

Form 3160-3
(June 2015)FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☐ DRILL ☐ REENTER 1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other 1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		5. Lease Serial No. 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. 9. API Well No. 30-045-35907
2. Name of Operator 3a. Address 3b. Phone No. (include area code)		10. Field and Pool, or Exploratory 11. Sec., T. R. M. or Blk. and Survey or Area 12. County or Parish 13. State
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		14. Distance in miles and direction from nearest town or post office* 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 16. No of acres in lease 17. Spacing Unit dedicated to this well 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 19. Proposed Depth 20. BLM/BIA Bond No. in file 21. Elevations (Show whether DF, KDB, RT, GL, etc.) 22. Approximate date work will start* 23. Estimated duration
24. Attachments The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)		

- | | |
|---|---|
| 1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM. |
|---|---|

25. Signature Title	Name (Printed/Typed) Office	Date Date
Approved by (Signature) Title		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
 Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)



Approval Date: 08/01/2022

Additional Operator Remarks

Location of Well

0. SHL: LOT 8 / 2501 FNL / 417 FEL / TWSP: 30N / RANGE: 10W / SECTION: 33 / LAT: 36.769094 / LONG: -107.882224 (TVD: 0 feet, MD: 0 feet)

PPP: NWNW / 763 FNL / 414 FWL / TWSP: 30N / RANGE: 10W / SECTION: 34 / LAT: 36.773843 / LONG: -107.87936 (TVD: 6059 feet, MD: 6745 feet)

BHL: LOT 3 / 750 FNL / 2327 FWL / TWSP: 30N / RANGE: 10W / SECTION: 35 / LAT: 36.77384 / LONG: -107.854972 (TVD: 6078 feet, MD: 13888 feet)

BLM Point of Contact

Name: RYAN JOYNER

Title: Physical Scientist

Phone: (970) 385-1242

Email: rjoyner@blm.gov

CONFIDENTIAL

District I
1625 N. French Drive, Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

District II
811 S. First Street, 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 Drive, Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011

Submit one copy to
Appropriate District Office

OIL CONSERVATION DIVISION

1220 South St. Francis Drive
Santa Fe, NM 87505

☐ AMENDED REPORT

17 OPERATOR CERTIFICATION

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

Signature 12/19/2018
Date

Signature Amanda Walker Date _____
Printed Name _____
E-mail Address mwalker@hilcorp.com

18 SURVEYOR CERTIFICATION

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

Date Revised: NOVEMBER 19, 2018
Date of Survey: JULY 20, 2018

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

WELL LOCATION AND ACREAGE DEDICATION PLAT

'API Number 30-045-35907		'Pool Code 97232	'Pool Name BASIN MANCOS	
'Property Code 325994		'Property Name TRIEB FEDERAL 601 Com		'Well Number 2H
'GRID No. 372171		'Operator Name HILCORP ENERGY COMPANY		'Elevation 6050'

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	33	30N	10W	8	2501	NORTH	417	EAST	SAN JUAN

¹¹ Bottom Hole Location If Different From Surface

U. or Lot no.	Section	Township	Range	Lot Tdn	Feet from the	North/South line	Feet from the	East/West line	County
C	35	30N	10W	3	750	NORTH	2327	WEST	SAN JUAN

¹² Dedicated Acres 476.76	N/2 - Section 34 NW/4 - Section 35	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
---	---------------------------------------	-------------------------------	----------------------------------	-------------------------

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

A
SURFACE LOCATION
2501' FNL 417' FEL
SEC 33, T30N, R10W
LAT: 36.769089 °N
LONG: 107.881605 °W
DATUM: NAD1927

LAT: 36.769094 °N
LONG: 107.882224 °W
DATUM: NAD1983

B
FIRST TAKE POINT
763' FNL 414' FWL
SEC 34, T30N, R10W
LAT: 36.773839°N
LONG: 107.878741°W
DATUM: NAD1927

LAT: 36.773843 °N
LONG: 107.879360 °W
DATUM: NAD1983

C
LAST TAKE POINT
750' FNL 2257' FWL
SEC 35, T30N, R10W
LAT: 36.773836 °N
LONG: 107.854595 °W
DATUM: NAD1927

LAT: 36.773841°N
LONG: 107.855214°W
DATUM: NAD1983

D
BOTTOM HOLE LOCATION
750' FNL 2327' FWL
SEC 35, T30N, R10W
LAT: 36.773836 *N
LONG: 107.854354 *W
DATUM: NAD1927

LAT: 36.773840 *N
LONG: 107.854972 *W
DATUM: NAD1983

A N25°54.5'E
1921.8'

B 589°58.3'E
7071.9'

C 589°58.3'E
70.6'

589°58.3'E
70.6'

(RECORD)
NO *20'E 2639.34'
NO *16'08"E 2639.43'
(MEASURED)

(RECORD)
NO *20'E 2638.68'
NO *21'18"E 2638.41'
(MEASURED)

(RECORD)
N89°22'W 2610.96'
N89°24'17"W 2600.50
(MEASURED)

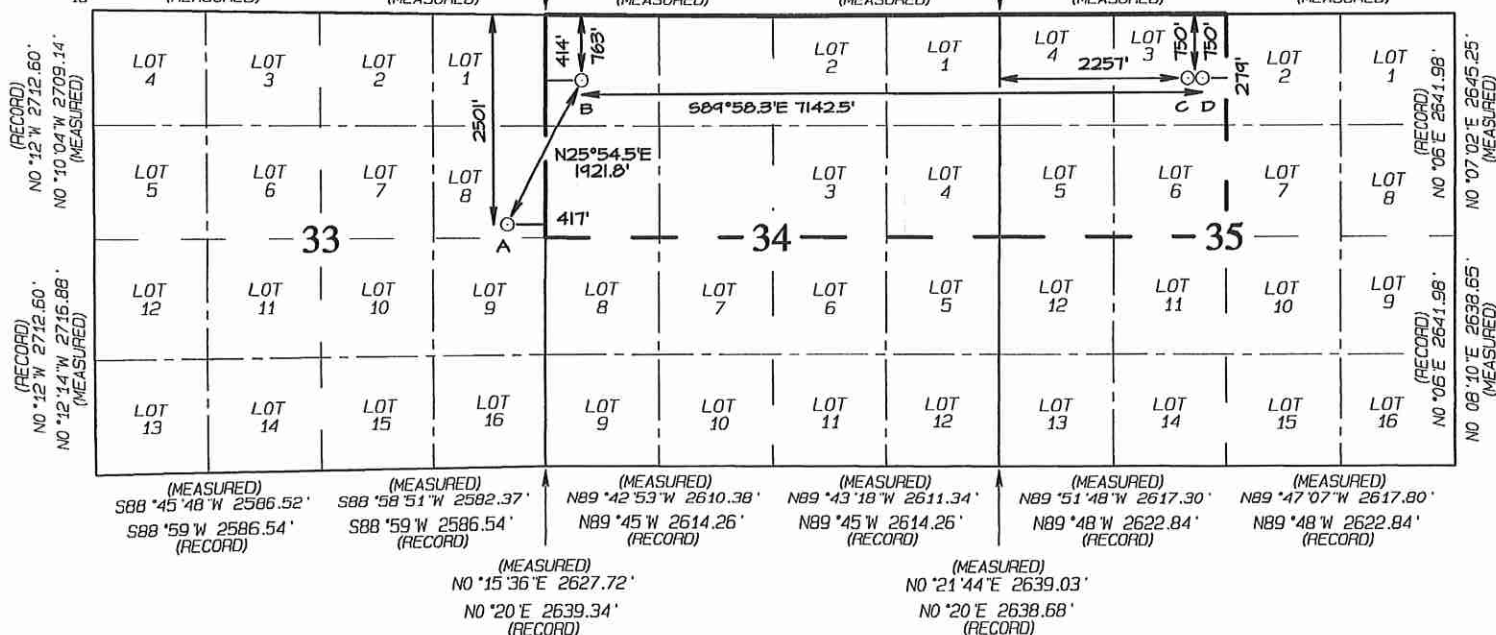
(RECORD)
N89°22'W 2610.96'
N89°20'18"W 2609.61
(MEASURED)

(RECORD)
N89°25'W 2607.00
N89°27'19"W 2609.38
(MEASURED)

(RECORD)
S89°54'W 2624.16'
S89°47'42"W 2621.13'
(MEASURED)

(RECORD)
N89°50'W 2610.96
N89°51'49"W 2605.0
(MEASURED)

(RECORD)
N89°50'W 2610.96
N89°55'39"W 2608.
(MEASURED)



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

in Aztec, NM to Hilcorp Energy Company Trieb Federal Com 601 #1H

2492' FNL & 405' FEL, Section 33, T30N, R10W, N.M.P.M., San Juan County, NM

Latitude: 36.769118°N Longitude: 107.882183°W Datum: NAD1983

From the intersection of US Hwy 550 & State Hwy 173 in Aztec, NM, travel Easterly on State Hwy 173 for 1.0 mile to fork in roadway;

Go Left (Easterly) remaining on State Hwy 173 for 3.2 miles to State Hwy 575 on right-hand side of roadway @ Mile Marker 4.2;

Go Right (South-easterly) exiting State Hwy 173 onto State Hwy 575 for 3.1 miles to fork in roadway;

Go Left (Northerly) exiting State Hwy 575 onto existing roadway for 0.1 mile to fork in roadway;

Go Right (South-easterly) for 0.2 mile to existing Hilcorp Trieb Federal Com #2B location, with begin proposed access on south edge of existing wellpad continuing for an additional 295.3' to staked Trieb Federal Com 601 #1H location.

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description Effective May 25, 2021

I. Operator: Hilcorp Energy Company **OGRID:** 372171 **Date:** 10/4/2022

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 MMCF/D	Anticipated Produced Water BBL/D
Trieb Federal 601 Com 1H	30-045-35906	H,33,T30N,R10W	2492' FNL & 405' FEL	10	3	10
Trieb Federal 601 Com 2H	30-045-35907	H,33,T30N,R10W	2501' FNL & 417' FEL	10	3	10
Trieb Federal 603 Com 1H	30-045-35908	H,33,T30N,R10W	2481' FNL & 432' FEL	10	3	10

IV. Central Delivery Point Name: Chaco 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
Trieb Federal 601 Com 1H	30-045-35906					2023
Trieb Federal 601 Com 2H	30-045-35907					2023
Trieb Federal 603 Com 1H	30-045-35908					2023

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

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

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

Section 2 – Enhanced Plan**EFFECTIVE APRIL 1, 2022**

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

If Operator checks this box, Operator will select one of the following:

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

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

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

Section 4 - Notices

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

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

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

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

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

Signature: 
Printed Name: Amanda Walker
Title: Operations Regulatory Tech Sr.
E-mail Address: mwalker@hilcorp.com
Date: 10/4/2022
Phone: 346-237-2177
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 VIII 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.

Released to Imaging: 10/7/2022 9:48:38 AM



Company: Hilcorp Energy Corp.
Project: San Juan, NM NAD27
Site: Trieb Fed Pad
Well: Trieb Federal Com 601 2H
Wellbore: OH
Design: Plan #2

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
Local North: True



Azimuths to True North:
Magnetic North: 9
Magnetic Field
Strength: 49807.1
Dip Angle: 63
Date: 9/12/2008
Model: HD

WELL DETAILS: Trieb Federal Com 601 2H

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
0.00	0.00	2099209.37	485861.43	36.7690890	-107.8816050	A02

Plan: Plan #2 (Trieb Federal Com 601 2H/OH)

Created By: Janie Collins Date: 14:07, November 09 2018

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Trieb 601 2H LP	6059.00	1729.12	838.91	2100938.07	486701.21	36.7738387	-107.8787406
Trieb 601 2H BHL	6078.00	1729.12	7981.33	2100934.47	493843.63	36.7738356	-107.8543536

SECTION DETAILS

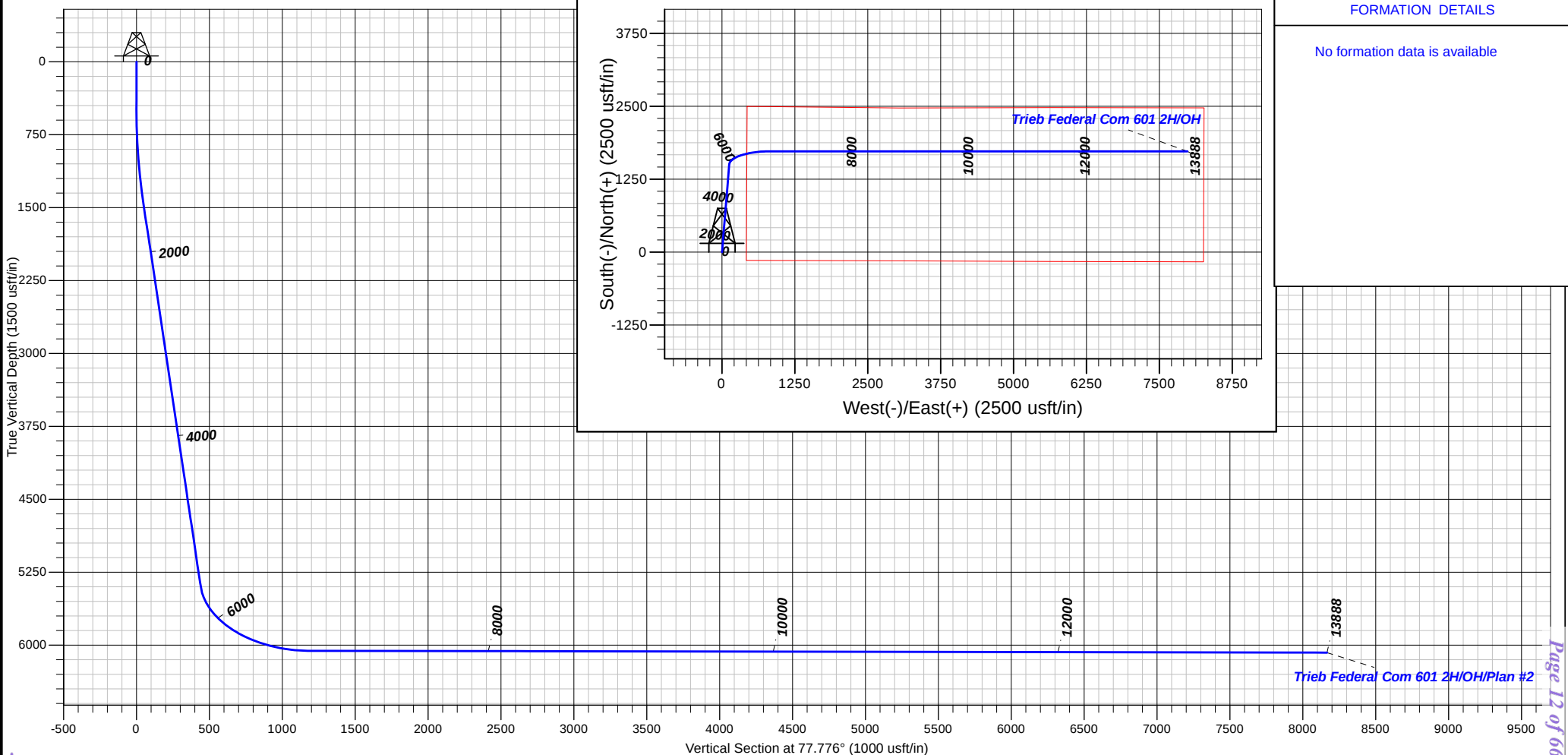
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.000	500.00	0.00	0.00	0.00	0.00	0.00	
1442.60	18.85	4.739	1425.69	153.15	12.70	2.00	4.74	44.84	
5641.03	18.85	4.739	5398.89	1505.13	124.77	0.00	0.00	440.63	
6745.10	89.85	90.000	6059.00	1729.12	838.91	8.00	85.56	1186.00	Trieb 601 2H LP
13887.55	89.85	90.000	6078.00	1729.12	7981.33	0.00	0.00	8166.48	Trieb 601 2H BHL

CASING DETAILS

No casing data is available

FORMATION DETAILS

No formation data is available



Received by: OGD-HB-2022 8:07:14 AM



Hilcorp Energy Corp.

