

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. NMNM0441951
2. Name of Operator FLAT CREEK RESOURCES LLC		6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. JAWBONE BS FED COM 008H
3a. Address 777 MAIN STREET, SUITE 3600, FORT WORTH, TX 761	3b. Phone No. (include area code) (817) 310-8570	9. API Well No. 30-015-55088
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SESW / 272 FSL / 1856 FWL / LAT 32.152315 / LONG -104.266582 At proposed prod. zone NWNW / 100 FNL / 1275 FWL / LAT 32.180778 / LONG -104.267968		10. Field and Pool, or Exploratory COTTONWOOD DRAW/BONE SPRING 11. Sec., T. R. M. or Blk. and Survey or Area SEC 2/T25S/R26E/NMP
14. Distance in miles and direction from nearest town or post office* 7 miles		12. County or Parish EDDY
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 272 feet		13. State NM
16. No of acres in lease		17. Spacing Unit dedicated to this well 319.96
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 30 feet		20. BLM/BIA Bond No. in file FED: NMB001675
21. Elevations (Show whether DF, KDB, RT, GL., etc.) 3369 feet	22. Approximate date work will start* 06/01/2024	23. Estimated duration 60 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

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

25. Signature (Electronic Submission)	Name (Printed/Typed) BRIAN WOOD / Ph: (817) 310-8570	Date 12/04/2023
Title Permitting Agent		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) CODY LAYTON / Ph: (575) 234-5959	Date 05/10/2024
Title Assistant Field Manager Lands & Minerals Office Carlsbad Field Office		

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

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



(Continued on page 2)

*(Instructions on page 2)

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

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

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

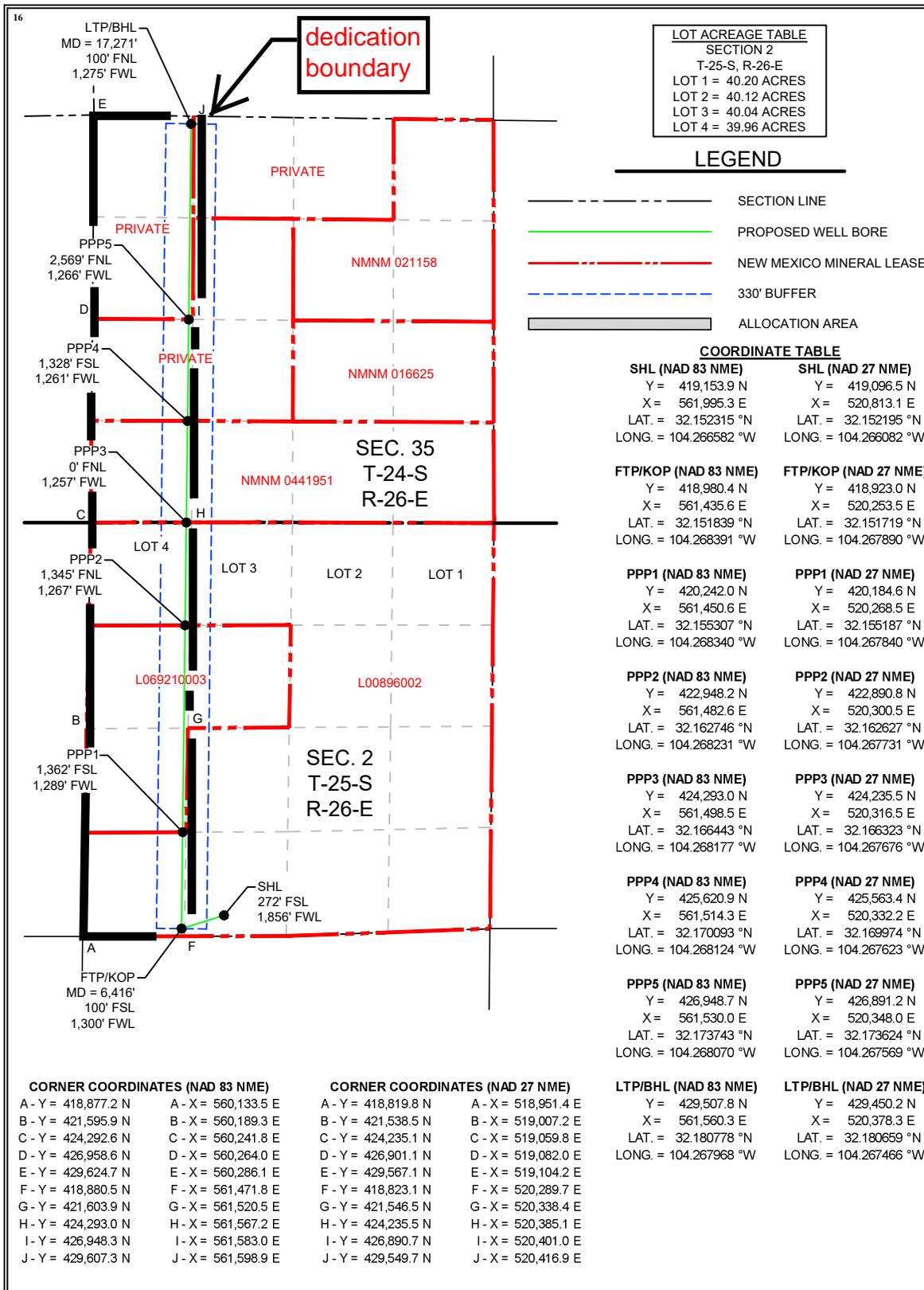
Table with 3 columns: API Number (30-015-55088), Pool Code (97494), Pool Name (COTTONWOOD DRAW; BONE SPRING (O)), Property Code (335927), Property Name (JAWBONE BS FED COM), Well Number (8H), OGRID No. (374034), Operator Name (FLAT CREEK RESOURCES, LLC), Elevation (3,369')

Table for Surface Location: UL or lot no. (N), Section (2), Township (25 S), Range (26 E), Lot Idn, Feet from the (272), North/South line (SOUTH), Feet from the (1,856), East/West line (WEST), County (EDDY)

Table for Bottom Hole Location If Different From Surface: UL or lot no. (D), Section (35), Township (24 S), Range (26 E), Lot Idn, Feet from the (100), North/South line (NORTH), Feet from the (1,275), East/West line (WEST), County (EDDY)

Table for Well Details: Dedicated Acres (319.96), Joint or Infill, Consolidation Code (C), Order No.

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division. Take points are too far east to be standard. Flat Creek will file an NSL application.

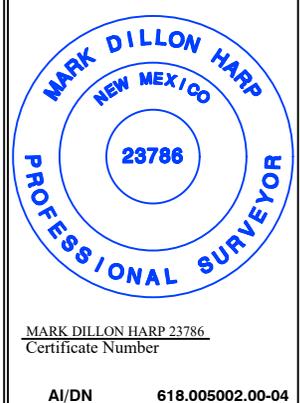


17 OPERATOR CERTIFICATION
I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to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

Rodney Littleton 11/21/23
Signature Date
Rodney Littleton
Printed Name
rodney.littleton@flatcreekresources.com
E-mail Address

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

11/21/2023
Date of Survey
Signature and Seal of Professional Surveyor:



Vertical text on the left margin: \mcl-18-nas\Projects-DA\618.005 Flat Creek\002 Jawbone Lease\00 - Jawbone Lease\Wells\04 - BS 8H\DWG\8H C-102.dwg

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description Effective May 25, 2021

I. Operator: Flat Creek Resources, LLC **OGRID:** 374034 **Date:** 05 / 07 / 2024

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

If Other, please describe: _____

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

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Jawbone BS Fed Com 5H		N-2-T25S-R26E	272' FSL 1946' FWL	800	1000	1500
Jawbone BS Fed Com 6H		N-2-T25S-R26E	272' FSL 1916' FWL	800	1000	1500
Jawbone BS Fed Com 7H		N-2-T25S-R26E	272' FSL 1886' FWL	800	1000	1500
Jawbone BS Fed Com 8H		N-2-T25S-R26E	272' FSL 1856' FWL	800	1000	1500

IV. Central Delivery Point Name: Jawbone BS 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 5H		November 1, 2024	November 16, 2024	February 1, 2025	March 1, 2025	March 15, 2025
Jawbone BS Fed Com 6H		November 2, 2024	November 30, 2024	February 1, 2025	March 1, 2025	March 15, 2025
Jawbone BS Fed Com 7H		November 3, 2024	December 14, 2024	February 1, 2025	March 1, 2025	March 15, 2025
Jawbone BS Fed Com 8H		November 4, 2024	December 24, 2024	February 1, 2025	March 1, 2025	March 15, 2025

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

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

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

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

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

Section 4 - Notices

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

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

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

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

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

Signature:	<i>Rodney Littleton</i>
Printed Name:	Rodney Littleton
Title:	VP of Drilling
E-mail Address:	rodney.littleton@flatcreekresources.com
Date:	May 7, 2024
Phone:	817-310-8578

OIL CONSERVATION DIVISION
(Only applicable when submitted as a standalone form)

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

05/11/2024

APD ID: 10400096058

Submission Date: 12/04/2023

Highlighted data reflects the most recent changes

Operator Name: FLAT CREEK RESOURCES LLC

Well Name: JAWBONE BS FED COM

Well Number: 008H

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
13409153	SALADO	3369	0	0	SALT	USEABLE WATER	N
13409154	BASE OF SALT	1665	1704	1707	SALT	NONE	N
13409155	LAMAR	1451	1918	1923	LIMESTONE	NONE	N
13409156	BELL CANYON	1394	1975	1980	SANDSTONE	NATURAL GAS, OIL	N
13409157	CHERRY CANYON	551	2818	2828	SANDSTONE	NATURAL GAS, OIL	N
13409158	BRUSHY CANYON	-496	3865	3881	SANDSTONE	NATURAL GAS, OIL	N
13409159	BONE SPRING LIME	-2043	5412	5437	LIMESTONE	NATURAL GAS, OIL	N
13409160	BONE SPRING 1ST	-2960	6329	6358	SANDSTONE	NATURAL GAS, OIL	N
13409161	BONE SPRING 2ND	-3128	6497	6526	SHALE	NATURAL GAS, OIL	N
13409162	BONE SPRING 2ND	-3470	6839	6938	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 Onshore Oil & Gas Order 2. See BOP & Choke diagrams for additional information.

