

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

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

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER 1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone			5. Lease Serial No. <b>NMNM0441951</b> 6. If Indian, Allottee or Tribe Name  7. If Unit or CA Agreement, Name and No.  8. Lease Name and Well No.  <b>JAWBONE FED COM BS</b>  <b>011H</b> 9. API Well No. <b>30-015-56206</b>	
2. Name of Operator <b>FLAT CREEK RESOURCES LLC</b> 3a. Address <b>777 MAIN STREET, SUITE 3600, FORT WORTH, TX 761</b> 3b. Phone No. (include area code) <b>(817) 310-8570</b>			10. Field and Pool, or Exploratory <b>COTTONWOOD DRAW/BONE SPRING</b> 11. Sec., T. R. M. or Blk. and Survey or Area <b>SEC 2/T25S/R26E/NMP</b>	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface <b>LOT 2 / 275 FNL / 1665 FEL / LAT 32.165675 / LONG -104.260502</b> At proposed prod. zone <b>NENE / 50 FNL / 470 FEL / LAT 32.180782 / LONG -104.256632</b>			12. County or Parish <b>EDDY</b> 13. State <b>NM</b>	
14. Distance in miles and direction from nearest town or post office* <b>6 miles</b>			15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) <b>275 feet</b>	
16. No of acres in lease  			17. Spacing Unit dedicated to this well <b>160.0</b>	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. <b>30 feet</b>			19. Proposed Depth <b>7000 feet / 12603 feet</b>	
20. BLM/BIA Bond No. in file <b>FED: NMB001675</b>			21. Elevations (Show whether DF, KDB, RT, GL, etc.) <b>3383 feet</b>	
22. Approximate date work will start* <b>06/01/2024</b>			23. Estimated duration <b>60 days</b>	
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.<br>2. A Drilling Plan.<br>3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).<br>5. Operator certification.<br>6. Such other site specific information and/or plans as may be requested by the BLM. |
|---|---|

25. Signature (Electronic Submission)  Title <b>Permitting Agent</b>		Name (Printed/Typed) <b>BRIAN WOOD / Ph: (817) 310-8570</b>  Date <b>02/07/2024</b>
Approved by (Signature) (Electronic Submission)  Title <b>Assistant Field Manager Lands &amp; Minerals</b>		Name (Printed/Typed) <b>CODY LAYTON / Ph: (575) 234-5959</b>  Date <b>01/24/2025</b>  Office <b>Carlsbad Field Office</b>

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: 01/24/2025

C-102  Sumbit electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONVERSION DIVISION	Revised July, 09 2024	
		Submittal Type:	<input checked="" type="checkbox"/> Initial Submittal
			<input type="checkbox"/> Amended Report
		<input type="checkbox"/> As Drilled	

WELL LOCATION INFORMATION			
API Number <b>30-015- 56206</b>	Pool Code <b>97494</b>	Pool Name <b>Cottonwood Draw; Bone Spring (O)</b>	
Property Code <b>335927</b>	Property Name <b>JAWBONE FED COM BS</b>	Well Number <b>11H</b>	
OGRID No. <b>374034</b>	Operator Name <b>FLAT CREEK RESOURCES, LLC</b>	Ground Level Elevation <b>3,383'</b>	
Surface Owner: <input checked="" type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input type="checkbox"/> Federal		Mineral Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input type="checkbox"/> Federal	

Surface Hole Location									
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
	2	25S	26E	2	275 FNL	1,665 FEL	32.165675	-104.260502	EDDY

Bottom Hole Location									
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
A	35	24S	26E		50 FNL	470 FEL	32.180781	-104.256631	EDDY


Dedicated Acres <b>1,280.32</b>	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
Order Numbers.			Well Setbacks are under Common Ownership: <input type="checkbox"/> Yes <input type="checkbox"/> No	

Kick Off Point (KOP)									
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
	2	25S	26E	1	473 FNL	465 FEL	32.165116	-104.256631	EDDY

First Take Point (FTP)									
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
P	35	24S	26E		100 FSL	470 FEL	32.166691	-104.256631	EDDY

Last Take Point (LTP)									
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
A	35	24S	26E		100 FNL	470 FEL	32.180644	-104.256631	EDDY

Unitized Area of Area of Interest	Spacing Unit Type : <input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Vertical	Ground Elevation <b>3,383'</b>
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<div>OPERATOR CERTIFICATIONS</div> <div><p><i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or a voluntary pooling agreement or a compulsory pooling order of heretofore entered by the division.</i></p><p><i>If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or information) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.</i></p></div> <div><div>Rodney Littleton02/03/2025</div><div>SignatureDate</div><div>Rodney Littleton</div><div>Printed Name</div><div>rlittleton@freedomenergy.com</div><div>Email Address</div></div>	<div>SURVEYOR CERTIFICATIONS</div> <div><p><i>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</i></p></div> <div><div></div><div><div>MARK DILLON HARP 23786</div><div>23786</div><div>1/31/2025</div><div>Certificate NumberDate of Survey</div></div></div> <div><div>JP</div><div>618.005002.00-13</div></div>
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Note: No allowable will be assigned to this completion until all interest have been consolidated or a non-standard unit has been approved by the division.

ACREAGE DEDICATION PLATS

This grid represents a standard section. You may superimpose a non-standard section, or larger area, over this grid. Operators must outline the dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is a directionally drilled, with the dimensions from the section lines in the cardinal directions. If this is a horizontal wellbore show on this plat the location of the First Take Point and Last Take Point, and the point within the Completed interval (other then the First Take Point and Last Take Point) that is closest to any outer boundary of the tract.

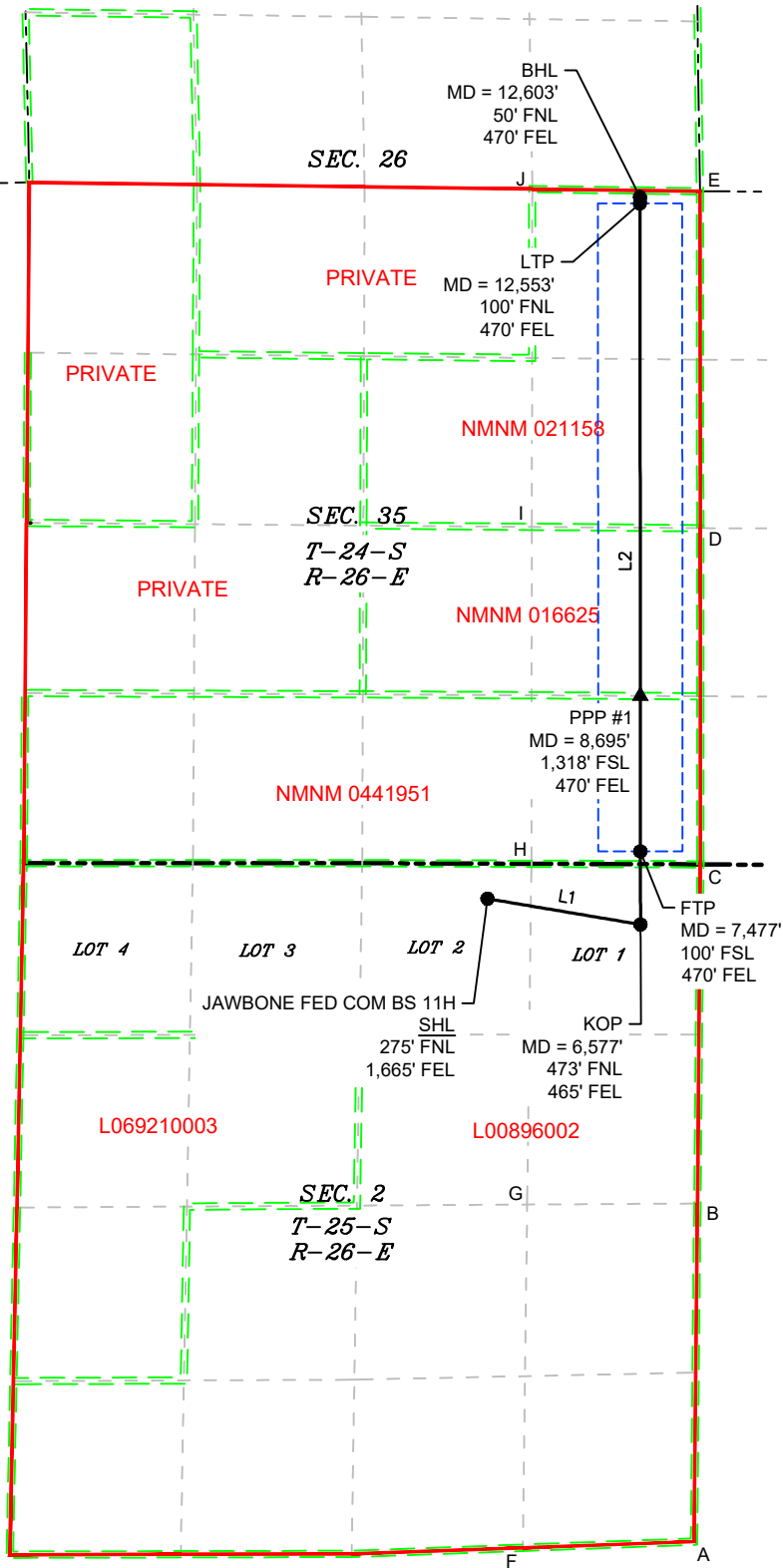
Surveyor shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land in not surveyed, contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.

LEGEND

- SECTION LINE
- PROPOSED WELL BORE
- NEW MEXICO MINERAL LEASE
- 330' BUFFER
- ALLOCATION AREA

LOT ACREAGE TABLE	
SECTION 2	
T-25-S, R-26-E	
LOT 1 = 40.20 ACRES	
LOT 2 = 40.12 ACRES	
LOT 3 = 40.04 ACRES	
LOT 4 = 39.96 ACRES	

LINE TABLE		
LINE	AZIMUTH	LENGTH
L1	099°34'52"	1,214.89'
L2	359°57'28"	5,698.52'



COORDINATE TABLE			
SHL (NAD 83 NME)		SHL (NAD 27 NME)	
Y =	424,015.1 N	Y =	423,957.5 N
X =	563,873.8 E	X =	522,691.7 E
LAT. =	32.165675 °N	LAT. =	32.165555 °N
LONG. =	104.260502 °W	LONG. =	104.260001 °W
KOP (NAD 83 NME)		KOP (NAD 27 NME)	
Y =	423,812.8 N	Y =	423,755.3 N
X =	565,071.7 E	X =	523,889.6 E
LAT. =	32.165116 °N	LAT. =	32.164997 °N
LONG. =	104.256631 °W	LONG. =	104.256130 °W
FTP (NAD 83 NME)		FTP (NAD 27 NME)	
Y =	424,385.8 N	Y =	424,328.3 N
X =	565,071.3 E	X =	523,889.2 E
LAT. =	32.166691 °N	LAT. =	32.166572 °N
LONG. =	104.256631 °W	LONG. =	104.256130 °W
PPP1 (NAD 83 NME)		PPP1 (NAD 27 NME)	
Y =	425,603.4 N	Y =	425,545.8 N
X =	565,070.4 E	X =	523,888.3 E
LAT. =	32.170038 °N	LAT. =	32.169919 °N
LONG. =	104.256631 °W	LONG. =	104.256130 °W
LTP (NAD 83 NME)		LTP (NAD 27 NME)	
Y =	429,461.4 N	Y =	429,403.7 N
X =	565,067.6 E	X =	523,885.5 E
LAT. =	32.180644 °N	LAT. =	32.180524 °N
LONG. =	104.256631 °W	LONG. =	104.256130 °W
BHL (NAD 83 NME)		BHL (NAD 27 NME)	
Y =	429,511.4 N	Y =	429,453.7 N
X =	565,067.5 E	X =	523,885.5 E
LAT. =	32.180781 °N	LAT. =	32.180662 °N
LONG. =	104.256631 °W	LONG. =	104.256130 °W
CORNER COORDINATES (NAD 83 NME)			
A - Y =	418,979.8 N	A - X =	565,490.6 E
B - Y =	421,628.0 N	B - X =	565,516.5 E
C - Y =	424,284.1 N	C - X =	565,541.3 E
D - Y =	426,917.3 N	D - X =	565,539.2 E
E - Y =	429,555.3 N	E - X =	565,537.3 E
F - Y =	418,931.8 N	F - X =	564,150.3 E
G - Y =	421,619.9 N	G - X =	564,184.1 E
H - Y =	424,288.8 N	H - X =	564,216.9 E
I - Y =	426,927.7 N	I - X =	564,220.7 E
J - Y =	429,572.6 N	J - X =	564,224.5 E
CORNER COORDINATES (NAD 27 NME)			
A - Y =	418,922.4 N	A - X =	524,308.3 E
B - Y =	421,570.4 N	B - X =	524,334.3 E
C - Y =	424,226.6 N	C - X =	524,359.2 E
D - Y =	426,859.7 N	D - X =	524,357.2 E
E - Y =	429,497.6 N	E - X =	524,355.3 E
F - Y =	418,874.4 N	F - X =	522,968.2 E
G - Y =	421,562.5 N	G - X =	523,001.9 E
H - Y =	424,231.3 N	H - X =	523,034.8 E
I - Y =	426,870.1 N	I - X =	523,038.6 E
J - Y =	429,515.0 N	J - X =	523,042.5 E

