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.: NMLC064605A

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.: FRING FEDERAL [332899] 1H

2. Name of Operator: STEWARD ENERGY II LLC [371682]

9. API Well No.: 30-025-50271

3a. Address: 2600 DALLAS PARKWAY SUITE 400, FRISCO, TX 7503

3b. Phone No. *(include area code)*: (214) 297-0500

10. Field and Pool, or Exploratory: BITTER LAKE-SAN ANDRES, SOUTH/BF

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

At surface: LOT 1 / 255 FNL / 325 FEL / LAT 33.1838177 / LONG -103.0619968

At proposed prod. zone: LOT 1 / 100 FNL / 340 FEL / LAT 33.1986758 / LONG -103.0617274

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 23/T13S/R38E/NMP

14. Distance in miles and direction from nearest town or post office*: 20 miles

12. County or Parish: LEA

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 255 feet

16. No of acres in lease:

17. Spacing Unit dedicated to this well: 254.0

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 30 feet

19. Proposed Depth: 5223 feet / 10884 feet

20. BLM/BIA Bond No. in file: FED: NMB001879

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3797 feet

22. Approximate date work will start*: 11/01/2021

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)	LARA THOMPSON / Ph: (214) 297-0500	04/16/2021

Title: Project Manager

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575) 234-5959	02/02/2022

Title	Office
Assistant Field Manager Lands & Minerals	Carlsbad Field Office

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

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

NGMP Rec 06/23/2022

KZ
06/24/2022

SL

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 02/02/2022

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
30-025-50271	7500	BRONCO; SAN ANDRES, SOUTH

[4] Property Code	[5] Property Name	[6] Well Number
332899	FRING FEDERAL	1H

[7] OGRID No.	[8] Operator Name	[9] Elevation
371682	STEWARD ENERGY II, LLC	3797'

[10] Surface Location

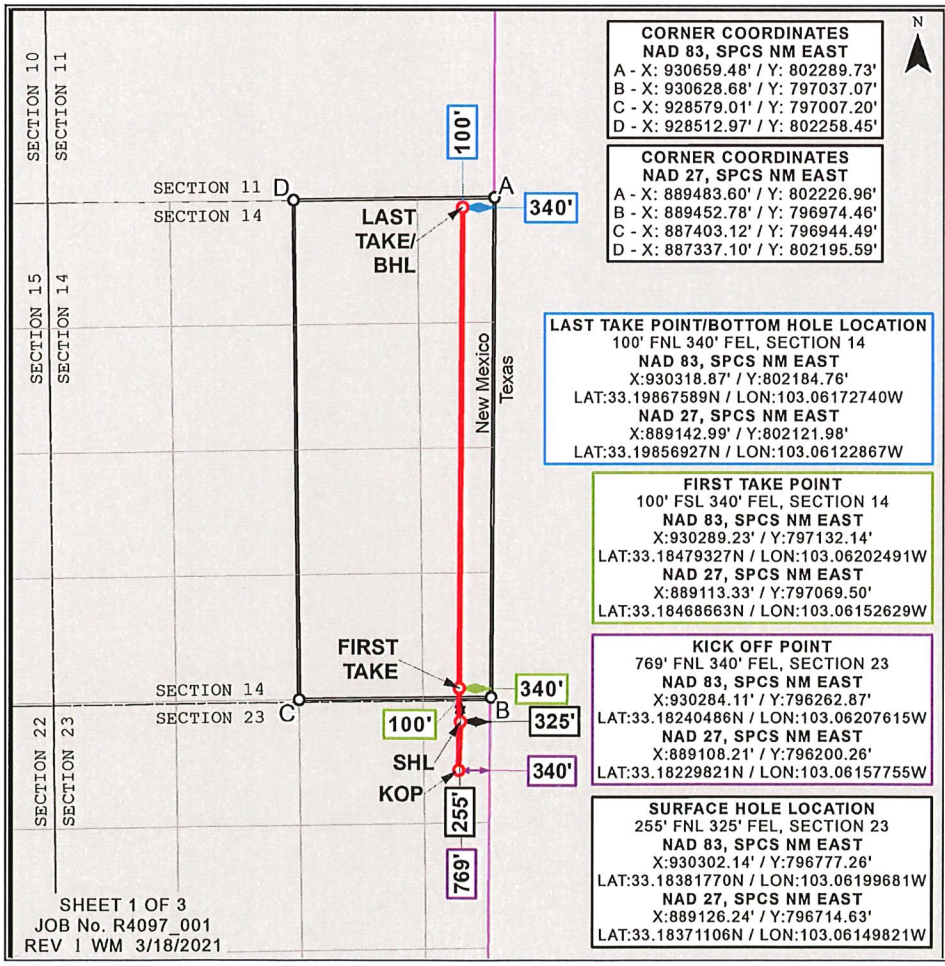
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L 1	23	13S	38E		255	NORTH	325	EAST	LEA

[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
L 1	14	13S	38E		100	NORTH	340	EAST	LEA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
253.52			

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.



[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.

2/24/22

Signature Date

Vanessa Lopez

Printed Name

Vanessa Lopez

E-mail Address

vanessa.lopez@stewardenergy.net

[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.

March 19, 2021

Date of Survey

Signature and Seal of Professional Surveyor

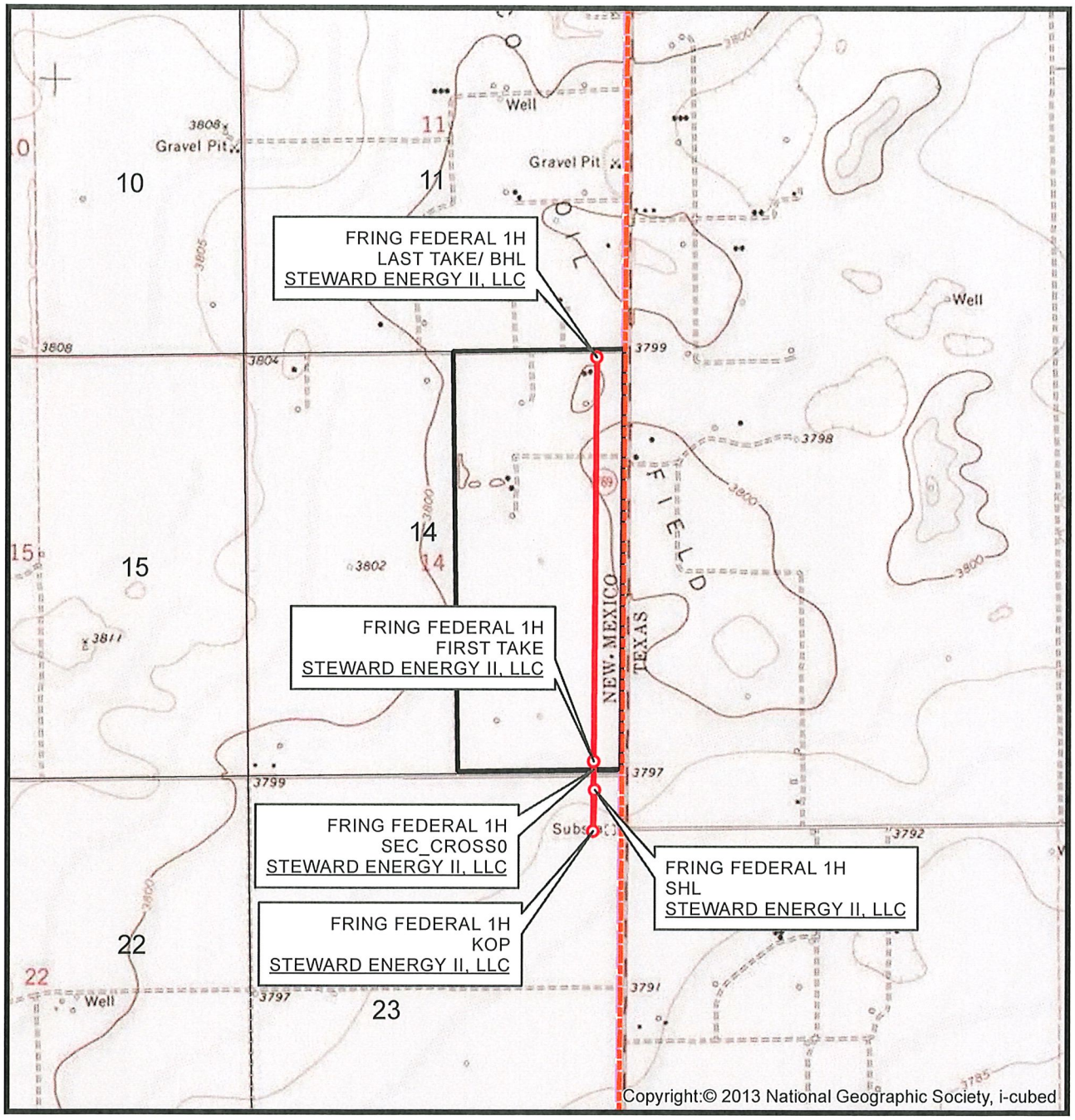
DAVID W. MYERS NEW MEXICO 11403 PROFESSIONAL SURVEYOR

Certificate Number

David W. Myers 11403

Distances/areas relative to NAD 83 Combined Scale Factor: 0.99990013 Convergence Angle: 00°41'16.54001"

LOCATION VERIFICATION MAP



SEC. 23 TWP. 13-S RGE. 38-E
SURVEY: N.M.P.M.
COUNTY: LEA
OPERATOR: STEWARD ENERGY II, LLC
DESCRIPTION: 255' FNL & 325' FEL
ELEVATION: 3797'
LEASE: FRING FEDERAL
U.S.G.S. TOPOGRAPHIC MAP: PRAIRIEVIEW NE, NM,TX.

