

Form 3160-3
(June 2015)FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No.
1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator		8. Lease Name and Well No.
3a. Address	3b. Phone No. (include area code)	9. API Well No. 30-045-38341
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		10. Field and Pool, or Exploratory
14. Distance in miles and direction from nearest town or post office*		11. Sec., T. R. M. or Blk. and Survey or Area
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)		12. County or Parish
16. No of acres in lease		13. State
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. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 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). | 6. Such other site specific information and/or plans as may be requested by the BLM. |

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

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: 04/19/2024

Additional Operator Remarks

Location of Well

0. SHL: SWSW / 959 FSL / 259 FWL / TWSP: 32N / RANGE: 07W / SECTION: 26 / LAT: 36.947088 / LONG: -107.544647 (TVD: 0 feet, MD: 0 feet)
PPP: NWNW / 470 FNL / 0 FWL / TWSP: 32N / RANGE: 07W / SECTION: 36 / LAT: 36.942894 / LONG: -107.527331 (TVD: 7515 feet, MD: 8103 feet)
PPP: NWNW / 479 FNL / 330 FWL / TWSP: 32N / RANGE: 07W / SECTION: 35 / LAT: 36.943134 / LONG: -107.544383 (TVD: 7515 feet, MD: 8103 feet)
PPP: NENE / 432 FNL / 330 FEL / TWSP: 32N / RANGE: 07W / SECTION: 36 / LAT: 36.942652 / LONG: -107.510367 (TVD: 7520 feet, MD: 18145 feet)
BHL: NENE / 432 FNL / 230 FEL / TWSP: 32N / RANGE: 07W / SECTION: 36 / LAT: 36.942647 / LONG: -107.510025 (TVD: 7520 feet, MD: 18145 feet)

BLM Point of Contact

Name: JEFFREY J TAFOYA
Title: Assistant Field Manager
Phone: (505) 564-7672
Email: JTAFOYA@BLM.GOV

CONFIDENTIAL

Submit one copy to
Appropriate District OfficeOIL CONSERVATION DIVISION
1220 South St. Francis Drive
Santa Fe, NM 87505☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045-38341	² Pool Code 97232	³ Pool Name BASIN MANCOS
⁴ Property Code 335848	⁵ Property Name SAN JUAN 32 7 602 FEDERAL COM	⁶ Well Number 603H
⁷ GRID No. 372171	⁸ Operator Name HILCORP ENERGY COMPANY	⁹ Elevation 6748'

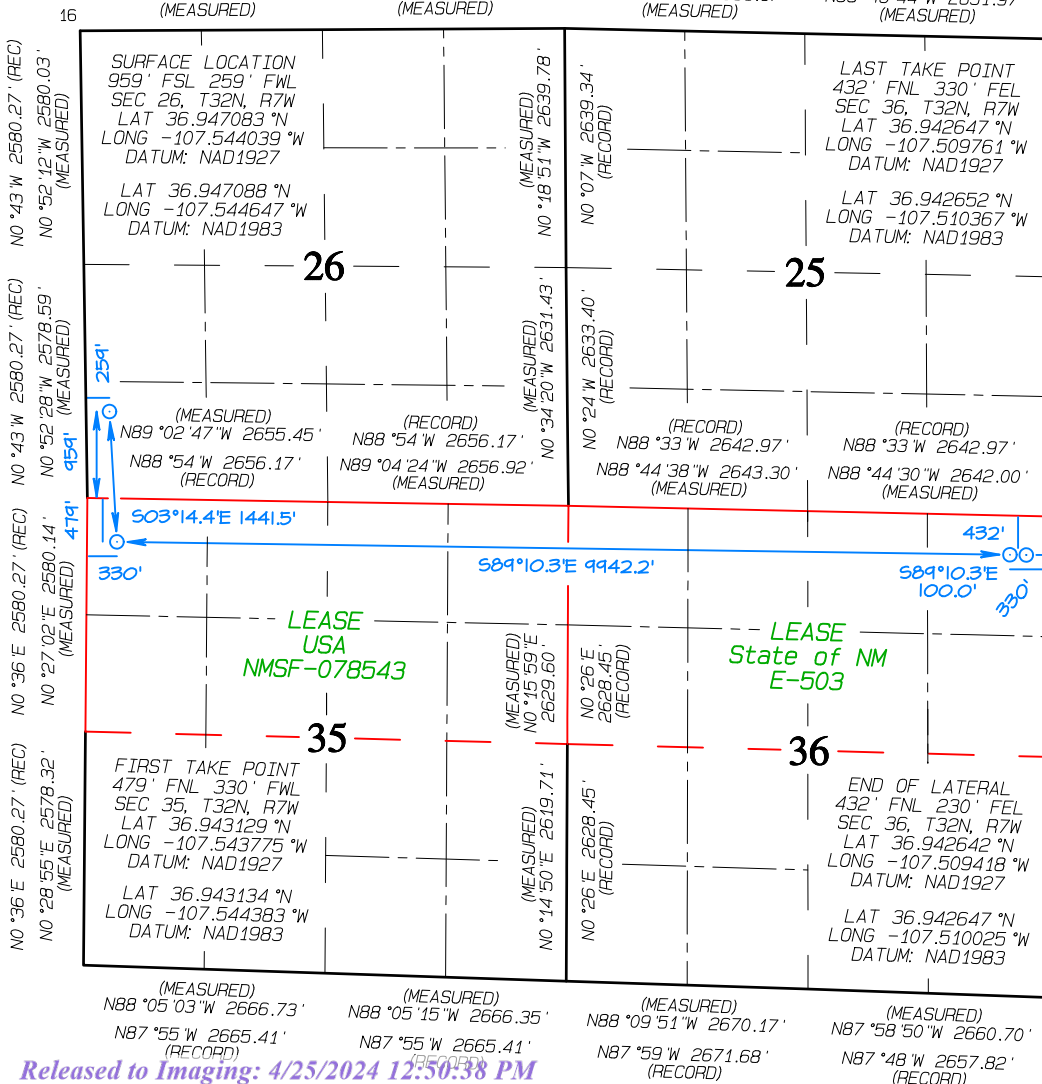
¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	26	32N	7W		959	SOUTH	259	WEST	SAN JUAN

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	36	32N	7W		432	NORTH	230	EAST	SAN JUAN

¹² Dedicated Acres 640.00	N/2 - Section 35 N/2 - Section 36	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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NO ALLOWABLE WILL BE ASSIGNED
TO THIS COMPLETION UNTIL ALL
INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN
APPROVED BY THE DIVISION

17 OPERATOR CERTIFICATION

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

Amanda Walker 03/29/2023
Signature Date
Amanda Walker
Printed Name
mwalker@hilcorp.com
E-mail Address

18 SURVEYOR CERTIFICATION

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

Date Revised: MARCH 13, 2023
Date of Survey: JULY 27, 2022

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

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:** 3/29/2023

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
Burnt Mesa Federal Com 601H		M-26-32N-7W	1059' FSL & 259' FWL	0	15	100
Burnt Mesa Federal Com 602H		M-26-32N-7W	1134' FSL & 259' FWL	0	15	100
Burnt Mesa Federal Com 603H		M-26-32N-7W	1009' FSL & 259' FWL	0	15	100
Burnt Mesa Federal Com 604H		M-26-32N-7W	1084' FSL & 259' FWL	0	15	100
Burnt Mesa Federal Com 605H		M-26-32N-7W	1034' FSL & 259' FWL	0	15	100
San Juan 32 7 602 Federal Com 601H		M-26-32N-7W	934' FSL & 259' FWL	0	15	100
San Juan 32 7 602 Federal Com 602H		M-26-32N-7W	1022' FSL & 299' FWL	0	15	100
San Juan 32 7 602 Federal Com 603H		M-26-32N-7W	959' FSL & 259' FWL	0	15	100
San Juan 32 7 602 Federal Com 604H		M-26-32N-7W	909' FSL & 259' FWL	0	15	100
San Juan 32 7 603 Federal Com 605H		M-26-32N-7W	997' FLS & 299' FWL	0	15	100
San Juan 32 7 603 Federal Com 606H		M-26-32N-7W	1122' FSL & 299' FWL	0	15	100
San Juan 32 7 603 Federal Com 607H		M-26-32N-7W	1109' FSL & 259' FWL	0	15	100
San Juan 32 7 603 Federal Com 608H		M-26-32N-7W	984' FSL & 259' FWL	0	15	100
San Juan 32 7 603 Federal Com 609H		M-26-32N-7W	947' FSL & 299' FWL	0	15	100
San Juan 32 7 603 Federal Com 610H		M-26-32N-7W	897' FSL & 299' FWL	0	15	100
San Juan 32 7 603 Federal Com 611H		M-26-32N-7W	1097' FSL & 299' FWL	0	15	100
San Juan 32 7 603 Federal Com 612H		M-26-32N-7W	1072' FSL & 299' FWL	0	15	100
San Juan 32 7 603 Federal Com 613H		M-26-32N-7W	1047' FSL & 299' FWL	0	15	100
San Juan 32 7 603 Federal Com 614H		M-26-32N-7W	972' FSL & 299' FWL	0	15	100
San Juan 32 7 603 Federal Com 615H		M-26-32N-7W	922' FSL & 299' FWL	0	15	100

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

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

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Burnt Mesa Federal Com 601H						<u>2024</u>
Burnt Mesa Federal Com 602H						<u>2024</u>
Burnt Mesa Federal Com 603H						<u>2024</u>
Burnt Mesa Federal Com 604H						<u>2024</u>
Burnt Mesa Federal Com 605H						<u>2024</u>
San Juan 32 7 602 Federal Com 601H						<u>2024</u>
San Juan 32 7 602 Federal Com 602H						<u>2024</u>
San Juan 32 7 602 Federal Com 603H						<u>2024</u>
San Juan 32 7 602 Federal Com 604H						<u>2024</u>
San Juan 32 7 603 Federal Com 605H						<u>2024</u>
San Juan 32 7 603 Federal Com 606H						<u>2024</u>
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San Juan 32 7 603 Federal Com 613H						<u>2024</u>
San Juan 32 7 603 Federal Com 614H						<u>2024</u>
San Juan 32 7 603 Federal Com 615H						<u>2024</u>

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: 3/29/2023
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.

