,599.28	2,512.84	2,429.85	82.99	30.277	
2,000.00	1,954.76	1,924.76	1,924.76	8.01	76.99	17.35	-891.83	-2,599.28	2,499.54	2,415.45	84.09	29.724	
2,100.00	2,042.05	2,012.05	2,012.05	8.74	80.48	17.68	-891.83	-2,599.28	2,452.49	2,364.52	87.97	27.879	
2,200.00	2,129.33	2,099.33	2,099.33	9.51	83.97	18.03	-891.83	-2,599.28	2,405.51	2,313.64	91.86	26.186	
2,300.00	2,216.61	2,186.61	2,186.61	10.30	87.46	18.40	-891.83	-2,599.28	2,358.60	2,262.83	95.77	24.628	
2,400.00	2,303.89	2,273.89	2,273.89	11.12	90.96	18.77	-891.83	-2,599.28	2,311.77	2,212.08	99.69	23.190	
2,500.00	2,391.17	2,361.17	2,361.17	11.95	94.45	19.17	-891.83	-2,599.28	2,265.02	2,161.40	103.62	21.858	
2,600.00	2,478.45	2,448.45	2,448.45	12.79	97.94	19.57	-891.83	-2,599.28	2,218.36	2,110.79	107.57	20.623	
2,700.00	2,565.73	2,535.73	2,535.73	13.65	101.43	20.00	-891.83	-2,599.28	2,171.80	2,060.28	111.52	19.474	
2,800.00	2,653.02	2,623.02	2,623.02	14.51	104.92	20.44	-891.83	-2,599.28	2,125.33	2,009.85	115.49	18.403	
2,900.00	2,740.30	2,710.30	2,710.30	15.38	108.41	20.91	-891.83	-2,599.28	2,078.98	1,959.51	119.46	17.402	
3,000.00	2,827.58	2,797.58	2,797.58	16.26	111.90	21.39	-891.83	-2,599.28	2,032.74	1,909.28	123.45	16.466	
3,100.00	2,914.86	2,884.86	2,884.86	17.14	115.39	21.89	-891.83	-2,599.28	1,986.62	1,859.16	127.45	15.587	
3,200.00	3,002.14	2,972.14	2,972.14	18.03	118.89	22.42	-891.83	-2,599.28	1,940.63	1,809.16	131.47	14.762	
3,260.43	3,054.89	3,024.89	3,024.89	18.57	121.00	22.75	-891.83	-2,599.28	1,912.91	1,779.01	133.90	14.287	
3,300.00	3,089.62	3,059.62	3,059.62	18.91	122.38	22.74	-891.83	-2,599.28	1,895.12	1,759.63	135.50	13.987	
3,400.00	3,179.08	3,149.08	3,149.08	19.73	125.96	22.72	-891.83	-2,599.28	1,853.30	1,713.71	139.60	13.276	
3,500.00	3,270.76	3,240.76	3,240.76	20.47	129.63	22.73	-891.83	-2,599.28	1,816.04	1,672.27	143.77	12.631	
3,600.00	3,364.40	3,334.40	3,334.40	21.14	133.38	22.76	-891.83	-2,599.28	1,783.41	1,635.40	148.01	12.049	
3,700.00	3,459.75	3,429.75	3,429.75	21.72	137.19	22.80	-891.83	-2,599.28	1,755.46	1,603.17	152.29	11.527	
3,800.00	3,556.54	3,526.54	3,526.54	22.23	141.06	22.84	-891.83	-2,599.28	1,732.23	1,575.63	156.60	11.061	
3,900.00	3,654.51	3,624.51	3,624.51	22.68	144.98	22.88	-891.83	-2,599.28	1,713.76	1,552.83	160.93	10.649	
4,000.00	3,753.40	3,723.40	3,723.40	23.05	148.94	22.91	-891.83	-2,599.28	1,700.08	1,534.82	165.26	10.287	
4,100.00	3,852.92	3,822.92	3,822.92	23.37	152.92	22.93	-891.83	-2,599.28	1,691.21	1,521.62	169.59	9.972	
4,200.00	3,952.81	3,922.81	3,922.81	23.62	156.91	22.94	-891.83	-2,599.28	1,687.15	1,513.26	173.89	9.702	
4,234.19	3,987.00	3,957.00	3,957.00	23.70	158.28	-99.84	-891.83	-2,599.28	1,686.87	1,511.51	175.36	9.620	
4,300.00	4,052.81	4,022.81	4,022.81	23.83	160.91	-99.84	-891.83	-2,599.28	1,686.87	1,508.70	178.16	9.468	
4,400.00	4,152.81	4,122.81	4,122.81	24.04	164.91	-99.84	-891.83	-2,599.28	1,686.87	1,504.44	182.43	9.247	
4,500.00	4,252.81	4,222.81	4,222.81	24.25	168.91	-99.84	-891.83	-2,599.28	1,686.87	1,500.16	186.70	9.035	
4,600.00	4,352.81	4,322.81	4,322.81	24.47	172.91	-99.84	-891.83	-2,599.28	1,686.87	1,495.89	190.98	8.833	
4,700.00	4,452.81	4,422.81	4,422.81	24.69	176.91	-99.84	-891.83	-2,599.28	1,686.87	1,491.61	195.26	8.639	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Turner A 001 - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 100-UNKNOWN

Rule Assigned:

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	4,552.81	4,522.81	4,522.81	24.91	180.91	-99.84	-891.83	-2,599.28	1,686.87	1,487.33	199.54	8.454	
4,900.00	4,652.81	4,622.81	4,622.81	25.13	184.91	-99.84	-891.83	-2,599.28	1,686.87	1,483.05	203.82	8.276	
5,000.00	4,752.81	4,722.81	4,722.81	25.36	188.91	-99.84	-891.83	-2,599.28	1,686.87	1,478.76	208.11	8.106	
5,100.00	4,852.81	4,822.81	4,822.81	25.59	192.91	-99.84	-891.83	-2,599.28	1,686.87	1,474.47	212.40	7.942	
5,200.00	4,952.81	4,922.81	4,922.81	25.82	196.91	-99.84	-891.83	-2,599.28	1,686.87	1,470.18	216.69	7.785	
5,300.00	5,052.81	5,022.81	5,022.81	26.06	200.91	-99.84	-891.83	-2,599.28	1,686.87	1,465.89	220.98	7.634	
5,400.00	5,152.81	5,122.81	5,122.81	26.30	204.91	-99.84	-891.83	-2,599.28	1,686.87	1,461.59	225.27	7.488	
5,500.00	5,252.81	5,222.81	5,222.81	26.54	208.91	-99.84	-891.83	-2,599.28	1,686.87	1,457.30	229.57	7.348	
5,600.00	5,352.81	5,322.81	5,322.81	26.79	212.91	-99.84	-891.83	-2,599.28	1,686.87	1,453.00	233.87	7.213	
5,700.00	5,452.81	5,422.81	5,422.81	27.03	216.91	-99.84	-891.83	-2,599.28	1,686.87	1,448.70	238.17	7.083	
5,800.00	5,552.81	5,522.81	5,522.81	27.28	220.91	-99.84	-891.83	-2,599.28	1,686.87	1,444.39	242.47	6.957	
5,900.00	5,652.81	5,622.81	5,622.81	27.53	224.91	-99.84	-891.83	-2,599.28	1,686.87	1,440.09	246.78	6.836	
6,000.00	5,752.81	5,722.81	5,722.81	27.79	228.91	-99.84	-891.83	-2,599.28	1,686.87	1,435.78	251.08	6.718	
6,100.00	5,852.81	5,822.81	5,822.81	28.04	232.91	-99.84	-891.83	-2,599.28	1,686.87	1,431.48	255.39	6.605	
6,200.00	5,952.81	5,922.81	5,922.81	28.30	236.91	-99.84	-891.83	-2,599.28	1,686.87	1,427.17	259.70	6.495	
6,300.00	6,052.81	6,022.81	6,022.81	28.56	240.91	-99.84	-891.83	-2,599.28	1,686.87	1,422.86	264.01	6.389	
6,400.00	6,152.81	6,122.81	6,122.81	28.83	244.91	-99.84	-891.83	-2,599.28	1,686.87	1,418.55	268.32	6.287	
6,500.00	6,252.81	6,222.81	6,222.81	29.09	248.91	-99.84	-891.83	-2,599.28	1,686.87	1,414.23	272.63	6.187	
6,600.00	6,352.81	6,322.81	6,322.81	29.36	252.91	-99.84	-891.83	-2,599.28	1,686.87	1,409.92	276.95	6.091	
6,700.00	6,452.81	6,422.81	6,422.81	29.63	256.91	-99.84	-891.83	-2,599.28	1,686.87	1,405.60	281.26	5.997	
6,800.00	6,552.81	6,522.81	6,522.81	29.90	260.91	-99.84	-891.83	-2,599.28	1,686.87	1,401.29	285.58	5.907	
6,900.00	6,652.81	6,622.81	6,622.81	30.17	264.91	-99.84	-891.83	-2,599.28	1,686.87	1,396.97	289.90	5.819	
7,000.00	6,752.81	6,722.81	6,722.81	30.45	268.91	-99.84	-891.83	-2,599.28	1,686.87	1,392.65	294.22	5.733	
7,089.19	6,842.00	6,812.00	6,812.00	30.69	272.48	-99.84	-891.83	-2,599.28	1,686.87	1,388.80	298.07	5.659	CC, ES, SF

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Turner A 001A - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 1093-INCLINOMETER

Offset Well Error: 0.00 ft

Rule Assigned:

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	29.00	29.00	0.00	0.88	-62.70	1,438.12	-2,786.30	3,135.55				
100.00	100.00	129.00	129.00	0.30	3.92	-62.70	1,438.12	-2,786.30	3,135.55	3,131.33	4.22	743.853	
200.00	200.00	229.00	229.00	0.66	6.95	-62.70	1,438.12	-2,786.30	3,135.55	3,127.94	7.61	411.997	
300.00	300.00	329.00	329.00	1.01	9.99	-62.70	1,438.12	-2,786.30	3,135.55	3,124.54	11.01	284.896	
400.00	400.00	429.00	429.00	1.37	13.03	-62.70	1,438.12	-2,786.30	3,135.55	3,121.14	14.40	217.727	
500.00	500.00	529.00	529.00	1.73	16.07	-62.70	1,438.12	-2,786.30	3,135.55	3,117.75	17.80	176.188	
600.00	600.00	629.00	629.00	2.09	19.10	-62.70	1,438.12	-2,786.30	3,135.55	3,114.35	21.19	147.960	
700.00	700.00	729.00	729.00	2.45	22.14	-62.70	1,438.12	-2,786.30	3,135.55	3,110.96	24.59	127.527	
800.00	800.00	829.00	829.00	2.81	25.18	-62.70	1,438.12	-2,786.30	3,135.55	3,107.56	27.98	112.054	
900.00	900.00	929.00	929.00	3.17	28.21	-62.70	1,438.12	-2,786.30	3,135.55	3,104.17	31.38	99.929	
998.00	998.00	1,027.00	1,027.00	3.52	31.19	-62.70	1,438.12	-2,786.30	3,135.55	3,100.84	34.71	90.348	
1,000.00	1,000.00	1,029.00	1,029.00	3.52	31.25	60.08	1,438.12	-2,786.30	3,135.55	3,100.77	34.77	90.172	
1,100.00	1,099.95	1,128.97	1,128.95	3.86	34.29	60.16	1,438.12	-2,786.30	3,134.19	3,096.05	38.14	82.173	
1,200.00	1,199.62	1,228.64	1,228.62	4.20	37.31	60.39	1,438.12	-2,786.30	3,130.24	3,088.73	41.51	75.415	
1,300.00	1,298.74	1,327.76	1,327.74	4.55	40.32	60.77	1,438.12	-2,786.30	3,123.73	3,078.87	44.86	69.626	
1,400.00	1,397.04	1,427.30	1,427.29	4.91	43.35	61.31	1,438.71	-2,786.30	3,115.01	3,066.76	48.25	64.563	
1,500.00	1,494.24	1,526.81	1,526.79	5.30	46.37	61.99	1,438.55	-2,786.30	3,103.55	3,051.90	51.65	60.088	
1,600.00	1,590.08	1,624.98	1,624.96	5.73	49.35	62.82	1,438.24	-2,786.30	3,089.75	3,034.71	55.04	56.136	
1,700.00	1,684.30	1,713.35	1,713.30	6.20	52.03	63.75	1,438.12	-2,786.30	3,073.91	3,015.73	58.17	52.841	
1,800.00	1,776.64	1,805.68	1,805.64	6.73	54.84	64.84	1,438.12	-2,786.30	3,056.17	2,994.70	61.47	49.714	
1,900.00	1,866.84	1,895.89	1,895.84	7.33	57.58	66.06	1,438.12	-2,786.30	3,036.68	2,971.91	64.77	46.881	
1,971.76	1,930.11	1,959.16	1,959.11	7.81	59.50	67.01	1,438.12	-2,786.30	3,021.73	2,954.59	67.14	45.004	
2,000.00	1,954.76	1,983.81	1,983.76	8.01	60.25	67.23	1,438.12	-2,786.30	3,015.73	2,947.66	68.08	44.298	
2,100.00	2,042.05	2,073.27	2,073.22	8.74	62.96	68.03	1,439.22	-2,786.30	2,995.49	2,924.01	71.48	41.906	
2,200.00	2,129.33	2,163.36	2,163.30	9.51	65.70	68.83	1,439.02	-2,786.30	2,975.22	2,900.28	74.94	39.701	
2,300.00	2,216.61	2,253.53	2,253.47	10.30	68.44	69.63	1,438.67	-2,786.30	2,955.53	2,877.09	78.44	37.681	
2,400.00	2,303.89	2,343.80	2,343.74	11.12	71.18	70.45	1,438.16	-2,786.30	2,936.43	2,854.47	81.96	35.827	
2,500.00	2,391.17	2,420.28	2,420.17	11.95	73.50	71.15	1,438.12	-2,786.30	2,918.25	2,833.16	85.09	34.294	
2,600.00	2,478.45	2,507.56	2,507.45	12.79	76.15	71.96	1,438.12	-2,786.30	2,900.83	2,812.25	88.57	32.750	
2,700.00	2,565.73	2,594.84	2,594.73	13.65	78.80	72.77	1,438.12	-2,786.30	2,884.12	2,792.05	92.07	31.325	
2,800.00	2,653.02	2,686.17	2,686.05	14.51	81.58	73.64	1,438.84	-2,786.30	2,868.61	2,772.90	95.71	29.973	
2,900.00	2,740.30	2,777.88	2,777.76	15.38	84.36	74.51	1,438.53	-2,786.30	2,853.20	2,753.83	99.36	28.714	
3,000.00	2,827.58	2,856.73	2,856.58	16.26	86.76	75.26	1,438.12	-2,786.30	2,838.46	2,735.81	102.65	27.652	
3,100.00	2,914.86	2,944.01	2,943.86	17.14	89.41	76.10	1,438.12	-2,786.30	2,824.76	2,718.57	106.20	26.600	
3,200.00	3,002.14	3,031.29	3,031.14	18.03	92.06	76.95	1,438.12	-2,786.30	2,811.84	2,702.09	109.75	25.620	
3,260.43	3,054.89	3,084.04	3,083.89	18.57	93.66	77.47	1,438.12	-2,786.30	2,804.42	2,692.52	111.90	25.061	
3,300.00	3,089.62	3,119.65	3,119.50	18.91	94.74	77.69	1,438.94	-2,786.30	2,800.37	2,687.02	113.34	24.707	
3,400.00	3,179.08	3,213.90	3,213.74	19.73	97.60	78.22	1,438.79	-2,786.30	2,789.87	2,672.82	117.05	23.835	
3,500.00	3,270.76	3,310.59	3,310.43	20.47	100.54	78.73	1,438.38	-2,786.30	2,780.89	2,660.14	120.75	23.031	
3,600.00	3,364.40	3,393.61	3,393.40	21.14	103.06	79.10	1,438.12	-2,786.30	2,773.48	2,649.52	123.96	22.374	
3,700.00	3,459.75	3,488.96	3,488.75	21.72	105.95	79.51	1,438.12	-2,786.30	2,767.62	2,640.16	127.46	21.714	
3,800.00	3,556.54	3,585.75	3,585.54	22.23	108.89	79.87	1,438.12	-2,786.30	2,762.99	2,632.06	130.93	21.103	
3,900.00	3,654.51	3,690.02	3,689.79	22.68	112.06	80.20	1,439.07	-2,786.30	2,760.16	2,625.61	134.55	20.514	
4,000.00	3,753.40	3,796.58	3,796.35	23.05	115.30	80.43	1,438.54	-2,786.30	2,757.27	2,619.10	138.17	19.956	
4,100.00	3,852.92	3,882.21	3,881.92	23.37	117.90	80.54	1,438.12	-2,786.30	2,755.32	2,614.23	141.10	19.528	
4,200.00	3,952.81	3,982.10	3,981.81	23.62	120.93	80.61	1,438.12	-2,786.30	2,754.60	2,610.21	144.39	19.077	
4,234.19	3,987.00	4,016.29	4,016.00	23.70	121.97	-42.17	1,438.12	-2,786.30	2,754.55	2,609.05	145.51	18.931	
4,300.00	4,052.81	4,083.95	4,083.65	23.83	124.02	-42.15	1,439.04	-2,786.30	2,755.23	2,607.54	147.69	18.655	
4,400.00	4,152.81	4,193.15	4,192.85	24.04	127.34	-42.16	1,438.69	-2,786.30	2,755.00	2,603.78	151.22	18.219	
4,500.00	4,252.81	4,282.16	4,281.81	24.25	130.04	-42.17	1,438.12	-2,786.30	2,754.55	2,600.42	154.13	17.871	
4,600.00	4,352.81	4,382.16	4,381.81	24.47	133.08	-42.17	1,438.12	-2,786.30	2,754.55	2,597.17	157.39	17.502	
4,700.00	4,452.81	4,482.16	4,481.81	24.69	136.12	-42.17	1,438.12	-2,786.30	2,754.55	2,593.91	160.64	17.147	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Turner A 001A - OH - OH — **Offset Site Error:** 0.00 ft

