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

5. Lease Serial No.: NMNM138868

6. If Indian, Allotee or Tribe Name:

1a. Type of work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☑ Multiple Zone

7. If Unit or CA Agreement, Name and No.:

8. Lease Name and Well No.: PHANTOM BANK 31 FED COM 504H

2. Name of Operator: FLAT CREEK RESOURCES LLC

9. API Well No.: 30 015 47022

3a. Address: 777 Main Street, Suite 3600 Fort Worth TX 76102

3b. Phone No. *(include area code)*: (817)310-8570

10. Field and Pool, or Exploratory: WILDCAT; BONE SPRING / BONE SPRI

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface: LOT L4 / 650 FSL / 300 FWL / LAT 32.001828 / LONG -103.807473

At proposed prod. zone: LOT L2 / 698 FSL / 30 FWL / LAT 32.001954 / LONG -103.82555

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 32 / T26S / R31E / NMP

14. Distance in miles and direction from nearest town or post office*: 38 miles

12. County or Parish: EDDY

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 300 feet

16. No of acres in lease: 259.65

17. Spacing Unit dedicated to this well: 264.48

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 4700 feet

19. Proposed Depth: 9334 feet / 14840 feet

20. BLM/BIA Bond No. in file: FED: NMB001675

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3122 feet

22. Approximate date work will start*: 08/01/2019

23. Estimated duration: 30 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	Name *(Printed/Typed)*	Date
(Electronic Submission)	Rodney Littleton / Ph: (817)310-8578	04/01/2019

Title: þÿ V i c e P r e s i d e n t O p e r a t i o n s

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	03/30/2020

Title	Office
Assistant Field Manager Lands & Minerals	CARLSBAD

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

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

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 03/30/2020

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30 015 47022	97814	WILDCAT G-05 S263001;BONE SPRING

[4] Property Code	[5] Property Name	[6] Well Number
327168	PHANTOM BANK 31 FED COM	504H

[7] OGRID No.	[8] Operator Name	[9] Elevation
	FLAT CREEK RESOURCES, LLC	3122'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L4	32	26 SOUTH	31 EAST, N.M.P.M.		650'	SOUTH	300'	WEST	EDDY

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L2	31	26 SOUTH	31 EAST, N.M.P.M.		698'	SOUTH	30'	WEST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
~~264.48~~ 259.65 - kms			

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.

[16]

PROPOSED LAST TAKE POINT		
X=	657,478	NAD 27
Y=	364,808	
LAT.	32.001954 N	
LONG.	103.825324 W	
X=	698,665	NAD83/86
Y=	364,865	
LAT.	32.002079 N	
LONG.	103.825798 W	

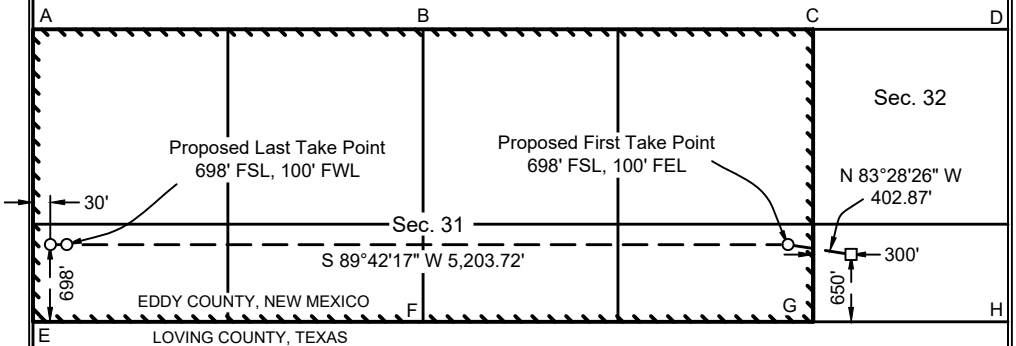
PROPOSED FIRST TAKE POINT		
X=	662,611	NAD 27
Y=	364,835	
LAT.	32.001959 N	
LONG.	103.808763 W	
X=	703,798	NAD83/86
Y=	364,892	
LAT.	32.002085 N	
LONG.	103.809237 W	

CORNER COORDINATES TABLE (NAD 27)

A - Y=366245.06, X=657370.11
B - Y=366283.60, X=660040.51
C - Y=366321.04, X=662703.16
D - Y=366332.89, X=665368.25
E - Y=364109.66, X=657381.51
F - Y=364123.23, X=660052.17
G - Y=364137.17, X=662715.32
H - Y=364152.16, X=665379.32

PROPOSED BOTTOM HOLE LOCATION		
X=	657,408	NAD 27
Y=	364,808	
LAT.	32.001954 N	
LONG.	103.825550 W	
X=	698,595	NAD83/86
Y=	364,865	
LAT.	32.002079 N	
LONG.	103.826024 W	

PHANTOM BANK 31 FED COM NO. 504H WELL		
X=	663,012	NAD 27
Y=	364,789	
LAT.	32.001828 N	
LONG.	103.807473 W	
X=	704,199	NAD83/86
Y=	364,846	
LAT.	32.001954 N	
LONG.	103.807947 W	
ELEV.	+3122'	NAVD88



[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 12/03/19
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.

02/26/2019
Date of Survey

Signature and Seal of Professional Surveyor:

STEVEN M. COLEMAN NEW MEXICO 22921 PROFESSIONAL SURVEYOR

Steven Coleman

Certificate Number 03/13/2019

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1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

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

Submit Original
to Appropriate
District Office

GAS CAPTURE PLAN

Date: 4/3/2020

X Original Operator & OGRID No.: Flat Creek Resources, LLC (374034)
□ Amended - Reason for Amendment:

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomplete to new zone, re-frac) activity.