San Juan County, NM

San Juan 32 7 602 Federal Com 603H

Hilcorp Energy Company

Technical Drilling Plan (Rev. 2)

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

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

1. Location

Date:	May 16, 2023	Pool:	Mancos
Well Name:	San Juan 32 7 602 Federal Com 603H	Ground Elevation (ft. MSL):	6,748'
Surface Hole Location:	36.947088° N, -107.544647° W NAD83	Total Measured Depth (ft.)	18,145'
Bottom Hole Location:	36.942652° N, -107.510367° W NAD83	County, State:	San Juan County, NM

Note: All depths in the directional drilling plan are referenced from an estimated RKB datum of 17' above ground level.

2. Geological Markers

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

Formation	Depth (ft. TVD)	Remarks
Ojo Alamo	2,525	Possible Water
Kirtland	2,651	Gas & Water
Fruitland	3,282	Gas & Water
Pictured Cliffs	3,661	Possible Gas
Lewis Shale	3,978	None
Cliffhouse	5,568	Possible Gas & Water
Menefee	5,783	None
Point Lookout	5,989	Gas
Mancos	6,467	Gas
Mancos A	6,996	Gas
Mancos B	7,184	Gas
Mancos C	7,375	Gas
Mancos D	7,465	Gas
Gallup	7,627	Water & Gas

3. Pressure Control Equipment

See Appendix A for BOP equipment and choke manifold diagram.

- BOP equipment will be nipped up on top of the wellhead after surface casing is set and cemented.
- Pressure control configurations will be designed to meet the minimum 5M standards.
- All equipment will have 5M pressure rating at a minimum.
- BOP Testing: The BOPE will be tested to **250 psi (Low) for 5 minutes and 5,000 psi (High) for 10 minutes**. Pressure test **surface casing to 600 psi for 30 minutes** and **intermediate casing to 1,500 psi for**

San Juan County, NM

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30 minutes. Utilize a BOPE Testing Unit with a recording chart and appropriate test plug for testing. BOP equipment will be tested upon installation, every 30 days, and after any repairs are made to the BOP equipment. Annular preventors will be functionally tested at least once per week. Pipe and blind rams will be function tested each trip. **The New Mexico Oil & Gas Conservation Division and the BLM will be notified 24 hours in advance of testing BOPE.** All tests and inspections will be recorded and logged with time and results. A full BOP test will be conducted when initially installed for the first well on the pad or if a seal subject to test pressure is broken, following related repairs, and at a minimum of 30-day intervals. A BOPE shell test only will be conducted for subsequent wells on the pad when seals subject to pressure have not been broken, repaired, and fall within the 30-day interval of the first full test.

- A rotating head will be installed on top of the annular as seen in the attached diagram.

4. Casing & Cement Program

A. Proposed Casing Program:

Proposed Casing Design								
Casing String	Hole Size	Casing Size	Weight/Grade	Top Depth (MD/TVD)	Shoe Depth (MD/TVD)	Collapse	Yield	Joint Strength
Surface	17-1/2"	13-3/8"	54.5#, J55 or equiv, LTC/BTC	0'	350' / 350'	1,130 psi	2,730 psi	514,000 lbs
Intermediate	12-1/4"	9-5/8"	43.5# L80 or equiv, LTC/BTC	0'	6,634' / 6,480'	3,810 psi	6,330 psi	737,000 lbs
Production	8-1/2"	5-1/2"	20.0#, P110 or equiv, LTC/BTC	0'	18,145' / 7,520'	11,080 psi	12,360 psi	548,000 lbs
Proposed Casing Design Safety Factors								
Casing String	Burst Design SF		Collapse Design SF		Joint Tensile Design SF		Connection Tensile Design SF	
Surface	16.7		8.8		44.7		47.7	
Intermediate	1.634		1.181		3.5		2.8	
Production	2.7		2.8		1.8		1.8	

Notes:

San Juan County, NM

San Juan 32 7 602 Federal Com 603H



- Production casing will be run from surface to TD.
- If the 8-1/2" hole is not drilled to the total planned measured depth, the production casing setting depth and length will be adjusted accordingly.
- Casing Design Parameters – Designed for full evacuation. Mud Weights used for calculations: Surface = 9.0 ppg, Intermediate = 11.5 ppg, Production = 12.0 ppg. Burst: 1.15; Collapse: 1.125; Tensile: 1.6.
 - Burst: (Casing Burst Rating) / (Maximum Burst Load (Max MW x TVD x .052))
 - Collapse: (Full hydrostatic of MW in annulus) – (Hydrostatic of vacated casing, 0.1 psi/ft)
 - Tensile: (Tensile rating) / (measured depth x casing weight)
- A toe initiation sliding sleeve will be installed at the toe of the production casing.

B. Proposed Centralizer Program:

Proposed Centralizer Program	
Interval	Centralizers & Placement
Surface	1 centralizer per joint on bottom 3 joints.
Intermediate	1 centralizer per joint in shoe track. 1 centralizer every 3 rd joint to surface.
Production	Centralizers determined by hole conditions from TD to top of cement.

C. Proposed Cement Program:

Proposed Cement Design							
Interval	Depth (ft. MD)	Lead/Tail	Volume (ft ³)	Sacks	Slurry	Density	Planned TOC
Surface	350'	Tail	486 ft ³	414	Premium Cement – 100% Excess 2% CaCl, 0.125 lb/sk Poly E Flake 1.175 ft ³ /sk – 5.14 gal/sk	15.8 ppg	Surface
Intermediate	6,634'	Lead	1,947 ft ³	987	HalCem Cement – 25% Excess 0.3% HR-5, 0.125 lb/sk Poly E Flake 1.974 ft ³ /sk – 10.28 gal/sk	12.3 ppg	Surface
		Tail	640 ft ³	494	VariCem Cement – 25 % Excess 0.1% HR-5, 0.125 lb/sk Poly E Flake 1.295 ft ³ /sk – 5.69 gal/sk	13.5 ppg	5,000'
Production	18,145'	Tail	3,326 ft ³	2,453	BondCem Cement – 10% Excess 0.3% Super CBL, 0.1% HR-601 1.356 ft ³ /sk – 6.08 gal/sk	13.3 ppg	5,000'

Notes:

- The cement slurry additives may be adjusted to accommodate required pump and compressive test times.

San Juan County, NM

San Juan 32 7 602 Federal Com 603H



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

5. Drilling Fluids Program

A. Proposed Drilling Fluids Program:

Proposed Drilling Fluids Program					
Interval	Fluid Type	Density	Fluid Loss	Invert Ratio	Depth
		(ppg)	(mL/30 min)	(%Diesel / %Brine)	(ft. MD)
Surface	Water/Gel	8.3 – 9.2	NC	N/A	0' – 350'
Intermediate	LSND / Gel	8.4 – 10.0	<6	N/A	350' – 6,634'
Production	Oil Base Mud	10.0 – 12.0	6 – 8	70/30 – 75/25	6,634' – 18,145'

Notes:

- In the 8-1/2" production section, oil base mud will be utilized which will be an invert mud. The base fluid will be diesel. Brine fluid will be CaCl₂ or KCl.
- Lost circulation material may be added to the mud systems to manage fluid losses as hole conditions dictate.
- The well will be drilled utilizing a closed-loop circulating system. Drill cuttings for all hole sections will be transported to an approved disposal site.
- Estimated total volume of drill cuttings for disposal: 1,828 bbls (10,256 ft³)

6. Estimated Pressures & Drilling Hazards

A. Estimated Pressures

- Estimated Reservoir Pressure of Mancos Shale target: 4,000 – 4,200 psi
- Maximum Anticipated Surface Pressure: 1,900 psi
- No over-pressured intervals expected (aside from Mancos Shale target).
- There is production from the Fruitland Coal, Mesa Verde and Pictured Cliffs formations in offset wells in the area, which could result in these formations being depleted.

B. Water Flows

San Juan County, NM

San Juan 32 7 602 Federal Com 603H



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

C. Lost Circulation

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

D. Hydrogen Sulfide

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

7. Pilot Hole

No pilot hole for this wellbore.

8. Testing, Logging, Coring

A. Mud Logging

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

B. MWD

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

C. LWD

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

D. Open Hole Logging

- None

E. Coring

- None

F. Cased Hole Logging

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

San Juan County, NM

San Juan 32 7 602 Federal Com 603H



9. Directional Drilling Plan

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

10. Completion

A. Pressure Testing

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

B. Stimulation

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

*NOTE: Although this horizontal well may be drilled past the applicable setbacks, an unorthodox location application is not required because the completed interval in this well, as defined by 19.15.16.7 8(1) NMAC, will be entirely within the applicable setbacks. This approach complies with all applicable rules, including 19.15.16.14 A(3) NMAC, 19.15.16.14 8(2) NMAC, 19.15.16.15 8(2)NMAC, and 19.15.16.15 8(4) NMAC.

