

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

Form C-101
August 1, 2011

Permit 327569

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

1. Operator Name and Address STEWARD ENERGY II, LLC 2600 Dallas Parkway Frisco, TX 75034		2. OGRID Number 371682
		3. API Number 30-025-50754
4. Property Code 333474	5. Property Name GRAY MATTER FEE	6. Well No. 002H

7. Surface Location

UL - Lot O	Section 21	Township 13S	Range 38E	Lot Idn O	Feet From 356	N/S Line S	Feet From 2453	E/W Line E	County Lea
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8. Proposed Bottom Hole Location

UL - Lot P	Section 28	Township 13S	Range 38E	Lot Idn P	Feet From 100	N/S Line S	Feet From 13200	E/W Line E	County Lea
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9. Pool Information

BRONCO;SAN ANDRES, SOUTH	7500
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Additional Well Information

11. Work Type New Well	12. Well Type OIL	13. Cable/Rotary	14. Lease Type Private	15. Ground Level Elevation 3814
16. Multiple N	17. Proposed Depth 11111	18. Formation San Andres Formation	19. Contractor	20. Spud Date 11/11/2022
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	12.25	9.625	36	2500	855	0
Prod	8.75	7	29	5660	0	0
Prod	8.75	5.5	20	11000	2800	0

Casing/Cement Program: Additional Comments

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22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Annular	3000	1500	SCHAFER
Double Ram	3000	1500	SCHAFER

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief.
I further certify I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒ if applicable.

OIL CONSERVATION DIVISION

Signature:

Printed Name: Electronically filed by Scott Stedman	Approved By: Paul F Kautz
Title: Executive Vice President	Title: Geologist
Email Address: scott.stedman@stewardenergy.net	Approved Date: 10/21/2022
Date: 10/18/2022	Phone: 214-297-0514
Conditions of Approval Attached	

Expiration Date: 10/21/2024

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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 30-025-50754	² Pool Code 7500	³ Pool Name BRONCO;SAN ANDRES
⁴ Property Code 333474	⁵ Property Name GRAY MATTER FEE	⁶ Well Number 2H
⁷ OGRID No. 371682	⁸ Operator Name STEWARD ENERGY II, LLC	⁹ Elevation 3814'

¹⁰ Surface Location

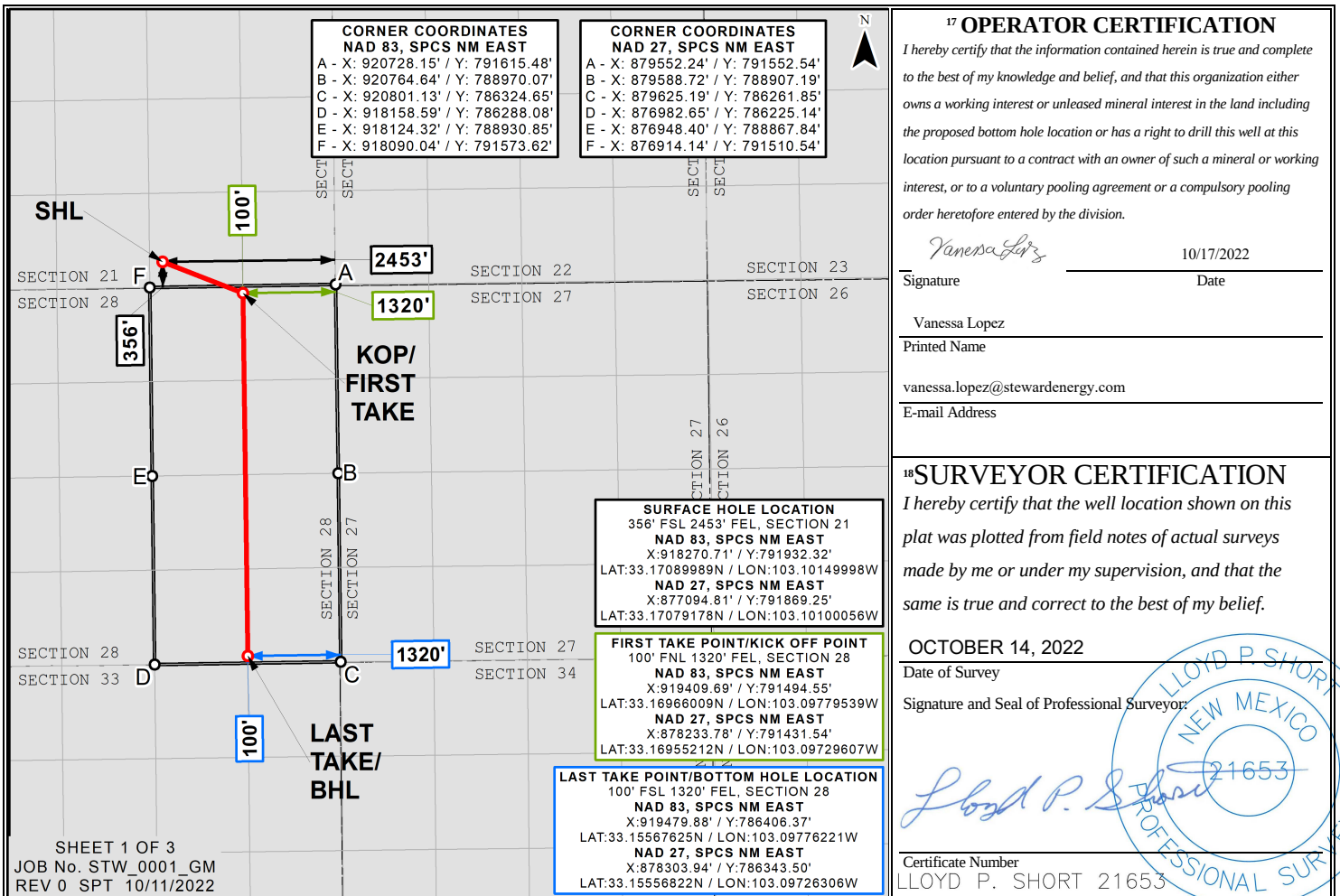
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	21	13S	38E		356	SOUTH	2453	EAST	LEA