Note: A C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule 19.15.18.12.A

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well	API	SHL (ULSTR)	SHL Footages	Expected MCF/D	Flared or Vented	Comments
Phantom Bank 31 Fed Com 504H	30-015-	Lot 4-32-26S-31E	650 FSL & 300 FWL	1200	30 days	Time depends on well clean up
Phantom Bank 31 Fed Com 508H	30-015-	Lot 4-32-26S-31E	600 FSL & 350 FWL	1200	30 days	Time depends on well clean up

Gathering System and Pipeline Notification

Well will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. No gas contract has been signed, but one potential transporter is Salt Creek Midstream, LLC (373554) which is building a gas gathering system along the stateline. Flat Creek Resources, LLC will provide (periodically) to its Gas Transporter a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Flat Creek Resources, LLC and its Gas Transporter have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at an as yet undetermined Gas Transporter Processing Plant located in Eddy or Lea County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on its Gas Transporter system at that time. Based on current information, it is Flat Creek Resources, LLC's belief an existing or new system can take this gas upon completion of the well(s). Safety requirements during cleanout operations from using underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

APD ID: 10400040266
Submission Date: 04/01/2019
Operator Name: FLAT CREEK RESOURCES LLC
Federal/Indian APD: FED
Well Name: PHANTOM BANK 31 FED COM
Well Number: 504H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Application

Section 1 - General

APD ID: 10400040266
Tie to previous NOS? N
Submission Date: 04/01/2019
BLM Office: CARLSBAD
User: Rodney Littleton
Title: Vice President – Operations
Federal/Indian APD: FED
Is the first lease penetrated for production Federal or Indian? FED
Lease number: NMNM138868
Lease Acres: 259.65
Surface access agreement in place?
Allotted?
Reservation:
Agreement in place? NO
Federal or Indian agreement:
Agreement number:
Agreement name:
Keep application confidential? YES
Permitting Agent? NO
APD Operator: FLAT CREEK RESOURCES LLC
Operator letter of designation: APD_cover_letter_20190322140847.pdf

Operator Info

Operator Organization Name: FLAT CREEK RESOURCES LLC
Operator Address: 777 Main Street, Suite 3600
Zip: 76102
Operator PO Box:
Operator City: Fort Worth
State: TX
Operator Phone: (817)310-8570
Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NEW
Master Development Plan name: Phantom Bank Pad 2
Well in Master SUPO? NO
Master SUPO name:

Operator Name: FLAT CREEK RESOURCES LLC

Well Name: PHANTOM BANK 31 FED COM **Well Number:** 504H

Well in Master Drilling Plan? NO **Master Drilling Plan name:**

Well Name: PHANTOM BANK 31 FED COM **Well Number:** 504H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** WILDCAT; BONE SPRING **Pool Name:** BONE SPRING

Is the proposed well in an area containing other mineral resources? NONE

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** NO **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** PHANTOM BANK PAD **Number:** 2

Well Class: HORIZONTAL **Number of Legs:** 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: 38 Miles **Distance to nearest well:** 4700 FT **Distance to lease line:** 300 FT

Reservoir well spacing assigned acres Measurement: 264.48 Acres

Well plat: PHANTOM_BANK_31_FED_COM_504H_C_102.pdf_Cert_3_13_19_20191203123352.pdf

Well work start Date: 08/01/2019 **Duration:** 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD27 **Vertical Datum:** NAVD88

Survey number: 2199966 **Reference Datum:**

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
SHL Leg #1	650	FSL	300	FWL	26S	31E	32	Lot L4	32.001828	-103.807473	EDDY	NEW MEXICO	NEW MEXICO	F	FEE	3122	14770	9334	
KOP Leg #1	650	FSL	300	FWL	26S	31E	32	Lot L4	32.001828	-103.807737	EDDY	NEW MEXICO	NEW MEXICO	F	FEE	-5718	8840	8840	

Operator Name: FLAT CREEK RESOURCES LLC

Well Name: PHANTOM BANK 31 FED COM **Well Number:** 504H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
PPP Leg #1-1	698	FSL	100	FEL	26S	31E	31	Lot L4	32.001959	-103.808763	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 138868	-6151	9300	9273	
EXIT Leg #1	698	FSL	100	FWL	26S	31E	31	Lot L4	32.001954	-103.825324	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 138868	-6212	14770	9334	
BHL Leg #1	698	FSL	30	FWL	26S	31E	31	Lot L2	32.001954	-103.825555	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 138868	-6212	14840	9334	

Drilling Plan

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
425560	---	3122	0	0	ALLUVIUM, SANDSTONE	NONE, OIL	N
600877	RUSTLER ANHYDRITE	2320	802	802	ANHYDRITE	NONE	N
600878	TOP SALT	1543	1579	1579	SALT	NONE	N
600879	BASE OF SALT	-435	3557	3557	ANHYDRITE	NONE	N
600880	LAMAR	-652	3774	3774	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS	N
600881	BELL CANYON	-690	3812	3812	SANDSTONE, SHALE	NATURAL GAS, OIL	N
600882	CHERRY CANYON	-1598	4720	4720	SANDSTONE, SHALE	NATURAL GAS, OIL	N
600898	BRUSHY CANYON	-2899	6021	6021	SANDSTONE, SHALE	NATURAL GAS, OIL	N
600899	BONE SPRING	-4583	7705	7705	LIMESTONE	NATURAL GAS, OIL	N
600900	BONE SPRING 1ST	-5509	8631	8631	SANDSTONE	NATURAL GAS, OIL	N
600901	BONE SPRING 2ND	-5798	8920	8920	LIMESTONE, SHALE	NATURAL GAS, OIL	N

Operator Name: FLAT CREEK RESOURCES LLC

Well Name: PHANTOM BANK 31 FED COM **Well Number:** 504H

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
600902	BONE SPRING 2ND	-6151	9273	9300	SANDSTONE	OIL	N
600904	BONE SPRING 2ND	-6212	9334	14770	SANDSTONE	NATURAL GAS, OIL	Y
600903	BONE SPRING 2ND	-6291	9413	9749	SANDSTONE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M **Rating Depth:** 20000

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

Requesting Variance? YES

Variance request: Vareance 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. EQUIPMENT TESTING – BLOWOUT PREVENTER/WELLHEAD EQUIPMENT Testing Procedure: 1. Use water to test BOP's. 2. Make up test assembly (test plug) and set in the wellhead profile. Ensure the casing valve is left open. Monitor the casing valve outlet while testing for potential leak past the test plug. 3. Circulate through the choke/kill lines, choke manifold, standpipe manifold, and valves to ensure that all lines are full of water. This will prevent pressure drop (compression) while testing. 4. Line up test unit and test rams, valves and lines as per the chart below. 5. Pressure tests must be low and high, respectively, and the pressure should stabilize with minimum bleed off within 5 minutes. 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 to be recorded in the drilling log. Surface Casing & BOP Equipment Test Component High Test Low Test Duration Wellhead Test 5000 psi 250 psi 10 min BOP Rams 5000 psi 250 psi 10 min Annular 3500 psi 250 psi 10 min HCR 5000 psi 250 psi 10 min Manifold 5000 psi 250 psi 10 min Upper/Lower Kelly valves 5000 psi 250 psi 10 min TIW safety valves/dart 5000 psi 250 psi 10 min Standpipe/mudlines 5000 psi 250 psi 10 min Orbit valve/rotating head 300 psi - 10 min Surface casing 1500 psi - 30 min