Survey Program: 1093-INCLINOMETER — **Rule Assigned:** — **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	4,552.81	4,586.64	4,586.28	24.91	139.29	-42.15	1,439.15	-2,786.30	2,755.31	2,591.28	164.03	16.797	
4,900.00	4,652.81	4,694.34	4,693.97	25.13	142.56	-42.16	1,438.71	-2,786.30	2,755.01	2,587.49	167.53	16.445	
5,000.00	4,752.81	4,782.24	4,781.81	25.36	145.23	-42.17	1,438.12	-2,786.30	2,754.55	2,584.12	170.43	16.163	
5,100.00	4,852.81	4,882.24	4,881.81	25.59	148.27	-42.17	1,438.12	-2,786.30	2,754.55	2,580.86	173.70	15.859	
5,200.00	4,952.81	4,998.32	4,997.88	25.82	151.79	-42.16	1,438.22	-2,786.30	2,754.67	2,577.22	177.45	15.524	
5,225.00	4,977.81	5,027.77	5,027.33	25.88	152.69	-42.17	1,437.96	-2,786.30	2,754.50	2,576.11	178.40	15.440	CC, ES, SF
5,300.00	5,052.81	5,020.00	5,019.54	26.06	152.45	-42.17	1,438.12	-2,786.30	2,755.26	2,576.94	178.32	15.451	
5,400.00	5,152.81	5,020.00	5,019.54	26.30	152.45	-42.17	1,438.12	-2,786.30	2,759.33	2,581.01	178.32	15.474	
5,500.00	5,252.81	5,020.00	5,019.54	26.54	152.45	-42.17	1,438.12	-2,786.30	2,767.01	2,588.91	178.10	15.536	
5,600.00	5,352.81	5,020.00	5,019.54	26.79	152.45	-42.17	1,438.12	-2,786.30	2,778.27	2,600.62	177.66	15.638	
5,700.00	5,452.81	5,020.00	5,019.54	27.03	152.45	-42.17	1,438.12	-2,786.30	2,793.07	2,616.07	177.00	15.780	
5,800.00	5,552.81	5,020.00	5,019.54	27.28	152.45	-42.17	1,438.12	-2,786.30	2,811.35	2,635.21	176.14	15.961	
5,900.00	5,652.81	5,020.00	5,019.54	27.53	152.45	-42.17	1,438.12	-2,786.30	2,833.05	2,657.95	175.09	16.180	
6,000.00	5,752.81	5,020.00	5,019.54	27.79	152.45	-42.17	1,438.12	-2,786.30	2,858.08	2,684.21	173.87	16.438	
6,100.00	5,852.81	5,020.00	5,019.54	28.04	152.45	-42.17	1,438.12	-2,786.30	2,886.36	2,713.89	172.47	16.735	
6,200.00	5,952.81	5,020.00	5,019.54	28.30	152.45	-42.17	1,438.12	-2,786.30	2,917.80	2,746.86	170.93	17.070	
6,300.00	6,052.81	5,020.00	5,019.54	28.56	152.45	-42.17	1,438.12	-2,786.30	2,952.28	2,783.03	169.26	17.443	
6,400.00	6,152.81	5,020.00	5,019.54	28.83	152.45	-42.17	1,438.12	-2,786.30	2,989.72	2,822.26	167.46	17.853	
6,500.00	6,252.81	5,020.00	5,019.54	29.09	152.45	-42.17	1,438.12	-2,786.30	3,030.00	2,864.43	165.57	18.301	
6,600.00	6,352.81	5,020.00	5,019.54	29.36	152.45	-42.17	1,438.12	-2,786.30	3,073.00	2,909.41	163.59	18.785	
6,700.00	6,452.81	5,020.00	5,019.54	29.63	152.45	-42.17	1,438.12	-2,786.30	3,118.62	2,957.08	161.54	19.306	
6,800.00	6,552.81	5,020.00	5,019.54	29.90	152.45	-42.17	1,438.12	-2,786.30	3,166.74	3,007.31	159.43	19.863	
6,900.00	6,652.81	5,020.00	5,019.54	30.17	152.45	-42.17	1,438.12	-2,786.30	3,217.25	3,059.97	157.28	20.456	
7,000.00	6,752.81	5,020.00	5,019.54	30.45	152.45	-42.17	1,438.12	-2,786.30	3,270.04	3,114.94	155.10	21.084	
7,089.19	6,842.00	5,020.00	5,019.54	30.69	152.45	-42.17	1,438.12	-2,786.30	3,318.96	3,165.82	153.13	21.674	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Turner A 100 - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 65-INCLINOMETER

Offset Well Error: 0.00 ft

Rule Assigned:

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	52.00	52.00	0.00	1.58	-57.01	1,736.64	-2,675.10	3,189.37				
100.00	100.00	152.00	152.00	0.30	4.62	-57.01	1,736.64	-2,675.10	3,189.37	3,184.45	4.91	649.078	
200.00	200.00	252.02	252.00	0.66	7.65	-57.01	1,736.64	-2,675.10	3,189.37	3,181.06	8.31	383.828	
300.00	300.00	352.02	352.00	1.01	10.69	-57.01	1,736.64	-2,675.10	3,189.37	3,177.66	11.70	272.487	
400.00	400.00	463.21	463.18	1.37	14.07	-57.00	1,736.92	-2,675.10	3,189.54	3,174.10	15.44	206.577	
500.00	500.00	552.04	552.00	1.73	16.76	-57.01	1,736.64	-2,675.10	3,189.37	3,170.87	18.50	172.435	
600.00	600.00	652.04	652.00	2.09	19.80	-57.01	1,736.64	-2,675.10	3,189.37	3,167.47	21.89	145.690	
700.00	700.00	752.10	752.06	2.45	22.84	-57.00	1,737.18	-2,675.10	3,189.66	3,164.37	25.29	126.130	
800.00	800.00	855.24	855.19	2.81	25.97	-57.00	1,737.09	-2,675.10	3,189.61	3,160.83	28.78	110.831	
900.00	900.00	958.37	958.32	3.17	29.10	-57.01	1,736.80	-2,675.10	3,189.46	3,157.19	32.27	98.838	
998.00	998.00	1,050.06	1,050.00	3.52	31.89	-57.01	1,736.64	-2,675.10	3,189.37	3,153.96	35.41	90.081	
1,000.00	1,000.00	1,052.06	1,052.00	3.52	31.95	65.77	1,736.64	-2,675.10	3,189.37	3,153.89	35.47	89.910	
1,100.00	1,099.95	1,152.01	1,151.95	3.86	34.98	65.85	1,736.64	-2,675.10	3,188.25	3,149.41	38.84	82.085	
1,200.00	1,199.62	1,251.74	1,251.67	4.20	38.01	66.07	1,737.18	-2,675.10	3,185.30	3,143.09	42.21	75.466	
1,300.00	1,298.74	1,353.98	1,353.92	4.55	41.12	66.44	1,737.09	-2,675.10	3,179.91	3,134.25	45.66	69.642	
1,400.00	1,397.04	1,455.42	1,455.35	4.91	44.20	66.96	1,736.81	-2,675.10	3,172.41	3,123.30	49.10	64.606	
1,500.00	1,494.24	1,546.32	1,546.24	5.30	46.96	67.57	1,736.64	-2,675.10	3,163.01	3,110.77	52.25	60.538	
1,600.00	1,590.08	1,642.16	1,642.08	5.73	49.87	68.34	1,736.64	-2,675.10	3,151.92	3,096.35	55.57	56.716	
1,700.00	1,684.30	1,736.38	1,736.30	6.20	52.73	69.24	1,736.64	-2,675.10	3,139.17	3,080.28	58.89	53.304	
1,800.00	1,776.64	1,831.31	1,831.23	6.73	55.61	70.29	1,737.12	-2,675.10	3,125.23	3,062.94	62.28	50.177	
1,900.00	1,866.84	1,924.56	1,924.48	7.33	58.45	71.44	1,736.92	-2,675.10	3,109.59	3,043.90	65.69	47.336	
1,971.76	1,930.11	1,990.03	1,989.95	7.81	60.43	72.33	1,736.68	-2,675.10	3,097.65	3,029.51	68.14	45.459	
2,000.00	1,954.76	2,006.86	2,006.76	8.01	60.95	72.48	1,736.64	-2,675.10	3,092.90	3,024.05	68.85	44.925	
2,100.00	2,042.05	2,094.14	2,094.05	8.74	63.60	73.24	1,736.64	-2,675.10	3,076.64	3,004.44	72.20	42.610	
2,200.00	2,129.33	2,181.42	2,181.33	9.51	66.25	74.02	1,736.64	-2,675.10	3,061.07	2,985.47	75.60	40.490	
2,300.00	2,216.61	2,269.18	2,269.08	10.30	68.91	74.81	1,737.19	-2,675.10	3,046.56	2,967.52	79.04	38.543	
2,400.00	2,303.89	2,359.54	2,359.44	11.12	71.66	75.62	1,737.10	-2,675.10	3,032.36	2,949.77	82.59	36.715	
2,500.00	2,391.17	2,449.98	2,449.88	11.95	74.40	76.43	1,736.87	-2,675.10	3,018.79	2,932.62	86.16	35.036	
2,600.00	2,478.45	2,530.56	2,530.45	12.79	76.85	77.16	1,736.64	-2,675.10	3,005.93	2,916.47	89.45	33.603	
2,700.00	2,565.73	2,546.00	2,545.89	13.65	77.32	77.31	1,736.64	-2,675.10	2,994.83	2,904.07	90.76	32.996	
2,800.00	2,653.02	2,546.00	2,545.89	14.51	77.32	77.31	1,736.64	-2,675.10	2,987.01	2,895.46	91.55	32.629	
2,900.00	2,740.30	2,546.00	2,545.89	15.38	77.32	77.31	1,736.64	-2,675.10	2,982.52	2,890.26	92.26	32.328	
2,984.05	2,813.65	2,546.00	2,545.89	16.12	77.32	77.31	1,736.64	-2,675.10	2,981.33	2,888.53	92.80	32.127 CC	
3,000.00	2,827.58	2,546.00	2,545.89	16.26	77.32	77.31	1,736.64	-2,675.10	2,981.38	2,888.48	92.90	32.094 ES	
3,100.00	2,914.86	2,546.00	2,545.89	17.14	77.32	77.31	1,736.64	-2,675.10	2,983.59	2,890.13	93.46	31.925	
3,200.00	3,002.14	2,546.00	2,545.89	18.03	77.32	77.31	1,736.64	-2,675.10	2,989.14	2,895.21	93.94	31.821	
3,260.43	3,054.89	2,546.00	2,545.89	18.57	77.32	77.31	1,736.64	-2,675.10	2,994.12	2,899.93	94.19	31.788	
3,300.00	3,089.62	2,546.00	2,545.89	18.91	77.32	77.42	1,736.64	-2,675.10	2,998.12	2,903.79	94.33	31.783 SF	
3,400.00	3,179.08	2,546.00	2,545.89	19.73	77.32	77.81	1,736.64	-2,675.10	3,011.31	2,916.74	94.57	31.844	
3,500.00	3,270.76	2,546.00	2,545.89	20.47	77.32	78.34	1,736.64	-2,675.10	3,028.83	2,934.21	94.62	32.010	
3,600.00	3,364.40	2,546.00	2,545.89	21.14	77.32	78.99	1,736.64	-2,675.10	3,050.56	2,956.06	94.50	32.280	
3,700.00	3,459.75	2,546.00	2,545.89	21.72	77.32	79.78	1,736.64	-2,675.10	3,076.35	2,982.14	94.21	32.653	
3,800.00	3,556.54	2,546.00	2,545.89	22.23	77.32	80.70	1,736.64	-2,675.10	3,106.04	3,012.27	93.77	33.125	
3,900.00	3,654.51	2,546.00	2,545.89	22.68	77.32	81.75	1,736.64	-2,675.10	3,139.42	3,046.25	93.17	33.695	
4,000.00	3,753.40	2,546.00	2,545.89	23.05	77.32	82.93	1,736.64	-2,675.10	3,176.30	3,083.85	92.45	34.358	
4,100.00	3,852.92	2,546.00	2,545.89	23.37	77.32	84.23	1,736.64	-2,675.10	3,216.45	3,124.85	91.61	35.112	
4,200.00	3,952.81	2,546.00	2,545.89	23.62	77.32	85.67	1,736.64	-2,675.10	3,259.65	3,168.99	90.66	35.953	
4,234.19	3,987.00	2,546.00	2,545.89	23.70	77.32	-36.60	1,736.64	-2,675.10	3,275.08	3,184.75	90.32	36.260	
4,300.00	4,052.81	2,546.00	2,545.89	23.83	77.32	-36.60	1,736.64	-2,675.10	3,305.60	3,215.95	89.64	36.875	
4,400.00	4,152.81	2,546.00	2,545.89	24.04	77.32	-36.60	1,736.64	-2,675.10	3,353.92	3,265.33	88.59	37.858	
4,500.00	4,252.81	2,546.00	2,545.89	24.25	77.32	-36.60	1,736.64	-2,675.10	3,404.49	3,316.97	87.52	38.900	
4,600.00	4,352.81	2,546.00	2,545.89	24.47	77.32	-36.60	1,736.64	-2,675.10	3,457.21	3,370.78	86.43	39.999	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Turner A 100 - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 65-INCLINOMETER

Offset Well Error: 0.00 ft

Rule Assigned:

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	4,452.81	2,546.00	2,545.89	24.69	77.32	-36.60	1,736.64	-2,675.10	3,512.00	3,426.66	85.34	41.155	
4,800.00	4,552.81	2,546.00	2,545.89	24.91	77.32	-36.60	1,736.64	-2,675.10	3,568.74	3,484.51	84.23	42.367	
4,900.00	4,652.81	2,546.00	2,545.89	25.13	77.32	-36.60	1,736.64	-2,675.10	3,627.35	3,544.22	83.13	43.635	
5,000.00	4,752.81	2,546.00	2,545.89	25.36	77.32	-36.60	1,736.64	-2,675.10	3,687.75	3,605.72	82.03	44.956	
5,100.00	4,852.81	2,546.00	2,545.89	25.59	77.32	-36.60	1,736.64	-2,675.10	3,749.83	3,668.90	80.94	46.330	
5,200.00	4,952.81	2,546.00	2,545.89	25.82	77.32	-36.60	1,736.64	-2,675.10	3,813.53	3,733.68	79.85	47.756	
5,300.00	5,052.81	2,546.00	2,545.89	26.06	77.32	-36.60	1,736.64	-2,675.10	3,878.77	3,799.98	78.78	49.234	
5,400.00	5,152.81	2,546.00	2,545.89	26.30	77.32	-36.60	1,736.64	-2,675.10	3,945.45	3,867.73	77.73	50.761	
5,500.00	5,252.81	2,546.00	2,545.89	26.54	77.32	-36.60	1,736.64	-2,675.10	4,013.53	3,936.84	76.69	52.337	
5,600.00	5,352.81	2,546.00	2,545.89	26.79	77.32	-36.60	1,736.64	-2,675.10	4,082.91	4,007.25	75.66	53.961	
5,700.00	5,452.81	2,546.00	2,545.89	27.03	77.32	-36.60	1,736.64	-2,675.10	4,153.55	4,078.88	74.66	55.631	
5,800.00	5,552.81	2,546.00	2,545.89	27.28	77.32	-36.60	1,736.64	-2,675.10	4,225.37	4,151.69	73.68	57.346	
5,900.00	5,652.81	2,546.00	2,545.89	27.53	77.32	-36.60	1,736.64	-2,675.10	4,298.32	4,225.59	72.72	59.105	
6,000.00	5,752.81	2,546.00	2,545.89	27.79	77.32	-36.60	1,736.64	-2,675.10	4,372.33	4,300.55	71.79	60.907	
6,100.00	5,852.81	2,546.00	2,545.89	28.04	77.32	-36.60	1,736.64	-2,675.10	4,447.37	4,376.49	70.87	62.750	
6,200.00	5,952.81	2,546.00	2,545.89	28.30	77.32	-36.60	1,736.64	-2,675.10	4,523.37	4,453.38	69.99	64.632	
6,300.00	6,052.81	2,546.00	2,545.89	28.56	77.32	-36.60	1,736.64	-2,675.10	4,600.29	4,531.17	69.12	66.554	
6,400.00	6,152.81	2,546.00	2,545.89	28.83	77.32	-36.60	1,736.64	-2,675.10	4,678.08	4,609.80	68.28	68.512	
6,500.00	6,252.81	2,546.00	2,545.89	29.09	77.32	-36.60	1,736.64	-2,675.10	4,756.70	4,689.24	67.47	70.505	
6,600.00	6,352.81	2,546.00	2,545.89	29.36	77.32	-36.60	1,736.64	-2,675.10	4,836.12	4,769.44	66.67	72.533	
6,700.00	6,452.81	2,546.00	2,545.89	29.63	77.32	-36.60	1,736.64	-2,675.10	4,916.28	4,850.37	65.91	74.593	
6,800.00	6,552.81	2,546.00	2,545.89	29.90	77.32	-36.60	1,736.64	-2,675.10	4,997.16	4,931.99	65.17	76.683	
6,900.00	6,652.81	2,546.00	2,545.89	30.17	77.32	-36.60	1,736.64	-2,675.10	5,078.72	5,014.27	64.45	78.803	
7,000.00	6,752.81	2,546.00	2,545.89	30.45	77.32	-36.60	1,736.64	-2,675.10	5,160.93	5,097.17	63.75	80.951	
7,089.19	6,842.00	2,546.00	2,545.89	30.69	77.32	-36.60	1,736.64	-2,675.10	5,234.77	5,171.61	63.15	82.888	