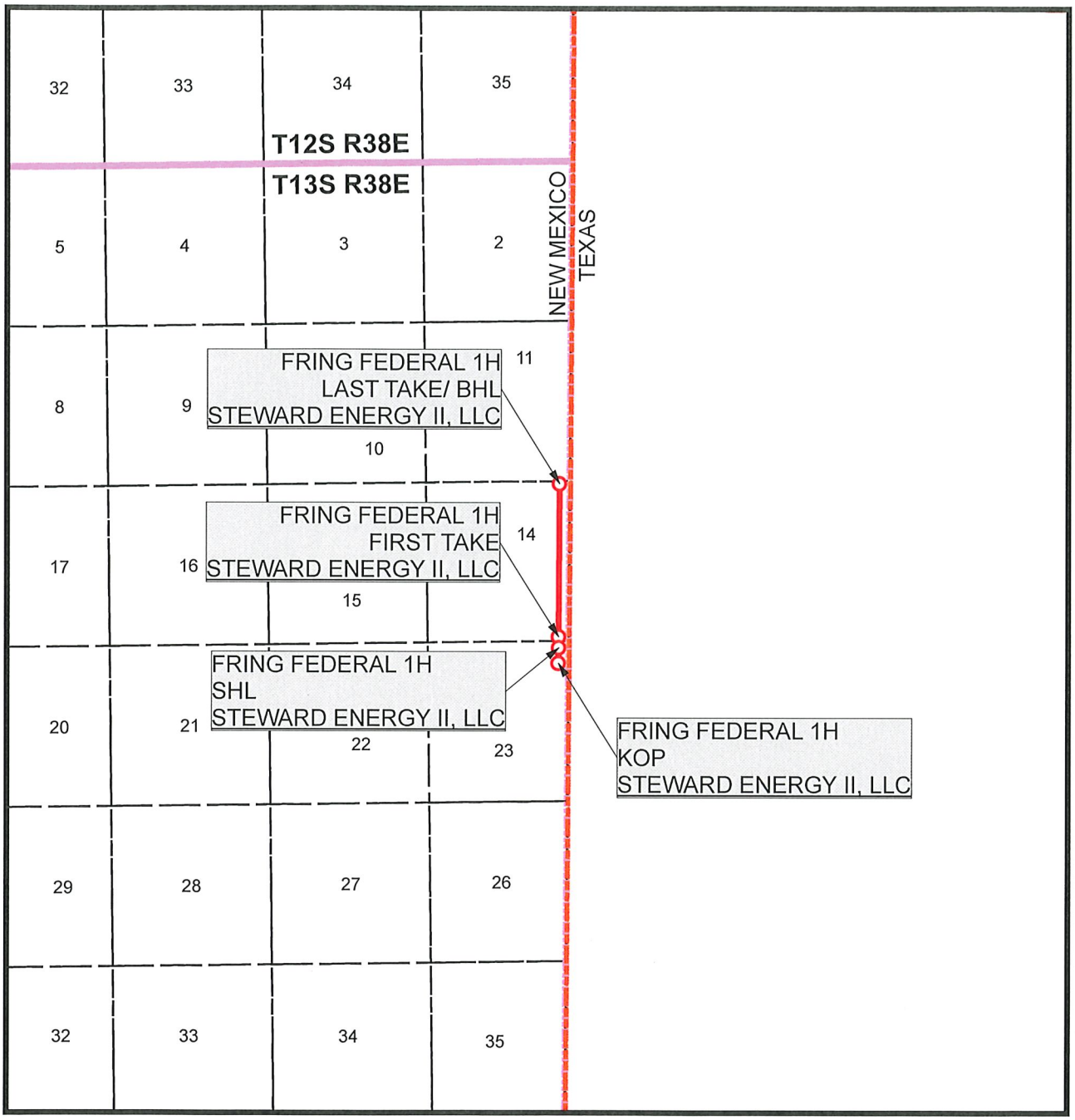
1 " = 2,000 '
CONTOUR INTERVAL = 10'

SHEET 2 OF 3

PREPARED BY:
R-SQUARED GLOBAL, LLC
1309 LOUISVILLE AVENUE, MONROE, LA 71201
318-323-6900 OFFICE

JOB No. R4097_001

VICINITY MAP



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OPERATOR: STEWARD ENERGY II, LLC
DESCRIPTION: 255' FNL & 325' FEL
ELEVATION: 3797'
LEASE: FRING FEDERAL
U.S.G.S. TOPOGRAPHIC MAP: PRAIRIEVIEW NE, NM,TX.

1 " = 1 MILE

R-SQUARED GLOBAL LLC

SHEET 3 OF 3

PREPARED BY:
R-SQUARED GLOBAL, LLC
1309 LOUISVILLE AVENUE, MONROE, LA 71201
318-323-6900 OFFICE
JOB No. R4097_001

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: Steward Energy II LLC **OGRID:** 371682 **Date:** 3/3/2022

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
Fring Federal 1H		L-23-13S-38E	255 FNL	300	300	3000
			325 FEL			

IV. Central Delivery Point Name: _____ [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
Fring Federal 1H		8/19/2022	8/29/2022	09/05/2022	n/a (no flowback)	9/26/2022

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:
Printed Name: Vanessa Lopez
Title: Senior Regulatory & Environmental Analyst
E-mail Address: vanessa.lopez@stewardenergy.net
Date: 3/3/2022
Phone: 214-297-0533

OIL CONSERVATION DIVISION **(Only applicable when submitted as a standalone form)**
Approved By:
Title:
Approval Date:
Conditions of Approval:

Natural Gas Management Plan - Attachment

VI. Separation equipment will be sized by engineering staff based on stated manufacturer daily throughput capacities and anticipated daily production rates to ensure adequate capacity. Closed vent system piping, compression needs, and VRUs will be sized utilizing modelling software to ensure adequate capacity for anticipated production volumes and conditions.

VII. Steward Energy II, LLC (SEII) will take the following actions to comply with the regulations listed in 19.15.27.8:

A. SEII will maximize the recovery of natural gas by minimizing the waste, as defined by 19.15.2 NMAC, of natural gas through venting and flaring. SEII will ensure that well(s) will be connected to a natural gas gathering system with sufficient capacity to transport natural gas. If there is no adequate takeaway for the gas, well(s) will be shut in until the natural gas gathering system is available.

B. All drilling operations will be equipped with a rig flare located at least 100' from the nearest surface hole. Rig flare will be utilized to combust any natural gas that is brought to surface during normal drilling operations. In the case of emergency venting or flaring the volumes will be estimated and reported appropriately.

C. During completion, SEII does not allow the well to flow during CO so there will be nothing to flare. Immediately following the finish of completion operations. Produced natural gas from separation equipment will be sent to sales. It is not anticipated that gas will not meet pipeline standards. However, if natural gas does not meet gathering pipeline quality specifications, SEII will flare the natural gas for 60 days or until the natural gas meets the pipeline quality specifications, whichever is sooner. SEII will ensure that the flare is sized properly and is equipped with automatic igniter or continuous pilot. The gas sample will be analyzed twice per week and the gas will be routed into a gathering system as soon as pipeline specifications are met.