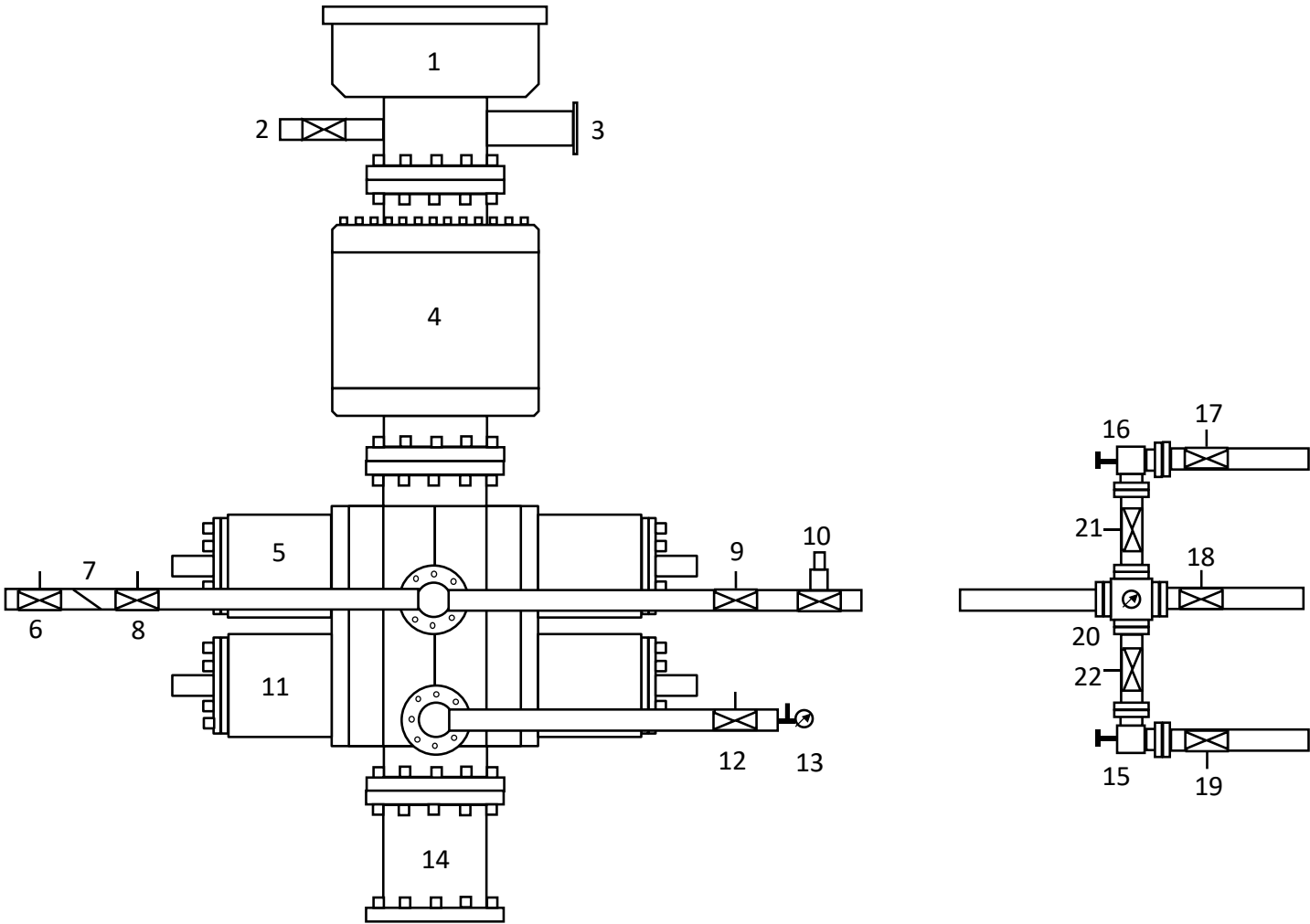
San Juan County, NM

San Juan 32 7 602 Federal Com 603H



Appendix A

13-5/8” 5M BOP & 5M Choke Manifold Configuration



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



Hilcorp Energy Corp.

San Juan, NM NAD27

Burnt Mesa Pad

San Juan 32 7 602 Federal Com 603H

OH

Plan #2

Anticollision Summary Report

29 March, 2023





Lonestar Consulting, LLC

Anticollision Summary Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well San Juan 32 7 602 Federal Com 603H - Slot A04
Project:	San Juan, NM NAD27	TVD Reference:	GL 6748' & RKB 17' @ 6765.00ft
Reference Site:	Burnt Mesa Pad	MD Reference:	GL 6748' & RKB 17' @ 6765.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	San Juan 32 7 602 Federal Com 603H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	Grand Junction
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference	Plan #2
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations
Depth Range:	Unlimited
Results Limited by:	Maximum centre distance of 15,000.00ft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Pedal Curve
Casing Method:	Not applied

Survey Tool Program	Date	3/21/2023
From (ft)	To (ft)	Survey (Wellbore)
0.00	18,144.84	Plan #2 (OH)
		Tool Name
		MWD+HDGM
		Description
		OWSG MWD + HDGM

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Burnt Mesa Pad						
Burnt Mesa Federal Com 601H - OH - Plan #2	450.00	450.00	100.13	97.02	32.254	CC
Burnt Mesa Federal Com 601H - OH - Plan #2	500.00	500.21	100.46	97.01	29.115	ES
Burnt Mesa Federal Com 601H - OH - Plan #2	18,144.84	17,826.57	1,434.61	795.55	2.245	SF
Burnt Mesa Federal Com 602H - OH - Plan #2	450.00	450.00	175.13	172.03	56.415	CC, ES
Burnt Mesa Federal Com 602H - OH - Plan #2	18,144.84	17,882.90	2,376.09	1,733.32	3.697	SF
Burnt Mesa Federal Com 603H - OH - Plan #2	450.00	450.00	49.88	46.78	16.068	CC
Burnt Mesa Federal Com 603H - OH - Plan #2	18,144.84	17,885.49	525.30	-80.62	0.867	Level 1, ES, SF
Burnt Mesa Federal Com 604H - OH - Plan #2	450.00	450.00	124.89	121.78	40.229	CC, ES
Burnt Mesa Federal Com 604H - OH - Plan #2	18,144.84	18,023.45	1,900.40	1,256.03	2.949	SF
Burnt Mesa Federal Com 605H - OH - Plan #2	450.00	450.00	75.00	71.90	24.160	CC
Burnt Mesa Federal Com 605H - OH - Plan #2	500.00	500.80	75.12	71.67	21.773	ES
Burnt Mesa Federal Com 605H - OH - Plan #2	18,144.84	18,022.41	942.16	298.09	1.463	Level 3, SF
San Juan 32 7 602 Federal Com 601H - OH - Plan #2	450.00	450.00	25.12	22.02	8.092	CC
San Juan 32 7 602 Federal Com 601H - OH - Plan #2	18,144.84	18,073.59	512.13	-94.32	0.844	Level 1, ES, SF
San Juan 32 7 602 Federal Com 602H - OH - Plan #2	1,630.80	1,652.15	63.62	50.72	4.934	CC, ES
San Juan 32 7 602 Federal Com 602H - OH - Plan #2	18,144.84	18,411.71	1,550.10	909.17	2.419	SF
San Juan 32 7 602 Federal Com 604H - OH - Plan #2	450.00	450.00	49.88	46.78	16.068	CC
San Juan 32 7 602 Federal Com 604H - OH - Plan #2	800.00	794.27	51.01	45.56	9.359	ES
San Juan 32 7 602 Federal Com 604H - OH - Plan #2	18,144.84	18,378.42	1,023.54	379.17	1.588	SF
San Juan 32 7 603 Federal Com 605H - Lateral - Plan #1	450.00	450.00	54.68	51.58	17.614	CC
San Juan 32 7 603 Federal Com 605H - Lateral - Plan #1	600.00	602.34	55.16	51.05	13.406	ES
San Juan 32 7 603 Federal Com 605H - Lateral - Plan #1	7,400.00	7,477.39	197.24	139.45	3.413	SF
San Juan 32 7 603 Federal Com 605H - Pilot - Plan #1	450.00	450.00	54.68	51.58	17.614	CC, ES
San Juan 32 7 603 Federal Com 605H - Pilot - Plan #1	700.00	699.68	65.05	60.21	13.418	SF
San Juan 32 7 603 Federal Com 606H - OH - Plan #1	450.00	450.00	167.46	164.36	53.945	CC, ES
San Juan 32 7 603 Federal Com 606H - OH - Plan #1	900.00	869.09	231.22	225.06	37.513	SF
San Juan 32 7 603 Federal Com 607H - OH - Plan #1	450.00	450.00	150.01	146.90	48.321	CC, ES
San Juan 32 7 603 Federal Com 607H - OH - Plan #1	1,000.00	987.70	216.47	209.50	31.078	SF
San Juan 32 7 603 Federal Com 608H - OH - Plan #1	450.00	450.00	25.12	22.02	8.092	CC
San Juan 32 7 603 Federal Com 608H - OH - Plan #1	700.00	701.46	25.77	20.97	5.373	ES
San Juan 32 7 603 Federal Com 608H - OH - Plan #1	800.00	801.39	29.27	23.78	5.330	SF
San Juan 32 7 603 Federal Com 609H - OH - Plan #1	450.00	450.00	41.80	38.69	13.464	CC
San Juan 32 7 603 Federal Com 609H - OH - Plan #1	500.00	499.87	41.95	38.51	12.178	ES
San Juan 32 7 603 Federal Com 609H - OH - Plan #1	1,000.00	997.91	60.46	53.45	8.631	SF
San Juan 32 7 603 Federal Com 610H - OH - Plan #1	450.00	450.00	74.03	70.92	23.847	CC
San Juan 32 7 603 Federal Com 610H - OH - Plan #1	500.00	498.99	74.15	70.71	21.542	ES

