

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 type="checkbox"/> DRILL <input type="checkbox"/> REENTER 1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		5. Lease Serial No. 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No.
2. Name of Operator		9. API Well No. 30-015-49202
3a. Address	3b. Phone No. (include area code)	10. Field and Pool, or Exploratory
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish
13. State		
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration

24. Attachments

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

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

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

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

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



(Continued on page 2)

*(Instructions on page 2)

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:** 01 / 19 / 22

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
Phantom Bank 31 Fed Com 501H		D-32-T26S-R31E	700' FNL 300' FWL	1049	5250	6300
Phantom Bank 31 Fed Com 701H		D-32-T26S-R31E	610' FNL 300' FWL	770	3850	2700
Phantom Bank 31 Fed Com 702H		D-32-T26S-R31E	640' FNL 300' FWL	1049	5250	6300
Phantom Bank 31 Fed Com 703H		D-32-T26S-R31E	670' FNL 300'FWL	770	3850	2700

IV. Central Delivery Point Name: Phantom Bank 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
Phantom Bank 31 Fed Com 501H		01/19/22	03/01/22	04/20/22	06/15/22	07/01/22
Phantom Bank 31 Fed Com 701H		01/20/22	04/10/22	04/20/22	06/15/22	07/01/22
Phantom Bank 31 Fed Com 702H		01/20/22	03/15/22	04/20/22	06/15/22	07/01/22
Phantom Bank 31 Fed Com 703H		01/21/22	03/30/22	04/20/22	06/15/22	07/01/22

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 Operations
E-mail Address: rodney.littleton@flatcreekresources.com
Date: 01/19/22
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

11/23/2021

APD ID: 10400066571

Submission Date: 12/31/2020

Highlighted data
reflects the most
recent changes

Operator Name: FLAT CREEK RESOURCES LLC

Well Name: PHANTOM BANK 31 FED COM

Well Number: 703H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1231209	---	3153	25	25	SANDSTONE, SHALE	NONE	N
1231210	RUSTLER	2351	802	802	ANHYDRITE	NONE	N
1231211	TOP SALT	1574	1579	1579	SALT	NONE	N
1231212	CASTILE	368	2785	2785	ANHYDRITE	NONE	N
1231213	BASE OF SALT	-404	3557	3557	ANHYDRITE	NONE	N
1231214	LAMAR	-621	3774	3774	LIMESTONE, SHALE	NATURAL GAS, OIL	N
1231215	BELL CANYON	-659	3812	3812	SANDSTONE, SHALE	NATURAL GAS, OIL	N
1231216	CHERRY CANYON	-1567	4720	4720	SANDSTONE, SHALE	NATURAL GAS, OIL	N
1231217	BRUSHY CANYON	-2868	6021	6021	SANDSTONE, SHALE	NATURAL GAS, OIL	N
1231218	BONE SPRING LIME	-4552	7705	7705	SANDSTONE	NATURAL GAS, OIL	N
1231219	FIRST BONE SPRING SAND	-5478	8631	8631	SANDSTONE	NATURAL GAS, OIL	N
1231220	BONE SPRING 2ND	-5767	8920	8920	LIMESTONE, SHALE	NATURAL GAS, OIL	N
1231221	BONE SPRING 2ND	-6120	9273	9273	SANDSTONE	NATURAL GAS, OIL	N
1231222	BONE SPRING 3RD	-6758	9911	9911	LIMESTONE, SHALE	NATURAL GAS, OIL	N
1231223	BONE SPRING 3RD	-7426	10579	10581	SANDSTONE	NATURAL GAS, OIL	N
1236481	WOLFCAMP	-7821	10974	10996	SANDSTONE	NATURAL GAS, OIL	N
1255169	WOLFCAMP	-7989	11142	11250	SANDSTONE	NATURAL GAS, OIL	Y
6984451	WOLFCAMP	-8061	11214	16628	LIMESTONE, SHALE	NATURAL GAS, OIL	Y

Operator Name: FLAT CREEK RESOURCES LLC

Well Name: PHANTOM BANK 31 FED COM

Well Number: 703H

Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M

Rating Depth: 20000

Equipment: 5M Choke Manifold Equipment, kill line, annular 10M Pipe rams and blind rams Rotating head

Requesting Variance? YES

Variance request: Variance is requested to use a co-flex line between the BOP and choke manifold instead of using a 4" O.D. steel line. Choke and kill line data book is attached.

Testing Procedure: All testing will be done in accordance with Onshore Order 2 III.B.1.h. 1. Use water to test BOPs. 2. Make up testing assembly and set in into a wellhead profile. Ensure that the casing valve must be left opened and there must be personnel monitoring the outlet of casing valve all time while testing. You must ensure that personnel who monitor the outlet must stay for from the BOP while it is being tested. The reason behind this step is to prevent pressure build up in the casing if the test plug is leaking. 3. Circulate through choke/kill lines, choke manifold, standpipe manifold, and valves to ensure that all lines are full with water. This practice is for preventing pressure dropping off while testing. 4. Line up cement unit and rig team shut rams and valves as per each rig specific testing sequence 5. Pressure test must be low and high, respectively, and the pressure should be stabilized with minimum bleed off at least 5 minutes. Ensure that pressure recording on a chart is recorded correctly. 6. Ensure that any equipment does not pass a pressure test requirement must be reported to supervisors. 7. Continue pressure testing until all equipment is tested as per each rig specific. 8. Rig down testing assembly.

Choke Diagram Attachment:

Choke_Diagram_final_20201210084512.pdf

API_16C_Hose_Cert_20210930132733.jpg

Choke_Hose_SN_60197_20210930132748.pdf

BOP Diagram Attachment:

BOP_Modified_13_10M_20210914135328.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	17.5	13.375	NEW	API	N	0	720	0	720	3122	2402	720	J-55	54.5	ST&C	3.4	8.1	DRY	15.7	DRY	26
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	5400	0	5400	3130	-2278	5400	N-80	43.5	BUTT	1.5	3.5	DRY	4.2	DRY	4.3
3	PRODUCTION	8.75	5.5	NEW	API	N	0	16628	0	11161	3130	-8039	16628	P-110	23	BUTT	12.7	6.2	DRY	2.1	DRY	2.1

Operator Name: FLAT CREEK RESOURCES LLC

Well Name: PHANTOM BANK 31 FED COM

Well Number: 703H

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

703H_Casing_Design_rev1_20210915090312.xlsx

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

703H_Casing_Design_rev1_20210915090347.xlsx

Casing ID: 3 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

703H_Casing_Design_rev1_20210915090407.xlsx

Section 4 - Cement

Operator Name: FLAT CREEK RESOURCES LLC

Well Name: PHANTOM BANK 31 FED COM

Well Number: 703H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	720	450	1.89	12.9	850	125	Extended	Kol-Seal (LCM), Poly-E-Flake (LCM)
SURFACE	Tail		0	720	350	1.33	14.8	465	125	C	Kol-Seal (LCM), Poly-E-Flake (LCM)
INTERMEDIATE	Lead		0	5400	1345	1.75	13.5	419	100	Extended	Kol-Seal (LCM), Poly-E-Flake (LCM), HR-800 (Retarder)
INTERMEDIATE	Tail		0	5400	565	1.35	14.8	135	100	C	Kol-Seal (LCM), poly-E-Flake (LCM), HR-800 (Retarder)
PRODUCTION	Lead		0	1662 8	830	2.13	11.8	314	35	NeoCem	Kol-Seal (LCM), Poly-E-Flake (LCM), WellLife 1094 (Polymer fiber)
PRODUCTION	Tail		0	1662 8	1365	1.44	13.2	1966	35	NeoCem	WellLife 1094 (Polymer fiber)