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Wallace Gas Com 001A - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 2850-INCLINOMETER

Rule Assigned:

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	8.00	8.00	0.00	0.24	60.49	1,492.72	2,637.62	3,030.72				
100.00	100.00	108.00	108.00	0.30	3.28	60.49	1,492.72	2,637.62	3,030.72	3,027.14	3.58	847.149	
200.00	200.00	208.00	208.00	0.66	6.32	60.49	1,492.72	2,637.62	3,030.72	3,023.74	6.97	434.643	
300.00	300.00	308.00	308.00	1.01	9.35	60.49	1,492.72	2,637.62	3,030.72	3,020.35	10.37	292.308	
400.00	400.00	408.00	408.00	1.37	12.39	60.49	1,492.72	2,637.62	3,030.72	3,016.95	13.76	220.199	
500.00	500.00	508.00	508.00	1.73	15.43	60.49	1,492.72	2,637.62	3,030.72	3,013.56	17.16	176.627	
600.00	600.00	608.00	608.00	2.09	18.46	60.49	1,492.72	2,637.62	3,030.72	3,010.16	20.55	147.450	
700.00	700.00	708.00	708.00	2.45	21.50	60.49	1,492.72	2,637.62	3,030.72	3,006.77	23.95	126.546	
800.00	800.00	808.00	808.00	2.81	24.54	60.49	1,492.72	2,637.62	3,030.72	3,003.37	27.34	110.833	
900.00	900.00	908.00	908.00	3.17	27.57	60.49	1,492.72	2,637.62	3,030.72	2,999.98	30.74	98.591	
998.00	998.00	1,006.00	1,006.00	3.52	30.55	60.49	1,492.72	2,637.62	3,030.72	2,996.65	34.07	88.962	CC
1,000.00	1,000.00	1,008.00	1,008.00	3.52	30.61	-176.73	1,492.72	2,637.62	3,030.72	2,996.58	34.14	88.785	
1,100.00	1,099.95	1,107.95	1,107.95	3.86	33.65	-176.72	1,492.72	2,637.62	3,033.43	2,995.93	37.50	80.884	ES
1,200.00	1,199.62	1,207.62	1,207.62	4.20	36.67	-176.72	1,492.72	2,637.62	3,041.37	3,000.50	40.87	74.414	
1,300.00	1,298.74	1,306.74	1,306.74	4.55	39.68	-176.71	1,492.72	2,637.62	3,054.51	3,010.28	44.23	69.067	
1,400.00	1,397.04	1,405.04	1,405.04	4.91	42.67	-176.70	1,492.72	2,637.62	3,072.80	3,025.24	47.56	64.611	
1,500.00	1,494.24	1,502.24	1,502.24	5.30	45.62	-176.68	1,492.72	2,637.62	3,096.21	3,045.35	50.86	60.877	
1,600.00	1,590.08	1,598.08	1,598.08	5.73	48.53	-176.66	1,492.72	2,637.62	3,124.66	3,070.54	54.12	57.731	
1,700.00	1,684.30	1,692.30	1,692.30	6.20	51.39	-176.63	1,492.72	2,637.62	3,158.09	3,100.74	57.34	55.075	
1,800.00	1,776.64	1,784.64	1,784.64	6.73	54.20	-176.60	1,492.72	2,637.62	3,196.39	3,135.89	60.50	52.830	
1,900.00	1,866.84	1,874.84	1,874.84	7.33	56.94	-176.56	1,492.72	2,637.62	3,239.47	3,175.86	63.60	50.932	
1,971.76	1,930.11	1,938.11	1,938.11	7.81	58.86	-176.53	1,492.72	2,637.62	3,273.26	3,207.47	65.79	49.755	
2,000.00	1,954.76	1,962.76	1,962.76	8.01	59.61	-176.54	1,492.72	2,637.62	3,287.02	3,220.38	66.64	49.325	
2,100.00	2,042.05	2,050.05	2,050.05	8.74	62.26	-176.59	1,492.72	2,637.62	3,335.76	3,266.12	69.64	47.897	
2,200.00	2,129.33	2,137.33	2,137.33	9.51	64.91	-176.64	1,492.72	2,637.62	3,384.50	3,311.84	72.66	46.582	
2,300.00	2,216.61	2,224.61	2,224.61	10.30	67.56	-176.69	1,492.72	2,637.62	3,433.24	3,357.56	75.68	45.367	
2,400.00	2,303.89	2,311.89	2,311.89	11.12	70.21	-176.74	1,492.72	2,637.62	3,481.99	3,403.28	78.71	44.241	
2,500.00	2,391.17	2,399.17	2,399.17	11.95	72.86	-176.78	1,492.72	2,637.62	3,530.73	3,448.99	81.74	43.195	
2,600.00	2,478.45	2,486.45	2,486.45	12.79	75.51	-176.83	1,492.72	2,637.62	3,579.48	3,494.70	84.78	42.222	
2,700.00	2,565.73	2,573.73	2,573.73	13.65	78.16	-176.87	1,492.72	2,637.62	3,628.23	3,540.41	87.82	41.314	
2,800.00	2,653.02	2,661.02	2,661.02	14.51	80.81	-176.91	1,492.72	2,637.62	3,676.98	3,586.11	90.87	40.465	
2,900.00	2,740.30	2,748.30	2,748.30	15.38	83.46	-176.95	1,492.72	2,637.62	3,725.73	3,631.81	93.92	39.670	
3,000.00	2,827.58	2,835.58	2,835.58	16.26	86.11	-176.99	1,492.72	2,637.62	3,774.48	3,677.51	96.97	38.923	
3,100.00	2,914.86	2,922.87	2,922.86	17.14	88.76	-177.03	1,492.72	2,637.62	3,823.24	3,723.21	100.03	38.221	
3,200.00	3,002.14	3,010.15	3,010.14	18.03	91.41	-177.06	1,492.72	2,637.62	3,872.00	3,768.91	103.09	37.560	
3,260.43	3,054.89	3,062.89	3,062.89	18.57	93.02	-177.09	1,492.72	2,637.62	3,901.46	3,796.52	104.94	37.178	
3,300.00	3,089.62	3,097.66	3,097.65	18.91	94.07	-177.14	1,492.99	2,637.62	3,920.53	3,814.37	106.16	36.932	
3,400.00	3,179.08	3,188.74	3,188.73	19.73	96.84	-177.24	1,492.95	2,637.62	3,965.12	3,855.79	109.33	36.268	
3,500.00	3,270.76	3,282.11	3,282.10	20.47	99.67	-177.33	1,492.83	2,637.62	4,004.94	3,892.37	112.57	35.577	
3,600.00	3,364.40	3,372.44	3,372.40	21.14	102.42	-177.40	1,492.72	2,637.62	4,039.90	3,924.20	115.71	34.914	
3,700.00	3,459.75	3,467.79	3,467.75	21.72	105.31	-177.46	1,492.72	2,637.62	4,069.99	3,950.99	119.00	34.203	
3,800.00	3,556.54	3,564.58	3,564.54	22.23	108.25	-177.51	1,492.72	2,637.62	4,095.04	3,972.73	122.32	33.479	
3,900.00	3,654.51	3,662.56	3,662.51	22.68	111.22	-177.55	1,492.72	2,637.62	4,115.00	3,989.34	125.66	32.747	
4,000.00	3,753.40	3,764.11	3,764.05	23.05	114.31	-177.60	1,494.29	2,637.62	4,130.61	4,001.51	129.10	31.996	
4,100.00	3,852.92	3,868.85	3,868.79	23.37	117.49	-177.61	1,494.03	2,637.62	4,140.10	4,007.48	132.62	31.217	
4,200.00	3,952.81	3,974.00	3,973.93	23.62	120.68	-177.62	1,493.50	2,637.62	4,144.25	4,008.12	136.14	30.441	
4,234.19	3,987.00	4,009.99	4,009.91	23.70	121.77	59.61	1,493.26	2,637.62	4,144.44	4,007.11	137.34	30.177	
4,300.00	4,052.81	4,079.26	4,079.18	23.83	123.88	59.61	1,492.71	2,637.62	4,144.18	4,004.55	139.63	29.679	
4,315.00	4,067.81	4,095.05	4,094.97	23.86	124.36	59.61	1,492.57	2,637.62	4,144.11	4,003.95	140.16	29.567	
4,400.00	4,152.81	4,161.11	4,160.81	24.04	126.36	59.61	1,492.72	2,637.62	4,144.14	4,001.75	142.40	29.103	
4,500.00	4,252.81	4,261.11	4,260.81	24.25	129.40	59.61	1,492.72	2,637.62	4,144.14	3,998.41	145.73	28.437	
4,600.00	4,352.81	4,364.23	4,363.89	24.47	132.53	59.59	1,494.99	2,637.62	4,145.30	3,996.13	149.16	27.790	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Wallace Gas Com 001A - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 2850-INCLINOMETER

Rule Assigned:

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	4,452.81	4,480.50	4,480.13	24.69	136.06	59.59	1,494.37	2,637.62	4,145.03	3,992.01	153.01	27.090	
4,800.00	4,552.81	4,596.81	4,596.40	24.91	139.59	59.61	1,492.86	2,637.62	4,144.37	3,987.51	156.86	26.421	
4,843.72	4,596.53	4,647.67	4,647.24	25.01	141.14	59.62	1,491.91	2,637.62	4,143.95	3,985.41	158.54	26.138	
4,900.00	4,652.81	4,661.28	4,660.81	25.13	141.55	59.61	1,492.72	2,637.62	4,144.14	3,985.05	159.09	26.049	
5,000.00	4,752.81	4,761.28	4,760.81	25.36	144.59	59.61	1,492.72	2,637.62	4,144.14	3,981.71	162.44	25.512	
5,100.00	4,852.81	4,861.28	4,860.81	25.59	147.62	59.61	1,492.72	2,637.62	4,144.14	3,978.36	165.78	24.997	
5,200.00	4,952.81	4,961.28	4,960.81	25.82	150.66	59.61	1,492.72	2,637.62	4,144.14	3,975.01	169.13	24.502	
5,300.00	5,052.81	5,061.28	5,060.81	26.06	153.70	59.61	1,492.72	2,637.62	4,144.14	3,971.66	172.48	24.027	
5,400.00	5,152.81	5,090.00	5,089.49	26.30	154.57	59.61	1,492.72	2,637.62	4,144.76	3,971.18	173.57	23.879 SF	
5,500.00	5,252.81	5,090.00	5,089.49	26.54	154.57	59.61	1,492.72	2,637.62	4,147.68	3,974.01	173.67	23.883	
5,600.00	5,352.81	5,090.00	5,089.49	26.79	154.57	59.61	1,492.72	2,637.62	4,153.01	3,979.35	173.67	23.914	
5,700.00	5,452.81	5,090.00	5,089.49	27.03	154.57	59.61	1,492.72	2,637.62	4,160.74	3,987.17	173.57	23.971	
5,800.00	5,552.81	5,090.00	5,089.49	27.28	154.57	59.61	1,492.72	2,637.62	4,170.86	3,997.47	173.38	24.056	
5,900.00	5,652.81	5,090.00	5,089.49	27.53	154.57	59.61	1,492.72	2,637.62	4,183.34	4,010.24	173.10	24.167	
6,000.00	5,752.81	5,090.00	5,089.49	27.79	154.57	59.61	1,492.72	2,637.62	4,198.16	4,025.43	172.73	24.304	
6,100.00	5,852.81	5,090.00	5,089.49	28.04	154.57	59.61	1,492.72	2,637.62	4,215.31	4,043.04	172.28	24.468	
6,200.00	5,952.81	5,090.00	5,089.49	28.30	154.57	59.61	1,492.72	2,637.62	4,234.75	4,063.02	171.73	24.659	
6,300.00	6,052.81	5,090.00	5,089.49	28.56	154.57	59.61	1,492.72	2,637.62	4,256.45	4,085.34	171.11	24.875	
6,400.00	6,152.81	5,090.00	5,089.49	28.83	154.57	59.61	1,492.72	2,637.62	4,280.38	4,109.96	170.42	25.117	
6,500.00	6,252.81	5,090.00	5,089.49	29.09	154.57	59.61	1,492.72	2,637.62	4,306.49	4,136.85	169.65	25.385	
6,600.00	6,352.81	5,090.00	5,089.49	29.36	154.57	59.61	1,492.72	2,637.62	4,334.76	4,165.95	168.81	25.679	
6,700.00	6,452.81	5,090.00	5,089.49	29.63	154.57	59.61	1,492.72	2,637.62	4,365.14	4,197.23	167.91	25.997	
6,800.00	6,552.81	5,090.00	5,089.49	29.90	154.57	59.61	1,492.72	2,637.62	4,397.58	4,230.63	166.95	26.341	
6,900.00	6,652.81	5,090.00	5,089.49	30.17	154.57	59.61	1,492.72	2,637.62	4,432.04	4,266.11	165.93	26.710	
7,000.00	6,752.81	5,090.00	5,089.49	30.45	154.57	59.61	1,492.72	2,637.62	4,468.47	4,303.61	164.86	27.104	
7,089.19	6,842.00	5,090.00	5,089.49	30.69	154.57	59.61	1,492.72	2,637.62	4,502.59	4,338.71	163.87	27.476	

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Wilmuth 001 (P/A) - OH - OH — **Offset Site Error:** 0.00 ft