San Juan, NM NAD27

Trieb Fed Pad

Trieb Federal Com 601 2H - Slot A02

OH

Plan: Plan #2

Standard Planning Report

09 November, 2018



www.scientificdrilling.com





Scientific Drilling, Intl Planning Report



Database:	Grand Junction District	Local Co-ordinate Reference:	Well Trieb Federal Com 601 2H - Slot A02
Company:	Hilcorp Energy Corp.	TVD Reference:	GI 6050' @ 6050.00usft
Project:	San Juan, NM NAD27	MD Reference:	GI 6050' @ 6050.00usft
Site:	Trieb Fed Pad	North Reference:	True
Well:	Trieb Federal Com 601 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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		Trieb Fed Pad			
Site Position:		Northing:	2,099,223.94 usft	Latitude:	36.7691290
From:	Map	Easting:	485,838.88 usft	Longitude:	-107.8816820
Position Uncertainty:	0.00 usft	Slot Radius:	13.20 in	Grid Convergence:	-0.03 °

Well	Trieb Federal Com 601 2H - Slot A02					
Well Position	+N/-S	-14.56 usft	Northing:	2,099,209.37 usft	Latitude:	36.7690890
	+E/-W	22.56 usft	Easting:	485,861.43 usft	Longitude:	-107.8816050
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	6,050.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM	9/12/2018	9.02	63.30	49,807

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	77.776

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	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	
500.00	0.00	0.000	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,442.60	18.85	4.739	1,425.69	153.15	12.70	2.00	2.00	0.00	4.74	
5,641.03	18.85	4.739	5,398.89	1,505.13	124.77	0.00	0.00	0.00	0.00	
6,745.10	89.85	90.000	6,059.00	1,729.12	838.91	8.00	6.43	7.72	85.56	Trieb 601 2H LP
13,887.55	89.85	90.000	6,078.00	1,729.12	7,981.33	0.00	0.00	0.00	0.00	Trieb 601 2H BHL



Scientific Drilling, Intl Planning Report



Database:	Grand Junction District	Local Co-ordinate Reference:	Well Trieb Federal Com 601 2H - Slot A02
Company:	Hilcorp Energy Corp.	TVD Reference:	GI 6050' @ 6050.00usft
Project:	San Juan, NM NAD27	MD Reference:	GI 6050' @ 6050.00usft
Site:	Trieb Fed Pad	North Reference:	True
Well:	Trieb Federal Com 601 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	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	2.00	4.739	599.98	1.74	0.14	0.51	2.00	2.00	0.00
700.00	4.00	4.739	699.84	6.95	0.58	2.04	2.00	2.00	0.00
800.00	6.00	4.739	799.45	15.64	1.30	4.58	2.00	2.00	0.00
900.00	8.00	4.739	898.70	27.78	2.30	8.13	2.00	2.00	0.00
1,000.00	10.00	4.739	997.47	43.37	3.60	12.70	2.00	2.00	0.00
1,100.00	12.00	4.739	1,095.62	62.39	5.17	18.26	2.00	2.00	0.00
1,200.00	14.00	4.739	1,193.06	84.81	7.03	24.83	2.00	2.00	0.00
1,300.00	16.00	4.739	1,289.64	110.60	9.17	32.38	2.00	2.00	0.00
1,400.00	18.00	4.739	1,385.27	139.73	11.58	40.91	2.00	2.00	0.00
1,442.60	18.85	4.739	1,425.69	153.15	12.70	44.84	2.00	2.00	0.00
1,500.00	18.85	4.739	1,480.00	171.64	14.23	50.25	0.00	0.00	0.00
1,600.00	18.85	4.739	1,574.64	203.84	16.90	59.67	0.00	0.00	0.00
1,700.00	18.85	4.739	1,669.28	236.04	19.57	69.10	0.00	0.00	0.00
1,800.00	18.85	4.739	1,763.91	268.24	22.24	78.53	0.00	0.00	0.00
1,900.00	18.85	4.739	1,858.55	300.44	24.91	87.95	0.00	0.00	0.00
2,000.00	18.85	4.739	1,953.18	332.65	27.57	97.38	0.00	0.00	0.00
2,100.00	18.85	4.739	2,047.82	364.85	30.24	106.81	0.00	0.00	0.00
2,200.00	18.85	4.739	2,142.45	397.05	32.91	116.24	0.00	0.00	0.00
2,300.00	18.85	4.739	2,237.09	429.25	35.58	125.66	0.00	0.00	0.00
2,400.00	18.85	4.739	2,331.73	461.46	38.25	135.09	0.00	0.00	0.00
2,500.00	18.85	4.739	2,426.36	493.66	40.92	144.52	0.00	0.00	0.00
2,600.00	18.85	4.739	2,521.00	525.86	43.59	153.94	0.00	0.00	0.00
2,700.00	18.85	4.739	2,615.63	558.06	46.26	163.37	0.00	0.00	0.00
2,800.00	18.85	4.739	2,710.27	590.26	48.93	172.80	0.00	0.00	0.00
2,900.00	18.85	4.739	2,804.90	622.47	51.60	182.23	0.00	0.00	0.00
3,000.00	18.85	4.739	2,899.54	654.67	54.27	191.65	0.00	0.00	0.00
3,100.00	18.85	4.739	2,994.17	686.87	56.94	201.08	0.00	0.00	0.00
3,200.00	18.85	4.739	3,088.81	719.07	59.61	210.51	0.00	0.00	0.00
3,300.00	18.85	4.739	3,183.45	751.27	62.28	219.93	0.00	0.00	0.00
3,400.00	18.85	4.739	3,278.08	783.48	64.95	229.36	0.00	0.00	0.00
3,500.00	18.85	4.739	3,372.72	815.68	67.62	238.79	0.00	0.00	0.00
3,600.00	18.85	4.739	3,467.35	847.88	70.28	248.22	0.00	0.00	0.00
3,700.00	18.85	4.739	3,561.99	880.08	72.95	257.64	0.00	0.00	0.00
3,800.00	18.85	4.739	3,656.62	912.29	75.62	267.07	0.00	0.00	0.00
3,900.00	18.85	4.739	3,751.26	944.49	78.29	276.50	0.00	0.00	0.00
4,000.00	18.85	4.739	3,845.90	976.69	80.96	285.92	0.00	0.00	0.00
4,100.00	18.85	4.739	3,940.53	1,008.89	83.63	295.35	0.00	0.00	0.00
4,200.00	18.85	4.739	4,035.17	1,041.09	86.30	304.78	0.00	0.00	0.00
4,300.00	18.85	4.739	4,129.80	1,073.30	88.97	314.21	0.00	0.00	0.00
4,400.00	18.85	4.739	4,224.44	1,105.50	91.64	323.63	0.00	0.00	0.00
4,500.00	18.85	4.739	4,319.07	1,137.70	94.31	333.06	0.00	0.00	0.00
4,600.00	18.85	4.739	4,413.71	1,169.90	96.98	342.49	0.00	0.00	0.00
4,700.00	18.85	4.739	4,508.34	1,202.10	99.65	351.91	0.00	0.00	0.00
4,800.00	18.85	4.739	4,602.98	1,234.31	102.32	361.34	0.00	0.00	0.00
4,900.00	18.85	4.739	4,697.62	1,266.51	104.99	370.77	0.00	0.00	0.00
5,000.00	18.85	4.739	4,792.25	1,298.71	107.66	380.20	0.00	0.00	0.00
5,100.00	18.85	4.739	4,886.89	1,330.91	110.32	389.62	0.00	0.00	0.00
5,200.00	18.85	4.739	4,981.52	1,363.11	112.99	399.05	0.00	0.00	0.00



Scientific Drilling, Intl Planning Report



Database:	Grand Junction District	Local Co-ordinate Reference:	Well Trieb Federal Com 601 2H - Slot A02
Company:	Hilcorp Energy Corp.	TVD Reference:	GI 6050' @ 6050.00usft
Project:	San Juan, NM NAD27	MD Reference:	GI 6050' @ 6050.00usft
Site:	Trieb Fed Pad	North Reference:	True
Well:	Trieb Federal Com 601 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,300.00	18.85	4.739	5,076.16	1,395.32	115.66	408.48	0.00	0.00	0.00
5,400.00	18.85	4.739	5,170.79	1,427.52	118.33	417.90	0.00	0.00	0.00
5,500.00	18.85	4.739	5,265.43	1,459.72	121.00	427.33	0.00	0.00	0.00
5,600.00	18.85	4.739	5,360.06	1,491.92	123.67	436.76	0.00	0.00	0.00
5,641.03	18.85	4.739	5,398.89	1,505.13	124.77	440.63	0.00	0.00	0.00
5,700.00	19.76	18.773	5,454.58	1,524.08	128.77	448.55	8.00	1.55	23.80
5,800.00	23.42	38.263	5,547.66	1,555.74	146.54	472.62	8.00	3.65	19.49
5,900.00	28.80	51.806	5,637.51	1,586.29	177.83	509.67	8.00	5.38	13.54
6,000.00	35.12	61.116	5,722.36	1,615.12	222.02	558.96	8.00	6.32	9.31
6,100.00	41.96	67.810	5,800.57	1,641.69	278.25	619.54	8.00	6.84	6.69
6,200.00	49.09	72.901	5,870.60	1,665.46	345.43	690.23	8.00	7.13	5.09
6,300.00	56.40	76.986	5,931.11	1,685.98	422.25	769.65	8.00	7.31	4.08
6,400.00	63.83	80.424	5,980.92	1,702.85	507.21	856.26	8.00	7.43	3.44
6,500.00	71.33	83.447	6,019.04	1,715.74	598.67	948.37	8.00	7.50	3.02
6,600.00	78.87	86.212	6,044.75	1,724.40	694.83	1,044.19	8.00	7.54	2.76
6,700.00	86.43	88.836	6,057.54	1,728.67	793.84	1,141.86	8.00	7.57	2.62
6,745.10	89.85	90.000	6,059.00	1,729.12	838.91	1,186.00	8.00	7.57	2.58
6,800.00	89.85	90.000	6,059.15	1,729.12	893.80	1,239.65	0.00	0.00	0.00
6,900.00	89.85	90.000	6,059.41	1,729.12	993.80	1,337.38	0.00	0.00	0.00
7,000.00	89.85	90.000	6,059.68	1,729.12	1,093.80	1,435.12	0.00	0.00	0.00
7,100.00	89.85	90.000	6,059.94	1,729.12	1,193.80	1,532.85	0.00	0.00	0.00
7,200.00	89.85	90.000	6,060.21	1,729.12	1,293.80	1,630.58	0.00	0.00	0.00
7,300.00	89.85	90.000	6,060.48	1,729.12	1,393.80	1,728.31	0.00	0.00	0.00
7,400.00	89.85	90.000	6,060.74	1,729.12	1,493.80	1,826.05	0.00	0.00	0.00
7,500.00	89.85	90.000	6,061.01	1,729.12	1,593.80	1,923.78	0.00	0.00	0.00
7,600.00	89.85	90.000	6,061.27	1,729.12	1,693.80	2,021.51	0.00	0.00	0.00
7,700.00	89.85	90.000	6,061.54	1,729.12	1,793.80	2,119.24	0.00	0.00	0.00
7,800.00	89.85	90.000	6,061.81	1,729.12	1,893.80	2,216.98	0.00	0.00	0.00
7,900.00	89.85	90.000	6,062.07	1,729.12	1,993.80	2,314.71	0.00	0.00	0.00
8,000.00	89.85	90.000	6,062.34	1,729.12	2,093.80	2,412.44	0.00	0.00	0.00
8,100.00	89.85	90.000	6,062.60	1,729.12	2,193.80	2,510.17	0.00	0.00	0.00
8,200.00	89.85	90.000	6,062.87	1,729.12	2,293.80	2,607.91	0.00	0.00	0.00
8,300.00	89.85	90.000	6,063.14	1,729.12	2,393.80	2,705.64	0.00	0.00	0.00
8,400.00	89.85	90.000	6,063.40	1,729.12	2,493.80	2,803.37	0.00	0.00	0.00
8,500.00	89.85	90.000	6,063.67	1,729.12	2,593.80	2,901.10	0.00	0.00	0.00
8,600.00	89.85	90.000	6,063.93	1,729.12	2,693.80	2,998.84	0.00	0.00	0.00
8,700.00	89.85	90.000	6,064.20	1,729.12	2,793.80	3,096.57	0.00	0.00	0.00
8,800.00	89.85	90.000	6,064.47	1,729.12	2,893.80	3,194.30	0.00	0.00	0.00
8,900.00	89.85	90.000	6,064.73	1,729.12	2,993.80	3,292.03	0.00	0.00	0.00
9,000.00	89.85	90.000	6,065.00	1,729.12	3,093.80	3,389.77	0.00	0.00	0.00
9,100.00	89.85	90.000	6,065.26	1,729.12	3,193.79	3,487.50	0.00	0.00	0.00
9,200.00	89.85	90.000	6,065.53	1,729.12	3,293.79	3,585.23	0.00	0.00	0.00
9,300.00	89.85	90.000	6,065.80	1,729.12	3,393.79	3,682.96	0.00	0.00	0.00
9,400.00	89.85	90.000	6,066.06	1,729.12	3,493.79	3,780.69	0.00	0.00	0.00
9,500.00	89.85	90.000	6,066.33	1,729.12	3,593.79	3,878.43	0.00	0.00	0.00
9,600.00	89.85	90.000	6,066.59	1,729.12	3,693.79	3,976.16	0.00	0.00	0.00
9,700.00	89.85	90.000	6,066.86	1,729.12	3,793.79	4,073.89	0.00	0.00	0.00
9,800.00	89.85	90.000	6,067.13	1,729.12	3,893.79	4,171.62	0.00	0.00	0.00
9,900.00	89.85	90.000	6,067.39	1,729.12	3,993.79	4,269.36	0.00	0.00	0.00
10,000.00	89.85	90.000	6,067.66	1,729.12	4,093.79	4,367.09	0.00	0.00	0.00
10,100.00	89.85	90.000	6,067.92	1,729.12	4,193.79	4,464.82	0.00	0.00	0.00
10,200.00	89.85	90.000	6,068.19	1,729.12	4,293.79	4,562.55	0.00	0.00	0.00
10,300.00	89.85	90.000	6,068.46	1,729.12	4,393.79	4,660.29	0.00	0.00	0.00
10,400.00	89.85	90.000	6,068.72	1,729.12	4,493.79	4,758.02	0.00	0.00	0.00



Scientific Drilling, Intl Planning Report



Database:	Grand Junction District	Local Co-ordinate Reference:	Well Trieb Federal Com 601 2H - Slot A02
Company:	Hilcorp Energy Corp.	TVD Reference:	GI 6050' @ 6050.00usft
Project:	San Juan, NM NAD27	MD Reference:	GI 6050' @ 6050.00usft
Site:	Trieb Fed Pad	North Reference:	True
Well:	Trieb Federal Com 601 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
10,500.00	89.85	90.000	6,068.99	1,729.12	4,593.79	4,855.75	0.00	0.00	0.00	
10,600.00	89.85	90.000	6,069.25	1,729.12	4,693.79	4,953.48	0.00	0.00	0.00	
10,700.00	89.85	90.000	6,069.52	1,729.12	4,793.79	5,051.22	0.00	0.00	0.00	
10,800.00	89.85	90.000	6,069.79	1,729.12	4,893.79	5,148.95	0.00	0.00	0.00	
10,900.00	89.85	90.000	6,070.05	1,729.12	4,993.79	5,246.68	0.00	0.00	0.00	
11,000.00	89.85	90.000	6,070.32	1,729.12	5,093.79	5,344.41	0.00	0.00	0.00	
11,100.00	89.85	90.000	6,070.58	1,729.12	5,193.79	5,442.15	0.00	0.00	0.00	
11,200.00	89.85	90.000	6,070.85	1,729.12	5,293.79	5,539.88	0.00	0.00	0.00	
11,300.00	89.85	90.000	6,071.12	1,729.12	5,393.79	5,637.61	0.00	0.00	0.00	
11,400.00	89.85	90.000	6,071.38	1,729.12	5,493.79	5,735.34	0.00	0.00	0.00	
11,500.00	89.85	90.000	6,071.65	1,729.12	5,593.79	5,833.07	0.00	0.00	0.00	
11,600.00	89.85	90.000	6,071.91	1,729.12	5,693.79	5,930.81	0.00	0.00	0.00	
11,700.00	89.85	90.000	6,072.18	1,729.12	5,793.79	6,028.54	0.00	0.00	0.00	
11,800.00	89.85	90.000	6,072.45	1,729.12	5,893.79	6,126.27	0.00	0.00	0.00	
11,900.00	89.85	90.000	6,072.71	1,729.12	5,993.79	6,224.00	0.00	0.00	0.00	
12,000.00	89.85	90.000	6,072.98	1,729.12	6,093.78	6,321.74	0.00	0.00	0.00	
12,100.00	89.85	90.000	6,073.24	1,729.12	6,193.78	6,419.47	0.00	0.00	0.00	
12,200.00	89.85	90.000	6,073.51	1,729.12	6,293.78	6,517.20	0.00	0.00	0.00	
12,300.00	89.85	90.000	6,073.78	1,729.12	6,393.78	6,614.93	0.00	0.00	0.00	
12,400.00	89.85	90.000	6,074.04	1,729.12	6,493.78	6,712.67	0.00	0.00	0.00	
12,500.00	89.85	90.000	6,074.31	1,729.12	6,593.78	6,810.40	0.00	0.00	0.00	
12,600.00	89.85	90.000	6,074.58	1,729.12	6,693.78	6,908.13	0.00	0.00	0.00	
12,700.00	89.85	90.000	6,074.84	1,729.12	6,793.78	7,005.86	0.00	0.00	0.00	
12,800.00	89.85	90.000	6,075.11	1,729.12	6,893.78	7,103.60	0.00	0.00	0.00	
12,900.00	89.85	90.000	6,075.37	1,729.12	6,993.78	7,201.33	0.00	0.00	0.00	
13,000.00	89.85	90.000	6,075.64	1,729.12	7,093.78	7,299.06	0.00	0.00	0.00	
13,100.00	89.85	90.000	6,075.91	1,729.12	7,193.78	7,396.79	0.00	0.00	0.00	
13,200.00	89.85	90.000	6,076.17	1,729.12	7,293.78	7,494.53	0.00	0.00	0.00	
13,300.00	89.85	90.000	6,076.44	1,729.12	7,393.78	7,592.26	0.00	0.00	0.00	
13,400.00	89.85	90.000	6,076.70	1,729.12	7,493.78	7,689.99	0.00	0.00	0.00	
13,500.00	89.85	90.000	6,076.97	1,729.12	7,593.78	7,787.72	0.00	0.00	0.00	
13,600.00	89.85	90.000	6,077.24	1,729.12	7,693.78	7,885.45	0.00	0.00	0.00	
13,700.00	89.85	90.000	6,077.50	1,729.12	7,793.78	7,983.19	0.00	0.00	0.00	
13,800.00	89.85	90.000	6,077.77	1,729.12	7,893.78	8,080.92	0.00	0.00	0.00	
13,887.55	89.85	90.000	6,078.00	1,729.12	7,981.33	8,166.48	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
Trieb 601 2H LP	0.00	0.000	6,059.00	1,729.12	838.91	2,100,938.07	486,701.21	36.7738387	-107.8787407	
- plan hits target center										
- Point										
Trieb 601 2H BHL	0.00	0.000	6,078.00	1,729.12	7,981.33	2,100,934.47	493,843.63	36.7738356	-107.8543537	
- plan hits target center										
- Point										



Hilcorp Energy Corp.