Choke Diagram Attachment:

Choke_Hose_Certification_20191203130131.pdf

Choke_Diagram_edited_20200312102822.pdf

BOP Diagram Attachment:

BOP_Modified_20200312102844.pdf

Operator Name: FLAT CREEK RESOURCES LLC

Well Name: PHANTOM BANK 31 FED COM **Well Number:** 504H

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	1150	0	1150	3122	1972	1150	J-55	54.5	ST&C	2.1	7.1	DRY	13.6	DRY	14
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	5400	0	5400	3122	-2278	5400	N-80	43.5	BUTT	1.5	3.5	DRY	4.2	DRY	4.
3	PRODUCTION	8.75	5.5	NEW	API	N	0	14470	0	9334	3122	-6212	14470	P-110	23	BUTT	12.7	6.2	DRY	2.1	DRY	2.

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

504H_Casing_design_20190319103032__1__20200205131409.xlsx

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

504H_Casing_design_20190319103032__1__20200205131442.xlsx

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

504H_Casing_design_20190319103032__1__20200205131503.xlsx

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1150	585	1.89	12.9	197	125	Extended	Kol-Seal (LCM), Poly-E-Flake (LCM)
SURFACE	Tail		0	1150	490	1.33	14.8	47	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

Operator Name: FLAT CREEK RESOURCES LLC

Well Name: PHANTOM BANK 31 FED COM **Well Number:** 504H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
											(Retarder)
PRODUCTION	Lead		0	14770	3060	1.22	14.5	3733	35	VersaCem-H	Halad-344 (fluid loss)

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
5400	14770	OTHER : Cut Brine	8.6	9	67.3		9		180000	12	
1150	5400	SALT SATURATED	9	9.4	67.3		9		180000	15	
0	1150	SPUD MUD	8.5	9.3			8.5			30	Fresh water based mud

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:

CALIPER,CBL,DS,GR,MWD,MUDLOG,MICROLO

Coring operation description for the well:

None

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4236 **Anticipated Surface Pressure:** 2182.52

Anticipated Bottom Hole Temperature(F): 165

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

H2S_Plan_20191203130359.docx

Phantom_1mi_2mi_Buffers_20191203130400.pdf

H2S_pad_layout_20191203130359.docx

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

PRE_STAKE_DETAIL_20190320195123.pdf

504H_Directional_20191203130446.pdf

Other proposed operations facets description:

Wellhead equipment

Other proposed operations facets attachment:

Cactus_Wellhead_Equipment_20190924142438.pdf

Other Variance attachment:

SUPO

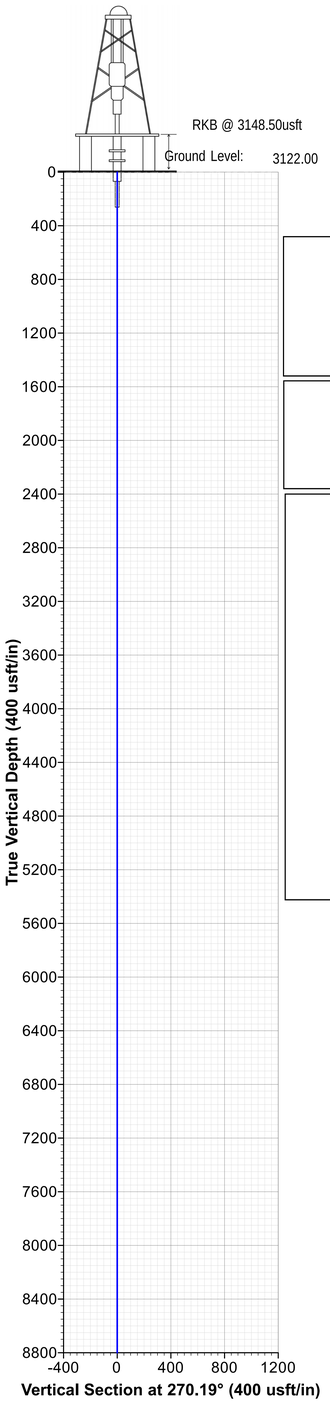
FLAT CREEK RESOURCES

Project: Eddy County, NM (NAD83 NME)
Site: Phantom Bank 31 Fed Com
Well: 504H
Wellbore: OH
Design: Plan 1 04-06-20
Rig:

PHOENIX TECHNOLOGY SERVICES

Azimuths to Grid North
True North: -0.28°
Magnetic North: 6.36°

Magnetic Field
Strength: 47608.4snT
Dip Angle: 59.55°
Date: 4/6/2020
Model: MVHD



WELL DETAILS

3122.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	364846.00	704199.00	32° 0' 7.033874 N	103° 48' 28.603951 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		
2	8852.50	0.00	0.00	8852.50	0.00	0.00	0.00	0.00	0.00		KOP, Begin 10.00°/100' Build
3	9759.00	90.65	273.80	9425.42	38.40	-578.18	10.00	273.80	578.31		LP, Hold 90.65° Inc, Begin 2.00°/100' Turn
4	9964.24	90.65	269.70	9423.09	44.66	-783.27	2.00	-89.93	783.41		Hold 269.70° Azm
5	14785.35	90.65	269.70	9368.13	19.00	-5604.00	0.00	0.00	5604.03	BHL - Phantom Bank 31 Fed Com	TD at 14785.35

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BHL - Phantom Bank 31 Fed Com	9368.13	19.00	-5604.00	364865.00	698595.00	32° 0' 7.486763 N	103° 49' 33.682884 W
LTP - Phantom Bank 31 Fed Com	9368.93	19.00	-5534.00	364865.00	698665.00	32° 0' 7.483512 N	103° 49' 32.869963 W
FTP - Phantom Bank 31 Fed Com	9425.49	46.00	-401.00	364892.00	703798.00	32° 0' 7.508351 N	103° 48' 33.258217 W

Map System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone Name: New Mexico Eastern Zone