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: All BOPE will be tested in accordance with 43 CFR 3160 Onshore Oil & Gas Order 2. See BOP & Choke diagrams for additional information. 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,

Operator Name: FLAT CREEK RESOURCES LLC

Well Name: JAWBONE BS FED COM

Well Number: 008H

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. 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:

JB_BS_Choke_20231202143823.pdf

BOP Diagram Attachment:

JB_BS_BOP_20231202143833.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	3369	3069	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	1895	3369	1474	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	17271	0	6960	3369	-3591	17271	OTHER	20	OTHER - TCBC-HT	3.6	3.8	DRY	5	DRY	5

Casing Attachments

Operator Name: FLAT CREEK RESOURCES LLC

Well Name: JAWBONE BS FED COM

Well Number: 008H

Casing Attachments

Casing ID: 1 **String** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

JB_BS_008H_Casing_Design_Assumptions_20231202143913.pdf

Casing ID: 2 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

JB_BS_008H_Casing_Design_Assumptions_20231202143942.pdf

Casing ID: 3 **String** PRODUCTION

Inspection Document:

Spec Document:

5.5in_Casing_Spec_20231202144007.pdf

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

JB_BS_008H_Casing_Design_Assumptions_20231202144018.pdf

Section 4 - Cement

Operator Name: FLAT CREEK RESOURCES LLC

Well Name: JAWBONE BS FED COM

Well Number: 008H

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% CaCl2 + 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% CaCl2 + 4% bentonite gel + 0.4% CPT-503P + 1/8 #/sk Dura-fiber
PRODUCTION	Lead		0	1727 1	260	2.82	10.4	733	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	1727 1	665	1.42	13.2	944	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 BS FED COM

Well Number: 008H

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 Brine	10	10							
1900	1727 1	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,

Coring operation description for the well:

No core is planned.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 3114

Anticipated Surface Pressure: 1582

Anticipated Bottom Hole Temperature(F): 150

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

JB_BS_PadB_H2S_Plan_20231202144212.pdf

Operator Name: FLAT CREEK RESOURCES LLC

Well Name: JAWBONE BS FED COM

Well Number: 008H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

JB_BS_008H_Horizontal_Plan_20231202144229.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

JB_BS_008H_Drill_Plan_20231202144249.pdf

JB_BS_008H_Anticollision_Report_20231202144315.pdf

JB_BS_Wellhead_20231202144408.pdf

Coflex_Certs_RDC_20231202144519.pdf

Other Variance attachment:



FLAT CREEK
RESOURCES

Well: **Jawbone Fed Com BS 08H**
Site: **Jawbone**
Project: **Eddy County, New Mexico NAD27 NME**
Design: **rev2**

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSec	Annotation
1	0.00	0.00	0.000	0.00	0.00	0.00	0.00	0.00	
2	900.00	0.00	0.000	900.00	0.00	0.00	0.00	0.00	KOP Begin 2°/100' build
3	1208.91	6.18	251.612	1208.31	-5.25	-15.79	2.00	-5.47	Begin 6.18° tangent
4	6007.19	6.18	251.612	5978.73	-168.15	-505.82	0.00	-175.32	Begin 2°/100' drop
5	6316.11	0.00	0.814	6287.04	-173.40	-521.61	2.00	-180.79	Begin vertical hold
6	6416.11	0.00	0.814	6387.04	-173.40	-521.61	0.00	-180.79	Begin 10°/100' build
7	7316.11	90.00	0.679	6960.00	399.52	-514.82	10.00	392.16	Begin 90.00° lateral
8	17270.51	90.00	0.679	6960.00	10353.22	-396.80	0.00	10346.54	PBHL/TD @ 17270.51 MD 6960.00 TVD

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
Jawbone 08 FTP 100 FSL 1300 FWL r0387.04 - plan hits target center	387.04	-173.40	-521.61	418923.100	520291.490
Jawbone 08 LTP 100 FNL 1300 FWL r0960.00 - plan hits target center	960.00	10353.22	-396.80	429449.700	520416.300



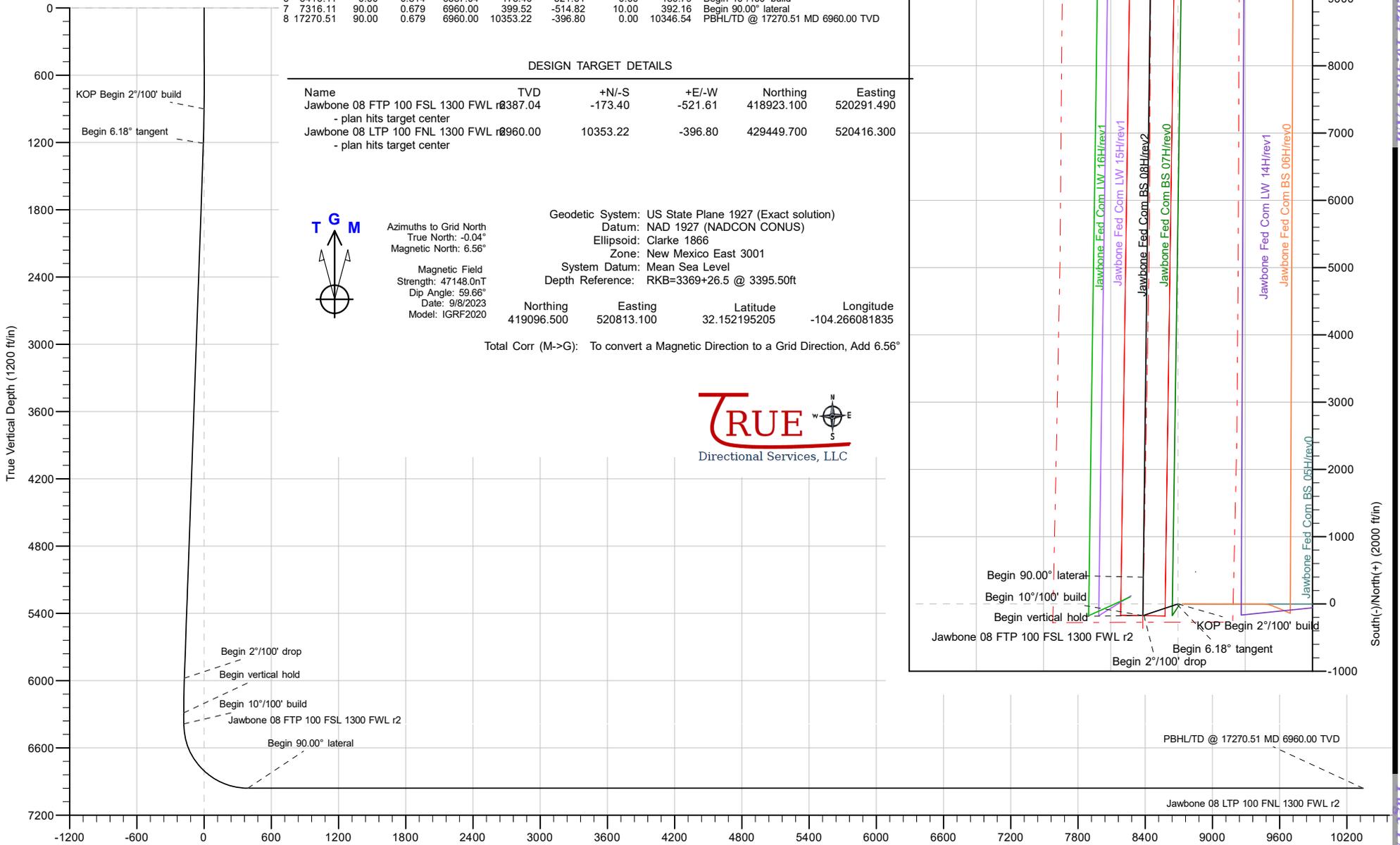
Azimuths to Grid North
True North: -0.04°
Magnetic North: 6.56°

Magnetic Field
Strength: 47148.0nT
Dip Angle: 59.66°
Date: 9/8/2023
Model: IGRF2020

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=3369+26.5 @ 3395.50ft

Northing	Easting	Latitude	Longitude
419096.500	520813.100	32.152195205	-104.266081835

Total Corr (M->G): To convert a Magnetic Direction to a Grid Direction, Add 6.56°



Vertical Section at 0.814° (1200 ft/in)



FLAT CREEK
RESOURCES

Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com BS 08H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3369+26.5 @ 3395.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3369+26.5 @ 3395.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com BS 08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

Project	Eddy County, New Mexico NAD27 NME		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	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 08H, Surf loc: 272 FSL 1856 FWL Section 02-T25S-R26E					
Well Position	+N/-S	0.00 ft	Northing:	419,096.500 usft	Latitude:	32.152195206
	+E/-W	0.00 ft	Easting:	520,813.100 usft	Longitude:	-104.266081835
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	3,369.00 ft
Grid Convergence:		0.04 °				

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	9/8/2023	6.60	59.66	47,148.02732044

Design	rev2			
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	0.814

Plan Survey Tool Program	Date	9/12/2023		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,270.51	rev2 (Original Hole)	MWD OWSG MWD - Standard

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	
900.00	0.00	0.000	900.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,208.91	6.18	251.612	1,208.31	-5.25	-15.79	2.00	2.00	0.00	251.61	
6,007.19	6.18	251.612	5,978.73	-168.15	-505.82	0.00	0.00	0.00	0.00	
6,316.11	0.00	0.814	6,287.04	-173.40	-521.61	2.00	-2.00	0.00	180.00	
6,416.11	0.00	0.814	6,387.04	-173.40	-521.61	0.00	0.00	0.00	0.00	Jawbone 08 FTP 100
7,316.11	90.00	0.679	6,960.00	399.52	-514.82	10.00	10.00	-0.01	0.68	
17,270.51	90.00	0.679	6,960.00	10,353.22	-396.80	0.00	0.00	0.00	0.00	Jawbone 08 LTP 100



FLAT CREEK
RESOURCES

Planning Report

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Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3369+26.5 @ 3395.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com BS 08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

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
KOP Begin 2°/100' build									
1,000.00	2.00	251.612	999.98	-0.55	-1.66	-0.57	2.00	2.00	0.00
1,100.00	4.00	251.612	1,099.84	-2.20	-6.62	-2.30	2.00	2.00	0.00
1,208.91	6.18	251.612	1,208.31	-5.25	-15.79	-5.47	2.00	2.00	0.00
Begin 6.18° tangent									
1,300.00	6.18	251.612	1,298.87	-8.34	-25.09	-8.70	0.00	0.00	0.00
1,400.00	6.18	251.612	1,398.29	-11.74	-35.30	-12.24	0.00	0.00	0.00
1,500.00	6.18	251.612	1,497.71	-15.13	-45.52	-15.78	0.00	0.00	0.00
1,600.00	6.18	251.612	1,597.13	-18.53	-55.73	-19.32	0.00	0.00	0.00
1,700.00	6.18	251.612	1,696.55	-21.92	-65.94	-22.86	0.00	0.00	0.00
1,800.00	6.18	251.612	1,795.97	-25.32	-76.16	-26.40	0.00	0.00	0.00
1,900.00	6.18	251.612	1,895.39	-28.71	-86.37	-29.94	0.00	0.00	0.00
2,000.00	6.18	251.612	1,994.81	-32.11	-96.58	-33.48	0.00	0.00	0.00
2,100.00	6.18	251.612	2,094.23	-35.50	-106.79	-37.02	0.00	0.00	0.00
2,200.00	6.18	251.612	2,193.65	-38.90	-117.01	-40.55	0.00	0.00	0.00
2,300.00	6.18	251.612	2,293.06	-42.29	-127.22	-44.09	0.00	0.00	0.00
2,400.00	6.18	251.612	2,392.48	-45.69	-137.43	-47.63	0.00	0.00	0.00
2,500.00	6.18	251.612	2,491.90	-49.08	-147.64	-51.17	0.00	0.00	0.00
2,600.00	6.18	251.612	2,591.32	-52.48	-157.86	-54.71	0.00	0.00	0.00
2,700.00	6.18	251.612	2,690.74	-55.87	-168.07	-58.25	0.00	0.00	0.00
2,800.00	6.18	251.612	2,790.16	-59.27	-178.28	-61.79	0.00	0.00	0.00
2,900.00	6.18	251.612	2,889.58	-62.66	-188.49	-65.33	0.00	0.00	0.00
3,000.00	6.18	251.612	2,989.00	-66.06	-198.71	-68.87	0.00	0.00	0.00
3,100.00	6.18	251.612	3,088.42	-69.45	-208.92	-72.41	0.00	0.00	0.00
3,200.00	6.18	251.612	3,187.84	-72.85	-219.13	-75.95	0.00	0.00	0.00
3,300.00	6.18	251.612	3,287.26	-76.24	-229.35	-79.49	0.00	0.00	0.00
3,400.00	6.18	251.612	3,386.68	-79.64	-239.56	-83.03	0.00	0.00	0.00
3,500.00	6.18	251.612	3,486.09	-83.03	-249.77	-86.57	0.00	0.00	0.00
3,600.00	6.18	251.612	3,585.51	-86.43	-259.98	-90.11	0.00	0.00	0.00
3,700.00	6.18	251.612	3,684.93	-89.82	-270.20	-93.65	0.00	0.00	0.00
3,800.00	6.18	251.612	3,784.35	-93.22	-280.41	-97.19	0.00	0.00	0.00
3,900.00	6.18	251.612	3,883.77	-96.61	-290.62	-100.73	0.00	0.00	0.00
4,000.00	6.18	251.612	3,983.19	-100.01	-300.83	-104.27	0.00	0.00	0.00
4,100.00	6.18	251.612	4,082.61	-103.40	-311.05	-107.81	0.00	0.00	0.00
4,200.00	6.18	251.612	4,182.03	-106.80	-321.26	-111.35	0.00	0.00	0.00
4,300.00	6.18	251.612	4,281.45	-110.19	-331.47	-114.89	0.00	0.00	0.00
4,400.00	6.18	251.612	4,380.87	-113.59	-341.68	-118.43	0.00	0.00	0.00
4,500.00	6.18	251.612	4,480.29	-116.98	-351.90	-121.97	0.00	0.00	0.00
4,600.00	6.18	251.612	4,579.71	-120.38	-362.11	-125.51	0.00	0.00	0.00
4,700.00	6.18	251.612	4,679.13	-123.77	-372.32	-129.05	0.00	0.00	0.00
4,800.00	6.18	251.612	4,778.54	-127.17	-382.54	-132.59	0.00	0.00	0.00
4,900.00	6.18	251.612	4,877.96	-130.56	-392.75	-136.13	0.00	0.00	0.00
5,000.00	6.18	251.612	4,977.38	-133.96	-402.96	-139.67	0.00	0.00	0.00