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

Submit Electronically  
Via E-permitting

## 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:** Flat Creek Resources, LLC **OGRID:** 374034 **Date:** 01 / 29 / 2025

**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
Jawbone BS Fed Com 11H	30-015	2-2-25S-26E	275' FNL 1665' FEL	500	750	1000
Jawbone BS Fed Com 12H	30-015	2-2-25S-26E	275' FNL 1695' FEL	500	750	1000
Jawbone BS Fed Com 13H	30-015	3-2-25S-26E	275' FNL 1905FWL	500	750	1000
Jawbone BS Fed Com 14H	30-015	3-2-25S-26E	275' FNL 1875' FWL	500	750	1000

**IV. Central Delivery Point Name:** Jawbone Central Tank Battery [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
Jawbone BS Fed Com 11H	30-015	09/01/2025	09/15/2025	11/01/2025	01/01/2026	02/01/2026
Jawbone BS Fed Com 12H	30-015	09/02/2025	09/25/2025	11/01/2025	01/01/2026	02/01/2026
Jawbone BS Fed Com 13H	30-015	09/03/2025	10/05/2025	11/01/202511	01/01/2026	02/01/2026
Jawbone BS Fed Com 14H	30-015	09/04/2025	10/15/2025	11/01/2025	01/01/2026	02/01/2026

**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: <i>Rodney Littleton</i>
Printed Name: Rodney Littleton
Title: VP of Drilling
E-mail Address: rlittleton@freedomenergy.com
Date: 01/29/2025
Phone: 817-310-8578
<b>OIL CONSERVATION DIVISION</b> <b>(Only applicable when submitted as a standalone form)</b>
Approved By:
Title:
Approval Date:
Conditions of Approval:

## VI. SEPARATION EQUIPMENT

Flat Creek Resources, LLC, will install:

- four 48" OD x 15', 500#, 3 phase separators
- one 96" OD x 20', 250# heater treater
- four 750 BBL water tanks
- three 750 BBL oil tanks
- one 15'6" x 30', 1000 BBL gun barrel
- one 72" OD x 15' gas scrubber
- one vapor recovery tower
- one vapor recovery unit
- vapor recovery piping for oil and water tanks

System is designed to capture 120% of the expected gas volume from separation all the way through the vapor recovery equipment.



## VII. OPERATIONAL PRACTICES

### NMAC 19.15.27.8 (A) Venting & Flaring of Natural Gas

1. Flat Creek Resources will comply with NMAC 19.15.27.8 – venting and flaring of gas during drilling, completion, or production that constitutes waste as defined in 19.15.2 is banned.

### NMAC 19.15.27.8 (B) Venting & Flaring During Drilling

1. Flat Creek will combust gas if technically feasible during drilling operations using best industry practices.
2. A flare stack with a 100% capacity for expected volume will be set on the pad greater than 100 feet from the nearest well head and storage tank.
3. In an emergency, Flat Creek will vent the gas in order to avoid substantial impact. Flat Creek will report vented or flared gas to the NMOCD.

### NMAC 19.15.27.8 (C) Venting & Flaring During Completion or Recompletion

1. Facilities will be built and ready from the first day of flowback.
2. Test separator will properly separate gas and liquids. Temporary test separator will be used initially to process volumes. In addition, separator will be tied into flowback tanks which will be tied into the gas processing equipment for sale down a pipeline.
3. Should the facility not be ready to process gas or the gas does not meet quality standards then the flowback will be delayed until the facility and pipeline are ready.

### NMAC 19.15.27.8 (D) Venting & Flaring During Production

Flat Creek will not vent or flare natural gas except:

1. During and emergency or malfunction.
2. To unload or clean-up liquid holdup in a well to atmospheric pressure, provided
  - a. Flat Creek does not vent after the well achieves a stabilized rate and pressure
  - b. Flat Creek will be on-site while unloading liquids by manual purging and take all reasonable actions to achieve a stabilized rate and pressure as soon as possible
  - c. Flat Creek will optimize the system to minimize gas venting if the well is equipped with a plunger lift or auto control system
  - d. Best management practices will be used during downhole well maintenance
3. During the following activities unless prohibited
  - a. Gauging or sampling a storage tank or low-pressure production vessel
  - b. Loading out liquids from a storage tank
  - c. Repair and maintenance
  - d. Normal operations of a gas-activated pneumatic controller or pump
  - e. Normal operation of a storage tank but not including venting from a thief hatch
  - f. Normal operation of a dehydration units
  - g. Normal operations of compressors, engines, turbines, valves, flanges, & connectors
  - h. During bradenhead, packer leakage test, or production test lasting less than 24 hours
  - i. When natural gas does not meet the gathering line specifications

- j. Commissioning of pipelines, equipment, or facilities only for as long as necessary to purge introduced impurities

#### NMAC 19.15.27.8 (E) Performance Standards

1. Flat Creek used a safety factor to design the separation and storage equipment. The equipment will be routed to a vapor recovery system and uses a flare as back up to startup, shutdown, maintenance, or malfunction of the VRU system.
2. Flat Creek will install a flare that will handle the full volume of vapors from the facility in case of VRU failure. It will have an auto-ignition system.
3. Flare stacks will be appropriately sized and designed to ensure proper combustion efficiency
  - a. Flare stacks installed or replaced will be equipped with an automatic ignitor or continuous pilot.
  - b. Flare stacks will be located greater than 100 feet from well head and storage tanks and securely anchored
4. Flat Creek will conduct an AVO inspection on all components for leaks and defects every week.
5. Flat Creek will make and keep records of AVO inspection available to the NMOCD for at least 5 years.
6. Flat Creek may use a remote or automated monitoring technology to detect leaks and releases in lieu of AVO inspections with prior NMOCD approval.
7. Facilities will be designed to minimize waste.
8. Flat Creek will resolve emergencies as promptly as possible.

#### NMAC 19.15.27.8 (F) Measuring or Estimating Vented and Flared Natural Gas

1. Flat Creek will have meters on both the low pressure and high-pressure sides of the flares. Volumes will be recorded in the SCADA system.
2. Flat Creek will install equipment to measure the volume of flared natural gas that has an average production of greater than 60 MCFD.
3. Flat Creek's measuring equipment will conform to industry standards.
4. Measurement system will be designed such that it cannot be bypassed except for inspections and servicing the meters.
5. Flat Creek will estimate the volume of vented or flared gas using a methodology that can be independently verified if metering is not practicable due to low flow rate or pressure.
6. Flat Creek will estimate the volume of vented and/or flared gas based on the results of an annual GOR test for wells that do not require measuring equipment reported on form C-116.
7. Flat Creek will install measuring equipment whenever the NMOCD determines that metering is necessary.

### **VIII. BEST MANAGEMENT PRACTICES**

Flat Creek Resources, LLC, will minimize venting during maintenance by:

1. System will be designed and operated to route storage tank and process equipment emissions to the VRU. If the VRU is not operable, then the vapors will be routed to the flare.
2. Scheduling maintenance for multiple tasks to minimize the need for blowdowns.
3. After completion of maintenance, gas will be flared until it meets pipeline specifications.



U.S. Department of the Interior  
BUREAU OF LAND MANAGEMENT

# Drilling Plan Data Report

01/25/2025

APD ID: 10400096905

Submission Date: 02/07/2024

Highlighted data  
reflects the most  
recent changes

Operator Name: FLAT CREEK RESOURCES LLC

Well Name: JAWBONE FED COM BS

Well Number: 011H

Well Type: OIL WELL

Well Work Type: Drill

[Show Final Text](#)

## Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
14909581	SALADO	3383	0	0	ANHYDRITE	USEABLE WATER	N
14909582	TOP SALT	2383	1000	1000	SALT	NONE	N
14909583	BASE OF SALT	1613	1770	1779	SALT	NONE	N
14909584	LAMAR	1376	2007	2025	LIMESTONE	NONE	N
14909585	BELL CANYON	1303	2080	2100	SANDSTONE	NATURAL GAS, OIL	N
14909586	BRUSHY CANYON	-491	3874	3956	SANDSTONE	NATURAL GAS, OIL	N
14909587	BONE SPRING LIME	-2080	5463	5600	LIMESTONE	NATURAL GAS, OIL	N
14909588	BONE SPRING 1ST	-3022	6405	6555	SANDSTONE	NATURAL GAS, OIL	N
14909589	BONE SPRING 2ND	-3185	6568	6720	SHALE	NATURAL GAS, OIL	N
14909590	BONE SPRING 2ND	-3472	6855	7061	SANDSTONE	NATURAL GAS, OIL	Y

## Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M

Rating Depth: 20000

**Equipment:** A 20,000', 10,000 psi BOP stack will consist of a single ram, mud cross and double ram-type (10,000 psi WP) preventer, and an annular preventer (5000-psi WP). Both units will be hydraulically operated. The ram-type will be equipped with blind rams on bottom and drill pipe rams on top. All BOPE will be tested in accordance with 43 CFR 3160.

Requesting Variance? YES

**Variance request:** A variance is requested to use a co-flex line between the BOP and choke manifold (instead of using a 4" OD steel line).

**Testing Procedure:** BOP Testing Procedures: 1. Use water to test BOPE. 2. Make up test assembly (test plug) and set in the wellhead profile. Ensure the casing valve is left open. Monitor the casing valve outlet while testing for potential leak past the test plug. 3. Circulate through the choke/kill lines, choke manifold, standpipe manifold, and valves to ensure that all lines are full of water. This will prevent pressure drop (compression) while testing. 4. Line up test unit, test rams, valves, and lines as per the following chart. 5.

**Operator Name:** FLAT CREEK RESOURCES LLC**Well Name:** JAWBONE FED COM BS**Well Number:** 011H

Pressure tests must be low and high, respectively, and the pressure should stabilize with minimum bleed off within 10 minutes. If a test plug is used, no bleed-off of pressure is acceptable. For a test not using a test plug, if a decline in pressure of more than 10% in 30 minutes occurs, then the test will be considered to have failed. Pressure should be recorded on a chart recorder (add scale to be use). 6. Any equipment that does not pass the pressure test must be reported to the drilling supervisor. Equipment must be repaired and retested. 7. Continue with pressure testing until all equipment has been tested as per the specific rig requirements. 8. Rig down test assembly. 9. All tests and drills will be recorded in the drilling log. Speed head will be installed by a third-party welder under the supervision of the vendors representative.

**Choke Diagram Attachment:**

JawboneBS\_Choke\_20240129123704.pdf

**BOP Diagram Attachment:**

JawboneBS\_BOP\_20240129123715.pdf

**Section 3 - Casing**

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	14.75	10.75	NEW	API	N	0	300	0	300	0	-300	300	J-55	40.5	ST&C	14.9	25.5	DRY	58.8	DRY	58.8
2	INTERMEDIATE	9.875	7.625	NEW	API	N	0	1900	0	1886	0	-1886	1900	OTHER	29.7	BUTT	7.2	7	DRY	12.1	DRY	12.1
3	PRODUCTION	6.75	5.5	NEW	NON API	N	0	12603	0	7000	0	-7000	12603	OTHER	20	OTHER - TCBC-HT	3.4	3.6	DRY	4.3	DRY	4.3

**Casing Attachments**

Operator Name: FLAT CREEK RESOURCES LLC

Well Name: JAWBONE FED COM BS

Well Number: 011H

Casing Attachments

Casing ID: 1StringSURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

JawboneBS\_11H\_Casing\_Design\_Assumptions\_20240129124002.pdf

Casing ID: 2StringINTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

JawboneBS\_11H\_Casing\_Design\_Assumptions\_20240129124111.pdf

Casing ID: 3StringPRODUCTION

Inspection Document:

Spec Document:

5.5in\_Casing\_Spec\_20240129124710.pdf

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

JawboneBS\_11H\_Casing\_Design\_Assumptions\_20240129124229.pdf

Section 4 - Cement

**Operator Name:** FLAT CREEK RESOURCES LLC**Well Name:** JAWBONE FED COM BS**Well Number:** 011H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	300	135	1.68	12.8	226	100	35/65 Poz Premium C	5% salt + 6% bentonite gel + 0.4% CPT-503P + 1/8 #/sk Dura-fiber
SURFACE	Tail		0	300	85	1.34	14.8	113	100	Class C	1% CaCl <sub>2</sub> + ¼ #/sk cellophane flakes
INTERMEDIATE	Lead		0	1900	270	1.68	12.8	453	50	35/65 Poz Premium C	5% salt + 6% bentonite gel + 0.4% CPT-503P + 1/8 #/sk Dura-fiber
INTERMEDIATE	Tail		0	1900	85	1.74	13.5	147	50	Class C	1% CaCl <sub>2</sub> + 4% bentonite gel + 0.4% CPT-503P + 1/8 #/sk Dura-fiber
PRODUCTION	Lead		0	1260 3	210	2.82	10.4	592	15	Class C	10% light weight bead + 5% silica fume alternative + 0.2% suspension aid + 0.3% fluid loss additive + 0.3% dispersant + 0.2% retarder
PRODUCTION	Tail		0	1260 3	450	1.42	13.2	639	15	35/65 Poz Premium H	0.2% CPT-23

### Section 5 - Circulating Medium

**Mud System Type:** Closed**Will an air or gas system be Used?** NO**Description of the equipment for the circulating system in accordance with Onshore Order #2:****Diagram of the equipment for the circulating system in accordance with Onshore Order #2:**

**Describe what will be on location to control well or mitigate other conditions:** Sufficient mud materials (e. g., barite, bentonite, LCM) to maintain mud properties and meet minimum lost circulation and weight increase requirements will always be on site.

