

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

Form C-101
August 1, 2011
Permit 358927

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002		2. OGRID Number 372171
		3. API Number 30-045-38338
4. Property Code 318434	5. Property Name SAN JUAN 32 7 UNIT	6. Well No. 202H

7. Surface Location

UL - Lot G	Section 18	Township 32N	Range 07W	Lot Idn	Feet From 2320	N/S Line N	Feet From 1859	E/W Line E	County San Juan
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8. Proposed Bottom Hole Location

UL - Lot J	Section 7	Township 32N	Range 07W	Lot Idn J	Feet From 2578	N/S Line S	Feet From 2849	E/W Line E	County San Juan
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9. Pool Information

BASIN FRUITLAND COAL (GAS)	71629
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Additional Well Information

11. Work Type New Well	12. Well Type GAS	13. Cable/Rotary	14. Lease Type Private	15. Ground Level Elevation 6181
16. Multiple N	17. Proposed Depth 8299	18. Formation Fruitland Coal	19. Contractor	20. Spud Date 7/1/2024
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

We will be using a closed-loop system in lieu of lined pits

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	12.25	9.625	32.3	300	151	0
Int1	8.75	7	23	2934	382	0
Prod	6.25	4.5	11.6	8299	0	0
Prod	6.25	4.5	11.6	7864	0	0

Casing/Cement Program: Additional Comments

Setting depths are in MD. TVD is listed in the attached technical plan.

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Double Ram	3000	5000	Schaffer

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify I have complied with 19.15.14.9 (A) NMAC <input checked="" type="checkbox"/> and/or 19.15.14.9 (B) NMAC <input checked="" type="checkbox"/> if applicable. Signature:	OIL CONSERVATION DIVISION
Printed Name: Electronically filed by Jodi L Curtis	Approved By: Ward Rikala
Title:	Title:
Email Address: jcurtis@hilcorp.com	Approved Date: 2/28/2024
Date: 2/5/2024	Expiration Date: 2/28/2026
Phone: 713-289-2741	Conditions of Approval Attached

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District IV 1220 S. St. Francis Drive, Santa Fe, NM 87505 Phone: (505) 476-3460 Fax: (505) 476-3462

Submit one copy to Appropriate District Office

OIL CONSERVATION DIVISION 1220 South St. Francis Drive Santa Fe, NM 87505

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

Table with 3 columns: API Number, Pool Code, Pool Name, Property Code, Property Name, Well Number, GRID No., Operator Name, Elevation.

10 Surface Location

Table with 10 columns: UL or lot no., Section, Township, Range, Lot Idn, Feet from the, North/South line, Feet from the, East/West line, County.

11 Bottom Hole Location If Different From Surface

Table with 10 columns: UL or lot no., Section, Township, Range, Lot Idn, Feet from the, North/South line, Feet from the, East/West line, County.

Table with 5 columns: Dedicated Acres, SE/4 - Section 7, NE/4 - Section 18, Joint or Infill, Consolidation Code, 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

END-OF-LATERAL (C) 2653' FSL 62' FEL SEC 7, T32N, R7W LAT: 36.994785°N LONG: -107.598714°W DATUM: NAD1927

LAT: 36.994789°N LONG: -107.599325°W DATUM: NAD1983

N37°56.9'E 3363.4'

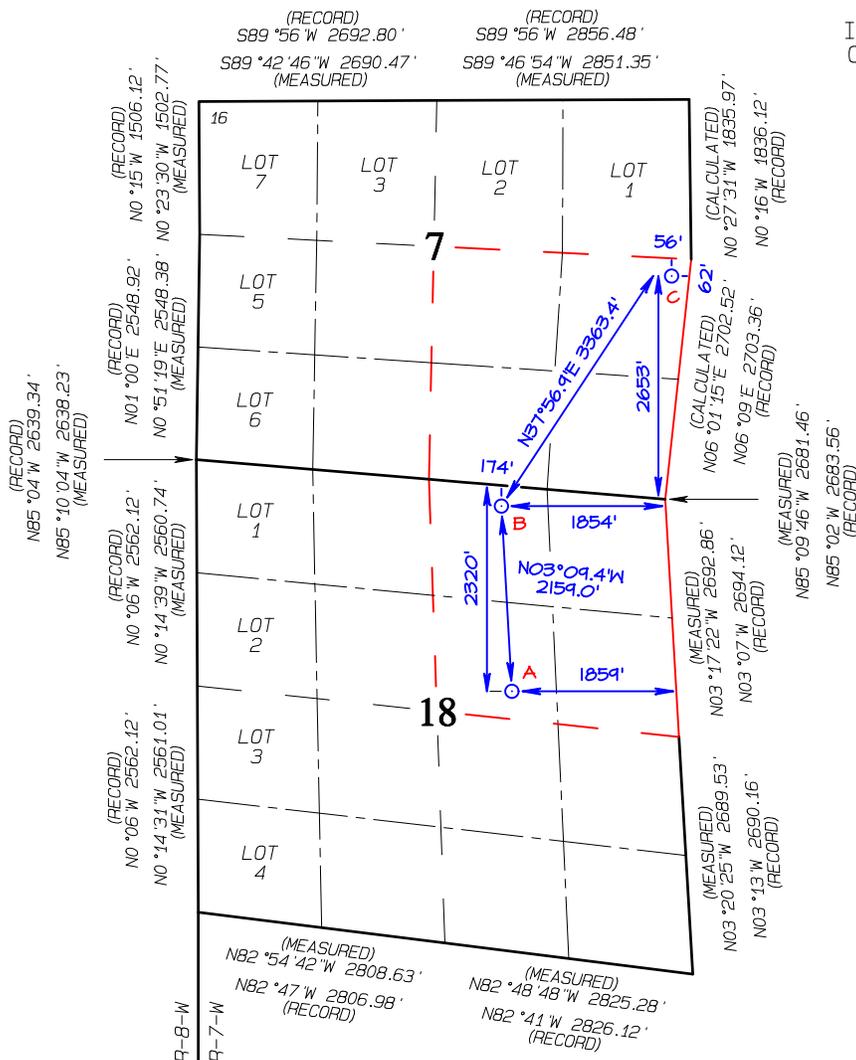
FIRST TAKE POINT (B) 174' FNL 1854' FEL SEC 18, T32N, R7W LAT: 36.987514°N LONG: -107.605818°W DATUM: NAD1927

LAT: 36.987518°N LONG: -107.606429°W DATUM: NAD1983

N03°09.4'W 2159.0'

SURFACE LOCATION (A) 2320' FNL 1859' FEL SEC 18, T32N, R7W LAT: 36.981592°N LONG: -107.605429°W DATUM: NAD1927

LAT: 36.981596°N LONG: -107.606040°W DATUM: NAD1983



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief...

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...

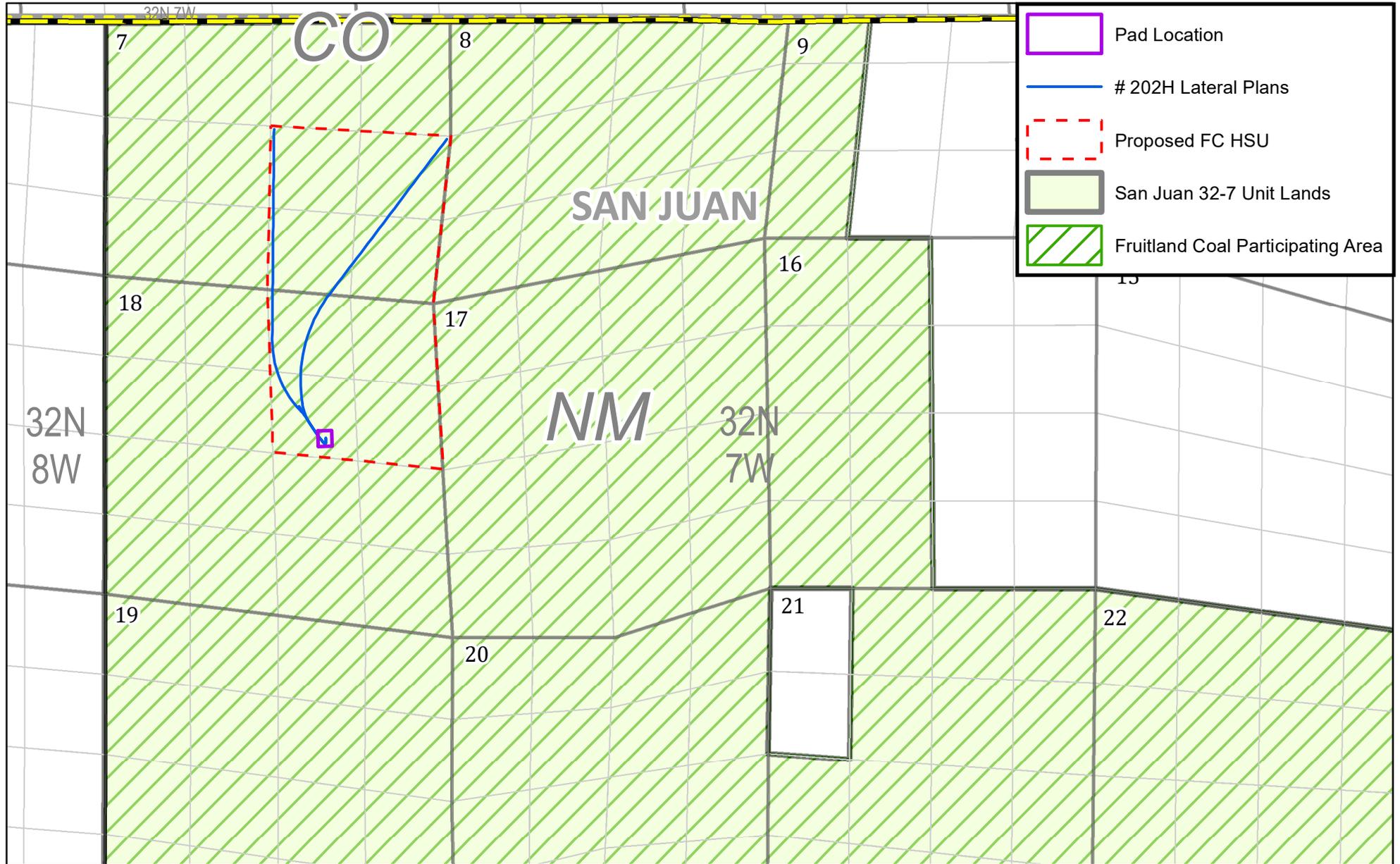
Date Revised: JANUARY 25, 2024 Survey Date: SEPTEMBER 7, 2018