D. Natural gas will not be flared with the exceptions and provisions listed in the 19.15.27.8 D.(I) through (4). If there is no adequate takeaway for the separator gas, well(s) will be shut in until the natural gas gathering system is available with exception of emergency or malfunction situations. Venting and/or flaring volumes will be estimated and reported appropriately.

E. SEII will comply with the performance standards requirements and provisions listed in 19.15.27.8 E.(I)through (8). All equipment will be designed and sized to handle maximum anticipated pressures and throughputs to minimize the waste. Production storage tanks constructed after May 25, 2021, will be equipped with automatic gauging system. Flares constructed after May 25, 2021, will be equipped with automatic igniter or continuous pilot. Flares will be located at least 100' from the well and storage tanks unless otherwise approved by the division. SEII will conduct AVO (LDAR) inspections as described in 19.15.27.8 E (5) (a) with frequencies specified in 19.15.27.8 E (5) (b) and (c). All emergencies will be resolved as quickly and safely as feasible to minimize waste.

F. The volume of natural gas that is vented or flared as the result of malfunction or emergency during drilling and completions operations will be estimated. The volume of natural gas that is vented, flared, or beneficially used during production operations, will be measured, or estimated. SEII will install equipment to measure the volume of natural gas flared from existing process piping, or a flowline piped from

equipment such as high-pressure separators, heater treaters, or vapor recovery units associated with a well or facility associated with a well authorized by an APD issued after May 25, 2021, that has an average daily production greater than 60 Mcf/day. If metering is not practicable due to circumstances such as low flow rate or low pressure venting and flaring, SEII will estimate the volume of vented or flared natural gas. Measuring equipment will conform to industry standards and will not be designed or equipped with a manifold that allows the diversion of natural gas around the metering element except for the sole purpose of inspecting and servicing the measurement equipment.

VIII. For maintenance activities involving production equipment and compression, venting will be limited to the depressurization of the subject equipment to ensure safe working conditions. For maintenance of production and compression equipment the associated producing wells will be shut in to eliminate venting. For maintenance of VRUs all gas normally routed to the VRU will be routed to flare to eliminate venting.

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

Drilling Plan Data Report
02/10/2022

APD ID: 10400071336
Submission Date: 04/16/2021
Operator Name: STEWARD ENERGY II LLC
Well Name: FRING FEDERAL
Well Number: 1H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
3249276	---	3797	0	0	OTHER : unconsolidated	NONE	N
7833267	RUSTLER	1649	2148	2167	ANHYDRITE	NONE	N
3249280	SALADO	1535	2262	2282	ANHYDRITE, LIMESTONE, SANDSTONE, SILTSTONE	NONE	N
3249282	CASTILE	948	2849	2879	ANHYDRITE	NONE	N
3249284	TANSILL	832	2965	2997	DOLOMITE, SANDSTONE	NATURAL GAS, OIL	N
3249287	YATES	746	3051	3084	DOLOMITE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
3249289	SEVEN RIVERS	488	3309	3346	DOLOMITE, GYPSUM, SANDSTONE, SHALE	NATURAL GAS, OIL	N
3249291	QUEEN	-46	3843	3883	ANHYDRITE, DOLOMITE, SANDSTONE	NATURAL GAS, OIL	N
3249293	GRAYBURG	-433	4230	4270	ANHYDRITE, DOLOMITE, SANDSTONE	NATURAL GAS, OIL	N
3249295	SAN ANDRES	-764	4561	4602	ANHYDRITE, DOLOMITE, SHALE	NATURAL GAS, OIL	Y
7833329	GLORIETA	-2253	6050	6050	ANHYDRITE, DOLOMITE, SHALE	NATURAL GAS, OIL	N

Section 2 - Blowout Prevention

Pressure Rating (PSI): 3M
Rating Depth: 6000

Equipment: 1000# Rotating Head -3000# Hydraulically Operated Annular Preventer -3000# Double Hydraulically Operated Rams with the Blind rams on bottom -3000# Mud Cross with 1 3000 psi Manually Operated 4-1/6 Valve, 1-3000 psi Manually Operated 2-1/16 Valve 1-3000 psi Check Valve
Requesting Variance? NO

Variance request:

Testing Procedure: After nipple up, we will test with rig pump to 1500 psi for 30 minutes on all components, including floor valves and choke manifold; Furthermore, we will function test on all bit trips; Weekly BOP drills will be preformed by each crew. These drills will be noted on the daily tour sheets and by electronic means as well.

Operator Name: STEWARD ENERGY II LLC

Well Name: FRING FEDERAL **Well Number:** 1H

Choke Diagram Attachment:

Norton_Rig_6_BOP_and_Choke_Manifold_10.29.21_20211122141243.pdf

BOP Diagram Attachment:

Norton_Rig_6_BOP_and_Choke_Manifold_10.29.21_20211122141256.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	12.25	9.625	NEW	API	N	0	2422	0	2400	3797	1397	2422	J-55	36	LT&C	1.76	3.28	BUOY	7.4	BUOY	7.4
2	PRODUCTION	8.75	7.0	NEW	API	Y	0	5600	0	5260	0	-1463	5600	L-80	29	BUTT	2.49	2.89	BUOY	2.79	BUOY	2.79
3	PRODUCTION	8.75	5.5	NEW	API	Y	5600	10884	5260	5223	-1463	-1426	5284	L-80	20	BUTT	3.17	3.22	BUOY	4.64	BUOY	4.64

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing_Design_Assumptions_20210331105705.pdf

Operator Name: STEWARD ENERGY II LLC

Well Name: FRING FEDERAL **Well Number:** 1H

Casing Attachments

Casing ID: 2 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

FringFederal_TaperedStringSpecSheet_3.31.21_20210331105727.pdf

Casing Design Assumptions and Worksheet(s):

Casing_Design_Assumptions_20210331105737.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

FringFederal_TaperedStringSpecSheet_3.31.21_20210331105755.pdf

Casing Design Assumptions and Worksheet(s):

Casing_Design_Assumptions_20210331105807.pdf

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	2422	830	1.67	12.8	1386		Class C	35/65 Poz
SURFACE	Tail		0	2422	275	1.33	14.8	366		Class C	none
PRODUCTION	Lead		0	4522	750	2.68	11.5	2010		Class C	50/50 Poz
PRODUCTION	Tail		4522	10884	2050	1.24	14.5	2542		Class H	50/50 Poz
PRODUCTION	Lead		0	4522	750	2.68	11.5	2010		Class C	50/50 Poz

Operator Name: STEWARD ENERGY II LLC

Well Name: FRING FEDERAL **Well Number:** 1H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Tail		4522	10884	2050	1.24	14.5	2542		Class H	50/50 Poz

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: The highest mud weight needed to balance formation is expected to be 10-11 ppg. Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept at the wellsite at all times.
Describe the mud monitoring system utilized: An electronic pit volume totalizer (PVT) will be utilized on the circulating system, to monitor pit volume, flow rate, pump pressure and stroke rate.

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
80	2422	OTHER : Fresh water	8.4	8.9							
2422	10884	SALT SATURATED	10	10.2							

Operator Name: STEWARD ENERGY II LLC

Well Name: FRING FEDERAL **Well Number:** 1H

Section 6 - Test, Logging, Coring

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

none

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

GAMMA RAY LOG,MEASUREMENT WHILE DRILLING,

Coring operation description for the well:

none

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 2200 **Anticipated Surface Pressure:** 1033

Anticipated Bottom Hole Temperature(F): 105

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:

Emergency_Response_Plan_Contingency_Plan_Steward_Energy_II_12.10.20_20210330122556.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Fring_Federal_1H_BLM_Plan_20210330122726.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Fring_Federal_1H_Mud_Program_20210330122737.pdf

Fring_Federal_1H___BLM___GeoProg_20210330122759.xlsx

Other Variance attachment:

Steward Energy II, LLC

DrilTech, LLC

Lea County, NM (NAD 83) NM East Zone
Fring Federal Site
Fring Federal #1H
Wellbore #1
BLM Plan