FLAT CREEK
RESOURCES

Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com BS 08H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3369+26.5 @ 3395.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3369+26.5 @ 3395.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com BS 08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

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)
5,100.00	6.18	251.612	5,076.80	-137.35	-413.17	-143.21	0.00	0.00	0.00
5,200.00	6.18	251.612	5,176.22	-140.75	-423.39	-146.75	0.00	0.00	0.00
5,300.00	6.18	251.612	5,275.64	-144.14	-433.60	-150.29	0.00	0.00	0.00
5,400.00	6.18	251.612	5,375.06	-147.54	-443.81	-153.83	0.00	0.00	0.00
5,500.00	6.18	251.612	5,474.48	-150.93	-454.02	-157.37	0.00	0.00	0.00
5,600.00	6.18	251.612	5,573.90	-154.33	-464.24	-160.91	0.00	0.00	0.00
5,700.00	6.18	251.612	5,673.32	-157.72	-474.45	-164.45	0.00	0.00	0.00
5,800.00	6.18	251.612	5,772.74	-161.12	-484.66	-167.99	0.00	0.00	0.00
5,900.00	6.18	251.612	5,872.16	-164.51	-494.87	-171.53	0.00	0.00	0.00
6,007.19	6.18	251.612	5,978.73	-168.15	-505.82	-175.32	0.00	0.00	0.00
Begin 2°/100' drop									
6,100.00	4.32	251.612	6,071.14	-170.83	-513.88	-178.11	2.00	-2.00	0.00
6,200.00	2.32	251.612	6,170.97	-172.66	-519.38	-180.02	2.00	-2.00	0.00
6,300.00	0.32	251.612	6,270.93	-173.39	-521.57	-180.78	2.00	-2.00	0.00
6,316.11	0.00	0.814	6,287.04	-173.40	-521.61	-180.79	2.00	-2.00	0.00
Begin vertical hold									
6,400.00	0.00	0.000	6,370.93	-173.40	-521.61	-180.79	0.00	0.00	0.00
6,416.11	0.00	0.000	6,387.04	-173.40	-521.61	-180.79	0.00	0.00	0.00
Begin 10°/100' build									
6,450.00	3.39	0.679	6,420.91	-172.40	-521.60	-179.79	10.00	10.00	0.00
6,500.00	8.39	0.679	6,470.64	-167.27	-521.54	-174.66	10.00	10.00	0.00
6,550.00	13.39	0.679	6,519.72	-157.83	-521.43	-165.22	10.00	10.00	0.00
6,600.00	18.39	0.679	6,567.79	-144.14	-521.26	-151.53	10.00	10.00	0.00
6,650.00	23.39	0.679	6,614.49	-126.32	-521.05	-133.71	10.00	10.00	0.00
6,700.00	28.39	0.679	6,659.46	-104.50	-520.79	-111.89	10.00	10.00	0.00
6,750.00	33.39	0.679	6,702.35	-78.84	-520.49	-86.23	10.00	10.00	0.00
6,800.00	38.39	0.679	6,742.85	-49.54	-520.14	-56.92	10.00	10.00	0.00
6,850.00	43.39	0.679	6,780.64	-16.82	-519.75	-24.20	10.00	10.00	0.00
6,900.00	48.39	0.679	6,815.43	19.06	-519.33	11.68	10.00	10.00	0.00
6,950.00	53.39	0.679	6,846.96	57.84	-518.87	50.47	10.00	10.00	0.00
7,000.00	58.39	0.679	6,874.99	99.23	-518.38	91.85	10.00	10.00	0.00
7,050.00	63.39	0.679	6,899.31	142.89	-517.86	135.52	10.00	10.00	0.00
7,100.00	68.39	0.679	6,919.72	188.51	-517.32	181.15	10.00	10.00	0.00
7,150.00	73.39	0.679	6,936.09	235.74	-516.76	228.38	10.00	10.00	0.00
7,200.00	78.39	0.679	6,948.27	284.21	-516.19	276.85	10.00	10.00	0.00
7,250.00	83.39	0.679	6,956.19	333.56	-515.60	326.20	10.00	10.00	0.00
7,300.00	88.39	0.679	6,959.77	383.41	-515.01	376.06	10.00	10.00	0.00
7,316.11	90.00	0.679	6,960.00	399.52	-514.82	392.16	10.00	10.00	0.00
Begin 90.00° lateral									
7,400.00	90.00	0.679	6,960.00	483.41	-513.82	476.06	0.00	0.00	0.00
7,500.00	90.00	0.679	6,960.00	583.40	-512.64	576.06	0.00	0.00	0.00
7,600.00	90.00	0.679	6,960.00	683.39	-511.45	676.06	0.00	0.00	0.00
7,700.00	90.00	0.679	6,960.00	783.38	-510.27	776.06	0.00	0.00	0.00
7,800.00	90.00	0.679	6,960.00	883.38	-509.08	876.06	0.00	0.00	0.00
7,900.00	90.00	0.679	6,960.00	983.37	-507.90	976.06	0.00	0.00	0.00
8,000.00	90.00	0.679	6,960.00	1,083.36	-506.71	1,076.06	0.00	0.00	0.00
8,100.00	90.00	0.679	6,960.00	1,183.36	-505.52	1,176.06	0.00	0.00	0.00
8,200.00	90.00	0.679	6,960.00	1,283.35	-504.34	1,276.06	0.00	0.00	0.00
8,300.00	90.00	0.679	6,960.00	1,383.34	-503.15	1,376.05	0.00	0.00	0.00
8,400.00	90.00	0.679	6,960.00	1,483.34	-501.97	1,476.05	0.00	0.00	0.00
8,500.00	90.00	0.679	6,960.00	1,583.33	-500.78	1,576.05	0.00	0.00	0.00
8,600.00	90.00	0.679	6,960.00	1,683.32	-499.60	1,676.05	0.00	0.00	0.00
8,700.00	90.00	0.679	6,960.00	1,783.31	-498.41	1,776.05	0.00	0.00	0.00



FLAT CREEK
RESOURCES

Planning Report

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Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3369+26.5 @ 3395.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com BS 08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

