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

HOBBS OCD

FEB 15 2019

RECEIVED

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

Form C-101
Revised July 18, 2013

☐ AMENDED REPORT

S/P

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

1. Operator Name and Address	2. OGRID Number
3BEAR FIELD SERVICES, LLC 1512 LARIMER ST., SUITE 540 DENVER, CO 80202	~~327603~~ 372603
	3. API Number 30-025-45620

4. Property Code	5. Property Name	6. Well No.
~~324992~~	GRAMA 34 STATE SWD	1

7. Surface Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
P	34	21S	34E		220	SOUTH	522	EAST	LEA

8. Proposed Bottom Hole Location

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County

9. Pool Information

Pool Name	Pool Code
SWD; SILURIAN-DEVONIAN	97869

Additional Well Information

11. Work Type	12. Well Type	13. Cable/Rotary	14. Lease Type	15. Ground Level Elevation
N	SWD	R	S	3628'
16. Multiple	**17. Proposed Depth**	**18. Formation**	**19. Contractor**	**20. Spud Date**
N	15,500'	SILURO-DEVONIAN	PATRIOT	UPON APPROVAL OF C-108

Depth to Ground water	Distance from nearest fresh water well	Distance to nearest surface water

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

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
SURF	26"	20"	94.0#, J-55	1750'	3010	SURFACE
INTER 1	17.5	13.375"	68#, J-55	5660'	3065	SURFACE
~~INTER 2~~ PROD	12.25"	9.625"	40#, P-110	11,175'	2530	SURFACE
LINE	8.75"	7.625"	39#, P-110	10,950-14,400	320	10,800'

Casing/Cement Program: Additional Comments

6 1/8" OPEN HOLE W/ 5 1/2" TUBING SET @ 14,350'

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
PLEASE SEE BOP ATTACHMENT			

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. **I further certify that I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☐, if applicable.** Signature:	OIL CONSERVATION DIVISION Approved By:
Printed name: JENNIFER ELROD	Title:
Title: SR. REGULATORY ANALYST	Approved Date: 02/18/19 Expiration Date: 02/18/21
E-mail Address: jelrod@chisholmenergy.com; kburns3bearllc.com	**See Attached**
Date: 02/15/2019 Phone: 817-953-3728	Conditions of Approval Attached **Conditions of Approval**

CONDITIONS OF APPROVAL

API #	Operator	Well name & Number
30-025-45620	3Bear Field Services LLC	Grama 34 State SWD # 001

Applicable conditions of approval marked with XXXXXX

Administrative Orders Required

XXXXXXXX	May not spud well before C-108 is approved
XXXXXXXX	Review administrative order when approved for additional conditions of approval

Other wells

Casing

XXXXXXX	SURFACE, INTERMEDIATE(1), PRODUCTION CASING - Cement must circulate to surface -- Liner(1) Cement come to top of liner
XXXXXXX	**Surface casing must be set 25' below top of Rustler Anhydrite in order to seal off protectable water**

Lost Circulation

XXXXXXX	Must notify OCD Hobbs Office if lost circulation is encountered at 575-370-3186

Water flows

XXXXXXX	Must notify OCD Hobbs Office of any water flow in the Salado formation at 575-370-3186. Report depth and flow rate.

Stage Tool

XXXXXXX	Must notify OCD Hobbs Office prior to running Stage Tool at 575-370-3186
XXXXXXX	If using Stage Tool on Surface casing, Stage Tool must be greater than 350' and a minimum 200 feet above surface shoe.
XXXXXXX	When using a Stage Tool on Intermediate or Production Casing Stage must be a minimum of 50 feet below previous casing shoe.