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: 10k BOPE, with pipe rams, blind rams, variable pipe rams, and 5k annular

Describe the mud monitoring system utilized: Pason PVT

Circulating Medium Table

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	720	SPUD MUD	9	9.4	67.3		9		500		
720	5400	SALT SATURATED	9.8	10	74.8		9		180000		

Operator Name: FLAT CREEK RESOURCES LLC

Well Name: PHANTOM BANK 31 FED COM

Well Number: 703H

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
5400	1662 8	OIL-BASED MUD	9	10.5	67.3				300000	10	

Section 6 - Test, Logging, Coring

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

Gamma Ray Log, Resistivity Log

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

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

Coring operation description for the well:

None

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 6168

Anticipated Surface Pressure: 3747

Anticipated Bottom Hole Temperature(F): 196

Anticipated abnormal pressures, temperatures, or potential geologic hazards? YES

Describe:

Abnormal or elevated pressure may be encountered in the 3rd Bone Spring Sandstone. Anticipate mud weight requirements 10.2-10.3 ppg

Contingency Plans geohazards description:

Monitor for abnormal flow while drilling and on connections. Will have sufficient barite on location to weight up the mud circulating system by 2.0 ppg

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

H2S_Plan_20201210124626.docx

H2S_pad_layout_20201210124615.docx

Phantom_1mi_2mi_H2S_Buffers_20201210124606.pdf

Operator Name: FLAT CREEK RESOURCES LLC

Well Name: PHANTOM BANK 31 FED COM

Well Number: 703H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

PRE_STAKE_DETAIL_20201210130526.pdf

703H_TOPS_20201228092333.pdf

MIN_CURV_703H_20201228092341.pdf

Other proposed operations facets description:

Wellhead equipment

Other proposed operations facets attachment:

Cactus_Wellhead_Equipment_20201210125113.pdf

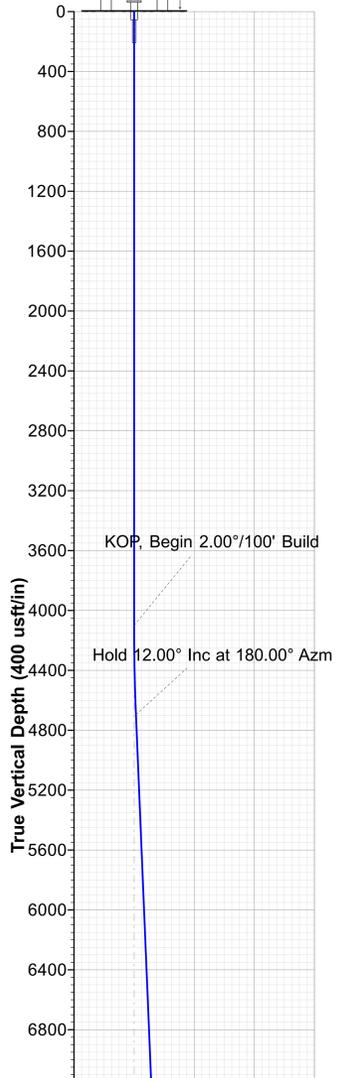
Other Variance attachment:



Project: Eddy County, NM (NAD27 NME)
 Site: Phantom Bank 31 Fed Com
 Well: 703H
 Wellbore: OH
 Design: Plan 1 12-14-21
 Rig: TBD



T G M
 Azimuths to Grid North
 True North: -0.28°
 Magnetic North: 6.17°
 Magnetic Field
 Strength: 47415.8nT
 Dip Angle: 59.49°
 Date: 2/13/2022
 Model: MVHD