**Describe the mud monitoring system utilized:** A closed loop system will be used. An electronic pit volume totalizer (PVT) mud system complying with 43 CFR 3172 will monitor pit volumes for gains or losses, flow rate, pump pressures, and stroke rate.

### Circulating Medium Table

**Operator Name:** FLAT CREEK RESOURCES LLC**Well Name:** JAWBONE FED COM BS**Well Number:** 011H

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	300	OTHER : Fresh Water	8.8	8.8							
300	1900	OTHER : Cut Briner	10	10							
1900	12603	OTHER : High Performance Water Base	9.4	9.4							

### Section 6 - Test, Logging, Coring

**List of production tests including testing procedures, equipment and safety measures:**

GR, MWD, and mud logs will be run.

**List of open and cased hole logs run in the well:**

GAMMA RAY LOG,MUD LOG/GEOLOGICAL LITHOLOGY LOG,MEASUREMENT WHILE DRILLING,

**Coring operation description for the well:**

No core is planned.

### Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 3267

**Anticipated Surface Pressure:** 1726

**Anticipated Bottom Hole Temperature(F):** 158

**Anticipated abnormal pressures, temperatures, or potential geologic hazards?** NO

**Describe:**

**Contingency Plans geohazards description:**

**Contingency Plans geohazards**

**Hydrogen Sulfide drilling operations plan required?** YES

**Hydrogen sulfide drilling operations**

JawboneBS\_11\_12\_H2S\_Plan\_20240129130314.pdf



Operator Name: FLAT CREEK RESOURCES LLC

Well Name: JAWBONE FED COM BS

Well Number: 011H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

JawboneBS\_11H\_Horizontal\_Plan\_20240129130404.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

JawboneBS\_11H\_Drill\_Plan\_20240129130422.pdf

JawboneBS\_11H\_Speedhead\_Specs\_20240129130450.pdf

JawboneBS\_11H\_Anticollision\_Report\_20240129130632.pdf

CoFlex\_Certs\_Rev\_20240607103816.pdf

Other Variance attachment:

# Freedom Energy

**Well:** Jawbone Fed Com BS 11H  
**Site:** Jawbone  
**Project:** Eddy County, New Mexico NAD27 NME  
**Design:** rev0

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect	Annotation
1	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	
2	1000.00	0.00	0.000	1000.00	0.00	0.00	0.00	0.00	KOP Begin 2°/100' build
3	1742.80	14.86	99.581	1734.50	-15.94	94.42	2.00	-16.01	Begin 14.86° tangent
4	5734.25	14.86	99.581	5592.54	-186.27	1103.52	0.00	-187.08	Begin 2°/100' drop
5	6477.05	0.00	0.000	6327.04	-202.21	1197.94	2.00	-203.09	Begin vertical hold
6	6577.05	0.00	0.000	6427.04	-202.21	1197.94	0.00	-203.09	Begin 10°/100' build
7	7477.05	90.00	359.958	7000.00	370.75	1197.52	10.00	369.87	Begin 90.00° lateral
8	12552.61	90.00	359.958	7000.00	5446.31	1193.77	0.00	5445.43	LTP @ 12552.61 MD 7000.00 TVD
9	12602.61	90.00	359.958	7000.00	5496.31	1193.74	0.00	5495.43	PBHL @ 12602.61 MD 7000.00 TVD

## DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
Jawbone 11H BHL 100 FNL 470 FEL	7000.00	5496.31	1193.73	429453.820	523885.330
- plan hits target center					
Jawbone 11H FTP 100 FSL 470 FEL	7000.00	370.75	1197.52	424328.270	523889.120
- plan misses target center by 0.01ft at 7477.05ft MD (7000.00 TVD, 370.75 N, 1197.52 E)					
Jawbone 11H LTP 100 FNL 470 FEL	7000.00	5446.31	1193.77	429403.820	523885.370
- plan hits target center					
Jawbone 11H vert	6427.04	-202.21	1197.94	423755.310	523889.538
- plan hits target center					

Geodetic System: US State Plane 1927 (Exact solution)  
Datum: NAD 1927 (NADCON CONUS)  
Ellipsoid: Clarke 1866  
Zone: New Mexico East 3001  
System Datum: Mean Sea Level  
Depth Reference: RKB=3384+26.5 @ 3410.50ft

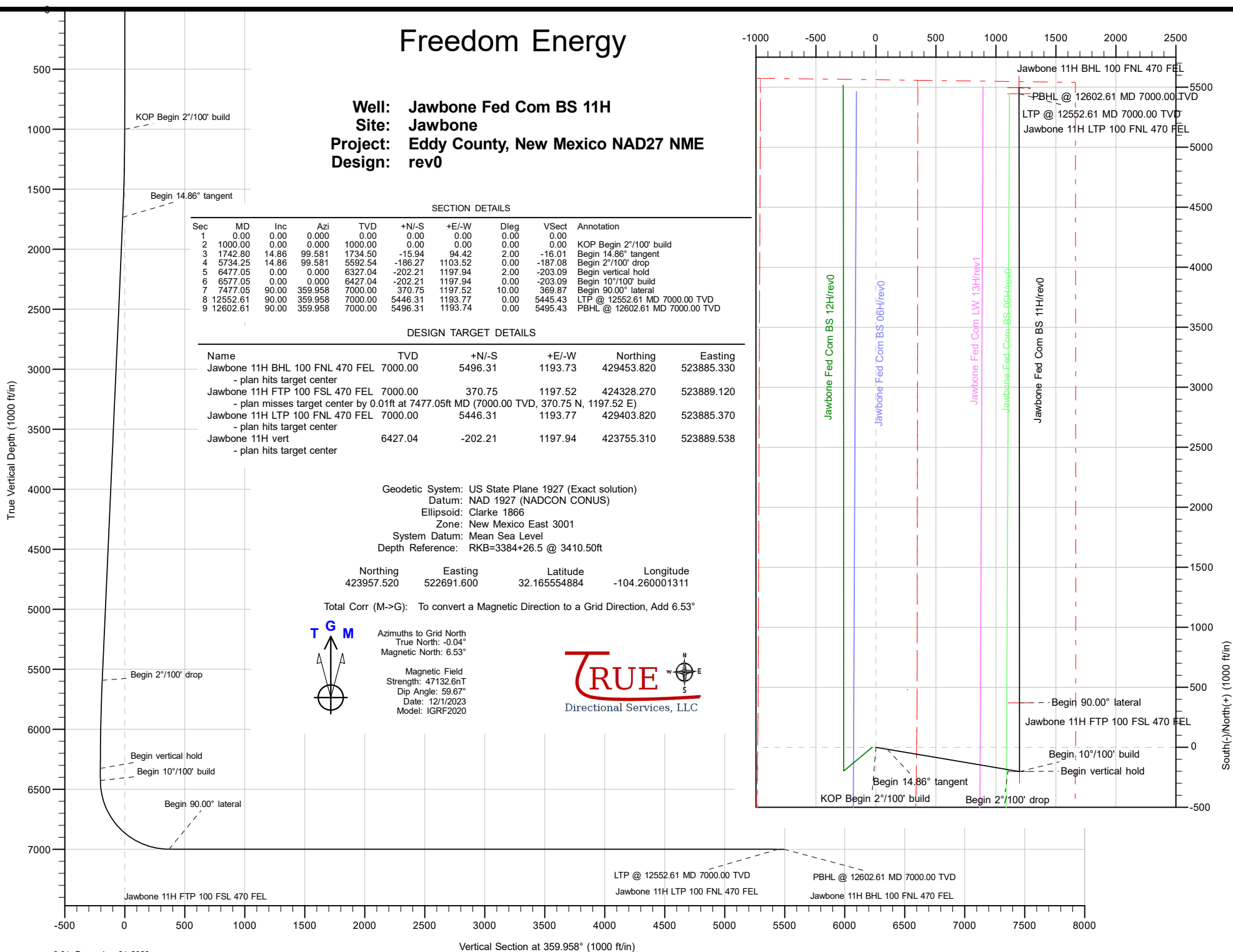
Northing: 423957.520    Easting: 522691.600    Latitude: 32.165554884    Longitude: -104.260001311

Total Corr (M->G): To convert a Magnetic Direction to a Grid Direction, Add 6.53°



Azimuths to Grid North  
True North: -0.04°  
Magnetic North: 6.53°

Magnetic Field  
Strength: 47132.6nT  
Dip Angle: 59.67°  
Date: 12/1/2023  
Model: IGRF2020



## Planning Report



<b>Database:</b>	DT_Aug2923v16	<b>Local Co-ordinate Reference:</b>	Well Jawbone Fed Com BS 11H
<b>Company:</b>	Freedom Energy	<b>TVD Reference:</b>	RKB=3384+26.5 @ 3410.50ft
<b>Project:</b>	Eddy County, New Mexico NAD27 NME	<b>MD Reference:</b>	RKB=3384+26.5 @ 3410.50ft
<b>Site:</b>	Jawbone	<b>North Reference:</b>	Grid
<b>Well:</b>	Jawbone Fed Com BS 11H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

<b>Project</b>	Eddy County, New Mexico NAD27 NME		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	New Mexico East 3001		

Site		Jawbone			
Site Position:		Northing:	419,218.600 usft	Latitude:	32.152532039
From:	Map	Easting:	520,115.600 usft	Longitude:	-104.268335365
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well	Jawbone Fed Com BS 11H, Surf loc: 275 FNL 1665 FEL Section 2-T25S-R26E					
Well Position	+N/-S	0.00 ft	Northing:	423,957.520 usft	Latitude:	32.165554884
	+E/-W	0.00 ft	Easting:	522,691.600 usft	Longitude:	-104.260001311
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	3,384.00 ft
Grid Convergence:		0.04 °				

<b>Wellbore</b>	Original Hole				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2020	12/1/2023	6.57	59.67	47,132.64169682

Design	rev0			
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	359.958

<b>Plan Survey Tool Program</b>	<b>Date</b>	12/1/2023			
<b>Depth From (ft)</b>	<b>Depth To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.00	12,602.62 rev0 (Original Hole)	MWD		
			OWSG MWD - Standard		

Planning Report



Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com BS 11H
Company:	Freedom Energy	TVD Reference:	RKB=3384+26.5 @ 3410.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3384+26.5 @ 3410.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com BS 11H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	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	
1,742.80	14.86	99.581	1,734.50	-15.94	94.42	2.00	2.00	0.00	99.58	
5,734.25	14.86	99.581	5,592.54	-186.27	1,103.52	0.00	0.00	0.00	0.00	
6,477.05	0.00	0.000	6,327.04	-202.21	1,197.94	2.00	-2.00	0.00	180.00	
6,577.05	0.00	0.000	6,427.04	-202.21	1,197.94	0.00	0.00	0.00	0.00	Jawbone 11H vert
7,477.05	90.00	359.958	7,000.00	370.75	1,197.52	10.00	10.00	0.00	359.96	
12,552.61	90.00	359.958	7,000.00	5,446.31	1,193.77	0.00	0.00	0.00	0.00	Jawbone 11H LTP 10i
12,602.62	90.00	359.958	7,000.00	5,496.31	1,193.74	0.00	0.00	0.00	0.00	Jawbone 11H BHL 10