Completion & Production

XXXXXXX	Will require a deviational survey with the C-105
XXXXXXX	Must notify Hobbs OCD office prior to conducting MIT (575) 393-6161 ext. 114
XXXXXXX	Must conduct & pass MIT prior to any injection
XXXXXXX	May not inject prior to C-108 approval (SWD order approval)
XXXXXXX	Approval of this APD does not guarantee approval of C-108
XXXXXXX	Approval of this APD does not approve your tubing sizes. Please see SWD order for approved tubing sizes.
XXXXXXX	Must conduct & pass MIT prior to any injection
XXXXXXX	If C-108 and/or SWD order is not approved and well has been drilled, the well must be plugged within 90 days of denial of your C-108

Casing Program: **Grama 34 SWD 1 - Minimum Pipe Requirements**

Open Hole Size (Inches)	Casing Depth; From (ft)	Casing Setting Depth (ft) MD	Casing Setting Depth (ft) TVD	Casing Size (inches)	Casing Weight (lb/ft)	Casing Grade	Thread	Condition	Anticipated Mud Weight (ppg)	Burst (psi)	Burst SF (1.125)	Collapse (psi)	Collapse SF (1.125)	Pipe Body Tension (lbs)	Joint Tension (lbs)	Air Weight (lbs)	Bouyant Weight (lbs)	Pipe Body Tension SF (1.8)	Joint Tension SF (1.8)
Surface																			
20	0	1,600'	1,600'	20	94.0	J-55	BTC	New	8.8	2,110	2.88	520	1.42	1,480,000	1,402,000	150,400	130,175	11.37	10.77
																0	0		
Intermediate 1																			
17.5	0	5,700'	5,700'	13 3/8"	68	J55	BTC	New	10.2	3,450	1.14	1,950	2.58	1,241,000	1,241,000	387,600	327,186	3.79	3.79
Intermediate 2																			
12.25"	0	11,050'	11,050'	9 5/8"	40	P-110	BTC	New	9	7,910	1.53	3,470	2.01	1,260,000	1,266,000	442,000	381,211	3.31	3.32
Production																			
8.75"	10800	14,675'	14,675'	7 5/8"	39	P-110	UFJ	New	12	12,640	1.38	11,080	1.21	1,231,000	1,231,000	151,125	123,413	9.97	9.97

Casing Design Criteria and Casing Loading Assumptions:

Surface

Tension	A 1.8 design factor with effects of buoyancy with a fluid equal to a mud weight of:	8.8 ppg
Collapse	A 1.125 design factor with 1/2 internal evacuation and collapse force equal to a mud gradient of:	8.8 ppg
Burst	A 1.125 design factor with full external evacuation and burst force equal to a mud gradient of:	8.8 ppg

Intermediate 1

Tension	A 1.8 design factor with effects of buoyancy with a fluid equal to a mud weight of:	10.2 ppg
Collapse	A 1.125 design factor with 1/4 TVD internal evacuation and collapse force equal to a mud gradient of:	10.2 ppg
Burst	A 1.125 design factor with full external evacuation and burst force equal to a mud gradient of:	10.2 ppg

Intermediate 2

Tension	A 1.8 design factor with effects of buoyancy with a fluid equal to a mud weight of:	9 ppg
Collapse	A 1.125 design factor with 1/3 TVD internal evacuation and collapse force equal to a mud gradient of:	9 ppg
Burst	A 1.125 design factor with full external evacuation and burst force equal to a mud gradient of:	9 ppg

Production

Tension	A 1.8 design factor with effects of buoyancy with a fluid equal to a mud weight of:	12 ppg
Collapse	A 1.125 design factor with full internal evacuation and collapse force equal to a mud gradient of:	12 ppg
Burst	A 1.125 design factor with full external evacuation and burst force equal to a mud gradient of:	12 ppg

Patriot Drilling, LLC

RIG NO. 5

Annular Preventer
13-3/8 5,000 PSI WP

Ram Preventers
13-3/8" 5,000 PSI WP Double Ram
13-3/8" 5,000 PSI WP Single Ram

Test the pipe rams, blind rams, floor valves (IBOP and/or upper Kelly valve), choke lines and manifold to 250 psi/5,000 psi with a test plug and a test pump.

Test the annular to 250 psi/2,500 psi with same as above.