Signature and Seal of Professional Surveyor



JASON C. EDWARDS Certificate Number 15269

San Juan 32 7 Unit #202H (Laterals 1 & 2) Visual Support for Lack of Setbacks: Fruitland Coal HSU vs. Existing Participating Area



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Form APD Conditions

Permit 358927

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: HILCORP ENERGY COMPANY [372171] 1111 Travis Street Houston, TX 77002	API Number: 30-045-38338
	Well: SAN JUAN 32 7 UNIT #202H

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

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:** 2/5/2024

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

If Other, please describe: _____

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

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
SJ 32-7 Unit 202H	3004535898	G, 18,32N,07W	2320' FNL & 1859' FEL	0	150	60

IV. Central Delivery Point Name: Ignacio 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
<u>SJ 32-7 Unit 202H</u>	<u>30-045-35898</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: 2/5/2024
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.



Hilcorp Energy Company

San Juan County, NM

San Juan 32-7 Unit 202H

Technical Drilling Plan (Rev. 0)

Hilcorp Energy Company proposes to drill and complete the referenced dual lateral horizontal well targeting a coal seam in the Fruitland formation.

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

1. Location

Date:	February 5, 2024	Pool:	Fruitland Coal
Well Name:	San Juan 32-7 Unit #202H	Ground Elevation	6,181'
Surface Hole Location:	36.9815920° N, -107.6054291° W	County, State:	San Juan County, NM
Lateral #1 Depth (ft.)	7,864' MD / 2,841' TVD	Lat 1 BHL:	36.9952418° N, -107.6082404° W
Lateral #2 Depth (ft.)	8,299' MD / 2,846' TVD	Lat 2 BHL:	36.9947850° N, -107.5987142° W

Note: All depths in the directional drilling plan are referenced from an estimated RKB datum of 15' above ground level.

2. Geological Markers

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

Formation	Depth (ft. TVD)	Remarks
Ojo Alamo	1,693'	Water (fresh/useable)
Kirtland	1,881'	None
Fruitland	2,619'	Gas, Coal, Water
Pictured Cliffs	3,044'	None

3. Pressure Control Equipment

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

- 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 2M standards.
- All equipment will have a minimum of 3M pressure rating and will be rated for 5,000' (TVD).
- A rotating head will be installed on top of the annular as seen in the attached diagram.

San Juan County, NM

San Juan 32-7 Unit 202H



4. Casing & Cement Program

A. Proposed Casing Program:

Proposed Casing Design					
Casing String	Hole Size	Casing Size	Weight/Grade	Top Depth (MD/TVD)	Shoe Depth (MD/TVD)
Surface	12-1/4"	9-5/8"	32.3# H40 (or equiv.) STC	0'	300' / 300'
Intermediate	8-3/4"	7"	23# J55 (or equiv.) LTC	0'	3,273' / 2,916'
Intermediate Shoe Joint	8-3/4"	5-1/2" shoe joint	5-1/2" = 15.5#, J-55, LTC	3,273' / 2,916'	3,315' / 2,934'
Lateral #1 Production Liner (pre-perforated)	6-1/4"	4-1/2"	11.6# J55 (or equiv.) LTC	3,020' / 2,809'	7,864' / 2,841'
Lateral #2 Production Liner (pre-perforated)	6-1/4"	4-1/2"	11.6# J55 (or equiv.) LTC	2,978' / 2,791'	8,299' / 2,846'
Proposed Casing Design Safety Factors					
Casing String	Casing Description	Burst Design SF	Collapse Design SF	Joint Tensile Design SF	Connection Tensile Design SF
Surface	9-5/8" 32.3# H40 STC	16.2	12.4	37.7	26.2
Intermediate	7" 23# J55 LTC	2.5	2.2	4.8	4.1
Intermediate Shoe Jt	5-1/2" 15.5# J-55 LTC	2.7	2.7	4.3	3.8
Lateral #1 Production Liner (pre-perforated)	4-1/2" 11.6# J55 LTC	N/A	N/A	2.9	2.3
Lateral #2 Production Liner (pre-perforated)	4-1/2" 11.6# J55 LTC	N/A	N/A	2.8	2.2

Notes:

- The production hole sections will be kicked off out of the 7" casing using whipstocks. Actual window depths will be determined after drilling pilot hole section.
- The production liners will be pre-perforated and dropped off in the open hole (uncemented). The top of the production liner will be approximately 5'-10' outside of the casing exit (no overlap between liner and 7" casing).
- If the 6-1/4" hole is not drilled to the total planned measured depth, the production liner setting depth and length will be adjusted accordingly.
- The 7" casing will be set across the setback boundary line and with the casing shoe within the drill block.
- The 7" casing will have a 5-1/2" shoe joint to help get casing to planned depth. The shoe track will not be drilled out.

San Juan County, NM

San Juan 32-7 Unit 202H



B. Proposed Centralizer Program:

Proposed Centralizer Program	
Interval	Centralizers & Placement
Surface	1 centralizer per joint on bottom 3 joints.
Intermediate	1 centralizer 10' above the shoe with lock collar. 1 centralizer every other joint on bottom 10 joints. 1 centralizer every 4 th joint to Ojo Alamo base. 1 Turbolizer at base of Ojo Alamo. 1 centralizer every joint to Ojo Alamo top. 1 Turbolizer placed midway through Ojo Alamo. 1 centralizer every 4 th joint from top of Ojo Alamo to surface shoe. 1 centralizer inside the surface casing.
Production	N/A

C. Proposed Cement Program:

Proposed Cement Design							
Interval	Depth (ft. MD)	Lead/Tail	Volume (ft ³)	Sacks	Slurry	Density	Planned TOC
Surface	300'	Lead	188 ft ³	151	Type III Cement 0.25% FL-52, 0.25 pps celloflake 1.25 ft ³ /sk – 5.75 gal/sk	15.2 ppg	Surface
Intermediate	3,315'	Lead	633 ft ³	297	Premium Lite 3% CaCl, 0.25 pps celloflake, 5 ppm LCM-1, 0.4% FL-52, 8% bentonite, 0.4% SMS 2.13 ft ³ /sk – 11.29 gal/sk	12.1 ppg	Surface
		Tail	144 ft ³	85	Type III Cement 1% CaCl, 0.25 pps celloflake, 0.2% FL-52 1.38ft ³ /sk – 6.64 gal/sk	14.6 ppg	2,715'
Production Lateral #1	7,864'	N/A	N/A	N/A	N/A – Uncemented pre-perforated liner.	N/A	N/A
Production Lateral #2	8,299'	N/A	N/A	N/A	N/A – Uncemented pre-perforated liner.	N/A	N/A

Notes:

- The cement slurry additives may be adjusted to accommodate required pump and compressive test times.
- For the intermediate hole section, a 2-stage cement job may be performed if hole conditions dictate. If needed, the stage tool will be placed at an approximate depth near the top of the Fruitland Coal (2,619' TVD)
- 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).