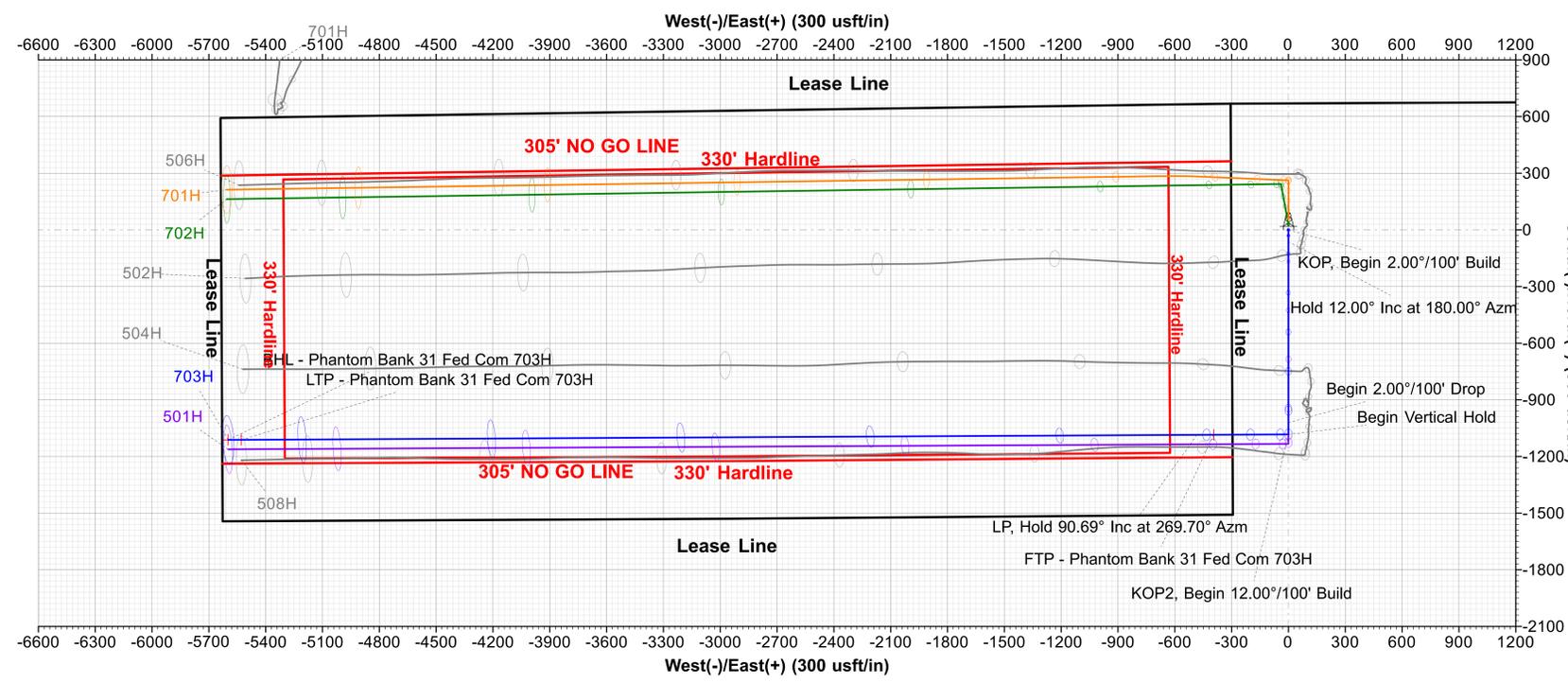
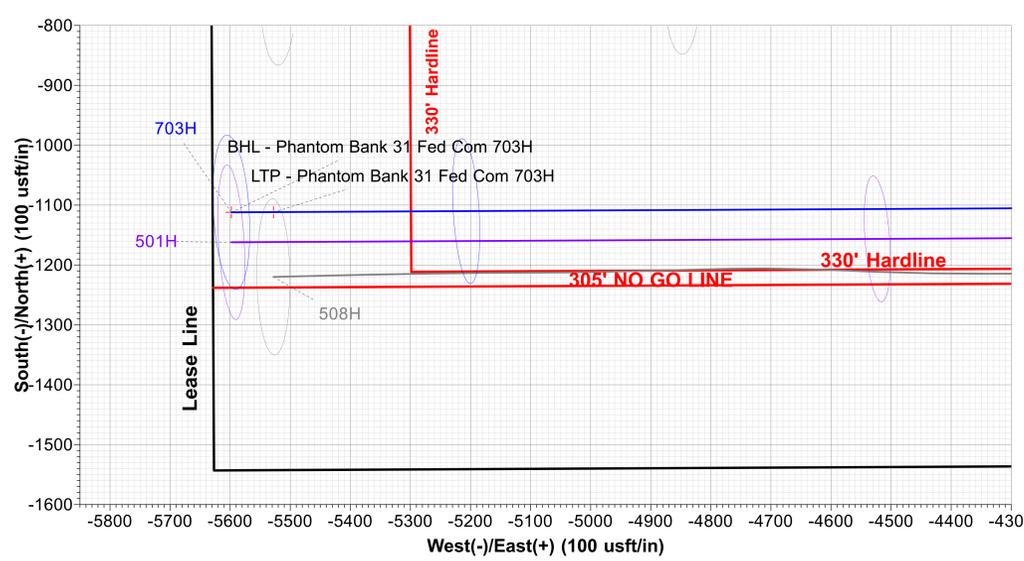
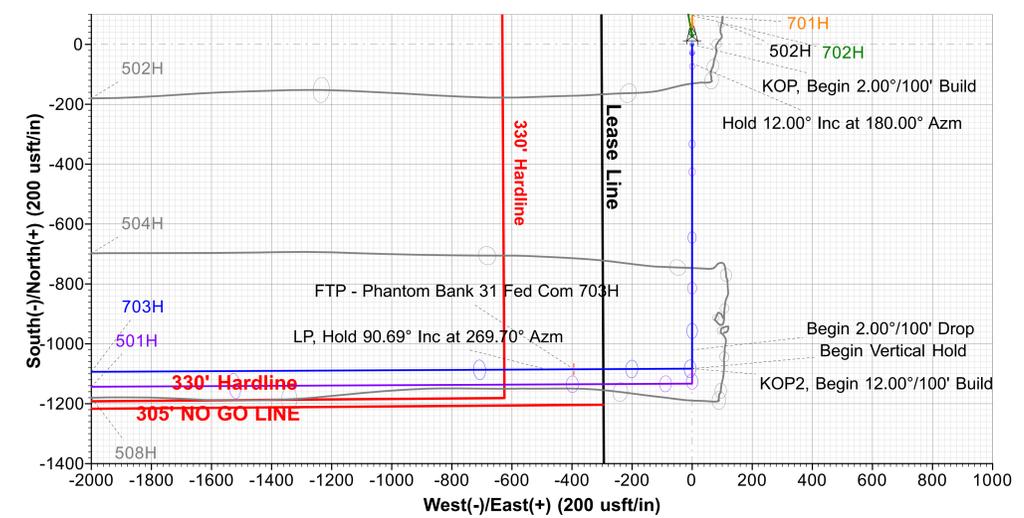
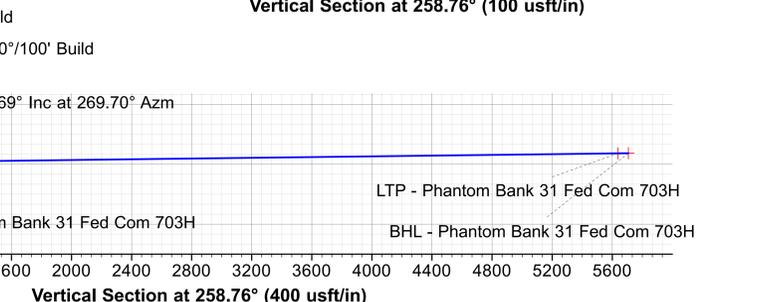
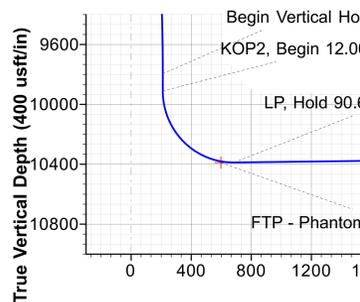
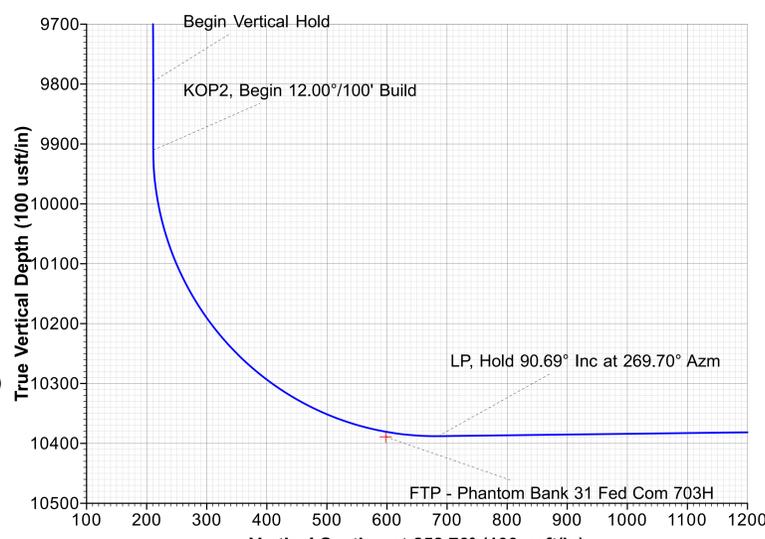
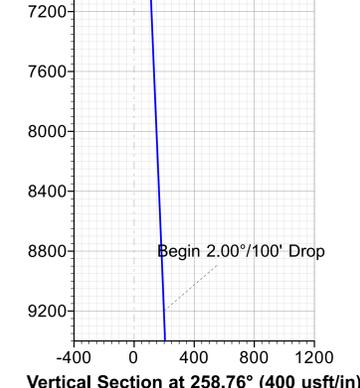
WELL DETAILS							
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	3129.00	
0.00	0.00	365652.00	663007.00	32° 0' 15.123936 N	103° 48' 26.908408 W		

SECTION DETAILS											
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	4100.00	0.00	0.00	4100.00	0.00	0.00	0.00	0.00	0.00	0.00	KOP, Begin 2.00°/100' Build
3	4700.21	12.00	180.00	4695.83	-62.65	0.00	2.00	180.00	12.21		Hold 12.00° Inc at 180.00° Azm
4	9304.74	12.00	180.00	9199.67	-1020.31	-0.03	0.00	0.00	0.00	198.82	Begin 2.00°/100' Drop
5	9904.95	0.00	0.00	9795.50	-1082.96	-0.03	2.00	180.00	211.03		Begin Vertical Hold
6	10019.95	0.00	0.00	9910.50	-1082.96	-0.03	0.00	0.00	0.00	211.03	KOP2, Begin 12.00°/100' Build
7	10775.70	90.69	269.70	10387.93	-1085.46	-483.24	12.00	269.70	685.47		LP, Hold 90.69° Inc at 269.70° Azm
8	15890.90	90.69	269.70	10326.33	-1112.00	-5598.00	0.00	0.00	5707.38		BHL - Phantom Bank 31 Fed Com 703H