CHISHOLM ENERGY

GEOLOGICAL PROGNOSIS

Well Name: **Grama 34 SWD 1**
State: New Mexico
County: Lea
Section: 34
Township: 21S
Range: 34E
Field Name:

API No.: 30-025-
SL: 522 ft FEL & 220 ft FSL (32.4286359, -103.4503892 NAD 27)
Approx LP:
BHL:
Surface Elevation: 3628 FT
KB Elevation: 3653 FT
PTD: est 15500 FT

Well Objective: Devonian & Silurian
Target Line:

FORMATION	MD, ft	TVD, ft	TVDSS, ft	LITHOLOGY	RES OBJ/CONTENTS
Rustler		1678	1950	Anhy & Salt	
Yates		3948	-320	SS & SH	
Capitan Reef		4338	-710	Dol & LS	
Cherry Canyon		5818	-2190	SS, SLTST, & SH	
Bone Spring		8328	-4700	LS & SH	
1st Bone Spring SS		9438	-5810	SS, SLTST, & SH	
2nd Bone Spring SS		10008	-6380	SS, SLTST, & SH	
3rd Bone Spring CARB		10288	-6660	SS, SLTST, & SH	
3rd Bone Spring SS		10888	-7260	SS, SLTST, & SH	
Wolfcamp		11143	-7515	SLTST, LS, & SH	
Penn Shale		11378	-7750	SS & SH	
Strawn		11668	-8040	LS	
Morrow		12513	-8885	SS & SH	
Miss Lime		13808	-10180	LS	
Woodford		14228	-10600	SH	
Silurian		14373	-10745	SH	

Evaluation: Quad Combo from TD to intermediate casing

Geologist SCP Date: 1/31/2019

NTG
NEW TECH GLOBAL

Grama 34 SWD 1

API # 30-0xx-xxxxx

Revised: 2/14/2019

TVD *ft-RKB*	Geological Tops	Wellbore Sketch
2,000'	1,678 Rustler	1,750'
4,000'	3,948 Yates	DV Tool & ECP @ 3,700'
	4,338 Capitan Reef	
5,000'	5,560 Delaware	5,660'
6,000'	5,818 Cherry Canyon	
7,000'		
8,000'	8,328 Bone Spring	
	9,438 1st Bone SS	
10,000'	10,008 2nd Bone SS	Top of Liner @ 10,950'
	10,288 3rd Bone Carb	
	10,888 3rd Bone SS	
	11,143 Wolfcamp	11,175'
12,000'	11,668 Strawn	
	12,513 Morrow	
14,000'	13,808 Miss Lime	
	14,228 Woodford	
	14,373 Devonian/Silurian	14,400'
15,000'		
16,000'		TD: 15,500'

Hole Size	Casing	Drilling Fluids	Cement	OH Logs/Evaluation
26"	Surface: 20" 94.0# J55 BTC 1,750'	FW Spud Mud 8.5 - 9.2 ppg 32 - 38 FV 4-6 PV 2-5 YP	Top of Lead: Surface 12.8 ppg 2.00 cuft/sk 1,885 sks Top of Tail: 1,250' 14.8 ppg 1.34 cuft/sk 1,125 sks (100% Excess)	
17-1/2"	Intermediate 1: 13-3/8" 68# J55 BTC 5,660'	Saturated Brine 10.0 - 10.3 ppg 28 - 32 FV	Stage 1 - 100% Excess Top of Lead: 3,700' 11.5 ppg 3.79 cuft/sk 550 sks Top of Tail: 5,160' 14.8 ppg 1.33 cuft/sk 535 sks Stage 2 - 200% Excess Top of Cement: Surface 11.5 ppg 3.80 cuft/sk 2,030 sks	
12-1/4"	Intermediate: 9-5/8"40# P110 BTC 11,175'	Cut Brine/WBM 9.0 - 9.5 ppg 15 - 20 PV 8 - 12 YP	Top of Lead: Surface 11.5 ppg 2.25 cuft/sk 1,405 sks Top of Tail: 8,000' 14.8 ppg 1.33 cuft/sk 1,125 sks (50% Excess in OH)	
8-3/4"	Liner: 7-5/8" 39# P110 FJ/HDL 10,950' - 14,400'	Saturated Brine 10.0 - 12.0 ppg 36 - 38 Viscosity 10 - 18 PV 8 - 12 YP 6 - 8 API Filtrate	Top of Tail: 10,800' 14.5 ppg 1.20 cuft/sk 320 sks (10% Excess)	
6-1/8"	OH Completion 5-1/2" Tubing Set @ 14,350'	Cut Brine/WBM 8.9 - 9.2 ppg 15 - 20 PV 8 - 12 YP		