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)
8,800.00	90.00	0.679	6,960.00	1,883.31	-497.23	1,876.05	0.00	0.00	0.00
8,900.00	90.00	0.679	6,960.00	1,983.30	-496.04	1,976.05	0.00	0.00	0.00
9,000.00	90.00	0.679	6,960.00	2,083.29	-494.85	2,076.05	0.00	0.00	0.00
9,100.00	90.00	0.679	6,960.00	2,183.29	-493.67	2,176.05	0.00	0.00	0.00
9,200.00	90.00	0.679	6,960.00	2,283.28	-492.48	2,276.05	0.00	0.00	0.00
9,300.00	90.00	0.679	6,960.00	2,383.27	-491.30	2,376.05	0.00	0.00	0.00
9,400.00	90.00	0.679	6,960.00	2,483.27	-490.11	2,476.05	0.00	0.00	0.00
9,500.00	90.00	0.679	6,960.00	2,583.26	-488.93	2,576.05	0.00	0.00	0.00
9,600.00	90.00	0.679	6,960.00	2,683.25	-487.74	2,676.05	0.00	0.00	0.00
9,700.00	90.00	0.679	6,960.00	2,783.24	-486.56	2,776.05	0.00	0.00	0.00
9,800.00	90.00	0.679	6,960.00	2,883.24	-485.37	2,876.05	0.00	0.00	0.00
9,900.00	90.00	0.679	6,960.00	2,983.23	-484.18	2,976.05	0.00	0.00	0.00
10,000.00	90.00	0.679	6,960.00	3,083.22	-483.00	3,076.05	0.00	0.00	0.00
10,100.00	90.00	0.679	6,960.00	3,183.22	-481.81	3,176.05	0.00	0.00	0.00
10,200.00	90.00	0.679	6,960.00	3,283.21	-480.63	3,276.05	0.00	0.00	0.00
10,300.00	90.00	0.679	6,960.00	3,383.20	-479.44	3,376.05	0.00	0.00	0.00
10,400.00	90.00	0.679	6,960.00	3,483.20	-478.26	3,476.05	0.00	0.00	0.00
10,500.00	90.00	0.679	6,960.00	3,583.19	-477.07	3,576.05	0.00	0.00	0.00
10,600.00	90.00	0.679	6,960.00	3,683.18	-475.88	3,676.05	0.00	0.00	0.00
10,700.00	90.00	0.679	6,960.00	3,783.17	-474.70	3,776.05	0.00	0.00	0.00
10,800.00	90.00	0.679	6,960.00	3,883.17	-473.51	3,876.05	0.00	0.00	0.00
10,900.00	90.00	0.679	6,960.00	3,983.16	-472.33	3,976.05	0.00	0.00	0.00
11,000.00	90.00	0.679	6,960.00	4,083.15	-471.14	4,076.05	0.00	0.00	0.00
11,100.00	90.00	0.679	6,960.00	4,183.15	-469.96	4,176.05	0.00	0.00	0.00
11,200.00	90.00	0.679	6,960.00	4,283.14	-468.77	4,276.05	0.00	0.00	0.00
11,300.00	90.00	0.679	6,960.00	4,383.13	-467.59	4,376.05	0.00	0.00	0.00
11,400.00	90.00	0.679	6,960.00	4,483.12	-466.40	4,476.05	0.00	0.00	0.00
11,500.00	90.00	0.679	6,960.00	4,583.12	-465.21	4,576.05	0.00	0.00	0.00
11,600.00	90.00	0.679	6,960.00	4,683.11	-464.03	4,676.05	0.00	0.00	0.00
11,700.00	90.00	0.679	6,960.00	4,783.10	-462.84	4,776.05	0.00	0.00	0.00
11,800.00	90.00	0.679	6,960.00	4,883.10	-461.66	4,876.05	0.00	0.00	0.00
11,900.00	90.00	0.679	6,960.00	4,983.09	-460.47	4,976.05	0.00	0.00	0.00
12,000.00	90.00	0.679	6,960.00	5,083.08	-459.29	5,076.04	0.00	0.00	0.00
12,100.00	90.00	0.679	6,960.00	5,183.08	-458.10	5,176.04	0.00	0.00	0.00
12,200.00	90.00	0.679	6,960.00	5,283.07	-456.92	5,276.04	0.00	0.00	0.00
12,300.00	90.00	0.679	6,960.00	5,383.06	-455.73	5,376.04	0.00	0.00	0.00
12,400.00	90.00	0.679	6,960.00	5,483.05	-454.54	5,476.04	0.00	0.00	0.00
12,500.00	90.00	0.679	6,960.00	5,583.05	-453.36	5,576.04	0.00	0.00	0.00
12,600.00	90.00	0.679	6,960.00	5,683.04	-452.17	5,676.04	0.00	0.00	0.00
12,700.00	90.00	0.679	6,960.00	5,783.03	-450.99	5,776.04	0.00	0.00	0.00
12,800.00	90.00	0.679	6,960.00	5,883.03	-449.80	5,876.04	0.00	0.00	0.00
12,900.00	90.00	0.679	6,960.00	5,983.02	-448.62	5,976.04	0.00	0.00	0.00
13,000.00	90.00	0.679	6,960.00	6,083.01	-447.43	6,076.04	0.00	0.00	0.00
13,100.00	90.00	0.679	6,960.00	6,183.01	-446.25	6,176.04	0.00	0.00	0.00
13,200.00	90.00	0.679	6,960.00	6,283.00	-445.06	6,276.04	0.00	0.00	0.00
13,300.00	90.00	0.679	6,960.00	6,382.99	-443.87	6,376.04	0.00	0.00	0.00
13,400.00	90.00	0.679	6,960.00	6,482.98	-442.69	6,476.04	0.00	0.00	0.00
13,500.00	90.00	0.679	6,960.00	6,582.98	-441.50	6,576.04	0.00	0.00	0.00
13,600.00	90.00	0.679	6,960.00	6,682.97	-440.32	6,676.04	0.00	0.00	0.00
13,700.00	90.00	0.679	6,960.00	6,782.96	-439.13	6,776.04	0.00	0.00	0.00
13,800.00	90.00	0.679	6,960.00	6,882.96	-437.95	6,876.04	0.00	0.00	0.00
13,900.00	90.00	0.679	6,960.00	6,982.95	-436.76	6,976.04	0.00	0.00	0.00
14,000.00	90.00	0.679	6,960.00	7,082.94	-435.58	7,076.04	0.00	0.00	0.00
14,100.00	90.00	0.679	6,960.00	7,182.94	-434.39	7,176.04	0.00	0.00	0.00



FLAT CREEK
RESOURCES

Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com BS 08H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3369+26.5 @ 3395.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3369+26.5 @ 3395.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com BS 08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

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)
14,200.00	90.00	0.679	6,960.00	7,282.93	-433.20	7,276.04	0.00	0.00	0.00
14,300.00	90.00	0.679	6,960.00	7,382.92	-432.02	7,376.04	0.00	0.00	0.00
14,400.00	90.00	0.679	6,960.00	7,482.91	-430.83	7,476.04	0.00	0.00	0.00
14,500.00	90.00	0.679	6,960.00	7,582.91	-429.65	7,576.04	0.00	0.00	0.00
14,600.00	90.00	0.679	6,960.00	7,682.90	-428.46	7,676.04	0.00	0.00	0.00
14,700.00	90.00	0.679	6,960.00	7,782.89	-427.28	7,776.04	0.00	0.00	0.00
14,800.00	90.00	0.679	6,960.00	7,882.89	-426.09	7,876.04	0.00	0.00	0.00
14,900.00	90.00	0.679	6,960.00	7,982.88	-424.91	7,976.04	0.00	0.00	0.00
15,000.00	90.00	0.679	6,960.00	8,082.87	-423.72	8,076.04	0.00	0.00	0.00
15,100.00	90.00	0.679	6,960.00	8,182.86	-422.53	8,176.04	0.00	0.00	0.00
15,200.00	90.00	0.679	6,960.00	8,282.86	-421.35	8,276.04	0.00	0.00	0.00
15,300.00	90.00	0.679	6,960.00	8,382.85	-420.16	8,376.04	0.00	0.00	0.00
15,400.00	90.00	0.679	6,960.00	8,482.84	-418.98	8,476.04	0.00	0.00	0.00
15,500.00	90.00	0.679	6,960.00	8,582.84	-417.79	8,576.04	0.00	0.00	0.00
15,600.00	90.00	0.679	6,960.00	8,682.83	-416.61	8,676.03	0.00	0.00	0.00
15,700.00	90.00	0.679	6,960.00	8,782.82	-415.42	8,776.03	0.00	0.00	0.00
15,800.00	90.00	0.679	6,960.00	8,882.82	-414.23	8,876.03	0.00	0.00	0.00
15,900.00	90.00	0.679	6,960.00	8,982.81	-413.05	8,976.03	0.00	0.00	0.00
16,000.00	90.00	0.679	6,960.00	9,082.80	-411.86	9,076.03	0.00	0.00	0.00
16,100.00	90.00	0.679	6,960.00	9,182.79	-410.68	9,176.03	0.00	0.00	0.00
16,200.00	90.00	0.679	6,960.00	9,282.79	-409.49	9,276.03	0.00	0.00	0.00
16,300.00	90.00	0.679	6,960.00	9,382.78	-408.31	9,376.03	0.00	0.00	0.00
16,400.00	90.00	0.679	6,960.00	9,482.77	-407.12	9,476.03	0.00	0.00	0.00
16,500.00	90.00	0.679	6,960.00	9,582.77	-405.94	9,576.03	0.00	0.00	0.00
16,600.00	90.00	0.679	6,960.00	9,682.76	-404.75	9,676.03	0.00	0.00	0.00
16,700.00	90.00	0.679	6,960.00	9,782.75	-403.56	9,776.03	0.00	0.00	0.00
16,800.00	90.00	0.679	6,960.00	9,882.75	-402.38	9,876.03	0.00	0.00	0.00
16,900.00	90.00	0.679	6,960.00	9,982.74	-401.19	9,976.03	0.00	0.00	0.00
17,000.00	90.00	0.679	6,960.00	10,082.73	-400.01	10,076.03	0.00	0.00	0.00
17,100.00	90.00	0.679	6,960.00	10,182.72	-398.82	10,176.03	0.00	0.00	0.00
17,200.00	90.00	0.679	6,960.00	10,282.72	-397.64	10,276.03	0.00	0.00	0.00
17,270.51	90.00	0.679	6,960.00	10,353.22	-396.80	10,346.54	0.00	0.00	0.00
PBHL/TD @ 17270.51 MD 6960.00 TVD									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Jawbone 08 FTP 100 F5 - hit/miss target - Shape	0.00	0.814	6,387.04	-173.40	-521.61	418,923.100	520,291.490	32.151719409	-104.267767607
- plan hits target center - Rectangle (sides W660.00 H10,540.88 D0.00)									
Jawbone 08 LTP 100 FN - plan hits target center - Point	0.00	0.000	6,960.00	10,353.22	-396.80	429,449.700	520,416.300	32.180657023	-104.267343466



FLAT CREEK
RESOURCES

Planning Report

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com BS 08H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3369+26.5 @ 3395.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3369+26.5 @ 3395.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com BS 08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
900.00	900.00	0.00	0.00	KOP Begin 2°/100' build	
1,208.91	1,208.31	-5.25	-15.79	Begin 6.18° tangent	
6,007.19	5,978.73	-168.15	-505.82	Begin 2°/100' drop	
6,316.11	6,287.04	-173.40	-521.61	Begin vertical hold	
6,416.11	6,387.04	-173.40	-521.61	Begin 10°/100' build	
7,316.11	6,960.00	399.52	-514.82	Begin 90.00° lateral	
17,270.51	6,960.00	10,353.22	-396.80	PBHL/TD @ 17270.51 MD 6960.00 TVD	



FLAT CREEK
RESOURCES

Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com BS 08H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3369+26.5 @ 3395.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3369+26.5 @ 3395.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com BS 08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

Project	Eddy County, New Mexico NAD27 NME		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	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 08H, Surf loc: 272 FSL 1856 FWL Section 02-T25S-R26E					
Well Position	+N/-S	0.00 ft	Northing:	419,096.500 usft	Latitude:	32.152195206
	+E/-W	0.00 ft	Easting:	520,813.100 usft	Longitude:	-104.266081835
Position Uncertainty	0.00 ft		Wellhead Elevation:	ft	Ground Level:	3,369.00 ft
Grid Convergence:						

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	9/8/2023	6.60	59.66	47,148.02732044

Design	rev2			
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	0.814

Plan Survey Tool Program	Date			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,270.51	rev2 (Original Hole)	

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	
900.00	0.00	0.000	900.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,208.91	6.18	251.612	1,208.31	-5.25	-15.79	2.00	2.00	0.00	251.61	
6,007.19	6.18	251.612	5,978.73	-168.15	-505.82	0.00	0.00	0.00	0.00	
6,316.11	0.00	0.814	6,287.04	-173.40	-521.61	2.00	-2.00	0.00	180.00	
6,416.11	0.00	0.814	6,387.04	-173.40	-521.61	0.00	0.00	0.00	0.00	Jawbone 08 FTP 100
7,316.11	90.00	0.679	6,960.00	399.52	-514.82	10.00	10.00	-0.01	0.68	
17,270.51	90.00	0.679	6,960.00	10,353.22	-396.80	0.00	0.00	0.00	0.00	Jawbone 08 LTP 100



FLAT CREEK
RESOURCES

Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com BS 08H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3369+26.5 @ 3395.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3369+26.5 @ 3395.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com BS 08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