San Juan County, NM

San Juan 32-7 Unit 202H



5. Drilling Fluids Program

A. Proposed Drilling Fluids Program:

Interval	Fluid Type	Density (ppg)	Fluid Loss (mL/30 min)	Max Chlorides (mg/L)	Depth (ft. MD)
Surface	Water/Gel	8.3 – 9.2	NC	1,000	0' – 300'
Intermediate	LSND / Gel System	8.4 – 9.5	6-16	1,000	300' – 3,315'
Production Lateral #1	LSND Brine (if needed)	8.5 – 10.5	4-14	1,000 60,000 (if NaCl added for density)	3,020' – 7,864'
Production Lateral #2	LSND Brine (if needed)	8.5 – 10.5	4-14	1,000 60,000 (if NaCl added for density)	2,978' – 8,299'

Notes:

- In the 6-1/4" production section, NaCl brine will only be utilized if a weighting agent is needed to increase mud weight (for either well control or wellbore stability).
- Lost circulation material may be added to the mud systems to manage fluid losses as hole conditions dictate.
- The well will be drilled utilizing a closed-loop circulating system. Drill cuttings will be transported to an approved disposal site.
- Estimated total volume of drill cuttings for disposal: 653 bbls (3,667 ft³).

6. Estimated Pressures & Drilling Hazards

A. Estimated Pressures

- Estimated Reservoir Pressure of Fruitland Coal: 600 – 900 psi
- Maximum Anticipated Surface Pressure: 700 psi
- No over-pressured intervals expected.
- There is production from the Fruitland Coal formation in offset wells in the area, which could result in these formations being under-pressured.

B. Water Flows

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

C. Lost Circulation

- Lost circulation is possible in the coal section. Losses will be mitigated by adding LCM to the mud system.



San Juan County, NM

San Juan 32-7 Unit 202H

D. Hydrogen Sulfide

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

7. Testing, Logging, Coring

A. Mud Logging

- Mud loggers will collect formation samples every 30' from the surface casing shoe to both the TD of the pilot hole and TD of the production laterals.

B. MWD

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

C. LWD

- Logging while drilling tools (gamma ray) will be utilized in the intermediate section from the surface casing shoe to the pilot hole section TD.
- Logging while drilling tools (gamma ray) will be utilized while drilling the production laterals from the intermediate casing kick-offs to the production laterals' TD to assist in staying in the desired coal seam while drilling the lateral sections.

D. Open Hole Logging

- There are no planned open hole logs post drilling.

E. Coring

- There is no coring or formation testing planned.

F. Cased Hole Logging

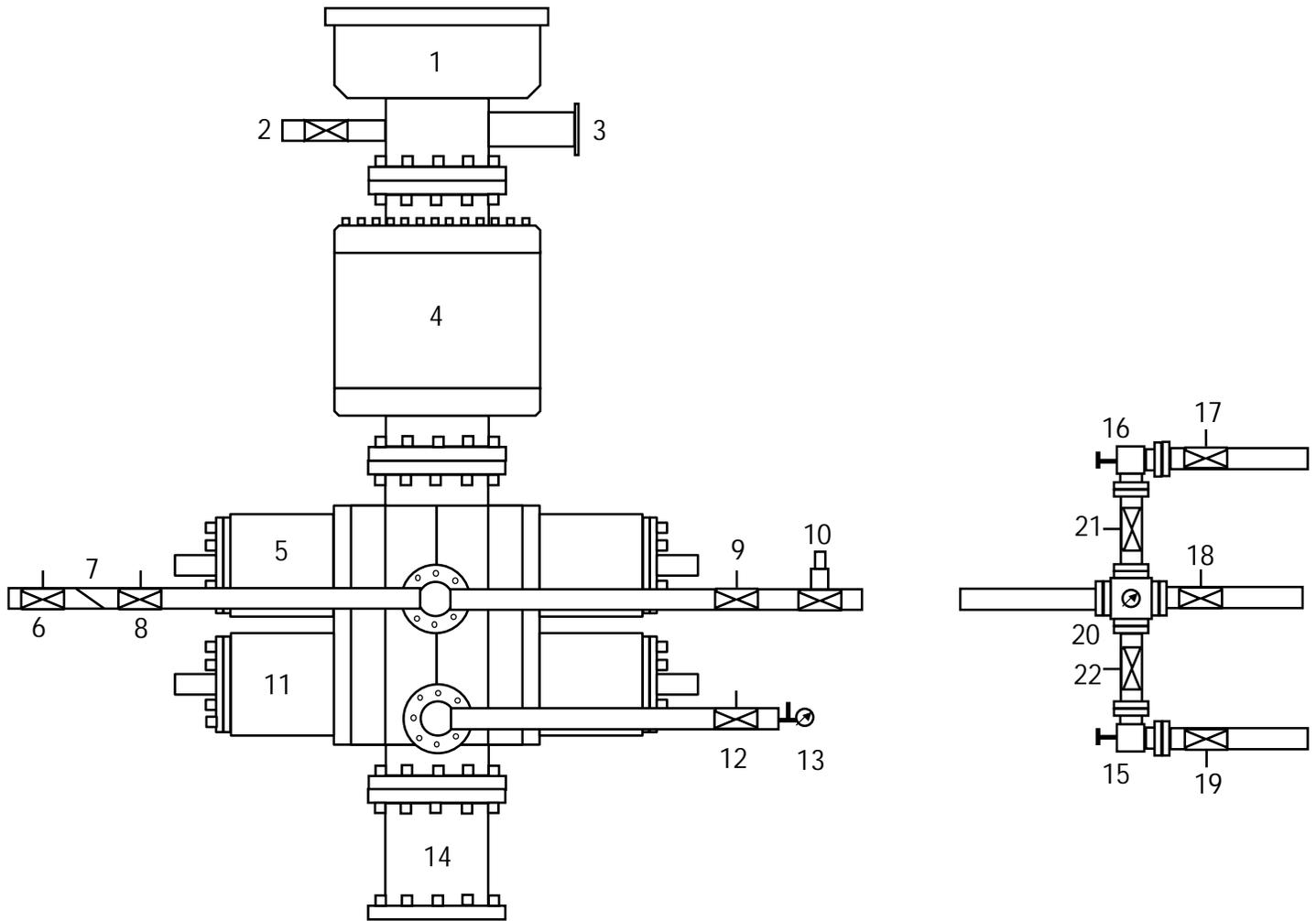
- The 7" intermediate casing will be cemented to surface to protect water bearing zones. If cement is not circulated to surface on the intermediate cement job, a temperature survey or a cement bod log will be run to verify top of cement.

8. Directional Drilling Plan

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

Appendix A

Pressure Control Equipment Configuration



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



Company: Hilcorp Energy Corp.
 Project: San Juan, NM NAD27
 Site: San Juan 32-7
 Well: San Juan 32-7 Unit 202H
 Wellbore: Pilot
 Design: Plan #1