Local Origin: Well 504H, Grid North

Latitude: 32° 0' 7.033874 N
Longitude: 103° 48' 28.603951 W

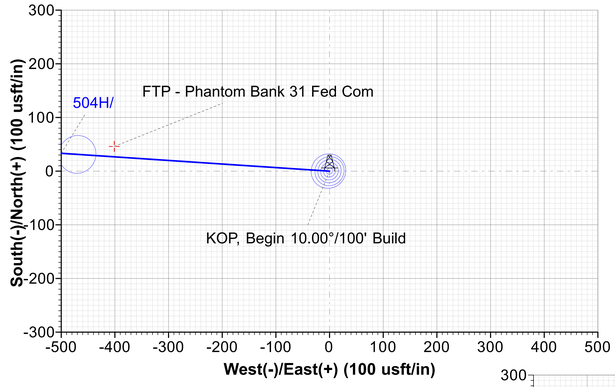
Grid East: 704199.00
Grid North: 364846.00
Scale Factor: 1.000

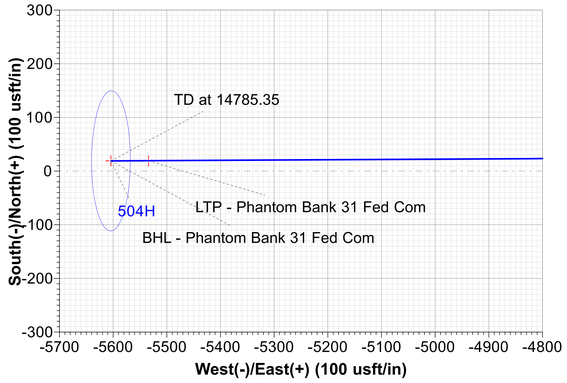
Geomagnetic Model: MVHD
Sample Date: 06-Apr-20
Magnetic Declination: 6.64°
Dip Angle from Horizontal: 59.55°
Magnetic Field Strength: 47608.37934883nT

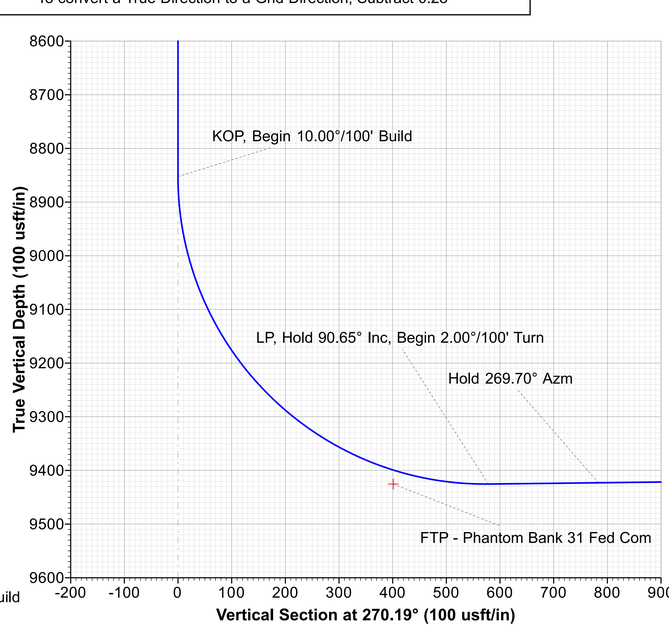
To convert a Magnetic Direction to a Grid Direction, Add 6.36°
To convert a Magnetic Direction to a True Direction, Add 6.64° East
To convert a True Direction to a Grid Direction, Subtract 0.28°