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	419,096.500	520,813.100	32.152195206	-104.266081835	
100.00	0.00	0.000	100.00	0.00	0.00	419,096.500	520,813.100	32.152195206	-104.266081835	
200.00	0.00	0.000	200.00	0.00	0.00	419,096.500	520,813.100	32.152195206	-104.266081835	
300.00	0.00	0.000	300.00	0.00	0.00	419,096.500	520,813.100	32.152195206	-104.266081835	
400.00	0.00	0.000	400.00	0.00	0.00	419,096.500	520,813.100	32.152195206	-104.266081835	
500.00	0.00	0.000	500.00	0.00	0.00	419,096.500	520,813.100	32.152195206	-104.266081835	
600.00	0.00	0.000	600.00	0.00	0.00	419,096.500	520,813.100	32.152195206	-104.266081835	
700.00	0.00	0.000	700.00	0.00	0.00	419,096.500	520,813.100	32.152195206	-104.266081835	
800.00	0.00	0.000	800.00	0.00	0.00	419,096.500	520,813.100	32.152195206	-104.266081835	
900.00	0.00	0.000	900.00	0.00	0.00	419,096.500	520,813.100	32.152195206	-104.266081835	
KOP Begin 2°/100' build										
1,000.00	2.00	251.612	999.98	-0.55	-1.66	419,095.950	520,811.444	32.152193695	-104.266087187	
1,100.00	4.00	251.612	1,099.84	-2.20	-6.62	419,094.299	520,806.478	32.152189165	-104.266103237	
1,208.91	6.18	251.612	1,208.31	-5.25	-15.79	419,091.251	520,797.311	32.152180803	-104.266132864	
Begin 6.18° tangent										
1,300.00	6.18	251.612	1,298.87	-8.34	-25.09	419,088.159	520,788.008	32.152172318	-104.266162929	
1,400.00	6.18	251.612	1,398.29	-11.74	-35.30	419,084.764	520,777.796	32.152163003	-104.266195935	
1,500.00	6.18	251.612	1,497.71	-15.13	-45.52	419,081.369	520,767.583	32.152153687	-104.266228941	
1,600.00	6.18	251.612	1,597.13	-18.53	-55.73	419,077.974	520,757.371	32.152144372	-104.266261947	
1,700.00	6.18	251.612	1,696.55	-21.92	-65.94	419,074.579	520,747.158	32.152135056	-104.266294953	
1,800.00	6.18	251.612	1,795.97	-25.32	-76.16	419,071.184	520,736.945	32.152125741	-104.266327959	
1,900.00	6.18	251.612	1,895.39	-28.71	-86.37	419,067.789	520,726.733	32.152116425	-104.266360965	
2,000.00	6.18	251.612	1,994.81	-32.11	-96.58	419,064.394	520,716.520	32.152107110	-104.266393971	
2,100.00	6.18	251.612	2,094.23	-35.50	-106.79	419,060.999	520,706.307	32.152097794	-104.266426977	
2,200.00	6.18	251.612	2,193.65	-38.90	-117.01	419,057.604	520,696.095	32.152088479	-104.266459983	
2,300.00	6.18	251.612	2,293.06	-42.29	-127.22	419,054.209	520,685.882	32.152079163	-104.266492989	
2,400.00	6.18	251.612	2,392.48	-45.69	-137.43	419,050.814	520,675.669	32.152069848	-104.266525994	
2,500.00	6.18	251.612	2,491.90	-49.08	-147.64	419,047.419	520,665.457	32.152060532	-104.266559000	
2,600.00	6.18	251.612	2,591.32	-52.48	-157.86	419,044.024	520,655.244	32.152051216	-104.266592006	
2,700.00	6.18	251.612	2,690.74	-55.87	-168.07	419,040.629	520,645.031	32.152041901	-104.266625012	
2,800.00	6.18	251.612	2,790.16	-59.27	-178.28	419,037.234	520,634.819	32.152032585	-104.266658018	
2,900.00	6.18	251.612	2,889.58	-62.66	-188.49	419,033.839	520,624.606	32.152023270	-104.266691024	
3,000.00	6.18	251.612	2,989.00	-66.06	-198.71	419,030.444	520,614.394	32.152013954	-104.266724030	
3,100.00	6.18	251.612	3,088.42	-69.45	-208.92	419,027.049	520,604.181	32.152004638	-104.266757036	
3,200.00	6.18	251.612	3,187.84	-72.85	-219.13	419,023.654	520,593.968	32.151995323	-104.266790042	
3,300.00	6.18	251.612	3,287.26	-76.24	-229.35	419,020.259	520,583.756	32.151986007	-104.266823048	
3,400.00	6.18	251.612	3,386.68	-79.64	-239.56	419,016.864	520,573.543	32.151976692	-104.266856054	
3,500.00	6.18	251.612	3,486.09	-83.03	-249.77	419,013.469	520,563.330	32.151967376	-104.266889059	
3,600.00	6.18	251.612	3,585.51	-86.43	-259.98	419,010.073	520,553.118	32.151958060	-104.266922065	
3,700.00	6.18	251.612	3,684.93	-89.82	-270.20	419,006.678	520,542.905	32.151948745	-104.266955071	
3,800.00	6.18	251.612	3,784.35	-93.22	-280.41	419,003.283	520,532.692	32.151939429	-104.266988077	
3,900.00	6.18	251.612	3,883.77	-96.61	-290.62	418,999.888	520,522.480	32.151930113	-104.267021083	
4,000.00	6.18	251.612	3,983.19	-100.01	-300.83	418,996.493	520,512.267	32.151920798	-104.267054089	
4,100.00	6.18	251.612	4,082.61	-103.40	-311.05	418,993.098	520,502.054	32.151911482	-104.267087094	
4,200.00	6.18	251.612	4,182.03	-106.80	-321.26	418,989.703	520,491.842	32.151902166	-104.267120100	
4,300.00	6.18	251.612	4,281.45	-110.19	-331.47	418,986.308	520,481.629	32.151892850	-104.267153106	
4,400.00	6.18	251.612	4,380.87	-113.59	-341.68	418,982.913	520,471.417	32.151883535	-104.267186112	
4,500.00	6.18	251.612	4,480.29	-116.98	-351.90	418,979.518	520,461.204	32.151874219	-104.267219118	
4,600.00	6.18	251.612	4,579.71	-120.38	-362.11	418,976.123	520,450.991	32.151864903	-104.267252123	
4,700.00	6.18	251.612	4,679.13	-123.77	-372.32	418,972.728	520,440.779	32.151855588	-104.267285129	
4,800.00	6.18	251.612	4,778.54	-127.17	-382.54	418,969.333	520,430.566	32.151846272	-104.267318135	
4,900.00	6.18	251.612	4,877.96	-130.56	-392.75	418,965.938	520,420.353	32.151836956	-104.267351141	
5,000.00	6.18	251.612	4,977.38	-133.96	-402.96	418,962.543	520,410.141	32.151827640	-104.267384147	
5,100.00	6.18	251.612	5,076.80	-137.35	-413.17	418,959.148	520,399.928	32.151818324	-104.267417152	



FLAT CREEK
RESOURCES

Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com BS 08H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3369+26.5 @ 3395.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3369+26.5 @ 3395.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com BS 08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
5,200.00	6.18	251.612	5,176.22	-140.75	-423.39	418,955.753	520,389.715	32.151809009	-104.267450158	
5,300.00	6.18	251.612	5,275.64	-144.14	-433.60	418,952.358	520,379.503	32.151799693	-104.267483164	
5,400.00	6.18	251.612	5,375.06	-147.54	-443.81	418,948.963	520,369.290	32.151790377	-104.267516170	
5,500.00	6.18	251.612	5,474.48	-150.93	-454.02	418,945.568	520,359.077	32.151781061	-104.267549175	
5,600.00	6.18	251.612	5,573.90	-154.33	-464.24	418,942.173	520,348.865	32.151771745	-104.267582181	
5,700.00	6.18	251.612	5,673.32	-157.72	-474.45	418,938.778	520,338.652	32.151762430	-104.267615187	
5,800.00	6.18	251.612	5,772.74	-161.12	-484.66	418,935.383	520,328.440	32.151753114	-104.267648192	
5,900.00	6.18	251.612	5,872.16	-164.51	-494.87	418,931.988	520,318.227	32.151743798	-104.267681198	
6,007.19	6.18	251.612	5,978.73	-168.15	-505.82	418,928.349	520,307.280	32.151733812	-104.267716578	
Begin 2°/100' drop										
6,100.00	4.32	251.612	6,071.14	-170.83	-513.88	418,925.670	520,299.221	32.151726461	-104.267742621	
6,200.00	2.32	251.612	6,170.97	-172.66	-519.38	418,923.842	520,293.723	32.151721445	-104.267760392	
6,300.00	0.32	251.612	6,270.93	-173.39	-521.57	418,923.114	520,291.533	32.151719448	-104.267767468	
6,316.11	0.00	0.814	6,287.04	-173.40	-521.61	418,923.100	520,291.490	32.151719409	-104.267767607	
Begin vertical hold										
6,400.00	0.00	0.000	6,370.93	-173.40	-521.61	418,923.100	520,291.490	32.151719409	-104.267767607	
6,416.11	0.00	0.000	6,387.04	-173.40	-521.61	418,923.100	520,291.490	32.151719409	-104.267767607	
Begin 10°/100' build										
6,450.00	3.39	0.679	6,420.91	-172.40	-521.60	418,924.102	520,291.502	32.151722164	-104.267767566	
6,500.00	8.39	0.679	6,470.64	-167.27	-521.54	418,929.231	520,291.563	32.151736262	-104.267767360	
6,550.00	13.39	0.679	6,519.72	-157.83	-521.43	418,938.673	520,291.675	32.151762218	-104.267766980	
6,600.00	18.39	0.679	6,567.79	-144.14	-521.26	418,952.357	520,291.837	32.151799835	-104.267766428	
6,650.00	23.39	0.679	6,614.49	-126.32	-521.05	418,970.178	520,292.048	32.151848826	-104.267765711	
6,700.00	28.39	0.679	6,659.46	-104.50	-520.79	418,992.001	520,292.307	32.151908819	-104.267764832	
6,750.00	33.39	0.679	6,702.35	-78.84	-520.49	419,017.660	520,292.611	32.151979356	-104.267763798	
6,800.00	38.39	0.679	6,742.85	-49.54	-520.14	419,046.960	520,292.959	32.152059901	-104.267762618	
6,850.00	43.39	0.679	6,780.64	-16.82	-519.75	419,079.677	520,293.347	32.152149841	-104.267761300	
6,900.00	48.39	0.679	6,815.43	19.06	-519.33	419,115.563	520,293.772	32.152248492	-104.267759855	
6,950.00	53.39	0.679	6,846.96	57.84	-518.87	419,154.345	520,294.232	32.152355102	-104.267758293	
7,000.00	58.39	0.679	6,874.99	99.23	-518.38	419,195.727	520,294.723	32.152468861	-104.267756626	
7,050.00	63.39	0.679	6,899.31	142.89	-517.86	419,239.394	520,295.240	32.152588902	-104.267754867	
7,100.00	68.39	0.679	6,919.72	188.51	-517.32	419,285.014	520,295.781	32.152714312	-104.267753029	
7,150.00	73.39	0.679	6,936.09	235.74	-516.76	419,332.240	520,296.341	32.152844136	-104.267751127	
7,200.00	78.39	0.679	6,948.27	284.21	-516.19	419,380.712	520,296.916	32.152977387	-104.267749175	
7,250.00	83.39	0.679	6,956.19	333.56	-515.60	419,430.062	520,297.501	32.153113051	-104.267747187	
7,300.00	88.39	0.679	6,959.77	383.41	-515.01	419,479.914	520,298.092	32.153250094	-104.267745179	
7,316.11	90.00	0.679	6,960.00	399.52	-514.82	419,496.016	520,298.283	32.153294359	-104.267744530	
Begin 90.00° lateral										
7,400.00	90.00	0.679	6,960.00	483.41	-513.82	419,579.905	520,299.278	32.153524969	-104.267741151	
7,500.00	90.00	0.679	6,960.00	583.40	-512.64	419,679.898	520,300.463	32.153799849	-104.267737123	
7,600.00	90.00	0.679	6,960.00	683.39	-511.45	419,779.890	520,301.649	32.154074730	-104.267733095	
7,700.00	90.00	0.679	6,960.00	783.38	-510.27	419,879.883	520,302.835	32.154349611	-104.267729068	
7,800.00	90.00	0.679	6,960.00	883.38	-509.08	419,979.876	520,304.020	32.154624491	-104.267725040	
7,900.00	90.00	0.679	6,960.00	983.37	-507.90	420,079.869	520,305.206	32.154899372	-104.267721012	
8,000.00	90.00	0.679	6,960.00	1,083.36	-506.71	420,179.861	520,306.391	32.155174252	-104.267716984	
8,100.00	90.00	0.679	6,960.00	1,183.36	-505.52	420,279.854	520,307.577	32.155449133	-104.267712956	
8,200.00	90.00	0.679	6,960.00	1,283.35	-504.34	420,379.847	520,308.762	32.155724013	-104.267708928	
8,300.00	90.00	0.679	6,960.00	1,383.34	-503.15	420,479.840	520,309.948	32.155998894	-104.267704900	
8,400.00	90.00	0.679	6,960.00	1,483.34	-501.97	420,579.833	520,311.134	32.156273774	-104.267700872	
8,500.00	90.00	0.679	6,960.00	1,583.33	-500.78	420,679.825	520,312.319	32.156548655	-104.267696844	
8,600.00	90.00	0.679	6,960.00	1,683.32	-499.60	420,779.818	520,313.505	32.156823535	-104.267692816	
8,700.00	90.00	0.679	6,960.00	1,783.31	-498.41	420,879.811	520,314.690	32.157098416	-104.267688788	
8,800.00	90.00	0.679	6,960.00	1,883.31	-497.23	420,979.804	520,315.876	32.157373296	-104.267684760	
8,900.00	90.00	0.679	6,960.00	1,983.30	-496.04	421,079.796	520,317.061	32.157648177	-104.267680732	