Well Details: San Juan 32-7 Unit 202H

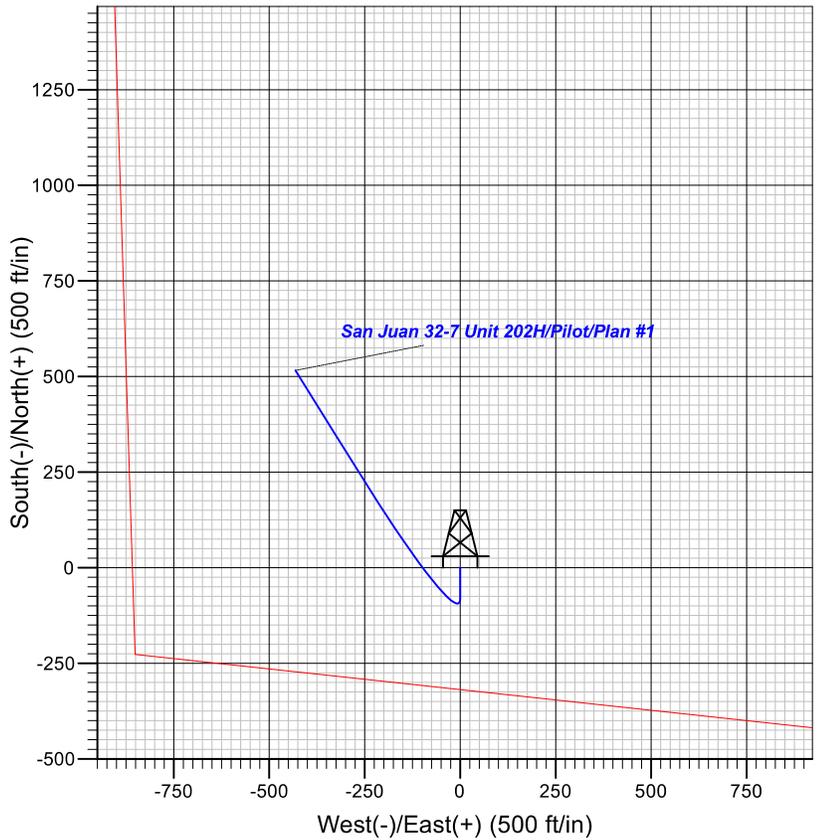
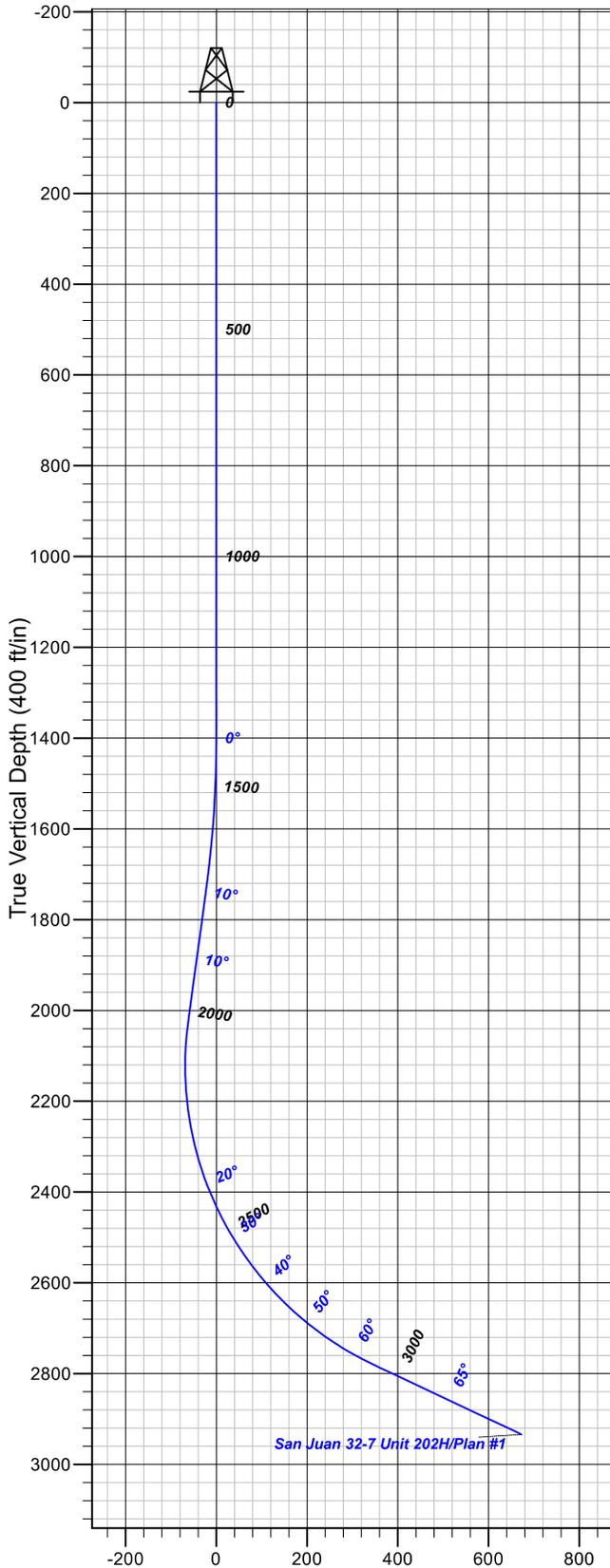
GL 6181' & RKB 17' @ 6198.00ft (Drake 3)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	2176647.70	566567.60	36.9815920	-107.6054291	



Azimuths to True North
 Magnetic North: 8.65°

Magnetic Field
 Strength: 49367.6nT
 Dip Angle: 63.32°
 Date: 1/5/2024
 Model: HDGM2024



FORMATION TOP DETAILS

TVDPPath	MDPath	Formation
1693.00	1694.16	Ojo Alamo
1881.00	1884.99	Kirtland
2619.00	2676.11	Fruitland Coal
2849.00	3114.32	Top Big Blue
2864.00	3149.81	Base Big Blue

Plan: Plan #1

16:02, January 08 2024
 Created By: Janie Collins

PROJECT DETAILS: San Juan, NM NAD27

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

System Datum: Mean Sea Level

CASING DETAILS

No casing data is available

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
1400.00	0.00	0.000	1400.00	0.00	0.00	0.00	0.00	0.00
1733.33	10.00	180.000	1731.64	-29.02	0.00	3.00	180.00	-22.26
2033.33	10.00	180.000	2027.09	-81.11	0.00	0.00	0.00	-62.24
2953.04	65.00	328.000	2780.84	237.52	-257.21	8.00	149.95	347.19
3315.44	65.00	328.000	2934.00	516.05	-431.26	0.00	0.00	672.53

DESIGN TARGET DETAILS

No target data is available.

Vertical Section at 320.115° (400 ft/in)



Hilcorp Energy Corp.

San Juan, NM NAD27
San Juan 32-7
San Juan 32-7 Unit 202H

Pilot

Plan: Plan #1

Standard Planning Report

08 January, 2024





Lonestar Consulting, LLC
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well San Juan 32-7 Unit 202H
Company:	Hilcorp Energy Corp.	TVD Reference:	GL 6181' & RKB 17' @ 6198.00ft (Drake 3)
Project:	San Juan, NM NAD27	MD Reference:	GL 6181' & RKB 17' @ 6198.00ft (Drake 3)
Site:	San Juan 32-7	North Reference:	True
Well:	San Juan 32-7 Unit 202H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Pilot		
Design:	Plan #1		

Project	San Juan, NM NAD27		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico West 3003		

Site	San Juan 32-7				
Site Position:		Northing:	2,182,139.31 usft	Latitude:	36.9966820
From:	Map	Easting:	565,685.99 usft	Longitude:	-107.6084030
Position Uncertainty:	0.00 ft	Slot Radius:	13.20 in		

Well	San Juan 32-7 Unit 202H					
Well Position	+N/-S	0.00 ft	Northing:	2,176,647.70 usft	Latitude:	36.9815920
	+E/-W	0.00 ft	Easting:	566,567.60 usft	Longitude:	-107.6054291
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,181.00 ft
Grid Convergence:		0.14 °				

Wellbore	Pilot				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	HDGM2024	1/5/2024	8.65	63.32	49,367.60000000

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	320.115

Plan Survey Tool Program	Date	1/8/2024		
Depth From	Depth To	Survey (Wellbore)	Tool Name	Remarks
(ft)	(ft)			
1	0.00	3,315.21 Plan #1 (Pilot)	MWD+HDGM	
			OWSG MWD + HDGM	

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(ft)	(ft)	Rate	Rate	Rate	(°)	
(ft)			(ft)			(°/100usft)	(°/100usft)	(°/100usft)		
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,400.00	0.00	0.000	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,733.33	10.00	180.000	1,731.64	-29.02	0.00	3.00	3.00	0.00	180.00	
2,033.33	10.00	180.000	2,027.09	-81.11	0.00	0.00	0.00	0.00	0.00	
2,953.04	65.00	328.000	2,780.84	237.52	-257.21	8.00	5.98	16.09	149.95	
3,315.44	65.00	328.000	2,934.00	516.05	-431.26	0.00	0.00	0.00	0.00	



Lonestar Consulting, LLC
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well San Juan 32-7 Unit 202H
Company:	Hilcorp Energy Corp.	TVD Reference:	GL 6181' & RKB 17' @ 6198.00ft (Drake 3)
Project:	San Juan, NM NAD27	MD Reference:	GL 6181' & RKB 17' @ 6198.00ft (Drake 3)
Site:	San Juan 32-7	North Reference:	True
Well:	San Juan 32-7 Unit 202H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Pilot		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.000	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.000	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.000	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.000	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.000	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.000	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.000	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.000	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.000	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.000	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.000	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.000	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.000	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.000	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	3.00	180.000	1,499.95	-2.62	0.00	-2.01	3.00	3.00	0.00
1,600.00	6.00	180.000	1,599.63	-10.46	0.00	-8.03	3.00	3.00	0.00
1,700.00	9.00	180.000	1,698.77	-23.51	0.00	-18.04	3.00	3.00	0.00
1,733.33	10.00	180.000	1,731.64	-29.02	0.00	-22.26	3.00	3.00	0.00
1,800.00	10.00	180.000	1,797.30	-40.59	0.00	-31.15	0.00	0.00	0.00
1,900.00	10.00	180.000	1,895.78	-57.96	0.00	-44.47	0.00	0.00	0.00
2,000.00	10.00	180.000	1,994.26	-75.32	0.00	-57.80	0.00	0.00	0.00
2,033.33	10.00	180.000	2,027.09	-81.11	0.00	-62.24	0.00	0.00	0.00
2,100.00	6.00	206.423	2,093.11	-90.03	-1.55	-68.08	8.00	-6.00	39.63
2,200.00	6.82	283.454	2,192.64	-93.33	-9.67	-65.42	8.00	0.82	77.03
2,300.00	13.59	309.165	2,291.05	-84.52	-24.57	-49.10	8.00	6.77	25.71
2,400.00	21.22	317.345	2,386.42	-63.76	-45.98	-19.44	8.00	7.64	8.18
2,500.00	29.05	321.292	2,476.88	-31.45	-73.47	22.98	8.00	7.83	3.95
2,600.00	36.95	323.668	2,560.69	11.78	-106.51	77.34	8.00	7.90	2.38
2,700.00	44.87	325.303	2,636.20	65.08	-144.46	142.57	8.00	7.93	1.64
2,800.00	52.82	326.537	2,701.96	127.42	-186.57	217.42	8.00	7.95	1.23
2,900.00	60.78	327.534	2,756.68	197.59	-232.04	300.41	8.00	7.96	1.00
2,953.04	65.00	328.000	2,780.84	237.52	-257.21	347.19	8.00	7.96	0.88
3,000.00	65.00	328.000	2,800.69	273.61	-279.76	389.35	0.00	0.00	0.00
3,100.00	65.00	328.000	2,842.95	350.47	-327.79	479.12	0.00	0.00	0.00
3,200.00	65.00	328.000	2,885.21	427.33	-375.82	568.89	0.00	0.00	0.00
3,300.00	65.00	328.000	2,927.47	504.19	-423.84	658.67	0.00	0.00	0.00
3,315.44	65.00	328.000	2,934.00	516.05	-431.26	672.53	0.00	0.00	0.00