## Planning Report



<b>Database:</b>	DT_Aug2923v16	<b>Local Co-ordinate Reference:</b>	Well Jawbone Fed Com BS 11H
<b>Company:</b>	Freedom Energy	<b>TVD Reference:</b>	RKB=3384+26.5 @ 3410.50ft
<b>Project:</b>	Eddy County, New Mexico NAD27 NME	<b>MD Reference:</b>	RKB=3384+26.5 @ 3410.50ft
<b>Site:</b>	Jawbone	<b>North Reference:</b>	Grid
<b>Well:</b>	Jawbone Fed Com BS 11H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
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	2.00	99.581	1,099.98	-0.29	1.72	-0.29	2.00	2.00	0.00
1,200.00	4.00	99.581	1,199.84	-1.16	6.88	-1.17	2.00	2.00	0.00
1,300.00	6.00	99.581	1,299.45	-2.61	15.47	-2.62	2.00	2.00	0.00
1,400.00	8.00	99.581	1,398.70	-4.64	27.49	-4.66	2.00	2.00	0.00
1,500.00	10.00	99.581	1,497.47	-7.24	42.92	-7.28	2.00	2.00	0.00
1,600.00	12.00	99.581	1,595.62	-10.42	61.73	-10.47	2.00	2.00	0.00
1,700.00	14.00	99.581	1,693.06	-14.16	83.91	-14.23	2.00	2.00	0.00
1,742.80	14.86	99.581	1,734.50	-15.94	94.42	-16.01	2.00	2.00	0.00
1,800.00	14.86	99.581	1,789.79	-18.38	108.89	-18.46	0.00	0.00	0.00
1,900.00	14.86	99.581	1,886.45	-22.65	134.17	-22.75	0.00	0.00	0.00
2,000.00	14.86	99.581	1,983.11	-26.91	159.45	-27.03	0.00	0.00	0.00
2,100.00	14.86	99.581	2,079.77	-31.18	184.73	-31.32	0.00	0.00	0.00
2,200.00	14.86	99.581	2,176.42	-35.45	210.01	-35.60	0.00	0.00	0.00
2,300.00	14.86	99.581	2,273.08	-39.72	235.29	-39.89	0.00	0.00	0.00
2,400.00	14.86	99.581	2,369.74	-43.98	260.57	-44.18	0.00	0.00	0.00
2,500.00	14.86	99.581	2,466.39	-48.25	285.85	-48.46	0.00	0.00	0.00
2,600.00	14.86	99.581	2,563.05	-52.52	311.14	-52.75	0.00	0.00	0.00
2,700.00	14.86	99.581	2,659.71	-56.79	336.42	-57.03	0.00	0.00	0.00
2,800.00	14.86	99.581	2,756.37	-61.05	361.70	-61.32	0.00	0.00	0.00
2,900.00	14.86	99.581	2,853.02	-65.32	386.98	-65.61	0.00	0.00	0.00
3,000.00	14.86	99.581	2,949.68	-69.59	412.26	-69.89	0.00	0.00	0.00
3,100.00	14.86	99.581	3,046.34	-73.86	437.54	-74.18	0.00	0.00	0.00
3,200.00	14.86	99.581	3,143.00	-78.12	462.82	-78.46	0.00	0.00	0.00
3,300.00	14.86	99.581	3,239.65	-82.39	488.11	-82.75	0.00	0.00	0.00
3,400.00	14.86	99.581	3,336.31	-86.66	513.39	-87.03	0.00	0.00	0.00
3,500.00	14.86	99.581	3,432.97	-90.93	538.67	-91.32	0.00	0.00	0.00
3,600.00	14.86	99.581	3,529.63	-95.19	563.95	-95.61	0.00	0.00	0.00
3,700.00	14.86	99.581	3,626.28	-99.46	589.23	-99.89	0.00	0.00	0.00
3,800.00	14.86	99.581	3,722.94	-103.73	614.51	-104.18	0.00	0.00	0.00
3,900.00	14.86	99.581	3,819.60	-108.00	639.79	-108.46	0.00	0.00	0.00
4,000.00	14.86	99.581	3,916.25	-112.26	665.07	-112.75	0.00	0.00	0.00
4,100.00	14.86	99.581	4,012.91	-116.53	690.36	-117.04	0.00	0.00	0.00
4,200.00	14.86	99.581	4,109.57	-120.80	715.64	-121.32	0.00	0.00	0.00
4,300.00	14.86	99.581	4,206.23	-125.07	740.92	-125.61	0.00	0.00	0.00
4,400.00	14.86	99.581	4,302.88	-129.33	766.20	-129.89	0.00	0.00	0.00
4,500.00	14.86	99.581	4,399.54	-133.60	791.48	-134.18	0.00	0.00	0.00
4,600.00	14.86	99.581	4,496.20	-137.87	816.76	-138.47	0.00	0.00	0.00
4,700.00	14.86	99.581	4,592.86	-142.14	842.04	-142.75	0.00	0.00	0.00
4,800.00	14.86	99.581	4,689.51	-146.40	867.32	-147.04	0.00	0.00	0.00
4,900.00	14.86	99.581	4,786.17	-150.67	892.61	-151.32	0.00	0.00	0.00
5,000.00	14.86	99.581	4,882.83	-154.94	917.89	-155.61	0.00	0.00	0.00
5,100.00	14.86	99.581	4,979.49	-159.21	943.17	-159.90	0.00	0.00	0.00
5,200.00	14.86	99.581	5,076.14	-163.47	968.45	-164.18	0.00	0.00	0.00

## Planning Report



<b>Database:</b>	DT_Aug2923v16	<b>Local Co-ordinate Reference:</b>	Well Jawbone Fed Com BS 11H
<b>Company:</b>	Freedom Energy	<b>TVD Reference:</b>	RKB=3384+26.5 @ 3410.50ft
<b>Project:</b>	Eddy County, New Mexico NAD27 NME	<b>MD Reference:</b>	RKB=3384+26.5 @ 3410.50ft
<b>Site:</b>	Jawbone	<b>North Reference:</b>	Grid
<b>Well:</b>	Jawbone Fed Com BS 11H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,300.00	14.86	99.581	5,172.80	-167.74	993.73	-168.47	0.00	0.00	0.00
5,400.00	14.86	99.581	5,269.46	-172.01	1,019.01	-172.75	0.00	0.00	0.00
5,500.00	14.86	99.581	5,366.12	-176.27	1,044.29	-177.04	0.00	0.00	0.00
5,600.00	14.86	99.581	5,462.77	-180.54	1,069.58	-181.33	0.00	0.00	0.00
5,700.00	14.86	99.581	5,559.43	-184.81	1,094.86	-185.61	0.00	0.00	0.00
5,734.25	14.86	99.581	5,592.54	-186.27	1,103.52	-187.08	0.00	0.00	0.00
5,800.00	13.54	99.581	5,656.28	-188.96	1,119.42	-189.78	2.00	-2.00	0.00
5,900.00	11.54	99.581	5,753.88	-192.57	1,140.83	-193.41	2.00	-2.00	0.00
6,000.00	9.54	99.581	5,852.19	-195.61	1,158.86	-196.46	2.00	-2.00	0.00
6,100.00	7.54	99.581	5,951.08	-198.09	1,173.51	-198.95	2.00	-2.00	0.00
6,200.00	5.54	99.581	6,050.42	-199.98	1,184.74	-200.85	2.00	-2.00	0.00
6,300.00	3.54	99.581	6,150.10	-201.30	1,192.55	-202.17	2.00	-2.00	0.00
6,400.00	1.54	99.581	6,250.00	-202.04	1,196.92	-202.91	2.00	-2.00	0.00
6,477.05	0.00	0.000	6,327.04	-202.21	1,197.94	-203.09	2.00	-2.00	0.00
6,500.00	0.00	0.000	6,349.99	-202.21	1,197.94	-203.09	0.00	0.00	0.00
6,577.05	0.00	0.000	6,427.04	-202.21	1,197.94	-203.09	0.00	0.00	0.00
6,600.00	2.29	359.958	6,449.98	-201.75	1,197.94	-202.63	10.00	10.00	0.00
6,650.00	7.29	359.958	6,499.79	-197.57	1,197.94	-198.45	10.00	10.00	0.00
6,700.00	12.29	359.958	6,549.05	-189.07	1,197.93	-189.95	10.00	10.00	0.00
6,750.00	17.29	359.958	6,597.38	-176.30	1,197.92	-177.18	10.00	10.00	0.00
6,800.00	22.29	359.958	6,644.41	-159.38	1,197.91	-160.26	10.00	10.00	0.00
6,850.00	27.29	359.958	6,689.78	-138.42	1,197.89	-139.29	10.00	10.00	0.00
6,900.00	32.29	359.958	6,733.16	-113.58	1,197.87	-114.46	10.00	10.00	0.00
6,950.00	37.29	359.958	6,774.21	-85.06	1,197.85	-85.93	10.00	10.00	0.00
7,000.00	42.30	359.958	6,812.61	-53.06	1,197.83	-53.94	10.00	10.00	0.00
7,050.00	47.30	359.958	6,848.08	-17.85	1,197.80	-18.72	10.00	10.00	0.00
7,100.00	52.30	359.958	6,880.35	20.33	1,197.78	19.45	10.00	10.00	0.00
7,150.00	57.30	359.958	6,909.16	61.17	1,197.75	60.29	10.00	10.00	0.00
7,200.00	62.30	359.958	6,934.31	104.37	1,197.71	103.49	10.00	10.00	0.00
7,250.00	67.30	359.958	6,955.60	149.59	1,197.68	148.72	10.00	10.00	0.00
7,300.00	72.30	359.958	6,972.86	196.50	1,197.65	195.62	10.00	10.00	0.00
7,350.00	77.30	359.958	6,985.97	244.74	1,197.61	243.86	10.00	10.00	0.00
7,400.00	82.30	359.958	6,994.83	293.93	1,197.57	293.05	10.00	10.00	0.00
7,450.00	87.30	359.958	6,999.36	343.71	1,197.54	342.83	10.00	10.00	0.00
7,477.05	90.00	359.958	7,000.00	370.75	1,197.52	369.87	10.00	10.00	0.00
7,500.00	90.00	359.958	7,000.00	393.70	1,197.50	392.82	0.00	0.00	0.00
7,600.00	90.00	359.958	7,000.00	493.70	1,197.43	492.82	0.00	0.00	0.00
7,700.00	90.00	359.958	7,000.00	593.70	1,197.35	592.82	0.00	0.00	0.00
7,800.00	90.00	359.958	7,000.00	693.70	1,197.28	692.82	0.00	0.00	0.00
7,900.00	90.00	359.958	7,000.00	793.70	1,197.21	792.82	0.00	0.00	0.00
8,000.00	90.00	359.958	7,000.00	893.70	1,197.13	892.82	0.00	0.00	0.00
8,100.00	90.00	359.958	7,000.00	993.70	1,197.06	992.82	0.00	0.00	0.00
8,200.00	90.00	359.958	7,000.00	1,093.70	1,196.98	1,092.82	0.00	0.00	0.00
8,300.00	90.00	359.958	7,000.00	1,193.70	1,196.91	1,192.82	0.00	0.00	0.00
8,400.00	90.00	359.958	7,000.00	1,293.70	1,196.84	1,292.82	0.00	0.00	0.00
8,500.00	90.00	359.958	7,000.00	1,393.70	1,196.76	1,392.82	0.00	0.00	0.00
8,600.00	90.00	359.958	7,000.00	1,493.70	1,196.69	1,492.82	0.00	0.00	0.00
8,700.00	90.00	359.958	7,000.00	1,593.70	1,196.61	1,592.82	0.00	0.00	0.00
8,800.00	90.00	359.958	7,000.00	1,693.70	1,196.54	1,692.82	0.00	0.00	0.00
8,900.00	90.00	359.958	7,000.00	1,793.70	1,196.47	1,792.82	0.00	0.00	0.00
9,000.00	90.00	359.958	7,000.00	1,893.70	1,196.39	1,892.82	0.00	0.00	0.00
9,100.00	90.00	359.958	7,000.00	1,993.70	1,196.32	1,992.82	0.00	0.00	0.00
9,200.00	90.00	359.958	7,000.00	2,093.70	1,196.25	2,092.82	0.00	0.00	0.00
9,300.00	90.00	359.958	7,000.00	2,193.70	1,196.17	2,192.82	0.00	0.00	0.00