San Juan, NM NAD27

Trieb Fed Pad

Trieb Federal Com 601 2H

OH

Plan #2

Anticollision Report

09 November, 2018



www.scientificdrilling.com





Scientific Drilling, Intl

Anticollision Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well Trieb Federal Com 601 2H - Slot A02
Project:	San Juan, NM NAD27	TVD Reference:	GI 6050' @ 6050.00usft
Reference Site:	Trieb Fed Pad	MD Reference:	GI 6050' @ 6050.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Trieb Federal Com 601 2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference	Plan #2		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.00usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 15,000.00 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	11/9/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	13,887.55	Plan #2 (OH)	MWD+HDGM	OWSG MWD + HDGM	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Trieb Fed Pad						
Grenier A3M - OH - OH	7,260.77	6,071.37	345.35	182.16	2.116	CC, ES, SF
Grenier A3N - OH - OH	10,821.21	6,085.15	32.69	-122.81	0.210	Level 1, CC, ES, SF
Trieb Fed 2B - OH - OH	2,838.31	2,777.52	289.65	221.28	4.237	CC
Trieb Fed 2B - OH - OH	2,900.00	2,835.90	290.33	220.46	4.155	ES
Trieb Fed 2B - OH - OH	3,100.00	3,025.17	301.74	227.16	4.046	SF
Trieb Federal Com 601 1H - OH - Plan #2	500.00	500.00	15.09	11.86	4.677	CC
Trieb Federal Com 601 1H - OH - Plan #2	1,000.00	998.59	16.97	10.10	2.470	ES
Trieb Federal Com 601 1H - OH - Plan #2	13,887.55	13,636.27	1,128.08	659.45	2.407	SF
Trieb Federal Com 602 1H - OH - Plan #2	500.00	500.00	76.63	73.40	23.752	CC, ES
Trieb Federal Com 602 1H - OH - Plan #2	13,887.55	13,604.82	2,538.06	2,070.58	5.429	SF
Trieb Federal Com 602 2H - OH - Plan #2	500.00	500.00	52.28	49.06	16.206	CC, ES
Trieb Federal Com 602 2H - OH - Plan #2	13,887.55	14,001.38	3,840.23	3,370.96	8.183	SF
Trieb Federal Com 603 1H - OH - Plan #2	500.00	500.00	25.10	21.88	7.780	CC
Trieb Federal Com 603 1H - OH - Plan #2	600.00	599.15	25.46	21.50	6.429	ES
Trieb Federal Com 603 1H - OH - Plan #2	1,000.00	997.07	31.82	24.95	4.633	SF
Trieb Federal Com 603 2H - OH - Plan #2	500.00	500.00	24.81	21.58	7.689	CC, ES
Trieb Federal Com 603 2H - OH - Plan #2	600.00	599.29	27.41	23.47	6.961	SF
Trieb Federal Com 603 3H - OH - Plan #2	500.00	500.00	29.22	25.99	9.057	CC
Trieb Federal Com 603 3H - OH - Plan #2	900.00	895.89	29.91	23.64	4.769	ES
Trieb Federal Com 603 3H - OH - Plan #2	1,200.00	1,192.50	34.93	26.35	4.069	SF
Trieb Federal Com 603 4H - OH - Plan #2	500.00	500.00	49.91	46.68	15.469	CC, ES
Trieb Federal Com 603 4H - OH - Plan #2	700.00	696.55	60.91	56.25	13.068	SF
Trieb Federal Strat Test 600 #1 - OH - Plan #1	500.00	500.00	29.21	25.99	9.055	CC
Trieb Federal Strat Test 600 #1 - OH - Plan #1	600.00	599.98	29.80	25.86	7.558	ES
Trieb Federal Strat Test 600 #1 - OH - Plan #1	700.00	699.84	32.06	27.40	6.881	SF

Offset Design		Trieb Fed Pad - Grenier A3M - OH - OH										Offset Site Error:		0.00 usft
Survey Program:		7200-UNKNOWN										Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.00	0.00	11.00	11.00	0.00	0.22	44.39	1,383.77	1,354.57	1,936.41	1,936.19	0.22	8,793.894		
100.00	100.00	111.00	111.00	0.18	2.22	44.39	1,383.77	1,354.57	1,936.41	1,934.01	2.40	807.029		
200.00	200.00	211.00	211.00	0.54	4.22	44.39	1,383.77	1,354.57	1,936.41	1,931.65	4.76	406.989		

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



Scientific Drilling, Intl

Anticollision Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well Trieb Federal Com 601 2H - Slot A02
Project:	San Juan, NM NAD27	TVD Reference:	GI 6050' @ 6050.00usft
Reference Site:	Trieb Fed Pad	MD Reference:	GI 6050' @ 6050.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Trieb Federal Com 601 2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 7200-UNKNOWN													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,500.00	6,068.99	6,079.99	6,079.99	133.96	121.60	91.43	1,383.77	1,354.57	3,257.57	3,105.18	152.40	21.375		
10,600.00	6,069.25	6,080.25	6,080.25	136.91	121.61	91.47	1,383.77	1,354.57	3,357.03	3,204.59	152.43	22.023		
10,700.00	6,069.52	6,080.52	6,080.52	139.86	121.61	91.52	1,383.77	1,354.57	3,456.51	3,304.04	152.47	22.670		
10,800.00	6,069.79	6,080.79	6,080.79	142.81	121.62	91.56	1,383.77	1,354.57	3,556.03	3,403.52	152.51	23.317		
10,900.00	6,070.05	6,081.05	6,081.05	145.77	121.62	91.61	1,383.77	1,354.57	3,655.56	3,503.02	152.55	23.964		
11,000.00	6,070.32	6,081.32	6,081.32	148.73	121.63	91.65	1,383.77	1,354.57	3,755.13	3,602.54	152.59	24.610		
11,100.00	6,070.58	6,081.58	6,081.58	151.69	121.63	91.69	1,383.77	1,354.57	3,854.72	3,702.09	152.63	25.256		
11,200.00	6,070.85	6,081.85	6,081.85	154.65	121.64	91.74	1,383.77	1,354.57	3,954.32	3,801.66	152.67	25.902		
11,300.00	6,071.12	6,082.12	6,082.12	157.61	121.64	91.78	1,383.77	1,354.57	4,053.95	3,901.24	152.71	26.547		
11,400.00	6,071.38	6,082.38	6,082.38	160.58	121.65	91.83	1,383.77	1,354.57	4,153.60	4,000.84	152.75	27.192		
11,500.00	6,071.65	6,082.65	6,082.65	163.54	121.65	91.87	1,383.77	1,354.57	4,253.26	4,100.46	152.80	27.836		
11,600.00	6,071.91	6,082.91	6,082.91	166.51	121.66	91.91	1,383.77	1,354.57	4,352.93	4,200.09	152.84	28.480		
11,700.00	6,072.18	6,083.18	6,083.18	169.48	121.66	91.96	1,383.77	1,354.57	4,452.63	4,299.74	152.88	29.124		
11,800.00	6,072.45	6,083.45	6,083.45	172.46	121.67	92.00	1,383.77	1,354.57	4,552.33	4,399.40	152.93	29.768		
11,900.00	6,072.71	6,083.71	6,083.71	175.43	121.67	92.05	1,383.77	1,354.57	4,652.05	4,499.07	152.98	30.410		
12,000.00	6,072.98	6,083.98	6,083.98	178.40	121.68	92.09	1,383.77	1,354.57	4,751.78	4,598.76	153.02	31.053		
12,100.00	6,073.24	6,084.24	6,084.24	181.38	121.68	92.13	1,383.77	1,354.57	4,851.52	4,698.45	153.07	31.695		
12,200.00	6,073.51	6,084.51	6,084.51	184.36	121.69	92.18	1,383.77	1,354.57	4,951.27	4,798.15	153.12	32.336		
12,300.00	6,073.78	6,084.78	6,084.78	187.33	121.70	92.22	1,383.77	1,354.57	5,051.03	4,897.86	153.17	32.977		
12,400.00	6,074.04	6,085.04	6,085.04	190.31	121.70	92.27	1,383.77	1,354.57	5,150.80	4,997.59	153.22	33.618		
12,500.00	6,074.31	6,085.31	6,085.31	193.29	121.71	92.31	1,383.77	1,354.57	5,250.58	5,097.31	153.27	34.258		
12,600.00	6,074.58	6,085.58	6,085.58	196.27	121.71	92.36	1,383.77	1,354.57	5,350.37	5,197.05	153.32	34.898		
12,700.00	6,074.84	6,085.84	6,085.84	199.26	121.72	92.40	1,383.77	1,354.57	5,450.16	5,296.79	153.37	35.537		
12,800.00	6,075.11	6,086.11	6,086.11	202.24	121.72	92.44	1,383.77	1,354.57	5,549.96	5,396.54	153.42	36.175		
12,900.00	6,075.37	6,086.37	6,086.37	205.22	121.73	92.49	1,383.77	1,354.57	5,649.77	5,496.30	153.47	36.813		
13,000.00	6,075.64	6,086.64	6,086.64	208.21	121.73	92.53	1,383.77	1,354.57	5,749.59	5,596.06	153.52	37.451		
13,100.00	6,075.91	6,086.91	6,086.91	211.19	121.74	92.58	1,383.77	1,354.57	5,849.41	5,695.83	153.58	38.088		
13,200.00	6,076.17	6,087.17	6,087.17	214.18	121.74	92.62	1,383.77	1,354.57	5,949.24	5,795.61	153.63	38.724		
13,300.00	6,076.44	6,087.44	6,087.44	217.16	121.75	92.66	1,383.77	1,354.57	6,049.07	5,895.39	153.69	39.360		
13,400.00	6,076.70	6,087.70	6,087.70	220.15	121.75	92.71	1,383.77	1,354.57	6,148.91	5,995.17	153.74	39.995		
13,500.00	6,076.97	6,087.97	6,087.97	223.14	121.76	92.75	1,383.77	1,354.57	6,248.76	6,094.96	153.80	40.630		
13,600.00	6,077.24	6,088.24	6,088.24	226.13	121.76	92.80	1,383.77	1,354.57	6,348.61	6,194.75	153.85	41.264		
13,700.00	6,077.50	6,088.50	6,088.50	229.12	121.77	92.84	1,383.77	1,354.57	6,448.46	6,294.55	153.91	41.897		
13,800.00	6,077.77	6,088.77	6,088.77	232.11	121.78	92.88	1,383.77	1,354.57	6,548.32	6,394.35	153.97	42.530		
13,887.55	6,078.00	6,089.00	6,089.00	234.72	121.78	92.92	1,383.77	1,354.57	6,635.75	6,481.73	154.02	43.084		

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



Scientific Drilling, Intl

Anticollision Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well Trieb Federal Com 601 2H - Slot A02
Project:	San Juan, NM NAD27	TVD Reference:	GI 6050' @ 6050.00usft
Reference Site:	Trieb Fed Pad	MD Reference:	GI 6050' @ 6050.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Trieb Federal Com 601 2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 301-MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)						
10,400.00	6,068.72	6,087.28	6,055.71	131.02	13.60	93.26	1,696.41	4,914.98	422.47	371.40	51.07	8.273		
10,500.00	6,068.99	6,086.78	6,055.20	133.96	13.60	92.38	1,696.42	4,914.99	322.87	269.78	53.08	6.082		
10,600.00	6,069.25	6,086.27	6,054.69	136.91	13.60	91.49	1,696.42	4,914.99	223.61	166.34	57.27	3.905		
10,700.00	6,069.52	6,085.76	6,054.19	139.86	13.59	90.60	1,696.43	4,915.00	125.54	56.05	69.49	1.807		
10,800.00	6,069.79	6,085.26	6,053.68	142.81	13.59	89.71	1,696.43	4,915.00	38.97	-100.66	139.63	0.279	Level 1	
10,821.21	6,069.84	6,085.15	6,053.57	143.44	13.59	89.52	1,696.43	4,915.00	32.69	-122.81	155.50	0.210	Level 1, CC, ES, SF	
10,900.00	6,070.05	6,084.75	6,053.17	145.77	13.59	88.82	1,696.44	4,915.00	85.30	18.51	66.79	1.277	Level 3	
11,000.00	6,070.32	6,084.24	6,052.67	148.73	13.59	87.94	1,696.44	4,915.01	181.75	134.09	47.66	3.814		
11,100.00	6,070.58	6,083.73	6,052.16	151.69	13.59	87.05	1,696.44	4,915.01	280.70	235.73	44.96	6.243		
11,200.00	6,070.85	6,083.23	6,051.65	154.65	13.59	86.16	1,696.45	4,915.02	380.19	335.66	44.54	8.537		
11,300.00	6,071.12	6,082.72	6,051.14	157.61	13.59	85.28	1,696.45	4,915.02	479.90	435.32	44.57	10.767		
11,400.00	6,071.38	6,082.21	6,050.64	160.58	13.59	84.39	1,696.46	4,915.02	579.70	534.98	44.72	12.963		
11,500.00	6,071.65	6,081.71	6,050.13	163.54	13.59	83.51	1,696.46	4,915.03	679.57	634.68	44.88	15.140		
11,600.00	6,071.91	6,081.20	6,049.62	166.51	13.59	82.64	1,696.47	4,915.03	779.46	734.42	45.05	17.304		
11,700.00	6,072.18	6,080.69	6,049.12	169.48	13.58	81.76	1,696.47	4,915.04	879.39	834.19	45.19	19.458		
11,800.00	6,072.45	6,080.19	6,048.61	172.46	13.58	80.89	1,696.47	4,915.04	979.32	933.99	45.33	21.605		
11,900.00	6,072.71	6,079.68	6,048.10	175.43	13.58	80.02	1,696.48	4,915.04	1,079.27	1,033.82	45.45	23.745		
12,000.00	6,072.98	6,079.17	6,047.59	178.40	13.58	79.16	1,696.48	4,915.05	1,179.23	1,133.66	45.57	25.879		
12,100.00	6,073.24	6,078.66	6,047.09	181.38	13.58	78.30	1,696.49	4,915.05	1,279.19	1,233.52	45.67	28.008		
12,200.00	6,073.51	6,078.16	6,046.58	184.36	13.58	77.45	1,696.49	4,915.05	1,379.16	1,333.39	45.77	30.132		
12,300.00	6,073.78	6,077.65	6,046.07	187.33	13.58	76.61	1,696.49	4,915.06	1,479.13	1,433.27	45.86	32.251		
12,400.00	6,074.04	6,077.14	6,045.57	190.31	13.58	75.76	1,696.50	4,915.06	1,579.11	1,533.16	45.95	34.365		
12,500.00	6,074.31	6,076.64	6,045.06	193.29	13.58	74.93	1,696.50	4,915.07	1,679.09	1,633.05	46.03	36.474		
12,600.00	6,074.58	6,076.13	6,044.55	196.27	13.58	74.10	1,696.51	4,915.07	1,779.07	1,732.95	46.11	38.579		
12,700.00	6,074.84	6,075.62	6,044.04	199.26	13.57	73.28	1,696.51	4,915.07	1,879.05	1,832.86	46.19	40.680		
12,800.00	6,075.11	6,075.11	6,043.54	202.24	13.57	72.46	1,696.52	4,915.08	1,979.03	1,932.77	46.27	42.775		
12,900.00	6,075.37	6,074.61	6,043.03	205.22	13.57	71.65	1,696.52	4,915.08	2,079.02	2,032.68	46.34	44.867		
13,000.00	6,075.64	6,074.10	6,042.52	208.21	13.57	70.85	1,696.52	4,915.09	2,179.01	2,132.60	46.41	46.953		
13,100.00	6,075.91	6,073.59	6,042.02	211.19	13.57	70.06	1,696.53	4,915.09	2,278.99	2,232.52	46.48	49.035		
13,200.00	6,076.17	6,073.09	6,041.51	214.18	13.57	69.27	1,696.53	4,915.09	2,378.98	2,332.44	46.54	51.112		
13,300.00	6,076.44	6,072.58	6,041.00	217.16	13.57	68.49	1,696.54	4,915.10	2,478.97	2,432.36	46.61	53.185		
13,400.00	6,076.70	6,072.07	6,040.50	220.15	13.57	67.72	1,696.54	4,915.10	2,578.96	2,532.29	46.68	55.253		
13,500.00	6,076.97	6,071.56	6,039.99	223.14	13.57	66.96	1,696.55	4,915.11	2,678.95	2,632.21	46.74	57.316		
13,600.00	6,077.24	6,071.06	6,039.48	226.13	13.57	66.21	1,696.55	4,915.11	2,778.95	2,732.14	46.80	59.374		
13,700.00	6,077.50	6,070.55	6,038.97	229.12	13.56	65.46	1,696.55	4,915.11	2,878.94	2,832.07	46.87	61.427		
13,800.00	6,077.77	6,070.04	6,038.47	232.11	13.56	64.73	1,696.56	4,915.12	2,978.93	2,932.00	46.93	63.476		
13,887.55	6,078.00	6,069.60	6,038.02	234.72	13.56	64.09	1,696.56	4,915.12	3,066.47	3,019.49	46.99	65.265		