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,694.16	1,693.00	Ojo Alamo		0.00	0.000
1,884.99	1,881.00	Kirtland		0.00	0.000
2,676.11	2,619.00	Fruitland Coal		0.00	0.000
3,114.32	2,849.00	Top Big Blue		0.00	0.000
3,149.81	2,864.00	Base Big Blue		0.00	0.000



Company: Hilcorp Energy Corp.
 Project: San Juan, NM NAD27
 Site: San Juan 32-7
 Well: San Juan 32-7 Unit 202H
 Wellbore: Lateral 1
 Design: Plan #1

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: Grid



WELL DETAILS: San Juan 32-7 Unit 202H

GL 6181' & RKB 17' @ 6198.00ft (Drake 3)
 +N/-S+E/-W Northing Easting Latitude Longitude
 0.00 0.00 2176647.70 566567.60 36.9815920 -107.6054291

Plan: Plan #1 (San Juan 32-7 Unit 202H/Lateral 1)

Created By: Janie Collins Date: 16:16, January 08 2024



Azimuths to True North:
 Magnetic North: 8.85°

Magnetic Field
 Strength: 49367.6 nT
 Dip Angle: 63.32°
 Date: 1/5/2024
 Model: HDGM2024

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SJ 202H Lat 1 BHL	2841.00	4969.39	-821.01	2181615.10	565734.70	36.9952418	-107.6082404
SJ 202H Lat 1 T1	2856.00	1155.22	-841.34	2177800.90	565723.50	36.9847651	-107.6083096

SECTION DETAILS

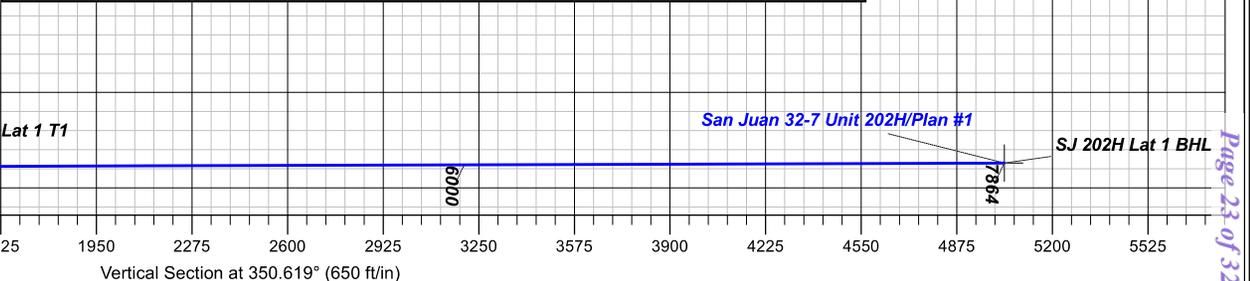
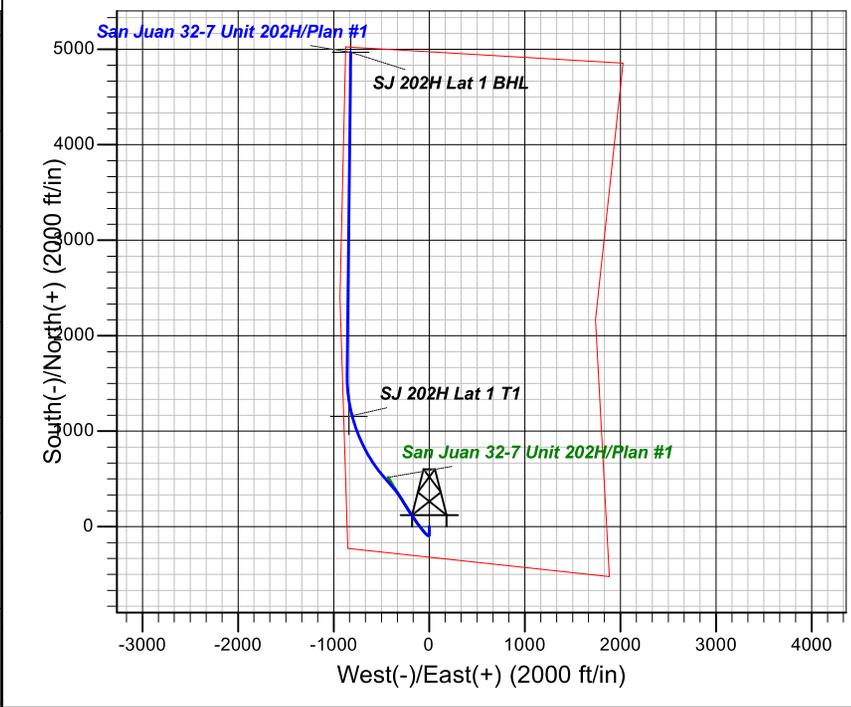
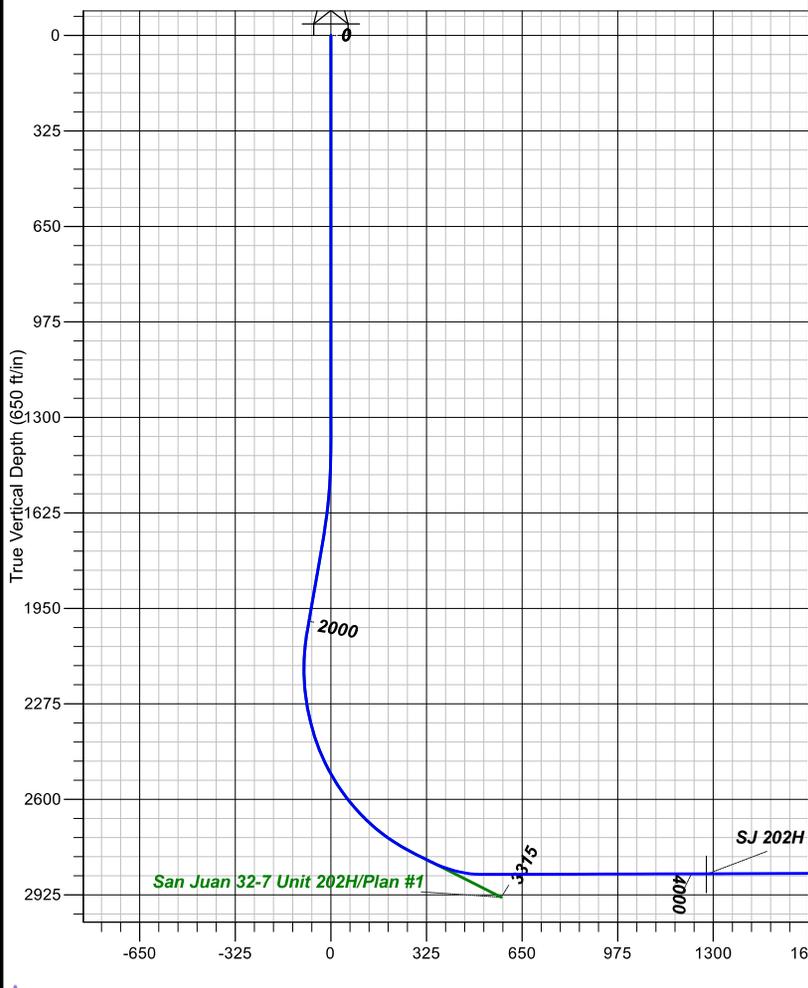
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSECT
3020.00	65.00	328.000	2809.14	288.98	-289.37	0.00	0.00	332.28
3239.16	90.18	317.000	2856.00	456.54	-419.20	12.47	-24.55	518.76
4486.08	90.18	0.642	2851.84	1591.32	-858.88	3.50	89.92	1710.04
7864.38	90.18	0.642	2841.00	4969.39	-821.01	0.00	0.00	5036.75

CASING DETAILS

No casing data is available

FORMATION DETAILS

No formation data is available





Hilcorp Energy Corp.