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



Lonestar Consulting, LLC

Anticollision Summary Report



Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well San Juan 32 7 602 Federal Com 603H - Slot A04
Project:	San Juan, NM NAD27	TVD Reference:	GL 6748' & RKB 17' @ 6765.00ft
Reference Site:	Burnt Mesa Pad	MD Reference:	GL 6748' & RKB 17' @ 6765.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	San Juan 32 7 602 Federal Com 603H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	Grand Junction
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Burnt Mesa Pad						
San Juan 32 7 603 Federal Com 610H - OH - Plan #1	1,200.00	1,183.21	104.71	96.20	12.313	SF
San Juan 32 7 603 Federal Com 611H - OH - Plan #1	450.00	450.00	143.19	140.09	46.126	CC, ES
San Juan 32 7 603 Federal Com 611H - OH - Plan #1	900.00	880.40	203.43	197.22	32.744	SF
San Juan 32 7 603 Federal Com 612H - OH - Plan #1	450.00	450.00	119.27	116.16	38.420	CC
San Juan 32 7 603 Federal Com 612H - OH - Plan #1	500.00	501.20	119.45	116.00	34.591	ES
San Juan 32 7 603 Federal Com 612H - OH - Plan #1	1,000.00	1,000.27	160.73	153.79	23.151	SF
San Juan 32 7 603 Federal Com 613H - OH - Plan #1	813.27	825.50	95.92	90.33	17.145	CC, ES
San Juan 32 7 603 Federal Com 613H - OH - Plan #1	7,500.00	7,498.97	630.82	573.77	11.058	SF
San Juan 32 7 603 Federal Com 614H - OH - Plan #1	450.00	450.00	41.85	38.74	13.480	CC
San Juan 32 7 603 Federal Com 614H - OH - Plan #1	500.00	500.32	41.96	38.52	12.175	ES
San Juan 32 7 603 Federal Com 614H - OH - Plan #1	7,595.40	7,561.57	147.73	88.87	2.510	SF
San Juan 32 7 603 Federal Com 615H - OH - Plan #1	450.00	450.00	54.82	51.72	17.659	CC
San Juan 32 7 603 Federal Com 615H - OH - Plan #1	500.00	499.42	54.96	51.52	15.961	ES
San Juan 32 7 603 Federal Com 615H - OH - Plan #1	1,116.40	1,107.51	81.35	73.46	10.307	SF
SJ 32-7 204A - OH - OH	15,000.00	3,090.00	4,212.59	4,137.55	56.139	CC
SJ 32-7 204A - OH - OH	15,100.00	3,090.00	4,213.41	4,137.26	55.328	ES
SJ 32-7 204A - OH - OH	17,700.00	3,090.00	4,995.35	4,864.52	38.182	SF
SJ 32-7 211A - OH - OH	3,041.83	2,740.00	2,034.55	1,938.48	21.179	CC, ES
SJ 32-7 211A - OH - OH	3,100.00	2,740.00	2,035.38	1,939.20	21.163	SF

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



Lonestar Consulting, LLC

Anticollision Summary Report

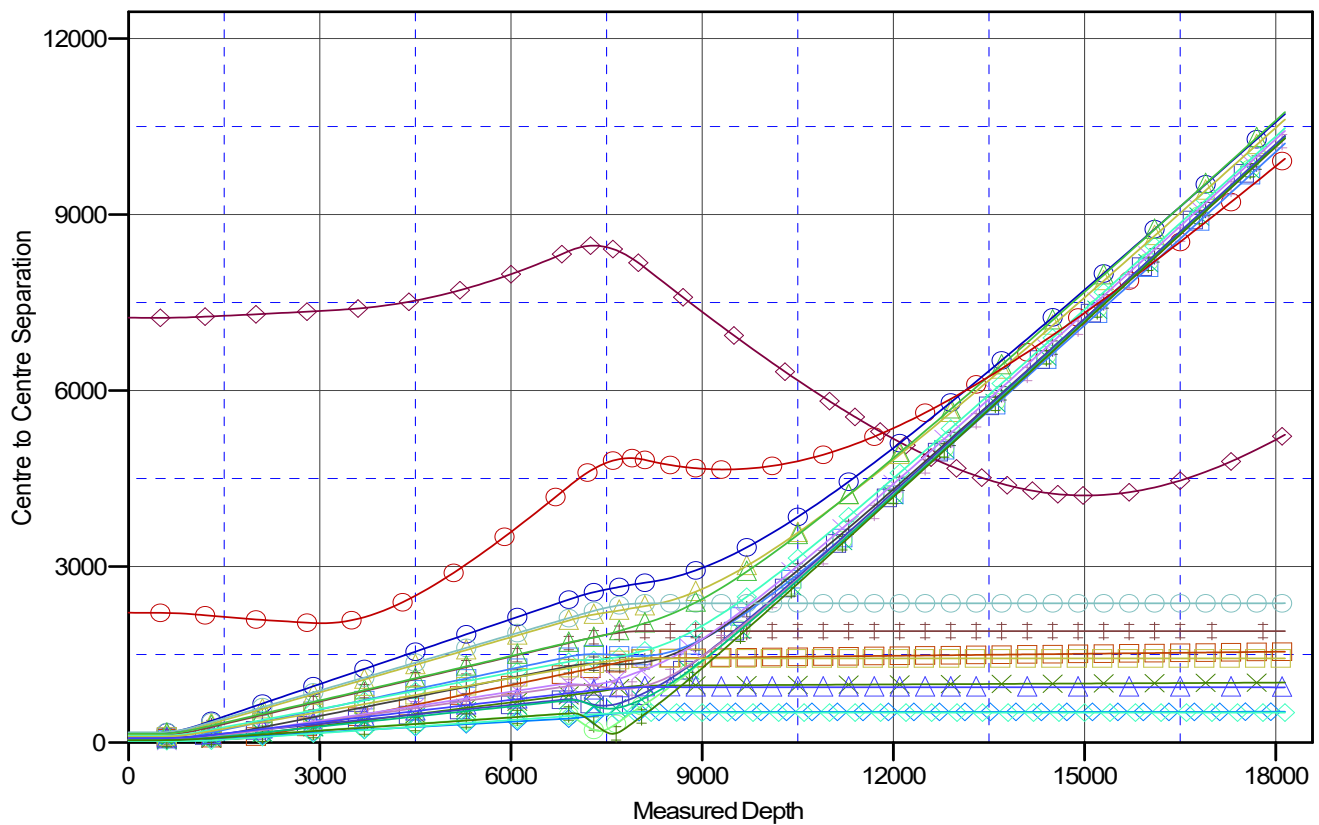


Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well San Juan 32 7 602 Federal Com 603H - Slot A04
Project:	San Juan, NM NAD27	TVD Reference:	GL 6748' & RKB 17' @ 6765.00ft
Reference Site:	Burnt Mesa Pad	MD Reference:	GL 6748' & RKB 17' @ 6765.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	San Juan 32 7 602 Federal Com 603H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	Grand Junction
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to GL 6748' & RKB 17' @ 6765.00ft
 Offset Depths are relative to Offset Datum
 Central Meridian is -107.8333334

Coordinates are relative to: San Juan 32 7 602 Federal Com 603H - Slot A04
 Coordinate System is US State Plane 1927 (Exact solution), New Mexico West 30
 Grid Convergence at Surface is: 0.17°

Ladder Plot



LEGEND

BurntMesa FederalCo m604HCHPlan#2 V0	San Juan 32 7 603 Fe deraCom606HCHPlan#1 V0	San Juan 32 7 602 Fe deraCom601HCHPlan#2 V0
San Juan 32 7 603 Fe deraCom605HCHPlan#1 V0	BurntMesa FederalCo m603HCHPlan#2 V0	San Juan 32 7 603 Fe deraCom615HCHPlan#1 V0
San Juan 32 7 603 Fe deraCom609HCHPlan#1 V0	San Juan 32 7 603 Fe deraCom613HCHPlan#1 V0	San Juan 32 7 603 Fe deraCom608HCHPlan#1 V0
SL32-7 204A, OHCHV0	BurntMesa FederalCo m602HCHPlan#2 V0	BurntMesa FederalCo m601HCHPlan#2 V0
San Juan 32 7 603 Fe deraCom611HCHPlan#1 V0	San Juan 32 7 603 Fe deraCom612HCHPlan#1 V0	San Juan 32 7 603 Fe deraCom607HCHPlan#1 V0
San Juan 32 7 602 Fe deraCom604HCHPlan#2 V0	San Juan 32 7 603 Fe deraCom608HCHPlan#1 V0	San Juan 32 7 603 Fe deraCom614HCHPlan#1 V0
San Juan 32 7 603 Fe deraCom610HCHPlan#1 V0	San Juan 32 7 603 Fe deraCom607HCHPlan#1 V0	
San Juan 32 7 602 Fe deraCom602HCHPlan#2 V0	SL32-7 211A, OHCHV0	

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



Lonestar Consulting, LLC

Anticollision Summary Report

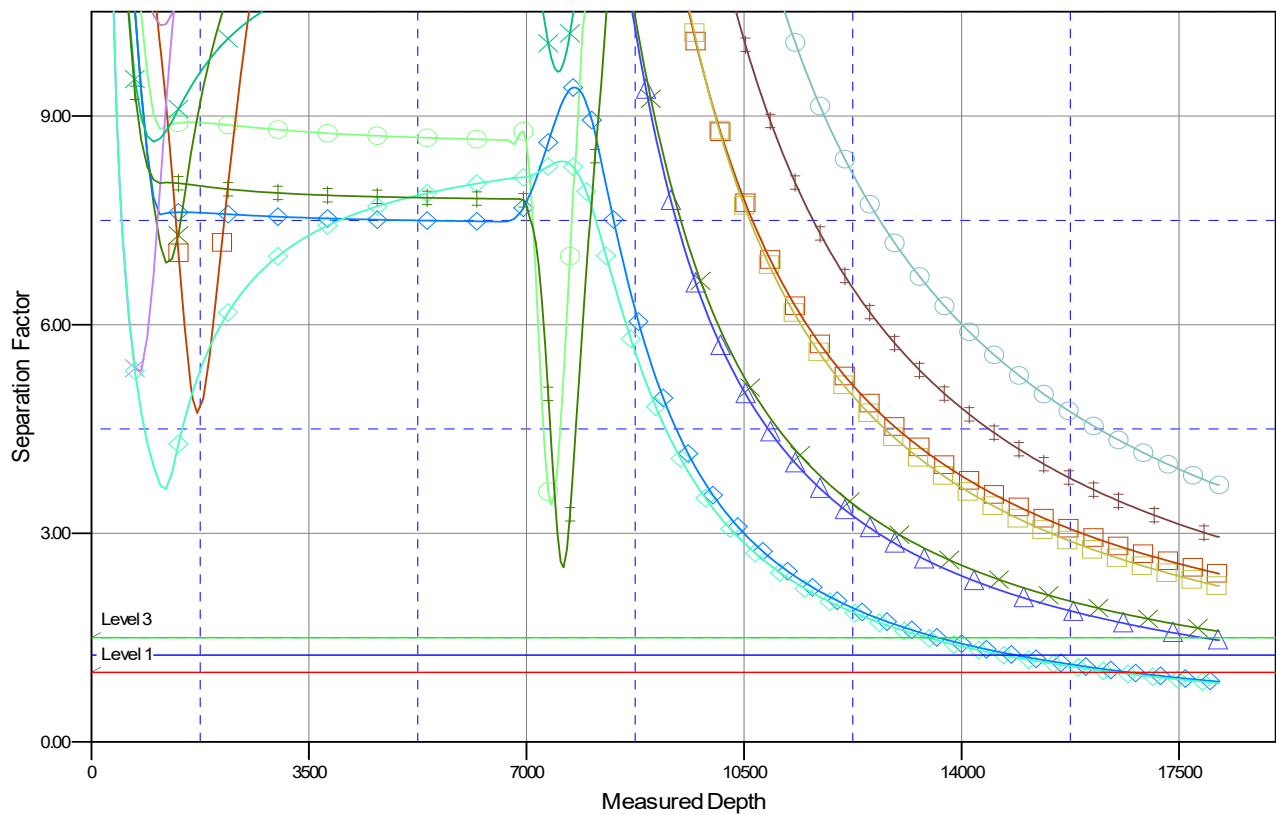


Company:	Hilcorp Energy Corp.	Local Co-ordinate Reference:	Well San Juan 32 7 602 Federal Com 603H - Slot A04
Project:	San Juan, NM NAD27	TVD Reference:	GL 6748' & RKB 17' @ 6765.00ft
Reference Site:	Burnt Mesa Pad	MD Reference:	GL 6748' & RKB 17' @ 6765.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	San Juan 32 7 602 Federal Com 603H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	Grand Junction
Reference Design:	Plan #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to GL 6748' & RKB 17' @ 6765.00ft
 Offset Depths are relative to Offset Datum
 Central Meridian is -107.8333334