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



Scientific Drilling, Intl

Anticollision Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well Trieb Federal Com 601 2H - Slot A02
Project:	San Juan, NM NAD27	TVD Reference:	GI 6050' @ 6050.00usft
Reference Site:	Trieb Fed Pad	MD Reference:	GI 6050' @ 6050.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Trieb Federal Com 601 2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 7125-UNKNOWN													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	31.00	31.00	0.00	0.62	-20.86	626.53	-238.71	670.46	669.84	0.62	1,081.042		
100.00	100.00	131.00	131.00	0.18	2.62	-20.86	626.53	-238.71	670.46	667.66	2.80	239.499		
200.00	200.00	231.00	231.00	0.54	4.62	-20.86	626.53	-238.71	670.46	665.30	5.16	129.987		
300.00	300.00	331.00	331.00	0.90	6.62	-20.86	626.53	-238.71	670.46	662.94	7.52	89.200		
400.00	400.00	431.00	431.00	1.25	8.62	-20.86	626.53	-238.71	670.46	660.59	9.87	67.896		
500.00	500.00	531.00	531.00	1.61	10.62	-20.86	626.53	-238.71	670.46	658.23	12.23	54.806		
600.00	599.98	630.98	630.98	1.97	12.62	-25.67	626.53	-238.71	668.89	654.30	14.59	45.840		
700.00	699.84	730.84	730.84	2.33	14.62	-25.91	626.53	-238.71	664.17	647.22	16.95	39.184		
800.00	799.45	830.45	830.45	2.70	16.61	-26.31	626.53	-238.71	656.34	637.04	19.31	33.998		
900.00	898.70	929.70	929.70	3.06	18.59	-26.89	626.53	-238.71	645.43	623.77	21.66	29.805		
1,000.00	997.47	1,028.47	1,028.47	3.44	20.57	-27.66	626.53	-238.71	631.49	607.49	24.00	26.313		
1,100.00	1,095.62	1,126.62	1,126.62	3.83	22.53	-28.65	626.53	-238.71	614.60	588.26	26.34	23.337		
1,200.00	1,193.06	1,224.06	1,224.06	4.25	24.48	-29.88	626.53	-238.71	594.85	566.19	28.66	20.752		
1,300.00	1,289.64	1,320.64	1,320.64	4.68	26.41	-31.40	626.53	-238.71	572.39	541.40	30.99	18.472		
1,400.00	1,385.27	1,416.27	1,416.27	5.14	28.33	-33.25	626.53	-238.71	547.37	514.07	33.30	16.436		
1,500.00	1,480.00	1,511.00	1,511.00	5.63	30.22	-35.29	626.53	-238.71	520.48	484.87	35.62	14.613		
1,600.00	1,574.64	1,605.64	1,605.64	6.14	32.11	-37.41	626.53	-238.71	493.96	456.02	37.94	13.020		
1,700.00	1,669.28	1,700.28	1,700.28	6.65	34.01	-39.76	626.53	-238.71	468.17	427.89	40.28	11.622		
1,800.00	1,763.91	1,794.91	1,794.91	7.17	35.90	-42.37	626.53	-238.71	443.24	400.59	42.65	10.394		
1,900.00	1,858.55	1,889.55	1,889.55	7.70	37.79	-45.27	626.53	-238.71	419.31	374.28	45.03	9.312		
2,000.00	1,953.18	1,984.18	1,984.18	8.23	39.68	-48.49	626.53	-238.71	396.57	349.13	47.44	8.359		
2,100.00	2,047.82	2,078.82	2,078.82	8.77	41.58	-52.06	626.53	-238.71	375.25	325.37	49.88	7.523		
2,200.00	2,142.45	2,173.45	2,173.45	9.31	43.47	-56.02	626.53	-238.71	355.58	303.23	52.34	6.793		
2,300.00	2,237.09	2,268.09	2,268.09	9.86	45.36	-60.39	626.53	-238.71	337.86	283.03	54.84	6.161		
2,400.00	2,331.73	2,362.73	2,362.73	10.40	47.25	-65.17	626.53	-238.71	322.42	265.07	57.35	5.622		
2,500.00	2,426.36	2,457.36	2,457.36	10.95	49.15	-70.34	626.53	-238.71	309.59	249.70	59.88	5.170		
2,600.00	2,521.00	2,552.00	2,552.00	11.50	51.04	-75.88	626.53	-238.71	299.71	237.29	62.42	4.802		
2,700.00	2,615.63	2,646.63	2,646.63	12.05	52.93	-81.69	626.53	-238.71	293.07	228.14	64.94	4.513		
2,800.00	2,710.27	2,741.27	2,741.27	12.61	54.83	-87.68	626.53	-238.71	289.91	222.48	67.43	4.300		
2,838.31	2,746.52	2,777.52	2,777.52	12.82	55.55	-90.00	626.53	-238.71	289.65	221.28	68.37	4.237 CC		
2,900.00	2,804.90	2,835.90	2,835.90	13.16	56.72	-93.73	626.53	-238.71	290.33	220.46	69.87	4.155 ES		
3,000.00	2,899.54	2,930.54	2,930.54	13.72	58.61	-99.69	626.53	-238.71	294.32	222.07	72.25	4.073		
3,100.00	2,994.17	3,025.17	3,025.17	14.27	60.50	-105.44	626.53	-238.71	301.74	227.16	74.58	4.046 SF		
3,200.00	3,088.81	3,119.81	3,119.81	14.83	62.40	-110.90	626.53	-238.71	312.34	235.48	76.86	4.064		
3,300.00	3,183.45	3,214.45	3,214.45	15.39	64.29	-115.99	626.53	-238.71	325.81	246.72	79.09	4.120		
3,400.00	3,278.08	3,309.08	3,309.08	15.95	66.18	-120.67	626.53	-238.71	341.81	260.52	81.29	4.205		
3,500.00	3,372.72	3,403.72	3,403.72	16.51	68.07	-124.94	626.53	-238.71	360.01	276.54	83.47	4.313		
3,600.00	3,467.35	3,498.35	3,498.35	17.07	69.97	-128.80	626.53	-238.71	380.09	294.45	85.64	4.438		
3,700.00	3,561.99	3,592.99	3,592.99	17.63	71.86	-132.29	626.53	-238.71	401.77	313.96	87.81	4.575		
3,800.00	3,656.62	3,687.62	3,687.62	18.19	73.75	-135.43	626.53	-238.71	424.80	334.82	89.98	4.721		
3,900.00	3,751.26	3,782.26	3,782.26	18.75	75.65	-138.26	626.53	-238.71	448.98	356.82	92.16	4.872		
4,000.00	3,845.90	3,876.90	3,876.90	19.31	77.54	-140.81	626.53	-238.71	474.13	379.79	94.34	5.026		
4,100.00	3,940.53	3,971.53	3,971.53	19.87	79.43	-143.10	626.53	-238.71	500.10	403.57	96.53	5.181		
4,200.00	4,035.17	4,066.17	4,066.17	20.43	81.32	-145.18	626.53	-238.71	526.78	428.05	98.73	5.336		
4,300.00	4,129.80	4,160.80	4,160.80	20.99	83.22	-147.06	626.53	-238.71	554.05	453.12	100.93	5.489		
4,400.00	4,224.44	4,255.44	4,255.44	21.56	85.11	-148.76	626.53	-238.71	581.84	478.70	103.14	5.641		
4,500.00	4,319.07	4,350.07	4,350.07	22.12	87.00	-150.32	626.53	-238.71	610.08	504.72	105.36	5.790		
4,600.00	4,413.71	4,444.71	4,444.71	22.68	88.89	-151.73	626.53	-238.71	638.70	531.11	107.59	5.937		
4,700.00	4,508.34	4,539.34	4,539.34	23.25	90.79	-153.03	626.53	-238.71	667.66	557.84	109.82	6.080		
4,800.00	4,602.98	4,633.98	4,633.98	23.81	92.68	-154.23	626.53	-238.71	696.91	584.86	112.05	6.219		
4,900.00	4,697.62	4,728.62	4,728.62	24.37	94.57	-155.32	626.53	-238.71	726.43	612.13	114.30	6.356		
5,000.00	4,792.25	4,823.25	4,823.25	24.94	96.47	-156.34	626.53	-238.71	756.17	639.63	116.54	6.488		

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



Scientific Drilling, Intl

Anticollision Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well Trieb Federal Com 601 2H - Slot A02
Project:	San Juan, NM NAD27	TVD Reference:	GI 6050' @ 6050.00usft
Reference Site:	Trieb Fed Pad	MD Reference:	GI 6050' @ 6050.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Trieb Federal Com 601 2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 7125-UNKNOWN													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,300.00	6,068.46	6,099.46	6,099.46	128.08	121.99	90.64	626.53	-238.71	4,761.90	4,604.76	157.14	30.303		
10,400.00	6,068.72	6,099.72	6,099.72	131.02	121.99	90.65	626.53	-238.71	4,859.24	4,702.01	157.24	30.904		
10,500.00	6,068.99	6,099.99	6,099.99	133.96	122.00	90.67	626.53	-238.71	4,956.68	4,799.36	157.33	31.506		
10,600.00	6,069.25	6,100.25	6,100.25	136.91	122.01	90.68	626.53	-238.71	5,054.23	4,896.81	157.42	32.108		
10,700.00	6,069.52	6,100.52	6,100.52	139.86	122.01	90.70	626.53	-238.71	5,151.87	4,994.36	157.50	32.710		
10,800.00	6,069.79	6,100.79	6,100.79	142.81	122.02	90.71	626.53	-238.71	5,249.59	5,092.00	157.59	33.312		
10,900.00	6,070.05	6,101.05	6,101.05	145.77	122.02	90.72	626.53	-238.71	5,347.40	5,189.73	157.67	33.915		
11,000.00	6,070.32	6,101.32	6,101.32	148.73	122.03	90.74	626.53	-238.71	5,445.29	5,287.54	157.75	34.518		
11,100.00	6,070.58	6,101.58	6,101.58	151.69	122.03	90.75	626.53	-238.71	5,543.26	5,385.42	157.83	35.121		
11,200.00	6,070.85	6,101.85	6,101.85	154.65	122.04	90.76	626.53	-238.71	5,641.29	5,483.38	157.91	35.724		
11,300.00	6,071.12	6,102.12	6,102.12	157.61	122.04	90.78	626.53	-238.71	5,739.40	5,581.41	157.99	36.327		
11,400.00	6,071.38	6,102.38	6,102.38	160.58	122.05	90.79	626.53	-238.71	5,837.57	5,679.50	158.07	36.931		
11,500.00	6,071.65	6,102.65	6,102.65	163.54	122.05	90.81	626.53	-238.71	5,935.80	5,777.65	158.14	37.534		
11,600.00	6,071.91	6,102.91	6,102.91	166.51	122.06	90.82	626.53	-238.71	6,034.08	5,875.86	158.22	38.137		
11,700.00	6,072.18	6,103.18	6,103.18	169.48	122.06	90.83	626.53	-238.71	6,132.43	5,974.13	158.30	38.740		
11,800.00	6,072.45	6,103.45	6,103.45	172.46	122.07	90.85	626.53	-238.71	6,230.82	6,072.45	158.37	39.344		
11,900.00	6,072.71	6,103.71	6,103.71	175.43	122.07	90.86	626.53	-238.71	6,329.27	6,170.83	158.44	39.947		
12,000.00	6,072.98	6,103.98	6,103.98	178.40	122.08	90.88	626.53	-238.71	6,427.76	6,269.25	158.52	40.550		
12,100.00	6,073.24	6,104.24	6,104.24	181.38	122.08	90.89	626.53	-238.71	6,526.30	6,367.72	158.59	41.153		
12,200.00	6,073.51	6,104.51	6,104.51	184.36	122.09	90.90	626.53	-238.71	6,624.89	6,466.23	158.66	41.756		
12,300.00	6,073.78	6,104.78	6,104.78	187.33	122.10	90.92	626.53	-238.71	6,723.51	6,564.78	158.73	42.358		
12,400.00	6,074.04	6,105.04	6,105.04	190.31	122.10	90.93	626.53	-238.71	6,822.18	6,663.38	158.80	42.961		
12,500.00	6,074.31	6,105.31	6,105.31	193.29	122.11	90.94	626.53	-238.71	6,920.88	6,762.01	158.87	43.563		
12,600.00	6,074.58	6,105.58	6,105.58	196.27	122.11	90.96	626.53	-238.71	7,019.62	6,860.68	158.94	44.165		
12,700.00	6,074.84	6,105.84	6,105.84	199.26	122.12	90.97	626.53	-238.71	7,118.40	6,959.39	159.01	44.767		
12,800.00	6,075.11	6,106.11	6,106.11	202.24	122.12	90.99	626.53	-238.71	7,217.21	7,058.13	159.08	45.369		
12,900.00	6,075.37	6,106.37	6,106.37	205.22	122.13	91.00	626.53	-238.71	7,316.05	7,156.90	159.15	45.970		
13,000.00	6,075.64	6,106.64	6,106.64	208.21	122.13	91.01	626.53	-238.71	7,414.92	7,255.70	159.22	46.571		
13,100.00	6,075.91	6,106.91	6,106.91	211.19	122.14	91.03	626.53	-238.71	7,513.82	7,354.54	159.29	47.172		
13,200.00	6,076.17	6,107.17	6,107.17	214.18	122.14	91.04	626.53	-238.71	7,612.76	7,453.40	159.35	47.772		
13,300.00	6,076.44	6,107.44	6,107.44	217.16	122.15	91.05	626.53	-238.71	7,711.71	7,552.29	159.42	48.373		
13,400.00	6,076.70	6,107.70	6,107.70	220.15	122.15	91.07	626.53	-238.71	7,810.70	7,651.21	159.49	48.973		
13,500.00	6,076.97	6,107.97	6,107.97	223.14	122.16	91.08	626.53	-238.71	7,909.71	7,750.15	159.56	49.572		
13,600.00	6,077.24	6,108.24	6,108.24	226.13	122.16	91.10	626.53	-238.71	8,008.75	7,849.12	159.63	50.171		
13,700.00	6,077.50	6,108.50	6,108.50	229.12	122.17	91.11	626.53	-238.71	8,107.81	7,948.11	159.70	50.770		
13,800.00	6,077.77	6,108.77	6,108.77	232.11	122.18	91.12	626.53	-238.71	8,206.89	8,047.12	159.76	51.369		
13,887.55	6,078.00	6,109.00	6,109.00	234.72	122.18	91.14	626.53	-238.71	8,293.65	8,133.83	159.82	51.893		

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



Scientific Drilling, Intl

Anticollision Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well Trieb Federal Com 601 2H - Slot A02
Project:	San Juan, NM NAD27	TVD Reference:	GI 6050' @ 6050.00usft
Reference Site:	Trieb Fed Pad	MD Reference:	GI 6050' @ 6050.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Trieb Federal Com 601 2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,300.00	6,068.46	10,053.60	6,068.46	128.08	127.38	90.00	601.05	4,393.79	1,128.07	873.24	254.84	4.427		
10,400.00	6,068.72	10,153.60	6,068.73	131.02	130.34	90.00	601.05	4,493.79	1,128.07	867.32	260.76	4.326		
10,500.00	6,068.99	10,253.60	6,068.99	133.96	133.30	90.00	601.05	4,593.79	1,128.07	861.39	266.68	4.230		
10,600.00	6,069.25	10,353.60	6,069.26	136.91	136.27	90.00	601.05	4,693.79	1,128.07	855.46	272.61	4.138		
10,700.00	6,069.52	10,453.60	6,069.53	139.86	139.24	90.00	601.05	4,793.79	1,128.07	849.53	278.54	4.050		
10,800.00	6,069.79	10,553.60	6,069.79	142.81	142.21	90.00	601.05	4,893.79	1,128.07	843.59	284.48	3.965		
10,900.00	6,070.05	10,653.60	6,070.06	145.77	145.19	90.00	601.05	4,993.79	1,128.07	837.65	290.42	3.884		
11,000.00	6,070.32	10,753.60	6,070.33	148.73	148.16	90.00	601.05	5,093.79	1,128.07	831.71	296.36	3.806		
11,100.00	6,070.58	10,853.60	6,070.59	151.69	151.14	90.00	601.05	5,193.79	1,128.07	825.76	302.31	3.732		
11,200.00	6,070.85	10,953.60	6,070.86	154.65	154.11	90.00	601.05	5,293.79	1,128.07	819.81	308.26	3.660		
11,300.00	6,071.12	11,053.60	6,071.12	157.61	157.09	90.00	601.05	5,393.79	1,128.07	813.86	314.21	3.590		
11,400.00	6,071.38	11,153.60	6,071.39	160.58	160.07	90.00	601.05	5,493.79	1,128.07	807.91	320.17	3.523		
11,500.00	6,071.65	11,253.60	6,071.66	163.54	163.05	90.00	601.05	5,593.79	1,128.07	801.95	326.12	3.459		
11,600.00	6,071.91	11,353.60	6,071.92	166.51	166.03	90.00	601.05	5,693.79	1,128.07	795.99	332.08	3.397		
11,700.00	6,072.18	11,453.60	6,072.19	169.48	169.02	90.00	601.05	5,793.79	1,128.07	790.03	338.04	3.337		
11,800.00	6,072.45	11,553.60	6,072.46	172.46	172.00	90.00	601.05	5,893.79	1,128.07	784.06	344.01	3.279		
11,900.00	6,072.71	11,653.60	6,072.72	175.43	174.98	90.00	601.05	5,993.79	1,128.07	778.10	349.97	3.223		
12,000.00	6,072.98	11,753.60	6,072.99	178.40	177.97	90.00	601.05	6,093.79	1,128.07	772.13	355.94	3.169		
12,100.00	6,073.24	11,853.60	6,073.25	181.38	180.96	90.00	601.05	6,193.78	1,128.07	766.16	361.91	3.117		
12,200.00	6,073.51	11,953.60	6,073.52	184.36	183.94	90.00	601.05	6,293.78	1,128.07	760.19	367.88	3.066		
12,300.00	6,073.78	12,053.60	6,073.79	187.33	186.93	90.00	601.05	6,393.78	1,128.07	754.21	373.86	3.017		
12,400.00	6,074.04	12,153.60	6,074.05	190.31	189.92	90.00	601.05	6,493.78	1,128.07	748.24	379.83	2.970		
12,500.00	6,074.31	12,253.60	6,074.32	193.29	192.91	90.00	601.05	6,593.78	1,128.07	742.26	385.81	2.924		
12,600.00	6,074.58	12,353.60	6,074.59	196.27	195.90	90.00	601.05	6,693.78	1,128.07	736.29	391.78	2.879		
12,700.00	6,074.84	12,453.60	6,074.85	199.26	198.89	90.00	601.05	6,793.78	1,128.07	730.31	397.76	2.836		
12,800.00	6,075.11	12,553.60	6,075.12	202.24	201.88	90.00	601.05	6,893.78	1,128.07	724.33	403.74	2.794		
12,900.00	6,075.37	12,653.60	6,075.38	205.22	204.87	90.00	601.05	6,993.78	1,128.07	718.35	409.72	2.753		
13,000.00	6,075.64	12,753.60	6,075.65	208.21	207.87	90.00	601.05	7,093.78	1,128.07	712.36	415.71	2.714		
13,100.00	6,075.91	12,853.60	6,075.92	211.19	210.86	90.00	601.05	7,193.78	1,128.07	706.38	421.69	2.675		
13,200.00	6,076.17	12,953.60	6,076.18	214.18	213.85	90.00	601.05	7,293.78	1,128.07	700.40	427.68	2.638		
13,300.00	6,076.44	13,053.60	6,076.45	217.16	216.85	90.00	601.05	7,393.78	1,128.07	694.41	433.66	2.601		
13,400.00	6,076.70	13,153.60	6,076.72	220.15	219.84	90.00	601.05	7,493.78	1,128.07	688.42	439.65	2.566		
13,500.00	6,076.97	13,253.60	6,076.98	223.14	222.84	90.00	601.05	7,593.78	1,128.07	682.43	445.64	2.531		
13,600.00	6,077.24	13,353.60	6,077.25	226.13	225.83	90.00	601.05	7,693.78	1,128.07	676.45	451.62	2.498		
13,700.00	6,077.50	13,453.60	6,077.51	229.12	228.83	90.00	601.05	7,793.78	1,128.07	670.46	457.61	2.465		
13,800.00	6,077.77	13,553.60	6,077.78	232.11	231.82	90.00	601.05	7,893.78	1,128.07	664.47	463.60	2.433		
13,843.40	6,077.88	13,597.01	6,077.90	233.40	233.12	90.00	601.05	7,937.18	1,128.07	661.87	466.20	2.420		
13,887.55	6,078.00	13,636.27	6,078.00	234.72	234.30	90.00	601.05	7,976.44	1,128.08	659.45	468.63	2.407 SF		