San Juan, NM NAD27
San Juan 32-7
San Juan 32-7 Unit 202H

Lateral 1

Plan: Plan #1

Standard Planning Report

08 January, 2024





Lonestar Consulting, LLC
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well San Juan 32-7 Unit 202H
Company:	Hilcorp Energy Corp.	TVD Reference:	GL 6181' & RKB 17' @ 6198.00ft (Drake 3)
Project:	San Juan, NM NAD27	MD Reference:	GL 6181' & RKB 17' @ 6198.00ft (Drake 3)
Site:	San Juan 32-7	North Reference:	True
Well:	San Juan 32-7 Unit 202H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1		
Design:	Plan #1		

Project	San Juan, NM NAD27		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico West 3003		

Site	San Juan 32-7				
Site Position:		Northing:	2,182,139.31 usft	Latitude:	36.9966820
From:	Map	Easting:	565,685.99 usft	Longitude:	-107.6084030
Position Uncertainty:	0.00 ft	Slot Radius:	13.20 in		

Well	San Juan 32-7 Unit 202H					
Well Position	+N/-S	0.00 ft	Northing:	2,176,647.70 usft	Latitude:	36.9815920
	+E/-W	0.00 ft	Easting:	566,567.60 usft	Longitude:	-107.6054291
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,181.00 ft
Grid Convergence:		0.14 °				

Wellbore	Lateral 1				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	HDGM2024	1/5/2024	8.65	63.32	49,367.60000000

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	3,020.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	350.619

Plan Survey Tool Program	Date	1/8/2024		
Depth From	Depth To	Survey (Wellbore)	Tool Name	Remarks
(ft)	(ft)			
1	3,020.00	7,864.38 Plan #1 (Lateral 1)	MWD+HDGM	
			OWSG MWD + HDGM	

Plan Sections										
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
Depth	(°)	(°)	Depth	(ft)	(ft)	Rate	Rate	Rate	(°)	
(ft)			(ft)			(°/100usft)	(°/100usft)	(°/100usft)		
3,020.00	65.00	328.000	2,809.14	288.98	-289.37	0.00	0.00	0.00	0.00	
3,239.16	90.18	317.000	2,856.00	456.54	-419.20	12.47	11.49	-5.02	-24.55	
4,486.08	90.18	0.642	2,851.84	1,591.32	-858.88	3.50	0.00	3.50	89.92	
7,864.38	90.18	0.642	2,841.00	4,969.39	-821.01	0.00	0.00	0.00	0.00	SJ 202H Lat 1 BHL



Lonestar Consulting, LLC

Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well San Juan 32-7 Unit 202H
Company:	Hilcorp Energy Corp.	TVD Reference:	GL 6181' & RKB 17' @ 6198.00ft (Drake 3)
Project:	San Juan, NM NAD27	MD Reference:	GL 6181' & RKB 17' @ 6198.00ft (Drake 3)
Site:	San Juan 32-7	North Reference:	True
Well:	San Juan 32-7 Unit 202H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1		
Design:	Plan #1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
3,020.00	65.00	328.000	2,809.14	288.98	-289.37	332.28	0.00	0.00	0.00	
3,100.00	74.13	323.707	2,837.05	350.89	-331.46	400.23	12.47	11.42	-5.37	
3,200.00	85.66	318.843	2,854.58	427.50	-392.98	485.84	12.47	11.52	-4.86	
3,239.16	90.18	317.000	2,856.00	456.54	-419.20	518.76	12.47	11.55	-4.71	
3,300.00	90.18	319.129	2,855.81	501.79	-459.86	570.04	3.50	0.00	3.50	
3,400.00	90.19	322.629	2,855.48	579.36	-522.94	656.85	3.50	0.00	3.50	
3,500.00	90.19	326.129	2,855.16	660.64	-581.18	746.53	3.50	0.00	3.50	
3,600.00	90.19	329.629	2,854.82	745.31	-634.34	838.75	3.50	0.00	3.50	
3,700.00	90.19	333.129	2,854.48	833.08	-682.23	933.15	3.50	0.00	3.50	
3,800.00	90.20	336.629	2,854.14	923.61	-724.68	1,029.38	3.50	0.00	3.50	
3,900.00	90.20	340.129	2,853.80	1,016.56	-761.52	1,127.09	3.50	0.00	3.50	
4,000.00	90.20	343.629	2,853.46	1,111.58	-792.61	1,225.92	3.50	0.00	3.50	
4,100.00	90.19	347.129	2,853.12	1,208.33	-817.85	1,325.48	3.50	0.00	3.50	
4,200.00	90.19	350.629	2,852.78	1,306.44	-837.14	1,425.42	3.50	0.00	3.50	
4,300.00	90.19	354.129	2,852.45	1,405.54	-850.40	1,525.36	3.50	0.00	3.50	
4,400.00	90.19	357.629	2,852.12	1,505.26	-857.58	1,624.92	3.50	0.00	3.50	
4,486.08	90.18	0.642	2,851.84	1,591.32	-858.88	1,710.04	3.50	0.00	3.50	
4,500.00	90.18	0.642	2,851.79	1,605.24	-858.72	1,723.75	0.00	0.00	0.00	
4,600.00	90.18	0.642	2,851.47	1,705.23	-857.60	1,822.22	0.00	0.00	0.00	
4,700.00	90.18	0.642	2,851.15	1,805.23	-856.48	1,920.69	0.00	0.00	0.00	
4,800.00	90.18	0.642	2,850.83	1,905.22	-855.36	2,019.17	0.00	0.00	0.00	
4,900.00	90.18	0.642	2,850.51	2,005.21	-854.24	2,117.64	0.00	0.00	0.00	
5,000.00	90.18	0.642	2,850.19	2,105.21	-853.12	2,216.11	0.00	0.00	0.00	
5,100.00	90.18	0.642	2,849.87	2,205.20	-852.00	2,314.59	0.00	0.00	0.00	
5,200.00	90.18	0.642	2,849.55	2,305.19	-850.88	2,413.06	0.00	0.00	0.00	
5,300.00	90.18	0.642	2,849.23	2,405.19	-849.76	2,511.53	0.00	0.00	0.00	
5,400.00	90.18	0.642	2,848.91	2,505.18	-848.63	2,610.00	0.00	0.00	0.00	
5,500.00	90.18	0.642	2,848.59	2,605.17	-847.51	2,708.48	0.00	0.00	0.00	
5,600.00	90.18	0.642	2,848.26	2,705.17	-846.39	2,806.95	0.00	0.00	0.00	
5,700.00	90.18	0.642	2,847.94	2,805.16	-845.27	2,905.42	0.00	0.00	0.00	
5,800.00	90.18	0.642	2,847.62	2,905.15	-844.15	3,003.90	0.00	0.00	0.00	
5,900.00	90.18	0.642	2,847.30	3,005.15	-843.03	3,102.37	0.00	0.00	0.00	
6,000.00	90.18	0.642	2,846.98	3,105.14	-841.91	3,200.84	0.00	0.00	0.00	
6,100.00	90.18	0.642	2,846.66	3,205.13	-840.79	3,299.32	0.00	0.00	0.00	
6,200.00	90.18	0.642	2,846.34	3,305.13	-839.67	3,397.79	0.00	0.00	0.00	
6,300.00	90.18	0.642	2,846.02	3,405.12	-838.55	3,496.26	0.00	0.00	0.00	
6,400.00	90.18	0.642	2,845.70	3,505.11	-837.43	3,594.74	0.00	0.00	0.00	
6,500.00	90.18	0.642	2,845.38	3,605.10	-836.31	3,693.21	0.00	0.00	0.00	
6,600.00	90.18	0.642	2,845.06	3,705.10	-835.18	3,791.68	0.00	0.00	0.00	
6,700.00	90.18	0.642	2,844.74	3,805.09	-834.06	3,890.16	0.00	0.00	0.00	
6,800.00	90.18	0.642	2,844.41	3,905.08	-832.94	3,988.63	0.00	0.00	0.00	
6,900.00	90.18	0.642	2,844.09	4,005.08	-831.82	4,087.10	0.00	0.00	0.00	
7,000.00	90.18	0.642	2,843.77	4,105.07	-830.70	4,185.57	0.00	0.00	0.00	
7,100.00	90.18	0.642	2,843.45	4,205.06	-829.58	4,284.05	0.00	0.00	0.00	
7,200.00	90.18	0.642	2,843.13	4,305.06	-828.46	4,382.52	0.00	0.00	0.00	
7,300.00	90.18	0.642	2,842.81	4,405.05	-827.34	4,480.99	0.00	0.00	0.00	
7,400.00	90.18	0.642	2,842.49	4,505.04	-826.22	4,579.47	0.00	0.00	0.00	
7,500.00	90.18	0.642	2,842.17	4,605.04	-825.10	4,677.94	0.00	0.00	0.00	
7,600.00	90.18	0.642	2,841.85	4,705.03	-823.98	4,776.41	0.00	0.00	0.00	
7,700.00	90.18	0.642	2,841.53	4,805.02	-822.85	4,874.89	0.00	0.00	0.00	
7,800.00	90.18	0.642	2,841.21	4,905.02	-821.73	4,973.36	0.00	0.00	0.00	
7,864.38	90.18	0.642	2,841.00	4,969.39	-821.01	5,036.75	0.00	0.00	0.00	