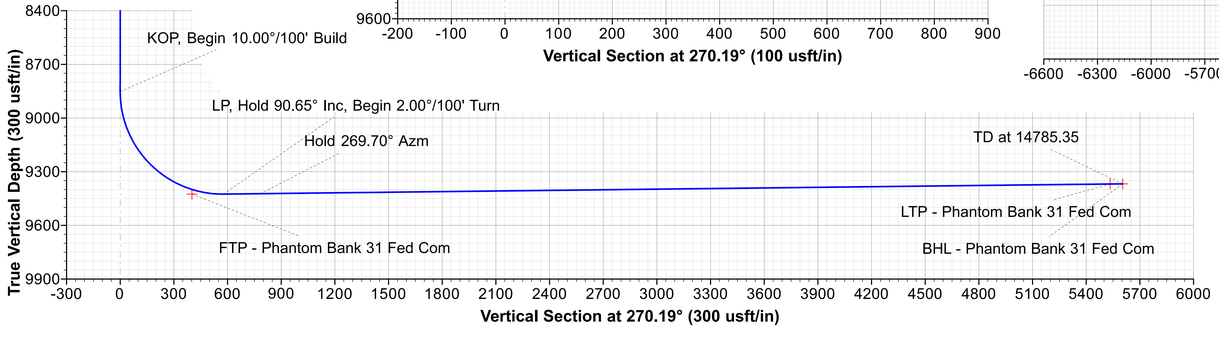
LEGEND

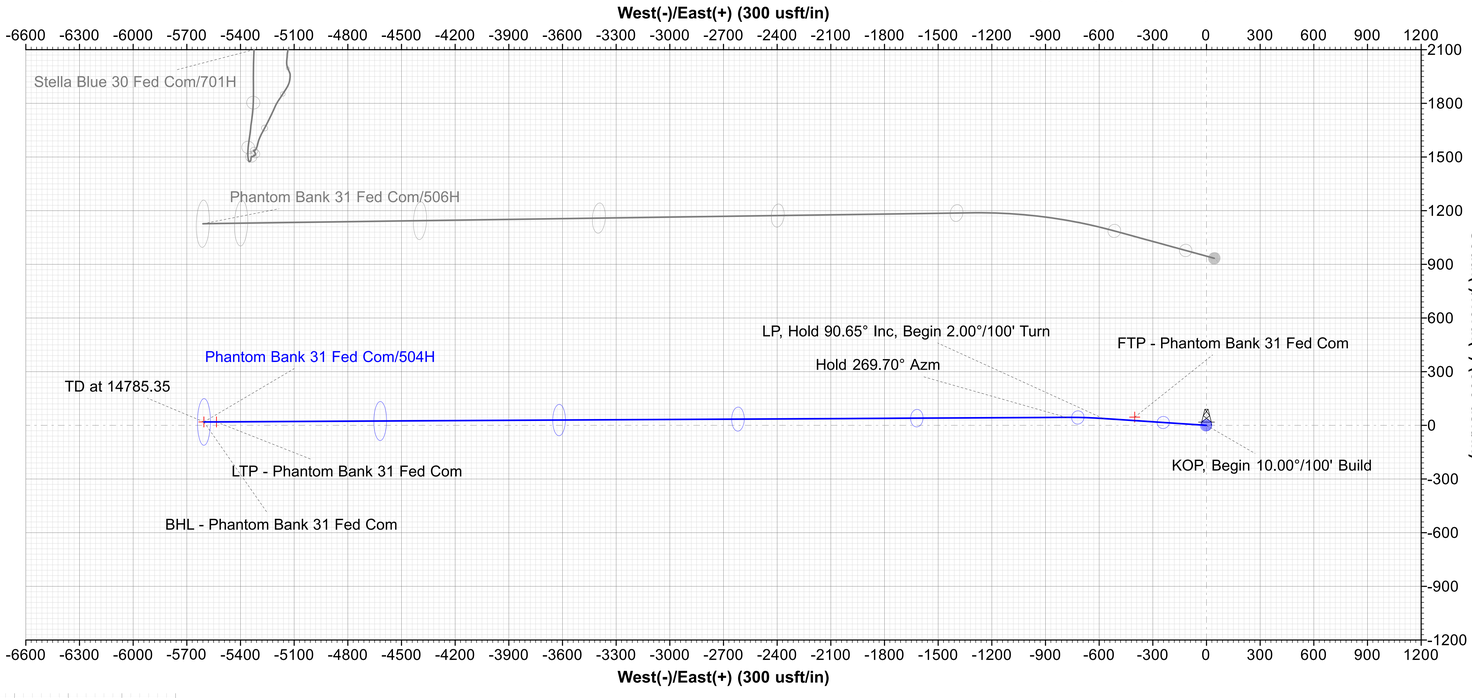
506H, OH, Plan 1 04-06-20 V0
701H, OH / Job 63103, OH / Job 63103 V0
Plan 1 04-06-20











Created By: Adam Bordelon Date: 14:23, April 06 2020

Database:	USA Compass	**Local Co-ordinate Reference:**	Well 504H
Company:	Flat Creek Resources, LLC	**TVD Reference:**	RKB @ 3148.50usft
Project:	Eddy County, NM (NAD83 NME)	**MD Reference:**	RKB @ 3148.50usft
Site:	Phantom Bank 31 Fed Com	**North Reference:**	Grid
Well:	504H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 04-06-20		

Project Eddy County, NM (NAD83 NME)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Phantom Bank 31 Fed Com

Site Position:		**Northing:**	364,892.00 usft	**Latitude:**	32° 0' 7.508351 N
From:	Map	**Easting:**	703,798.00 usft	**Longitude:**	103° 48' 33.258217 W
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.28 °

Well 504H

Well Position	**+N/-S**	-46.00 usft	**Northing:**	364,846.00 usft	**Latitude:**	32° 0' 7.033874 N
	+E/-W	401.00 usft	**Easting:**	704,199.00 usft	**Longitude:**	103° 48' 28.603951 W
Position Uncertainty		1.00 usft	**Wellhead Elevation:**		**Ground Level:**	3,122.00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	MVHD	4/6/2020	6.64	59.55	47,608.37934883

Design Plan 1 04-06-20

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	270.19

Plan Survey Tool Program **Date** 4/6/2020

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	14,785.35	Plan 1 04-06-20 (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	
8,852.50	0.00	0.00	8,852.50	0.00	0.00	0.00	0.00	0.00	0.00	
9,759.00	90.65	273.80	9,425.42	38.40	-578.18	10.00	10.00	0.00	273.80	
9,964.24	90.65	269.70	9,423.09	44.66	-783.27	2.00	0.00	-2.00	-89.93	
14,785.35	90.65	269.70	9,368.13	19.00	-5,604.00	0.00	0.00	0.00	0.00	BHL - Phantom Bank

Database:	USA Compass	**Local Co-ordinate Reference:**	Well 504H
Company:	Flat Creek Resources, LLC	**TVD Reference:**	RKB @ 3148.50usft
Project:	Eddy County, NM (NAD83 NME)	**MD Reference:**	RKB @ 3148.50usft
Site:	Phantom Bank 31 Fed Com	**North Reference:**	Grid
Well:	504H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 04-06-20		