FLAT CREEK
RESOURCES

Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com BS 08H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3369+26.5 @ 3395.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3369+26.5 @ 3395.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com BS 08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
9,000.00	90.00	0.679	6,960.00	2,083.29	-494.85	421,179.789	520,318.247	32.157923057	-104.267676704	
9,100.00	90.00	0.679	6,960.00	2,183.29	-493.67	421,279.782	520,319.433	32.158197938	-104.267672675	
9,200.00	90.00	0.679	6,960.00	2,283.28	-492.48	421,379.775	520,320.618	32.158472817	-104.267668647	
9,300.00	90.00	0.679	6,960.00	2,383.27	-491.30	421,479.767	520,321.804	32.158747697	-104.267664619	
9,400.00	90.00	0.679	6,960.00	2,483.27	-490.11	421,579.760	520,322.989	32.159022578	-104.267660591	
9,500.00	90.00	0.679	6,960.00	2,583.26	-488.93	421,679.753	520,324.175	32.159297458	-104.267656563	
9,600.00	90.00	0.679	6,960.00	2,683.25	-487.74	421,779.746	520,325.360	32.159572338	-104.267652534	
9,700.00	90.00	0.679	6,960.00	2,783.24	-486.56	421,879.739	520,326.546	32.159847219	-104.267648506	
9,800.00	90.00	0.679	6,960.00	2,883.24	-485.37	421,979.731	520,327.732	32.160122099	-104.267644478	
9,900.00	90.00	0.679	6,960.00	2,983.23	-484.18	422,079.724	520,328.917	32.160396979	-104.267640449	
10,000.00	90.00	0.679	6,960.00	3,083.22	-483.00	422,179.717	520,330.103	32.160671860	-104.267636421	
10,100.00	90.00	0.679	6,960.00	3,183.22	-481.81	422,279.710	520,331.288	32.160946740	-104.267632392	
10,200.00	90.00	0.679	6,960.00	3,283.21	-480.63	422,379.702	520,332.474	32.161221620	-104.267628364	
10,300.00	90.00	0.679	6,960.00	3,383.20	-479.44	422,479.695	520,333.660	32.161496500	-104.267624335	
10,400.00	90.00	0.679	6,960.00	3,483.20	-478.26	422,579.688	520,334.845	32.161771381	-104.267620307	
10,500.00	90.00	0.679	6,960.00	3,583.19	-477.07	422,679.681	520,336.031	32.162046261	-104.267616278	
10,600.00	90.00	0.679	6,960.00	3,683.18	-475.88	422,779.673	520,337.216	32.162321141	-104.267612250	
10,700.00	90.00	0.679	6,960.00	3,783.17	-474.70	422,879.666	520,338.402	32.162596021	-104.267608221	
10,800.00	90.00	0.679	6,960.00	3,883.17	-473.51	422,979.659	520,339.587	32.162870902	-104.267604193	
10,900.00	90.00	0.679	6,960.00	3,983.16	-472.33	423,079.652	520,340.773	32.163145782	-104.267600164	
11,000.00	90.00	0.679	6,960.00	4,083.15	-471.14	423,179.645	520,341.959	32.163420662	-104.267596135	
11,100.00	90.00	0.679	6,960.00	4,183.15	-469.96	423,279.637	520,343.144	32.163695542	-104.267592107	
11,200.00	90.00	0.679	6,960.00	4,283.14	-468.77	423,379.630	520,344.330	32.163970422	-104.267588078	
11,300.00	90.00	0.679	6,960.00	4,383.13	-467.59	423,479.623	520,345.515	32.164245302	-104.267584049	
11,400.00	90.00	0.679	6,960.00	4,483.12	-466.40	423,579.616	520,346.701	32.164520183	-104.267580020	
11,500.00	90.00	0.679	6,960.00	4,583.12	-465.21	423,679.608	520,347.886	32.164795063	-104.267575992	
11,600.00	90.00	0.679	6,960.00	4,683.11	-464.03	423,779.601	520,349.072	32.165069943	-104.267571963	
11,700.00	90.00	0.679	6,960.00	4,783.10	-462.84	423,879.594	520,350.258	32.165344823	-104.267567934	
11,800.00	90.00	0.679	6,960.00	4,883.10	-461.66	423,979.587	520,351.443	32.165619703	-104.267563905	
11,900.00	90.00	0.679	6,960.00	4,983.09	-460.47	424,079.579	520,352.629	32.165894583	-104.267559876	
12,000.00	90.00	0.679	6,960.00	5,083.08	-459.29	424,179.572	520,353.814	32.166169463	-104.267555847	
12,100.00	90.00	0.679	6,960.00	5,183.08	-458.10	424,279.565	520,355.000	32.166444343	-104.267551818	
12,200.00	90.00	0.679	6,960.00	5,283.07	-456.92	424,379.558	520,356.185	32.166719223	-104.267547789	
12,300.00	90.00	0.679	6,960.00	5,383.06	-455.73	424,479.550	520,357.371	32.166994103	-104.267543760	
12,400.00	90.00	0.679	6,960.00	5,483.05	-454.54	424,579.543	520,358.557	32.167268983	-104.267539731	
12,500.00	90.00	0.679	6,960.00	5,583.05	-453.36	424,679.536	520,359.742	32.167543863	-104.267535702	
12,600.00	90.00	0.679	6,960.00	5,683.04	-452.17	424,779.529	520,360.928	32.167818743	-104.267531673	
12,700.00	90.00	0.679	6,960.00	5,783.03	-450.99	424,879.522	520,362.113	32.168093623	-104.267527644	
12,800.00	90.00	0.679	6,960.00	5,883.03	-449.80	424,979.514	520,363.299	32.168368503	-104.267523615	
12,900.00	90.00	0.679	6,960.00	5,983.02	-448.62	425,079.507	520,364.485	32.168643383	-104.267519586	
13,000.00	90.00	0.679	6,960.00	6,083.01	-447.43	425,179.500	520,365.670	32.168918263	-104.267515557	
13,100.00	90.00	0.679	6,960.00	6,183.01	-446.25	425,279.493	520,366.856	32.169193143	-104.267511527	
13,200.00	90.00	0.679	6,960.00	6,283.00	-445.06	425,379.485	520,368.041	32.169468023	-104.267507498	
13,300.00	90.00	0.679	6,960.00	6,382.99	-443.87	425,479.478	520,369.227	32.169742903	-104.267503469	
13,400.00	90.00	0.679	6,960.00	6,482.98	-442.69	425,579.471	520,370.412	32.170017783	-104.267499440	
13,500.00	90.00	0.679	6,960.00	6,582.98	-441.50	425,679.464	520,371.598	32.170292662	-104.267495410	
13,600.00	90.00	0.679	6,960.00	6,682.97	-440.32	425,779.456	520,372.784	32.170567542	-104.267491381	
13,700.00	90.00	0.679	6,960.00	6,782.96	-439.13	425,879.449	520,373.969	32.170842422	-104.267487352	
13,800.00	90.00	0.679	6,960.00	6,882.96	-437.95	425,979.442	520,375.155	32.171117302	-104.267483322	
13,900.00	90.00	0.679	6,960.00	6,982.95	-436.76	426,079.435	520,376.340	32.171392182	-104.267479293	
14,000.00	90.00	0.679	6,960.00	7,082.94	-435.58	426,179.428	520,377.526	32.171667062	-104.267475263	
14,100.00	90.00	0.679	6,960.00	7,182.94	-434.39	426,279.420	520,378.711	32.171941941	-104.267471234	
14,200.00	90.00	0.679	6,960.00	7,282.93	-433.20	426,379.413	520,379.897	32.172216821	-104.267467204	
14,300.00	90.00	0.679	6,960.00	7,382.92	-432.02	426,479.406	520,381.083	32.172491701	-104.267463175	
14,400.00	90.00	0.679	6,960.00	7,482.91	-430.83	426,579.399	520,382.268	32.172766581	-104.267459145	