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BHL - Phantom Bank 31 Fed Com 703H	10326.33	-1112.00	-5598.00	364540.00	657409.00	32° 0' 4.384055 N	103° 49' 31.979547 W
LTP - Phantom Bank 31 Fed Com 703H	10327.17	-1112.00	-5528.00	364540.00	657479.00	32° 0' 4.380801 N	103° 49' 31.166652 W
FTP - Phantom Bank 31 Fed Com 703H	10389.00	-1085.00	-394.00	364567.00	662613.00	32° 0' 4.405375 N	103° 48' 31.545125 W

Map System: US State Plane 1927 (Exact solution)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clarke 1866
 Zone Name: New Mexico East 3001
 Local Origin: Well 703H, Grid North
 Latitude: 32° 0' 15.123936 N
 Longitude: 103° 48' 26.908408 W
 Grid East: 663007.00
 Grid North: 365652.00
 Scale Factor: 1.000
 Geomagnetic Model: MVHD
 Sample Date: 13-Feb-22
 Magnetic Declination: 6.45°
 Dip Angle from Horizontal: 59.49°
 Magnetic Field Strength: 47415.75518454nT
 To convert a Magnetic Direction to a Grid Direction, Add 6.17°
 To convert a Magnetic Direction to a True Direction, Add 6.45° East
 To convert a True Direction to a Grid Direction, Subtract 0.28°

LEGEND	
—	502H, OH / 67810, Surveys (H&P 653) V0
—	508H, OH / 67813, Surveys (H&P 653) V0
—	702H, OH, Plan 1 12-14-21 V0
—	501H, OH, Plan 1 12-14-21 V0
—	506H, OH / 67812, Surveys (H&P 653) V0
—	701H, OH, Plan 1 12-14-21 V0
—	504H, OH / 67811, Surveys (H&P 653) V0
—	701H, OH / Job 63103, OH / Job 63103 V0
—	Plan 1 12-14-21





Flat Creek Resources, LLC

Eddy County, NM (NAD27 NME)

Phantom Bank 31 Fed Com

703H

OH

Plan: Plan 1 12-14-21

Standard Planning Report

14 December, 2021



FLAT CREEK
RESOURCES



Planning Report



Database:	USA Compass	Local Co-ordinate Reference:	Well 703H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB @ 3155.00usft (TBD)
Project:	Eddy County, NM (NAD27 NME)	MD Reference:	RKB @ 3155.00usft (TBD)
Site:	Phantom Bank 31 Fed Com	North Reference:	Grid
Well:	703H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 12-14-21		

Project	Eddy County, NM (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	Phantom Bank 31 Fed Com				
Site Position:	Northing:	364,789.00 usft	Latitude:	32° 0' 6.583176 N	
From: Map	Easting:	663,012.00 usft	Longitude:	103° 48' 26.899092 W	
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.28 °

Well	703H					
Well Position	+N/-S	863.00 usft	Northing:	365,652.00 usft	Latitude:	32° 0' 15.123936 N
	+E/-W	-5.00 usft	Easting:	663,007.00 usft	Longitude:	103° 48' 26.908408 W
Position Uncertainty		1.00 usft	Wellhead Elevation:		Ground Level:	3,129.00 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	2/13/2022	6.45	59.49	47,415.75518454

Design	Plan 1 12-14-21			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	258.76

Plan Survey Tool Program	Date	12/14/2021		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	15,890.57 Plan 1 12-14-21 (OH)	MWD+HRGM	
			OWSG MWD + HRGM	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.21	12.00	180.00	4,695.83	-62.65	0.00	2.00	2.00	0.00	180.00	180.00
9,304.74	12.00	180.00	9,199.67	-1,020.31	-0.03	0.00	0.00	0.00	0.00	0.00
9,904.95	0.00	0.00	9,795.50	-1,082.96	-0.03	2.00	-2.00	0.00	180.00	180.00
10,019.95	0.00	0.00	9,910.50	-1,082.96	-0.03	0.00	0.00	0.00	0.00	0.00
10,775.70	90.69	269.70	10,387.93	-1,085.46	-483.24	12.00	12.00	0.00	269.70	269.70
15,890.90	90.69	269.70	10,326.33	-1,112.00	-5,598.00	0.00	0.00	0.00	0.00	0.00 BHL - Phantom Bank



Planning Report



Database:	USA Compass	Local Co-ordinate Reference:	Well 703H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB @ 3155.00usft (TBD)
Project:	Eddy County, NM (NAD27 NME)	MD Reference:	RKB @ 3155.00usft (TBD)
Site:	Phantom Bank 31 Fed Com	North Reference:	Grid
Well:	703H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 12-14-21		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
KOP, Begin 2.00°/100' Build									
4,200.00	2.00	180.00	4,199.98	-1.75	0.00	0.34	2.00	2.00	0.00
4,300.00	4.00	180.00	4,299.84	-6.98	0.00	1.36	2.00	2.00	0.00
4,400.00	6.00	180.00	4,399.45	-15.69	0.00	3.06	2.00	2.00	0.00
4,500.00	8.00	180.00	4,498.70	-27.88	0.00	5.43	2.00	2.00	0.00
4,600.00	10.00	180.00	4,597.47	-43.52	0.00	8.48	2.00	2.00	0.00
4,700.00	12.00	180.00	4,695.62	-62.60	0.00	12.20	2.00	2.00	0.00
4,700.21	12.00	180.00	4,695.83	-62.65	0.00	12.21	2.00	2.00	0.00
Hold 12.00° Inc at 180.00° Azm									
4,800.00	12.00	180.00	4,793.44	-83.40	0.00	16.25	0.00	0.00	0.00
4,900.00	12.00	180.00	4,891.25	-104.20	0.00	20.30	0.00	0.00	0.00
5,000.00	12.00	180.00	4,989.06	-125.00	0.00	24.36	0.00	0.00	0.00
5,100.00	12.00	180.00	5,086.88	-145.80	0.00	28.41	0.00	0.00	0.00
5,200.00	12.00	180.00	5,184.69	-166.59	0.00	32.46	0.00	0.00	0.00
5,300.00	12.00	180.00	5,282.50	-187.39	-0.01	36.52	0.00	0.00	0.00
5,400.00	12.00	180.00	5,380.32	-208.19	-0.01	40.57	0.00	0.00	0.00
5,500.00	12.00	180.00	5,478.13	-228.99	-0.01	44.62	0.00	0.00	0.00
5,600.00	12.00	180.00	5,575.94	-249.79	-0.01	48.67	0.00	0.00	0.00
5,700.00	12.00	180.00	5,673.76	-270.59	-0.01	52.73	0.00	0.00	0.00
5,800.00	12.00	180.00	5,771.57	-291.38	-0.01	56.78	0.00	0.00	0.00
5,900.00	12.00	180.00	5,869.38	-312.18	-0.01	60.83	0.00	0.00	0.00
6,000.00	12.00	180.00	5,967.20	-332.98	-0.01	64.89	0.00	0.00	0.00
6,100.00	12.00	180.00	6,065.01	-353.78	-0.01	68.94	0.00	0.00	0.00
6,200.00	12.00	180.00	6,162.82	-374.58	-0.01	72.99	0.00	0.00	0.00
6,300.00	12.00	180.00	6,260.64	-395.38	-0.01	77.04	0.00	0.00	0.00
6,400.00	12.00	180.00	6,358.45	-416.17	-0.01	81.10	0.00	0.00	0.00
6,500.00	12.00	180.00	6,456.26	-436.97	-0.01	85.15	0.00	0.00	0.00
6,600.00	12.00	180.00	6,554.07	-457.77	-0.01	89.20	0.00	0.00	0.00
6,700.00	12.00	180.00	6,651.89	-478.57	-0.01	93.26	0.00	0.00	0.00
6,800.00	12.00	180.00	6,749.70	-499.37	-0.01	97.31	0.00	0.00	0.00
6,900.00	12.00	180.00	6,847.51	-520.17	-0.02	101.36	0.00	0.00	0.00
7,000.00	12.00	180.00	6,945.33	-540.96	-0.02	105.41	0.00	0.00	0.00
7,100.00	12.00	180.00	7,043.14	-561.76	-0.02	109.47	0.00	0.00	0.00
7,200.00	12.00	180.00	7,140.95	-582.56	-0.02	113.52	0.00	0.00	0.00
7,300.00	12.00	180.00	7,238.77	-603.36	-0.02	117.57	0.00	0.00	0.00
7,400.00	12.00	180.00	7,336.58	-624.16	-0.02	121.63	0.00	0.00	0.00
7,500.00	12.00	180.00	7,434.39	-644.95	-0.02	125.68	0.00	0.00	0.00
7,600.00	12.00	180.00	7,532.21	-665.75	-0.02	129.73	0.00	0.00	0.00
7,700.00	12.00	180.00	7,630.02	-686.55	-0.02	133.78	0.00	0.00	0.00
7,800.00	12.00	180.00	7,727.83	-707.35	-0.02	137.84	0.00	0.00	0.00
7,900.00	12.00	180.00	7,825.65	-728.15	-0.02	141.89	0.00	0.00	0.00
8,000.00	12.00	180.00	7,923.46	-748.95	-0.02	145.94	0.00	0.00	0.00
8,100.00	12.00	180.00	8,021.27	-769.74	-0.02	150.00	0.00	0.00	0.00
8,200.00	12.00	180.00	8,119.09	-790.54	-0.02	154.05	0.00	0.00	0.00
8,300.00	12.00	180.00	8,216.90	-811.34	-0.02	158.10	0.00	0.00	0.00
8,400.00	12.00	180.00	8,314.71	-832.14	-0.02	162.15	0.00	0.00	0.00
8,500.00	12.00	180.00	8,412.53	-852.94	-0.03	166.21	0.00	0.00	0.00
8,600.00	12.00	180.00	8,510.34	-873.74	-0.03	170.26	0.00	0.00	0.00
8,700.00	12.00	180.00	8,608.15	-894.53	-0.03	174.31	0.00	0.00	0.00
8,800.00	12.00	180.00	8,705.97	-915.33	-0.03	178.37	0.00	0.00	0.00
8,900.00	12.00	180.00	8,803.78	-936.13	-0.03	182.42	0.00	0.00	0.00