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



Scientific Drilling, Intl

Anticollision Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well Trieb Federal Com 601 2H - Slot A02
Project:	San Juan, NM NAD27	TVD Reference:	GI 6050' @ 6050.00usft
Reference Site:	Trieb Fed Pad	MD Reference:	GI 6050' @ 6050.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Trieb Federal Com 601 2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,400.00	6,068.72	10,122.89	6,068.66	131.02	129.22	90.00	-810.29	4,494.78	2,539.41	2,279.84	259.57	9.783		
10,500.00	6,068.99	10,222.89	6,068.93	133.96	132.19	90.00	-810.25	4,594.78	2,539.37	2,273.88	265.49	9.565		
10,600.00	6,069.25	10,322.89	6,069.20	136.91	135.15	90.00	-810.21	4,694.78	2,539.33	2,267.91	271.42	9.356		
10,700.00	6,069.52	10,422.89	6,069.47	139.86	138.12	90.00	-810.17	4,794.78	2,539.29	2,261.94	277.35	9.155		
10,800.00	6,069.79	10,522.89	6,069.73	142.81	141.09	90.00	-810.13	4,894.78	2,539.25	2,255.96	283.29	8.963		
10,900.00	6,070.05	10,622.89	6,070.00	145.77	144.06	90.00	-810.09	4,994.78	2,539.21	2,249.98	289.23	8.779		
11,000.00	6,070.32	10,722.89	6,070.27	148.73	147.03	90.00	-810.05	5,094.78	2,539.18	2,244.00	295.17	8.602		
11,100.00	6,070.58	10,822.89	6,070.54	151.69	150.01	90.00	-810.01	5,194.78	2,539.14	2,238.02	301.12	8.432		
11,200.00	6,070.85	10,922.89	6,070.81	154.65	152.98	90.00	-809.97	5,294.78	2,539.10	2,232.03	307.07	8.269		
11,300.00	6,071.12	11,022.89	6,071.08	157.61	155.96	90.00	-809.93	5,394.78	2,539.06	2,226.04	313.02	8.111		
11,400.00	6,071.38	11,122.89	6,071.34	160.58	158.94	90.00	-809.90	5,494.78	2,539.02	2,220.04	318.98	7.960		
11,500.00	6,071.65	11,222.89	6,071.61	163.54	161.92	90.00	-809.86	5,594.78	2,538.98	2,214.05	324.93	7.814		
11,600.00	6,071.91	11,322.89	6,071.88	166.51	164.90	90.00	-809.82	5,694.78	2,538.94	2,208.05	330.89	7.673		
11,700.00	6,072.18	11,422.89	6,072.15	169.48	167.88	90.00	-809.78	5,794.78	2,538.90	2,202.05	336.86	7.537		
11,800.00	6,072.45	11,522.89	6,072.42	172.46	170.86	90.00	-809.74	5,894.78	2,538.86	2,196.04	342.82	7.406		
11,900.00	6,072.71	11,622.89	6,072.68	175.43	173.85	90.00	-809.70	5,994.78	2,538.82	2,190.04	348.79	7.279		
12,000.00	6,072.98	11,722.89	6,072.95	178.40	176.83	90.00	-809.66	6,094.78	2,538.78	2,184.03	354.75	7.156		
12,100.00	6,073.24	11,822.89	6,073.22	181.38	179.82	90.00	-809.62	6,194.78	2,538.75	2,178.02	360.72	7.038		
12,200.00	6,073.51	11,922.89	6,073.49	184.36	182.80	90.00	-809.58	6,294.78	2,538.71	2,172.01	366.69	6.923		
12,300.00	6,073.78	12,022.89	6,073.76	187.33	185.79	90.00	-809.54	6,394.77	2,538.67	2,166.00	372.67	6.812		
12,400.00	6,074.04	12,122.89	6,074.03	190.31	188.78	90.00	-809.50	6,494.77	2,538.63	2,159.99	378.64	6.705		
12,500.00	6,074.31	12,222.89	6,074.29	193.29	191.77	90.00	-809.47	6,594.77	2,538.59	2,153.97	384.62	6.600		
12,600.00	6,074.58	12,322.89	6,074.56	196.27	194.76	90.00	-809.43	6,694.77	2,538.55	2,147.95	390.60	6.499		
12,700.00	6,074.84	12,422.89	6,074.83	199.26	197.75	90.00	-809.39	6,794.77	2,538.51	2,141.94	396.57	6.401		
12,800.00	6,075.11	12,522.89	6,075.10	202.24	200.74	90.00	-809.35	6,894.77	2,538.47	2,135.92	402.56	6.306		
12,900.00	6,075.37	12,622.89	6,075.37	205.22	203.73	90.00	-809.31	6,994.77	2,538.43	2,129.90	408.54	6.213		
13,000.00	6,075.64	12,722.89	6,075.63	208.21	206.72	90.00	-809.27	7,094.77	2,538.39	2,123.88	414.52	6.124		
13,100.00	6,075.91	12,822.89	6,075.90	211.19	209.71	90.00	-809.23	7,194.77	2,538.36	2,117.85	420.50	6.036		
13,200.00	6,076.17	12,922.89	6,076.17	214.18	212.70	90.00	-809.19	7,294.77	2,538.32	2,111.83	426.49	5.952		
13,300.00	6,076.44	13,022.89	6,076.44	217.16	215.70	90.00	-809.15	7,394.77	2,538.28	2,105.80	432.47	5.869		
13,400.00	6,076.70	13,122.89	6,076.71	220.15	218.69	90.00	-809.11	7,494.77	2,538.24	2,099.78	438.46	5.789		
13,500.00	6,076.97	13,222.89	6,076.98	223.14	221.69	90.00	-809.08	7,594.77	2,538.20	2,093.75	444.45	5.711		
13,600.00	6,077.24	13,322.89	6,077.24	226.13	224.68	90.00	-809.04	7,694.77	2,538.16	2,087.72	450.44	5.635		
13,700.00	6,077.50	13,422.89	6,077.51	229.12	227.68	90.00	-809.00	7,794.77	2,538.12	2,081.69	456.43	5.561		
13,800.00	6,077.77	13,522.89	6,077.78	232.11	230.67	90.00	-808.96	7,894.57	2,538.08	2,075.67	462.41	5.489		
13,880.90	6,077.98	13,603.59	6,078.00	234.53	233.09	90.00	-808.93	7,975.47	2,538.06	2,070.80	467.26	5.432		
13,887.55	6,078.00	13,604.82	6,078.00	234.72	233.13	90.00	-808.93	7,976.71	2,538.06	2,070.58	467.48	5.429 SF		

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



Scientific Drilling, Intl

Anticollision Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well Trieb Federal Com 601 2H - Slot A02
Project:	San Juan, NM NAD27	TVD Reference:	GI 6050' @ 6050.00usft
Reference Site:	Trieb Fed Pad	MD Reference:	GI 6050' @ 6050.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Trieb Federal Com 601 2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDMG													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,400.00	6,068.72	10,531.17	6,068.75	131.02	132.67	90.00	-2,113.17	4,496.12	3,842.29	3,580.40	261.89	14.671		
10,500.00	6,068.99	10,631.17	6,069.02	133.96	135.60	90.00	-2,113.11	4,596.11	3,842.23	3,574.42	267.81	14.347		
10,600.00	6,069.25	10,731.17	6,069.29	136.91	138.53	90.00	-2,113.05	4,696.11	3,842.17	3,568.45	273.72	14.037		
10,700.00	6,069.52	10,831.17	6,069.55	139.86	141.46	90.00	-2,112.98	4,796.11	3,842.11	3,562.46	279.65	13.739		
10,800.00	6,069.79	10,931.17	6,069.82	142.81	144.40	90.00	-2,112.92	4,896.11	3,842.05	3,556.48	285.57	13.454		
10,900.00	6,070.05	11,031.17	6,070.09	145.77	147.34	90.00	-2,112.86	4,996.11	3,841.99	3,550.48	291.50	13.180		
11,000.00	6,070.32	11,131.17	6,070.35	148.73	150.28	90.00	-2,112.80	5,096.11	3,841.93	3,544.49	297.44	12.917		
11,100.00	6,070.58	11,231.17	6,070.62	151.69	153.22	90.00	-2,112.74	5,196.11	3,841.87	3,538.49	303.38	12.664		
11,200.00	6,070.85	11,331.17	6,070.89	154.65	156.17	90.00	-2,112.68	5,296.11	3,841.81	3,532.49	309.32	12.420		
11,300.00	6,071.12	11,431.17	6,071.15	157.61	159.12	90.00	-2,112.62	5,396.11	3,841.75	3,526.49	315.26	12.186		
11,400.00	6,071.38	11,531.17	6,071.42	160.58	162.07	90.00	-2,112.56	5,496.11	3,841.69	3,520.48	321.21	11.960		
11,500.00	6,071.65	11,631.17	6,071.69	163.54	165.03	90.00	-2,112.50	5,596.11	3,841.63	3,514.47	327.16	11.742		
11,600.00	6,071.91	11,731.17	6,071.95	166.51	167.99	90.00	-2,112.44	5,696.11	3,841.56	3,508.45	333.11	11.532		
11,700.00	6,072.18	11,831.17	6,072.22	169.48	170.94	90.00	-2,112.38	5,796.11	3,841.50	3,502.44	339.06	11.330		
11,800.00	6,072.45	11,931.17	6,072.48	172.46	173.90	90.00	-2,112.32	5,896.11	3,841.44	3,496.42	345.02	11.134		
11,900.00	6,072.71	12,031.17	6,072.75	175.43	176.87	90.00	-2,112.26	5,996.11	3,841.38	3,490.40	350.98	10.945		
12,000.00	6,072.98	12,131.17	6,073.02	178.40	179.83	90.00	-2,112.20	6,096.11	3,841.32	3,484.38	356.94	10.762		
12,100.00	6,073.24	12,231.17	6,073.28	181.38	182.80	90.00	-2,112.14	6,196.11	3,841.26	3,478.36	362.91	10.585		
12,200.00	6,073.51	12,331.17	6,073.55	184.36	185.76	90.00	-2,112.08	6,296.11	3,841.20	3,472.33	368.87	10.413		
12,300.00	6,073.78	12,431.17	6,073.82	187.33	188.73	90.00	-2,112.02	6,396.11	3,841.14	3,466.30	374.84	10.247		
12,400.00	6,074.04	12,531.17	6,074.08	190.31	191.70	90.00	-2,111.96	6,496.11	3,841.08	3,460.27	380.81	10.087		
12,500.00	6,074.31	12,631.17	6,074.35	193.29	194.67	90.00	-2,111.90	6,596.11	3,841.02	3,454.24	386.78	9.931		
12,600.00	6,074.58	12,731.17	6,074.62	196.27	197.64	90.00	-2,111.83	6,696.11	3,840.96	3,448.21	392.75	9.780		
12,700.00	6,074.84	12,831.17	6,074.88	199.26	200.62	90.00	-2,111.77	6,796.11	3,840.90	3,442.17	398.72	9.633		
12,800.00	6,075.11	12,931.17	6,075.15	202.24	203.59	90.00	-2,111.71	6,896.11	3,840.84	3,436.14	404.70	9.491		
12,900.00	6,075.37	13,031.17	6,075.42	205.22	206.57	90.00	-2,111.65	6,996.11	3,840.78	3,430.10	410.68	9.352		
13,000.00	6,075.64	13,131.17	6,075.68	208.21	209.54	90.00	-2,111.59	7,096.11	3,840.72	3,424.06	416.65	9.218		
13,100.00	6,075.91	13,231.17	6,075.95	211.19	212.52	90.00	-2,111.53	7,196.10	3,840.66	3,418.02	422.63	9.087		
13,200.00	6,076.17	13,331.17	6,076.21	214.18	215.50	90.00	-2,111.47	7,296.10	3,840.60	3,411.98	428.61	8.961		
13,300.00	6,076.44	13,431.17	6,076.48	217.16	218.48	90.00	-2,111.41	7,396.10	3,840.54	3,405.94	434.60	8.837		
13,400.00	6,076.70	13,531.17	6,076.75	220.15	221.46	90.00	-2,111.35	7,496.10	3,840.48	3,399.90	440.58	8.717		
13,500.00	6,076.97	13,631.17	6,077.01	223.14	224.44	90.00	-2,111.29	7,596.10	3,840.41	3,393.85	446.56	8.600		
13,600.00	6,077.24	13,731.17	6,077.28	226.13	227.42	90.00	-2,111.23	7,696.10	3,840.35	3,387.81	452.55	8.486		
13,700.00	6,077.50	13,831.17	6,077.55	229.12	230.41	90.00	-2,111.17	7,796.10	3,840.29	3,381.76	458.53	8.375		
13,800.00	6,077.77	13,930.92	6,077.81	232.11	233.38	90.00	-2,111.11	7,895.85	3,840.24	3,375.72	464.51	8.267		
13,872.53	6,077.96	14,001.38	6,078.00	234.28	235.48	90.00	-2,111.07	7,966.31	3,840.20	3,371.40	468.80	8.192		
13,887.55	6,078.00	14,001.38	6,078.00	234.72	235.48	90.00	-2,111.07	7,966.31	3,840.23	3,370.96	469.27	8.183 SF		

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



Scientific Drilling, Intl

Anticollision Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well Trieb Federal Com 601 2H - Slot A02
Project:	San Juan, NM NAD27	TVD Reference:	GI 6050' @ 6050.00usft
Reference Site:	Trieb Fed Pad	MD Reference:	GI 6050' @ 6050.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Trieb Federal Com 601 2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDCM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,400.00	6,068.72	5,475.63	5,454.50	131.02	20.31	64.99	439.03	-184.40	4,891.53	4,834.49	57.04	85.752		
10,500.00	6,068.99	5,473.69	5,452.59	133.96	20.30	64.93	438.86	-184.11	4,987.29	4,930.12	57.17	87.236		
10,600.00	6,069.25	5,450.00	5,429.20	136.91	20.21	64.12	436.83	-180.94	5,083.57	5,026.36	57.20	88.868		
10,700.00	6,069.52	5,450.00	5,429.20	139.86	20.21	64.12	436.83	-180.94	5,179.57	5,122.24	57.33	90.344		
10,800.00	6,069.79	5,450.00	5,429.20	142.81	20.21	64.12	436.83	-180.94	5,275.72	5,218.26	57.46	91.822		
10,900.00	6,070.05	5,450.00	5,429.20	145.77	20.21	64.12	436.83	-180.94	5,372.01	5,314.43	57.58	93.302		
11,000.00	6,070.32	5,450.00	5,429.20	148.73	20.21	64.12	436.83	-180.94	5,468.43	5,410.74	57.69	94.784		
11,100.00	6,070.58	5,450.00	5,429.20	151.69	20.21	64.12	436.83	-180.94	5,564.99	5,507.18	57.81	96.268		
11,200.00	6,070.85	5,450.00	5,429.20	154.65	20.21	64.12	436.83	-180.94	5,661.66	5,603.74	57.92	97.753		
11,300.00	6,071.12	5,450.00	5,429.20	157.61	20.21	64.12	436.83	-180.94	5,758.44	5,700.41	58.03	99.240		
11,400.00	6,071.38	5,450.00	5,429.20	160.58	20.21	64.12	436.83	-180.94	5,855.33	5,797.20	58.13	100.727		
11,500.00	6,071.65	5,450.00	5,429.20	163.54	20.21	64.12	436.83	-180.94	5,952.33	5,894.09	58.23	102.216		
11,600.00	6,071.91	5,450.00	5,429.20	166.51	20.21	64.12	436.83	-180.94	6,049.42	5,991.09	58.33	103.705		
11,700.00	6,072.18	5,450.00	5,429.20	169.48	20.21	64.12	436.83	-180.94	6,146.61	6,088.17	58.43	105.194		
11,800.00	6,072.45	5,450.00	5,429.20	172.46	20.21	64.12	436.83	-180.94	6,243.88	6,185.35	58.53	106.683		
11,900.00	6,072.71	5,450.00	5,429.20	175.43	20.21	64.12	436.83	-180.94	6,341.24	6,282.62	58.62	108.173		
12,000.00	6,072.98	5,450.00	5,429.20	178.40	20.21	64.12	436.83	-180.94	6,438.68	6,379.97	58.71	109.663		
12,100.00	6,073.24	5,450.00	5,429.20	181.38	20.21	64.12	436.83	-180.94	6,536.20	6,477.39	58.80	111.152		
12,200.00	6,073.51	5,450.00	5,429.20	184.36	20.21	64.12	436.83	-180.94	6,633.79	6,574.90	58.89	112.642		
12,300.00	6,073.78	5,450.00	5,429.20	187.33	20.21	64.12	436.83	-180.94	6,731.45	6,672.47	58.98	114.131		
12,400.00	6,074.04	5,450.00	5,429.20	190.31	20.21	64.12	436.83	-180.94	6,829.18	6,770.12	59.07	115.619		
12,500.00	6,074.31	5,450.00	5,429.20	193.29	20.21	64.12	436.83	-180.94	6,926.98	6,867.83	59.15	117.106		
12,600.00	6,074.58	5,450.00	5,429.20	196.27	20.21	64.12	436.83	-180.94	7,024.83	6,965.60	59.23	118.593		
12,700.00	6,074.84	5,450.00	5,429.20	199.26	20.21	64.12	436.83	-180.94	7,122.75	7,063.43	59.32	120.079		
12,800.00	6,075.11	5,450.00	5,429.20	202.24	20.21	64.12	436.83	-180.94	7,220.72	7,161.33	59.40	121.564		
12,900.00	6,075.37	5,450.00	5,429.20	205.22	20.21	64.12	436.83	-180.94	7,318.75	7,259.27	59.48	123.048		
13,000.00	6,075.64	5,450.00	5,429.20	208.21	20.21	64.12	436.83	-180.94	7,416.83	7,357.28	59.56	124.531		
13,100.00	6,075.91	5,450.00	5,429.20	211.19	20.21	64.12	436.83	-180.94	7,514.97	7,455.33	59.64	126.012		
13,200.00	6,076.17	5,450.00	5,429.20	214.18	20.21	64.12	436.83	-180.94	7,613.15	7,553.43	59.71	127.492		
13,300.00	6,076.44	5,450.00	5,429.20	217.16	20.21	64.12	436.83	-180.94	7,711.37	7,651.58	59.79	128.971		
13,400.00	6,076.70	5,450.00	5,429.20	220.15	20.21	64.12	436.83	-180.94	7,809.65	7,749.78	59.87	130.448		
13,500.00	6,076.97	5,450.00	5,429.20	223.14	20.21	64.12	436.83	-180.94	7,907.96	7,848.02	59.94	131.924		
13,600.00	6,077.24	5,450.00	5,429.20	226.13	20.21	64.12	436.83	-180.94	8,006.32	7,946.30	60.02	133.397		
13,700.00	6,077.50	5,450.00	5,429.20	229.12	20.21	64.12	436.83	-180.94	8,104.72	8,044.62	60.09	134.870		
13,800.00	6,077.77	5,450.00	5,429.20	232.11	20.21	64.12	436.83	-180.94	8,203.15	8,142.98	60.17	136.340		
13,887.55	6,078.00	5,450.00	5,429.20	234.72	20.21	64.12	436.83	-180.94	8,289.36	8,229.13	60.23	137.626		