FLAT CREEK
RESOURCES

Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com BS 08H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3369+26.5 @ 3395.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3369+26.5 @ 3395.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com BS 08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
14,500.00	90.00	0.679	6,960.00	7,582.91	-429.65	426,679.391	520,383.454	32.173041460	-104.267455116	
14,600.00	90.00	0.679	6,960.00	7,682.90	-428.46	426,779.384	520,384.639	32.173316340	-104.267451086	
14,700.00	90.00	0.679	6,960.00	7,782.89	-427.28	426,879.377	520,385.825	32.173591220	-104.267447057	
14,800.00	90.00	0.679	6,960.00	7,882.89	-426.09	426,979.370	520,387.010	32.173866100	-104.267443027	
14,900.00	90.00	0.679	6,960.00	7,982.88	-424.91	427,079.362	520,388.196	32.174140979	-104.267438997	
15,000.00	90.00	0.679	6,960.00	8,082.87	-423.72	427,179.355	520,389.382	32.174415859	-104.267434968	
15,100.00	90.00	0.679	6,960.00	8,182.86	-422.53	427,279.348	520,390.567	32.174690739	-104.267430938	
15,200.00	90.00	0.679	6,960.00	8,282.86	-421.35	427,379.341	520,391.753	32.174965618	-104.267426908	
15,300.00	90.00	0.679	6,960.00	8,382.85	-420.16	427,479.333	520,392.938	32.175240498	-104.267422878	
15,400.00	90.00	0.679	6,960.00	8,482.84	-418.98	427,579.326	520,394.124	32.175515378	-104.267418849	
15,500.00	90.00	0.679	6,960.00	8,582.84	-417.79	427,679.319	520,395.310	32.175790257	-104.267414819	
15,600.00	90.00	0.679	6,960.00	8,682.83	-416.61	427,779.312	520,396.495	32.176065137	-104.267410789	
15,700.00	90.00	0.679	6,960.00	8,782.82	-415.42	427,879.305	520,397.681	32.176340016	-104.267406759	
15,800.00	90.00	0.679	6,960.00	8,882.82	-414.23	427,979.297	520,398.866	32.176614896	-104.267402729	
15,900.00	90.00	0.679	6,960.00	8,982.81	-413.05	428,079.290	520,400.052	32.176889776	-104.267398699	
16,000.00	90.00	0.679	6,960.00	9,082.80	-411.86	428,179.283	520,401.237	32.177164655	-104.267394669	
16,100.00	90.00	0.679	6,960.00	9,182.79	-410.68	428,279.276	520,402.423	32.177439535	-104.267390639	
16,200.00	90.00	0.679	6,960.00	9,282.79	-409.49	428,379.268	520,403.609	32.177714414	-104.267386609	
16,300.00	90.00	0.679	6,960.00	9,382.78	-408.31	428,479.261	520,404.794	32.177989294	-104.267382579	
16,400.00	90.00	0.679	6,960.00	9,482.77	-407.12	428,579.254	520,405.980	32.178264173	-104.267378549	
16,500.00	90.00	0.679	6,960.00	9,582.77	-405.94	428,679.247	520,407.165	32.178539053	-104.267374519	
16,600.00	90.00	0.679	6,960.00	9,682.76	-404.75	428,779.239	520,408.351	32.178813932	-104.267370489	
16,700.00	90.00	0.679	6,960.00	9,782.75	-403.56	428,879.232	520,409.536	32.179088812	-104.267366459	
16,800.00	90.00	0.679	6,960.00	9,882.75	-402.38	428,979.225	520,410.722	32.179363691	-104.267362429	
16,900.00	90.00	0.679	6,960.00	9,982.74	-401.19	429,079.218	520,411.908	32.179638571	-104.267358399	
17,000.00	90.00	0.679	6,960.00	10,082.73	-400.01	429,179.211	520,413.093	32.179913450	-104.267354368	
17,100.00	90.00	0.679	6,960.00	10,182.72	-398.82	429,279.203	520,414.279	32.180188330	-104.267350338	
17,200.00	90.00	0.679	6,960.00	10,282.72	-397.64	429,379.196	520,415.464	32.180463209	-104.267346308	
17,270.51	90.00	0.679	6,960.00	10,353.22	-396.80	429,449.700	520,416.300	32.180657023	-104.267343466	

PBHL/TD @ 17270.51 MD 6960.00 TVD

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Jawbone 08 FTP 100 F£ - hit/miss target - Shape	0.00	0.814	6,387.04	-173.40	-521.61	418,923.100	520,291.490	32.151719409	-104.267767607	
- plan hits target center - Rectangle (sides W660.00 H10,540.88 D0.00)										
Jawbone 08 LTP 100 FN - plan hits target center - Point	0.00	0.000	6,960.00	10,353.22	-396.80	429,449.700	520,416.300	32.180657023	-104.267343466	



FLAT CREEK
RESOURCES

Planning Report - Geographic

Database:	DT_Aug2923v16	Local Co-ordinate Reference:	Well Jawbone Fed Com BS 08H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB=3369+26.5 @ 3395.50ft
Project:	Eddy County, New Mexico NAD27 NME	MD Reference:	RKB=3369+26.5 @ 3395.50ft
Site:	Jawbone	North Reference:	Grid
Well:	Jawbone Fed Com BS 08H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	rev2		

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
900.00	900.00	0.00	0.00	KOP Begin 2°/100' build	
1,208.91	1,208.31	-5.25	-15.79	Begin 6.18° tangent	
6,007.19	5,978.73	-168.15	-505.82	Begin 2°/100' drop	
6,316.11	6,287.04	-173.40	-521.61	Begin vertical hold	
6,416.11	6,387.04	-173.40	-521.61	Begin 10°/100' build	
7,316.11	6,960.00	399.52	-514.82	Begin 90.00° lateral	
17,270.51	6,960.00	10,353.22	-396.80	PBHL/TD @ 17270.51 MD 6960.00 TVD	

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

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

WELL NAME & NO.:	Jawbone BS Fed Com 5H
SURFACE HOLE FOOTAGE:	272'/S & 1946'/W
BOTTOM HOLE FOOTAGE:	100'/N & 550'/E
ATS/API ID:	ATS-24-477
APD ID:	10400095979
Sundry ID:	N/a

WELL NAME & NO.:	Jawbone BS Fed Com 6H
SURFACE HOLE FOOTAGE:	272'/S & 1916'/W
BOTTOM HOLE FOOTAGE:	100'/N & 1825'/E
ATS/API ID:	ATS-24-478
APD ID:	10400095980
Sundry ID:	N/a

WELL NAME & NO.:	Jawbone BS Fed Com 7H
SURFACE HOLE FOOTAGE:	272'/S & 1886'/W
BOTTOM HOLE FOOTAGE:	100'/N & 1775'/W
ATS/API ID:	ATS-24-479
APD ID:	10400095981
Sundry ID:	N/a

WELL NAME & NO.:	Jawbone BS Fed Com 8H
SURFACE HOLE FOOTAGE:	272'/S & 1856'/W
BOTTOM HOLE FOOTAGE:	100'/N & 1275'/WE
ATS/API ID:	ATS-24-480
APD ID:	10400096058
Sundry ID:	N/a

COA

H2S	Yes		
Potash	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		
Special Requirements Variance	<input type="checkbox"/> Break Testing	<input type="checkbox"/> Offline Cementing	<input type="checkbox"/> Casing Clearance

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) 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 **650 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.

Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.

2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing shall be set at approximately **1940 feet** 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 **3000 (3M)** 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 **3000 (3M)** 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

(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 2nd 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.
3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report when present.

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, 2) until cement has been in place at least 24 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 water basin (8 hours) or potash (24 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.

LVO 2/21/2024

Hydrogen Sulfide Plan Summary

- A. All personnel shall receive proper H₂S 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/Escape packs — 4 packs shall be stored on the rig floor th 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
- H₂S 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
R E S O U R C E S

- **Mud program:**
The mud program has been designed to minimize the volume of H2S circulated to surface. The operator will have the necessary mud products to minimize hazards while drilling in H2S 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 H2S 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
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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



Flat Creek's Jawbone Fed Com BS pad B rig diagram

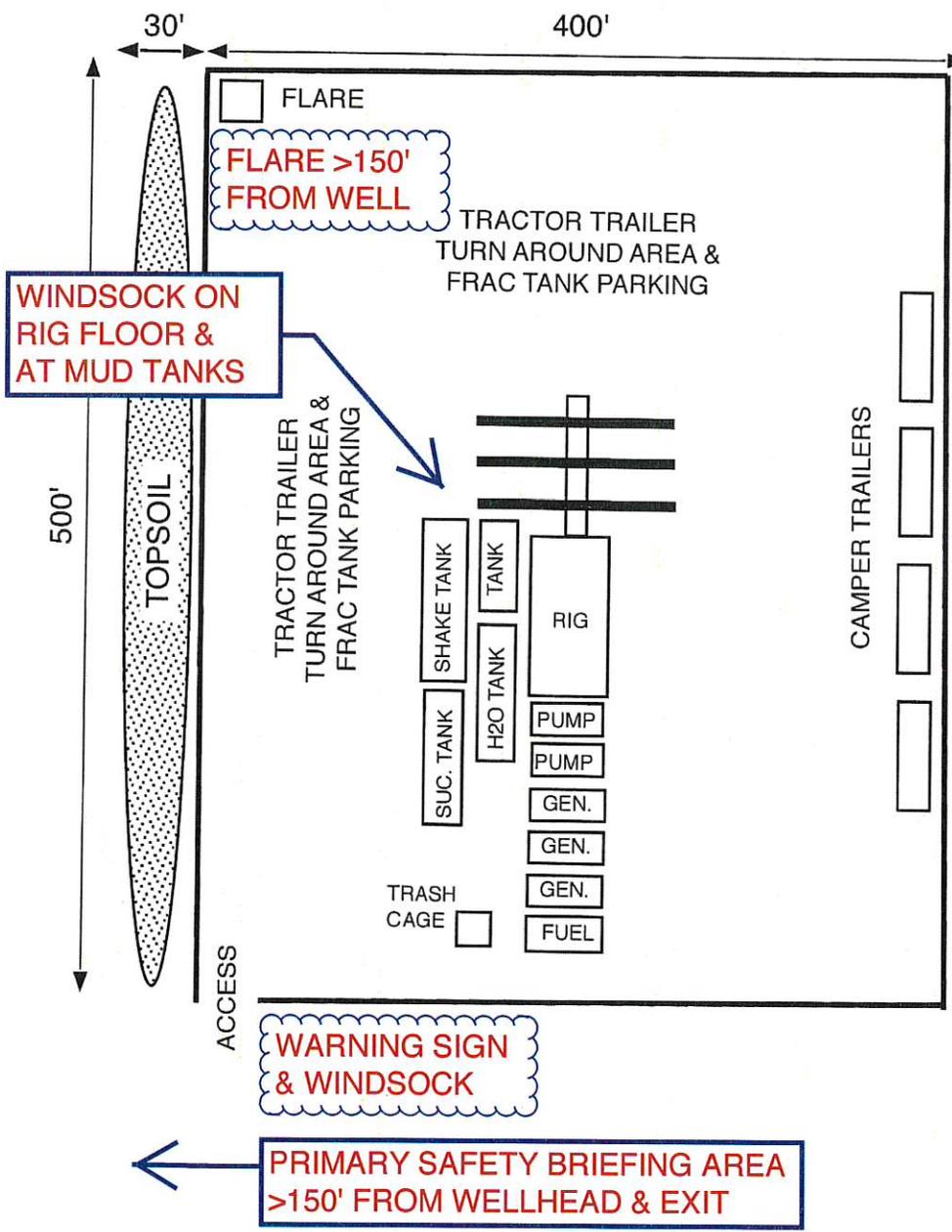
NORTH

1" = 100'