## Planning Report



<b>Database:</b>	DT_Aug2923v16	<b>Local Co-ordinate Reference:</b>	Well Jawbone Fed Com BS 11H
<b>Company:</b>	Freedom Energy	<b>TVD Reference:</b>	RKB=3384+26.5 @ 3410.50ft
<b>Project:</b>	Eddy County, New Mexico NAD27 NME	<b>MD Reference:</b>	RKB=3384+26.5 @ 3410.50ft
<b>Site:</b>	Jawbone	<b>North Reference:</b>	Grid
<b>Well:</b>	Jawbone Fed Com BS 11H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,400.00	90.00	359.958	7,000.00	2,293.70	1,196.10	2,292.82	0.00	0.00	0.00
9,500.00	90.00	359.958	7,000.00	2,393.70	1,196.02	2,392.82	0.00	0.00	0.00
9,600.00	90.00	359.958	7,000.00	2,493.70	1,195.95	2,492.82	0.00	0.00	0.00
9,700.00	90.00	359.958	7,000.00	2,593.70	1,195.88	2,592.82	0.00	0.00	0.00
9,800.00	90.00	359.958	7,000.00	2,693.70	1,195.80	2,692.82	0.00	0.00	0.00
9,900.00	90.00	359.958	7,000.00	2,793.70	1,195.73	2,792.82	0.00	0.00	0.00
10,000.00	90.00	359.958	7,000.00	2,893.70	1,195.66	2,892.82	0.00	0.00	0.00
10,100.00	90.00	359.958	7,000.00	2,993.70	1,195.58	2,992.82	0.00	0.00	0.00
10,200.00	90.00	359.958	7,000.00	3,093.70	1,195.51	3,092.82	0.00	0.00	0.00
10,300.00	90.00	359.958	7,000.00	3,193.70	1,195.43	3,192.82	0.00	0.00	0.00
10,400.00	90.00	359.958	7,000.00	3,293.70	1,195.36	3,292.82	0.00	0.00	0.00
10,500.00	90.00	359.958	7,000.00	3,393.70	1,195.29	3,392.82	0.00	0.00	0.00
10,600.00	90.00	359.958	7,000.00	3,493.70	1,195.21	3,492.82	0.00	0.00	0.00
10,700.00	90.00	359.958	7,000.00	3,593.70	1,195.14	3,592.82	0.00	0.00	0.00
10,800.00	90.00	359.958	7,000.00	3,693.70	1,195.07	3,692.82	0.00	0.00	0.00
10,900.00	90.00	359.958	7,000.00	3,793.70	1,194.99	3,792.82	0.00	0.00	0.00
11,000.00	90.00	359.958	7,000.00	3,893.70	1,194.92	3,892.82	0.00	0.00	0.00
11,100.00	90.00	359.958	7,000.00	3,993.70	1,194.84	3,992.82	0.00	0.00	0.00
11,200.00	90.00	359.958	7,000.00	4,093.70	1,194.77	4,092.82	0.00	0.00	0.00
11,300.00	90.00	359.958	7,000.00	4,193.70	1,194.70	4,192.82	0.00	0.00	0.00
11,400.00	90.00	359.958	7,000.00	4,293.70	1,194.62	4,292.82	0.00	0.00	0.00
11,500.00	90.00	359.958	7,000.00	4,393.70	1,194.55	4,392.82	0.00	0.00	0.00
11,600.00	90.00	359.958	7,000.00	4,493.70	1,194.48	4,492.82	0.00	0.00	0.00
11,700.00	90.00	359.958	7,000.00	4,593.70	1,194.40	4,592.82	0.00	0.00	0.00
11,800.00	90.00	359.958	7,000.00	4,693.70	1,194.33	4,692.82	0.00	0.00	0.00
11,900.00	90.00	359.958	7,000.00	4,793.70	1,194.25	4,792.82	0.00	0.00	0.00
12,000.00	90.00	359.958	7,000.00	4,893.70	1,194.18	4,892.82	0.00	0.00	0.00
12,100.00	90.00	359.958	7,000.00	4,993.70	1,194.11	4,992.82	0.00	0.00	0.00
12,200.00	90.00	359.958	7,000.00	5,093.70	1,194.03	5,092.82	0.00	0.00	0.00
12,300.00	90.00	359.958	7,000.00	5,193.70	1,193.96	5,192.82	0.00	0.00	0.00
12,400.00	90.00	359.958	7,000.00	5,293.70	1,193.89	5,292.82	0.00	0.00	0.00
12,500.00	90.00	359.958	7,000.00	5,393.70	1,193.81	5,392.82	0.00	0.00	0.00
12,552.61	90.00	359.958	7,000.00	5,446.31	1,193.77	5,445.43	0.00	0.00	0.00
12,602.62	90.00	359.958	7,000.00	5,496.31	1,193.74	5,495.43	0.00	0.00	0.00

Planning Report



Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com BS 11H
Company:	Freedom Energy	TVD Reference:	RKB=3384+26.5 @ 3410.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3384+26.5 @ 3410.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com BS 11H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev0		

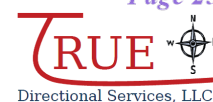
Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
Jawbone 11H vert	0.00	0.000	6,427.04	-202.21	1,197.94	423,755.310	523,889.538	32.164996703	-104.256130429
- plan hits target center									
- Point									
Jawbone 11H LTP 100 F	0.00	0.000	7,000.00	5,446.31	1,193.77	429,403.820	523,885.370	32.180524551	-104.256130801
- plan hits target center									
- Point									
Jawbone 11H BHL 100 F	0.00	0.000	7,000.00	5,496.31	1,193.73	429,453.820	523,885.330	32.180662002	-104.256130814
- plan hits target center									
- Point									
Jawbone 11H FTP 100 F	0.00	0.000	7,000.00	370.75	1,197.52	424,328.270	523,889.120	32.166571780	-104.256130451
- plan misses target center by 0.01ft at 7477.05ft MD (7000.00 TVD, 370.75 N, 1197.52 E)									
- Point									

Casing Points					
	Measured Depth	Vertical Depth		Casing Diameter	Hole Diameter
	(ft)	(ft)	Name	(")	(")
	12,602.62	7,000.00	20" Casing	20	24

Plan Annotations					
	Measured Depth	Vertical Depth	Local Coordinates		
	(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	Comment
	1,000.00	1,000.00	0.00	0.00	KOP Begin 2°/100' build
	1,742.80	1,734.50	-15.94	94.42	Begin 14.86° tangent
	5,734.25	5,592.54	-186.27	1,103.52	Begin 2°/100' drop
	6,477.05	6,327.04	-202.21	1,197.94	Begin vertical hold
	6,577.05	6,427.04	-202.21	1,197.94	Begin 10°/100' build
	7,477.05	7,000.00	370.75	1,197.52	Begin 90.00° lateral
	12,552.61	7,000.00	5,446.31	1,193.77	LTP @ 12552.61 MD 7000.00 TVD
	12,602.62	7,000.00	5,496.31	1,193.74	PBHL @ 12602.61 MD 7000.00 TVD



## Planning Report - Geographic



<b>Database:</b>	DT_Aug2923v16	<b>Local Co-ordinate Reference:</b>	Well Jawbone Fed Com BS 11H
<b>Company:</b>	Freedom Energy	<b>TVD Reference:</b>	RKB=3384+26.5 @ 3410.50ft
<b>Project:</b>	Eddy County, New Mexico NAD27 NME	<b>MD Reference:</b>	RKB=3384+26.5 @ 3410.50ft
<b>Site:</b>	Jawbone	<b>North Reference:</b>	Grid
<b>Well:</b>	Jawbone Fed Com BS 11H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

<b>Project</b>	Eddy County, New Mexico NAD27 NME		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	New Mexico East 3001		

Site		Jawbone			
Site Position:		Northing:	419,218.600 usft	Latitude:	32.152532039
From:	Map	Easting:	520,115.600 usft	Longitude:	-104.268335365
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "		

Well	Jawbone Fed Com BS 11H, Surf loc: 275 FNL 1665 FEL Section 2-T25S-R26E						
Well Position	+N/-S	0.00 ft	Northing:	423,957.520	usft	Latitude:	32.165554884
	+E/-W	0.00 ft	Easting:	522,691.600	usft	Longitude:	-104.260001311
Position Uncertainty		0.00 ft	Wellhead Elevation:		ft	Ground Level:	3,384.00 ft
Grid Convergence:		0.04 °					

<b>Wellbore</b>	Original Hole				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2020	12/1/2023	6.57	59.67	47,132.64169682

<b>Design</b>	rev0			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	359.958

<b>Plan Survey Tool Program</b>	<b>Date</b>	12/1/2023		
<b>Depth From (ft)</b>	<b>Depth To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>
1	0.00	12,602.62 rev0 (Original Hole)	MWD	
			OWSG MWD - Standard	

Planning Report - Geographic



<b>Database:</b>	DT_Aug2923v16	<b>Local Co-ordinate Reference:</b>	Well Jawbone Fed Com BS 11H
<b>Company:</b>	Freedom Energy	<b>TVD Reference:</b>	RKB=3384+26.5 @ 3410.50ft
<b>Project:</b>	Eddy County, New Mexico NAD27 NME	<b>MD Reference:</b>	RKB=3384+26.5 @ 3410.50ft
<b>Site:</b>	Jawbone	<b>North Reference:</b>	Grid
<b>Well:</b>	Jawbone Fed Com BS 11H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.000	0.00	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	
1,742.80	14.86	99.581	1,734.50	-15.94	94.42	2.00	2.00	0.00	99.58	
5,734.25	14.86	99.581	5,592.54	-186.27	1,103.52	0.00	0.00	0.00	0.00	
6,477.05	0.00	0.000	6,327.04	-202.21	1,197.94	2.00	-2.00	0.00	180.00	
6,577.05	0.00	0.000	6,427.04	-202.21	1,197.94	0.00	0.00	0.00	0.00	Jawbone 11H vert
7,477.05	90.00	359.958	7,000.00	370.75	1,197.52	10.00	10.00	0.00	359.96	
12,552.61	90.00	359.958	7,000.00	5,446.31	1,193.77	0.00	0.00	0.00	0.00	Jawbone 11H LTP 10i
12,602.62	90.00	359.958	7,000.00	5,496.31	1,193.74	0.00	0.00	0.00	0.00	Jawbone 11H BHL 10