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
8,852.50	0.00	0.00	8,852.50	0.00	0.00	0.00	0.00	0.00	0.00
KOP, Begin 10.00°/100' Build									
8,900.00	4.75	273.80	8,899.95	0.13	-1.96	1.96	10.00	10.00	0.00
9,000.00	14.75	273.80	8,998.38	1.25	-18.84	18.84	10.00	10.00	0.00
9,100.00	24.75	273.80	9,092.37	3.49	-52.51	52.53	10.00	10.00	0.00
9,200.00	34.75	273.80	9,179.08	6.77	-101.96	101.99	10.00	10.00	0.00
9,300.00	44.75	273.80	9,255.87	11.00	-165.69	165.72	10.00	10.00	0.00
9,400.00	54.75	273.80	9,320.40	16.06	-241.75	241.80	10.00	10.00	0.00
9,500.00	64.75	273.80	9,370.71	21.77	-327.83	327.90	10.00	10.00	0.00
9,600.00	74.75	273.80	9,405.28	27.98	-421.32	421.42	10.00	10.00	0.00
9,700.00	84.75	273.80	9,423.05	34.50	-519.39	519.50	10.00	10.00	0.00
9,759.00	90.65	273.80	9,425.42	38.40	-578.18	578.31	10.00	10.00	0.00
LP, Hold 90.65° Inc, Begin 2.00°/100' Turn									
9,800.00	90.65	272.98	9,424.96	40.83	-619.11	619.24	2.00	0.00	-2.00
9,900.00	90.65	270.98	9,423.82	44.28	-719.04	719.18	2.00	0.00	-2.00
9,964.24	90.65	269.70	9,423.09	44.66	-783.27	783.41	2.00	0.00	-2.00
Hold 269.70° Azm									
10,000.00	90.65	269.70	9,422.68	44.47	-819.03	819.17	0.00	0.00	0.00
10,100.00	90.65	269.70	9,421.54	43.94	-919.02	919.16	0.00	0.00	0.00
10,200.00	90.65	269.70	9,420.40	43.41	-1,019.01	1,019.15	0.00	0.00	0.00
10,300.00	90.65	269.70	9,419.26	42.87	-1,119.00	1,119.14	0.00	0.00	0.00
10,400.00	90.65	269.70	9,418.12	42.34	-1,219.00	1,219.13	0.00	0.00	0.00
10,500.00	90.65	269.70	9,416.98	41.81	-1,318.99	1,319.12	0.00	0.00	0.00
10,600.00	90.65	269.70	9,415.84	41.28	-1,418.98	1,419.11	0.00	0.00	0.00
10,700.00	90.65	269.70	9,414.70	40.74	-1,518.97	1,519.10	0.00	0.00	0.00
10,800.00	90.65	269.70	9,413.56	40.21	-1,618.97	1,619.09	0.00	0.00	0.00
10,900.00	90.65	269.70	9,412.42	39.68	-1,718.96	1,719.08	0.00	0.00	0.00
11,000.00	90.65	269.70	9,411.28	39.15	-1,818.95	1,819.07	0.00	0.00	0.00
11,100.00	90.65	269.70	9,410.14	38.61	-1,918.94	1,919.06	0.00	0.00	0.00
11,200.00	90.65	269.70	9,409.00	38.08	-2,018.93	2,019.05	0.00	0.00	0.00
11,300.00	90.65	269.70	9,407.86	37.55	-2,118.93	2,119.04	0.00	0.00	0.00
11,400.00	90.65	269.70	9,406.72	37.02	-2,218.92	2,219.03	0.00	0.00	0.00
11,500.00	90.65	269.70	9,405.58	36.49	-2,318.91	2,319.02	0.00	0.00	0.00
11,600.00	90.65	269.70	9,404.44	35.95	-2,418.90	2,419.01	0.00	0.00	0.00
11,700.00	90.65	269.70	9,403.30	35.42	-2,518.89	2,519.00	0.00	0.00	0.00
11,800.00	90.65	269.70	9,402.16	34.89	-2,618.89	2,618.99	0.00	0.00	0.00
11,900.00	90.65	269.70	9,401.02	34.36	-2,718.88	2,718.98	0.00	0.00	0.00
12,000.00	90.65	269.70	9,399.88	33.82	-2,818.87	2,818.97	0.00	0.00	0.00
12,100.00	90.65	269.70	9,398.74	33.29	-2,918.86	2,918.96	0.00	0.00	0.00
12,200.00	90.65	269.70	9,397.60	32.76	-3,018.85	3,018.95	0.00	0.00	0.00
12,300.00	90.65	269.70	9,396.46	32.23	-3,118.85	3,118.94	0.00	0.00	0.00
12,400.00	90.65	269.70	9,395.32	31.70	-3,218.84	3,218.93	0.00	0.00	0.00
12,500.00	90.65	269.70	9,394.18	31.16	-3,318.83	3,318.92	0.00	0.00	0.00
12,600.00	90.65	269.70	9,393.04	30.63	-3,418.82	3,418.91	0.00	0.00	0.00
12,700.00	90.65	269.70	9,391.90	30.10	-3,518.81	3,518.90	0.00	0.00	0.00
12,800.00	90.65	269.70	9,390.76	29.57	-3,618.81	3,618.89	0.00	0.00	0.00
12,900.00	90.65	269.70	9,389.62	29.03	-3,718.80	3,718.88	0.00	0.00	0.00
13,000.00	90.65	269.70	9,388.48	28.50	-3,818.79	3,818.87	0.00	0.00	0.00
13,100.00	90.65	269.70	9,387.34	27.97	-3,918.78	3,918.86	0.00	0.00	0.00
13,200.00	90.65	269.70	9,386.20	27.44	-4,018.78	4,018.85	0.00	0.00	0.00
13,300.00	90.65	269.70	9,385.06	26.91	-4,118.77	4,118.83	0.00	0.00	0.00
13,400.00	90.65	269.70	9,383.92	26.37	-4,218.76	4,218.82	0.00	0.00	0.00

Database:	USA Compass	**Local Co-ordinate Reference:**	Well 504H
Company:	Flat Creek Resources, LLC	**TVD Reference:**	RKB @ 3148.50usft
Project:	Eddy County, NM (NAD83 NME)	**MD Reference:**	RKB @ 3148.50usft
Site:	Phantom Bank 31 Fed Com	**North Reference:**	Grid
Well:	504H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan 1 04-06-20		

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)
13,500.00	90.65	269.70	9,382.78	25.84	-4,318.75	4,318.81	0.00	0.00	0.00
13,600.00	90.65	269.70	9,381.64	25.31	-4,418.74	4,418.80	0.00	0.00	0.00
13,700.00	90.65	269.70	9,380.50	24.78	-4,518.74	4,518.79	0.00	0.00	0.00
13,800.00	90.65	269.70	9,379.36	24.24	-4,618.73	4,618.78	0.00	0.00	0.00
13,900.00	90.65	269.70	9,378.22	23.71	-4,718.72	4,718.77	0.00	0.00	0.00
14,000.00	90.65	269.70	9,377.08	23.18	-4,818.71	4,818.76	0.00	0.00	0.00
14,100.00	90.65	269.70	9,375.94	22.65	-4,918.70	4,918.75	0.00	0.00	0.00
14,200.00	90.65	269.70	9,374.80	22.12	-5,018.70	5,018.74	0.00	0.00	0.00
14,300.00	90.65	269.70	9,373.66	21.58	-5,118.69	5,118.73	0.00	0.00	0.00
14,400.00	90.65	269.70	9,372.52	21.05	-5,218.68	5,218.72	0.00	0.00	0.00
14,500.00	90.65	269.70	9,371.38	20.52	-5,318.67	5,318.71	0.00	0.00	0.00
14,600.00	90.65	269.70	9,370.24	19.99	-5,418.66	5,418.70	0.00	0.00	0.00
14,700.00	90.65	269.70	9,369.10	19.45	-5,518.66	5,518.69	0.00	0.00	0.00
14,785.35	90.65	269.70	9,368.13	19.00	-5,604.00	5,604.03	0.00	0.00	0.00
TD at 14785.35									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BHL - Phantom Bank 31 - plan hits target center - Point	0.00	0.00	9,368.13	19.00	-5,604.00	364,865.00	698,595.00	32° 0' 7.486763 N	103° 49' 33.682884 W
LTP - Phantom Bank 31 - plan misses target center by 15.35usft at 14700.00usft MD (9369.10 TVD, 19.45 N, -5518.66 E) - Point	0.00	0.00	9,368.93	19.00	-5,534.00	364,865.00	698,665.00	32° 0' 7.483512 N	103° 49' 32.869963 W
FTP - Phantom Bank 31 - plan misses target center by 31.37usft at 9589.07usft MD (9402.31 TVD, 27.29 N, -410.83 E) - Point	0.00	0.00	9,425.49	46.00	-401.00	364,892.00	703,798.00	32° 0' 7.508351 N	103° 48' 33.258217 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
8,852.50	8,852.50	0.00	0.00	KOP, Begin 10.00°/100' Build
9,759.00	9,425.42	38.40	-578.18	LP, Hold 90.65° Inc, Begin 2.00°/100' Turn
9,964.24	9,423.09	44.66	-783.27	Hold 269.70° Azm
14,785.35	9,368.13	19.00	-5,604.00	TD at 14785.35