Coordinates are relative to: San Juan 32 7 602 Federal Com 603H - Slot A04
 Coordinate System is US State Plane 1927 (Exact solution), New Mexico West 30
 Grid Convergence at Surface is: 0.17°

Separation Factor Plot

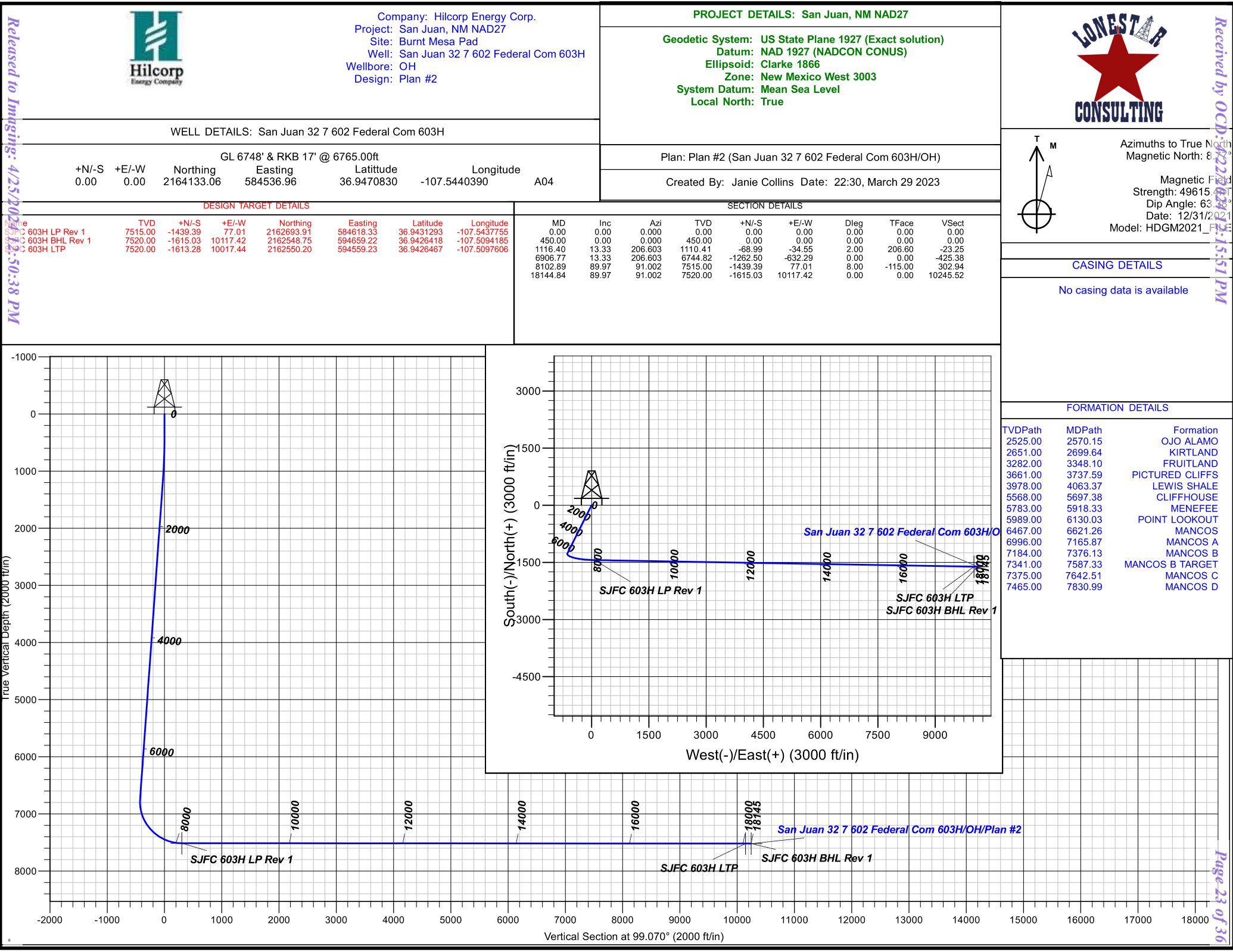


LEGEND


BurntMesaFederalCo m604HCHPlan #2 V0	San Juan 32 7 603 Fe deraCom606HCHPlan #1 V0	San Juan 32 7 602 Fe deraCom601HCHPlan #2 V0
San Juan 32 7 603 Fe deraCom605HCHPlan #1 V0	BurntMesaFederalCo m603HCHPlan #2 V0	San Juan 32 7 603 Fe deraCom615HCHPlan #1 V0
San Juan 32 7 603 Fe deraCom608HCHPlan #1 V0	San Juan 32 7 603 Fe deraCom613HCHPlan #1 V0	San Juan 32 7 603 Fe deraCom609HCHPlan #1 V0
SL32-7204A,OH,OH V0	BurntMesaFederalCo m602HCHPlan #2 V0	BurntMesaFederalCo m601HCHPlan #2 V0
San Juan 32 7 603 Fe deraCom611HCHPlan #1 V0	San Juan 32 7 603 Fe deraCom612HCHPlan #1 V0	BurntMesaFederalCo m605HCHPlan #2 V0
San Juan 32 7 602 Fe deraCom604HCHPlan #2 V0	San Juan 32 7 603 Fe deraCom608HCHPlan #1 V0	San Juan 32 7 603 Fe deraCom614HCHPlan #1 V0
San Juan 32 7 603 Fe deraCom610HCHPlan #1 V0	San Juan 32 7 603 Fe deraCom607HCHPlan #1 V0	
San Juan 32 7 602 Fe deraCom602HCHPlan #2 V0	SL32-7211A,OH,OH V0	

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

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Company: Hilcorp Energy Corp.
Project: San Juan, NM NAD27
Site: Burnt Mesa Pad
Well: San Juan 32 7 602 Federal Com 603H
Wellbore: OH
Design: Plan #2

WELL DETAILS: San Juan 32 7 602 Federal Com 603H


GL 6748' & RKB 17' @ 6765.00ft

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	A04
0.00	0.00	2164133.06	584536.96	36.9470830	-107.5440390	

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	
Plan: Plan #2 (San Juan 32 7 602 Federal Com 603H/OH)	
Created By: Janie Collins Date: 22:30, March 29 2023	



Received by OCB: 4/25/2024 2:15:51 PM



Azimuths to True North
Magnetic North: 8°

Magnetic Field
Strength: 49615.0 nT
Dip Angle: 63.4°
Date: 12/31/2021
Model: HDGM2021_F1

DESIGN TARGET DETAILS							
Time	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SJFC 603H LP Rev 1	7515.00	-1439.39	77.01	2162693.91	584618.33	36.9431293	-107.5437755
SJFC 603H BHL Rev 1	7520.00	-1615.03	10117.42	2162548.75	594659.22	36.9426418	-107.5094185
SJFC 603H LTP	7520.00	-1613.28	10017.44	2162550.20	594559.23	36.9426467	-107.5097606

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	
4500.00	0.00	0.000	450.00	0.00	0.00	0.00	0.00	0.00	
1116.40	13.33	206.603	1110.41	-68.99	-34.55	2.00	206.60	-23.25	
6906.77	13.33	206.603	6744.82	-1262.50	-632.29	0.00	0.00	-425.38	
8102.89	89.97	91.002	7515.00	-1439.39	77.01	8.00	-115.00	302.94	
18144.84	89.97	91.002	7520.00	-1615.03	10117.42	0.00	0.00	10245.52	

CASING DETAILS	
No casing data is available	
FORMATION DETAILS	
TVDPath	MDPath
2525.00	2570.15
2651.00	2699.64
3282.00	3348.10
3661.00	3737.59
3978.00	4063.37
5568.00	5697.38
5783.00	5918.33
5989.00	6130.03
6467.00	6621.26
6996.00	7165.87
7184.00	7376.13
7341.00	7587.33
7375.00	7642.51
7465.00	7830.99

FORMATION DETAILS		
Formation	OJO ALAMO	
KIRTLAND		
FRUITLAND		
PICTURED CLIFFS		
LEWIS SHALE		
CLIFFHOUSE		
MENEFFEE		
POINT LOOKOUT		
MANCOS		
MANCOS A		
MANCOS B		
MANCOS B TARGET		
MANCOS C		
MANCOS D		



Hilcorp Energy Corp.