STEWARD ENERGY II

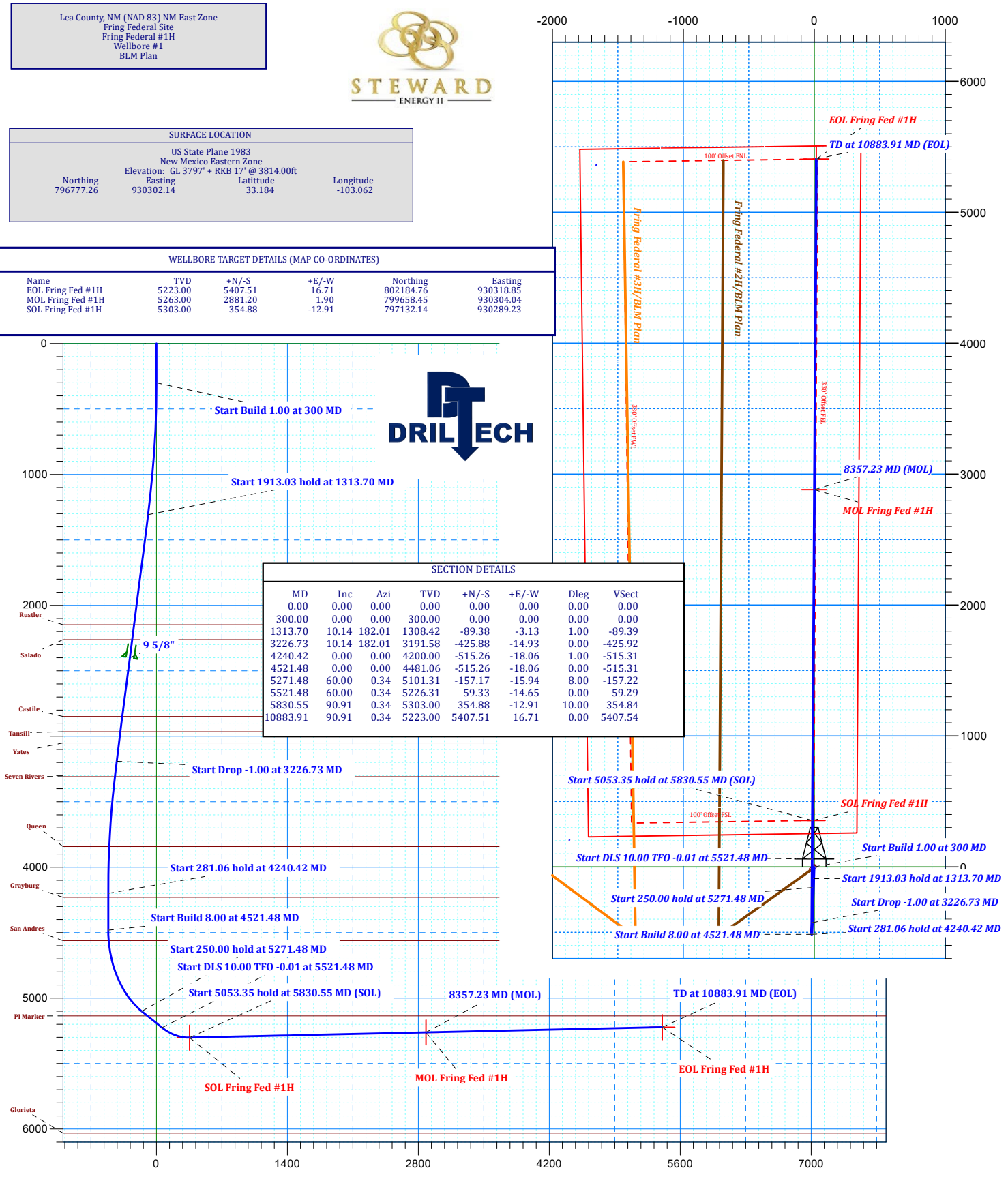
SURFACE LOCATION			
US State Plane 1983 New Mexico Eastern Zone Elevation: GL 3797' + RKB 17' @ 3814.00ft			
Northing	Easting	Latitude	Longitude
796777.26	930302.14	33.184	-103.062

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
EOL Fring Fed #1H	5223.00	5407.51	16.71	802184.76	930318.85
MOL Fring Fed #1H	5263.00	2881.20	1.90	799658.45	930304.04
SOL Fring Fed #1H	5303.00	354.88	-12.91	797132.14	930289.23

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00
1313.70	10.14	182.01	1308.42	-89.38	-3.13	1.00	-89.39
3226.73	10.14	182.01	3191.58	-425.88	-14.93	0.00	-425.92
4240.42	0.00	0.00	4200.00	-515.26	-18.06	1.00	-515.31
4521.48	0.00	0.00	4481.06	-515.26	-18.06	0.00	-515.31
5271.48	60.00	0.34	5101.31	-157.17	-15.94	8.00	-157.22
5521.48	60.00	0.34	5226.31	59.33	-14.65	0.00	59.29
5830.55	90.91	0.34	5303.00	354.88	-12.91	10.00	354.84
10883.91	90.91	0.34	5223.00	5407.51	16.71	0.00	5407.54



Steward Energy II, LLC

Lea County, NM (NAD 83) NM East Zone
Fring Federal Site
Fring Federal #1H

Wellbore #1

Plan: BLM Plan

Standard Planning Report

04 December, 2020

Planning Report

Database:	EDM	**Local Co-ordinate Reference:**	Well Fring Federal #1H
Company:	Steward Energy II, LLC	**TVD Reference:**	GL 3797' + RKB 17' @ 3814.00ft
Project:	Lea County, NM (NAD 83) NM East Zone	**MD Reference:**	GL 3797' + RKB 17' @ 3814.00ft
Site:	Fring Federal Site	**North Reference:**	Grid
Well:	Fring Federal #1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	BLM Plan		

Project Lea County, NM (NAD 83) NM East Zone

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

Site Fring Federal Site

Site Position:		**Northing:**	796,777.26 usft	**Latitude:**	33.184
From:	Map	**Easting:**	930,302.14 usft	**Longitude:**	-103.062
Position Uncertainty:	0.00 ft	**Slot Radius:**	13.200 in		

Well Fring Federal #1H

Well Position	**+N/-S**	0.00 ft	**Northing:**	796,777.26 usft	**Latitude:**	33.184
	+E/-W	0.00 ft	**Easting:**	930,302.14 usft	**Longitude:**	-103.062
Position Uncertainty		0.00 ft	**Wellhead Elevation:**	ft	**Ground Level:**	3,797.00 ft
Grid Convergence:		0.70 °				

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	11/9/2020	6.44	60.86	48,171.52025930

Design BLM Plan

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	0.18

Plan Survey Tool Program **Date** 12/4/2020

	Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	10,883.91	BLM Plan (Wellbore #1)	MWD	
				MWD - Standard	

Planning Report

Database:	EDM	**Local Co-ordinate Reference:**	Well Fring Federal #1H
Company:	Steward Energy II, LLC	**TVD Reference:**	GL 3797' + RKB 17' @ 3814.00ft
Project:	Lea County, NM (NAD 83) NM East Zone	**MD Reference:**	GL 3797' + RKB 17' @ 3814.00ft
Site:	Fring Federal Site	**North Reference:**	Grid
Well:	Fring Federal #1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	BLM Plan		

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,313.70	10.14	182.01	1,308.42	-89.38	-3.13	1.00	1.00	0.00	182.01	
3,226.73	10.14	182.01	3,191.58	-425.88	-14.93	0.00	0.00	0.00	0.00	
4,240.42	0.00	0.00	4,200.00	-515.26	-18.06	1.00	-1.00	0.00	180.00	
4,521.48	0.00	0.00	4,481.06	-515.26	-18.06	0.00	0.00	0.00	0.00	
5,271.48	60.00	0.34	5,101.31	-157.17	-15.94	8.00	8.00	0.00	0.34	
5,521.48	60.00	0.34	5,226.31	59.33	-14.65	0.00	0.00	0.00	0.00	
5,830.55	90.91	0.34	5,303.00	354.88	-12.91	10.00	10.00	0.00	-0.01	
10,883.91	90.91	0.34	5,223.00	5,407.51	16.71	0.00	0.00	0.00	0.00	EOL Fring Fed #1H