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
P	28	13S	38E		100	SOUTH	1320	EAST	LEA

¹² Dedicated Acres 320.0	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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.



Distances/areas relative to NAD 83 Combined Scale Factor: 0.99977704 Convergence Angle: 0°16'56.580"

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

Form APD Comments

Permit 327569

PERMIT COMMENTS

Operator Name and Address: STEWARD ENERGY II, LLC [371682] 2600 Dallas Parkway Frisco, TX 75034		API Number: 30-025-50754
		Well: GRAY MATTER FEE #002H
Created By	Comment	Comment Date
vlopez	TAPPERED PRODUCTION CASING- CEMENT ON EVERY STRING	10/18/2022

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Oil Conservation Division
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Form APD Conditions

Permit 327569

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: STEWARD ENERGY II, LLC [371682] 2600 Dallas Parkway Frisco, TX 75034	API Number: 30-025-50754
	Well: GRAY MATTER FEE #002H

OCD Reviewer	Condition
pkautz	Notify OCD 24 hours prior to casing & cement
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104
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
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
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing
pkautz	The Operator is to notify NMOCD by sundry (Form C-103) within ten (10) days of the well being spud

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:** 10/18/2022

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
Gray Matter Fee 2H		O-21-13S-38E	356' FSL	500	100	350
			2453' 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
Gray Matter Fee 2H		11/11/2022	11/21/2022	11/27/2022	n/a (no flowback)	12/15/2022

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 Analyst
E-mail Address: vanessa.lopez@stewardenergy.com
Date: 10/18/2022
Phone: 214-297-0500
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.

Steward Energy II, LLC

DrilTech, LLC

Lea County, NM (NAD 83) NM East Zone
Gray Matter Fee
Gray Matter Fee 2H
Wellbore #1
Plan #1