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 504H
SURFACE HOLE FOOTAGE:	650'/S & 300'/W
BOTTOM HOLE FOOTAGE	698'/S & 30'/W

WELL NAME & NO.:	Phantom Bank 31 Fed Com 506H
SURFACE HOLE FOOTAGE:	600'/N & 350'/W
BOTTOM HOLE FOOTAGE	330'/N & 30'/W

COA

H2S	○ Yes	◉ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	○ Low	◉ Medium	○ High
Cave/Karst Potential	○ Critical		
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	◉ Multibowl	○ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☐ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☑ COM	☐ 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 **625 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 **3825 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.

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

a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
c. Manufacturer representative shall install the test plug for the initial BOP test.

d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i 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.
- 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 intergrity 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 intergrity 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 Windsocks and / Wind Streamers:

- Windsocks at mud pit area should be high enough to be visible
- Windsock 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

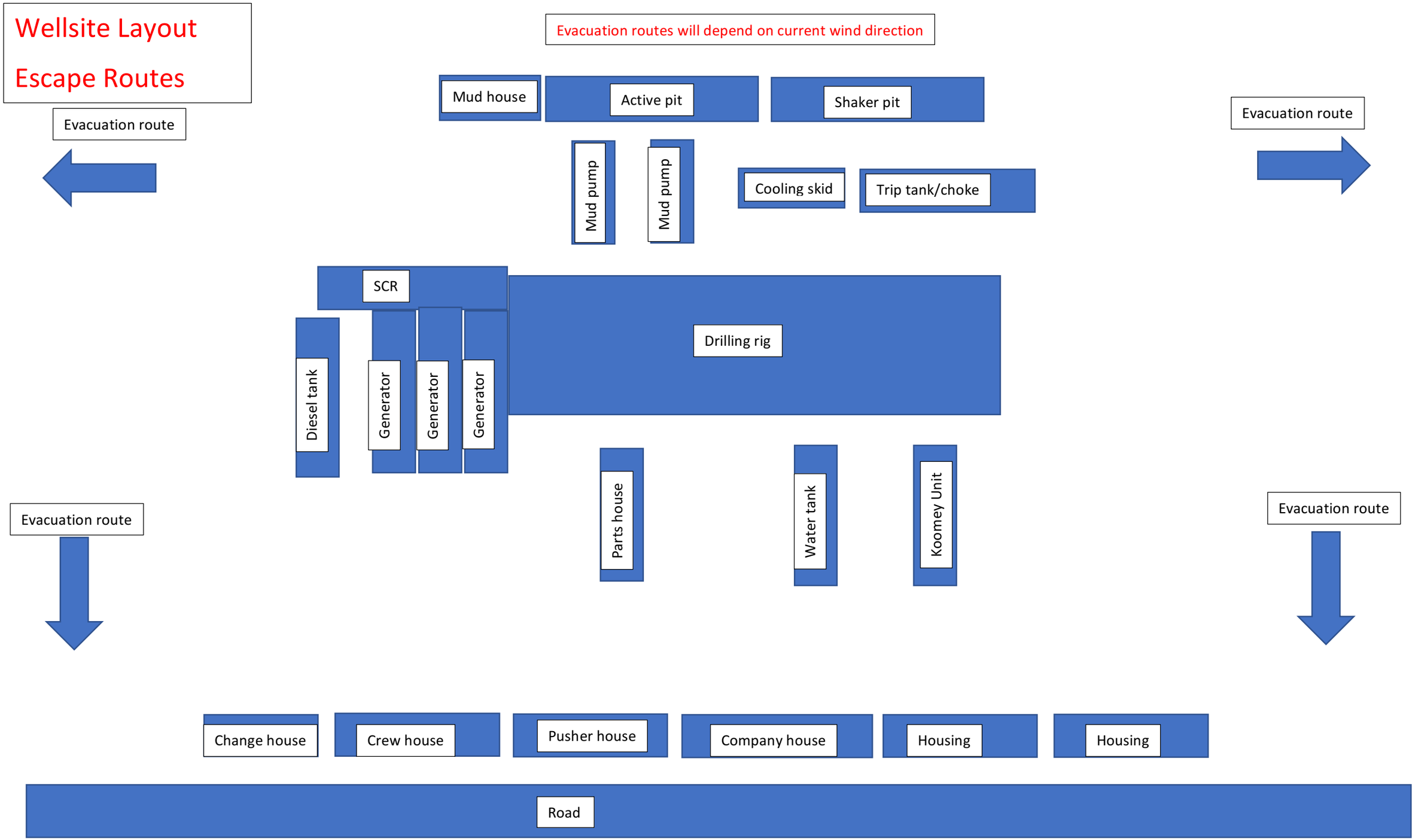
9 If H2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H2S scavengers if necessary