Planning Report

Database:	EDM	**Local Co-ordinate Reference:**	Well Fring Federal #1H
Company:	Steward Energy II, LLC	**TVD Reference:**	GL 3797' + RKB 17' @ 3814.00ft
Project:	Lea County, NM (NAD 83) NM East Zone	**MD Reference:**	GL 3797' + RKB 17' @ 3814.00ft
Site:	Fring Federal Site	**North Reference:**	Grid
Well:	Fring Federal #1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	BLM Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 1.00 at 300 MD									
400.00	1.00	182.01	399.99	-0.87	-0.03	-0.87	1.00	1.00	0.00
500.00	2.00	182.01	499.96	-3.49	-0.12	-3.49	1.00	1.00	0.00
600.00	3.00	182.01	599.86	-7.85	-0.28	-7.85	1.00	1.00	0.00
700.00	4.00	182.01	699.68	-13.95	-0.49	-13.95	1.00	1.00	0.00
800.00	5.00	182.01	799.37	-21.79	-0.76	-21.79	1.00	1.00	0.00
900.00	6.00	182.01	898.90	-31.37	-1.10	-31.37	1.00	1.00	0.00
1,000.00	7.00	182.01	998.26	-42.68	-1.50	-42.69	1.00	1.00	0.00
1,100.00	8.00	182.01	1,097.40	-55.73	-1.95	-55.73	1.00	1.00	0.00
1,200.00	9.00	182.01	1,196.30	-70.50	-2.47	-70.50	1.00	1.00	0.00
1,300.00	10.00	182.01	1,294.93	-86.99	-3.05	-87.00	1.00	1.00	0.00
1,313.70	10.14	182.01	1,308.42	-89.38	-3.13	-89.39	1.00	1.00	0.00
Start 1913.03 hold at 1313.70 MD									
1,400.00	10.14	182.01	1,393.37	-104.57	-3.67	-104.58	0.00	0.00	0.00
1,500.00	10.14	182.01	1,491.81	-122.15	-4.28	-122.17	0.00	0.00	0.00
1,600.00	10.14	182.01	1,590.25	-139.74	-4.90	-139.76	0.00	0.00	0.00
1,700.00	10.14	182.01	1,688.69	-157.33	-5.51	-157.35	0.00	0.00	0.00
1,800.00	10.14	182.01	1,787.13	-174.92	-6.13	-174.94	0.00	0.00	0.00
1,900.00	10.14	182.01	1,885.57	-192.51	-6.75	-192.53	0.00	0.00	0.00
2,000.00	10.14	182.01	1,984.01	-210.10	-7.36	-210.12	0.00	0.00	0.00
2,100.00	10.14	182.01	2,082.45	-227.69	-7.98	-227.71	0.00	0.00	0.00
2,166.59	10.14	182.01	2,148.00	-239.40	-8.39	-239.43	0.00	0.00	0.00
Rustler									
2,200.00	10.14	182.01	2,180.88	-245.28	-8.60	-245.31	0.00	0.00	0.00
2,282.40	10.14	182.01	2,262.00	-259.77	-9.11	-259.80	0.00	0.00	0.00
Salado									
2,300.00	10.14	182.01	2,279.32	-262.87	-9.21	-262.90	0.00	0.00	0.00
2,400.00	10.14	182.01	2,377.76	-280.46	-9.83	-280.49	0.00	0.00	0.00
2,422.59	10.14	182.01	2,400.00	-284.43	-9.97	-284.46	0.00	0.00	0.00
9 5/8"									
2,500.00	10.14	182.01	2,476.20	-298.05	-10.45	-298.08	0.00	0.00	0.00
2,600.00	10.14	182.01	2,574.64	-315.64	-11.06	-315.67	0.00	0.00	0.00
2,700.00	10.14	182.01	2,673.08	-333.23	-11.68	-333.26	0.00	0.00	0.00
2,800.00	10.14	182.01	2,771.52	-350.82	-12.30	-350.85	0.00	0.00	0.00
2,878.71	10.14	182.01	2,849.00	-364.66	-12.78	-364.70	0.00	0.00	0.00
Castile									
2,900.00	10.14	182.01	2,869.96	-368.41	-12.91	-368.44	0.00	0.00	0.00
2,996.55	10.14	182.01	2,965.00	-385.39	-13.51	-385.43	0.00	0.00	0.00
Tansill									
3,000.00	10.14	182.01	2,968.40	-386.00	-13.53	-386.04	0.00	0.00	0.00
3,083.91	10.14	182.01	3,051.00	-400.76	-14.05	-400.80	0.00	0.00	0.00
Yates									
3,100.00	10.14	182.01	3,066.84	-403.58	-14.15	-403.63	0.00	0.00	0.00
3,200.00	10.14	182.01	3,165.27	-421.17	-14.76	-421.22	0.00	0.00	0.00
3,226.73	10.14	182.01	3,191.58	-425.88	-14.93	-425.92	0.00	0.00	0.00
Start Drop -1.00 at 3226.73 MD									
3,300.00	9.40	182.01	3,263.79	-438.30	-15.36	-438.35	1.00	-1.00	0.00
3,345.79	8.95	182.01	3,309.00	-445.60	-15.62	-445.65	1.00	-1.00	0.00
Seven Rivers									

Planning Report

Database:	EDM	**Local Co-ordinate Reference:**	Well Fring Federal #1H
Company:	Steward Energy II, LLC	**TVD Reference:**	GL 3797' + RKB 17' @ 3814.00ft
Project:	Lea County, NM (NAD 83) NM East Zone	**MD Reference:**	GL 3797' + RKB 17' @ 3814.00ft
Site:	Fring Federal Site	**North Reference:**	Grid
Well:	Fring Federal #1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	BLM Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
3,400.00	8.40	182.01	3,362.59	-453.77	-15.90	-453.82	1.00	-1.00	0.00
3,500.00	7.40	182.01	3,461.64	-467.51	-16.39	-467.56	1.00	-1.00	0.00
3,600.00	6.40	182.01	3,560.91	-479.53	-16.81	-479.58	1.00	-1.00	0.00
3,700.00	5.40	182.01	3,660.38	-489.81	-17.17	-489.86	1.00	-1.00	0.00
3,800.00	4.40	182.01	3,760.01	-498.35	-17.47	-498.40	1.00	-1.00	0.00
3,883.19	3.57	182.01	3,843.00	-504.13	-17.67	-504.19	1.00	-1.00	0.00
Queen									
3,900.00	3.40	182.01	3,859.78	-505.16	-17.71	-505.21	1.00	-1.00	0.00
4,000.00	2.40	182.01	3,959.65	-510.22	-17.88	-510.27	1.00	-1.00	0.00
4,100.00	1.40	182.01	4,059.59	-513.54	-18.00	-513.59	1.00	-1.00	0.00
4,200.00	0.40	182.01	4,159.58	-515.12	-18.06	-515.17	1.00	-1.00	0.00
4,240.42	0.00	0.00	4,200.00	-515.26	-18.06	-515.31	1.00	-1.00	0.00
Start 281.06 hold at 4240.42 MD									
4,270.42	0.00	0.00	4,230.00	-515.26	-18.06	-515.31	0.00	0.00	0.00
Grayburg									
4,300.00	0.00	0.00	4,259.58	-515.26	-18.06	-515.31	0.00	0.00	0.00
4,400.00	0.00	0.00	4,359.58	-515.26	-18.06	-515.31	0.00	0.00	0.00
4,500.00	0.00	0.00	4,459.58	-515.26	-18.06	-515.31	0.00	0.00	0.00
4,521.48	0.00	0.00	4,481.06	-515.26	-18.06	-515.31	0.00	0.00	0.00
Start Build 8.00 at 4521.48 MD									
4,600.00	6.28	0.34	4,559.42	-510.96	-18.03	-511.01	8.00	8.00	0.00
4,601.59	6.41	0.34	4,561.00	-510.78	-18.03	-510.84	8.00	8.00	0.00
San Andres									
4,700.00	14.28	0.34	4,657.73	-493.13	-17.93	-493.18	8.00	8.00	0.00
4,800.00	22.28	0.34	4,752.61	-461.78	-17.74	-461.84	8.00	8.00	0.00
4,900.00	30.28	0.34	4,842.20	-417.54	-17.48	-417.60	8.00	8.00	0.00
5,000.00	38.28	0.34	4,924.76	-361.26	-17.15	-361.32	8.00	8.00	0.00
5,100.00	46.28	0.34	4,998.69	-294.04	-16.75	-294.09	8.00	8.00	0.00
5,200.00	54.28	0.34	5,062.54	-217.19	-16.29	-217.24	8.00	8.00	0.00
5,271.48	60.00	0.34	5,101.31	-157.17	-15.94	-157.22	8.00	8.00	0.00
Start 250.00 hold at 5271.48 MD									
5,300.00	60.00	0.34	5,115.56	-132.47	-15.79	-132.52	0.00	0.00	0.00
5,340.87	60.00	0.34	5,136.00	-97.08	-15.58	-97.12	0.00	0.00	0.00
PI Marker									
5,400.00	60.00	0.34	5,165.56	-45.87	-15.27	-45.92	0.00	0.00	0.00
5,500.00	60.00	0.34	5,215.56	40.73	-14.76	40.68	0.00	0.00	0.00
5,521.48	60.00	0.34	5,226.31	59.33	-14.65	59.29	0.00	0.00	0.00
Start DLS 10.00 TFO -0.01 at 5521.48 MD									
5,600.00	67.85	0.34	5,260.79	129.80	-14.23	129.76	10.00	10.00	0.00
5,700.00	77.85	0.34	5,290.24	225.24	-13.67	225.19	10.00	10.00	0.00
5,800.00	87.85	0.34	5,302.66	324.33	-13.09	324.29	10.00	10.00	0.00
5,830.55	90.91	0.34	5,303.00	354.88	-12.91	354.84	10.00	10.00	0.00
Start 5053.35 hold at 5830.55 MD (SOL)									
5,900.00	90.91	0.34	5,301.90	424.32	-12.50	424.27	0.00	0.00	0.00
6,000.00	90.91	0.34	5,300.31	524.30	-11.91	524.26	0.00	0.00	0.00
6,100.00	90.91	0.34	5,298.73	624.29	-11.33	624.25	0.00	0.00	0.00
6,200.00	90.91	0.34	5,297.15	724.27	-10.74	724.24	0.00	0.00	0.00
6,300.00	90.91	0.34	5,295.56	824.26	-10.16	824.22	0.00	0.00	0.00
6,400.00	90.91	0.34	5,293.98	924.24	-9.57	924.21	0.00	0.00	0.00
6,500.00	90.91	0.34	5,292.40	1,024.23	-8.98	1,024.20	0.00	0.00	0.00
6,600.00	90.91	0.34	5,290.81	1,124.22	-8.40	1,124.18	0.00	0.00	0.00
6,700.00	90.91	0.34	5,289.23	1,224.20	-7.81	1,224.17	0.00	0.00	0.00
6,800.00	90.91	0.34	5,287.65	1,324.19	-7.23	1,324.16	0.00	0.00	0.00