Lonestar Consulting, LLC
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well San Juan 32-7 Unit 202H
Company:	Hilcorp Energy Corp.	TVD Reference:	GL 6181' & RKB 17' @ 6198.00ft (Drake 3)
Project:	San Juan, NM NAD27	MD Reference:	GL 6181' & RKB 17' @ 6198.00ft (Drake 3)
Site:	San Juan 32-7	North Reference:	True
Well:	San Juan 32-7 Unit 202H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 1		
Design:	Plan #1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
SJ 202H Lat 1 BHL - plan hits target center - Point	0.00	0.135	2,841.00	4,969.39	-821.01	2,181,615.10	565,734.70	36.9952418	-107.6082405
SJ 202H Lat 1 T1 - plan misses target center by 35.48ft at 4054.52ft MD (2853.27 TVD, 1164.14 N, -807.11 E) - Point	0.00	0.135	2,856.00	1,155.22	-841.34	2,177,800.90	565,723.50	36.9847651	-107.6083097

Released to Imaging: 2/28/2024 1:12:07 PM



Company: Hilcorp Energy Corp.
Project: San Juan, NM NAD27
Site: San Juan 32-7
Well: San Juan 32-7 Unit 202H
Wellbore: Lateral 2
Design: Plan #1

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: Grid



Received by OCD: 2/28/2024 12:44 PM

WELL DETAILS: San Juan 32-7 Unit 202H

GL 6181' & RKB 17' @ 6198.00ft (Drake 3)
+N/-S+E/-W Northing Easting Latitude Longitude
0.00 0.00 2176647.70 566567.60 36.9815920 -107.6054291

Plan: Plan #1 (San Juan 32-7 Unit 202H/Lateral 2)

Created By: Janie Collins Date: 16:32, January 08 2024



Azimuths to True North:
Magnetic North: 8.209°

Magnetic Field
Strength: 49610.21
Dip Angle: 63.4°
Date: 12/31/2021
Model: HDGM2021_FT

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SJ 202H Lat 2 BHL	2846.00	4803.13	1961.00	2181455.50	568517.10	36.9947850	-107.5987142
SJ 202H Lat 2 T1	2856.00	2155.88	-113.64	2178803.30	566448.80	36.9875137	-107.6058182

SECTION DETAILS

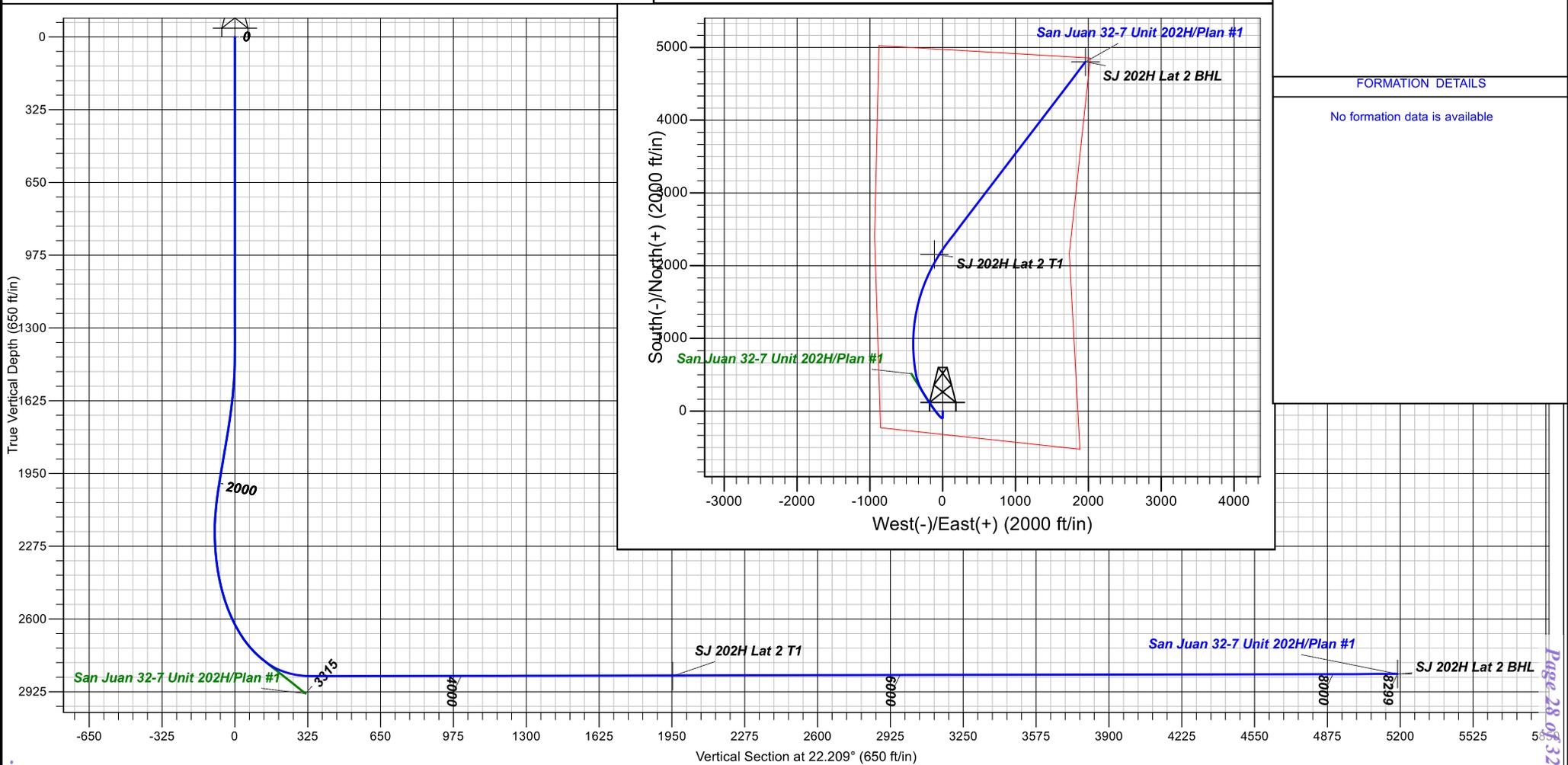
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
2978.00	65.00	328.000	2791.39	256.70	-269.20	0.00	0.00	135.90
3276.66	90.11	350.000	2856.00	525.98	-369.62	11.02	43.58	347.24
5168.40	90.11	37.294	2852.11	2312.57	64.14	2.50	89.95	2165.25
8299.06	90.11	37.294	2846.00	4803.13	1961.00	0.00	0.00	5188.02

CASING DETAILS

No casing data is available

FORMATION DETAILS

No formation data is available



Page: 28 of 32



Hilcorp Energy Corp.

San Juan, NM NAD27
San Juan 32-7
San Juan 32-7 Unit 202H

Lateral 2

Plan: Plan #1

Standard Planning Report

08 January, 2024





Lonestar Consulting, LLC
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well San Juan 32-7 Unit 202H
Company:	Hilcorp Energy Corp.	TVD Reference:	GL 6181' & RKB 17' @ 6198.00ft (Drake 3)
Project:	San Juan, NM NAD27	MD Reference:	GL 6181' & RKB 17' @ 6198.00ft (Drake 3)
Site:	San Juan 32-7	North Reference:	True
Well:	San Juan 32-7 Unit 202H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 2		
Design:	Plan #1		

Project	San Juan, NM NAD27		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico West 3003		

Site	San Juan 32-7				
Site Position:		Northing:	2,182,139.31 usft	Latitude:	36.9966820
From:	Map	Easting:	565,685.99 usft	Longitude:	-107.6084030
Position Uncertainty:	0.00 ft	Slot Radius:	13.20 in		

Well	San Juan 32-7 Unit 202H					
Well Position	+N/-S	0.00 ft	Northing:	2,176,647.70 usft	Latitude:	36.9815920
	+E/-W	0.00 ft	Easting:	566,567.60 usft	Longitude:	-107.6054291
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	6,181.00 ft
Grid Convergence:		0.14 °				

Wellbore	Lateral 2				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2021_FILE	12/31/2021	8.80	63.40	49,610.20000000

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	2,978.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	22.209