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



Scientific Drilling, Intl

Anticollision Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well Trieb Federal Com 601 2H - Slot A02
Project:	San Juan, NM NAD27	TVD Reference:	GI 6050' @ 6050.00usft
Reference Site:	Trieb Fed Pad	MD Reference:	GI 6050' @ 6050.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Trieb Federal Com 601 2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDCM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
10,400.00	6,068.72	5,450.00	5,397.67	131.02	21.77	74.91	-714.36	-120.51	5,264.28	5,186.75	77.54	67.895		
10,500.00	6,068.99	5,450.00	5,397.67	133.96	21.77	74.91	-714.36	-120.51	5,352.19	5,274.28	77.91	68.696		
10,600.00	6,069.25	5,450.00	5,397.67	136.91	21.77	74.91	-714.36	-120.51	5,440.51	5,362.23	78.27	69.508		
10,700.00	6,069.52	5,450.00	5,397.67	139.86	21.77	74.91	-714.36	-120.51	5,529.22	5,450.61	78.62	70.330		
10,800.00	6,069.79	5,450.00	5,397.67	142.81	21.77	74.91	-714.36	-120.51	5,618.32	5,539.37	78.95	71.161		
10,900.00	6,070.05	5,450.00	5,397.67	145.77	21.77	74.91	-714.36	-120.51	5,707.78	5,628.51	79.27	72.001		
11,000.00	6,070.32	5,450.00	5,397.67	148.73	21.77	74.91	-714.36	-120.51	5,797.58	5,718.00	79.58	72.850		
11,100.00	6,070.58	5,450.00	5,397.67	151.69	21.77	74.91	-714.36	-120.51	5,887.71	5,807.83	79.88	73.707		
11,200.00	6,070.85	5,450.00	5,397.67	154.65	21.77	74.91	-714.36	-120.51	5,978.16	5,897.99	80.17	74.572		
11,300.00	6,071.12	5,450.00	5,397.67	157.61	21.77	74.91	-714.36	-120.51	6,068.90	5,988.46	80.44	75.443		
11,400.00	6,071.38	5,450.00	5,397.67	160.58	21.77	74.91	-714.36	-120.51	6,159.94	6,079.23	80.71	76.321		
11,500.00	6,071.65	5,450.00	5,397.67	163.54	21.77	74.91	-714.36	-120.51	6,251.24	6,170.27	80.97	77.206		
11,600.00	6,071.91	5,450.00	5,397.67	166.51	21.77	74.91	-714.36	-120.51	6,342.81	6,261.59	81.22	78.097		
11,700.00	6,072.18	5,450.00	5,397.67	169.48	21.77	74.91	-714.36	-120.51	6,434.63	6,353.17	81.46	78.993		
11,800.00	6,072.45	5,450.00	5,397.67	172.46	21.77	74.91	-714.36	-120.51	6,526.69	6,445.00	81.69	79.894		
11,900.00	6,072.71	5,450.00	5,397.67	175.43	21.77	74.91	-714.36	-120.51	6,618.98	6,537.06	81.92	80.801		
12,000.00	6,072.98	5,450.00	5,397.67	178.40	21.77	74.91	-714.36	-120.51	6,711.49	6,629.35	82.14	81.712		
12,100.00	6,073.24	5,450.00	5,397.67	181.38	21.77	74.91	-714.36	-120.51	6,804.21	6,721.87	82.35	82.628		
12,200.00	6,073.51	5,450.00	5,397.67	184.36	21.77	74.91	-714.36	-120.51	6,897.14	6,814.59	82.55	83.548		
12,300.00	6,073.78	5,450.00	5,397.67	187.33	21.77	74.91	-714.36	-120.51	6,990.26	6,907.51	82.75	84.472		
12,400.00	6,074.04	5,437.32	5,385.15	190.31	21.72	74.63	-712.51	-119.78	7,083.45	7,000.61	82.84	85.504		
12,500.00	6,074.31	5,436.87	5,384.71	193.29	21.72	74.62	-712.44	-119.76	7,176.93	7,093.91	83.03	86.440		
12,600.00	6,074.58	5,436.44	5,384.28	196.27	21.72	74.61	-712.38	-119.73	7,270.59	7,187.38	83.21	87.379		
12,700.00	6,074.84	5,436.02	5,383.86	199.26	21.71	74.60	-712.32	-119.71	7,364.41	7,281.03	83.38	88.322		
12,800.00	6,075.11	5,435.61	5,383.46	202.24	21.71	74.59	-712.25	-119.70	7,458.39	7,374.84	83.55	89.267		
12,900.00	6,075.37	5,435.21	5,383.06	205.22	21.71	74.58	-712.20	-119.68	7,552.52	7,468.81	83.72	90.216		
13,000.00	6,075.64	5,422.70	5,370.70	208.21	21.66	74.30	-710.36	-119.21	7,646.92	7,563.14	83.78	91.276		
13,100.00	6,075.91	5,422.70	5,370.70	211.19	21.66	74.30	-710.36	-119.21	7,741.34	7,657.40	83.94	92.227		
13,200.00	6,076.17	5,422.70	5,370.70	214.18	21.66	74.30	-710.36	-119.21	7,835.89	7,751.80	84.09	93.180		
13,300.00	6,076.44	5,422.70	5,370.70	217.16	21.66	74.30	-710.36	-119.21	7,930.59	7,846.34	84.25	94.136		
13,400.00	6,076.70	5,422.70	5,370.70	220.15	21.66	74.30	-710.36	-119.21	8,025.41	7,941.01	84.39	95.094		
13,500.00	6,076.97	5,422.70	5,370.70	223.14	21.66	74.30	-710.36	-119.21	8,120.35	8,035.81	84.54	96.054		
13,600.00	6,077.24	5,422.70	5,370.70	226.13	21.66	74.30	-710.36	-119.21	8,215.42	8,130.74	84.68	97.016		
13,700.00	6,077.50	5,422.70	5,370.70	229.12	21.66	74.30	-710.36	-119.21	8,310.60	8,225.78	84.82	97.980		
13,800.00	6,077.77	5,422.70	5,370.70	232.11	21.66	74.30	-710.36	-119.21	8,405.89	8,320.94	84.95	98.945		
13,887.55	6,078.00	5,422.70	5,370.70	234.72	21.66	74.30	-710.36	-119.21	8,489.41	8,404.34	85.07	99.792		

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



Scientific Drilling, Intl

Anticollision Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well Trieb Federal Com 601 2H - Slot A02
Project:	San Juan, NM NAD27	TVD Reference:	GI 6050' @ 6050.00usft
Reference Site:	Trieb Fed Pad	MD Reference:	GI 6050' @ 6050.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Trieb Federal Com 601 2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-MWD+HDCM													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,300.00	6,068.46	5,700.00	5,472.75	128.08	28.61	22.41	1,488.58	-215.80	4,654.14	4,595.37	58.78	79.182		
10,400.00	6,068.72	5,700.00	5,472.75	131.02	28.61	22.41	1,488.58	-215.80	4,753.24	4,694.41	58.83	80.795		
10,500.00	6,068.99	5,700.00	5,472.75	133.96	28.61	22.41	1,488.58	-215.80	4,852.37	4,793.49	58.88	82.407		
10,600.00	6,069.25	5,700.00	5,472.75	136.91	28.61	22.41	1,488.58	-215.80	4,951.54	4,892.61	58.93	84.018		
10,700.00	6,069.52	5,700.00	5,472.75	139.86	28.61	22.41	1,488.58	-215.80	5,050.74	4,991.76	58.99	85.627		
10,800.00	6,069.79	5,700.00	5,472.75	142.81	28.61	22.41	1,488.58	-215.80	5,149.97	5,090.94	59.04	87.234		
10,900.00	6,070.05	5,700.00	5,472.75	145.77	28.61	22.41	1,488.58	-215.80	5,249.23	5,190.15	59.09	88.840		
11,000.00	6,070.32	5,700.00	5,472.75	148.73	28.61	22.41	1,488.58	-215.80	5,348.52	5,289.38	59.14	90.443		
11,100.00	6,070.58	5,700.00	5,472.75	151.69	28.61	22.41	1,488.58	-215.80	5,447.84	5,388.65	59.19	92.045		
11,200.00	6,070.85	5,700.00	5,472.75	154.65	28.61	22.41	1,488.58	-215.80	5,547.17	5,487.94	59.24	93.645		
11,300.00	6,071.12	5,700.00	5,472.75	157.61	28.61	22.41	1,488.58	-215.80	5,646.54	5,587.25	59.29	95.243		
11,400.00	6,071.38	5,700.00	5,472.75	160.58	28.61	22.41	1,488.58	-215.80	5,745.92	5,686.59	59.34	96.838		
11,500.00	6,071.65	5,700.00	5,472.75	163.54	28.61	22.41	1,488.58	-215.80	5,845.33	5,785.94	59.38	98.431		
11,600.00	6,071.91	5,700.00	5,472.75	166.51	28.61	22.41	1,488.58	-215.80	5,944.75	5,885.32	59.43	100.022		
11,700.00	6,072.18	5,700.00	5,472.75	169.48	28.61	22.41	1,488.58	-215.80	6,044.20	5,984.71	59.48	101.610		
11,800.00	6,072.45	5,677.21	5,451.23	172.46	28.48	22.25	1,481.63	-212.96	6,143.25	6,083.90	59.53	103.501		
11,900.00	6,072.71	5,676.12	5,450.20	175.43	28.47	22.24	1,481.29	-212.85	6,242.69	6,183.30	59.40	105.102		
12,000.00	6,072.98	5,675.06	5,449.19	178.40	28.47	22.24	1,480.97	-212.73	6,342.15	6,282.71	59.44	106.700		
12,100.00	6,073.24	5,674.03	5,448.22	181.38	28.46	22.23	1,480.65	-212.63	6,441.62	6,382.14	59.48	108.295		
12,200.00	6,073.51	5,673.02	5,447.27	184.36	28.46	22.22	1,480.35	-212.52	6,541.11	6,481.58	59.53	109.887		
12,300.00	6,073.78	5,650.00	5,425.44	187.33	28.32	22.08	1,473.30	-210.52	6,640.98	6,581.58	59.40	111.797		
12,400.00	6,074.04	5,650.00	5,425.44	190.31	28.32	22.08	1,473.30	-210.52	6,740.46	6,681.01	59.45	113.372		
12,500.00	6,074.31	5,650.00	5,425.44	193.29	28.32	22.08	1,473.30	-210.52	6,839.96	6,780.45	59.51	114.944		
12,600.00	6,074.58	5,650.00	5,425.44	196.27	28.32	22.08	1,473.30	-210.52	6,939.47	6,879.91	59.56	116.512		
12,700.00	6,074.84	5,650.00	5,425.44	199.26	28.32	22.08	1,473.30	-210.52	7,039.00	6,979.38	59.61	118.078		
12,800.00	6,075.11	5,650.00	5,425.44	202.24	28.32	22.08	1,473.30	-210.52	7,138.53	7,078.87	59.67	119.640		
12,900.00	6,075.37	5,650.00	5,425.44	205.22	28.32	22.08	1,473.30	-210.52	7,238.08	7,178.36	59.72	121.200		
13,000.00	6,075.64	5,650.00	5,425.44	208.21	28.32	22.08	1,473.30	-210.52	7,337.65	7,277.87	59.77	122.756		
13,100.00	6,075.91	5,650.00	5,425.44	211.19	28.32	22.08	1,473.30	-210.52	7,437.22	7,377.39	59.83	124.309		
13,200.00	6,076.17	5,650.00	5,425.44	214.18	28.32	22.08	1,473.30	-210.52	7,536.81	7,476.92	59.88	125.858		
13,300.00	6,076.44	5,650.00	5,425.44	217.16	28.32	22.08	1,473.30	-210.52	7,636.40	7,576.47	59.94	127.404		
13,400.00	6,076.70	5,650.00	5,425.44	220.15	28.32	22.08	1,473.30	-210.52	7,736.01	7,676.02	59.99	128.947		
13,500.00	6,076.97	5,650.00	5,425.44	223.14	28.32	22.08	1,473.30	-210.52	7,835.63	7,775.58	60.05	130.487		
13,600.00	6,077.24	5,650.00	5,425.44	226.13	28.32	22.08	1,473.30	-210.52	7,935.26	7,875.15	60.11	132.023		
13,700.00	6,077.50	5,650.00	5,425.44	229.12	28.32	22.08	1,473.30	-210.52	8,034.89	7,974.73	60.16	133.555		
13,800.00	6,077.77	5,650.00	5,425.44	232.11	28.32	22.08	1,473.30	-210.52	8,134.54	8,074.32	60.22	135.084		
13,887.55	6,078.00	5,650.00	5,425.44	234.72	28.32	22.08	1,473.30	-210.52	8,221.78	8,161.51	60.27	136.419		

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



Scientific Drilling, Intl

Anticollision Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well Trieb Federal Com 601 2H - Slot A02
Project:	San Juan, NM NAD27	TVD Reference:	GI 6050' @ 6050.00usft
Reference Site:	Trieb Fed Pad	MD Reference:	GI 6050' @ 6050.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Trieb Federal Com 601 2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Trieb Fed Pad - Trieb Federal Com 603 4H - OH - Plan #2		Offset Site Error:		0.00 usft	
Survey Program: 0-MWD+HDGM															Offset Well Error:		0.00 usft	
Reference		Offset		Semi Major Axis			Distance							Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor						
10,400.00	6,068.72	4,809.06	4,544.17	131.02	26.40	64.57	-1,450.84	-148.06	5,829.51	5,740.54	88.97	65.523						
10,500.00	6,068.99	4,804.59	4,540.04	133.96	26.37	64.49	-1,449.16	-147.85	5,909.51	5,819.91	89.60	65.955						
10,600.00	6,069.25	4,800.12	4,535.90	136.91	26.34	64.42	-1,447.49	-147.64	5,990.11	5,899.91	90.21	66.405						
10,700.00	6,069.52	4,795.65	4,531.76	139.86	26.31	64.35	-1,445.81	-147.43	6,071.29	5,980.50	90.79	66.873						
10,800.00	6,069.79	4,791.18	4,527.62	142.81	26.28	64.28	-1,444.14	-147.21	6,153.01	6,061.66	91.35	67.358						
10,900.00	6,070.05	4,786.71	4,523.48	145.77	26.26	64.20	-1,442.46	-147.00	6,235.27	6,143.38	91.89	67.858						
11,000.00	6,070.32	4,782.25	4,519.35	148.73	26.23	64.13	-1,440.78	-146.79	6,318.03	6,225.63	92.40	68.374						
11,100.00	6,070.58	4,777.78	4,515.21	151.69	26.20	64.06	-1,439.11	-146.58	6,401.28	6,308.38	92.90	68.903						
11,200.00	6,070.85	4,773.31	4,511.07	154.65	26.17	63.99	-1,437.43	-146.37	6,485.01	6,391.63	93.38	69.446						
11,300.00	6,071.12	4,768.84	4,506.93	157.61	26.14	63.91	-1,435.76	-146.16	6,569.18	6,475.34	93.84	70.002						
11,400.00	6,071.38	4,764.37	4,502.80	160.58	26.11	63.84	-1,434.08	-145.95	6,653.79	6,559.51	94.29	70.570						
11,500.00	6,071.65	4,759.90	4,498.66	163.54	26.08	63.77	-1,432.40	-145.74	6,738.82	6,644.11	94.71	71.150						
11,600.00	6,071.91	4,755.43	4,494.52	166.51	26.05	63.70	-1,430.73	-145.53	6,824.25	6,729.13	95.12	71.741						
11,700.00	6,072.18	4,750.96	4,490.38	169.48	26.02	63.63	-1,429.05	-145.32	6,910.07	6,814.55	95.52	72.342						
11,800.00	6,072.45	4,746.49	4,486.25	172.46	26.00	63.55	-1,427.37	-145.11	6,996.27	6,900.37	95.90	72.954						
11,900.00	6,072.71	4,742.02	4,482.11	175.43	25.97	63.48	-1,425.70	-144.90	7,082.82	6,986.55	96.27	73.576						
12,000.00	6,072.98	4,737.55	4,477.97	178.40	25.94	63.41	-1,424.02	-144.69	7,169.72	7,073.10	96.62	74.206						
12,100.00	6,073.24	4,733.08	4,473.83	181.38	25.91	63.34	-1,422.35	-144.48	7,256.96	7,160.00	96.96	74.846						
12,200.00	6,073.51	4,728.61	4,469.69	184.36	25.88	63.26	-1,420.67	-144.26	7,344.51	7,247.23	97.29	75.494						
12,300.00	6,073.78	4,724.15	4,465.56	187.33	25.85	63.19	-1,418.99	-144.05	7,432.38	7,334.78	97.60	76.150						
12,400.00	6,074.04	4,719.68	4,461.42	190.31	25.82	63.12	-1,417.32	-143.84	7,520.55	7,422.65	97.91	76.815						
12,500.00	6,074.31	4,715.21	4,457.28	193.29	25.79	63.05	-1,415.64	-143.63	7,609.01	7,510.82	98.20	77.486						
12,600.00	6,074.58	4,710.74	4,453.14	196.27	25.76	62.97	-1,413.97	-143.42	7,697.75	7,599.27	98.48	78.165						
12,700.00	6,074.84	4,706.27	4,449.01	199.26	25.74	62.90	-1,412.29	-143.21	7,786.76	7,688.01	98.75	78.851						
12,800.00	6,075.11	4,701.80	4,444.87	202.24	25.71	62.83	-1,410.61	-143.00	7,876.04	7,777.02	99.02	79.544						
12,900.00	6,075.37	4,697.33	4,440.73	205.22	25.68	62.76	-1,408.94	-142.79	7,965.56	7,866.29	99.27	80.243						
13,000.00	6,075.64	4,692.86	4,436.59	208.21	25.65	62.69	-1,407.26	-142.58	8,055.33	7,955.81	99.51	80.948						
13,100.00	6,075.91	4,688.39	4,432.46	211.19	25.62	62.61	-1,405.59	-142.37	8,145.33	8,045.58	99.75	81.659						
13,200.00	6,076.17	4,683.92	4,428.32	214.18	25.59	62.54	-1,403.91	-142.16	8,235.56	8,135.59	99.98	82.376						
13,300.00	6,076.44	4,679.45	4,424.18	217.16	25.56	62.47	-1,402.23	-141.95	8,326.01	8,225.82	100.19	83.099						
13,400.00	6,076.70	4,674.98	4,420.04	220.15	25.53	62.40	-1,400.56	-141.74	8,416.68	8,316.28	100.41	83.826						
13,500.00	6,076.97	4,670.51	4,415.90	223.14	25.50	62.33	-1,398.88	-141.52	8,507.55	8,406.94	100.61	84.560						
13,600.00	6,077.24	4,666.05	4,411.77	226.13	25.48	62.25	-1,397.21	-141.31	8,598.63	8,497.82	100.81	85.298						
13,700.00	6,077.50	4,661.58	4,407.63	229.12	25.45	62.18	-1,395.53	-141.10	8,689.90	8,588.90	101.00	86.041						
13,800.00	6,077.77	4,657.11	4,403.49	232.11	25.42	62.11	-1,393.85	-140.89	8,781.35	8,680.17	101.18	86.788						
13,887.55	6,078.00	4,653.19	4,399.87	234.72	25.39	62.05	-1,392.39	-140.71	8,861.57	8,760.23	101.34	87.446						