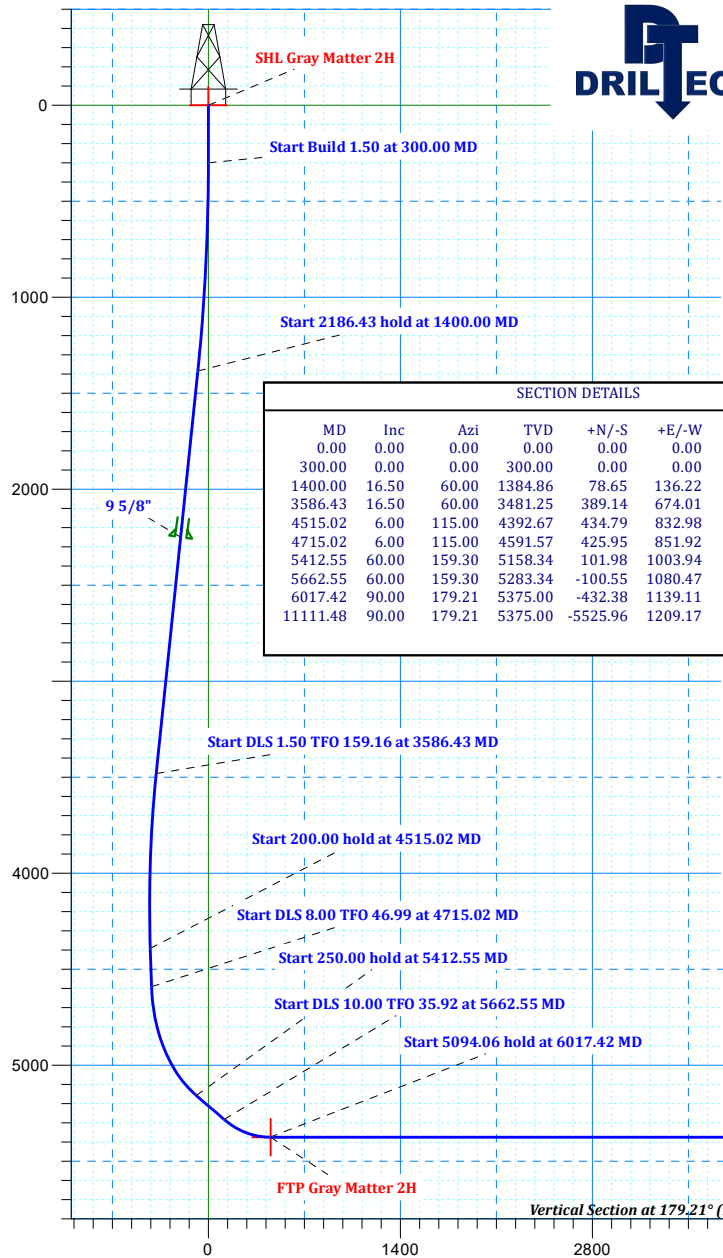


SURFACE LOCATION

US State Plane 1983
New Mexico Eastern Zone
Elevation: Rig Floor @ 3833.00ft
Northing 791932.32 Easting 918270.71
Latitude 33.171°N Longitude 103.101°W

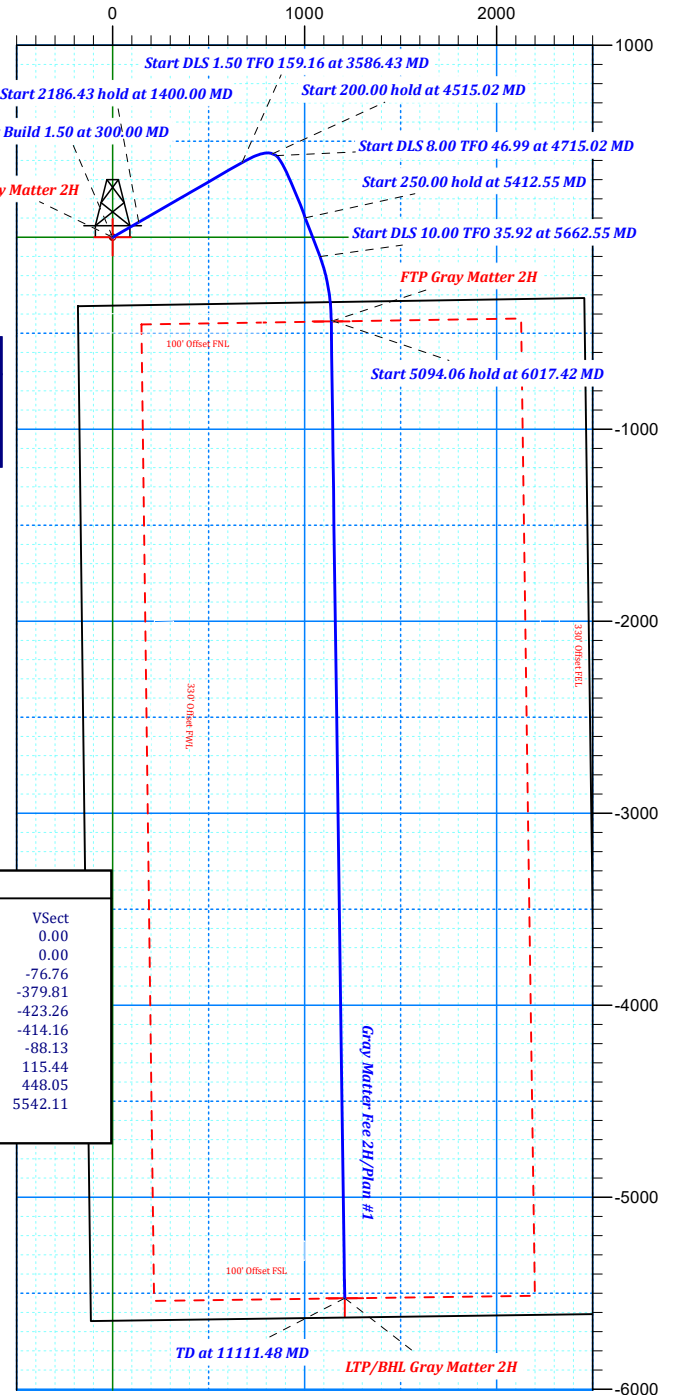
WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
SHL Gray Matter 2H	0.00	0.00	0.00	791932.32	918270.71
FTP Gray Matter 2H	5375.00	-437.77	1138.98	791494.55	919409.69
LTP/BHL Gray Matter 2H	5375.00	-5525.96	1209.17	786406.37	919479.88