Planning Report



Database:	USA Compass	Local Co-ordinate Reference:	Well 703H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB @ 3155.00usft (TBD)
Project:	Eddy County, NM (NAD27 NME)	MD Reference:	RKB @ 3155.00usft (TBD)
Site:	Phantom Bank 31 Fed Com	North Reference:	Grid
Well:	703H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 12-14-21		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
9,000.00	12.00	180.00	8,901.59	-956.93	-0.03	186.47	0.00	0.00	0.00	
9,100.00	12.00	180.00	8,999.41	-977.73	-0.03	190.52	0.00	0.00	0.00	
9,200.00	12.00	180.00	9,097.22	-998.53	-0.03	194.58	0.00	0.00	0.00	
9,300.00	12.00	180.00	9,195.03	-1,019.32	-0.03	198.63	0.00	0.00	0.00	
9,304.74	12.00	180.00	9,199.67	-1,020.31	-0.03	198.82	0.00	0.00	0.00	
Begin 2.00°/100' Drop										
9,400.00	10.10	180.00	9,293.16	-1,038.57	-0.03	202.38	2.00	-2.00	0.00	
9,500.00	8.10	180.00	9,391.89	-1,054.38	-0.03	205.46	2.00	-2.00	0.00	
9,600.00	6.10	180.00	9,491.12	-1,066.74	-0.03	207.87	2.00	-2.00	0.00	
9,700.00	4.10	180.00	9,590.72	-1,075.63	-0.03	209.60	2.00	-2.00	0.00	
9,800.00	2.10	180.00	9,690.57	-1,081.03	-0.03	210.66	2.00	-2.00	0.00	
9,900.00	0.10	180.00	9,790.55	-1,082.95	-0.03	211.03	2.00	-2.00	0.00	
9,904.95	0.00	0.00	9,795.50	-1,082.96	-0.03	211.03	2.00	-2.00	3,637.90	
Begin Vertical Hold										
10,019.95	0.00	0.00	9,910.50	-1,082.96	-0.03	211.03	0.00	0.00	0.00	
KOP2, Begin 12.00°/100' Build										
10,100.00	9.61	269.70	9,990.17	-1,082.99	-6.73	217.60	12.00	12.00	0.00	
10,200.00	21.61	269.70	10,086.31	-1,083.13	-33.58	243.97	12.00	12.00	0.00	
10,300.00	33.61	269.70	10,174.76	-1,083.37	-79.83	289.38	12.00	12.00	0.00	
10,400.00	45.61	269.70	10,251.67	-1,083.70	-143.47	351.86	12.00	12.00	0.00	
10,500.00	57.61	269.70	10,313.66	-1,084.11	-221.70	428.67	12.00	12.00	0.00	
10,600.00	69.61	269.70	10,358.03	-1,084.57	-311.11	516.46	12.00	12.00	0.00	
10,700.00	81.61	269.70	10,382.85	-1,085.07	-407.79	611.39	12.00	12.00	0.00	
10,775.70	90.69	269.70	10,387.93	-1,085.46	-483.24	685.47	12.00	12.00	0.00	
LP, Hold 90.69° Inc at 269.70° Azm										
10,800.00	90.69	269.70	10,387.63	-1,085.59	-507.54	709.33	0.00	0.00	0.00	
10,900.00	90.69	269.70	10,386.43	-1,086.11	-607.53	807.50	0.00	0.00	0.00	
11,000.00	90.69	269.70	10,385.22	-1,086.63	-707.52	905.68	0.00	0.00	0.00	
11,100.00	90.69	269.70	10,384.02	-1,087.15	-807.51	1,003.85	0.00	0.00	0.00	
11,200.00	90.69	269.70	10,382.82	-1,087.66	-907.51	1,102.03	0.00	0.00	0.00	
11,300.00	90.69	269.70	10,381.61	-1,088.18	-1,007.50	1,200.21	0.00	0.00	0.00	
11,400.00	90.69	269.70	10,380.41	-1,088.70	-1,107.49	1,298.38	0.00	0.00	0.00	
11,500.00	90.69	269.70	10,379.20	-1,089.22	-1,207.48	1,396.56	0.00	0.00	0.00	
11,600.00	90.69	269.70	10,378.00	-1,089.74	-1,307.47	1,494.73	0.00	0.00	0.00	
11,700.00	90.69	269.70	10,376.80	-1,090.26	-1,407.46	1,592.91	0.00	0.00	0.00	
11,800.00	90.69	269.70	10,375.59	-1,090.78	-1,507.45	1,691.09	0.00	0.00	0.00	
11,900.00	90.69	269.70	10,374.39	-1,091.30	-1,607.45	1,789.26	0.00	0.00	0.00	
12,000.00	90.69	269.70	10,373.18	-1,091.81	-1,707.44	1,887.44	0.00	0.00	0.00	
12,100.00	90.69	269.70	10,371.98	-1,092.33	-1,807.43	1,985.62	0.00	0.00	0.00	
12,200.00	90.69	269.70	10,370.77	-1,092.85	-1,907.42	2,083.79	0.00	0.00	0.00	
12,300.00	90.69	269.70	10,369.57	-1,093.37	-2,007.41	2,181.97	0.00	0.00	0.00	
12,400.00	90.69	269.70	10,368.37	-1,093.89	-2,107.40	2,280.14	0.00	0.00	0.00	
12,500.00	90.69	269.70	10,367.16	-1,094.41	-2,207.39	2,378.32	0.00	0.00	0.00	
12,600.00	90.69	269.70	10,365.96	-1,094.93	-2,307.39	2,476.50	0.00	0.00	0.00	
12,700.00	90.69	269.70	10,364.75	-1,095.45	-2,407.38	2,574.67	0.00	0.00	0.00	
12,800.00	90.69	269.70	10,363.55	-1,095.96	-2,507.37	2,672.85	0.00	0.00	0.00	
12,900.00	90.69	269.70	10,362.35	-1,096.48	-2,607.36	2,771.03	0.00	0.00	0.00	
13,000.00	90.69	269.70	10,361.14	-1,097.00	-2,707.35	2,869.20	0.00	0.00	0.00	
13,100.00	90.69	269.70	10,359.94	-1,097.52	-2,807.34	2,967.38	0.00	0.00	0.00	
13,200.00	90.69	269.70	10,358.73	-1,098.04	-2,907.33	3,065.55	0.00	0.00	0.00	
13,300.00	90.69	269.70	10,357.53	-1,098.56	-3,007.33	3,163.73	0.00	0.00	0.00	
13,400.00	90.69	269.70	10,356.32	-1,099.08	-3,107.32	3,261.91	0.00	0.00	0.00	
13,500.00	90.69	269.70	10,355.12	-1,099.60	-3,207.31	3,360.08	0.00	0.00	0.00	