San Juan, NM NAD27

Burnt Mesa Pad

San Juan 32 7 602 Federal Com 603H - Slot A04

OH

Plan: Plan #2

Standard Planning Report

29 March, 2023





Lonestar Consulting, LLC

Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well San Juan 32 7 602 Federal Com 603H - Slot A04
Company:	Hilcorp Energy Corp.	TVD Reference:	GL 6748' & RKB 17' @ 6765.00ft
Project:	San Juan, NM NAD27	MD Reference:	GL 6748' & RKB 17' @ 6765.00ft
Site:	Burnt Mesa Pad	North Reference:	True
Well:	San Juan 32 7 602 Federal Com 603H	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	Burnt Mesa Pad					
Site Position:		Northing:	2,164,058.07	usft	Latitude:	36.9468770
From:	Lat/Long	Easting:	584,538.07	usft	Longitude:	-107.5440360
Position Uncertainty:	0.00	ft	Slot Radius:	13.20	in	

Well	San Juan 32 7 602 Federal Com 603H - Slot A04					
Well Position	+N/-S	0.00 ft	Northing:	2,164,133.06 usft	Latitude:	36.9470830
	+E/-W	0.00 ft	Easting:	584,536.96 usft	Longitude:	-107.5440390
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,748.00 ft
Grid Convergence:		0.17 °				

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2021_FILE	12/31/2021	8.77	63.38	49,615.40000000

Design	Plan #2			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	99.069

Plan Survey Tool Program	Date	3/21/2023			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	18,144.84 Plan #2 (OH)	MWD+HDGM		
			OWSG MWD + HDGM		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
450.00	0.00	0.000	450.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,116.40	13.33	206.603	1,110.41	-68.99	-34.55	2.00	2.00	0.00	206.60	
6,906.77	13.33	206.603	6,744.83	-1,262.50	-632.29	0.00	0.00	0.00	0.00	
8,102.89	89.97	91.002	7,515.00	-1,439.39	77.01	8.00	6.41	-9.66	-115.00	SJFC 603H LP Rev 1
18,144.84	89.97	91.002	7,520.00	-1,615.03	10,117.42	0.00	0.00	0.00	0.00	SJFC 603H BHL Rev



Lonestar Consulting, LLC

Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well San Juan 32 7 602 Federal Com 603H - Slot A04
Company:	Hilcorp Energy Corp.	TVD Reference:	GL 6748' & RKB 17' @ 6765.00ft
Project:	San Juan, NM NAD27	MD Reference:	GL 6748' & RKB 17' @ 6765.00ft
Site:	Burnt Mesa Pad	North Reference:	True
Well:	San Juan 32 7 602 Federal Com 603H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.000	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.000	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.000	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00
450.00	0.00	0.000	450.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	1.00	206.603	500.00	-0.39	-0.20	-0.13	2.00	2.00	0.00
600.00	3.00	206.603	599.93	-3.51	-1.76	-1.18	2.00	2.00	0.00
700.00	5.00	206.603	699.68	-9.75	-4.88	-3.28	2.00	2.00	0.00
800.00	7.00	206.603	799.13	-19.09	-9.56	-6.43	2.00	2.00	0.00
900.00	9.00	206.603	898.15	-31.54	-15.79	-10.63	2.00	2.00	0.00
1,000.00	11.00	206.603	996.63	-47.06	-23.57	-15.86	2.00	2.00	0.00
1,100.00	13.00	206.603	1,094.44	-65.65	-32.88	-22.12	2.00	2.00	0.00
1,116.40	13.33	206.603	1,110.41	-68.99	-34.55	-23.25	2.00	2.00	0.00
1,200.00	13.33	206.603	1,191.75	-86.22	-43.18	-29.05	0.00	0.00	0.00
1,300.00	13.33	206.603	1,289.06	-106.83	-53.51	-36.00	0.00	0.00	0.00
1,400.00	13.33	206.603	1,386.37	-127.45	-63.83	-42.94	0.00	0.00	0.00
1,500.00	13.33	206.603	1,483.67	-148.06	-74.15	-49.89	0.00	0.00	0.00
1,600.00	13.33	206.603	1,580.98	-168.67	-84.47	-56.83	0.00	0.00	0.00
1,700.00	13.33	206.603	1,678.29	-189.28	-94.80	-63.78	0.00	0.00	0.00
1,800.00	13.33	206.603	1,775.59	-209.89	-105.12	-70.72	0.00	0.00	0.00
1,900.00	13.33	206.603	1,872.90	-230.51	-115.44	-77.67	0.00	0.00	0.00
2,000.00	13.33	206.603	1,970.21	-251.12	-125.77	-84.61	0.00	0.00	0.00
2,100.00	13.33	206.603	2,067.51	-271.73	-136.09	-91.55	0.00	0.00	0.00
2,200.00	13.33	206.603	2,164.82	-292.34	-146.41	-98.50	0.00	0.00	0.00
2,300.00	13.33	206.603	2,262.13	-312.95	-156.74	-105.44	0.00	0.00	0.00
2,400.00	13.33	206.603	2,359.43	-333.57	-167.06	-112.39	0.00	0.00	0.00
2,500.00	13.33	206.603	2,456.74	-354.18	-177.38	-119.33	0.00	0.00	0.00
2,600.00	13.33	206.603	2,554.05	-374.79	-187.70	-126.28	0.00	0.00	0.00
2,700.00	13.33	206.603	2,651.35	-395.40	-198.03	-133.22	0.00	0.00	0.00
2,800.00	13.33	206.603	2,748.66	-416.01	-208.35	-140.17	0.00	0.00	0.00
2,900.00	13.33	206.603	2,845.97	-436.63	-218.67	-147.11	0.00	0.00	0.00
3,000.00	13.33	206.603	2,943.27	-457.24	-229.00	-154.06	0.00	0.00	0.00
3,100.00	13.33	206.603	3,040.58	-477.85	-239.32	-161.00	0.00	0.00	0.00
3,200.00	13.33	206.603	3,137.89	-498.46	-249.64	-167.95	0.00	0.00	0.00
3,300.00	13.33	206.603	3,235.19	-519.07	-259.97	-174.89	0.00	0.00	0.00
3,400.00	13.33	206.603	3,332.50	-539.69	-270.29	-181.84	0.00	0.00	0.00
3,500.00	13.33	206.603	3,429.81	-560.30	-280.61	-188.78	0.00	0.00	0.00
3,600.00	13.33	206.603	3,527.11	-580.91	-290.94	-195.73	0.00	0.00	0.00
3,700.00	13.33	206.603	3,624.42	-601.52	-301.26	-202.67	0.00	0.00	0.00
3,800.00	13.33	206.603	3,721.73	-622.13	-311.58	-209.62	0.00	0.00	0.00
3,900.00	13.33	206.603	3,819.03	-642.74	-321.90	-216.56	0.00	0.00	0.00
4,000.00	13.33	206.603	3,916.34	-663.36	-332.23	-223.51	0.00	0.00	0.00
4,100.00	13.33	206.603	4,013.65	-683.97	-342.55	-230.45	0.00	0.00	0.00
4,200.00	13.33	206.603	4,110.95	-704.58	-352.87	-237.40	0.00	0.00	0.00
4,300.00	13.33	206.603	4,208.26	-725.19	-363.20	-244.34	0.00	0.00	0.00
4,400.00	13.33	206.603	4,305.57	-745.80	-373.52	-251.29	0.00	0.00	0.00
4,500.00	13.33	206.603	4,402.87	-766.42	-383.84	-258.23	0.00	0.00	0.00
4,600.00	13.33	206.603	4,500.18	-787.03	-394.17	-265.18	0.00	0.00	0.00
4,700.00	13.33	206.603	4,597.49	-807.64	-404.49	-272.12	0.00	0.00	0.00
4,800.00	13.33	206.603	4,694.79	-828.25	-414.81	-279.07	0.00	0.00	0.00
4,900.00	13.33	206.603	4,792.10	-848.86	-425.13	-286.01	0.00	0.00	0.00
5,000.00	13.33	206.603	4,889.41	-869.48	-435.46	-292.96	0.00	0.00	0.00