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
1400.00	16.50	60.00	1384.86	78.65	136.22	1.50	-76.76
3586.43	16.50	60.00	3481.25	389.14	674.01	0.00	-379.81
4515.02	6.00	115.00	4392.67	434.79	832.98	1.50	-423.26
4715.02	6.00	115.00	4591.57	425.95	851.92	0.00	-414.16
5412.55	60.00	159.30	5158.34	101.98	1003.94	8.00	-88.13
5662.55	60.00	159.30	5283.34	-100.55	1080.47	0.00	115.44
6017.42	90.00	179.21	5375.00	-432.38	1139.11	10.00	448.05
11111.48	90.00	179.21	5375.00	-5525.96	1209.17	0.00	5542.11



Steward Energy II, LLC

Lea County, NM (NAD 83) NM East Zone

Gray Matter Fee

Gray Matter Fee 2H

Wellbore #1

Plan: Plan #1

Standard Planning Report

11 October, 2022

Planning Report

Database:	edmdb	Local Co-ordinate Reference:	Well Gray Matter Fee 2H
Company:	Steward Energy II, LLC	TVD Reference:	Rig Floor @ 3833.00ft
Project:	Lea County, NM (NAD 83) NM East Zone	MD Reference:	Rig Floor @ 3833.00ft
Site:	Gray Matter Fee	North Reference:	Grid
Well:	Gray Matter Fee 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

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	Gray Matter Fee				
Site Position:		Northing:	791,932.32 usft	Latitude:	33.171°N
From:	Map	Easting:	918,270.71 usft	Longitude:	103.101°W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in		

Well	Gray Matter Fee 2H					
Well Position	+N/-S	0.00 ft	Northing:	791,932.32 usft	Latitude:	33.171°N
	+E/-W	0.00 ft	Easting:	918,270.71 usft	Longitude:	103.101°W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	3,814.00 ft
Grid Convergence:		0.67 °				

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	10/10/2022	6.24	60.78	47,958.12476634

Design	Plan #1				
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	179.21	

Plan Survey Tool Program	Date	10/11/2022			
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	11,111.40	Plan #1 (Wellbore #1)	MWD	
			MWD - Standard		

Planning Report

Database:	edmdb	Local Co-ordinate Reference:	Well Gray Matter Fee 2H
Company:	Steward Energy II, LLC	TVD Reference:	Rig Floor @ 3833.00ft
Project:	Lea County, NM (NAD 83) NM East Zone	MD Reference:	Rig Floor @ 3833.00ft
Site:	Gray Matter Fee	North Reference:	Grid
Well:	Gray Matter Fee 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

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	
1,400.00	16.50	60.00	1,384.86	78.65	136.22	1.50	1.50	0.00	60.00	
3,586.43	16.50	60.00	3,481.25	389.14	674.01	0.00	0.00	0.00	0.00	
4,515.02	6.00	115.00	4,392.67	434.79	832.98	1.50	-1.13	5.92	159.16	
4,715.02	6.00	115.00	4,591.57	425.95	851.92	0.00	0.00	0.00	0.00	
5,412.55	60.00	159.30	5,158.34	101.98	1,003.94	8.00	7.74	6.35	46.99	
5,662.55	60.00	159.30	5,283.34	-100.55	1,080.47	0.00	0.00	0.00	0.00	
6,017.42	90.00	179.21	5,375.00	-432.38	1,139.11	10.00	8.45	5.61	35.92	
11,111.48	90.00	179.21	5,375.00	-5,525.96	1,209.17	0.00	0.00	0.00	0.00	LTP/BHL Gray Matter