Survey Program: 100-UNKNOWN — **Rule Assigned:** — **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	2.00	2.00	0.00	0.08	36.91	3,254.72	2,444.38	4,070.40				
100.00	100.00	102.00	102.00	0.30	4.08	36.91	3,254.72	2,444.38	4,070.40	4,066.03	4.38	929.840	
200.00	200.00	202.00	202.00	0.66	8.08	36.91	3,254.72	2,444.38	4,070.40	4,061.67	8.74	465.934	
300.00	300.00	302.00	302.00	1.01	12.08	36.91	3,254.72	2,444.38	4,070.40	4,057.31	13.09	310.849	
400.00	400.00	402.00	402.00	1.37	16.08	36.91	3,254.72	2,444.38	4,070.40	4,052.95	17.45	233.222	
500.00	500.00	502.00	502.00	1.73	20.08	36.91	3,254.72	2,444.38	4,070.40	4,048.59	21.81	186.618	
600.00	600.00	602.00	602.00	2.09	24.08	36.91	3,254.72	2,444.38	4,070.40	4,044.23	26.17	155.538	
700.00	700.00	702.00	702.00	2.45	28.08	36.91	3,254.72	2,444.38	4,070.40	4,039.87	30.53	133.332	
800.00	800.00	802.00	802.00	2.81	32.08	36.91	3,254.72	2,444.38	4,070.40	4,035.52	34.89	116.674	
900.00	900.00	902.00	902.00	3.17	36.08	36.91	3,254.72	2,444.38	4,070.40	4,031.16	39.25	103.717	
998.00	998.00	1,000.00	1,000.00	3.52	40.00	36.91	3,254.72	2,444.38	4,070.40	4,026.89	43.52	93.537	CC
1,000.00	1,000.00	1,002.00	1,002.00	3.52	40.08	159.69	3,254.72	2,444.38	4,070.40	4,026.80	43.60	93.350	
1,100.00	1,099.95	1,101.95	1,101.95	3.86	44.08	159.68	3,254.72	2,444.38	4,072.96	4,025.02	47.93	84.969	ES
1,200.00	1,199.62	1,201.62	1,201.62	4.20	48.06	159.64	3,254.72	2,444.38	4,080.41	4,028.15	52.26	78.075	
1,300.00	1,298.74	1,300.74	1,300.74	4.55	52.03	159.57	3,254.72	2,444.38	4,092.76	4,036.18	56.57	72.344	
1,400.00	1,397.04	1,399.04	1,399.04	4.91	55.96	159.48	3,254.72	2,444.38	4,109.96	4,049.10	60.86	67.536	
1,500.00	1,494.24	1,496.24	1,496.24	5.30	59.85	159.35	3,254.72	2,444.38	4,131.98	4,066.88	65.10	63.472	
1,600.00	1,590.08	1,592.08	1,592.08	5.73	63.68	159.20	3,254.72	2,444.38	4,158.77	4,089.48	69.29	60.016	
1,700.00	1,684.30	1,686.30	1,686.30	6.20	67.45	159.00	3,254.72	2,444.38	4,190.27	4,116.84	73.43	57.063	
1,800.00	1,776.64	1,778.64	1,778.64	6.73	71.15	158.77	3,254.72	2,444.38	4,226.41	4,148.90	77.50	54.532	
1,900.00	1,866.84	1,868.84	1,868.84	7.33	74.75	158.49	3,254.72	2,444.38	4,267.09	4,185.59	81.50	52.358	
1,971.76	1,930.11	1,932.11	1,932.11	7.81	77.28	158.26	3,254.72	2,444.38	4,299.03	4,214.72	84.31	50.988	
2,000.00	1,954.76	1,956.76	1,956.76	8.01	78.27	158.33	3,254.72	2,444.38	4,312.05	4,226.64	85.42	50.483	
2,100.00	2,042.05	2,044.05	2,044.05	8.74	81.76	158.56	3,254.72	2,444.38	4,358.19	4,268.89	89.30	48.804	
2,200.00	2,129.33	2,131.33	2,131.33	9.51	85.25	158.79	3,254.72	2,444.38	4,404.39	4,311.20	93.20	47.259	
2,300.00	2,216.61	2,218.61	2,218.61	10.30	88.74	159.01	3,254.72	2,444.38	4,450.65	4,353.54	97.10	45.835	
2,400.00	2,303.89	2,305.89	2,305.89	11.12	92.24	159.23	3,254.72	2,444.38	4,496.95	4,395.94	101.01	44.518	
2,500.00	2,391.17	2,393.17	2,393.17	11.95	95.73	159.45	3,254.72	2,444.38	4,543.31	4,438.38	104.93	43.298	
2,600.00	2,478.45	2,480.45	2,480.45	12.79	99.22	159.66	3,254.72	2,444.38	4,589.72	4,480.87	108.86	42.163	
2,700.00	2,565.73	2,567.73	2,567.73	13.65	102.71	159.87	3,254.72	2,444.38	4,636.18	4,523.40	112.78	41.107	
2,800.00	2,653.02	2,655.02	2,655.02	14.51	106.20	160.07	3,254.72	2,444.38	4,682.69	4,565.98	116.71	40.121	
2,900.00	2,740.30	2,742.30	2,742.30	15.38	109.69	160.27	3,254.72	2,444.38	4,729.24	4,608.60	120.65	39.199	
3,000.00	2,827.58	2,829.58	2,829.58	16.26	113.18	160.46	3,254.72	2,444.38	4,775.84	4,651.26	124.58	38.335	
3,100.00	2,914.86	2,916.86	2,916.86	17.14	116.67	160.65	3,254.72	2,444.38	4,822.48	4,693.96	128.52	37.523	
3,200.00	3,002.14	3,004.14	3,004.14	18.03	120.17	160.84	3,254.72	2,444.38	4,869.17	4,736.71	132.46	36.760	
3,260.43	3,054.89	3,056.89	3,056.89	18.57	122.28	160.95	3,254.72	2,444.38	4,897.40	4,762.56	134.84	36.320	
3,300.00	3,089.62	3,091.62	3,091.62	18.91	123.66	161.22	3,254.72	2,444.38	4,915.55	4,779.14	136.41	36.036	
3,400.00	3,179.08	3,181.08	3,181.08	19.73	127.24	161.84	3,254.72	2,444.38	4,958.34	4,817.92	140.42	35.311	
3,500.00	3,270.76	3,272.76	3,272.76	20.47	130.91	162.36	3,254.72	2,444.38	4,996.61	4,852.09	144.51	34.576	
3,600.00	3,364.40	3,366.40	3,366.40	21.14	134.66	162.80	3,254.72	2,444.38	5,030.24	4,881.57	148.67	33.835	
3,700.00	3,459.75	3,461.75	3,461.75	21.72	138.47	163.16	3,254.72	2,444.38	5,059.15	4,906.26	152.88	33.091	
3,800.00	3,556.54	3,558.54	3,558.54	22.23	142.34	163.46	3,254.72	2,444.38	5,083.23	4,926.10	157.14	32.349	
3,900.00	3,654.51	3,656.51	3,656.51	22.68	146.26	163.69	3,254.72	2,444.38	5,102.43	4,941.01	161.42	31.609	
4,000.00	3,753.40	3,755.40	3,755.40	23.05	150.22	163.86	3,254.72	2,444.38	5,116.67	4,950.95	165.72	30.875	
4,100.00	3,852.92	3,854.92	3,854.92	23.37	154.20	163.96	3,254.72	2,444.38	5,125.93	4,955.89	170.03	30.147	
4,200.00	3,952.81	3,954.81	3,954.81	23.62	158.19	164.01	3,254.72	2,444.38	5,130.16	4,955.83	174.34	29.427	
4,234.19	3,987.00	3,989.00	3,989.00	23.70	159.56	41.23	3,254.72	2,444.38	5,130.46	4,954.66	175.80	29.183	
4,300.00	4,052.81	4,054.81	4,054.81	23.83	162.19	41.23	3,254.72	2,444.38	5,130.46	4,951.84	178.62	28.722	
4,400.00	4,152.81	4,154.81	4,154.81	24.04	166.19	41.23	3,254.72	2,444.38	5,130.46	4,947.55	182.91	28.049	
4,500.00	4,252.81	4,254.81	4,254.81	24.25	170.19	41.23	3,254.72	2,444.38	5,130.46	4,943.26	187.20	27.407	
4,600.00	4,352.81	4,354.81	4,354.81	24.47	174.19	41.23	3,254.72	2,444.38	5,130.46	4,938.97	191.49	26.792	
4,700.00	4,452.81	4,454.81	4,454.81	24.69	178.19	41.23	3,254.72	2,444.38	5,130.46	4,934.67	195.78	26.205	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Wilmuth 001 (P/A) - OH - OH — **Offset Site Error:** 0.00 ft

Survey Program: 100-UNKNOWN — **Rule Assigned:** — **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	4,552.81	4,554.81	4,554.81	24.91	182.19	41.23	3,254.72	2,444.38	5,130.46	4,930.38	200.08	25.642	
4,900.00	4,652.81	4,654.81	4,654.81	25.13	186.19	41.23	3,254.72	2,444.38	5,130.46	4,926.08	204.38	25.103	
5,000.00	4,752.81	4,754.81	4,754.81	25.36	190.19	41.23	3,254.72	2,444.38	5,130.46	4,921.78	208.68	24.585	
5,010.00	4,762.81	4,764.81	4,764.81	25.38	190.59	41.23	3,254.72	2,444.38	5,130.46	4,921.35	209.11	24.535	
5,100.00	4,852.81	4,793.00	4,793.00	25.59	191.72	41.23	3,254.72	2,444.38	5,130.83	4,920.38	210.45	24.381	
5,200.00	4,952.81	4,793.00	4,793.00	25.82	191.72	41.23	3,254.72	2,444.38	5,133.01	4,922.42	210.59	24.375	SF
5,300.00	5,052.81	4,793.00	4,793.00	26.06	191.72	41.23	3,254.72	2,444.38	5,137.13	4,926.48	210.65	24.387	
5,400.00	5,152.81	4,793.00	4,793.00	26.30	191.72	41.23	3,254.72	2,444.38	5,143.20	4,932.56	210.64	24.417	
5,500.00	5,252.81	4,793.00	4,793.00	26.54	191.72	41.23	3,254.72	2,444.38	5,151.20	4,940.64	210.56	24.465	
5,600.00	5,352.81	4,793.00	4,793.00	26.79	191.72	41.23	3,254.72	2,444.38	5,161.13	4,950.73	210.40	24.531	
5,700.00	5,452.81	4,793.00	4,793.00	27.03	191.72	41.23	3,254.72	2,444.38	5,172.97	4,962.81	210.16	24.614	
5,800.00	5,552.81	4,793.00	4,793.00	27.28	191.72	41.23	3,254.72	2,444.38	5,186.71	4,976.85	209.86	24.716	
5,900.00	5,652.81	4,793.00	4,793.00	27.53	191.72	41.23	3,254.72	2,444.38	5,202.34	4,992.86	209.48	24.835	
6,000.00	5,752.81	4,793.00	4,793.00	27.79	191.72	41.23	3,254.72	2,444.38	5,219.84	5,010.80	209.04	24.971	
6,100.00	5,852.81	4,793.00	4,793.00	28.04	191.72	41.23	3,254.72	2,444.38	5,239.18	5,030.66	208.52	25.125	
6,200.00	5,952.81	4,793.00	4,793.00	28.30	191.72	41.23	3,254.72	2,444.38	5,260.36	5,052.41	207.95	25.296	
6,300.00	6,052.81	4,793.00	4,793.00	28.56	191.72	41.23	3,254.72	2,444.38	5,283.35	5,076.04	207.31	25.485	
6,400.00	6,152.81	4,793.00	4,793.00	28.83	191.72	41.23	3,254.72	2,444.38	5,308.12	5,101.50	206.61	25.691	
6,500.00	6,252.81	4,793.00	4,793.00	29.09	191.72	41.23	3,254.72	2,444.38	5,334.65	5,128.79	205.86	25.914	
6,600.00	6,352.81	4,793.00	4,793.00	29.36	191.72	41.23	3,254.72	2,444.38	5,362.91	5,157.86	205.05	26.154	
6,700.00	6,452.81	4,793.00	4,793.00	29.63	191.72	41.23	3,254.72	2,444.38	5,392.89	5,188.69	204.19	26.411	
6,800.00	6,552.81	4,793.00	4,793.00	29.90	191.72	41.23	3,254.72	2,444.38	5,424.53	5,221.25	203.28	26.684	
6,900.00	6,652.81	4,793.00	4,793.00	30.17	191.72	41.23	3,254.72	2,444.38	5,457.83	5,255.50	202.33	26.975	
7,000.00	6,752.81	4,793.00	4,793.00	30.45	191.72	41.23	3,254.72	2,444.38	5,492.75	5,291.42	201.33	27.282	
7,089.19	6,842.00	4,793.00	4,793.00	30.69	191.72	41.23	3,254.72	2,444.38	5,525.23	5,324.82	200.41	27.569	

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Wilmuth 001 (PA) - OH - OH — **Offset Site Error:** 0.00 ft

Survey Program: 100-UNKNOWN — **Rule Assigned:** — **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	11.00	11.00	0.00	0.44	27.46	4,106.58	2,134.23	4,628.06				
100.00	100.00	111.00	111.00	0.30	4.44	27.46	4,106.58	2,134.23	4,628.06	4,623.32	4.74	976.892	
200.00	200.00	211.00	211.00	0.66	8.44	27.46	4,106.58	2,134.23	4,628.06	4,618.96	9.10	508.801	
300.00	300.00	311.00	311.00	1.01	12.44	27.46	4,106.58	2,134.23	4,628.06	4,614.60	13.45	343.979	
400.00	400.00	411.00	411.00	1.37	16.44	27.46	4,106.58	2,134.23	4,628.06	4,610.24	17.81	259.814	
500.00	500.00	511.00	511.00	1.73	20.44	27.46	4,106.58	2,134.23	4,628.06	4,605.88	22.17	208.740	
600.00	600.00	611.00	611.00	2.09	24.44	27.46	4,106.58	2,134.23	4,628.06	4,601.53	26.53	174.447	
700.00	700.00	711.00	711.00	2.45	28.44	27.46	4,106.58	2,134.23	4,628.06	4,597.17	30.89	149.832	
800.00	800.00	811.00	811.00	2.81	32.44	27.46	4,106.58	2,134.23	4,628.06	4,592.81	35.25	131.304	
900.00	900.00	911.00	911.00	3.17	36.44	27.46	4,106.58	2,134.23	4,628.06	4,588.45	39.61	116.854	
998.00	998.00	1,009.00	1,009.00	3.52	40.36	27.46	4,106.58	2,134.23	4,628.06	4,584.18	43.88	105.479 CC	
1,000.00	1,000.00	1,011.00	1,011.00	3.52	40.44	150.24	4,106.58	2,134.23	4,628.06	4,584.09	43.96	105.270	
1,100.00	1,099.95	1,110.95	1,110.95	3.86	44.44	150.22	4,106.58	2,134.23	4,630.42	4,582.13	48.29	95.878 ES	
1,200.00	1,199.62	1,210.62	1,210.62	4.20	48.42	150.17	4,106.58	2,134.23	4,637.32	4,584.70	52.62	88.124	
1,300.00	1,298.74	1,309.74	1,309.74	4.55	52.39	150.08	4,106.58	2,134.23	4,648.76	4,591.82	56.93	81.651	
1,400.00	1,397.04	1,408.04	1,408.04	4.91	56.32	149.95	4,106.58	2,134.23	4,664.70	4,603.48	61.22	76.197	
1,500.00	1,494.24	1,505.24	1,505.24	5.30	60.21	149.78	4,106.58	2,134.23	4,685.12	4,619.65	65.47	71.563	
1,600.00	1,590.08	1,601.08	1,601.08	5.73	64.04	149.56	4,106.58	2,134.23	4,709.97	4,640.30	69.67	67.601	
1,700.00	1,684.30	1,695.30	1,695.30	6.20	67.81	149.30	4,106.58	2,134.23	4,739.23	4,665.40	73.82	64.196	
1,800.00	1,776.64	1,787.64	1,787.64	6.73	71.51	148.98	4,106.58	2,134.23	4,772.82	4,694.90	77.92	61.256	
1,900.00	1,866.84	1,877.84	1,877.84	7.33	75.11	148.61	4,106.58	2,134.23	4,810.68	4,728.74	81.94	58.710	
1,971.76	1,930.11	1,941.11	1,941.11	7.81	77.64	148.30	4,106.58	2,134.23	4,840.43	4,755.65	84.78	57.092	
2,000.00	1,954.76	1,965.76	1,965.76	8.01	78.63	148.38	4,106.58	2,134.23	4,852.57	4,766.68	85.90	56.494	
2,100.00	2,042.05	2,053.05	2,053.05	8.74	82.12	148.67	4,106.58	2,134.23	4,895.62	4,805.79	89.83	54.501	
2,200.00	2,129.33	2,140.33	2,140.33	9.51	85.61	148.95	4,106.58	2,134.23	4,938.77	4,845.00	93.77	52.669	
2,300.00	2,216.61	2,227.61	2,227.61	10.30	89.10	149.23	4,106.58	2,134.23	4,982.03	4,884.30	97.73	50.980	
2,400.00	2,303.89	2,314.89	2,314.89	11.12	92.60	149.51	4,106.58	2,134.23	5,025.39	4,923.70	101.69	49.419	
2,500.00	2,391.17	2,402.17	2,402.17	11.95	96.09	149.78	4,106.58	2,134.23	5,068.84	4,963.18	105.66	47.973	
2,600.00	2,478.45	2,489.45	2,489.45	12.79	99.58	150.05	4,106.58	2,134.23	5,112.40	5,002.76	109.64	46.631	
2,700.00	2,565.73	2,576.73	2,576.73	13.65	103.07	150.31	4,106.58	2,134.23	5,156.05	5,042.43	113.62	45.381	
2,800.00	2,653.02	2,664.02	2,664.02	14.51	106.56	150.57	4,106.58	2,134.23	5,199.79	5,082.19	117.60	44.216	
2,900.00	2,740.30	2,751.30	2,751.30	15.38	110.05	150.82	4,106.58	2,134.23	5,243.61	5,122.03	121.58	43.128	
3,000.00	2,827.58	2,838.58	2,838.58	16.26	113.54	151.08	4,106.58	2,134.23	5,287.53	5,161.96	125.57	42.108	
3,100.00	2,914.86	2,925.86	2,925.86	17.14	117.03	151.32	4,106.58	2,134.23	5,331.53	5,201.98	129.56	41.152	
3,200.00	3,002.14	3,013.14	3,013.14	18.03	120.53	151.56	4,106.58	2,134.23	5,375.62	5,242.07	133.55	40.253	
3,260.43	3,054.89	3,065.89	3,065.89	18.57	122.64	151.71	4,106.58	2,134.23	5,402.30	5,266.34	135.96	39.736	
3,300.00	3,089.62	3,100.62	3,100.62	18.91	124.02	152.07	4,106.58	2,134.23	5,419.46	5,281.92	137.54	39.403	
3,400.00	3,179.08	3,190.08	3,190.08	19.73	127.60	152.90	4,106.58	2,134.23	5,459.93	5,318.34	141.59	38.561	
3,500.00	3,270.76	3,281.76	3,281.76	20.47	131.27	153.61	4,106.58	2,134.23	5,496.17	5,350.45	145.72	37.718	
3,600.00	3,364.40	3,375.40	3,375.40	21.14	135.02	154.21	4,106.58	2,134.23	5,528.04	5,378.14	149.90	36.879	
3,700.00	3,459.75	3,470.75	3,470.75	21.72	138.83	154.71	4,106.58	2,134.23	5,555.44	5,401.32	154.12	36.046	
3,800.00	3,556.54	3,567.54	3,567.54	22.23	142.70	155.12	4,106.58	2,134.23	5,578.28	5,419.90	158.38	35.220	
3,900.00	3,654.51	3,665.51	3,665.51	22.68	146.62	155.44	4,106.58	2,134.23	5,596.49	5,433.83	162.67	34.404	
4,000.00	3,753.40	3,764.40	3,764.40	23.05	150.58	155.67	4,106.58	2,134.23	5,610.02	5,443.05	166.97	33.600	
4,100.00	3,852.92	3,863.92	3,863.92	23.37	154.56	155.82	4,106.58	2,134.23	5,618.80	5,447.53	171.27	32.807	
4,200.00	3,952.81	3,963.81	3,963.81	23.62	158.55	155.88	4,106.58	2,134.23	5,622.82	5,447.26	175.56	32.028	
4,234.19	3,987.00	3,998.00	3,998.00	23.70	159.92	33.11	4,106.58	2,134.23	5,623.10	5,446.08	177.02	31.765	
4,300.00	4,052.81	4,063.81	4,063.81	23.83	162.55	33.11	4,106.58	2,134.23	5,623.10	5,443.27	179.83	31.269	
4,400.00	4,152.81	4,163.81	4,163.81	24.04	166.55	33.11	4,106.58	2,134.23	5,623.10	5,438.99	184.11	30.543	
4,500.00	4,252.81	4,263.81	4,263.81	24.25	170.55	33.11	4,106.58	2,134.23	5,623.10	5,434.72	188.39	29.849	
4,600.00	4,352.81	4,363.81	4,363.81	24.47	174.55	33.11	4,106.58	2,134.23	5,623.10	5,430.44	192.67	29.186	
4,700.00	4,452.81	4,463.81	4,463.81	24.69	178.55	33.11	4,106.58	2,134.23	5,623.10	5,426.15	196.95	28.551	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Wilmuth 001 (PA) - OH - OH — **Offset Site Error:** 0.00 ft