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



Scientific Drilling, Intl

Anticollision Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well Trieb Federal Com 601 2H - Slot A02
Project:	San Juan, NM NAD27	TVD Reference:	GI 6050' @ 6050.00usft
Reference Site:	Trieb Fed Pad	MD Reference:	GI 6050' @ 6050.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Trieb Federal Com 601 2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Offset Design													Trieb Fed Pad - Trieb Federal Strat Test 600 #1 - OH - Plan #1		Offset Site Error:		0.00 usft	
Survey Program: 0-MWD+HDGM													Offset Well Error:		0.00 usft			
Reference		Offset		Semi Major Axis			Distance							Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor						
10,400.00	6,068.72	6,068.72	6,068.72	131.02	21.58	90.39	-11.29	26.95	4,793.93	4,725.74	68.19	70.304						
10,500.00	6,068.99	6,068.99	6,068.99	133.96	21.58	90.40	-11.29	26.95	4,887.24	4,818.89	68.35	71.504						
10,600.00	6,069.25	6,069.25	6,069.25	136.91	21.58	90.41	-11.29	26.95	4,980.81	4,912.30	68.50	72.708						
10,700.00	6,069.52	6,069.52	6,069.52	139.86	21.58	90.42	-11.29	26.95	5,074.63	5,005.97	68.65	73.917						
10,800.00	6,069.79	6,069.79	6,069.79	142.81	21.58	90.43	-11.29	26.95	5,168.67	5,099.88	68.80	75.130						
10,900.00	6,070.05	6,070.05	6,070.05	145.77	21.58	90.43	-11.29	26.95	5,262.94	5,194.01	68.93	76.348						
11,000.00	6,070.32	6,070.32	6,070.32	148.73	21.58	90.44	-11.29	26.95	5,357.42	5,288.35	69.07	77.569						
11,100.00	6,070.58	6,070.58	6,070.58	151.69	21.58	90.45	-11.29	26.95	5,452.09	5,382.89	69.20	78.793						
11,200.00	6,070.85	6,070.85	6,070.85	154.65	21.58	90.46	-11.29	26.95	5,546.95	5,477.63	69.32	80.020						
11,300.00	6,071.12	6,071.12	6,071.12	157.61	21.58	90.47	-11.29	26.95	5,641.99	5,572.55	69.44	81.251						
11,400.00	6,071.38	6,071.38	6,071.38	160.58	21.58	90.48	-11.29	26.95	5,737.19	5,667.64	69.56	82.484						
11,500.00	6,071.65	6,071.65	6,071.65	163.54	21.59	90.49	-11.29	26.95	5,832.56	5,762.89	69.67	83.719						
11,600.00	6,071.91	6,071.91	6,071.91	166.51	21.59	90.50	-11.29	26.95	5,928.08	5,858.30	69.78	84.956						
11,700.00	6,072.18	6,072.18	6,072.18	169.48	21.59	90.51	-11.29	26.95	6,023.74	5,953.86	69.88	86.196						
11,800.00	6,072.45	6,072.45	6,072.45	172.46	21.59	90.51	-11.29	26.95	6,119.55	6,049.56	69.99	87.437						
11,900.00	6,072.71	6,072.71	6,072.71	175.43	21.59	90.52	-11.29	26.95	6,215.48	6,145.39	70.09	88.680						
12,000.00	6,072.98	6,072.98	6,072.98	178.40	21.59	90.53	-11.29	26.95	6,311.54	6,241.35	70.19	89.925						
12,100.00	6,073.24	6,073.24	6,073.24	181.38	21.59	90.54	-11.29	26.95	6,407.72	6,337.44	70.28	91.170						
12,200.00	6,073.51	6,073.51	6,073.51	184.36	21.59	90.55	-11.29	26.95	6,504.02	6,433.64	70.38	92.418						
12,300.00	6,073.78	6,073.78	6,073.78	187.33	21.59	90.56	-11.29	26.95	6,600.43	6,529.96	70.47	93.666						
12,400.00	6,074.04	6,074.04	6,074.04	190.31	21.59	90.57	-11.29	26.95	6,696.94	6,626.38	70.56	94.915						
12,500.00	6,074.31	6,074.31	6,074.31	193.29	21.60	90.58	-11.29	26.95	6,793.55	6,722.91	70.65	96.164						
12,600.00	6,074.58	6,074.58	6,074.58	196.27	21.60	90.58	-11.29	26.95	6,890.26	6,819.53	70.73	97.415						
12,700.00	6,074.84	6,074.84	6,074.84	199.26	21.60	90.59	-11.29	26.95	6,987.07	6,916.25	70.82	98.666						
12,800.00	6,075.11	6,075.11	6,075.11	202.24	21.60	90.60	-11.29	26.95	7,083.96	7,013.06	70.90	99.917						
12,900.00	6,075.37	6,075.37	6,075.37	205.22	21.60	90.61	-11.29	26.95	7,180.93	7,109.96	70.98	101.169						
13,000.00	6,075.64	6,075.64	6,075.64	208.21	21.60	90.62	-11.29	26.95	7,277.99	7,206.93	71.06	102.421						
13,100.00	6,075.91	6,075.91	6,075.91	211.19	21.60	90.63	-11.29	26.95	7,375.13	7,303.99	71.14	103.674						
13,200.00	6,076.17	6,076.17	6,076.17	214.18	21.60	90.64	-11.29	26.95	7,472.34	7,401.13	71.22	104.926						
13,300.00	6,076.44	6,076.44	6,076.44	217.16	21.60	90.65	-11.29	26.95	7,569.63	7,498.34	71.29	106.178						
13,400.00	6,076.70	6,076.70	6,076.70	220.15	21.60	90.65	-11.29	26.95	7,666.98	7,595.62	71.37	107.431						
13,500.00	6,076.97	6,076.97	6,076.97	223.14	21.60	90.66	-11.29	26.95	7,764.41	7,692.96	71.44	108.683						
13,600.00	6,077.24	6,077.24	6,077.24	226.13	21.61	90.67	-11.29	26.95	7,861.89	7,790.38	71.51	109.935						
13,700.00	6,077.50	6,077.50	6,077.50	229.12	21.61	90.68	-11.29	26.95	7,959.44	7,887.86	71.59	111.186						
13,800.00	6,077.77	6,077.77	6,077.77	232.11	21.61	90.69	-11.29	26.95	8,057.05	7,985.39	71.66	112.438						
13,887.55	6,078.00	6,078.00	6,078.00	234.72	21.61	90.70	-11.29	26.95	8,142.55	8,070.83	71.72	113.533						

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



Scientific Drilling, Intl

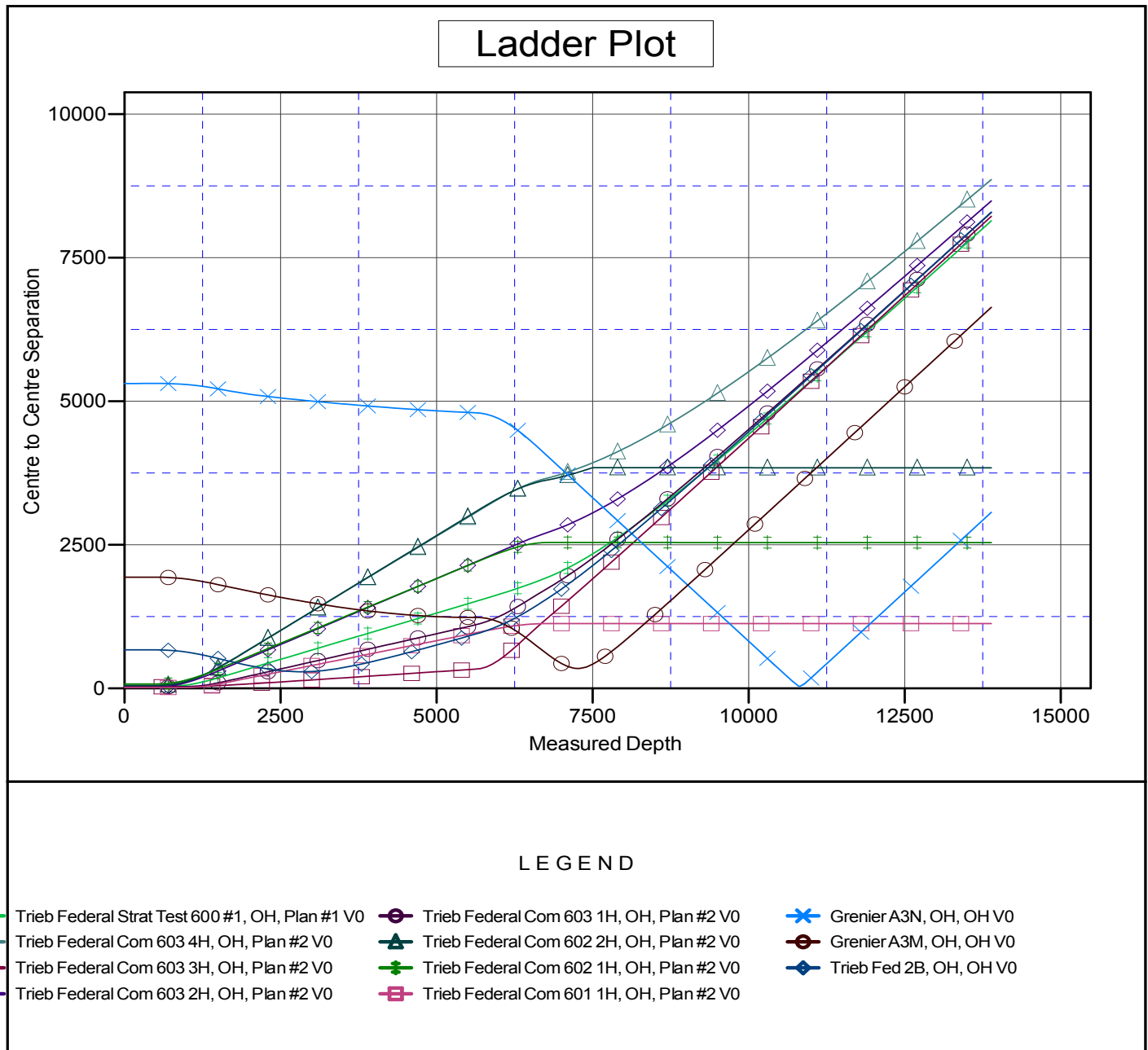
Anticollision Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well Trieb Federal Com 601 2H - Slot A02
Project:	San Juan, NM NAD27	TVD Reference:	GI 6050' @ 6050.00usft
Reference Site:	Trieb Fed Pad	MD Reference:	GI 6050' @ 6050.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Trieb Federal Com 601 2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to GI 6050' @ 6050.00usft
 Offset Depths are relative to Offset Datum
 Central Meridian is -107.8333334

Coordinates are relative to: Trieb Federal Com 601 2H - Slot A02
 Coordinate System is US State Plane 1927 (Exact solution), New Mexico West 30
 Grid Convergence at Surface is: -0.03°



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



Scientific Drilling, Intl
Anticollision Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well Trieb Federal Com 601 2H - Slot A02
Project:	San Juan, NM NAD27	TVD Reference:	GI 6050' @ 6050.00usft
Reference Site:	Trieb Fed Pad	MD Reference:	GI 6050' @ 6050.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	Trieb Federal Com 601 2H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	Grand Junction District
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to GI 6050' @ 6050.00usft

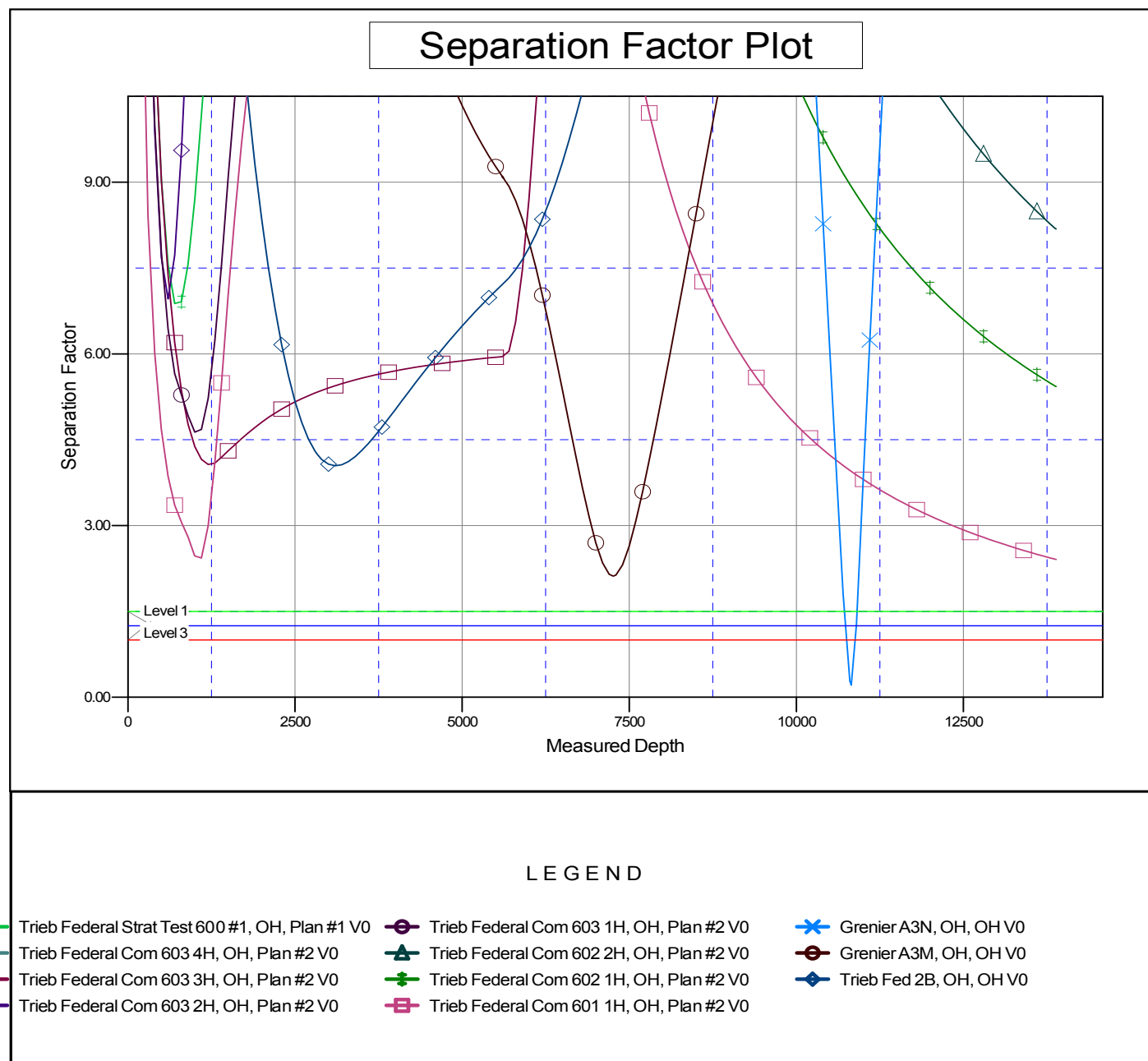
Offset Depths are relative to Offset Datum

Central Meridian is -107.8333334

Coordinates are relative to: Trieb Federal Com 601 2H - Slot A02

Coordinate System is US State Plane 1927 (Exact solution), New Mexico West 30

Grid Convergence at Surface is: -0.03°



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



Trieb Federal Com 601 2H

Hilcorp Energy Company Technical Plan

1. Location

TRIEB FEDERAL COM 601 2H

SHL: 2501' FNL, 417' FEL -- T 30N, R 10W, Sec 33

BHL: 750' FNL, 2327' FWL -- T 30N, R 10W, Sec 35

GL: 6050'

2. Geological Markers

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

<u>Formation</u>	<u>(TVD)</u>	<u>(MD)</u>	<u>Remarks</u>
San Jose	Surface	Surface	Wet
Ojo Alamo	1354'	1367'	Wet
Kirtland	1484'	1504'	Wet
Fruitland	2116'	2169'	Possible Gas/Water
Pictured Cliffs	2612'	2691'	Wet
Lewis Shale	3500'	3628'	
Massive Cliffhouse	3947'	4099'	Possible Gas/Water
Menefee	4358'	4531'	Possible Gas/Water
Point Lookout	4852'	5052'	Possible Gas/Water
Mancos	5282'	5506'	Oil/Gas
Mancos Lateral Target	6051'	6304'	Oil/Gas

3. Pressure Control Equipment

See Attached BOPE & Choke Manifold Schematic for a diagram of pressure control equipment.

- BOPE will be nipped up on top of wellhead after surface casing is set and cemented.
- Pressure control configuration will be designed to meet and exceed 5M standards.
- All equipment will have 5M pressure ratings.
- A rotating head will be rigged up on top of annular as seen in attached diagram.



Hilcorp Energy Company

Trieb Federal Com 601 2H

4. Casing & Cement Program

A) The proposed casing program is outlined below:

Proposed Casing				
Casing	Hole Size	Casing Size	Weight/Grade	Depth
Surface	17-1/2"	13-3/8"	54.5#, J-55, BTC, New	0' - 400' (MD)
Intermediate	12-1/4"	9-5/8"	40.0#, P-110 IC, LTC, New	0' - 5,528' (MD)
Production	8-1/2"	5-1/2"	20.0#, P-110, BTC, New	0' - 13,888' (MD)

The production casing will be run from total MD to surface. If the 8-1/2" hole is not drilled to total MD, the production casing setting depth and length will be adjusted accordingly. A toe initiation sliding sleeve will be installed at the toe of the production casing.