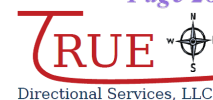
## Planning Report - Geographic



<b>Database:</b>	DT_Aug2923v16	<b>Local Co-ordinate Reference:</b>	Well Jawbone Fed Com BS 11H
<b>Company:</b>	Freedom Energy	<b>TVD Reference:</b>	RKB=3384+26.5 @ 3410.50ft
<b>Project:</b>	Eddy County, New Mexico NAD27 NME	<b>MD Reference:</b>	RKB=3384+26.5 @ 3410.50ft
<b>Site:</b>	Jawbone	<b>North Reference:</b>	Grid
<b>Well:</b>	Jawbone Fed Com BS 11H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.000	0.00	0.00	0.00	423,957.520	522,691.600	32.165554884	-104.260001311
100.00	0.00	0.000	100.00	0.00	0.00	423,957.520	522,691.600	32.165554884	-104.260001311
200.00	0.00	0.000	200.00	0.00	0.00	423,957.520	522,691.600	32.165554884	-104.260001311
300.00	0.00	0.000	300.00	0.00	0.00	423,957.520	522,691.600	32.165554884	-104.260001311
400.00	0.00	0.000	400.00	0.00	0.00	423,957.520	522,691.600	32.165554884	-104.260001311
500.00	0.00	0.000	500.00	0.00	0.00	423,957.520	522,691.600	32.165554884	-104.260001311
600.00	0.00	0.000	600.00	0.00	0.00	423,957.520	522,691.600	32.165554884	-104.260001311
700.00	0.00	0.000	700.00	0.00	0.00	423,957.520	522,691.600	32.165554884	-104.260001311
800.00	0.00	0.000	800.00	0.00	0.00	423,957.520	522,691.600	32.165554884	-104.260001311
900.00	0.00	0.000	900.00	0.00	0.00	423,957.520	522,691.600	32.165554884	-104.260001311
1,000.00	0.00	0.000	1,000.00	0.00	0.00	423,957.520	522,691.600	32.165554884	-104.260001311
1,100.00	2.00	99.581	1,099.98	-0.29	1.72	423,957.229	522,693.321	32.165554082	-104.259995750
1,200.00	4.00	99.581	1,199.84	-1.16	6.88	423,956.358	522,698.481	32.165551678	-104.259979076
1,300.00	6.00	99.581	1,299.45	-2.61	15.47	423,954.908	522,707.075	32.165547674	-104.259951307
1,400.00	8.00	99.581	1,398.70	-4.64	27.49	423,952.879	522,719.091	32.165542075	-104.259912479
1,500.00	10.00	99.581	1,497.47	-7.24	42.92	423,950.276	522,734.516	32.165534889	-104.259862638
1,600.00	12.00	99.581	1,595.62	-10.42	61.73	423,947.100	522,753.329	32.165526124	-104.259801845
1,700.00	14.00	99.581	1,693.06	-14.16	83.91	423,943.356	522,775.509	32.165515790	-104.259730174
1,742.80	14.86	99.581	1,734.50	-15.94	94.42	423,941.581	522,786.024	32.165510891	-104.259696199
1,800.00	14.86	99.581	1,789.79	-18.38	108.89	423,939.140	522,800.486	32.165504153	-104.259649468
1,900.00	14.86	99.581	1,886.45	-22.65	134.17	423,934.873	522,825.767	32.165492374	-104.259567777
2,000.00	14.86	99.581	1,983.11	-26.91	159.45	423,930.605	522,851.048	32.165480595	-104.259486086
2,100.00	14.86	99.581	2,079.77	-31.18	184.73	423,926.338	522,876.329	32.165468816	-104.259404394
2,200.00	14.86	99.581	2,176.42	-35.45	210.01	423,922.070	522,901.611	32.165457037	-104.259322703
2,300.00	14.86	99.581	2,273.08	-39.72	235.29	423,917.803	522,926.892	32.165445258	-104.259241012
2,400.00	14.86	99.581	2,369.74	-43.98	260.57	423,913.536	522,952.173	32.165433479	-104.259159320
2,500.00	14.86	99.581	2,466.39	-48.25	285.85	423,909.268	522,977.454	32.165421700	-104.259077629
2,600.00	14.86	99.581	2,563.05	-52.52	311.14	423,905.001	523,002.736	32.165409921	-104.258995938
2,700.00	14.86	99.581	2,659.71	-56.79	336.42	423,900.733	523,028.017	32.165398142	-104.258914247
2,800.00	14.86	99.581	2,756.37	-61.05	361.70	423,896.466	523,053.298	32.165386362	-104.258832555
2,900.00	14.86	99.581	2,853.02	-65.32	386.98	423,892.199	523,078.579	32.165374583	-104.258750864
3,000.00	14.86	99.581	2,949.68	-69.59	412.26	423,887.931	523,103.861	32.165362803	-104.258669173
3,100.00	14.86	99.581	3,046.34	-73.86	437.54	423,883.664	523,129.142	32.165351024	-104.258587482
3,200.00	14.86	99.581	3,143.00	-78.12	462.82	423,879.396	523,154.423	32.165339244	-104.258505791
3,300.00	14.86	99.581	3,239.65	-82.39	488.11	423,875.129	523,179.704	32.165327465	-104.258424100
3,400.00	14.86	99.581	3,336.31	-86.66	513.39	423,870.861	523,204.986	32.165315685	-104.258342409
3,500.00	14.86	99.581	3,432.97	-90.93	538.67	423,866.594	523,230.267	32.165303906	-104.258260718
3,600.00	14.86	99.581	3,529.63	-95.19	563.95	423,862.327	523,255.548	32.165292126	-104.258179027
3,700.00	14.86	99.581	3,626.28	-99.46	589.23	423,858.059	523,280.829	32.165280346	-104.258097336
3,800.00	14.86	99.581	3,722.94	-103.73	614.51	423,853.792	523,306.111	32.165268566	-104.258015645
3,900.00	14.86	99.581	3,819.60	-108.00	639.79	423,849.524	523,331.392	32.165256786	-104.257933954
4,000.00	14.86	99.581	3,916.25	-112.26	665.07	423,845.257	523,356.673	32.165245006	-104.257852263
4,100.00	14.86	99.581	4,012.91	-116.53	690.36	423,840.989	523,381.954	32.165233226	-104.257770572
4,200.00	14.86	99.581	4,109.57	-120.80	715.64	423,836.722	523,407.236	32.165221446	-104.257688881
4,300.00	14.86	99.581	4,206.23	-125.07	740.92	423,832.455	523,432.517	32.165209666	-104.257607190
4,400.00	14.86	99.581	4,302.88	-129.33	766.20	423,828.187	523,457.798	32.165197886	-104.257525499
4,500.00	14.86	99.581	4,399.54	-133.60	791.48	423,823.920	523,483.079	32.165186106	-104.257443808
4,600.00	14.86	99.581	4,496.20	-137.87	816.76	423,819.652	523,508.361	32.165174326	-104.257362117
4,700.00	14.86	99.581	4,592.86	-142.14	842.04	423,815.385	523,533.642	32.165162545	-104.257280427
4,800.00	14.86	99.581	4,689.51	-146.40	867.32	423,811.117	523,558.923	32.165150765	-104.257198736
4,900.00	14.86	99.581	4,786.17	-150.67	892.61	423,806.850	523,584.204	32.165138984	-104.257117045
5,000.00	14.86	99.581	4,882.83	-154.94	917.89	423,802.583	523,609.486	32.165127204	-104.257035354
5,100.00	14.86	99.581	4,979.49	-159.21	943.17	423,798.315	523,634.767	32.165115423	-104.256953664
5,200.00	14.86	99.581	5,076.14	-163.47	968.45	423,794.048	523,660.048	32.165103643	-104.256871973
5,300.00	14.86	99.581	5,172.80	-167.74	993.73	423,789.780	523,685.329	32.165091862	-104.256790282

## Planning Report - Geographic



<b>Database:</b>	DT_Aug2923v16	<b>Local Co-ordinate Reference:</b>	Well Jawbone Fed Com BS 11H
<b>Company:</b>	Freedom Energy	<b>TVD Reference:</b>	RKB=3384+26.5 @ 3410.50ft
<b>Project:</b>	Eddy County, New Mexico NAD27 NME	<b>MD Reference:</b>	RKB=3384+26.5 @ 3410.50ft
<b>Site:</b>	Jawbone	<b>North Reference:</b>	Grid
<b>Well:</b>	Jawbone Fed Com BS 11H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
5,400.00	14.86	99.581	5,269.46	-172.01	1,019.01	423,785.513	523,710.611	32.165080081	-104.256708592	
5,500.00	14.86	99.581	5,366.12	-176.27	1,044.29	423,781.245	523,735.892	32.165068301	-104.256626901	
5,600.00	14.86	99.581	5,462.77	-180.54	1,069.58	423,776.978	523,761.173	32.165056520	-104.256545210	
5,700.00	14.86	99.581	5,559.43	-184.81	1,094.86	423,772.711	523,786.454	32.165044739	-104.256463520	
5,734.25	14.86	99.581	5,592.54	-186.27	1,103.52	423,771.249	523,795.114	32.165040704	-104.256435538	
5,800.00	13.54	99.581	5,656.28	-188.96	1,119.42	423,768.565	523,811.015	32.165033294	-104.256384157	
5,900.00	11.54	99.581	5,753.88	-192.57	1,140.83	423,764.951	523,832.425	32.165023317	-104.256314976	
6,000.00	9.54	99.581	5,852.19	-195.61	1,158.86	423,761.906	523,850.463	32.165014912	-104.256256692	
6,100.00	7.54	99.581	5,951.08	-198.09	1,173.51	423,759.434	523,865.106	32.165008088	-104.256209374	
6,200.00	5.54	99.581	6,050.42	-199.98	1,184.74	423,757.538	523,876.338	32.165002853	-104.256173080	
6,300.00	3.54	99.581	6,150.10	-201.30	1,192.55	423,756.221	523,884.145	32.164999216	-104.256147856	
6,400.00	1.54	99.581	6,250.00	-202.04	1,196.92	423,755.483	523,888.516	32.164997179	-104.256133731	
6,477.05	0.00	0.000	6,327.04	-202.21	1,197.94	423,755.310	523,889.538	32.164996703	-104.256130429	
6,500.00	0.00	0.000	6,349.99	-202.21	1,197.94	423,755.310	523,889.538	32.164996703	-104.256130429	
6,577.05	0.00	0.000	6,427.04	-202.21	1,197.94	423,755.310	523,889.538	32.164996703	-104.256130429	
6,600.00	2.29	359.958	6,449.98	-201.75	1,197.94	423,755.770	523,889.537	32.164997966	-104.256130430	
6,650.00	7.29	359.958	6,499.79	-197.57	1,197.94	423,759.948	523,889.534	32.165009452	-104.256130430	
6,700.00	12.29	359.958	6,549.05	-189.07	1,197.93	423,768.452	523,889.528	32.165032828	-104.256130430	
6,750.00	17.29	359.958	6,597.38	-176.30	1,197.92	423,781.216	523,889.519	32.165067917	-104.256130431	
6,800.00	22.29	359.958	6,644.41	-159.38	1,197.91	423,798.143	523,889.506	32.165114450	-104.256130432	
6,850.00	27.29	359.958	6,689.78	-138.42	1,197.89	423,819.105	523,889.491	32.165172075	-104.256130434	
6,900.00	32.29	359.958	6,733.16	-113.58	1,197.87	423,843.942	523,889.472	32.165240352	-104.256130435	
6,950.00	37.29	359.958	6,774.21	-85.06	1,197.85	423,872.465	523,889.451	32.165318763	-104.256130437	
7,000.00	42.30	359.958	6,812.61	-53.06	1,197.83	423,904.457	523,889.428	32.165406709	-104.256130439	
7,050.00	47.30	359.958	6,848.08	-17.85	1,197.80	423,939.674	523,889.402	32.165503522	-104.256130442	
7,100.00	52.30	359.958	6,880.35	20.33	1,197.78	423,977.849	523,889.374	32.165608465	-104.256130444	
7,150.00	57.30	359.958	6,909.16	61.17	1,197.75	424,018.690	523,889.343	32.165720740	-104.256130447	
7,200.00	62.30	359.958	6,934.31	104.37	1,197.71	424,061.888	523,889.312	32.165839492	-104.256130450	
7,250.00	67.30	359.958	6,955.60	149.59	1,197.68	424,107.113	523,889.278	32.165963816	-104.256130453	
7,300.00	72.30	359.958	6,972.86	196.50	1,197.65	424,154.021	523,889.244	32.166092767	-104.256130456	
7,350.00	77.30	359.958	6,985.97	244.74	1,197.61	424,202.256	523,889.208	32.166225364	-104.256130459	
7,400.00	82.30	359.958	6,994.83	293.93	1,197.57	424,251.449	523,889.172	32.166360598	-104.256130462	
7,450.00	87.30	359.958	6,999.36	343.71	1,197.54	424,301.227	523,889.135	32.166497438	-104.256130466	
7,477.05	90.00	359.958	7,000.00	370.75	1,197.52	424,328.266	523,889.115	32.166571771	-104.256130467	
7,500.00	90.00	359.958	7,000.00	393.70	1,197.50	424,351.217	523,889.098	32.166634861	-104.256130469	
7,600.00	90.00	359.958	7,000.00	493.70	1,197.43	424,451.216	523,889.024	32.166909763	-104.256130476	
7,700.00	90.00	359.958	7,000.00	593.70	1,197.35	424,551.216	523,888.950	32.167184664	-104.256130482	
7,800.00	90.00	359.958	7,000.00	693.70	1,197.28	424,651.216	523,888.877	32.167459565	-104.256130489	
7,900.00	90.00	359.958	7,000.00	793.70	1,197.21	424,751.216	523,888.803	32.167734467	-104.256130495	
8,000.00	90.00	359.958	7,000.00	893.70	1,197.13	424,851.216	523,888.729	32.168009368	-104.256130502	
8,100.00	90.00	359.958	7,000.00	993.70	1,197.06	424,951.215	523,888.655	32.168284269	-104.256130509	
8,200.00	90.00	359.958	7,000.00	1,093.70	1,196.98	425,051.215	523,888.582	32.168559170	-104.256130515	
8,300.00	90.00	359.958	7,000.00	1,193.70	1,196.91	425,151.215	523,888.508	32.168834072	-104.256130522	
8,400.00	90.00	359.958	7,000.00	1,293.70	1,196.84	425,251.215	523,888.434	32.169108973	-104.256130528	
8,500.00	90.00	359.958	7,000.00	1,393.70	1,196.76	425,351.214	523,888.360	32.169383874	-104.256130535	
8,600.00	90.00	359.958	7,000.00	1,493.70	1,196.69	425,451.214	523,888.286	32.169658775	-104.256130542	
8,700.00	90.00	359.958	7,000.00	1,593.70	1,196.61	425,551.214	523,888.213	32.169933676	-104.256130548	
8,800.00	90.00	359.958	7,000.00	1,693.70	1,196.54	425,651.214	523,888.139	32.170208578	-104.256130555	
8,900.00	90.00	359.958	7,000.00	1,793.70	1,196.47	425,751.213	523,888.065	32.170483479	-104.256130561	
9,000.00	90.00	359.958	7,000.00	1,893.70	1,196.39	425,851.213	523,887.991	32.170758380	-104.256130568	
9,100.00	90.00	359.958	7,000.00	1,993.70	1,196.32	425,951.213	523,887.918	32.171033281	-104.256130575	
9,200.00	90.00	359.958	7,000.00	2,093.70	1,196.25	426,051.213	523,887.844	32.171308182	-104.256130581	
9,300.00	90.00	359.958	7,000.00	2,193.70	1,196.17	426,151.213	523,887.770	32.171583083	-104.256130588	
9,400.00	90.00	359.958	7,000.00	2,293.70	1,196.10	426,251.212	523,887.696	32.171857985	-104.256130594	
9,500.00	90.00	359.958	7,000.00	2,393.70	1,196.02	426,351.212	523,887.622	32.172132886	-104.256130601	