Planning Report

Database:	EDM	**Local Co-ordinate Reference:**	Well Fring Federal #1H
Company:	Steward Energy II, LLC	**TVD Reference:**	GL 3797' + RKB 17' @ 3814.00ft
Project:	Lea County, NM (NAD 83) NM East Zone	**MD Reference:**	GL 3797' + RKB 17' @ 3814.00ft
Site:	Fring Federal Site	**North Reference:**	Grid
Well:	Fring Federal #1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	BLM Plan		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,900.00	90.91	0.34	5,286.07	1,424.17	-6.64	1,424.15	0.00	0.00	0.00
7,000.00	90.91	0.34	5,284.48	1,524.16	-6.05	1,524.13	0.00	0.00	0.00
7,100.00	90.91	0.34	5,282.90	1,624.14	-5.47	1,624.12	0.00	0.00	0.00
7,200.00	90.91	0.34	5,281.32	1,724.13	-4.88	1,724.11	0.00	0.00	0.00
7,300.00	90.91	0.34	5,279.73	1,824.12	-4.30	1,824.09	0.00	0.00	0.00
7,400.00	90.91	0.34	5,278.15	1,924.10	-3.71	1,924.08	0.00	0.00	0.00
7,500.00	90.91	0.34	5,276.57	2,024.09	-3.12	2,024.07	0.00	0.00	0.00
7,600.00	90.91	0.34	5,274.98	2,124.07	-2.54	2,124.06	0.00	0.00	0.00
7,700.00	90.91	0.34	5,273.40	2,224.06	-1.95	2,224.04	0.00	0.00	0.00
7,800.00	90.91	0.34	5,271.82	2,324.04	-1.36	2,324.03	0.00	0.00	0.00
7,900.00	90.91	0.34	5,270.24	2,424.03	-0.78	2,424.02	0.00	0.00	0.00
8,000.00	90.91	0.34	5,268.65	2,524.02	-0.19	2,524.00	0.00	0.00	0.00
8,100.00	90.91	0.34	5,267.07	2,624.00	0.39	2,623.99	0.00	0.00	0.00
8,200.00	90.91	0.34	5,265.49	2,723.99	0.98	2,723.98	0.00	0.00	0.00
8,300.00	90.91	0.34	5,263.90	2,823.97	1.57	2,823.96	0.00	0.00	0.00
8,357.23	90.91	0.34	5,263.00	2,881.20	1.90	2,881.19	0.00	0.00	0.00
8357.23 MD (MOL)									
8,400.00	90.91	0.34	5,262.32	2,923.96	2.15	2,923.95	0.00	0.00	0.00
8,500.00	90.91	0.34	5,260.74	3,023.94	2.74	3,023.94	0.00	0.00	0.00
8,600.00	90.91	0.34	5,259.15	3,123.93	3.32	3,123.93	0.00	0.00	0.00
8,700.00	90.91	0.34	5,257.57	3,223.92	3.91	3,223.91	0.00	0.00	0.00
8,800.00	90.91	0.34	5,255.99	3,323.90	4.50	3,323.90	0.00	0.00	0.00
8,900.00	90.91	0.34	5,254.41	3,423.89	5.08	3,423.89	0.00	0.00	0.00
9,000.00	90.91	0.34	5,252.82	3,523.87	5.67	3,523.87	0.00	0.00	0.00
9,100.00	90.91	0.34	5,251.24	3,623.86	6.25	3,623.86	0.00	0.00	0.00
9,200.00	90.91	0.34	5,249.66	3,723.85	6.84	3,723.85	0.00	0.00	0.00
9,300.00	90.91	0.34	5,248.07	3,823.83	7.43	3,823.84	0.00	0.00	0.00
9,400.00	90.91	0.34	5,246.49	3,923.82	8.01	3,923.82	0.00	0.00	0.00
9,500.00	90.91	0.34	5,244.91	4,023.80	8.60	4,023.81	0.00	0.00	0.00
9,600.00	90.91	0.34	5,243.32	4,123.79	9.19	4,123.80	0.00	0.00	0.00
9,700.00	90.91	0.34	5,241.74	4,223.77	9.77	4,223.78	0.00	0.00	0.00
9,800.00	90.91	0.34	5,240.16	4,323.76	10.36	4,323.77	0.00	0.00	0.00
9,900.00	90.91	0.34	5,238.58	4,423.75	10.94	4,423.76	0.00	0.00	0.00
10,000.00	90.91	0.34	5,236.99	4,523.73	11.53	4,523.75	0.00	0.00	0.00
10,100.00	90.91	0.34	5,235.41	4,623.72	12.12	4,623.73	0.00	0.00	0.00
10,200.00	90.91	0.34	5,233.83	4,723.70	12.70	4,723.72	0.00	0.00	0.00
10,300.00	90.91	0.34	5,232.24	4,823.69	13.29	4,823.71	0.00	0.00	0.00
10,400.00	90.91	0.34	5,230.66	4,923.67	13.87	4,923.69	0.00	0.00	0.00
10,500.00	90.91	0.34	5,229.08	5,023.66	14.46	5,023.68	0.00	0.00	0.00
10,600.00	90.91	0.34	5,227.49	5,123.65	15.05	5,123.67	0.00	0.00	0.00
10,700.00	90.91	0.34	5,225.91	5,223.63	15.63	5,223.65	0.00	0.00	0.00
10,800.00	90.91	0.34	5,224.33	5,323.62	16.22	5,323.64	0.00	0.00	0.00
10,883.91	90.91	0.34	5,223.00	5,407.51	16.71	5,407.54	0.00	0.00	0.00
TD at 10883.91 MD (EOL)									

Planning Report

Database:	EDM	**Local Co-ordinate Reference:**	Well Fring Federal #1H
Company:	Steward Energy II, LLC	**TVD Reference:**	GL 3797' + RKB 17' @ 3814.00ft
Project:	Lea County, NM (NAD 83) NM East Zone	**MD Reference:**	GL 3797' + RKB 17' @ 3814.00ft
Site:	Fring Federal Site	**North Reference:**	Grid
Well:	Fring Federal #1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	BLM Plan		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
EOL Fring Fed #1H - plan hits target center - Point	0.00	0.00	5,223.00	5,407.51	16.71	802,184.76	930,318.85	33.199	-103.062
MOL Fring Fed #1H - plan hits target center - Point	0.00	0.00	5,263.00	2,881.20	1.90	799,658.45	930,304.04	33.192	-103.062
SOL Fring Fed #1H - plan misses target center by 0.01ft at 5830.56ft MD (5302.99 TVD, 354.88 N, -12.91 E) - Point	0.00	0.00	5,303.00	354.88	-12.91	797,132.14	930,289.23	33.185	-103.062

Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)
2,422.59	2,400.00	9 5/8"	9.625	12.250

Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,166.59	2,148.00	Rustler			
2,282.40	2,262.00	Salado			
2,878.71	2,849.00	Castile			
2,996.55	2,965.00	Tansill			
3,083.91	3,051.00	Yates			
3,345.79	3,309.00	Seven Rivers			
3,883.19	3,843.00	Queen			
4,270.42	4,230.00	Grayburg			
4,601.59	4,561.00	San Andres			
5,340.87	5,136.00	PI Marker			

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
300.00	300.00	0.00	0.00	Start Build 1.00 at 300 MD
1,313.70	1,308.42	-89.38	-3.13	Start 1913.03 hold at 1313.70 MD
3,226.73	3,191.58	-425.88	-14.93	Start Drop -1.00 at 3226.73 MD
4,240.42	4,200.00	-515.26	-18.06	Start 281.06 hold at 4240.42 MD
4,521.48	4,481.06	-515.26	-18.06	Start Build 8.00 at 4521.48 MD
5,271.48	5,101.31	-157.17	-15.94	Start 250.00 hold at 5271.48 MD
5,521.48	5,226.31	59.33	-14.65	Start DLS 10.00 TFO -0.01 at 5521.48 MD
5,830.55	5,303.00	354.88	-12.91	Start 5053.35 hold at 5830.55 MD (SOL)
8,357.23	5,263.00	2,881.20	1.90	8357.23 MD (MOL)
10,883.91	5,223.00	5,407.51	16.71	TD at 10883.91 MD (EOL)

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**STEWARD ENERGY II LLC**
LEASE NO.:	**NMLC064605A**
WELL NAME & NO.:	FRING FEDERAL 1H
SURFACE HOLE FOOTAGE:	255'/N & 325'/E
BOTTOM HOLE FOOTAGE	100'/N & 340'/E
LOCATION:	Section 23, T.13 S., R.38 E., NMPM
COUNTY:	LEA County, New Mexico

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

Casing Design:

1. The **9-5/8** inch surface casing shall be set at approximately **2,173 feet** (a minimum of **25 feet (Lea 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.

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b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **7 X 5 1/2** inch production casing is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above.

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office.

C. PRESSURE CONTROL

1.

a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.

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)

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☒ 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.

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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

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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.

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Drilling Fluids Proposal
Fring Federal 1H

Lea County, New Mexico

Well Data

Operator	**Steward Energy**
Well Name	**Fring Federal 1H**
Location	**Lea County, NM**
Max Anticipated Mud Weight	**10.2 ppg**
Estimated Days	**9**
Primary Formation Target	**San Andres**
Planned TD – MD/TVD	**10,883' / 5,223'**

Fluid System Overview

Depth	Fluid System	Anticipated MW	Potential Hazards	Solutions
80' – 2,400'	Fresh Water	8.4 – 8.9	Red Beds – Bit Balling	Native Oil – Nut plug Sweeps
2,400' – 10,883'	Brine	10.0 – 10.2	CO2 – Torque/Drag – Deviation	pH >9.5 Sweeps Lube as needed

12 1/4" Hole 40' – 2,400' ~ 9 5/8" Casing

Surface Interval Drilling Fluid Properties & Discussion
Fluid System: Freshwater & Bentonite Sweeps

Interval Depth (ft)	Mud Weight (ppg)	Funnel Viscosity (Sec/qt)	pH (value)	Yield Point (lb/100ft²)	API Fluid Loss (cc/30min)	Cl ppm	LGS (%)
40' – 2,400'	8.4-8.9	28-32	9.5-10.0	1-6	N/C	<3K	<5

- Spud in drilling with closed loop system through rig pits with fresh water
- Sweep hole every 300'or as hole dictates with pre-hydrated **Bentonite** sweeps
- Gradual mud up will occur, run fresh water at the suction for volume and solids contro
- If bit balling becomes an issue, **SAPP Sticks** are recommended as well as 5-7 lbs/bbl **Nut Plug M** in sweeps
- Add 2-3 quarts **Basin Fluids PHPA** down the drill pipe on connections for additional hole cleaning and clay inhibition as needed

- **Sweeps-** recommend using **50-60** bbls of **80-90 sec/qt** viscosity **pre-hydrated Bentonite** sweep to ensure proper hole cleaning. Sweeps should be built utilizing 1-2 lbs/bbl **Soda Ash** to reduce hardness and **Bentonite** for viscosity.

- 1-2 **SAPP Sticks** in the drill pipe on connections as needed and 5-7 lb/bbl **Nut Plug M** can be added to sweeps to aid in the reduction of bit balling if needed

- Upon reaching interval TD, pump a 80-100 bbl high viscosity (80 – 90 sec/qt) pre-hydrated **Bentonite** sweep. Monitor shakers and circulate until clean prior to pulling out for casing run

Interval Objectives

The surface section will be drilled utilizing a Fresh Water system with Bentonite sweeps to clean the wellbore. Hole cleaning may become a factor in the success and drilling performance of this hole section due to the cuttings volume generated. High viscosity **Bentonite** sweeps should be pumped as necessary to ensure hole cleaning. 50-60 bbls every 300' should be sufficient to clean hole, however, sweeps may need to be increased if shakers do not show sufficient cuttings removal.

It is imperative to closely monitor cuttings volume/size at shakers. The cuttings trend will indicate down hole conditions and will allow for proper adjustments in sweep frequency.

Prior to trips, circulate a hi-vis sweep followed by a minimum of two bottoms up. Once the shakers have cleaned up, trip out and monitor hole conditions.

Maintenance Considerations

Bit/BHA Balling: Bit/BHA balling due to hydrophilic shales/clays may occur in this interval as could unconsolidated sand packages. If encountered, agglomerations of these shales and clays could result in packing-off/forcing fluid into upper hole formations due to reduction(s) in hydraulic diameters. The use of **Soap Sticks** and/or **SAPP Sticks** dropped down the DP on connections should be sufficient to mitigate this issue. Sweeps consisting of pre-hydrated **Bentonite** and 5-7 lb/bbl of **Nut Plug Medium** may also be required.

- **Lost Circulation**: Lost circulation may be encountered. If seepage/severe losses occur, vis up 30-50 bbl of fresh water with **Bentonite** to ~45 sec/qt viscosity and add 5 lb/bbl **Drilling Paper** and **5-7 lb/bbl Fiber Seal.** Fluids Advisor on location will adjust LCM treatment as needed

Primary Products and Functions

Product	Description	Function
SAPP / Soap Sticks	Dispersant / Surfactant	Bit Balling Prevention
Soda Ash	Sodium Carbonate	Calcium Precipitant
Basin Fluids Poly-55	Flocculent	Viscosifier/Encapsulator
Nut Plug M	Pecan Shell LCM	LCM / Bit Balling Prevention
Bentonite Gel	Bentonite	Viscosifier/Fluid Loss Control

8 3/4" Hole 2,400' – 10,883' ~ 5 1/2" x 7" Casing

Production Interval Drilling Fluid Properties & Discussion
Fluid System: Brine w/ Salt Gel – Xan D sweeps

Interval Depth (ft)	Mud Weight (ppg)	Funnel Viscosity (Sec/qt)	pH (value)	Yield Point (lb/100ft²)	API Fluid Loss (cc/30min)	Cl (mg/L)	LGS (%)
2,400'- 10,883'	10.0 – 10.2	28 – 34	9.5 – 10.5	1-6	N/C	160-185k	<6

- Drill out with closed loop system through rig pits using 10.0 ppg Brine fluid
- Build and maintain a pH of 9.5-10.5 with additions of **Caustic Soda**
- Sweep hole every 300' – 400' or as hole dictates with combination **Salt Gel/Xanthan Gum** sweeps
- After landing curve, sweeps should be **Xanthan Gum only.**
- Solids Control will be necessary for close loop system to maintain mud weight and LGS%. Recommend a centrifuge and maintaining finest screens flow will allow on shakers.
- Add 1-2 quarts **Basin Fluids PHPA** down the drill pipe on connections as needed for additional hole cleaning and shale stabilization
- If Torque and Drag become problematic, additions of **Graphite** to sweeps may help.
- If Torque and Drag issues continue, additions of **Basin LLX lube** or **Onyx Lube King** in sweeps at 2-4% should be pumped with **Xanthan Gum** only sweeps

- **Sweeps-** recommend using **40-50 bbls** of **80-90 sec/qt** viscosity. Mix 10-12 lb/bbl **Salt Gel** and .25-.5 lb/bbl **Xanthan Gum.** Pump every 300' – 400' or as hole dictates. If Torque and Drag become an issue, add 2 – 4 lb/bbl **Graphite** to sweeps.