B) The proposed cement program is shown below:

Cement Program						
Interval	Depth (MD)	Sacks	Slurry	Excess	Volume	Planned Cement Top
Surface	400'	503	Lead Cmt: Premium Cement 2% CaCl, 0.125 lb/sk Poley E flake 1.175 ft ³ /sk -- 5.14 gal/sk, 15.8 ppg	100%	591 ft ³	Surface
Intermediate	4528'	947	Lead Cmt: Halcem Sytem 0.3% HR-5, 0.125 lb/sk Poly E flake, 1.974 ft ³ /sk -- 10.28 gal/sk, 12.3 ppg	30%	1869 ft ³	Surface
	5528'	328	Tail Cmt: Varicem Cement 0.1% HR-5, 0.125 lb/sk Poly E flake, 1.295 ft ³ /sk -- 5.69 gal/sk, 13.5 ppg	30%	424 ft ³	4314'
Production	13888'	1939	Tail Cmt: Bondcem 0.3% Super CBL, 0.1% HR -601, 6.08 gal/sk FW. 13.3 ppg, 1.356 ft ³ /sk	10%	2647 ft ³	4000'

Actual cement volumes will be determined and may be adjusted onsite based on well conditions. For the intermediate hole, a 2-stage cement job may be performed if hole conditions indicate during operations. Stage tool will be placed appropriately as conditions indicate.



Trieb Federal Com 601 2H

C) The proposed centralizer program is shown below:

Centralizer Program	
Interval	Centralizers
Surface	1 per joint on bottom 3 joints
Intermediate	1 above intermediate shoe joint with collar clamp 1 every 3 rd joint to surface
Production	1 per joint in horizontal section of production interval 1 every 3 rd joint in vertical section of production interval

To allow adequate time for cement to achieve a minimum of 500 psi compressive strength, a minimum of 8 hours wait on cement time for each hole section will be observed. The wellhead will not be installed, casing will not be tested, and the prior casing shoe will not be drilled out until adequate wait on cement time is achieved.

5. Drilling Fluids

A) The proposed drilling fluid program is outlined below:

Mud Program					
Interval	Mud Type	Weight (ppg)	Fluid Loss (cc)	Invert Ratio (Diesel/Brine)	Depth (MD)
Surface	Water / Gel System	8.3 - 9.2	NC		0-400'
Intermediate	LSND / Gel system	8.4 - 9	<6		400 – 5,528'
Production	Oil Based Mud	10 - 12	6-8	70/30 – 75/25	5528 – TD'

Oil based mud will be an Invert Mud. Base fluid will be diesel. Brine fluid will be CaCl or KCl.

LCM may be added to the mud system if hole conditions indicate.

B) Closed loop equipment will be utilized for solids control. Cuttings from surface, intermediate, and production hole will be hauled to an approved disposal site.



Trieb Federal Com 601 2H

6. Abnormal Pressures & Hazards

- No over-pressured intervals expected.
- Estimated Reservoir Pressure = 1875 psi. (Based on a pore pressure gradient of 0.31 psi/ft from layer pressure tests of Mancos formation in offset well)
- There is some offset Fruitland Coal, Mesa Verde, and Picture Cliffs production within the area which could result in these respective formations being under pressured.
- No hydrogen sulfide gas is expected based on nearby well production.

7. Testing, Logging, Coring

- Mud Logs: Mud loggers will be rigged up from KOP to production hole TD.
- MWD: Directional tools from KOP to production hole TD.
- LWD: Gamma Ray will be utilized in production hole for well placement.
- Cased Hole Logs: A Temp Survey or CBL will be ran on the intermediate hole if cement is not circulated to surface during intermediate cement job.

8. Directional Plan

The planned wellbore directional plan and plot is attached.

The planned directional plan is built off geological targets from offset wells. The production hole will be landed and drilled within target formation horizontally utilizing LWD equipment to help steer the wellbore. On site adjustments will be made to the directional plan as formation and hole indicates.



Trieb Federal Com 601 2H

9. Completion

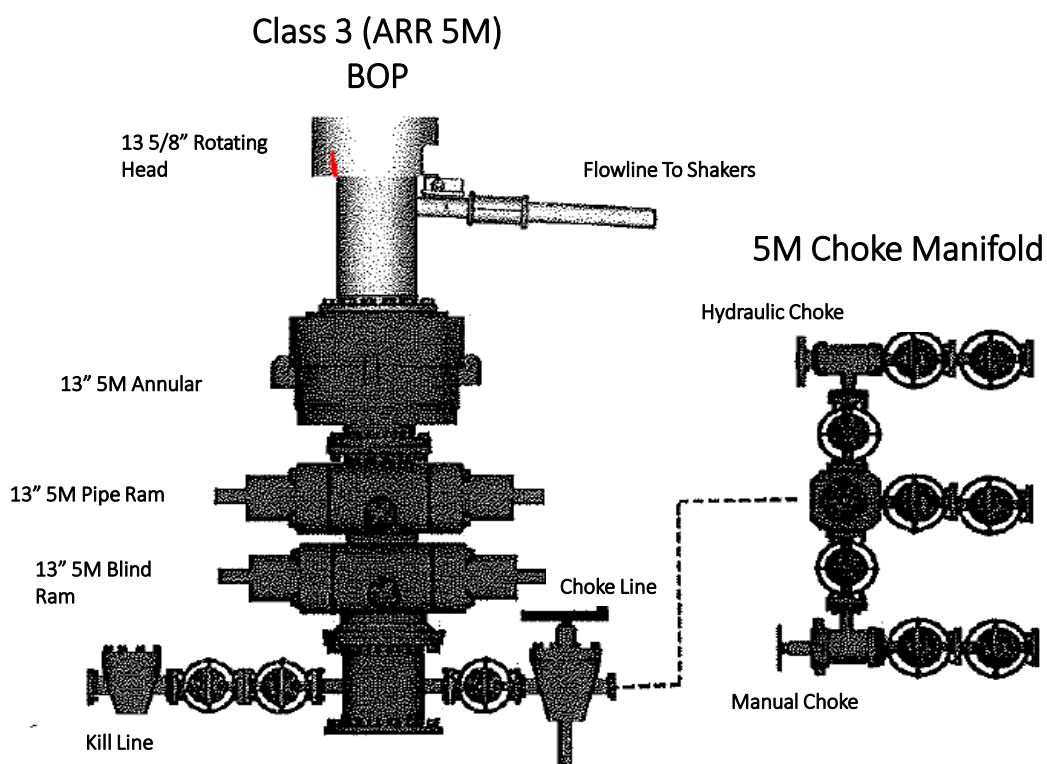
- a) Pressure Test
 - Pressure test 5-1/2" production casing to allowable frac pressure. Hold test for 30 minutes. Cycle pressure to activate toe sleeve
- b) Stimulation
 - Stimulate with approximately 10,000,000 pounds of proppant in 200,000 bbls of water; the number of stages and amount of proppant will be adjusted based on real-time pumping conditions during the stimulation
 - Stages will be perforated using wireline and isolated using frac plugs
 - Plugs will be drilled out and stimulation fluid will be flowed back
- c) Running Tubing
 - Production tubing will be run and landed at the top of the horizontal section of the well



Trieb Federal Com 601 2H

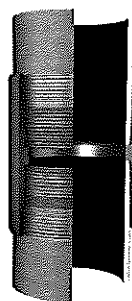
BOPE & Choke Manifold Schematic

13-5/8" BOPE



 Tenaris

TXP® BTC



Coupling	Pipe Body
Grade: P110	Grade: P110
Body: White	1st Band: White
1st Band: -	2nd Band: -
2nd Band: -	3rd Band: -
3rd Band: -	4th Band: -
	5th Band: -
	6th Band: -

Outside Diameter	9.625 in.	Wall Thickness	0.395 in.	Grade	P110
Min. Wall Thickness	87.50 %	Pipe Body Drift	API Standard	Type	Casing
Connection OD Option	REGULAR				

Pipe Body Data

Geometry			Performance		
Nominal OD	9.625 in.	Wall Thickness	0.395 in.	Body Yield Strength	1260 x1000 lb
Nominal Weight	40 lb/ft	Plain End Weight	38.97 lb/ft	Min. Internal Yield Pressure	7900 psi
Drift	8.679 in.	OD Tolerance	API	SMYS	110,000 psi
Nominal ID	8.835 in.			Collapse Pressure	3470 psi

Connection Data

Geometry		Performance		Make-Up Torques	
Connection OD	10.625 in.	Tension Efficiency	100 %	Minimum	19,650 ft-lb
Coupling Length	10.825 in.	Joint Yield Strength	1260 x1000 lb	Optimum	21,830 ft-lb
Connection ID	8.823 in.	Internal Pressure Capacity	7900 psi	Maximum	24,010 ft-lb
Make-up Loss	4.891 in.	Compression Efficiency	100 %	Operation Limit Torques	
Threads per inch	5	Compression Strength	1260 x1000 lb	Operating Torque	45,600 ft-lb
Connection OD Option	Regular	Max. Allowable Bending	52 °/100 ft	Yield Torque	53,000 ft-lb
		External Pressure Capacity	3470 psi		

Notes

This connection is fully interchangeable with:
 TXP® BTC - 9.625 in. - 0.352 / 0.435 / 0.472 / 0.545 / 0.595 in.
 Connections with Dopeless® Technology are fully compatible with the same connection in its Standard version.
 Datasheet is also valid for Special Bevel option when applicable - except for Coupling Face Load, which will be reduced. Please contact a local Tenaris technical sales representative.
 Standard coupling design comes with optimized 20° bevel.

For the latest performance data, always visit our website: www.tenaris.com
 For further information on concepts indicated in this datasheet, download the Datasheet Manual from www.tenaris.com

Tenaris has issued this document for general information only, and the information in this document, including, without limitation, any pictures, drawings or designs ("Information") is not intended to constitute professional or any other type of advice or recommendation and is provided on an "as is" basis. No warranty is given. Tenaris has not independently verified any information - if any - provided by the user in connection with, or for the purpose of, the information contained hereunder. The use of the information is at user's own risk and Tenaris does not assume any responsibility or liability of any kind for any loss, damage or injury resulting from, or in connection with any information contained hereunder or any use thereof. The information in this document is subject to change or modification without notice. Tenaris's products and services are subject to Tenaris's standard terms and conditions or otherwise to the terms resulting from the respective contracts of sale or services, as the case may be, between petitioner and Tenaris. For more complete information please contact a Tenaris's representative or visit our website at www.tenaris.com. ©Tenaris 2022. All rights reserved.



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Farmington District Office
6251 College Blvd, Suite A
Farmington, New Mexico 87402



In Reply Refer To:
3162.3-1(NMF0110)

* HILCORP ENERGY COMPANY

#002H TRIEB FEDERAL 601 COM

Lease: NMSF78204A

SH: Lot 8 Section 33, T. 30 N., R. 10 W.
San Juan County, New Mexico

BH: Lot 3 Section 35, T. 30 N., R. 10 W.
San Juan County, New Mexico

***Above Data Required on Well Sign**

GENERAL REQUIREMENTS FOR OIL AND GAS OPERATIONS ON FEDERAL AND INDIAN LEASES

The following special requirements apply and are effective when **checked**:

- A. ☒ Note all surface/drilling conditions of approval attached.
- B. ☒ The required wait on cement (WOC) time will be a minimum of 500 psi compressive strength at 60 degrees. Blowout preventor (BOP) nipple-up operations may then be initiated
- C. ☐ Test the surface casing to a minimum of _____ psi for 30 minutes.
- D. ☐ Test all casing strings below the surface casing to .22 psi/ft. of casing string length or 1500 psi, whichever is greater, but not to exceed 70% of the minimum internal yield burst) for a minimum of 30 minutes.
- E. ☒ Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the Bureau of Land Management, New Mexico State Office, Reservoir Management Group, 301 Dinosaur Trail, Santa Fe, New Mexico 87508.
The effective date of the agreement must be **prior** to any sales.
- F. ☒ The use of co-flex hose is authorized contingent upon the following:
 1. From the BOP to the choke manifold: the co-flex hose must be hobbled on both ends and saddle to prevent whip.
 2. From the choke manifold to the discharge tank: the co-flex hoses must be as straight as practical, hobbled on both ends and anchored to prevent whip.
 3. The co-flex hose pressure rating must be at least commensurate with approved BOPE.

INTERIOR REGION 7 • UPPER COLORADO BASIN

COLORADO, NEW MEXICO, UTAH, WYOMING

I. GENERAL

- A. Full compliance with all applicable laws, regulations, and Onshore Orders, with the approved Permit to drill, and with the approved Surface Use and Operations Plan is required. Lessees and/or operators are fully accountable for the actions of their contractors and subcontractors. Failure to comply with these requirements and the filing of required reports will result in strict enforcement pursuant to 43 CFR 3163.1 or 3163.2.
- B. Each well shall have a well sign in legible condition from spud date to final abandonment. The sign should show the operator's name, lease serial number, or unit name, well number, location of the well, and whether lease is Tribal or Allotted, (See 43 CFR 3162.6(b)).
- C. A complete copy of the approved Application for Permit to Drill, along with any conditions of approval, shall be available to authorized personnel at the drill site whenever active drilling operations are under way.
- D. For Wildcat wells only, a drilling operations progress report is to be submitted, to the BLM-Field Office, weekly from the spud date until the well is completed and the Well Completion Report (Form 3160-4) is filed. The report should be on 8-1/2 x 11 inch paper, and each page should identify the well by; operator's name, well number, location and lease number.
- E. As soon as practical, notice is required of all blowouts, fires and accidents involving life-threatening injuries or loss of life. (See NTL-3A).
- F. Prior approval by the BLM-Authorized Office (Drilling and Production Section) is required for variance from the approved drilling program and before commencing plugging operations, plug back work casing repair work, corrective cementing operations, or suspending drilling operations indefinitely. Emergency approval may be obtained orally, but such approval is contingent upon filing of a notice of intent (on a Sundry Notice, Form 3160-5) within three business days (original and three copies of Federal leases and an original and four copies on Indian leases). **Any changes to the approved plan or any questions regarding drilling operations should be directed to BLM during regular business hours at 505-564-7600. Emergency program changes after hours should be directed to at Virgil Lucero at 505-793-1836.**
- G. **The Inspection and Enforcement Section (I&E), phone number (505-564-7750) is to be notified at least 24 hours in advance of BOP test, spudding, cementing, or plugging operations so that a BLM representative may witness the operations.**
- H. Unless drilling operations are commenced within two years, approval of the Application for Permit to Drill will expire. A written request for a two years extension may be granted if submitted prior to expiration.
- I. From the time drilling operations are initiated and until drilling operations are completed, a member of the drilling crew or the tool pusher shall maintain rig surveillance at all time, unless the well is secured with blowout preventers or cement plugs.
- J. If for any reason, drilling operations are suspended for more than 90 days, a written notice must be provided to this office outlining your plans for this well.

II. REPORTING REQUIREMENTS

- A. For reporting purposes, all well Sundry notices, well completion and other well actions shall be referenced by the appropriate lease, communitization agreement and/or unit agreement numbers.
- B. The following reports shall be filed with the BLM-Authorized Officer within 30 days after the work is completed.
1. Original and three copies on Federal and an Original and five copies on Indian leases of Sundry Notice (Form 3150-5), giving complete information concerning.
 - a. Setting of each string of casing. Show size and depth of hole, grade and weight of casing, depth set, depth of any and all cementing tools that are used, amount (in cubic feet) and types of cement used, whether cement circulated to surface and all cement tops in the casing annulus, casing test method and results, and the date work was done. Show spud date on first report submitted.
 - b. Intervals tested, perforated (include; size, number and location of perforations), acidized, or fractured; and results obtained. Provide date work was done on well completion report and completion sundry notice.
 - c. Subsequent Report of Abandonment, show the manner in which the well was plugged, including depths where casing was cut and pulled, intervals (by depths) where cement plugs were replaced, and dates of the operations.
 2. Well Completion Report (Form 3160-4) will be submitted with 30 days after well has been completed.
 - a. Initial Bottom Hole Pressure (BHP) for the producing formations. Show the BHP on the completion report. The pressure may be: 1) measured with a bottom hole bomb, or; 2) calculated based on shut in surface pressures (minimum seven day buildup) and fluid level shot.
 3. Submit a cement evaluation log, if cement is not circulated to surface.

III. DRILLER'S LOG

The following shall be entered in the daily driller's log: 1) Blowout preventer pressures tests, including test pressures and results. 2) Blowout preventer tests for proper functioning, 3) Blowout prevention drills conducted, 4) Casing run, including size, grade, weight, and depth set, 5) How pipe was cemented, including amount of cement, type, whether cement circulated to surface, location of cementing tools, etc., 6) Waiting on cement time for each casing string, 7) Casing pressure tests after cementing, including test pressure and results and 8) Estimated amounts of oil and gas recovered and/or produced during drill stem test.

IV. GAS FLARING

Gas produced from this well may not be vented or flared beyond an initial, authorized test period of *** Days or 50 MMCF** following its (completion)(recompletion), whichever first occurs, without the prior, written approval of the authorized officer. Should gas be vented or flared without approval beyond the test period authorized above, you may be directed to shut-in the well until the gas can be captured or approval to continue venting or flaring as uneconomic is granted. You shall be required to compensate the lessor for the portion of the gas vented or flared without approval which is determined to have been avoidably lost.

***30 days**, unless a longer test period is specifically approved by the authorized officer. The 30-day period will commence upon the first gas to surface.

V. SAFETY

- A. All rig heating stoves are to be of the explosion-proof type.
- B. Rig safety lines are to be installed.
- C. Hard hats and other Personal Protective Equipment (PPE) must be utilized.

VI. CHANGE OF PLANS OR ABANDONMENT

- A. Any changes of plans required in order to mitigate unanticipated conditions encountered during drilling operations, will require approval as set forth in Section 1.F.
- B. If the well is dry, it is to be plugged in accordance with 43 CFR 3162.3-4, approval of the proposed plugging program is required as set forth in Section 1.F. The report should show the total depth reached, the reason for plugging, and the proposed intervals, by depths, where cement plugs are to be placed, type of plugging mud, etc. A Subsequent Report of Abandonment is required as set forth in Section II.B.1c.
- C. Unless a well has been properly cased and cemented, or properly plugged, the drilling rig must not be moved from the drill site without prior approval from the BLM-Authorized Officer.

VII. PHONE NUMBERS

- A. **For BOPE tests, cementing, and plugging operations the phone number is 505-564-7750 and must be called 24 hours in advance in order that a BLM representative may witness the operations.**
- B. Emergency program changes after hours contact:

Virgil Lucero (505) 793-1836

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 148831

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 148831
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
kpickford	Notify OCD 24 hours prior to casing & cement	10/7/2022
kpickford	Will require a File As Drilled C-102 and a Directional Survey with the C-104	10/7/2022
kpickford	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	10/7/2022
kpickford	Cement is required to circulate on both surface and intermediate1 strings of casing	10/7/2022
kpickford	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	10/7/2022