## Planning Report - Geographic



<b>Database:</b>	DT_Aug2923v16	<b>Local Co-ordinate Reference:</b>	Well Jawbone Fed Com BS 11H
<b>Company:</b>	Freedom Energy	<b>TVD Reference:</b>	RKB=3384+26.5 @ 3410.50ft
<b>Project:</b>	Eddy County, New Mexico NAD27 NME	<b>MD Reference:</b>	RKB=3384+26.5 @ 3410.50ft
<b>Site:</b>	Jawbone	<b>North Reference:</b>	Grid
<b>Well:</b>	Jawbone Fed Com BS 11H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
9,600.00	90.00	359.958	7,000.00	2,493.70	1,195.95	426,451.212	523,887.549	32.172407787	-104.256130607	
9,700.00	90.00	359.958	7,000.00	2,593.70	1,195.88	426,551.212	523,887.475	32.172682688	-104.256130614	
9,800.00	90.00	359.958	7,000.00	2,693.70	1,195.80	426,651.211	523,887.401	32.172957589	-104.256130621	
9,900.00	90.00	359.958	7,000.00	2,793.70	1,195.73	426,751.211	523,887.327	32.173232490	-104.256130627	
10,000.00	90.00	359.958	7,000.00	2,893.70	1,195.66	426,851.211	523,887.253	32.173507391	-104.256130634	
10,100.00	90.00	359.958	7,000.00	2,993.70	1,195.58	426,951.211	523,887.180	32.173782292	-104.256130640	
10,200.00	90.00	359.958	7,000.00	3,093.70	1,195.51	427,051.210	523,887.106	32.174057193	-104.256130647	
10,300.00	90.00	359.958	7,000.00	3,193.70	1,195.43	427,151.210	523,887.032	32.174332094	-104.256130653	
10,400.00	90.00	359.958	7,000.00	3,293.70	1,195.36	427,251.210	523,886.958	32.174606995	-104.256130660	
10,500.00	90.00	359.958	7,000.00	3,393.70	1,195.29	427,351.210	523,886.885	32.174881896	-104.256130667	
10,600.00	90.00	359.958	7,000.00	3,493.70	1,195.21	427,451.209	523,886.811	32.175156797	-104.256130673	
10,700.00	90.00	359.958	7,000.00	3,593.70	1,195.14	427,551.209	523,886.737	32.175431698	-104.256130680	
10,800.00	90.00	359.958	7,000.00	3,693.70	1,195.07	427,651.209	523,886.663	32.175706599	-104.256130686	
10,900.00	90.00	359.958	7,000.00	3,793.70	1,194.99	427,751.209	523,886.589	32.175981500	-104.256130693	
11,000.00	90.00	359.958	7,000.00	3,893.70	1,194.92	427,851.209	523,886.516	32.176256401	-104.256130699	
11,100.00	90.00	359.958	7,000.00	3,993.70	1,194.84	427,951.208	523,886.442	32.176531302	-104.256130706	
11,200.00	90.00	359.958	7,000.00	4,093.70	1,194.77	428,051.208	523,886.368	32.176806203	-104.256130712	
11,300.00	90.00	359.958	7,000.00	4,193.70	1,194.70	428,151.208	523,886.294	32.177081104	-104.256130719	
11,400.00	90.00	359.958	7,000.00	4,293.70	1,194.62	428,251.208	523,886.221	32.177356004	-104.256130726	
11,500.00	90.00	359.958	7,000.00	4,393.70	1,194.55	428,351.207	523,886.147	32.177630905	-104.256130732	
11,600.00	90.00	359.958	7,000.00	4,493.70	1,194.48	428,451.207	523,886.073	32.177905806	-104.256130739	
11,700.00	90.00	359.958	7,000.00	4,593.70	1,194.40	428,551.207	523,885.999	32.178180707	-104.256130745	
11,800.00	90.00	359.958	7,000.00	4,693.70	1,194.33	428,651.207	523,885.925	32.178455608	-104.256130752	
11,900.00	90.00	359.958	7,000.00	4,793.70	1,194.25	428,751.206	523,885.852	32.178730509	-104.256130758	
12,000.00	90.00	359.958	7,000.00	4,893.70	1,194.18	428,851.206	523,885.778	32.179005409	-104.256130765	
12,100.00	90.00	359.958	7,000.00	4,993.70	1,194.11	428,951.206	523,885.704	32.179280310	-104.256130771	
12,200.00	90.00	359.958	7,000.00	5,093.70	1,194.03	429,051.206	523,885.630	32.179555211	-104.256130778	
12,300.00	90.00	359.958	7,000.00	5,193.70	1,193.96	429,151.206	523,885.557	32.179830112	-104.256130784	
12,400.00	90.00	359.958	7,000.00	5,293.70	1,193.89	429,251.205	523,885.483	32.180105012	-104.256130791	
12,500.00	90.00	359.958	7,000.00	5,393.70	1,193.81	429,351.205	523,885.409	32.180379913	-104.256130797	
12,552.61	90.00	359.958	7,000.00	5,446.31	1,193.77	429,403.820	523,885.370	32.180524551	-104.256130801	
12,602.62	90.00	359.958	7,000.00	5,496.31	1,193.74	429,453.820	523,885.333	32.180662002	-104.256130804	

Design Targets										
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Jawbone 11H vert - plan hits target center - Point	0.00	0.000	6,427.04	-202.21	1,197.94	423,755.310	523,889.538	32.164996703	-104.256130429	
Jawbone 11H LTP 100 F - plan hits target center - Point	0.00	0.000	7,000.00	5,446.31	1,193.77	429,403.820	523,885.370	32.180524551	-104.256130801	
Jawbone 11H BHL 100 F - plan hits target center - Point	0.00	0.000	7,000.00	5,496.31	1,193.73	429,453.820	523,885.330	32.180662002	-104.256130814	
Jawbone 11H FTP 100 F - plan misses target center by 0.01ft at 7477.05ft MD (7000.00 TVD, 370.75 N, 1197.52 E) - Point	0.00	0.000	7,000.00	370.75	1,197.52	424,328.270	523,889.120	32.166571780	-104.256130451	

## Planning Report - Geographic



<b>Database:</b>	DT_Aug2923v16	<b>Local Co-ordinate Reference:</b>	Well Jawbone Fed Com BS 11H
<b>Company:</b>	Freedom Energy	<b>TVD Reference:</b>	RKB=3384+26.5 @ 3410.50ft
<b>Project:</b>	Eddy County, New Mexico NAD27 NME	<b>MD Reference:</b>	RKB=3384+26.5 @ 3410.50ft
<b>Site:</b>	Jawbone	<b>North Reference:</b>	Grid
<b>Well:</b>	Jawbone Fed Com BS 11H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Original Hole		
<b>Design:</b>	rev0		

Casing Points				
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
12,602.62	7,000.00	20" Casing	20	24

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,000.00	1,000.00	0.00	0.00	KOP Begin 2°/100' build	
1,742.80	1,734.50	-15.94	94.42	Begin 14.86° tangent	
5,734.25	5,592.54	-186.27	1,103.52	Begin 2°/100' drop	
6,477.05	6,327.04	-202.21	1,197.94	Begin vertical hold	
6,577.05	6,427.04	-202.21	1,197.94	Begin 10°/100' build	
7,477.05	7,000.00	370.75	1,197.52	Begin 90.00° lateral	
12,552.61	7,000.00	5,446.31	1,193.77	LTP @ 12552.61 MD 7000.00 TVD	
12,602.62	7,000.00	5,496.31	1,193.74	PBHL @ 12602.61 MD 7000.00 TVD	

**PECOS DISTRICT  
DRILLING CONDITIONS OF APPROVAL**

<b>OPERATOR'S NAME:</b>	Flat Creek Resources LLC
<b>LEASE NO.:</b>	NMNM0441951
<b>LOCATION:</b>	Section 2, T.25 S., R.26 E., NMPM
<b>COUNTY:</b>	Eddy County, New Mexico

<b>WELL NAME &amp; NO.:</b>	Jawbone Fed Com BS 011H
<b>BOTTOM HOLE FOOTAGE</b>	50'/N & 470'/E
<b>ATS/API ID:</b>	ATS-24-1115
<b>APD ID:</b>	10400096905
<b>Sundry ID:</b>	N/a
<b>Date APD Submitted:</b>	N/a

## COA

H2S	Yes		
Potash	None	None	
Cave/Karst Potential	High		
Cave/Karst Potential	<input type="checkbox"/> Critical		
Variance	<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> Flex Hose	<input checked="" type="checkbox"/> Other
Wellhead	Conventional and Multibowl		
Other	<input type="checkbox"/> 4 String	Capitan Reef None	<input type="checkbox"/> WIPP
Other	Pilot Hole None	<input type="checkbox"/> Open Annulus	
Cementing	Contingency Squeeze None	Echo-Meter None	Primary Cement Squeeze None
Special Requirements	<input type="checkbox"/> Water Disposal/Injection	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> Unit
Special Requirements	<input type="checkbox"/> Batch Sundry	Waste Prevention None	
Special Requirements Variance	<input type="checkbox"/> Break Testing	<input type="checkbox"/> Offline Cementing	<input type="checkbox"/> Casing Clearance



## A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H<sub>2</sub>S) Drilling Plan shall be activated 500 feet prior to drilling into the **Delaware** formation. As a result, the Hydrogen Sulfide area must meet **43 CFR part 3170 Subpart 3176** requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

## B. CASING

1. The **10-3/4** inch surface casing shall be set at approximately **300 feet** (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt when present, and below usable fresh water) and cemented to the surface. The surface hole shall be **14 3/4** inch in diameter.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:
  - Cement to surface. If cement does not circulate see B.1.a, c-d above.
  - ❖ In High Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
  - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

### C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
- 2.

#### Option 1:

- a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.
- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **7-5/8** inch intermediate casing shoe shall be **5000 (5M)** psi.

#### Option 2:

Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **10-3/4** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

- a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
- b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- c. Manufacturer representative shall install the test plug for the initial BOP test.
- d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- e. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.

### D. SPECIAL REQUIREMENT (S)

#### Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record),

or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.

- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in **43 CFR part 3170 Subpart 3171**
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

## GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

☒ Eddy County

**EMAIL** or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,

**[BLM\\_NM\\_CFO\\_DrillingNotifications@BLM.GOV](mailto:BLM_NM_CFO_DrillingNotifications@BLM.GOV)**

(575) 361-2822

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
  - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
  - b. When the operator proposes to set surface casing with Spudder Rig
    - Notify the BLM when moving in and removing the Spudder Rig.
    - Notify the BLM when moving in the 2<sup>nd</sup> Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
    - BOP/BOPE test to be conducted per **43 CFR part 3170 Subpart 3172** as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or

if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR part 3170 Subpart 3172 and API STD 53 Sec. 5.3**.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
  - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
  - b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been

done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)

- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR part 3170 Subpart 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR part 3170 Subpart 3172**.

#### C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

#### D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

Long Vo (LVO) 8/7/2024



## Hydrogen Sulfide Plan Summary

- A. All personnel shall receive proper H<sub>2</sub>S training in accordance with Onshore Order III.C.3.a.
- B. Briefing Area: two perpendicular areas will be designated by signs and readily accessible.
- C. Required Emergency Equipment:

- Well control equipment
  - a. Flare line 150' from wellhead to be ignited by flare gun.
  - b. Choke manifold with a remotely operated choke.
  - c. Mud/gas separator

- Protective equipment for essential personnel.

### Breathing apparatus:

- a. Rescue Packs (SCBA) — 1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
- b. Work/Escapes packs — 4 packs shall be stored on the rig floor with sufficient air hose not to restrict work activity.
- c. Emergency Escape Packs — 4 packs shall be stored in the doghouse for emergency evacuation.

### Auxiliary Rescue Equipment:

- a. Stretcher
- b. Two OSHA full body harness
- c. 100 ft 5/8 inch OSHA approved rope
- d. 1-20# class ABC fire extinguisher

- H<sub>2</sub>S detection and monitoring equipment:

The stationary detector with three sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible @ 14 ppm. Calibrate a minimum of every 30 days or as needed. The sensors will be placed in the following places: Rig floor / Bell nipple / End of flow line or where well bore fluid is being discharged.

(Gas sample tubes will be stored in the safety trailer)

- Visual warning systems.
  - a. One color code condition sign will be placed at the entrance to the site reflecting the possible conditions at the site.
  - b. A colored condition flag will be on display, reflecting the current condition at the site at the time.
  - c. Two wind socks will be placed in strategic locations, visible from all angles.



**FLAT CREEK**  
RESOURCES

- **Mud program:**  
The mud program has been designed to minimize the volume of H<sub>2</sub>S circulated to surface. The operator will have the necessary mud products to minimize hazards while drilling in H<sub>2</sub>S bearing zones.
- **Metallurgy:**  
All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H<sub>2</sub>S service.
- **Communication:**  
Communication will be via cell phones and land lines where available.