Survey Program: 100-UNKNOWN — **Rule Assigned:** — **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	4,552.81	4,563.81	4,563.81	24.91	182.55	33.11	4,106.58	2,134.23	5,623.10	5,421.87	201.24	27.943	
4,900.00	4,652.81	4,663.81	4,663.81	25.13	186.55	33.11	4,106.58	2,134.23	5,623.10	5,417.58	205.52	27.360	
5,000.00	4,752.81	4,763.81	4,763.81	25.36	190.55	33.11	4,106.58	2,134.23	5,623.10	5,413.29	209.81	26.800	
5,010.00	4,762.81	4,773.81	4,773.81	25.38	190.95	33.11	4,106.58	2,134.23	5,623.10	5,412.86	210.24	26.746	
5,100.00	4,852.81	4,819.00	4,819.00	25.59	192.76	33.11	4,106.58	2,134.23	5,623.28	5,411.00	212.28	26.490	
5,200.00	4,952.81	4,819.00	4,819.00	25.82	192.76	33.11	4,106.58	2,134.23	5,624.97	5,412.52	212.45	26.477	SF
5,300.00	5,052.81	4,819.00	4,819.00	26.06	192.76	33.11	4,106.58	2,134.23	5,628.43	5,415.87	212.56	26.480	
5,400.00	5,152.81	4,819.00	4,819.00	26.30	192.76	33.11	4,106.58	2,134.23	5,633.66	5,421.07	212.60	26.499	
5,500.00	5,252.81	4,819.00	4,819.00	26.54	192.76	33.11	4,106.58	2,134.23	5,640.67	5,428.09	212.58	26.535	
5,600.00	5,352.81	4,819.00	4,819.00	26.79	192.76	33.11	4,106.58	2,134.23	5,649.43	5,436.94	212.49	26.586	
5,700.00	5,452.81	4,819.00	4,819.00	27.03	192.76	33.11	4,106.58	2,134.23	5,659.95	5,447.60	212.35	26.654	
5,800.00	5,552.81	4,819.00	4,819.00	27.28	192.76	33.11	4,106.58	2,134.23	5,672.21	5,460.07	212.14	26.738	
5,900.00	5,652.81	4,819.00	4,819.00	27.53	192.76	33.11	4,106.58	2,134.23	5,686.21	5,474.33	211.88	26.838	
6,000.00	5,752.81	4,819.00	4,819.00	27.79	192.76	33.11	4,106.58	2,134.23	5,701.92	5,490.37	211.55	26.953	
6,100.00	5,852.81	4,819.00	4,819.00	28.04	192.76	33.11	4,106.58	2,134.23	5,719.34	5,508.18	211.17	27.084	
6,200.00	5,952.81	4,819.00	4,819.00	28.30	192.76	33.11	4,106.58	2,134.23	5,738.45	5,527.73	210.73	27.231	
6,300.00	6,052.81	4,819.00	4,819.00	28.56	192.76	33.11	4,106.58	2,134.23	5,759.24	5,549.00	210.24	27.394	
6,400.00	6,152.81	4,819.00	4,819.00	28.83	192.76	33.11	4,106.58	2,134.23	5,781.68	5,571.99	209.69	27.572	
6,500.00	6,252.81	4,819.00	4,819.00	29.09	192.76	33.11	4,106.58	2,134.23	5,805.75	5,596.66	209.09	27.766	
6,600.00	6,352.81	4,819.00	4,819.00	29.36	192.76	33.11	4,106.58	2,134.23	5,831.44	5,622.99	208.45	27.975	
6,700.00	6,452.81	4,819.00	4,819.00	29.63	192.76	33.11	4,106.58	2,134.23	5,858.73	5,650.97	207.76	28.200	
6,800.00	6,552.81	4,819.00	4,819.00	29.90	192.76	33.11	4,106.58	2,134.23	5,887.58	5,680.56	207.02	28.439	
6,900.00	6,652.81	4,819.00	4,819.00	30.17	192.76	33.11	4,106.58	2,134.23	5,917.99	5,711.75	206.24	28.694	
7,000.00	6,752.81	4,819.00	4,819.00	30.45	192.76	33.11	4,106.58	2,134.23	5,949.92	5,744.50	205.42	28.964	
7,089.19	6,842.00	4,819.00	4,819.00	30.69	192.76	33.11	4,106.58	2,134.23	5,979.67	5,775.01	204.66	29.217	

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Wilmuth 002 (P/A) - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 232-INCLINOMETER

Rule Assigned:

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	1.00	1.00	0.00	0.03	36.18	3,385.78	2,476.55	4,194.85				
100.00	100.00	101.00	101.00	0.30	3.07	36.18	3,385.78	2,476.55	4,194.85	4,191.49	3.36	1,246.655	
200.00	200.00	201.00	201.00	0.66	6.10	36.18	3,385.78	2,476.55	4,194.85	4,188.09	6.76	620.527	
300.00	300.00	301.00	301.00	1.01	9.14	36.18	3,385.78	2,476.55	4,194.85	4,184.70	10.16	413.063	
400.00	400.00	401.00	401.00	1.37	12.18	36.18	3,385.78	2,476.55	4,194.85	4,181.30	13.55	309.565	
500.00	500.00	501.87	501.87	1.73	15.24	36.18	3,386.04	2,476.55	4,195.06	4,178.09	16.97	247.168	
600.00	600.00	605.03	605.02	2.09	18.37	36.18	3,385.96	2,476.55	4,195.00	4,174.54	20.46	204.997	
700.00	700.00	708.18	708.18	2.45	21.51	36.18	3,385.79	2,476.55	4,194.87	4,170.92	23.95	175.115	
742.19	742.19	743.20	743.19	2.60	22.57	36.18	3,385.78	2,476.55	4,194.85	4,169.68	25.17	166.663	
800.00	800.00	801.01	801.00	2.81	24.33	36.18	3,385.78	2,476.55	4,194.85	4,167.72	27.13	154.606	
900.00	900.00	901.01	901.00	3.17	27.36	36.18	3,385.78	2,476.55	4,194.85	4,164.32	30.53	137.411	
998.00	998.00	999.01	999.00	3.52	30.34	36.18	3,385.78	2,476.55	4,194.85	4,161.00	33.86	123.906	CC
1,000.00	1,000.00	1,001.01	1,001.00	3.52	30.40	158.97	3,385.78	2,476.55	4,194.85	4,160.93	33.92	123.659	
1,100.00	1,099.95	1,105.29	1,105.27	3.86	33.57	158.95	3,386.38	2,476.55	4,197.88	4,160.46	37.42	112.174	ES
1,200.00	1,199.62	1,210.11	1,210.09	4.20	36.75	158.91	3,386.17	2,476.55	4,205.14	4,164.19	40.95	102.698	
1,300.00	1,298.74	1,314.38	1,314.36	4.55	39.92	158.85	3,385.80	2,476.55	4,217.14	4,172.68	44.46	94.855	
1,400.00	1,397.04	1,398.07	1,398.04	4.91	42.46	158.74	3,385.78	2,476.55	4,234.22	4,186.87	47.35	89.420	
1,500.00	1,494.24	1,495.27	1,495.24	5.30	45.41	158.61	3,385.78	2,476.55	4,256.14	4,205.48	50.66	84.014	
1,600.00	1,590.08	1,591.12	1,591.08	5.73	48.32	158.45	3,385.78	2,476.55	4,282.81	4,228.88	53.93	79.410	
1,700.00	1,684.30	1,688.19	1,688.15	6.20	51.27	158.24	3,386.43	2,476.55	4,314.69	4,257.44	57.25	75.365	
1,800.00	1,776.64	1,785.29	1,785.25	6.73	54.22	158.01	3,386.28	2,476.55	4,350.54	4,289.97	60.58	71.817	
1,900.00	1,866.84	1,880.22	1,880.18	7.33	57.10	157.74	3,386.01	2,476.55	4,390.84	4,326.99	63.85	68.768	
1,971.76	1,930.11	1,946.86	1,946.81	7.81	59.12	157.51	3,385.75	2,476.55	4,422.44	4,356.27	66.16	66.843	
2,000.00	1,954.76	1,955.85	1,955.76	8.01	59.40	157.54	3,385.78	2,476.55	4,435.40	4,368.85	66.55	66.649	
2,100.00	2,042.05	2,043.14	2,043.05	8.74	62.05	157.77	3,385.78	2,476.55	4,481.33	4,411.74	69.60	64.390	
2,200.00	2,129.33	2,130.42	2,130.33	9.51	64.70	158.00	3,385.78	2,476.55	4,527.33	4,454.68	72.66	62.313	
2,300.00	2,216.61	2,221.70	2,221.60	10.30	67.47	158.23	3,386.85	2,476.55	4,574.23	4,498.39	75.85	60.310	
2,400.00	2,303.89	2,321.70	2,321.60	11.12	70.51	158.48	3,386.57	2,476.55	4,620.15	4,540.84	79.31	58.254	
2,500.00	2,391.17	2,421.93	2,421.81	11.95	73.55	158.73	3,385.93	2,476.55	4,665.88	4,583.09	82.79	56.359	
2,600.00	2,478.45	2,470.00	2,469.83	12.79	75.01	158.85	3,385.78	2,476.55	4,711.90	4,627.22	84.67	55.648	SF
2,700.00	2,565.73	2,470.00	2,469.83	13.65	75.01	158.85	3,385.78	2,476.55	4,759.15	4,674.08	85.06	55.950	
2,800.00	2,653.02	2,470.00	2,469.83	14.51	75.01	158.85	3,385.78	2,476.55	4,808.01	4,722.59	85.42	56.288	
2,900.00	2,740.30	2,470.00	2,469.83	15.38	75.01	158.85	3,385.78	2,476.55	4,858.44	4,772.69	85.75	56.660	
3,000.00	2,827.58	2,470.00	2,469.83	16.26	75.01	158.85	3,385.78	2,476.55	4,910.39	4,824.35	86.05	57.067	
3,100.00	2,914.86	2,470.00	2,469.83	17.14	75.01	158.85	3,385.78	2,476.55	4,963.81	4,877.49	86.32	57.505	
3,200.00	3,002.14	2,470.00	2,469.83	18.03	75.01	158.85	3,385.78	2,476.55	5,018.66	4,932.09	86.57	57.975	
3,260.43	3,054.89	2,470.00	2,469.83	18.57	75.01	158.85	3,385.78	2,476.55	5,052.47	4,965.77	86.70	58.273	
3,300.00	3,089.62	2,470.00	2,469.83	18.91	75.01	159.14	3,385.78	2,476.55	5,074.57	4,987.78	86.79	58.473	
3,400.00	3,179.08	2,470.00	2,469.83	19.73	75.01	159.81	3,385.78	2,476.55	5,128.50	5,041.54	86.96	58.973	
3,500.00	3,270.76	2,470.00	2,469.83	20.47	75.01	160.42	3,385.78	2,476.55	5,179.67	5,092.57	87.10	59.469	
3,600.00	3,364.40	2,470.00	2,469.83	21.14	75.01	160.97	3,385.78	2,476.55	5,228.01	5,140.82	87.19	59.961	
3,700.00	3,459.75	2,470.00	2,469.83	21.72	75.01	161.46	3,385.78	2,476.55	5,273.47	5,186.23	87.24	60.449	
3,800.00	3,556.54	2,470.00	2,469.83	22.23	75.01	161.90	3,385.78	2,476.55	5,316.00	5,228.76	87.24	60.934	
3,900.00	3,654.51	2,470.00	2,469.83	22.68	75.01	162.30	3,385.78	2,476.55	5,355.56	5,268.36	87.20	61.418	
4,000.00	3,753.40	2,470.00	2,469.83	23.05	75.01	162.66	3,385.78	2,476.55	5,392.10	5,304.99	87.11	61.901	
4,100.00	3,852.92	2,470.00	2,469.83	23.37	75.01	162.97	3,385.78	2,476.55	5,425.59	5,338.62	86.97	62.382	
4,200.00	3,952.81	2,470.00	2,469.83	23.62	75.01	163.25	3,385.78	2,476.55	5,455.99	5,369.20	86.79	62.863	
4,234.19	3,987.00	2,470.00	2,469.83	23.70	75.01	40.55	3,385.78	2,476.55	5,465.67	5,378.95	86.72	63.030	
4,300.00	4,052.81	2,470.00	2,469.83	23.83	75.01	40.55	3,385.78	2,476.55	5,484.31	5,397.75	86.57	63.354	
4,400.00	4,152.81	2,470.00	2,469.83	24.04	75.01	40.55	3,385.78	2,476.55	5,514.03	5,427.70	86.32	63.876	
4,500.00	4,252.81	2,470.00	2,469.83	24.25	75.01	40.55	3,385.78	2,476.55	5,545.39	5,459.32	86.06	64.434	
4,600.00	4,352.81	2,470.00	2,469.83	24.47	75.01	40.55	3,385.78	2,476.55	5,578.36	5,492.57	85.79	65.026	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Wilmuth 002 (P/A) - OH - OH — **Offset Site Error:** 0.00 ft

Survey Program: 232-INCLINOMETER — **Rule Assigned:** — **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	4,452.81	2,470.00	2,469.83	24.69	75.01	40.55	3,385.78	2,476.55	5,612.92	5,527.43	85.49	65.653	
4,800.00	4,552.81	2,470.00	2,469.83	24.91	75.01	40.55	3,385.78	2,476.55	5,649.04	5,563.86	85.19	66.314	
4,900.00	4,652.81	2,470.00	2,469.83	25.13	75.01	40.55	3,385.78	2,476.55	5,686.69	5,601.83	84.87	67.008	
5,000.00	4,752.81	2,470.00	2,469.83	25.36	75.01	40.55	3,385.78	2,476.55	5,725.84	5,641.31	84.53	67.736	
5,100.00	4,852.81	2,470.00	2,469.83	25.59	75.01	40.55	3,385.78	2,476.55	5,766.46	5,682.28	84.19	68.497	
5,200.00	4,952.81	2,470.00	2,469.83	25.82	75.01	40.55	3,385.78	2,476.55	5,808.52	5,724.69	83.83	69.290	
5,300.00	5,052.81	2,470.00	2,469.83	26.06	75.01	40.55	3,385.78	2,476.55	5,851.98	5,768.52	83.46	70.114	
5,400.00	5,152.81	2,470.00	2,469.83	26.30	75.01	40.55	3,385.78	2,476.55	5,896.82	5,813.73	83.09	70.971	
5,500.00	5,252.81	2,470.00	2,469.83	26.54	75.01	40.55	3,385.78	2,476.55	5,943.00	5,860.30	82.70	71.858	
5,600.00	5,352.81	2,470.00	2,469.83	26.79	75.01	40.55	3,385.78	2,476.55	5,990.50	5,908.18	82.31	72.775	
5,700.00	5,452.81	2,470.00	2,469.83	27.03	75.01	40.55	3,385.78	2,476.55	6,039.28	5,957.36	81.92	73.723	
5,800.00	5,552.81	2,470.00	2,469.83	27.28	75.01	40.55	3,385.78	2,476.55	6,089.31	6,007.79	81.52	74.700	
5,900.00	5,652.81	2,470.00	2,469.83	27.53	75.01	40.55	3,385.78	2,476.55	6,140.56	6,059.45	81.11	75.705	
6,000.00	5,752.81	2,470.00	2,469.83	27.79	75.01	40.55	3,385.78	2,476.55	6,193.00	6,112.30	80.70	76.739	
6,100.00	5,852.81	2,470.00	2,469.83	28.04	75.01	40.55	3,385.78	2,476.55	6,246.60	6,166.31	80.29	77.800	
6,200.00	5,952.81	2,470.00	2,469.83	28.30	75.01	40.55	3,385.78	2,476.55	6,301.34	6,221.46	79.88	78.888	
6,300.00	6,052.81	2,470.00	2,469.83	28.56	75.01	40.55	3,385.78	2,476.55	6,357.17	6,277.71	79.46	80.003	
6,400.00	6,152.81	2,470.00	2,469.83	28.83	75.01	40.55	3,385.78	2,476.55	6,414.08	6,335.03	79.05	81.143	
6,500.00	6,252.81	2,470.00	2,469.83	29.09	75.01	40.55	3,385.78	2,476.55	6,472.03	6,393.40	78.63	82.309	
6,600.00	6,352.81	2,470.00	2,469.83	29.36	75.01	40.55	3,385.78	2,476.55	6,531.00	6,452.79	78.22	83.499	
6,700.00	6,452.81	2,470.00	2,469.83	29.63	75.01	40.55	3,385.78	2,476.55	6,590.96	6,513.16	77.80	84.712	
6,800.00	6,552.81	2,470.00	2,469.83	29.90	75.01	40.55	3,385.78	2,476.55	6,651.89	6,574.49	77.39	85.949	
6,900.00	6,652.81	2,470.00	2,469.83	30.17	75.01	40.55	3,385.78	2,476.55	6,713.75	6,636.76	76.99	87.208	
7,000.00	6,752.81	2,470.00	2,469.83	30.45	75.01	40.55	3,385.78	2,476.55	6,776.52	6,699.94	76.58	88.489	
7,089.19	6,842.00	2,470.00	2,469.83	30.69	75.01	40.55	3,385.78	2,476.55	6,833.25	6,757.03	76.22	89.649	

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Zella Calloway 001 - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 100-UNKNOWN