Planning Report

Database:	edmdb	Local Co-ordinate Reference:	Well Gray Matter Fee 2H
Company:	Steward Energy II, LLC	TVD Reference:	Rig Floor @ 3833.00ft
Project:	Lea County, NM (NAD 83) NM East Zone	MD Reference:	Rig Floor @ 3833.00ft
Site:	Gray Matter Fee	North Reference:	Grid
Well:	Gray Matter Fee 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

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 1.50 at 300.00 MD									
400.00	1.50	60.00	399.99	0.65	1.13	-0.64	1.50	1.50	0.00
500.00	3.00	60.00	499.91	2.62	4.53	-2.55	1.50	1.50	0.00
600.00	4.50	60.00	599.69	5.89	10.20	-5.75	1.50	1.50	0.00
700.00	6.00	60.00	699.27	10.46	18.12	-10.21	1.50	1.50	0.00
800.00	7.50	60.00	798.57	16.34	28.30	-15.95	1.50	1.50	0.00
900.00	9.00	60.00	897.54	23.51	40.73	-22.95	1.50	1.50	0.00
1,000.00	10.50	60.00	996.09	31.98	55.39	-31.21	1.50	1.50	0.00
1,100.00	12.00	60.00	1,094.16	41.74	72.29	-40.73	1.50	1.50	0.00
1,200.00	13.50	60.00	1,191.70	52.77	91.40	-51.50	1.50	1.50	0.00
1,300.00	15.00	60.00	1,288.62	65.08	112.72	-63.52	1.50	1.50	0.00
1,400.00	16.50	60.00	1,384.86	78.65	136.22	-76.76	1.50	1.50	0.00
Start 2186.43 hold at 1400.00 MD									
1,500.00	16.50	60.00	1,480.74	92.85	160.82	-90.62	0.00	0.00	0.00
1,600.00	16.50	60.00	1,576.62	107.05	185.42	-104.48	0.00	0.00	0.00
1,700.00	16.50	60.00	1,672.50	121.25	210.01	-118.34	0.00	0.00	0.00
1,800.00	16.50	60.00	1,768.39	135.45	234.61	-132.20	0.00	0.00	0.00
1,900.00	16.50	60.00	1,864.27	149.65	259.21	-146.06	0.00	0.00	0.00
2,000.00	16.50	60.00	1,960.15	163.85	283.80	-159.92	0.00	0.00	0.00
2,100.00	16.50	60.00	2,056.03	178.05	308.40	-173.78	0.00	0.00	0.00
2,200.00	16.50	60.00	2,151.91	192.25	332.99	-187.65	0.00	0.00	0.00
2,300.00	16.50	60.00	2,247.80	206.46	357.59	-201.51	0.00	0.00	0.00
2,302.30	16.50	60.00	2,250.00	206.78	358.16	-201.82	0.00	0.00	0.00
9 5/8"									
2,400.00	16.50	60.00	2,343.68	220.66	382.19	-215.37	0.00	0.00	0.00
2,500.00	16.50	60.00	2,439.56	234.86	406.78	-229.23	0.00	0.00	0.00
2,600.00	16.50	60.00	2,535.44	249.06	431.38	-243.09	0.00	0.00	0.00
2,700.00	16.50	60.00	2,631.32	263.26	455.98	-256.95	0.00	0.00	0.00
2,800.00	16.50	60.00	2,727.21	277.46	480.57	-270.81	0.00	0.00	0.00
2,900.00	16.50	60.00	2,823.09	291.66	505.17	-284.67	0.00	0.00	0.00
3,000.00	16.50	60.00	2,918.97	305.86	529.77	-298.53	0.00	0.00	0.00
3,100.00	16.50	60.00	3,014.85	320.06	554.36	-312.39	0.00	0.00	0.00
3,200.00	16.50	60.00	3,110.73	334.26	578.96	-326.25	0.00	0.00	0.00
3,300.00	16.50	60.00	3,206.62	348.46	603.56	-340.11	0.00	0.00	0.00
3,400.00	16.50	60.00	3,302.50	362.66	628.15	-353.97	0.00	0.00	0.00
3,500.00	16.50	60.00	3,398.38	376.86	652.75	-367.83	0.00	0.00	0.00
3,586.43	16.50	60.00	3,481.25	389.14	674.01	-379.81	0.00	0.00	0.00
Start DLS 1.50 TFO 159.16 at 3586.43 MD									
3,600.00	16.31	60.26	3,494.27	391.05	677.33	-381.67	1.50	-1.40	1.90
3,700.00	14.92	62.35	3,590.58	403.99	700.93	-394.28	1.50	-1.39	2.10
3,800.00	13.55	64.87	3,687.50	414.94	722.94	-404.93	1.50	-1.37	2.51
3,900.00	12.22	67.92	3,784.99	423.89	743.35	-413.60	1.50	-1.34	3.06
4,000.00	10.92	71.71	3,882.95	430.84	762.15	-420.29	1.50	-1.29	3.78
4,100.00	9.68	76.47	3,981.34	435.78	779.33	-425.00	1.50	-1.24	4.76
4,200.00	8.53	82.55	4,080.08	438.72	794.86	-427.71	1.50	-1.15	6.08
4,300.00	7.50	90.39	4,179.10	439.63	808.75	-428.44	1.50	-1.03	7.84
4,400.00	6.65	100.46	4,278.34	438.54	820.97	-427.18	1.50	-0.85	10.06
4,500.00	6.06	112.94	4,377.73	435.43	831.53	-423.92	1.50	-0.59	12.48
4,515.02	6.00	115.00	4,392.67	434.79	832.98	-423.26	1.50	-0.41	13.73
Start 200.00 hold at 4515.02 MD									