Lonestar Consulting, LLC

Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well San Juan 32 7 602 Federal Com 603H - Slot A04
Company:	Hilcorp Energy Corp.	TVD Reference:	GL 6748' & RKB 17' @ 6765.00ft
Project:	San Juan, NM NAD27	MD Reference:	GL 6748' & RKB 17' @ 6765.00ft
Site:	Burnt Mesa Pad	North Reference:	True
Well:	San Juan 32 7 602 Federal Com 603H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,100.00	13.33	206.603	4,986.71	-890.09	-445.78	-299.90	0.00	0.00	0.00	
5,200.00	13.33	206.603	5,084.02	-910.70	-456.10	-306.85	0.00	0.00	0.00	
5,300.00	13.33	206.603	5,181.33	-931.31	-466.43	-313.79	0.00	0.00	0.00	
5,400.00	13.33	206.603	5,278.63	-951.92	-476.75	-320.74	0.00	0.00	0.00	
5,500.00	13.33	206.603	5,375.94	-972.54	-487.07	-327.68	0.00	0.00	0.00	
5,600.00	13.33	206.603	5,473.25	-993.15	-497.40	-334.62	0.00	0.00	0.00	
5,700.00	13.33	206.603	5,570.55	-1,013.76	-507.72	-341.57	0.00	0.00	0.00	
5,800.00	13.33	206.603	5,667.86	-1,034.37	-518.04	-348.51	0.00	0.00	0.00	
5,900.00	13.33	206.603	5,765.17	-1,054.98	-528.36	-355.46	0.00	0.00	0.00	
6,000.00	13.33	206.603	5,862.47	-1,075.60	-538.69	-362.40	0.00	0.00	0.00	
6,100.00	13.33	206.603	5,959.78	-1,096.21	-549.01	-369.35	0.00	0.00	0.00	
6,200.00	13.33	206.603	6,057.09	-1,116.82	-559.33	-376.29	0.00	0.00	0.00	
6,300.00	13.33	206.603	6,154.39	-1,137.43	-569.66	-383.24	0.00	0.00	0.00	
6,400.00	13.33	206.603	6,251.70	-1,158.04	-579.98	-390.18	0.00	0.00	0.00	
6,500.00	13.33	206.603	6,349.01	-1,178.66	-590.30	-397.13	0.00	0.00	0.00	
6,600.00	13.33	206.603	6,446.31	-1,199.27	-600.63	-404.07	0.00	0.00	0.00	
6,700.00	13.33	206.603	6,543.62	-1,219.88	-610.95	-411.02	0.00	0.00	0.00	
6,800.00	13.33	206.603	6,640.93	-1,240.49	-621.27	-417.96	0.00	0.00	0.00	
6,900.00	13.33	206.603	6,738.23	-1,261.10	-631.60	-424.91	0.00	0.00	0.00	
6,906.77	13.33	206.603	6,744.83	-1,262.50	-632.29	-425.38	0.00	0.00	0.00	
7,000.00	12.18	172.723	6,835.87	-1,281.89	-635.87	-425.85	8.00	-1.23	-36.34	
7,100.00	15.46	141.589	6,933.10	-1,302.83	-626.23	-413.04	8.00	3.27	-31.13	
7,200.00	21.34	124.143	7,028.02	-1,323.52	-602.86	-386.69	8.00	5.89	-17.45	
7,300.00	28.25	114.425	7,118.78	-1,343.55	-566.19	-347.33	8.00	6.91	-9.72	
7,400.00	35.59	108.365	7,203.62	-1,362.54	-516.95	-295.70	8.00	7.34	-6.06	
7,500.00	43.14	104.175	7,280.89	-1,380.11	-456.09	-232.83	8.00	7.55	-4.19	
7,600.00	50.80	101.029	7,349.09	-1,395.92	-384.79	-159.94	8.00	7.66	-3.15	
7,700.00	58.53	98.508	7,406.88	-1,409.66	-304.45	-78.43	8.00	7.73	-2.52	
7,800.00	66.31	96.375	7,453.15	-1,421.07	-216.62	10.09	8.00	7.77	-2.13	
7,900.00	74.11	94.483	7,486.98	-1,429.93	-123.03	103.91	8.00	7.80	-1.89	
8,000.00	81.92	92.733	7,507.73	-1,436.06	-25.48	201.21	8.00	7.82	-1.75	
8,100.00	89.75	91.050	7,514.99	-1,439.34	74.12	300.08	8.00	7.82	-1.68	
8,102.89	89.97	91.002	7,515.00	-1,439.39	77.01	302.94	8.00	7.82	-1.67	
8,200.00	89.97	91.002	7,515.05	-1,441.09	174.11	399.09	0.00	0.00	0.00	
8,300.00	89.97	91.002	7,515.10	-1,442.84	274.09	498.10	0.00	0.00	0.00	
8,400.00	89.97	91.002	7,515.15	-1,444.59	374.08	597.11	0.00	0.00	0.00	
8,500.00	89.97	91.002	7,515.20	-1,446.34	474.06	696.12	0.00	0.00	0.00	
8,600.00	89.97	91.002	7,515.25	-1,448.09	574.05	795.13	0.00	0.00	0.00	
8,700.00	89.97	91.002	7,515.30	-1,449.84	674.03	894.14	0.00	0.00	0.00	
8,800.00	89.97	91.002	7,515.35	-1,451.59	774.01	993.16	0.00	0.00	0.00	
8,900.00	89.97	91.002	7,515.40	-1,453.34	874.00	1,092.17	0.00	0.00	0.00	
9,000.00	89.97	91.002	7,515.45	-1,455.09	973.98	1,191.18	0.00	0.00	0.00	
9,100.00	89.97	91.002	7,515.50	-1,456.83	1,073.97	1,290.19	0.00	0.00	0.00	
9,200.00	89.97	91.002	7,515.55	-1,458.58	1,173.95	1,389.20	0.00	0.00	0.00	
9,300.00	89.97	91.002	7,515.60	-1,460.33	1,273.94	1,488.21	0.00	0.00	0.00	
9,400.00	89.97	91.002	7,515.65	-1,462.08	1,373.92	1,587.22	0.00	0.00	0.00	
9,500.00	89.97	91.002	7,515.70	-1,463.83	1,473.91	1,686.23	0.00	0.00	0.00	
9,600.00	89.97	91.002	7,515.75	-1,465.58	1,573.89	1,785.24	0.00	0.00	0.00	
9,700.00	89.97	91.002	7,515.80	-1,467.33	1,673.88	1,884.25	0.00	0.00	0.00	
9,800.00	89.97	91.002	7,515.85	-1,469.08	1,773.86	1,983.26	0.00	0.00	0.00	
9,900.00	89.97	91.002	7,515.89	-1,470.83	1,873.85	2,082.27	0.00	0.00	0.00	
10,000.00	89.97	91.002	7,515.94	-1,472.58	1,973.83	2,181.28	0.00	0.00	0.00	
10,100.00	89.97	91.002	7,515.99	-1,474.32	2,073.82	2,280.29	0.00	0.00	0.00	



Lonestar Consulting, LLC

Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well San Juan 32 7 602 Federal Com 603H - Slot A04
Company:	Hilcorp Energy Corp.	TVD Reference:	GL 6748' & RKB 17' @ 6765.00ft
Project:	San Juan, NM NAD27	MD Reference:	GL 6748' & RKB 17' @ 6765.00ft
Site:	Burnt Mesa Pad	North Reference:	True
Well:	San Juan 32 7 602 Federal Com 603H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,200.00	89.97	91.002	7,516.04	-1,476.07	2,173.80	2,379.30	0.00	0.00	0.00
10,300.00	89.97	91.002	7,516.09	-1,477.82	2,273.79	2,478.31	0.00	0.00	0.00
10,400.00	89.97	91.002	7,516.14	-1,479.57	2,373.77	2,577.32	0.00	0.00	0.00
10,500.00	89.97	91.002	7,516.19	-1,481.32	2,473.75	2,676.33	0.00	0.00	0.00
10,600.00	89.97	91.002	7,516.24	-1,483.07	2,573.74	2,775.34	0.00	0.00	0.00
10,700.00	89.97	91.002	7,516.29	-1,484.82	2,673.72	2,874.35	0.00	0.00	0.00
10,800.00	89.97	91.002	7,516.34	-1,486.57	2,773.71	2,973.36	0.00	0.00	0.00
10,900.00	89.97	91.002	7,516.39	-1,488.32	2,873.69	3,072.37	0.00	0.00	0.00
11,000.00	89.97	91.002	7,516.44	-1,490.06	2,973.68	3,171.38	0.00	0.00	0.00
11,100.00	89.97	91.002	7,516.49	-1,491.81	3,073.66	3,270.39	0.00	0.00	0.00
11,200.00	89.97	91.002	7,516.54	-1,493.56	3,173.65	3,369.40	0.00	0.00	0.00
11,300.00	89.97	91.002	7,516.59	-1,495.31	3,273.63	3,468.41	0.00	0.00	0.00
11,400.00	89.97	91.002	7,516.64	-1,497.06	3,373.62	3,567.42	0.00	0.00	0.00
11,500.00	89.97	91.002	7,516.69	-1,498.81	3,473.60	3,666.44	0.00	0.00	0.00
11,600.00	89.97	91.002	7,516.74	-1,500.56	3,573.59	3,765.45	0.00	0.00	0.00
11,700.00	89.97	91.002	7,516.79	-1,502.31	3,673.57	3,864.46	0.00	0.00	0.00
11,800.00	89.97	91.002	7,516.84	-1,504.06	3,773.56	3,963.47	0.00	0.00	0.00
11,900.00	89.97	91.002	7,516.89	-1,505.81	3,873.54	4,062.48	0.00	0.00	0.00
12,000.00	89.97	91.002	7,516.94	-1,507.55	3,973.53	4,161.49	0.00	0.00	0.00
12,100.00	89.97	91.002	7,516.99	-1,509.30	4,073.51	4,260.50	0.00	0.00	0.00
12,200.00	89.97	91.002	7,517.04	-1,511.05	4,173.49	4,359.51	0.00	0.00	0.00
12,300.00	89.97	91.002	7,517.09	-1,512.80	4,273.48	4,458.52	0.00	0.00	0.00
12,400.00	89.97	91.002	7,517.14	-1,514.55	4,373.46	4,557.53	0.00	0.00	0.00
12,500.00	89.97	91.002	7,517.19	-1,516.30	4,473.45	4,656.54	0.00	0.00	0.00
12,600.00	89.97	91.002	7,517.24	-1,518.05	4,573.43	4,755.55	0.00	0.00	0.00
12,700.00	89.97	91.002	7,517.29	-1,519.80	4,673.42	4,854.56	0.00	0.00	0.00
12,800.00	89.97	91.002	7,517.34	-1,521.55	4,773.40	4,953.57	0.00	0.00	0.00
12,900.00	89.97	91.002	7,517.39	-1,523.30	4,873.39	5,052.58	0.00	0.00	0.00
13,000.00	89.97	91.002	7,517.44	-1,525.04	4,973.37	5,151.59	0.00	0.00	0.00
13,100.00	89.97	91.002	7,517.49	-1,526.79	5,073.36	5,250.60	0.00	0.00	0.00
13,200.00	89.97	91.002	7,517.54	-1,528.54	5,173.34	5,349.61	0.00	0.00	0.00
13,300.00	89.97	91.002	7,517.59	-1,530.29	5,273.33	5,448.62	0.00	0.00	0.00
13,400.00	89.97	91.002	7,517.64	-1,532.04	5,373.31	5,547.63	0.00	0.00	0.00
13,500.00	89.97	91.002	7,517.69	-1,533.79	5,473.30	5,646.64	0.00	0.00	0.00
13,600.00	89.97	91.002	7,517.74	-1,535.54	5,573.28	5,745.65	0.00	0.00	0.00
13,700.00	89.97	91.002	7,517.79	-1,537.29	5,673.26	5,844.66	0.00	0.00	0.00
13,800.00	89.97	91.002	7,517.84	-1,539.04	5,773.25	5,943.67	0.00	0.00	0.00
13,900.00	89.97	91.002	7,517.89	-1,540.79	5,873.23	6,042.68	0.00	0.00	0.00
14,000.00	89.97	91.002	7,517.94	-1,542.53	5,973.22	6,141.69	0.00	0.00	0.00
14,100.00	89.97	91.002	7,517.99	-1,544.28	6,073.20	6,240.70	0.00	0.00	0.00
14,200.00	89.97	91.002	7,518.04	-1,546.03	6,173.19	6,339.72	0.00	0.00	0.00
14,300.00	89.97	91.002	7,518.09	-1,547.78	6,273.17	6,438.73	0.00	0.00	0.00
14,400.00	89.97	91.002	7,518.14	-1,549.53	6,373.16	6,537.74	0.00	0.00	0.00
14,500.00	89.97	91.002	7,518.19	-1,551.28	6,473.14	6,636.75	0.00	0.00	0.00
14,600.00	89.97	91.002	7,518.24	-1,553.03	6,573.13	6,735.76	0.00	0.00	0.00
14,700.00	89.97	91.002	7,518.28	-1,554.78	6,673.11	6,834.77	0.00	0.00	0.00
14,800.00	89.97	91.002	7,518.33	-1,556.53	6,773.10	6,933.78	0.00	0.00	0.00
14,900.00	89.97	91.002	7,518.38	-1,558.28	6,873.08	7,032.79	0.00	0.00	0.00
15,000.00	89.97	91.002	7,518.43	-1,560.02	6,973.07	7,131.80	0.00	0.00	0.00
15,100.00	89.97	91.002	7,518.48	-1,561.77	7,073.05	7,230.81	0.00	0.00	0.00
15,200.00	89.97	91.002	7,518.53	-1,563.52	7,173.04	7,329.82	0.00	0.00	0.00
15,300.00	89.97	91.002	7,518.58	-1,565.27	7,273.02	7,428.83	0.00	0.00	0.00
15,400.00	89.97	91.002	7,518.63	-1,567.02	7,373.00	7,527.84	0.00	0.00	0.00