Offset Well Error: 0.00 ft

Rule Assigned:

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	71.00	71.00	0.00	2.84	176.72	-3,607.78	206.55	3,613.69				
100.00	100.00	171.00	171.00	0.30	6.84	176.72	-3,607.78	206.55	3,613.69	3,606.55	7.14	506.294	
200.00	200.00	271.00	271.00	0.66	10.84	176.72	-3,607.78	206.55	3,613.69	3,602.19	11.50	314.343	
300.00	300.00	371.00	371.00	1.01	14.84	176.72	-3,607.78	206.55	3,613.69	3,597.84	15.85	227.929	
400.00	400.00	471.00	471.00	1.37	18.84	176.72	-3,607.78	206.55	3,613.69	3,593.48	20.21	178.781	
500.00	500.00	571.00	571.00	1.73	22.84	176.72	-3,607.78	206.55	3,613.69	3,589.12	24.57	147.069	
600.00	600.00	671.00	671.00	2.09	26.84	176.72	-3,607.78	206.55	3,613.69	3,584.76	28.93	124.912	
700.00	700.00	771.00	771.00	2.45	30.84	176.72	-3,607.78	206.55	3,613.69	3,580.40	33.29	108.557	
800.00	800.00	871.00	871.00	2.81	34.84	176.72	-3,607.78	206.55	3,613.69	3,576.04	37.65	95.989	
900.00	900.00	971.00	971.00	3.17	38.84	176.72	-3,607.78	206.55	3,613.69	3,571.69	42.01	86.029	
998.00	998.00	1,069.00	1,069.00	3.52	42.76	176.72	-3,607.78	206.55	3,613.69	3,567.41	46.28	78.089	
1,000.00	1,000.00	1,071.00	1,071.00	3.52	42.84	-60.50	-3,607.78	206.55	3,613.69	3,567.33	46.36	77.943	
1,100.00	1,099.95	1,170.95	1,170.95	3.86	46.84	-60.57	-3,607.78	206.55	3,612.35	3,561.66	50.69	71.257	
1,200.00	1,199.62	1,270.62	1,270.62	4.20	50.82	-60.78	-3,607.78	206.55	3,608.45	3,553.42	55.02	65.582	
1,300.00	1,298.74	1,369.74	1,369.74	4.55	54.79	-61.13	-3,607.78	206.55	3,602.02	3,542.68	59.34	60.705	
1,400.00	1,397.04	1,468.04	1,468.04	4.91	58.72	-61.62	-3,607.78	206.55	3,593.12	3,529.49	63.63	56.469	
1,500.00	1,494.24	1,565.24	1,565.24	5.30	62.61	-62.24	-3,607.78	206.55	3,581.84	3,513.94	67.90	52.751	
1,600.00	1,590.08	1,661.08	1,661.08	5.73	66.44	-63.00	-3,607.78	206.55	3,568.29	3,496.14	72.15	49.460	
1,700.00	1,684.30	1,755.30	1,755.30	6.20	70.21	-63.88	-3,607.78	206.55	3,552.60	3,476.24	76.36	46.523	
1,800.00	1,776.64	1,847.64	1,847.64	6.73	73.91	-64.90	-3,607.78	206.55	3,534.92	3,454.37	80.55	43.883	
1,900.00	1,866.84	1,937.84	1,937.84	7.33	77.51	-66.02	-3,607.78	206.55	3,515.44	3,430.72	84.72	41.495	
1,971.76	1,930.11	2,001.11	2,001.11	7.81	80.04	-66.90	-3,607.78	206.55	3,500.45	3,412.76	87.69	39.916	
2,000.00	1,954.76	2,025.76	2,025.76	8.01	81.03	-67.09	-3,607.78	206.55	3,494.42	3,405.55	88.87	39.322	
2,100.00	2,042.05	2,113.05	2,113.05	8.74	84.52	-67.75	-3,607.78	206.55	3,473.43	3,380.39	93.04	37.334	
2,200.00	2,129.33	2,200.33	2,200.33	9.51	88.01	-68.42	-3,607.78	206.55	3,453.00	3,355.75	97.25	35.508	
2,300.00	2,216.61	2,287.61	2,287.61	10.30	91.50	-69.09	-3,607.78	206.55	3,433.14	3,331.65	101.49	33.829	
2,400.00	2,303.89	2,374.89	2,374.89	11.12	95.00	-69.77	-3,607.78	206.55	3,413.86	3,308.11	105.75	32.281	
2,500.00	2,391.17	2,462.17	2,462.17	11.95	98.49	-70.46	-3,607.78	206.55	3,395.17	3,285.13	110.04	30.853	
2,600.00	2,478.45	2,549.45	2,549.45	12.79	101.98	-71.15	-3,607.78	206.55	3,377.09	3,262.74	114.35	29.532	
2,700.00	2,565.73	2,636.73	2,636.73	13.65	105.47	-71.85	-3,607.78	206.55	3,359.62	3,240.94	118.68	28.309	
2,800.00	2,653.02	2,724.02	2,724.02	14.51	108.96	-72.55	-3,607.78	206.55	3,342.77	3,219.75	123.02	27.173	
2,900.00	2,740.30	2,811.30	2,811.30	15.38	112.45	-73.26	-3,607.78	206.55	3,326.55	3,199.18	127.37	26.116	
3,000.00	2,827.58	2,898.58	2,898.58	16.26	115.94	-73.97	-3,607.78	206.55	3,310.97	3,179.23	131.74	25.133	
3,100.00	2,914.86	2,985.86	2,985.86	17.14	119.43	-74.69	-3,607.78	206.55	3,296.04	3,159.93	136.12	24.215	
3,200.00	3,002.14	3,073.14	3,073.14	18.03	122.93	-75.42	-3,607.78	206.55	3,281.77	3,141.27	140.50	23.357	
3,260.43	3,054.89	3,125.89	3,125.89	18.57	125.04	-75.86	-3,607.78	206.55	3,273.47	3,130.31	143.16	22.866	
3,300.00	3,089.62	3,160.62	3,160.62	18.91	126.42	-75.99	-3,607.78	206.55	3,268.26	3,123.36	144.90	22.555	
3,400.00	3,179.08	3,250.08	3,250.08	19.73	130.00	-76.33	-3,607.78	206.55	3,256.40	3,107.09	149.31	21.809	
3,500.00	3,270.76	3,341.76	3,341.76	20.47	133.67	-76.66	-3,607.78	206.55	3,246.28	3,092.54	153.74	21.115	
3,600.00	3,364.40	3,435.40	3,435.40	21.14	137.42	-76.98	-3,607.78	206.55	3,237.78	3,079.61	158.17	20.470	
3,700.00	3,459.75	3,530.75	3,530.75	21.72	141.23	-77.27	-3,607.78	206.55	3,230.75	3,068.17	162.59	19.871	
3,800.00	3,556.54	3,627.54	3,627.54	22.23	145.10	-77.53	-3,607.78	206.55	3,225.11	3,058.12	166.98	19.314	
3,900.00	3,654.51	3,725.51	3,725.51	22.68	149.02	-77.74	-3,607.78	206.55	3,220.74	3,049.39	171.36	18.795	
4,000.00	3,753.40	3,824.40	3,824.40	23.05	152.98	-77.90	-3,607.78	206.55	3,217.58	3,041.88	175.70	18.313	
4,100.00	3,852.92	3,923.92	3,923.92	23.37	156.96	-78.01	-3,607.78	206.55	3,215.56	3,035.56	180.00	17.864	
4,200.00	3,952.81	4,023.81	4,023.81	23.62	160.95	-78.06	-3,607.78	206.55	3,214.65	3,030.39	184.26	17.446	
4,234.19	3,987.00	4,058.00	4,058.00	23.70	162.32	159.16	-3,607.78	206.55	3,214.58	3,028.88	185.70	17.310	
4,300.00	4,052.81	4,123.81	4,123.81	23.83	164.95	159.16	-3,607.78	206.55	3,214.58	3,026.11	188.47	17.056	
4,400.00	4,152.81	4,223.81	4,223.81	24.04	168.95	159.16	-3,607.78	206.55	3,214.58	3,021.90	192.68	16.683	
4,500.00	4,252.81	4,323.81	4,323.81	24.25	172.95	159.16	-3,607.78	206.55	3,214.58	3,017.68	196.90	16.326	
4,600.00	4,352.81	4,423.81	4,423.81	24.47	176.95	159.16	-3,607.78	206.55	3,214.58	3,013.47	201.12	15.984	
4,700.00	4,452.81	4,523.81	4,523.81	24.69	180.95	159.16	-3,607.78	206.55	3,214.58	3,009.25	205.34	15.655	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Zella Calloway 001 - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 100-UNKNOWN

Rule Assigned:

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	4,552.81	4,623.81	4,623.81	24.91	184.95	159.16	-3,607.78	206.55	3,214.58	3,005.02	209.56	15.339	
4,900.00	4,652.81	4,723.81	4,723.81	25.13	188.95	159.16	-3,607.78	206.55	3,214.58	3,000.79	213.79	15.036	
5,000.00	4,752.81	4,823.81	4,823.81	25.36	192.95	159.16	-3,607.78	206.55	3,214.58	2,996.56	218.02	14.744	
5,100.00	4,852.81	4,923.81	4,923.81	25.59	196.95	159.16	-3,607.78	206.55	3,214.58	2,992.33	222.26	14.463	
5,200.00	4,952.81	5,023.81	5,023.81	25.82	200.95	159.16	-3,607.78	206.55	3,214.58	2,988.09	226.49	14.193	
5,300.00	5,052.81	5,123.81	5,123.81	26.06	204.95	159.16	-3,607.78	206.55	3,214.58	2,983.85	230.73	13.932	
5,400.00	5,152.81	5,223.81	5,223.81	26.30	208.95	159.16	-3,607.78	206.55	3,214.58	2,979.61	234.98	13.680	
5,500.00	5,252.81	5,323.81	5,323.81	26.54	212.95	159.16	-3,607.78	206.55	3,214.58	2,975.36	239.22	13.438	
5,600.00	5,352.81	5,423.81	5,423.81	26.79	216.95	159.16	-3,607.78	206.55	3,214.58	2,971.12	243.47	13.203	
5,700.00	5,452.81	5,523.81	5,523.81	27.03	220.95	159.16	-3,607.78	206.55	3,214.58	2,966.87	247.72	12.977	
5,800.00	5,552.81	5,623.81	5,623.81	27.28	224.95	159.16	-3,607.78	206.55	3,214.58	2,962.61	251.97	12.758	
5,900.00	5,652.81	5,723.81	5,723.81	27.53	228.95	159.16	-3,607.78	206.55	3,214.58	2,958.36	256.23	12.546	
6,000.00	5,752.81	5,823.81	5,823.81	27.79	232.95	159.16	-3,607.78	206.55	3,214.58	2,954.10	260.48	12.341	
6,100.00	5,852.81	5,923.81	5,923.81	28.04	236.95	159.16	-3,607.78	206.55	3,214.58	2,949.84	264.74	12.142	
6,200.00	5,952.81	6,023.81	6,023.81	28.30	240.95	159.16	-3,607.78	206.55	3,214.58	2,945.58	269.00	11.950	
6,300.00	6,052.81	6,123.81	6,123.81	28.56	244.95	159.16	-3,607.78	206.55	3,214.58	2,941.32	273.27	11.763	
6,400.00	6,152.81	6,223.81	6,223.81	28.83	248.95	159.16	-3,607.78	206.55	3,214.58	2,937.05	277.53	11.583	
6,500.00	6,252.81	6,323.81	6,323.81	29.09	252.95	159.16	-3,607.78	206.55	3,214.58	2,932.78	281.80	11.407	
6,600.00	6,352.81	6,423.81	6,423.81	29.36	256.95	159.16	-3,607.78	206.55	3,214.58	2,928.51	286.07	11.237	
6,700.00	6,452.81	6,523.81	6,523.81	29.63	260.95	159.16	-3,607.78	206.55	3,214.58	2,924.24	290.34	11.072	
6,800.00	6,552.81	6,623.81	6,623.81	29.90	264.95	159.16	-3,607.78	206.55	3,214.58	2,919.97	294.62	10.911	
6,900.00	6,652.81	6,723.81	6,723.81	30.17	268.95	159.16	-3,607.78	206.55	3,214.58	2,915.69	298.89	10.755	
7,000.00	6,752.81	6,823.81	6,823.81	30.45	272.95	159.16	-3,607.78	206.55	3,214.58	2,911.41	303.17	10.603	
7,089.19	6,842.00	6,913.00	6,913.00	30.69	276.52	159.16	-3,607.78	206.55	3,214.58	2,907.60	306.99	10.471	CC, ES, SF

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Zella Calloway 001M - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 251-MWD SDI

Offset Well Error: 0.00 ft

Rule Assigned:

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	67.33	67.33	0.00	0.08	175.66	-3,720.66	282.62	3,731.38				
100.00	100.00	163.52	163.52	0.30	0.18	175.66	-3,720.79	282.57	3,731.51	3,731.02	0.48	7,750.952	
200.00	200.00	288.38	288.38	0.66	0.36	175.66	-3,720.81	282.33	3,731.55	3,730.54	1.01	3,679.010	
300.00	300.00	460.24	460.13	1.01	0.73	175.73	-3,718.35	277.51	3,729.78	3,728.04	1.74	2,139.975	
400.00	400.00	547.44	547.10	1.37	0.94	175.82	-3,716.91	271.48	3,727.61	3,725.30	2.31	1,613.653	
500.00	500.00	635.54	634.74	1.73	1.17	175.96	-3,715.84	262.54	3,725.67	3,722.76	2.90	1,283.664	
600.00	600.00	721.31	719.73	2.09	1.43	176.13	-3,715.38	251.08	3,724.19	3,720.67	3.52	1,059.004	
700.00	700.00	863.39	859.71	2.45	1.92	176.51	-3,714.58	226.82	3,722.58	3,718.21	4.36	852.996	
800.00	800.00	971.09	964.85	2.81	2.37	176.86	-3,713.12	203.58	3,719.90	3,714.73	5.17	719.403	
900.00	900.00	1,054.00	1,045.09	3.17	2.76	177.18	-3,712.37	182.73	3,717.62	3,711.70	5.92	627.517	
998.00	998.00	1,116.00	1,104.70	3.52	3.09	177.44	-3,712.33	165.67	3,716.20	3,709.60	6.60	563.000	
1,000.00	1,000.00	1,116.00	1,104.70	3.52	3.09	-59.77	-3,712.33	165.67	3,716.18	3,709.58	6.61	562.409	
1,100.00	1,099.95	1,178.00	1,163.95	3.86	3.44	-59.56	-3,712.96	147.43	3,714.51	3,707.22	7.29	509.625	
1,200.00	1,199.62	1,310.33	1,289.17	4.20	4.25	-59.14	-3,714.47	104.71	3,710.49	3,702.05	8.44	439.420	
1,300.00	1,298.74	1,407.32	1,380.00	4.55	4.91	-58.97	-3,715.00	70.69	3,703.23	3,693.78	9.45	391.803	
1,400.00	1,397.04	1,490.00	1,456.51	4.91	5.52	-58.92	-3,715.70	39.37	3,693.65	3,683.22	10.42	354.321	
1,500.00	1,494.24	1,571.78	1,531.28	5.30	6.17	-58.95	-3,716.74	6.25	3,681.88	3,670.42	11.46	321.217	
1,600.00	1,590.08	1,654.89	1,606.12	5.73	6.89	-59.05	-3,718.28	-29.83	3,668.06	3,655.48	12.58	291.548	
1,700.00	1,684.30	1,742.00	1,684.15	6.20	7.62	-59.24	-3,720.04	-68.52	3,651.85	3,638.10	13.75	265.609	
1,800.00	1,776.64	1,911.29	1,836.46	6.73	8.98	-59.44	-3,722.38	-142.35	3,632.56	3,616.97	15.59	233.058	
1,900.00	1,866.84	1,971.65	1,891.43	7.33	9.41	-60.00	-3,722.72	-167.28	3,609.82	3,593.26	16.56	217.978	
1,971.76	1,930.11	2,047.78	1,961.06	7.81	9.97	-60.48	-3,723.81	-198.05	3,592.51	3,574.97	17.54	204.805	
2,000.00	1,954.76	2,075.92	1,986.81	8.01	10.18	-60.49	-3,724.10	-209.40	3,585.32	3,567.40	17.92	200.052	
2,100.00	2,042.05	2,164.15	2,067.90	8.74	10.81	-60.54	-3,725.13	-244.16	3,560.02	3,540.83	19.19	185.528	
2,200.00	2,129.33	2,344.06	2,233.84	9.51	12.13	-60.67	-3,725.10	-313.64	3,533.48	3,512.33	21.15	167.093	
2,300.00	2,216.61	2,449.76	2,330.70	10.30	12.98	-60.72	-3,723.98	-355.91	3,506.04	3,483.37	22.67	154.634	
2,400.00	2,303.89	2,575.14	2,443.80	11.12	14.06	-60.70	-3,721.61	-409.98	3,477.77	3,453.33	24.44	142.314	
2,500.00	2,391.17	2,670.35	2,529.79	11.95	14.84	-60.70	-3,719.54	-450.80	3,449.25	3,423.33	25.92	133.070	
2,600.00	2,478.45	2,723.65	2,578.27	12.79	15.25	-60.71	-3,718.65	-472.93	3,421.27	3,394.18	27.09	126.308	
2,700.00	2,565.73	2,775.09	2,625.26	13.65	15.64	-60.73	-3,718.53	-493.84	3,394.60	3,366.36	28.25	120.181	
2,800.00	2,653.02	2,850.18	2,694.27	14.51	16.20	-60.77	-3,719.23	-523.43	3,369.04	3,339.47	29.57	113.946	
2,900.00	2,740.30	2,988.68	2,822.82	15.38	17.17	-60.92	-3,719.73	-574.98	3,342.96	3,311.69	31.27	106.892	
3,000.00	2,827.58	3,100.37	2,927.50	16.26	17.91	-61.09	-3,719.09	-613.91	3,316.02	3,283.24	32.77	101.184	
3,100.00	2,914.86	3,183.67	3,006.17	17.14	18.44	-61.25	-3,718.61	-641.28	3,289.13	3,255.04	34.08	96.500	
3,200.00	3,002.14	3,275.90	3,093.72	18.03	18.99	-61.45	-3,718.15	-670.30	3,262.36	3,226.93	35.43	92.079	
3,260.43	3,054.89	3,320.40	3,136.10	18.57	19.25	-61.56	-3,718.14	-683.83	3,246.49	3,210.30	36.18	89.728	
3,300.00	3,089.62	3,356.72	3,170.82	18.91	19.45	-61.38	-3,718.19	-694.50	3,236.36	3,199.66	36.70	88.189	
3,400.00	3,179.08	3,432.00	3,243.16	19.73	19.86	-60.91	-3,718.44	-715.34	3,212.74	3,174.88	37.86	84.859	
3,500.00	3,270.76	3,513.23	3,321.80	20.47	20.24	-60.51	-3,719.13	-735.63	3,192.21	3,153.27	38.94	81.976	
3,600.00	3,364.40	3,605.93	3,412.26	21.14	20.64	-60.20	-3,720.47	-755.85	3,174.85	3,134.90	39.96	79.452	
3,700.00	3,459.75	3,774.81	3,576.81	21.72	21.40	-59.89	-3,720.58	-793.79	3,158.59	3,117.39	41.19	76.675	
3,800.00	3,556.54	3,852.78	3,652.61	22.23	21.75	-59.50	-3,720.05	-812.05	3,144.32	3,102.27	42.05	74.782	
3,900.00	3,654.51	3,920.74	3,719.18	22.68	22.03	-59.18	-3,720.21	-825.70	3,133.65	3,090.89	42.76	73.289	
4,000.00	3,753.40	3,996.00	3,793.44	23.05	22.28	-58.95	-3,721.04	-837.85	3,126.60	3,083.22	43.38	72.071	
4,100.00	3,852.92	4,075.30	3,872.04	23.37	22.50	-58.79	-3,722.41	-848.25	3,122.97	3,079.05	43.92	71.111	
4,166.21	3,919.04	4,129.70	3,926.08	23.54	22.63	-58.70	-3,723.55	-854.42	3,122.34	3,078.12	44.23	70.601	CC, ES
4,200.00	3,952.81	4,153.86	3,950.10	23.62	22.69	-58.67	-3,724.13	-856.88	3,122.61	3,078.24	44.37	70.379	
4,234.19	3,987.00	4,180.00	3,976.12	23.70	22.75	178.57	-3,724.84	-859.31	3,123.30	3,078.80	44.50	70.180	
4,300.00	4,052.81	4,180.00	3,976.12	23.83	22.75	178.57	-3,724.84	-859.31	3,125.70	3,081.04	44.65	70.003	
4,400.00	4,152.81	4,180.00	3,976.12	24.04	22.75	178.57	-3,724.84	-859.31	3,131.98	3,087.14	44.84	69.844	
4,500.00	4,252.81	4,180.00	3,976.12	24.25	22.75	178.57	-3,724.84	-859.31	3,141.44	3,096.45	44.99	69.818	SF
4,600.00	4,352.81	4,180.00	3,976.12	24.47	22.75	178.57	-3,724.84	-859.31	3,154.04	3,108.93	45.11	69.920	