PREVAILING WINDS
BLOW FROM SOUTH

HIGHEST GROUND
TO NORTHEAST

SECONDARY SAFETY BRIEFING AREA
>150' FROM WELLHEAD & EXIT

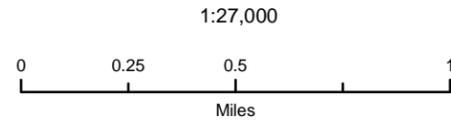


Flat Creek Resources

**Jawbone Pad B
H2S Contingency Plan:
2 Mile Radius Map**

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

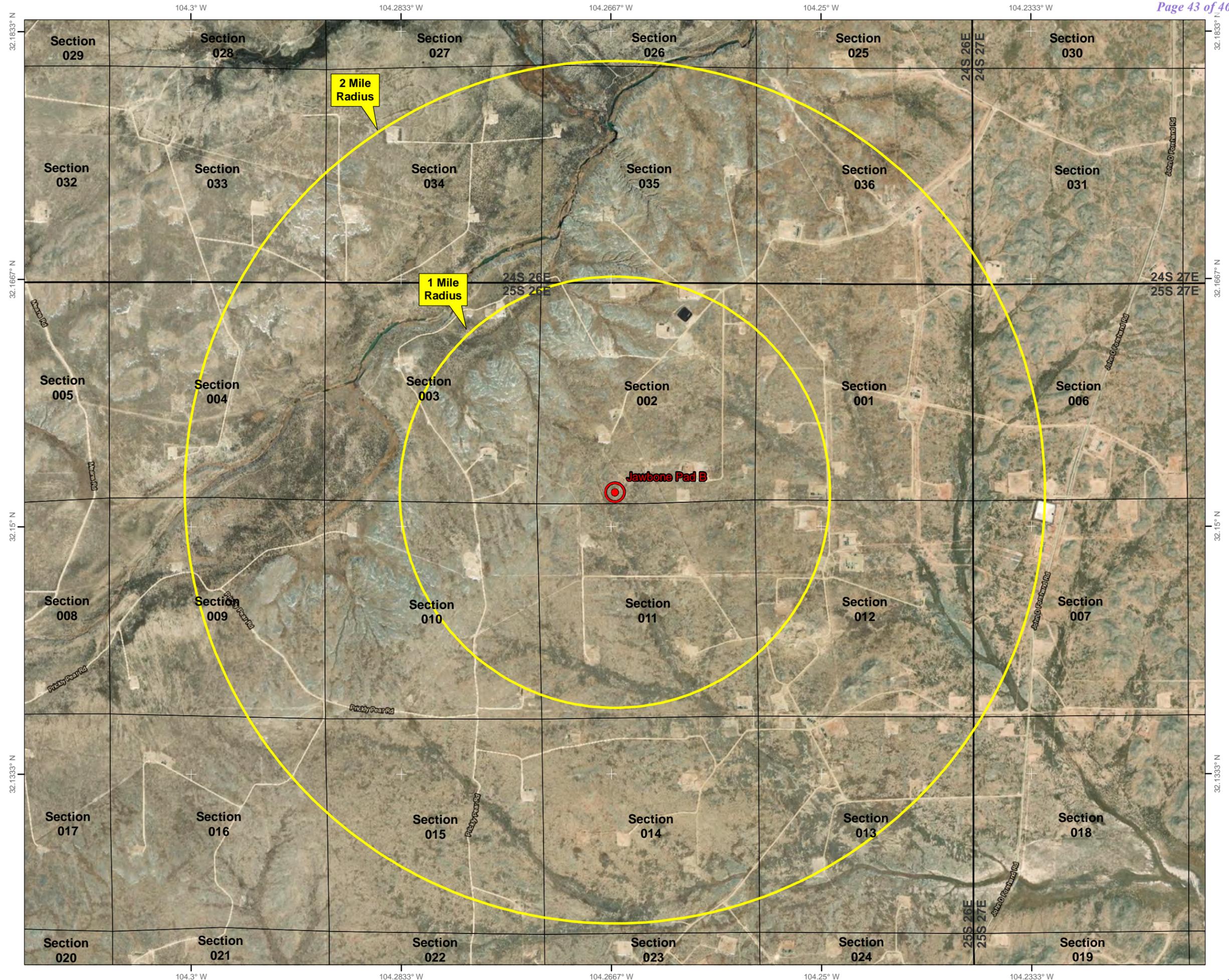
 Well Pad Location

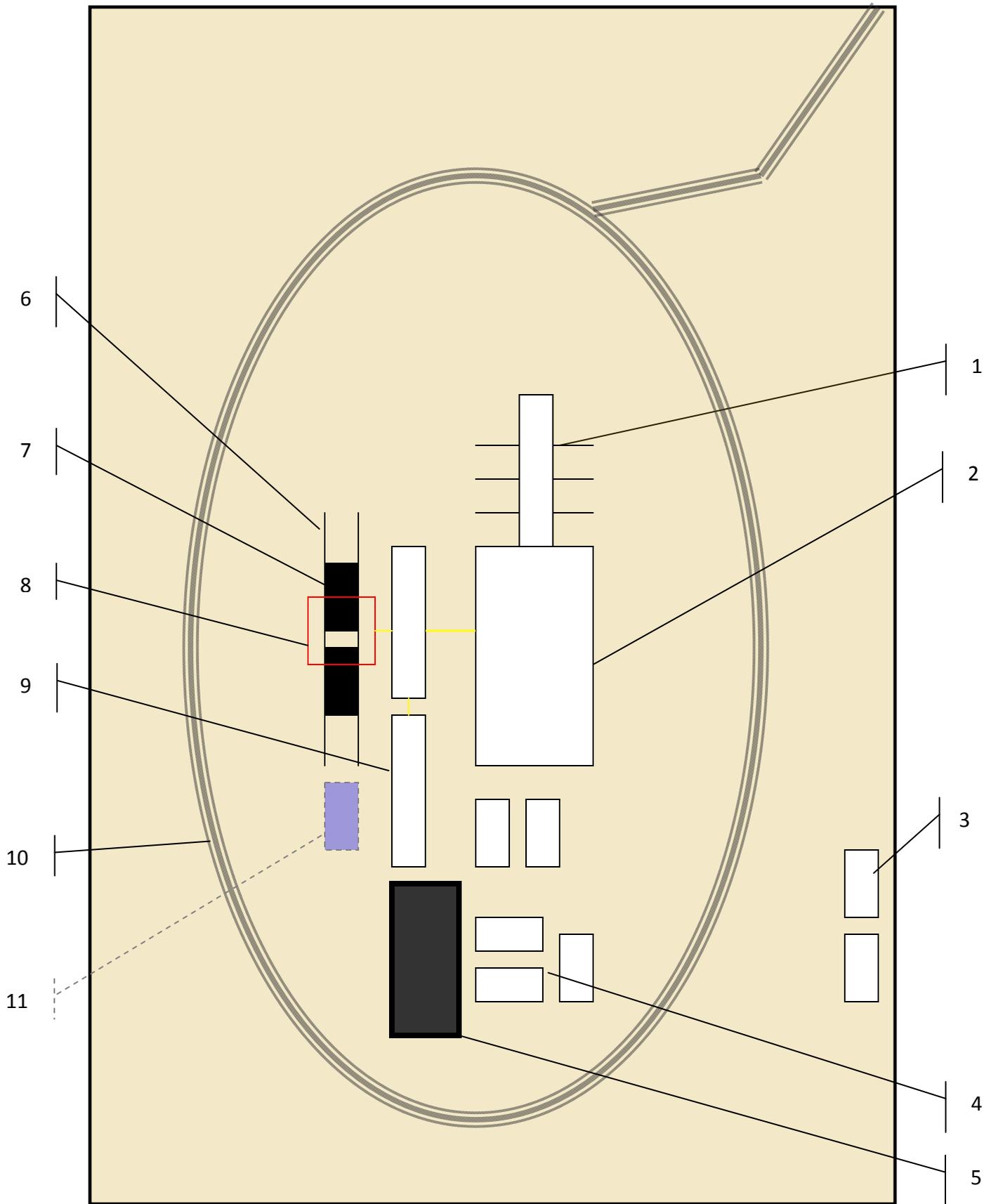


NAD 1983 New Mexico State Plane East
FIPS 3001 Feet



Prepared by Permits West, Inc., November 7, 2023
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



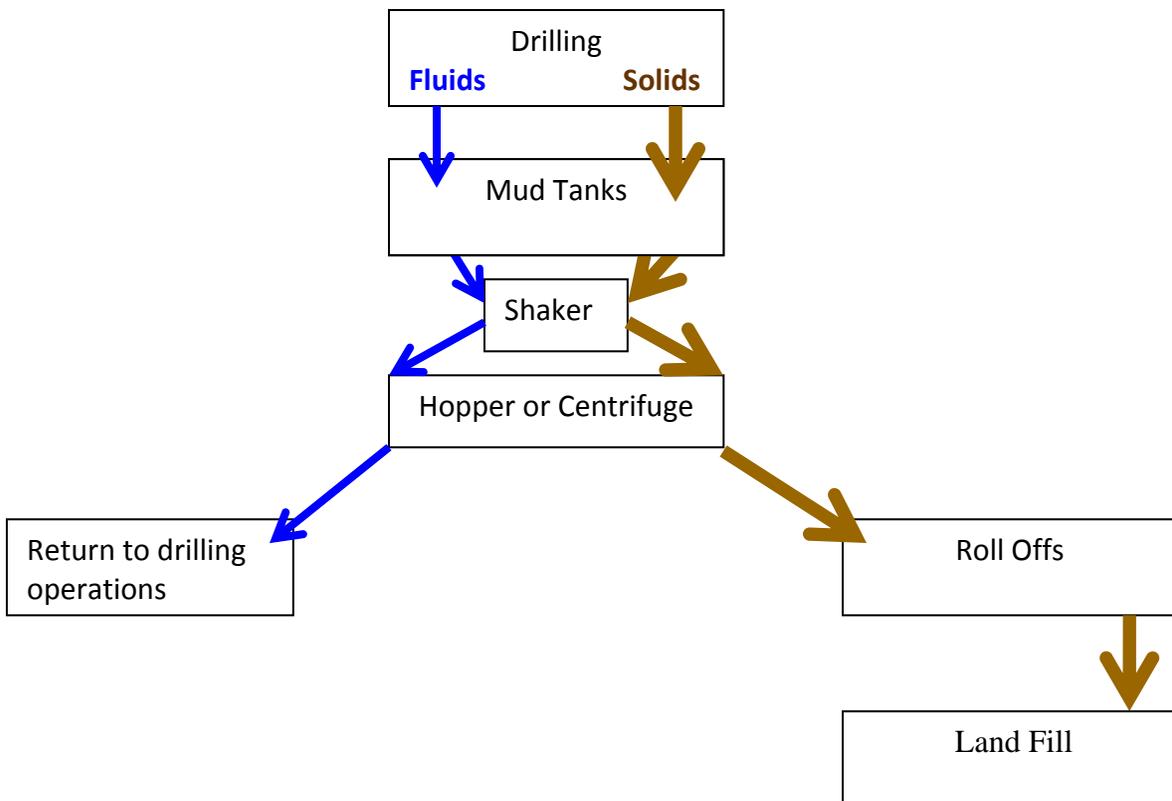
Above: Centrifugal Closed Loop System

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



District I
 1625 N. French Dr., Hobbs, NM 88240
 Phone:(575) 393-6161 Fax:(575) 393-0720
District II
 811 S. First St., Artesia, NM 88210
 Phone:(575) 748-1283 Fax:(575) 748-9720
District III
 1000 Rio Brazos Rd., Aztec, NM 87410
 Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
 1220 S. St Francis Dr., Santa Fe, NM 87505
 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 343265

CONDITIONS

Operator: Flat Creek Resources, LLC 777 Main St. Fort Worth, TX 76102	OGRID:	374034
	Action Number:	343265
	Action Type:	[C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Notify OCD 24 hours prior to casing & cement	5/31/2024
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104	5/31/2024
ward.rikala	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	5/31/2024
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing	5/31/2024
ward.rikala	If cement does not circulate on any string, a CBL is required for that string of casing	5/31/2024
ward.rikala	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	5/31/2024