- **Lube additions** – If Torque and Drag continue to be an issue, Basin Fluids recommends a clean up cycle prior to making lube additions. If clean up cycle doesn't alleviate issues, build 50 bbl lube pill with .25 lb/bbl **Xanthan Gum** and mix 4% by volume of **Basin LLX or Onyx Lube King.** Pump lube pill and monitor hole for Torque and Drag improvements. Pump lube pills as needed when Torque and Drag increase.

- Upon reaching interval TD, pump a 80-100 bbl high viscosity (80 – 90 sec/qt) pre-hydrated **Salt Gel / Xanthan Gum** sweep. Monitor shakers and circulate until clean prior to pulling out for casing run

Interval Objectives

This section will be drilled utilizing Brine with Salt Gel/Xanthan Gum sweeps to clean the wellbore. Hole cleaning may become a factor in the success and drilling performance of this hole section due to the cuttings volume generated. High viscosity **Salt Gel/Xanthan Gum** sweeps should be pumped as necessary to ensure hole cleaning. 40-50 bbls hi-vis per 400' should be sufficient to clean hole, however, sweeps may need to be increased if shakers do not show sufficient cuttings.

Minimize the build-up of LGS to <6% by utilizing the solids control equipment on location. If dewatering operations are an option it is recommended. Screen up the shakers as tight as flow allows.

It is imperative to closely monitor cuttings volume/size at shakers. The cuttings trend will indicate down hole conditions and will allow for proper adjustments in sweep frequency.

Prior to trips, circulate a hi-vis sweep followed by a minimum of two bottoms up. Once the shakers have cleaned up, trip out and monitor hole conditions.

Maintenance Considerations

- **Lost Circulation**: Lost circulation may be encountered. If seepage/severe losses occur, vis up 30-50 bbl LCM sweeps with **5 lb/bbl No Bull, 5 lb/bbl Fiber Seal, 5 lb/bbl Pecan Hulls Med.** Fluids Advisor on location will adjust LCM treatment as needed
- **Maintain pH at 9.5 – 10.5:** Use **Caustic Soda** to maintain pH for corrosion inhibition.

Primary Products and Functions

Product	Description	Function
Caustic Soda	Caustic Soda	Alkalinity Control
Graphite	Graphite	Lubricant
Xanthan Gum	Xanthan Gum	Viscosifer
Basin Fluids PHPA	Inhibitor	Inhibitor/Encapsulator
Salt Gel	Attapulgite	Viscosifier
No Bull	Mixed fibrous material	Lost circulation Material
Basin MLX	Drilling Lube	Lubrication
Pecan Hulls Med	Med grind pecan hulls	Lost circulation Material

Date: 03-December-2020

*** PRELIM ***

Geological Well Prognosis

Fring Federal #1H *(San Andres - Horizontal)*

DDPlan: *DrilTech BLM Plan*

Geologist: Rob Weyman / Shane Seals
Office: 214-297-0518 / 214-297-0513
Cell: 214-384-5027 / 214-492-3636
Home: 214-750-1599 / NA
Email: rob.weyman@stewardenergy.net
Email: shane.seals@stewardenergy.net

API# : 30-025-xxxxx **NMOCD :** DISTRICT IV **PERMIT :** xxxxxx

FIELD : Bronco, S (San Andres) **COUNTY :** Lea **STATE :** New Mexico **TOTAL DEPTH :** 10,884 ' MD // 5,223 ' TVD

ELEVATION : GL = 3797 ' **KB =** 17 ' **TOTAL =** 3814 ' **LAT =** N33.184 **LONG =** W103.062

SHL : 255 ' FNL & 325 ' FEL of Section 23, Lot 1, T13S-R38E **X= 930302** **Y= 796777 (NAD 83 \\ NMEZ)**

> Start of Lateral (SOL) : SHL Departure (+N / -S) : + 355 ' (+E / -W) : - 13 ' X= 930289 Y= 797132 (NAD 83 \\ NMEZ)

> Middle of Lateral (MOL) : SHL Departure (+N / -S) : + 2881 ' (+E / -W) : + 2 ' X= 930304 Y= 799658 (NAD 83 \\ NMEZ)

> End of Lateral (EOL) : SHL Departure (+N / -S) : + 5408 ' (+E / -W) : + 17 ' X= 930319 Y= 802185 (NAD 83 \\ NMEZ)

BHL : 100 ' FNL & 340 ' FEL of Section 14, Lot 1, T13S-R38E **X= 930319** **Y= 802185 (NAD 83 \\ NMEZ)**

LATERAL : Medium Radius **AZM :** N 0.34 º E (0.34 º) **INCLINATION :** BUILD 8 º *then* 10 º / 100 ' HOLD 90 - 91 º **VS :** 5,408 '

RIG : Norton Energy #6 - Mike / Terry @ xxx-xxx-xxxx **SUPERVISION :** Hardline Consulting - Doug @ 432-425-9131

PRIMARY OBJECTIVE : San Andres (Lower) ***TARGET WINDOW U / D LIMITS :*** *10 ' / 4 '*

DRILLING HAZARDS : Red beds, shale sloughing and salt from 300 to 3000 '. Potential shallow water flows prior to Grayburg. Trace minerals like chert and pyrite.

VERTICAL LOGGING : None

HORIZONTAL LOGGING : DrilTech - (Houston: Chris @ 713-201-0225) || ***MWD / GRay : Send 5" tvd & md pdf-file logs at K-O-P and then at every survey***
Directional Drillers - (Day: Wayne @ 601-810-7901 / Night: Brad @ 318-542-1527) || MWD Operators - (Day: Kevin @ 337-329-0877 / Night: Dusty @ 337-247-4310)
Scales: Gamma Ray=0 to 100 / ROP=0 to 250 / Temp=0 to 200 / PASON Gas Detection System=0 to 1000

CORING / TESTING : None

MUDLOG : None

FORMATION TOPS

WELL SITE						CORRELATION LOG RA Cox Heirs #1 - Sec 523 (TX)		
Fring Federal #1H	***KB =***	***3814***				KB =	3802	
FORMATION	**TVD**	**Subsea**	**MDepth**	**VSection**	**Lithology**	**MDepth**	**Subsea**	**H**
Rustler	2148	1666	2167	-239	anhy	2253	1549	114
Salado	2262	1552	2282	-260	anhy / sltst / ss / ls	2367	1435	587
Surface Casing 9 5/8"	***2400***	***1414***	***2423***	***-284***	red sh / anhy / ss	*****	*****	*****
Castile	2849	965	2879	-365	anhy	2954	848	116
Tansill	2965	849	2997	-385	dol / ss	3070	732	86
Yates	3051	763	3084	-401	ss / dol / sh	3156	646	258
Seven Rivers	3309	505	3346	-446	gyp / ss / sh / dol	3414	388	534
Queen	3843	-29	3883	-504	ss / dol / anhy	3948	-146	387
Grayburg	4230	-416	4270	-515	dol / anhy / ss	4335	-533	331
Kick - Off - Point	***4481***	***-667***	***4521***	***-515***	dol / anhy / sh	*****	*****	*****
San Andres	4561	-747	4602	-511	dol / anhy / sh	4666	-864	575
PI Marker	5136	-1322	5341	-97	dol / anhy / sh / pyr	5241	-1439	896
> SOL - CenterLine Target	***5303***	***-1489***	***5831***	***355***	***dol / anhy / sh / pyr / chert***	***5408***	***-1606***	***167***
> MOL - CenterLine Target	***5263***	***-1449***	***8357***	***2881***	***dol / anhy / sh / pyr / chert***	***5408***	***-1606***	***167***
> EOL - CenterLine Target	***5223***	***-1409***	***10884***	***5408***	***dol / anhy / sh / pyr / chert***	***5408***	***-1606***	***167***
Glorieta	6032	-2218	*****	*****	*****	6137	-2335	*****
Production Casing 5 1/2"			***10884***					

COMMENTS: The San Andres is a dolomitic-limestone that is composed of porosity zones which can be bounded by anhydrite stringers that create porosity or permeability barriers. These zones indicate fairly good porosity, but with very low permeability that must be stimulated for optimum production. The Lower San Andres is the primary interval of interest.

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 120012

CONDITIONS

Operator: STEWARD ENERGY II, LLC 2600 Dallas Parkway Frisco, TX 75034	OGRID: 371682
	Action Number: 120012
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	6/24/2022
pkautz	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	6/24/2022
pkautz	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	6/24/2022
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	6/24/2022