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

Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 Pad - Zella Calloway 001M - OH - OH

Offset Site Error: 0.00 ft

Survey Program: 251-MWD SDI

Offset Well Error: 0.00 ft

Rule Assigned:

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	4,452.81	4,180.00	3,976.12	24.69	22.75	178.57	-3,724.84	-859.31	3,169.75	3,124.57	45.19	70.150	
4,800.00	4,552.81	4,180.00	3,976.12	24.91	22.75	178.57	-3,724.84	-859.31	3,188.52	3,143.30	45.23	70.503	
4,900.00	4,652.81	4,180.00	3,976.12	25.13	22.75	178.57	-3,724.84	-859.31	3,210.30	3,165.07	45.23	70.978	
5,000.00	4,752.81	4,180.00	3,976.12	25.36	22.75	178.57	-3,724.84	-859.31	3,235.02	3,189.82	45.20	71.571	
5,100.00	4,852.81	4,180.00	3,976.12	25.59	22.75	178.57	-3,724.84	-859.31	3,262.62	3,217.48	45.14	72.279	
5,200.00	4,952.81	4,180.00	3,976.12	25.82	22.75	178.57	-3,724.84	-859.31	3,293.02	3,247.98	45.05	73.100	
5,300.00	5,052.81	4,180.00	3,976.12	26.06	22.75	178.57	-3,724.84	-859.31	3,326.16	3,281.23	44.93	74.030	
5,400.00	5,152.81	4,180.00	3,976.12	26.30	22.75	178.57	-3,724.84	-859.31	3,361.95	3,317.16	44.79	75.067	
5,500.00	5,252.81	4,180.00	3,976.12	26.54	22.75	178.57	-3,724.84	-859.31	3,400.30	3,355.68	44.62	76.207	
5,600.00	5,352.81	4,180.00	3,976.12	26.79	22.75	178.57	-3,724.84	-859.31	3,441.13	3,396.70	44.43	77.447	
5,700.00	5,452.81	4,180.00	3,976.12	27.03	22.75	178.57	-3,724.84	-859.31	3,484.35	3,440.12	44.23	78.784	
5,800.00	5,552.81	4,180.00	3,976.12	27.28	22.75	178.57	-3,724.84	-859.31	3,529.88	3,485.87	44.01	80.214	
5,900.00	5,652.81	4,180.00	3,976.12	27.53	22.75	178.57	-3,724.84	-859.31	3,577.62	3,533.85	43.77	81.734	
6,000.00	5,752.81	4,180.00	3,976.12	27.79	22.75	178.57	-3,724.84	-859.31	3,627.49	3,583.97	43.53	83.342	
6,100.00	5,852.81	4,180.00	3,976.12	28.04	22.75	178.57	-3,724.84	-859.31	3,679.41	3,636.14	43.27	85.033	
6,200.00	5,952.81	4,180.00	3,976.12	28.30	22.75	178.57	-3,724.84	-859.31	3,733.28	3,690.27	43.01	86.804	
6,300.00	6,052.81	4,180.00	3,976.12	28.56	22.75	178.57	-3,724.84	-859.31	3,789.03	3,746.29	42.74	88.651	
6,400.00	6,152.81	4,180.00	3,976.12	28.83	22.75	178.57	-3,724.84	-859.31	3,846.56	3,804.10	42.47	90.572	
6,500.00	6,252.81	4,180.00	3,976.12	29.09	22.75	178.57	-3,724.84	-859.31	3,905.82	3,863.62	42.20	92.562	
6,600.00	6,352.81	4,180.00	3,976.12	29.36	22.75	178.57	-3,724.84	-859.31	3,966.70	3,924.78	41.92	94.617	
6,700.00	6,452.81	4,180.00	3,976.12	29.63	22.75	178.57	-3,724.84	-859.31	4,029.15	3,987.50	41.65	96.736	
6,800.00	6,552.81	4,180.00	3,976.12	29.90	22.75	178.57	-3,724.84	-859.31	4,093.09	4,051.71	41.38	98.913	
6,900.00	6,652.81	4,180.00	3,976.12	30.17	22.75	178.57	-3,724.84	-859.31	4,158.46	4,117.34	41.11	101.145	
7,000.00	6,752.81	4,180.00	3,976.12	30.45	22.75	178.57	-3,724.84	-859.31	4,225.17	4,184.32	40.85	103.428	
7,089.19	6,842.00	4,180.00	3,976.12	30.69	22.75	178.57	-3,724.84	-859.31	4,285.77	4,245.15	40.62	105.506	

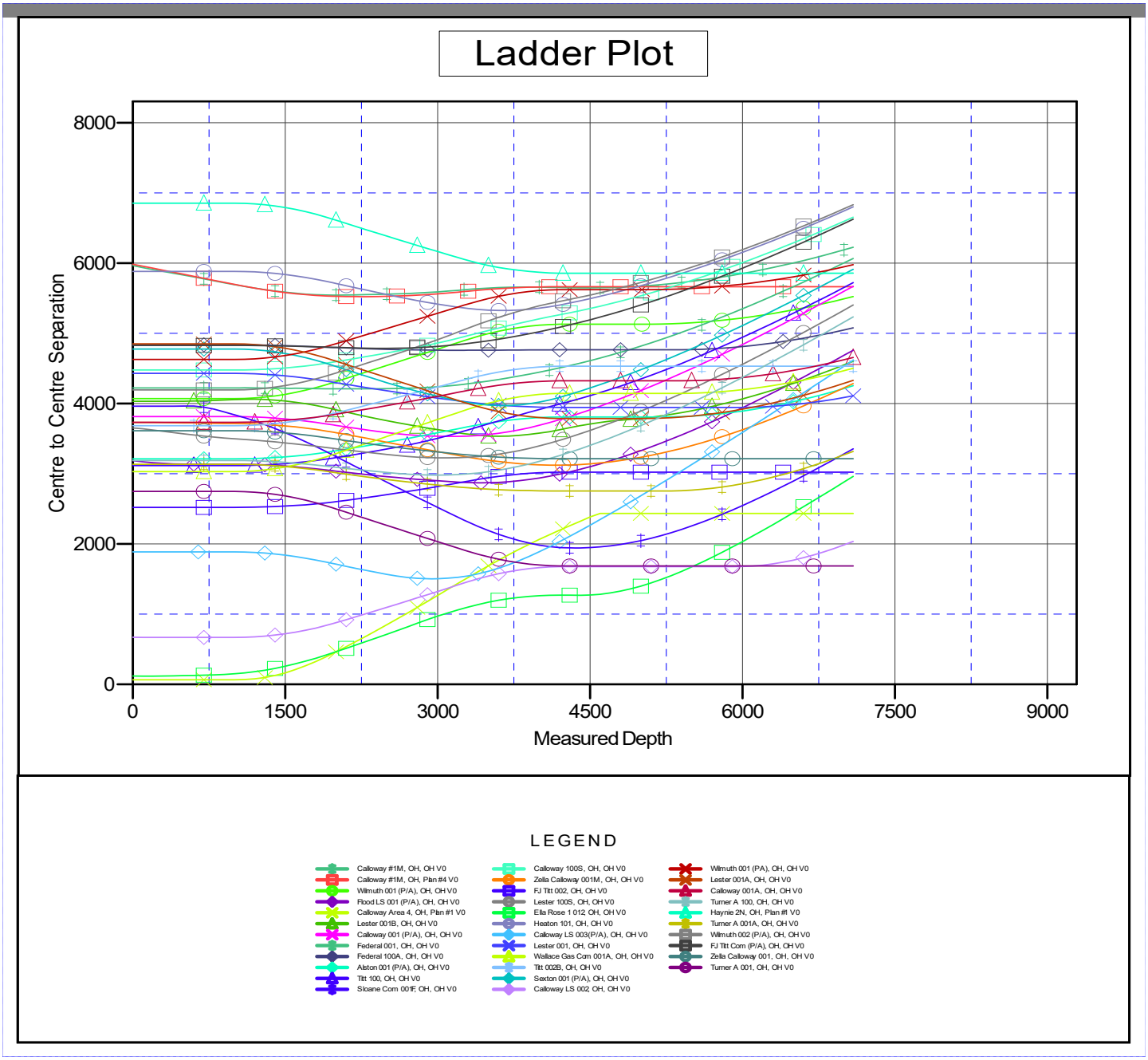
Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 5670' & RKB 17' @ 5687.00ft (Dra
Offset Depths are relative to Offset Datum
Central Meridian is -107.8333334

Coordinates are relative to: Calloway 2M
Coordinate System is US State Plane 1927 (Exact solution), New Mexico West 30
Grid Convergence at Surface is: -0.08°



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

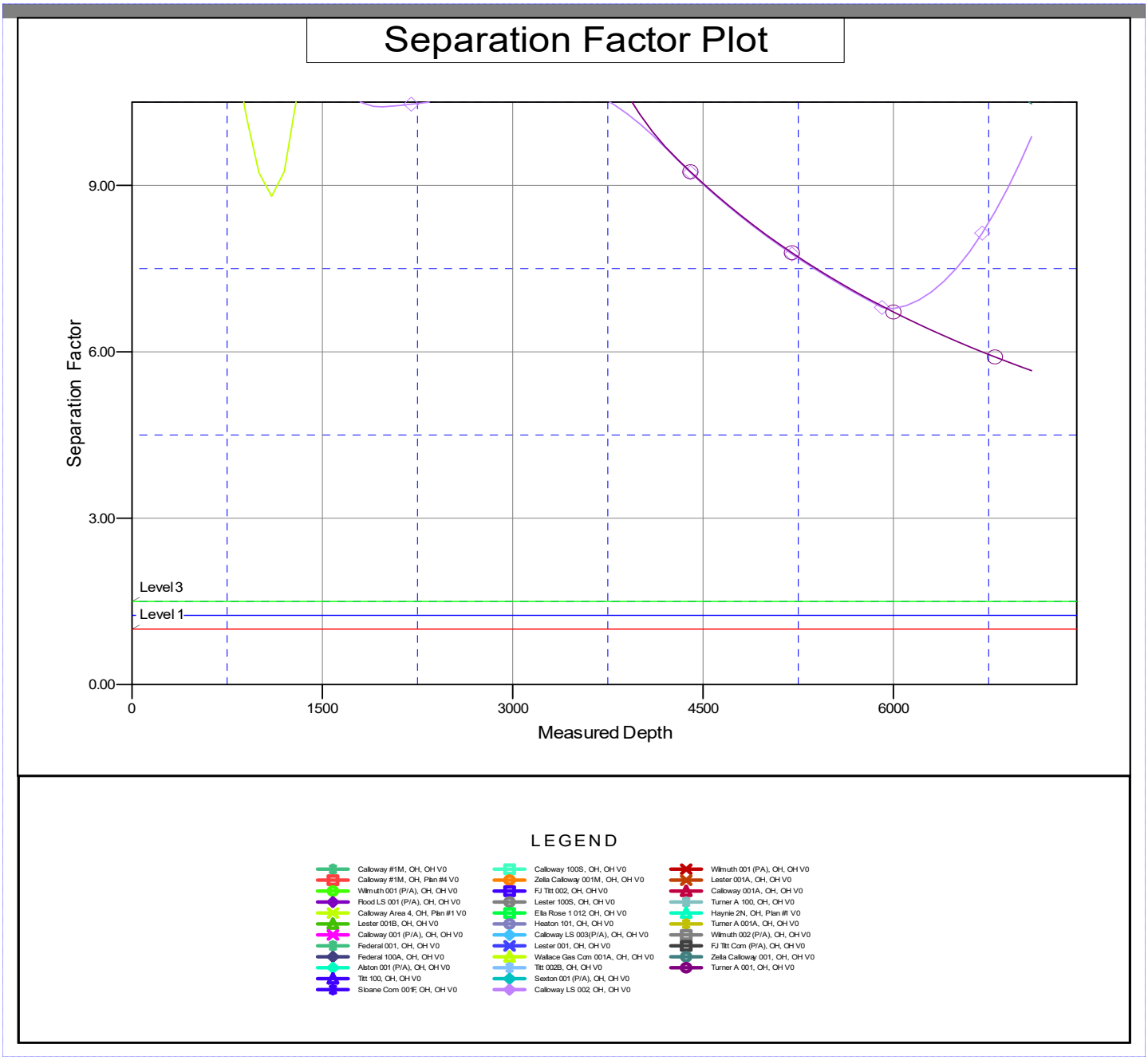
Lonestar Consulting, LLC

Anticollision Report

Company:	Hilcorp Energy - San Juan Basin	**Local Co-ordinate Reference:**	Well Calloway 2M
Project:	San Juan, NM NAD27	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Reference Site:	Calloway Pad	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site Error:	0.00 ft	**North Reference:**	True
Reference Well:	Calloway 2M	**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 5670' & RKB 17' @ 5687.00ft (Dra
Offset Depths are relative to Offset Datum
Central Meridian is -107.8333334

Coordinates are relative to: Calloway 2M
Coordinate System is US State Plane 1927 (Exact solution), New Mexico West 30
Grid Convergence at Surface is: -0.08°



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

Company: Hilcorp Energy - San Juan Basin
Project: San Juan, NM NAD27
Site: Calloway Pad
Well: Calloway 2M
Wellbore: OH
Design: Plan #1