Planning Report

Database:	edmdb	Local Co-ordinate Reference:	Well Gray Matter Fee 2H
Company:	Steward Energy II, LLC	TVD Reference:	Rig Floor @ 3833.00ft
Project:	Lea County, NM (NAD 83) NM East Zone	MD Reference:	Rig Floor @ 3833.00ft
Site:	Gray Matter Fee	North Reference:	Grid
Well:	Gray Matter Fee 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

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)
4,600.00	6.00	115.00	4,477.19	431.03	841.03	-419.40	0.00	0.00	0.00
4,700.00	6.00	115.00	4,576.64	426.61	850.50	-414.85	0.00	0.00	0.00
4,715.02	6.00	115.00	4,591.57	425.95	851.92	-414.16	0.00	0.00	0.00
Start DLS 8.00 TFO 46.99 at 4715.02 MD									
4,750.00	8.17	129.55	4,626.29	423.60	855.50	-411.76	8.00	6.20	41.60
4,800.00	11.74	140.18	4,675.53	417.42	861.49	-405.51	8.00	7.14	21.26
4,850.00	15.52	145.81	4,724.12	407.98	868.51	-395.97	8.00	7.56	11.25
4,900.00	19.38	149.25	4,771.81	395.31	876.52	-383.19	8.00	7.73	6.89
4,950.00	23.29	151.58	4,818.37	379.48	885.47	-367.24	8.00	7.82	4.66
5,000.00	27.23	153.27	4,863.58	360.57	895.32	-348.19	8.00	7.87	3.38
5,050.00	31.18	154.56	4,907.22	338.65	906.03	-326.13	8.00	7.90	2.58
5,100.00	35.14	155.58	4,949.07	313.86	917.54	-301.17	8.00	7.92	2.05
5,150.00	39.11	156.43	4,988.93	286.29	929.80	-273.44	8.00	7.94	1.68
5,200.00	43.08	157.13	5,026.61	256.09	942.75	-243.07	8.00	7.95	1.42
5,250.00	47.06	157.75	5,061.91	223.41	956.32	-210.20	8.00	7.95	1.22
5,300.00	51.04	158.28	5,094.68	188.40	970.45	-175.00	8.00	7.96	1.07
5,350.00	55.02	158.76	5,124.75	151.23	985.07	-137.64	8.00	7.96	0.96
5,400.00	59.00	159.20	5,151.97	112.09	1,000.11	-98.29	8.00	7.97	0.87
5,412.55	60.00	159.30	5,158.34	101.98	1,003.94	-88.13	8.00	7.97	0.82
Start 250.00 hold at 5412.55 MD									
5,500.00	60.00	159.30	5,202.06	31.14	1,030.71	-16.92	0.00	0.00	0.00
5,600.00	60.00	159.30	5,252.06	-49.88	1,061.32	64.51	0.00	0.00	0.00
5,662.55	60.00	159.30	5,283.34	-100.55	1,080.47	115.44	0.00	0.00	0.00
Start DLS 10.00 TFO 35.92 at 5662.55 MD									
5,700.00	63.06	161.76	5,301.19	-131.58	1,091.43	146.62	10.00	8.16	6.58
5,750.00	67.20	164.85	5,322.22	-175.02	1,104.43	190.23	10.00	8.28	6.18
5,800.00	71.39	167.76	5,339.90	-220.45	1,115.48	235.81	10.00	8.40	5.81
5,850.00	75.63	170.52	5,354.08	-267.53	1,124.50	283.00	10.00	8.48	5.53
5,900.00	79.91	173.18	5,364.68	-315.88	1,131.41	331.45	10.00	8.54	5.32
5,950.00	84.20	175.77	5,371.59	-365.16	1,136.17	380.79	10.00	8.58	5.18
6,000.00	88.50	178.33	5,374.77	-414.97	1,138.74	430.64	10.00	8.61	5.10
6,017.42	90.00	179.21	5,375.00	-432.38	1,139.11	448.05	10.00	8.61	5.08
Start 5094.06 hold at 6017.42 MD									
6,100.00	90.00	179.21	5,375.00	-514.96	1,140.25	530.63	0.00	0.00	0.00
6,200.00	90.00	179.21	5,375.00	-614.95	1,141.62	630.63	0.00	0.00	0.00
6,300.00	90.00	179.21	5,375.00	-714.94	1,143.00	730.63	0.00	0.00	0.00
6,400.00	90.00	179.21	5,375.00	-814.93	1,144.37	830.63	0.00	0.00	0.00
6,500.00	90.00	179.21	5,375.00	-914.92	1,145.75	930.63	0.00	0.00	0.00
6,600.00	90.00	179.21	5,375.00	-1,014.91	1,147.12	1,030.63	0.00	0.00	0.00
6,700.00	90.00	179.21	5,375.00	-1,114.90	1,148.50	1,130.63	0.00	0.00	0.00
6,800.00	90.00	179.21	5,375.00	-1,214.89	1,149.87	1,230.63	0.00	0.00	0.00
6,900.00	90.00	179.21	5,375.00	-1,314.88	1,151.25	1,330.63	0.00	0.00	0.00
7,000.00	90.00	179.21	5,375.00	-1,414.87	1,152.62	1,430.63	0.00	0.00	0.00
7,100.00	90.00	179.21	5,375.00	-1,514.87	1,154.00	1,530.63	0.00	0.00	0.00
7,200.00	90.00	179.21	5,375.00	-1,614.86	1,155.37	1,630.63	0.00	0.00	0.00
7,300.00	90.00	179.21	5,375.00	-1,714.85	1,156.75	1,730.63	0.00	0.00	0.00
7,400.00	90.00	179.21	5,375.00	-1,814.84	1,158.13	1,830.63	0.00	0.00	0.00
7,500.00	90.00	179.21	5,375.00	-1,914.83	1,159.50	1,930.63	0.00	0.00	0.00
7,600.00	90.00	179.21	5,375.00	-2,014.82	1,160.88	2,030.63	0.00	0.00	0.00
7,700.00	90.00	179.21	5,375.00	-2,114.81	1,162.25	2,130.63	0.00	0.00	0.00
7,800.00	90.00	179.21	5,375.00	-2,214.80	1,163.63	2,230.63	0.00	0.00	0.00
7,900.00	90.00	179.21	5,375.00	-2,314.79	1,165.00	2,330.63	0.00	0.00	0.00
8,000.00	90.00	179.21	5,375.00	-2,414.78	1,166.38	2,430.63	0.00	0.00	0.00