Planning Report



Database:	USA Compass	Local Co-ordinate Reference:	Well 703H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB @ 3155.00usft (TBD)
Project:	Eddy County, NM (NAD27 NME)	MD Reference:	RKB @ 3155.00usft (TBD)
Site:	Phantom Bank 31 Fed Com	North Reference:	Grid
Well:	703H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 12-14-21		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
13,600.00	90.69	269.70	10,353.92	-1,100.12	-3,307.30	3,458.26	0.00	0.00	0.00	
13,700.00	90.69	269.70	10,352.71	-1,100.63	-3,407.29	3,556.44	0.00	0.00	0.00	
13,800.00	90.69	269.70	10,351.51	-1,101.15	-3,507.28	3,654.61	0.00	0.00	0.00	
13,900.00	90.69	269.70	10,350.30	-1,101.67	-3,607.27	3,752.79	0.00	0.00	0.00	
14,000.00	90.69	269.70	10,349.10	-1,102.19	-3,707.27	3,850.96	0.00	0.00	0.00	
14,100.00	90.69	269.70	10,347.90	-1,102.71	-3,807.26	3,949.14	0.00	0.00	0.00	
14,200.00	90.69	269.70	10,346.69	-1,103.23	-3,907.25	4,047.32	0.00	0.00	0.00	
14,300.00	90.69	269.70	10,345.49	-1,103.75	-4,007.24	4,145.49	0.00	0.00	0.00	
14,400.00	90.69	269.70	10,344.28	-1,104.27	-4,107.23	4,243.67	0.00	0.00	0.00	
14,500.00	90.69	269.70	10,343.08	-1,104.78	-4,207.22	4,341.85	0.00	0.00	0.00	
14,600.00	90.69	269.70	10,341.87	-1,105.30	-4,307.21	4,440.02	0.00	0.00	0.00	
14,700.00	90.69	269.70	10,340.67	-1,105.82	-4,407.21	4,538.20	0.00	0.00	0.00	
14,800.00	90.69	269.70	10,339.47	-1,106.34	-4,507.20	4,636.37	0.00	0.00	0.00	
14,900.00	90.69	269.70	10,338.26	-1,106.86	-4,607.19	4,734.55	0.00	0.00	0.00	
15,000.00	90.69	269.70	10,337.06	-1,107.38	-4,707.18	4,832.73	0.00	0.00	0.00	
15,100.00	90.69	269.70	10,335.85	-1,107.90	-4,807.17	4,930.90	0.00	0.00	0.00	
15,200.00	90.69	269.70	10,334.65	-1,108.42	-4,907.16	5,029.08	0.00	0.00	0.00	
15,300.00	90.69	269.70	10,333.45	-1,108.93	-5,007.15	5,127.26	0.00	0.00	0.00	
15,400.00	90.69	269.70	10,332.24	-1,109.45	-5,107.14	5,225.43	0.00	0.00	0.00	
15,500.00	90.69	269.70	10,331.04	-1,109.97	-5,207.14	5,323.61	0.00	0.00	0.00	
15,600.00	90.69	269.70	10,329.83	-1,110.49	-5,307.13	5,421.78	0.00	0.00	0.00	
15,700.00	90.69	269.70	10,328.63	-1,111.01	-5,407.12	5,519.96	0.00	0.00	0.00	
15,800.00	90.69	269.70	10,327.42	-1,111.53	-5,507.11	5,618.14	0.00	0.00	0.00	
15,890.90	90.69	269.70	10,326.33	-1,112.00	-5,598.00	5,707.38	0.00	0.00	0.00	
TD at 15890.90										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
BHL - Phantom Bank 31 - hit/miss target - Shape - Point	0.00	0.00	10,326.33	-1,112.00	-5,598.00	364,540.00	657,409.00	32° 0' 4.384055 N	103° 49' 31.979548 W	
LTP - Phantom Bank 31 - plan misses target center by 20.90usft at 15800.00usft MD (10327.42 TVD, -1111.53 N, -5507.11 E) - Point	0.00	0.00	10,327.17	-1,112.00	-5,528.00	364,540.00	657,479.00	32° 0' 4.380801 N	103° 49' 31.166652 W	
FTP - Phantom Bank 31 - plan misses target center by 8.30usft at 10688.15usft MD (10380.97 TVD, -1085.01 N, -396.09 E) - Point	0.00	0.00	10,389.00	-1,085.00	-394.00	364,567.00	662,613.00	32° 0' 4.405375 N	103° 48' 31.545125 W	

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
15,890.90	10,326.33	20" Casing	20	24	



Planning Report



Database:	USA Compass	Local Co-ordinate Reference:	Well 703H
Company:	Flat Creek Resources, LLC	TVD Reference:	RKB @ 3155.00usft (TBD)
Project:	Eddy County, NM (NAD27 NME)	MD Reference:	RKB @ 3155.00usft (TBD)
Site:	Phantom Bank 31 Fed Com	North Reference:	Grid
Well:	703H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 12-14-21		

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
4,100.00	4,100.00	0.00	0.00	KOP, Begin 2.00°/100' Build	
4,700.21	4,695.83	-62.65	0.00	Hold 12.00° Inc at 180.00° Azm	
9,304.74	9,199.67	-1,020.31	-0.03	Begin 2.00°/100' Drop	
9,904.95	9,795.50	-1,082.96	-0.03	Begin Vertical Hold	
10,019.95	9,910.50	-1,082.96	-0.03	KOP2, Begin 12.00°/100' Build	
10,775.70	10,387.93	-1,085.46	-483.24	LP, Hold 90.69° Inc at 269.70° Azm	
15,890.90	10,326.33	-1,112.00	-5,598.00	TD at 15890.90	