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



H2S Radius Map
1 & 2 Mile

26S 30E

26S 31E

Eddy

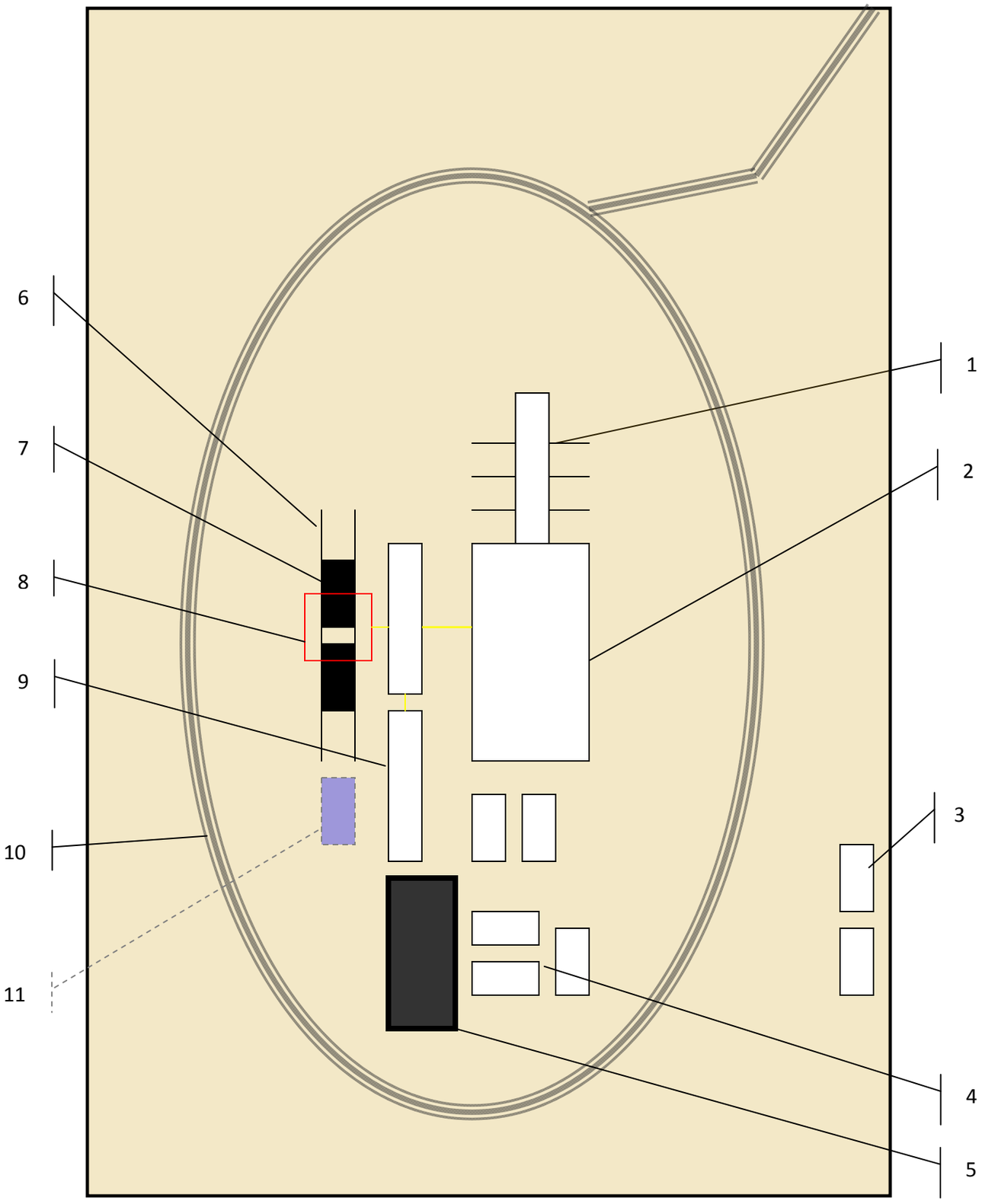
Loving

BLK 56 T1

BLK 55 T1

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

FLAT CREEK RESOURCES



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

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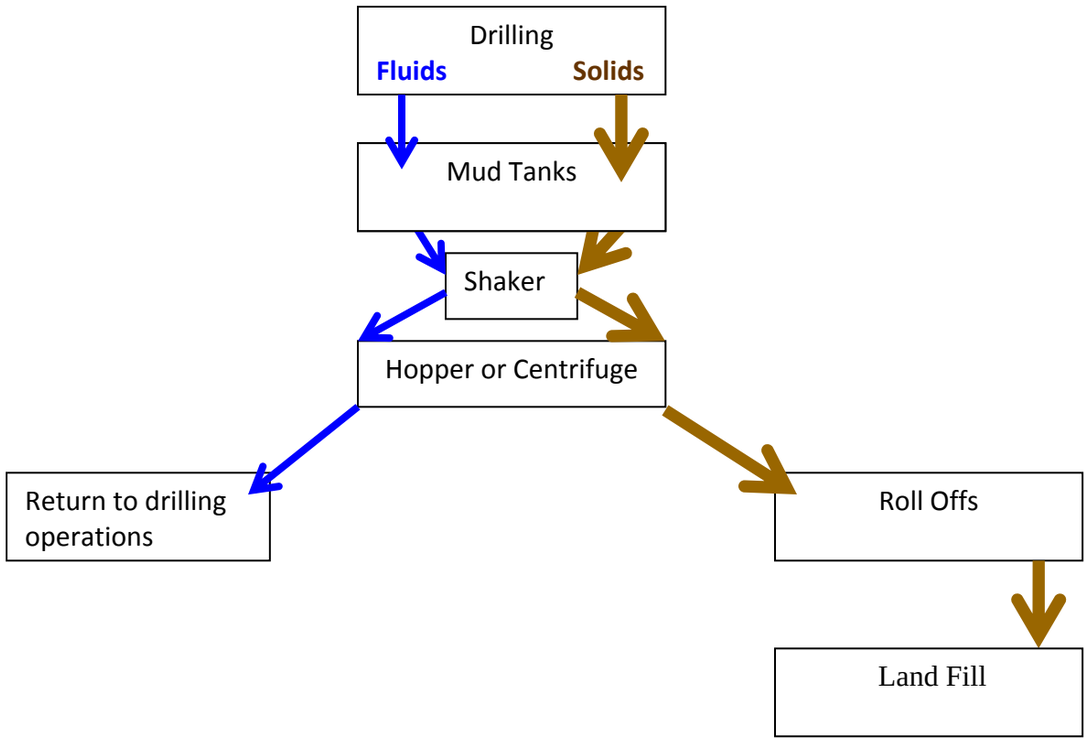
Closed Loop Drilling System: Mud tanks to right (1)
Hopper in air to settle out solids (2)
Water return pipe (3)
Shaker between hopper and mud tanks (4)
Roll offs on skids (5)

Flow Chart for Drilling Fluids and Solids



Photos Courtesy of Gandy Corporation Oil Field Service