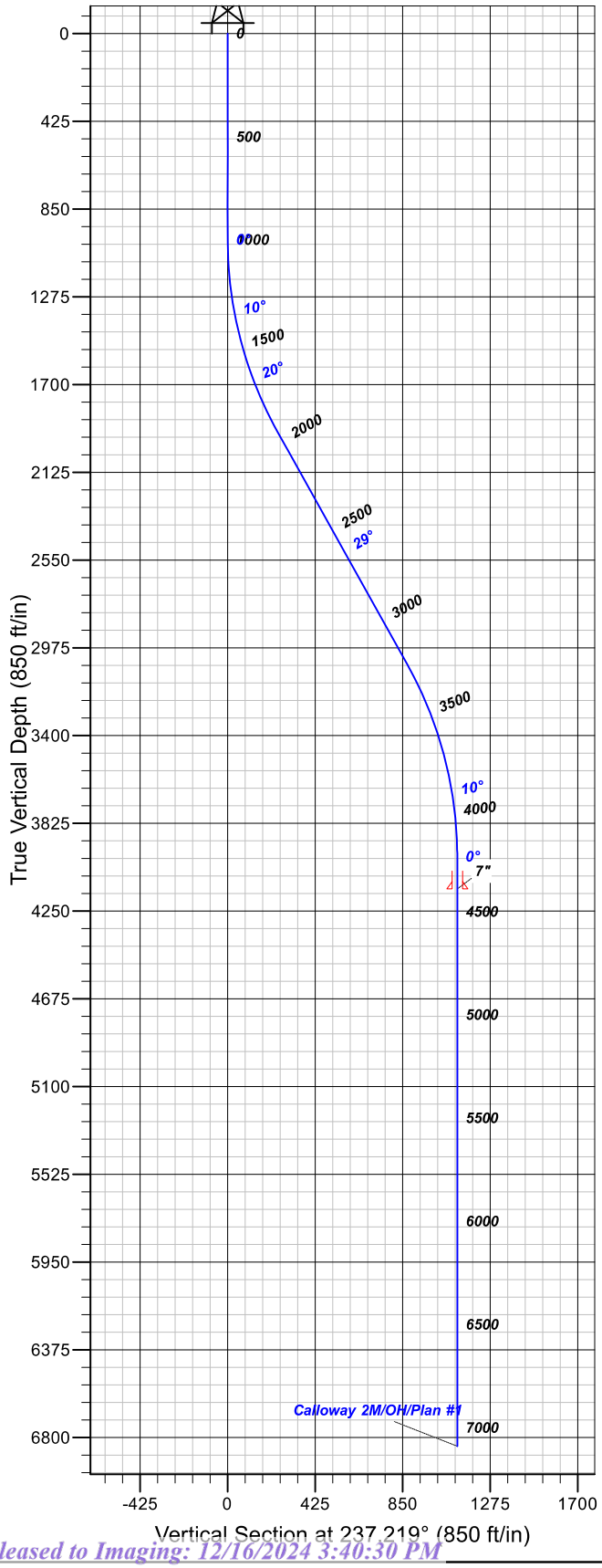
Well Details: Calloway 2M

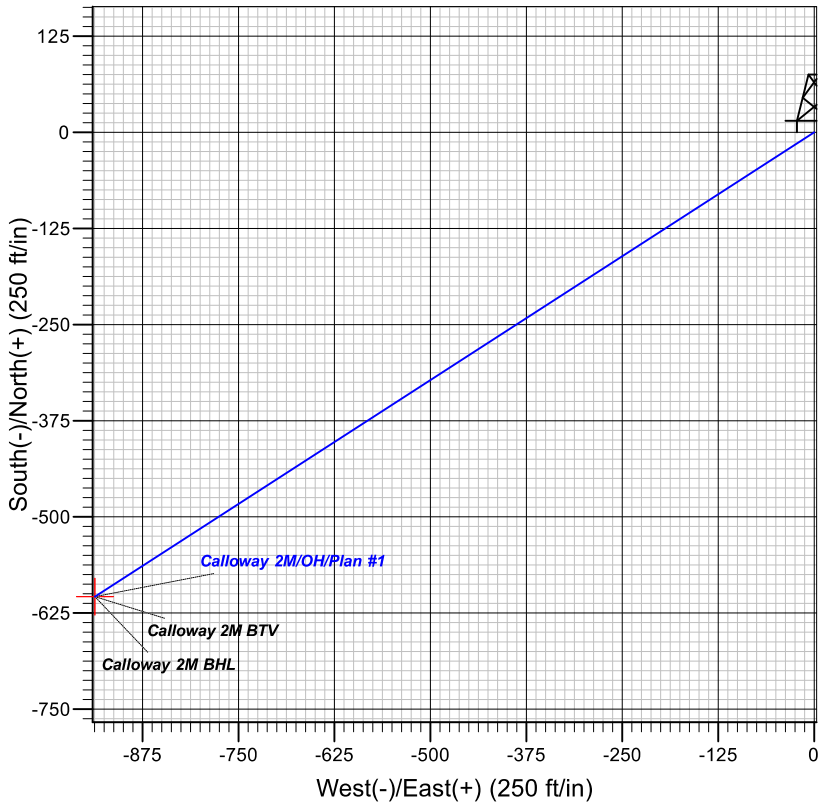
GL 5670' & RKB 17' @ 5687.00ft (Drake 3)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	2130747.80	459353.00	36.8556501	-107.9722659	

Azimuths to True North
Magnetic North: 8.48°

Magnetic Field
Strength: 49171.1nT
Dip Angle: 63.17°
Date: 9/25/2024
Model: HDGM2024





FORMATION TOP DETAILS

TVDPath	MDPath	Formation
780.00	780.00	Ojo Alamo
898.00	898.00	Kirtland
1809.00	1835.59	Fruitland Coal
2237.00	2323.36	Pictured Cliffs
2351.00	2453.98	Lewis
2972.00	3165.47	Huerfano Bentonite
3307.00	3538.93	Chacra
3791.00	4037.84	Mesaverde Cliffhouse
4042.00	4289.19	Menefee
4523.00	4770.19	Point Lookout
4859.00	5106.19	Mancos
5782.00	6029.19	Gallup
6026.00	6273.19	Basal Niobrara
6190.00	6437.19	Juana Lopez
6514.00	6761.19	Greenhorn
6569.00	6816.19	Graneros
6622.00	6869.19	Two Wells
6698.00	6945.19	Paugate
6738.00	6985.19	Cubero
6797.00	7044.19	Encinal Canyon

Plan: Plan #1

10:56, October 03 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

CASING DETAILS

TVD	MD	Name	Size
4142.00	4389.19	7"	7.00
6897.00		4 1/2"	4.50

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
998.00	0.00	0.000	998.00	0.00	0.00	0.00	0.00	0.00
1971.76	29.21	237.219	1930.11	-131.52	-204.22	3.00	237.22	242.91
3260.43	29.21	237.219	3054.89	-472.05	-733.00	0.00	0.00	871.85
4234.19	0.00	0.000	3987.00	-603.57	-937.22	3.00	180.00	1114.76
7089.19	0.00	0.000	6842.00	-603.57	-937.22	0.00	0.00	1114.76

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Calloway 2M BTV - plan hits target center	3987.00	-603.57	-937.22	2130145.60	458414.90	36.8539921	-107.9754693
Calloway 2M BHL - plan hits target center	6842.00	-603.57	-937.22	2130145.60	458414.90	36.8539921	-107.9754693

Hilcorp Energy - San Juan Basin

San Juan, NM NAD27
Calloway Pad
Calloway 2M

OH

Plan: Plan #1

Standard Planning Report

03 October, 2024

Lonestar Consulting, LLC
Planning Report

Database:	Grand Junction	**Local Co-ordinate Reference:**	Well Calloway 2M
Company:	Hilcorp Energy - San Juan Basin	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Project:	San Juan, NM NAD27	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site:	Calloway Pad	**North Reference:**	True
Well:	Calloway 2M	**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 Pad

Site Position:		**Northing:**	2,130,747.80 usft	**Latitude:**	36.8556500
From:	Map	**Easting:**	459,353.00 usft	**Longitude:**	-107.9722659
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.20 in		

Well Calloway 2M

Well Position	**+N/-S**	0.00 ft	**Northing:**	2,130,747.80 usft	**Latitude:**	36.8556500
	+E/-W	0.00 ft	**Easting:**	459,353.00 usft	**Longitude:**	-107.9722659
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	5,670.00 ft
Grid Convergence:		-0.08 °				

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2024	9/25/2024	8.48	63.17	49,171.10000000

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	237.219

Plan Survey Tool Program **Date** 10/1/2024

	Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	7,089.19	Plan #1 (OH)	MWD+HDGM	
				OWSG MWD + HDGM	

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	
998.00	0.00	0.000	998.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,971.76	29.21	237.219	1,930.11	-131.52	-204.22	3.00	3.00	0.00	237.22	
3,260.43	29.21	237.219	3,054.89	-472.05	-733.00	0.00	0.00	0.00	0.00	
4,234.19	0.00	0.000	3,987.00	-603.57	-937.22	3.00	-3.00	0.00	180.00	Calloway 2M BTV
7,089.19	0.00	0.000	6,842.00	-603.57	-937.22	0.00	0.00	0.00	0.00	Calloway 2M BHL

Lonestar Consulting, LLC

Planning Report

Database:	Grand Junction	**Local Co-ordinate Reference:**	Well Calloway 2M
Company:	Hilcorp Energy - San Juan Basin	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Project:	San Juan, NM NAD27	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site:	Calloway Pad	**North Reference:**	True
Well:	Calloway 2M	**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
500.00	0.00	0.000	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.000	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.000	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.000	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.000	900.00	0.00	0.00	0.00	0.00	0.00	0.00
998.00	0.00	0.000	998.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.06	237.219	1,000.00	0.00	0.00	0.00	3.00	3.00	0.00
1,100.00	3.06	237.219	1,099.95	-1.47	-2.29	2.72	3.00	3.00	0.00
1,200.00	6.06	237.219	1,199.62	-5.78	-8.97	10.67	3.00	3.00	0.00
1,300.00	9.06	237.219	1,298.74	-12.90	-20.03	23.83	3.00	3.00	0.00
1,400.00	12.06	237.219	1,397.04	-22.82	-35.44	42.15	3.00	3.00	0.00
1,500.00	15.06	237.219	1,494.24	-35.52	-55.15	65.60	3.00	3.00	0.00
1,600.00	18.06	237.219	1,590.08	-50.95	-79.11	94.09	3.00	3.00	0.00
1,700.00	21.06	237.219	1,684.30	-69.07	-107.25	127.57	3.00	3.00	0.00
1,800.00	24.06	237.219	1,776.64	-89.84	-139.50	165.93	3.00	3.00	0.00
1,900.00	27.06	237.219	1,866.84	-113.20	-175.78	209.07	3.00	3.00	0.00
1,971.76	29.21	237.219	1,930.11	-131.52	-204.22	242.91	3.00	3.00	0.00
2,000.00	29.21	237.219	1,954.76	-138.98	-215.81	256.69	0.00	0.00	0.00
2,100.00	29.21	237.219	2,042.05	-165.41	-256.84	305.50	0.00	0.00	0.00
2,200.00	29.21	237.219	2,129.33	-191.83	-297.88	354.30	0.00	0.00	0.00
2,300.00	29.21	237.219	2,216.61	-218.26	-338.91	403.11	0.00	0.00	0.00
2,400.00	29.21	237.219	2,303.89	-244.68	-379.94	451.91	0.00	0.00	0.00
2,500.00	29.21	237.219	2,391.17	-271.10	-420.98	500.72	0.00	0.00	0.00
2,600.00	29.21	237.219	2,478.45	-297.53	-462.01	549.52	0.00	0.00	0.00
2,700.00	29.21	237.219	2,565.73	-323.95	-503.04	598.33	0.00	0.00	0.00
2,800.00	29.21	237.219	2,653.02	-350.38	-544.07	647.13	0.00	0.00	0.00
2,900.00	29.21	237.219	2,740.30	-376.80	-585.11	695.94	0.00	0.00	0.00
3,000.00	29.21	237.219	2,827.58	-403.23	-626.14	744.74	0.00	0.00	0.00
3,100.00	29.21	237.219	2,914.86	-429.65	-667.17	793.55	0.00	0.00	0.00
3,200.00	29.21	237.219	3,002.14	-456.08	-708.21	842.36	0.00	0.00	0.00
3,260.43	29.21	237.219	3,054.89	-472.05	-733.00	871.85	0.00	0.00	0.00
3,300.00	28.03	237.219	3,089.62	-482.31	-748.94	890.80	3.00	-3.00	0.00
3,400.00	25.03	237.219	3,179.08	-506.49	-786.48	935.46	3.00	-3.00	0.00
3,500.00	22.03	237.219	3,270.76	-528.10	-820.03	975.37	3.00	-3.00	0.00
3,600.00	19.03	237.219	3,364.40	-547.08	-849.51	1,010.43	3.00	-3.00	0.00
3,700.00	16.03	237.219	3,459.75	-563.38	-874.82	1,040.54	3.00	-3.00	0.00
3,800.00	13.03	237.219	3,556.54	-576.96	-895.91	1,065.61	3.00	-3.00	0.00
3,900.00	10.03	237.219	3,654.51	-587.77	-912.71	1,085.59	3.00	-3.00	0.00
4,000.00	7.03	237.219	3,753.40	-595.80	-925.17	1,100.42	3.00	-3.00	0.00
4,100.00	4.03	237.219	3,852.92	-601.01	-933.26	1,110.04	3.00	-3.00	0.00
4,200.00	1.03	237.219	3,952.81	-603.40	-936.97	1,114.45	3.00	-3.00	0.00
4,234.19	0.00	0.000	3,987.00	-603.57	-937.22	1,114.76	3.00	-3.00	0.00
4,300.00	0.00	0.000	4,052.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
4,400.00	0.00	0.000	4,152.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
4,500.00	0.00	0.000	4,252.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
4,600.00	0.00	0.000	4,352.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
4,700.00	0.00	0.000	4,452.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
4,800.00	0.00	0.000	4,552.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
4,900.00	0.00	0.000	4,652.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00

Hilcorp Energy Company

Lonestar Consulting, LLC
Planning Report

LONESTAR CONSULTING

Database:	Grand Junction	**Local Co-ordinate Reference:**	Well Calloway 2M
Company:	Hilcorp Energy - San Juan Basin	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Project:	San Juan, NM NAD27	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site:	Calloway Pad	**North Reference:**	True
Well:	Calloway 2M	**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)
5,000.00	0.00	0.000	4,752.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
5,100.00	0.00	0.000	4,852.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
5,200.00	0.00	0.000	4,952.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
5,300.00	0.00	0.000	5,052.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
5,400.00	0.00	0.000	5,152.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
5,500.00	0.00	0.000	5,252.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
5,600.00	0.00	0.000	5,352.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
5,700.00	0.00	0.000	5,452.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
5,800.00	0.00	0.000	5,552.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
5,900.00	0.00	0.000	5,652.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
6,000.00	0.00	0.000	5,752.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
6,100.00	0.00	0.000	5,852.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
6,200.00	0.00	0.000	5,952.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
6,300.00	0.00	0.000	6,052.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
6,400.00	0.00	0.000	6,152.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
6,500.00	0.00	0.000	6,252.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
6,600.00	0.00	0.000	6,352.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
6,700.00	0.00	0.000	6,452.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
6,800.00	0.00	0.000	6,552.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
6,900.00	0.00	0.000	6,652.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
7,000.00	0.00	0.000	6,752.81	-603.57	-937.22	1,114.76	0.00	0.00	0.00
7,089.19	0.00	0.000	6,842.00	-603.57	-937.22	1,114.76	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 2M BTV - plan hits target center - Point	0.00	0.000	3,987.00	-603.57	-937.22	2,130,145.60	458,414.90	36.8539921	-107.9754693
Calloway 2M BHL - plan hits target center - Point	0.00	0.000	6,842.00	-603.57	-937.22	2,130,145.60	458,414.90	36.8539921	-107.9754693

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
	6,897.00	4 1/2"	4.50	6.25
4,389.19	4,142.00	7"	7.00	8.75

Lonestar Consulting, LLC
Planning Report

Database:	Grand Junction	**Local Co-ordinate Reference:**	Well Calloway 2M
Company:	Hilcorp Energy - San Juan Basin	**TVD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Project:	San Juan, NM NAD27	**MD Reference:**	GL 5670' & RKB 17' @ 5687.00ft (Drake 3)
Site:	Calloway Pad	**North Reference:**	True
Well:	Calloway 2M	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
780.00	780.00	Ojo Alamo		0.00	0.000
898.00	898.00	Kirtland		0.00	0.000
1,835.59	1,809.00	Fruitland Coal		0.00	0.000
2,323.36	2,237.00	Pictured Cliffs		0.00	0.000
2,453.98	2,351.00	Lewis		0.00	0.000
3,165.47	2,972.00	Huerfano Bentonite		0.00	0.000
3,538.93	3,307.00	Chacra		0.00	0.000
4,037.84	3,791.00	Mesaverde Cliffhouse		0.00	0.000
4,289.19	4,042.00	Menefee		0.00	0.000
4,770.19	4,523.00	Point Lookout		0.00	0.000
5,106.19	4,859.00	Mancos		0.00	0.000
6,029.19	5,782.00	Gallup		0.00	0.000
6,273.19	6,026.00	Basal Niobrara		0.00	0.000
6,437.19	6,190.00	Juana Lopez		0.00	0.000
6,761.19	6,514.00	Greenhorn		0.00	0.000
6,816.19	6,569.00	Graneros		0.00	0.000
6,869.19	6,622.00	Two Wells		0.00	0.000
6,945.19	6,698.00	Paugate		0.00	0.000
6,985.19	6,738.00	Cubero		0.00	0.000
7,044.19	6,797.00	Encinal Canyon		0.00	0.000

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

General Information
Phone: (505) 629-6116

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

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

CONDITIONS

Action 405142

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 405142
	Action Type: [C-101] Drilling Non-Federal/Indian (APD)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	12/16/2024
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	12/16/2024
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.	12/16/2024
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing.	12/16/2024
ward.rikala	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	12/16/2024
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.	12/16/2024
ward.rikala	A [C-103] Sub. Drilling (C-103N) is required within (10) days of spud.	12/16/2024