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Flat Creek Resources LLC
LEASE NO.:	NMNM138868
LOCATION:	Section 32, T.26 S., R.31 E., NMPM
COUNTY:	Eddy County, New Mexico

WELL NAME & NO.:	Phantom Bank 31 Fed Com 702H
SURFACE HOLE FOOTAGE:	600'/N & 400'/W
BOTTOM HOLE FOOTAGE:	330'/N & 30'/W

WELL NAME & NO.:	Phantom Bank 31 Fed Com 703H
SURFACE HOLE FOOTAGE:	650'/N & 350'/W
BOTTOM HOLE FOOTAGE:	698'/N & 30'/W

COA

H2S	<input checked="" type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Potash	<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> Secretary	<input checked="" type="checkbox"/> R-111-P
Cave/Karst Potential	<input checked="" type="checkbox"/> Low	<input checked="" type="checkbox"/> Medium	<input checked="" type="checkbox"/> High
Cave/Karst Potential	<input checked="" type="checkbox"/> Critical		
Variance	<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> Flex Hose	<input checked="" type="checkbox"/> Other
Wellhead	<input checked="" type="checkbox"/> Conventional	<input checked="" type="checkbox"/> Multibowl	<input checked="" type="checkbox"/> Both
Other	<input type="checkbox"/> 4 String Area	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input type="checkbox"/> Fluid Filled	<input type="checkbox"/> Cement Squeeze	<input type="checkbox"/> Pilot Hole
Special Requirements	<input type="checkbox"/> Water Disposal	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> Unit

A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

1. The 13-3/8 inch surface casing shall be set at approximately **662 feet** (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature

survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

- b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing shall be set at approximately **3800 feet** is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.
 - ❖ In Medium 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.
Cement excess is less than 25%, more cement might be required.

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. 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.
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be **5000 (5M)** psi.

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.
- 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

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)
393-3612

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 Onshore Oil and Gas Order No. 2 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.

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 Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
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 OOGO2.III.A.2.i 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 when specified), 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 plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
 - c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 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 Onshore Order No. 2.
- 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.

Hydrogen Sulfide Drilling

Operations Plan

Flat Creek Resources

1 H2S safety instructions to the following:

- Characteristics of H2S
- Physical effects and hazards
- Principal and operation of H2S detectors, warning system and briefing areas
- Evacuation procedures, routes and first aid
- Proper use of safety equipment & life support systems
- Essential personnel meeting medical evaluation criteria will receive additional training on the proper use of 30min pressure demand air packs

2 H2S Detection and Alarm Systems:

- H2S sensor/detectors to be located on the drilling rig floor, in the base of the sub structure / cellar area, on the mud pits in the shale shaker area. Additional H2S detectors may be placed as deemed necessary
- An audio alarm system will be installed on the derrick floor and in the doghouse

3 Windssocks and / Wind Streamers:

- Windssocks at mud pit area should be high enough to be visible
- Windssock on the rig floor and / top of doghouse should be high enough to be visible

4 Condition Flags and Signs:

- Warning sign on access road to location
- Flags to be displayed on sign at entrance to location
 - Green Flag – Normal Safe Operation Condition
 - Yellow Flag – Potential Pressure and Danger
 - Red Flag – Danger (H2S present in dangerous concentrations) Only H2S trained personnel admitted on location

5 Well Control Equipment:

- See Drilling Operations Plan Schematics

6 Communication:

- While working under masks chalkboards will be used for communications
- Hand signals will be used where chalk board is inappropriate
- Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.

7 Drilling Stem Testing:

- No DST cores are planned at this time

8 Drilling contractor supervisor will be required to be familiar with the effects H2S has on tubulars good and other mechanical equipment

9 If H2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H2S scavengers if necessary

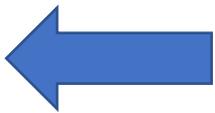
11 Emergency Contacts

Emergency Contacts		
Carlsbad Police Department	575.887.7551	911
Carlsbad Medical Center	575.887.4100	911
Eddy County Fire Service	575.628.5450	911
Eddy County Sherriff	575.887.7551	911
Lea County Fire Service	575.391.2983	911
Lea County Sherriff	575.396.3611	911
Jal Police Department	575.395.2121	911
Jal Fire Department	575.395.2221	911
Flat Creek Resources	817.731.4100	