Plan Survey Tool Program	Date	1/8/2024		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	2,978.00	8,299.06	Plan #1 (Lateral 2)	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
2,978.00	65.00	328.000	2,791.39	256.70	-269.20	0.00	0.00	0.00	0.00	
3,276.66	90.11	350.000	2,856.00	525.98	-369.62	11.02	8.41	7.37	43.58	
5,168.40	90.11	37.294	2,852.11	2,312.57	64.14	2.50	0.00	2.50	89.95	
8,299.06	90.11	37.294	2,846.00	4,803.13	1,961.00	0.00	0.00	0.00	0.00	SJ 202H Lat 2 BHL



Lonestar Consulting, LLC

Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well San Juan 32-7 Unit 202H
Company:	Hilcorp Energy Corp.	TVD Reference:	GL 6181' & RKB 17' @ 6198.00ft (Drake 3)
Project:	San Juan, NM NAD27	MD Reference:	GL 6181' & RKB 17' @ 6198.00ft (Drake 3)
Site:	San Juan 32-7	North Reference:	True
Well:	San Juan 32-7 Unit 202H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 2		
Design:	Plan #1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
2,978.00	65.00	328.000	2,791.39	256.70	-269.20	135.90	0.00	0.00	0.00	
3,000.00	66.77	329.819	2,800.38	273.89	-279.56	147.90	11.02	8.03	8.27	
3,100.00	75.02	337.551	2,833.12	358.51	-321.24	210.49	11.02	8.26	7.73	
3,200.00	83.52	344.699	2,851.74	451.36	-352.89	284.49	11.02	8.50	7.15	
3,276.66	90.11	350.000	2,856.00	525.98	-369.62	347.24	11.02	8.59	6.91	
3,300.00	90.11	350.583	2,855.96	548.98	-373.56	367.06	2.50	0.00	2.50	
3,400.00	90.11	353.083	2,855.76	647.96	-387.76	453.32	2.50	0.00	2.50	
3,500.00	90.11	355.583	2,855.56	747.47	-397.64	541.71	2.50	0.00	2.50	
3,600.00	90.12	358.083	2,855.36	847.31	-403.16	632.06	2.50	0.00	2.50	
3,700.00	90.12	0.583	2,855.16	947.29	-404.32	724.18	2.50	0.00	2.50	
3,800.00	90.12	3.083	2,854.95	1,047.23	-401.12	817.92	2.50	0.00	2.50	
3,900.00	90.12	5.583	2,854.74	1,146.94	-393.57	913.08	2.50	0.00	2.50	
4,000.00	90.12	8.083	2,854.53	1,246.22	-381.67	1,009.50	2.50	0.00	2.50	
4,100.00	90.12	10.584	2,854.32	1,344.89	-365.45	1,106.97	2.50	0.00	2.50	
4,200.00	90.12	13.084	2,854.11	1,442.75	-344.95	1,205.33	2.50	0.00	2.50	
4,300.00	90.12	15.584	2,853.90	1,539.63	-320.19	1,304.38	2.50	0.00	2.50	
4,400.00	90.12	18.084	2,853.69	1,635.34	-291.24	1,403.93	2.50	0.00	2.50	
4,500.00	90.12	20.584	2,853.48	1,729.69	-258.13	1,503.80	2.50	0.00	2.50	
4,600.00	90.12	23.084	2,853.27	1,822.51	-220.95	1,603.79	2.50	0.00	2.50	
4,700.00	90.12	25.584	2,853.06	1,913.62	-179.74	1,703.71	2.50	0.00	2.50	
4,800.00	90.12	28.084	2,852.85	2,002.85	-134.61	1,803.38	2.50	0.00	2.50	
4,900.00	90.12	30.584	2,852.65	2,090.02	-85.62	1,902.60	2.50	0.00	2.50	
5,000.00	90.11	33.084	2,852.45	2,174.97	-32.88	2,001.18	2.50	0.00	2.50	
5,100.00	90.11	35.584	2,852.25	2,257.54	23.51	2,098.94	2.50	0.00	2.50	
5,168.40	90.11	37.294	2,852.11	2,312.57	64.14	2,165.25	2.50	0.00	2.50	
5,200.00	90.11	37.294	2,852.05	2,337.70	83.29	2,195.75	0.00	0.00	0.00	
5,300.00	90.11	37.294	2,851.86	2,417.26	143.88	2,292.31	0.00	0.00	0.00	
5,400.00	90.11	37.294	2,851.66	2,496.81	204.47	2,388.86	0.00	0.00	0.00	
5,500.00	90.11	37.294	2,851.47	2,576.36	265.06	2,485.41	0.00	0.00	0.00	
5,600.00	90.11	37.294	2,851.27	2,655.92	325.65	2,581.97	0.00	0.00	0.00	
5,700.00	90.11	37.294	2,851.08	2,735.47	386.24	2,678.52	0.00	0.00	0.00	
5,800.00	90.11	37.294	2,850.88	2,815.03	446.82	2,775.08	0.00	0.00	0.00	
5,900.00	90.11	37.294	2,850.69	2,894.58	507.41	2,871.63	0.00	0.00	0.00	
6,000.00	90.11	37.294	2,850.49	2,974.13	568.00	2,968.19	0.00	0.00	0.00	
6,100.00	90.11	37.294	2,850.29	3,053.69	628.59	3,064.74	0.00	0.00	0.00	
6,200.00	90.11	37.294	2,850.10	3,133.24	689.18	3,161.29	0.00	0.00	0.00	
6,300.00	90.11	37.294	2,849.90	3,212.80	749.77	3,257.85	0.00	0.00	0.00	
6,400.00	90.11	37.294	2,849.71	3,292.35	810.36	3,354.40	0.00	0.00	0.00	
6,500.00	90.11	37.294	2,849.51	3,371.90	870.95	3,450.96	0.00	0.00	0.00	
6,600.00	90.11	37.294	2,849.32	3,451.46	931.54	3,547.51	0.00	0.00	0.00	
6,700.00	90.11	37.294	2,849.12	3,531.01	992.13	3,644.06	0.00	0.00	0.00	
6,800.00	90.11	37.294	2,848.93	3,610.57	1,052.72	3,740.62	0.00	0.00	0.00	
6,900.00	90.11	37.294	2,848.73	3,690.12	1,113.31	3,837.17	0.00	0.00	0.00	
7,000.00	90.11	37.294	2,848.54	3,769.67	1,173.90	3,933.73	0.00	0.00	0.00	
7,100.00	90.11	37.294	2,848.34	3,849.23	1,234.49	4,030.28	0.00	0.00	0.00	
7,200.00	90.11	37.294	2,848.15	3,928.78	1,295.08	4,126.83	0.00	0.00	0.00	
7,300.00	90.11	37.294	2,847.95	4,008.34	1,355.67	4,223.39	0.00	0.00	0.00	
7,400.00	90.11	37.294	2,847.76	4,087.89	1,416.26	4,319.94	0.00	0.00	0.00	
7,500.00	90.11	37.294	2,847.56	4,167.44	1,476.85	4,416.50	0.00	0.00	0.00	
7,600.00	90.11	37.294	2,847.37	4,247.00	1,537.44	4,513.05	0.00	0.00	0.00	
7,700.00	90.11	37.294	2,847.17	4,326.55	1,598.03	4,609.60	0.00	0.00	0.00	
7,800.00	90.11	37.294	2,846.97	4,406.11	1,658.62	4,706.16	0.00	0.00	0.00	
7,900.00	90.11	37.294	2,846.78	4,485.66	1,719.21	4,802.71	0.00	0.00	0.00	
8,000.00	90.11	37.294	2,846.58	4,565.21	1,779.80	4,899.27	0.00	0.00	0.00	



Lonestar Consulting, LLC
Planning Report



Database:	Grand Junction	Local Co-ordinate Reference:	Well San Juan 32-7 Unit 202H
Company:	Hilcorp Energy Corp.	TVD Reference:	GL 6181' & RKB 17' @ 6198.00ft (Drake 3)
Project:	San Juan, NM NAD27	MD Reference:	GL 6181' & RKB 17' @ 6198.00ft (Drake 3)
Site:	San Juan 32-7	North Reference:	True
Well:	San Juan 32-7 Unit 202H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Lateral 2		
Design:	Plan #1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
8,100.00	90.11	37.294	2,846.39	4,644.77	1,840.39	4,995.82	0.00	0.00	0.00	
8,200.00	90.11	37.294	2,846.19	4,724.32	1,900.98	5,092.38	0.00	0.00	0.00	
8,299.06	90.11	37.294	2,846.00	4,803.13	1,961.00	5,188.02	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	
SJ 202H Lat 2 BHL - hit/miss target - Shape - Point	0.00	0.141	2,846.00	4,803.13	1,961.00	2,181,455.50	568,517.10	36.9947849	-107.5987142	
SJ 202H Lat 2 T1 - plan misses target center by 58.12ft at 4941.18ft MD (2852.57 TVD, 2125.27 N, -64.36 E) - Point	0.00	0.137	2,856.00	2,155.88	-113.64	2,178,803.30	566,448.80	36.9875137	-107.6058182	