### Company Personnel to be Notified

Rodney Littleton, Vice President of Operations      Office: (817) 310-8578  
Mobile: (972) 672-4461

### Local & County Agencies

Whites City Fire Department	911 or (575) 746-5000
Malaga Fire Department	911 or (575) 745-2311
Carlsbad Fire Department	911 or (575) 885-3125
Eddy County Sheriff (Carlsbad)	911 (575) 887-7551
Eddy County Emergency Management (Carlsbad)	(575) 887-9511
Carlsbad Medical Center Hospital	(575) 887-4100
Eddy County South Road Department (Carlsbad)	(575) 885-4835

### State Agencies

NM State Police (Carlsbad)	(575) 885-3138
NM Oil Conservation (Artesia)	(575) 748-1283
NM Oil Conservation (Santa Fe)	(505) 476-3440
NM Dept. of Transportation (Roswell)	(575) 637-7201



Federal Agencies

BLM Carlsbad Field Office	(575) 234-5972
National Response Center	(800) 424-8802
US EPA Region 6 (Dallas)	(800) 887-6063
(214) 665-6444	

Residents within 2 miles

No

Air Evacuation

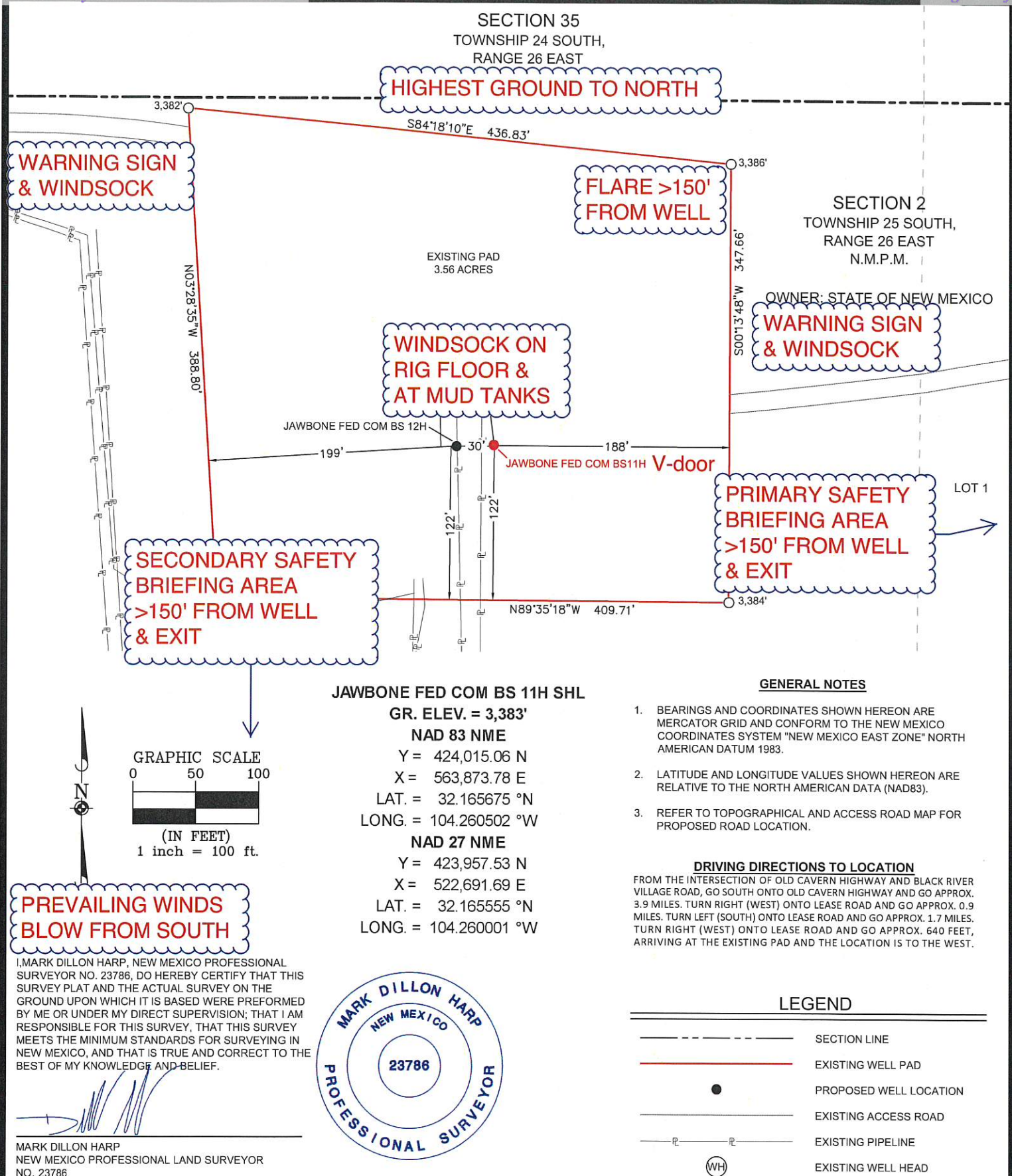
Med Flight Air Ambulance (Albuquerque)	(800) 842-4431
Lifeguard (Albuquerque)	(888) 866-7256

Veterinarians

Desert Willow Veterinary Services (Carlsbad)	(575) 885-3399
Animal Care Center (Carlsbad)	(575) 885-5352







505 Pecan Street, Suite 201, Fort Worth, TX 76102  
ph: 817.865.5344 manhard.com  
Texas Board of Professional Engineers &  
Land Surveyors Reg. No. F-10194754 (Surv), F-21732 (Eng)

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**A WELL SITE PLAN FOR FLAT CREEK RESOURCES, LLC  
JAWBONE FED COM BS 11H**

WELL LOCATION IS LOCATED 275 FEET FROM THE NORTH LINE AND 1,665 FEET FROM THE EAST LINE  
OF SECTION 2, TOWNSHIP 25 SOUTH, RANGE 26 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO

CHECKED BY: <b>AR</b>	DATE: <b>12/14/2023</b>	SCALE: <b>1" = 100'</b>	PROJECT NO.: <b>618.005002.00-13</b>
DRAWN BY: <b>YH</b>	FIELD CREW: <b>SR</b>	REVISION NO.: <b>0</b>	SHEET: <b>1 OF 3</b>



# Flat Creek Resources

Jawbone 11H/12H Pad  
H2S Contingency Plan:  
2 Mile Radius Map

Sec. 2, Township 25S, Range 26E  
Eddy County, New Mexico

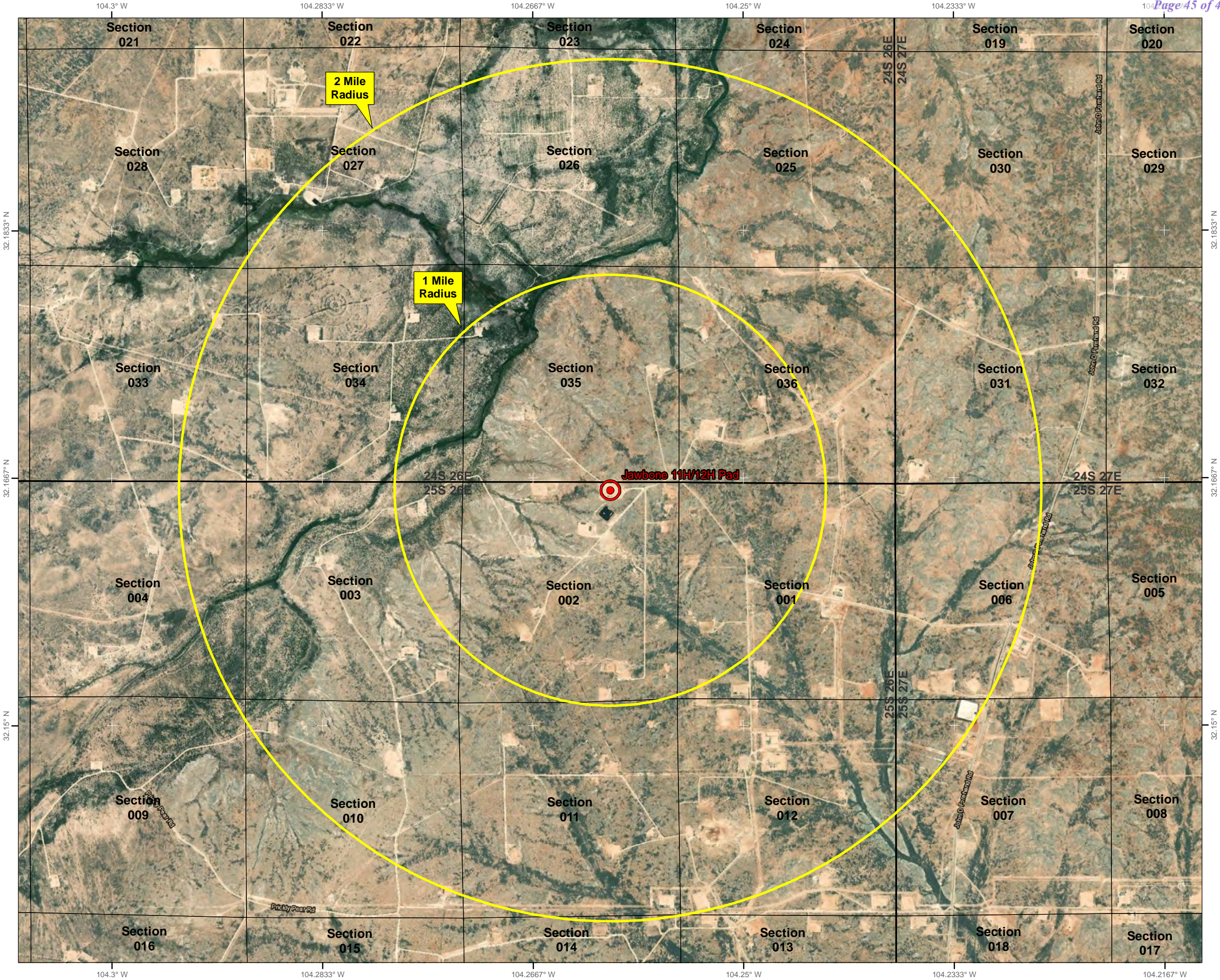
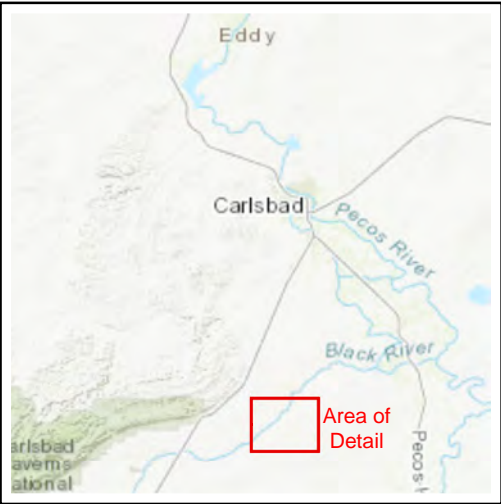
 Well Pad Location



NAD 1983 New Mexico State Plane East  
FIPS 3001 Feet



Prepared by Permits West, Inc., January 29, 2024  
for Flat Creek Resources, LLC







Schematic Closed Loop Drilling Rig\*

- 1. Pipe Rack
- 2. Drill Rig
- 3. House Trailers/ Offices
- 4. Generator/Fuel/Storage
- 5. Overflow-Frac Tank
- 6. Skids
- 7. Roll Offs
- 8. Hopper or Centrifuge
- 9. Mud Tanks
- 10. Loop Drive
- 11. Generator (only for use with centrifuge)

\*Not drawn to scale: Closed loop system requires at least 30 feet beyond mud tanks. Ideally 60 feet would be available



Above: Centrifugal Closed Loop System



**PERMITS WEST, INC.**  
PROVIDING PERMITS for LAND USERS  
37Verano Loop, Santa Fe, New Mexico 87508 (505) 466-8120



Closed Loop Drilling System: Mud tanks to right (1)  
Hopper in air to settle out solids (2)  
Water return pipe (3)  
Shaker between hopper and mud tanks (4)  
Roll offs on skids (5)

Flow Chart for Drilling Fluids and Solids



Photos Courtesy of Gandy Corporation Oil Field Service

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

General Information  
Phone: (505) 629-6116

Online Phone Directory  
<https://www.emnrd.nm.gov/oed/contact-us>

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

CONDITIONS

Action 427498

**CONDITIONS**

Operator: Flat Creek Resources, LLC 777 Main St. Fort Worth, TX 76102	OGRID: 374034
	Action Number: 427498
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

**CONDITIONS**

Created By	Condition	Condition Date
bwood	Cement is required to circulate on both surface and intermediate1 strings of casing.	2/3/2025
bwood	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	2/3/2025
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	2/15/2025
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	2/15/2025
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.	2/15/2025
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.	2/15/2025