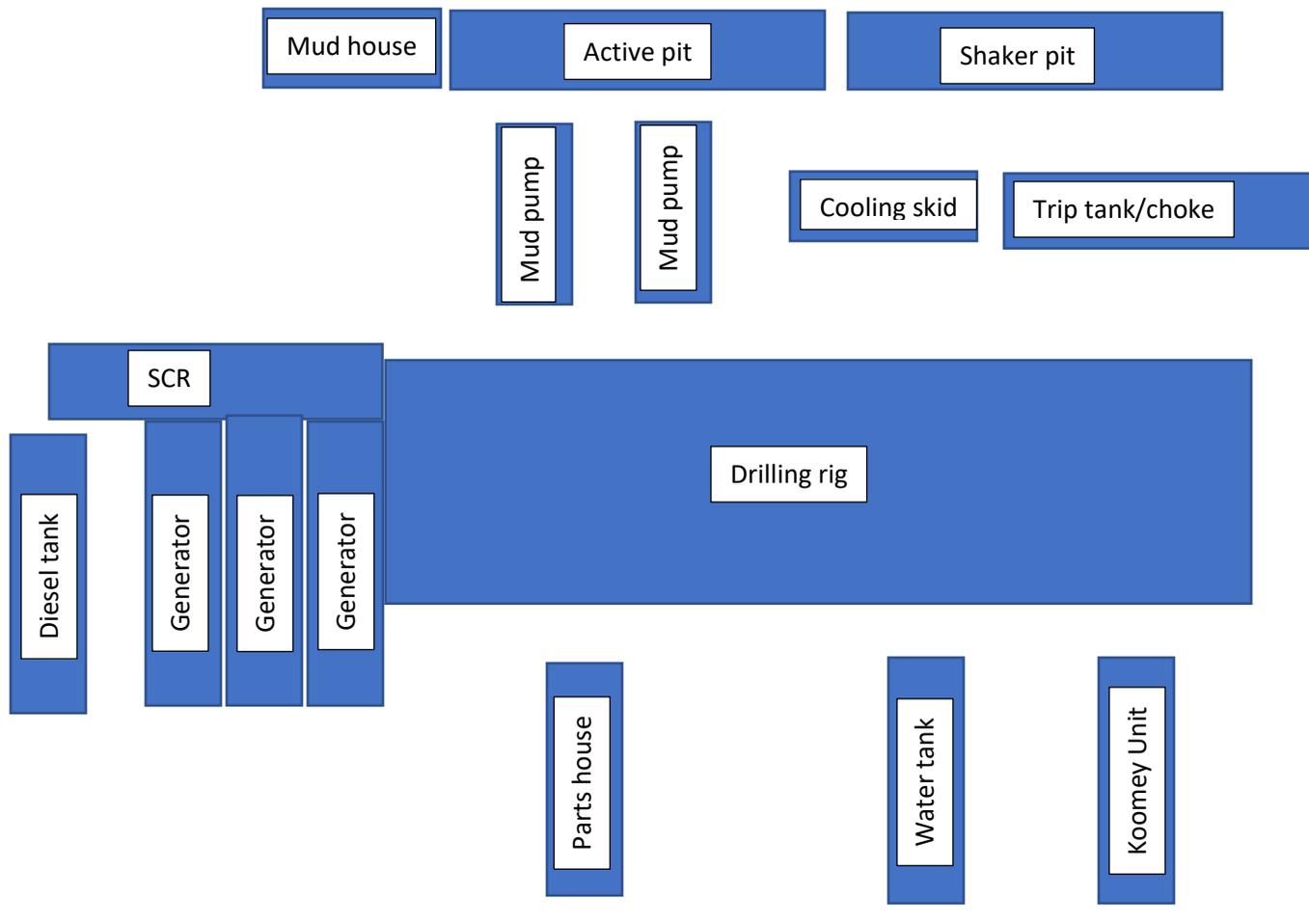
Wellsite Layout Escape Routes

Evacuation routes will depend on current wind direction

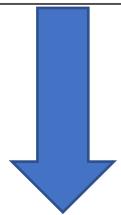
Evacuation route



Evacuation route



Evacuation route



Evacuation route



Road

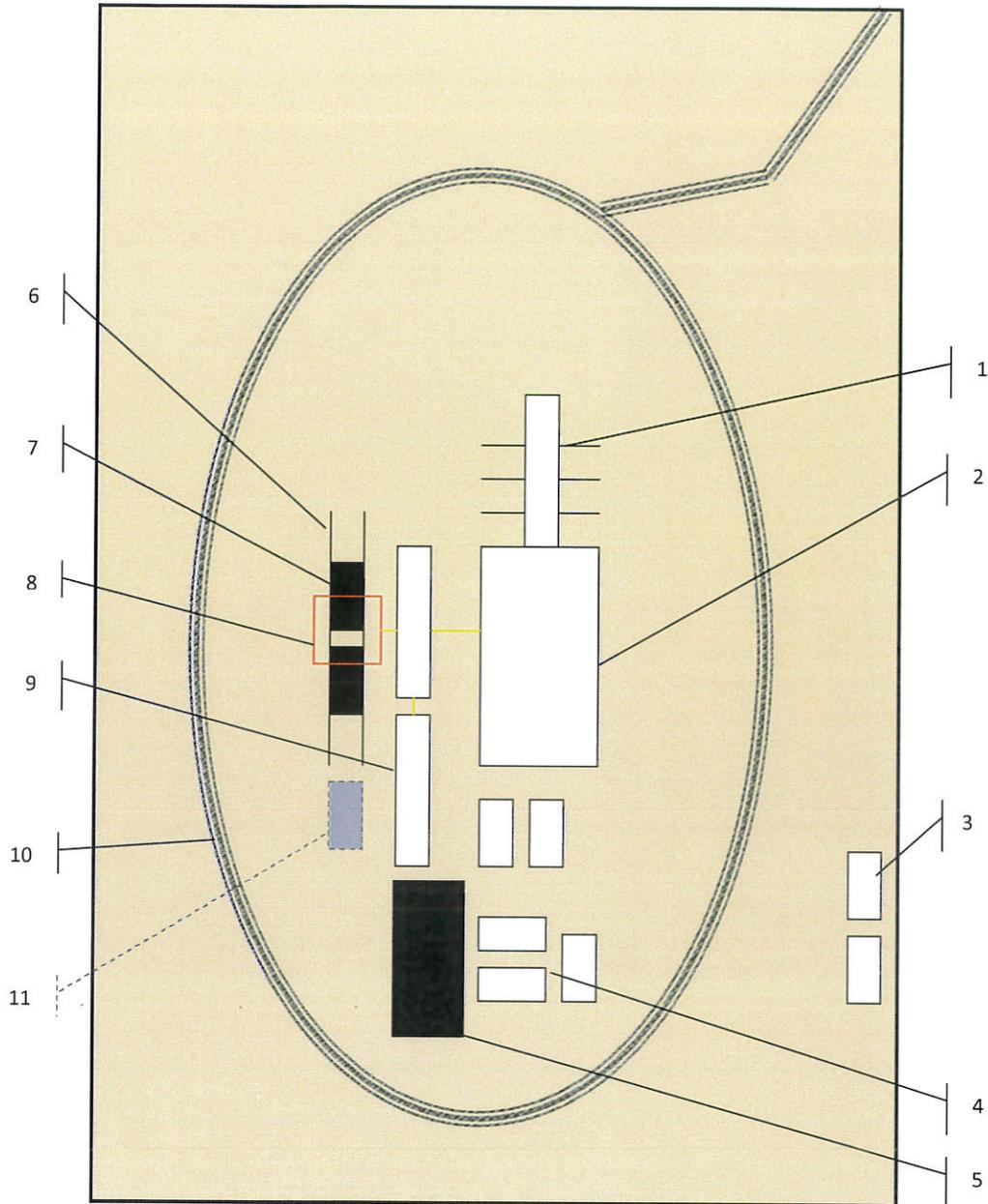
H2S Radius Map 1 & 2 Mile

Eddy

Loving

- Phantom SHL
- ▭ Phantom Pad
- Buffers**
- ▭ 1 mile
- ▭ 2 mile
- ▭ Section / TX Survey
- ▭ County
- ▭ TX Block
- ▭ TX Survey





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

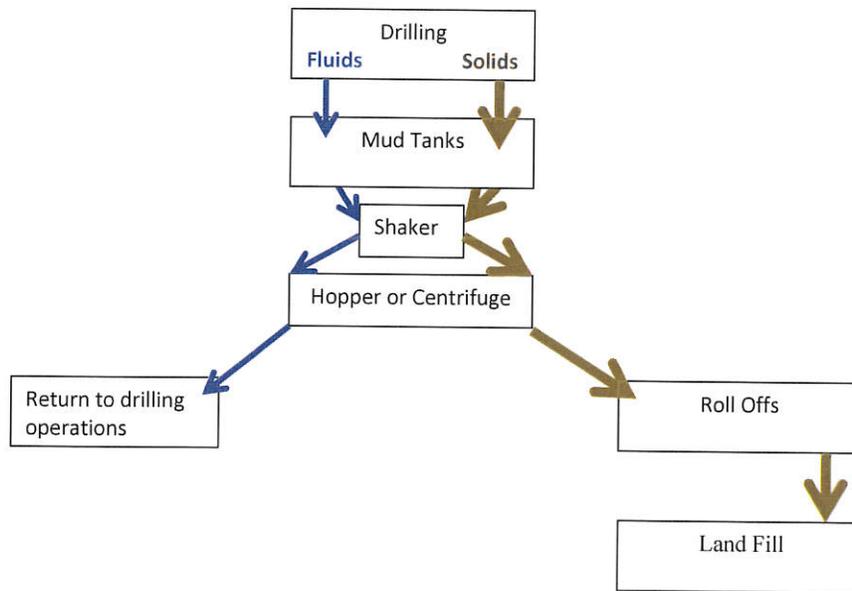


Above: Centrifugal Closed Loop System



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 73465

CONDITIONS

Operator: Flat Creek Resources, LLC 777 Main St. Fort Worth, TX 76102	OGRID: 374034
	Action Number: 73465
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
kpickford	Will require a administrative order for non-standard location prior to placing the well on production	1/19/2022
kpickford	Surface casing must be set 25' below top of Rustler Anhydrite in order to seal off protectable water	1/19/2022
kpickford	Notify OCD 24 hours prior to casing & cement	1/19/2022
kpickford	Will require a File As Drilled C-102 and a Directional Survey with the C-104	1/19/2022
kpickford	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	1/19/2022
kpickford	Cement is required to circulate on both surface and intermediate1 strings of casing	1/19/2022
kpickford	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	1/19/2022