Lonestar Consulting, LLC

Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well San Juan 32 7 602 Federal Com 603H - Slot A04
Company:	Hilcorp Energy Corp.	TVD Reference:	GL 6748' & RKB 17' @ 6765.00ft
Project:	San Juan, NM NAD27	MD Reference:	GL 6748' & RKB 17' @ 6765.00ft
Site:	Burnt Mesa Pad	North Reference:	True
Well:	San Juan 32 7 602 Federal Com 603H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
15,500.00	89.97	91.002	7,518.68	-1,568.77	7,472.99	7,626.85	0.00	0.00	0.00	
15,600.00	89.97	91.002	7,518.73	-1,570.52	7,572.97	7,725.86	0.00	0.00	0.00	
15,700.00	89.97	91.002	7,518.78	-1,572.27	7,672.96	7,824.87	0.00	0.00	0.00	
15,800.00	89.97	91.002	7,518.83	-1,574.02	7,772.94	7,923.88	0.00	0.00	0.00	
15,900.00	89.97	91.002	7,518.88	-1,575.77	7,872.93	8,022.89	0.00	0.00	0.00	
16,000.00	89.97	91.002	7,518.93	-1,577.51	7,972.91	8,121.90	0.00	0.00	0.00	
16,100.00	89.97	91.002	7,518.98	-1,579.26	8,072.90	8,220.91	0.00	0.00	0.00	
16,200.00	89.97	91.002	7,519.03	-1,581.01	8,172.88	8,319.92	0.00	0.00	0.00	
16,300.00	89.97	91.002	7,519.08	-1,582.76	8,272.87	8,418.93	0.00	0.00	0.00	
16,400.00	89.97	91.002	7,519.13	-1,584.51	8,372.85	8,517.94	0.00	0.00	0.00	
16,500.00	89.97	91.002	7,519.18	-1,586.26	8,472.84	8,616.95	0.00	0.00	0.00	
16,600.00	89.97	91.002	7,519.23	-1,588.01	8,572.82	8,715.96	0.00	0.00	0.00	
16,700.00	89.97	91.002	7,519.28	-1,589.76	8,672.81	8,814.97	0.00	0.00	0.00	
16,800.00	89.97	91.002	7,519.33	-1,591.51	8,772.79	8,913.98	0.00	0.00	0.00	
16,900.00	89.97	91.002	7,519.38	-1,593.26	8,872.78	9,013.00	0.00	0.00	0.00	
17,000.00	89.97	91.002	7,519.43	-1,595.00	8,972.76	9,112.01	0.00	0.00	0.00	
17,100.00	89.97	91.002	7,519.48	-1,596.75	9,072.74	9,211.02	0.00	0.00	0.00	
17,200.00	89.97	91.002	7,519.53	-1,598.50	9,172.73	9,310.03	0.00	0.00	0.00	
17,300.00	89.97	91.002	7,519.58	-1,600.25	9,272.71	9,409.04	0.00	0.00	0.00	
17,400.00	89.97	91.002	7,519.63	-1,602.00	9,372.70	9,508.05	0.00	0.00	0.00	
17,500.00	89.97	91.002	7,519.68	-1,603.75	9,472.68	9,607.06	0.00	0.00	0.00	
17,600.00	89.97	91.002	7,519.73	-1,605.50	9,572.67	9,706.07	0.00	0.00	0.00	
17,700.00	89.97	91.002	7,519.78	-1,607.25	9,672.65	9,805.08	0.00	0.00	0.00	
17,800.00	89.97	91.002	7,519.83	-1,609.00	9,772.64	9,904.09	0.00	0.00	0.00	
17,900.00	89.97	91.002	7,519.88	-1,610.74	9,872.62	10,003.10	0.00	0.00	0.00	
18,000.00	89.97	91.002	7,519.93	-1,612.49	9,972.61	10,102.11	0.00	0.00	0.00	
18,100.00	89.97	91.002	7,519.98	-1,614.24	10,072.59	10,201.12	0.00	0.00	0.00	
18,144.84	89.97	91.002	7,520.00	-1,615.03	10,117.42	10,245.52	0.00	0.00	0.00	

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
SJFC 603H LP Rev 1 - hit/miss target - Shape - Point	0.00	0.000	7,515.00	-1,439.39	77.01	2,162,693.91	584,618.34	36.9431292	-107.5437755	
SJFC 603H BHL Rev 1 - plan hits target center - Point	0.00	0.000	7,520.00	-1,615.03	10,117.42	2,162,548.75	594,659.22	36.9426418	-107.5094185	
SJFC 603H LTP - plan misses target center by 0.05ft at 18044.84ft MD (7519.95 TVD, -1613.28 N, 10017.44 E) - Point	0.00	0.000	7,520.00	-1,613.28	10,017.44	2,162,550.20	594,559.23	36.9426467	-107.5097606	



Lonestar Consulting, LLC Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well San Juan 32 7 602 Federal Com 603H - Slot A04
Company:	Hilcorp Energy Corp.	TVD Reference:	GL 6748' & RKB 17' @ 6765.00ft
Project:	San Juan, NM NAD27	MD Reference:	GL 6748' & RKB 17' @ 6765.00ft
Site:	Burnt Mesa Pad	North Reference:	True
Well:	San Juan 32 7 602 Federal Com 603H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
2,570.15	2,525.00	OJO ALAMO		0.00	0.000	
2,699.64	2,651.00	KIRTLAND		0.00	0.000	
3,348.10	3,282.00	FRUITLAND		0.00	0.000	
3,737.59	3,661.00	PICTURED CLIFFS		0.00	0.000	
4,063.37	3,978.00	LEWIS SHALE		0.00	0.000	
5,697.38	5,568.00	CLIFFHOUSE		0.00	0.000	
5,918.33	5,783.00	MENEFEE		0.00	0.000	
6,130.03	5,989.00	POINT LOOKOUT		0.00	0.000	
6,621.26	6,467.00	MANCOS		0.00	0.000	
7,165.87	6,996.00	MANCOS A		0.00	0.000	
7,376.13	7,184.00	MANCOS B		0.00	0.000	
7,587.33	7,341.00	MANCOS B TARGET		0.00	0.000	
7,642.51	7,375.00	MANCOS C		0.00	0.000	
7,830.99	7,465.00	MANCOS D		0.00	0.000	

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.



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**
#603H SAN JUAN 32 7 602 Federal Com
Lease: NMNM2995 Agreement: TBD
SH: SW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 26, T.32 N., R.7 W.
San Juan County, New Mexico
BH: NE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 36, T.32 N., R.7 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 all casing strings below the conductor 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. If pressure declines more than 10 percent in 30 minutes, corrective action shall be taken.
- D. ☒ 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.
- E. ☐ 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 and regulations, 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 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. BOP equipment (except the annular preventer) shall be tested utilizing a test plug to full working pressure for 10 minutes. No bleed-off of pressure is acceptable.
- G. The operator shall have sufficient weighting materials and lost circulation materials on location in the event of a pressure kick or in the event of lost circulation.
- H. The flare line(s) discharge shall be located not less than 100 feet from the well head, having straight lines unless turns are targeted with running tees, and shall be positioned downwind of the prevailing wind direction and shall be anchored. The flare system shall have an effective method for ignition. Where noncombustible gas is likely or expected to be vented, the system shall be provided supplemental fuel for ignition and to maintain a continuous flare.
- I. 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 sundry within three business days. **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 Virgil Lucero at 505-793-1836.**
- J. **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.**

- K. Unless drilling operations are commenced within two years, approval of the Application for Permit to Drill will expire. A written request for a two-year extension may be granted if submitted prior to expiration.
- L. 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 times, unless the well is secured with blowout preventers or cement plugs.
- M. 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.
- N. **Commingling:** No production (oil, gas, and water) from the subject well should start until Sundry Notices (if necessary) granting variances from applicable regulations as related to commingling and off-lease measurement are approved by this office.

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. Provide 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 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 way 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 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.
- C. Production Startup Notification is required no later than the 5th business day after any well begins production on which royalty is due anywhere on a lease site or allocated to a lease site or resumes production in the case of a well which has been off production for more than 90 days. The operator shall notify the Authorized Officer by letter or Sundry Notice, Form 3160-5, or orally to be followed

by a letter or Sundry Notice, of the date on which such production has begun or resumed. CFR 43 3162.4-1(c).

III. DRILLER'S LOG

The following shall be entered in the daily driller's log: 1) Blowout preventer pressure 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 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.

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 336043

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 336043
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Notify OCD 24 hours prior to casing & cement	4/25/2024
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104	4/25/2024
ward.rikala	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	4/25/2024
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing	4/25/2024
ward.rikala	If cement does not circulate on any string, a CBL is required for that string of casing	4/25/2024
ward.rikala	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	4/25/2024