Planning Report

Database:	edmdb	Local Co-ordinate Reference:	Well Gray Matter Fee 2H
Company:	Steward Energy II, LLC	TVD Reference:	Rig Floor @ 3833.00ft
Project:	Lea County, NM (NAD 83) NM East Zone	MD Reference:	Rig Floor @ 3833.00ft
Site:	Gray Matter Fee	North Reference:	Grid
Well:	Gray Matter Fee 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
8,100.00	90.00	179.21	5,375.00	-2,514.77	1,167.75	2,530.63	0.00	0.00	0.00	
8,200.00	90.00	179.21	5,375.00	-2,614.76	1,169.13	2,630.63	0.00	0.00	0.00	
8,300.00	90.00	179.21	5,375.00	-2,714.75	1,170.50	2,730.63	0.00	0.00	0.00	
8,400.00	90.00	179.21	5,375.00	-2,814.74	1,171.88	2,830.63	0.00	0.00	0.00	
8,500.00	90.00	179.21	5,375.00	-2,914.73	1,173.25	2,930.63	0.00	0.00	0.00	
8,600.00	90.00	179.21	5,375.00	-3,014.72	1,174.63	3,030.63	0.00	0.00	0.00	
8,700.00	90.00	179.21	5,375.00	-3,114.71	1,176.01	3,130.63	0.00	0.00	0.00	
8,800.00	90.00	179.21	5,375.00	-3,214.70	1,177.38	3,230.63	0.00	0.00	0.00	
8,900.00	90.00	179.21	5,375.00	-3,314.70	1,178.76	3,330.63	0.00	0.00	0.00	
9,000.00	90.00	179.21	5,375.00	-3,414.69	1,180.13	3,430.63	0.00	0.00	0.00	
9,100.00	90.00	179.21	5,375.00	-3,514.68	1,181.51	3,530.63	0.00	0.00	0.00	
9,200.00	90.00	179.21	5,375.00	-3,614.67	1,182.88	3,630.63	0.00	0.00	0.00	
9,300.00	90.00	179.21	5,375.00	-3,714.66	1,184.26	3,730.63	0.00	0.00	0.00	
9,400.00	90.00	179.21	5,375.00	-3,814.65	1,185.63	3,830.63	0.00	0.00	0.00	
9,500.00	90.00	179.21	5,375.00	-3,914.64	1,187.01	3,930.63	0.00	0.00	0.00	
9,600.00	90.00	179.21	5,375.00	-4,014.63	1,188.38	4,030.63	0.00	0.00	0.00	
9,700.00	90.00	179.21	5,375.00	-4,114.62	1,189.76	4,130.63	0.00	0.00	0.00	
9,800.00	90.00	179.21	5,375.00	-4,214.61	1,191.13	4,230.63	0.00	0.00	0.00	
9,900.00	90.00	179.21	5,375.00	-4,314.60	1,192.51	4,330.63	0.00	0.00	0.00	
10,000.00	90.00	179.21	5,375.00	-4,414.59	1,193.89	4,430.63	0.00	0.00	0.00	
10,100.00	90.00	179.21	5,375.00	-4,514.58	1,195.26	4,530.63	0.00	0.00	0.00	
10,200.00	90.00	179.21	5,375.00	-4,614.57	1,196.64	4,630.63	0.00	0.00	0.00	
10,300.00	90.00	179.21	5,375.00	-4,714.56	1,198.01	4,730.63	0.00	0.00	0.00	
10,400.00	90.00	179.21	5,375.00	-4,814.55	1,199.39	4,830.63	0.00	0.00	0.00	
10,500.00	90.00	179.21	5,375.00	-4,914.54	1,200.76	4,930.63	0.00	0.00	0.00	
10,600.00	90.00	179.21	5,375.00	-5,014.53	1,202.14	5,030.63	0.00	0.00	0.00	
10,700.00	90.00	179.21	5,375.00	-5,114.53	1,203.51	5,130.63	0.00	0.00	0.00	
10,800.00	90.00	179.21	5,375.00	-5,214.52	1,204.89	5,230.63	0.00	0.00	0.00	
10,900.00	90.00	179.21	5,375.00	-5,314.51	1,206.26	5,330.63	0.00	0.00	0.00	
11,000.00	90.00	179.21	5,375.00	-5,414.50	1,207.64	5,430.63	0.00	0.00	0.00	
11,100.00	90.00	179.21	5,375.00	-5,514.49	1,209.01	5,530.63	0.00	0.00	0.00	
11,111.48	90.00	179.21	5,375.00	-5,525.96	1,209.17	5,542.11	0.00	0.00	0.00	
TD at 11111.48 MD										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
SHL Gray Matter 2H	0.00	0.00	0.00	0.00	0.00	791,932.32	918,270.71	33.171°N	103.101°W	
- plan hits target center										
- Point										
LTP/BHL Gray Matter 2H	0.00	0.01	5,375.00	-5,525.96	1,209.17	786,406.37	919,479.88	33.156°N	103.098°W	
- plan hits target center										
- Point										
FTP Gray Matter 2H	0.00	0.00	5,375.00	-437.77	1,138.98	791,494.55	919,409.69	33.170°N	103.098°W	
- plan misses target center by 0.20ft at 6022.80ft MD (5375.00 TVD, -437.77 N, 1139.18 E)										
- Point										

Planning Report

Database:	edmdb	Local Co-ordinate Reference:	Well Gray Matter Fee 2H
Company:	Steward Energy II, LLC	TVD Reference:	Rig Floor @ 3833.00ft
Project:	Lea County, NM (NAD 83) NM East Zone	MD Reference:	Rig Floor @ 3833.00ft
Site:	Gray Matter Fee	North Reference:	Grid
Well:	Gray Matter Fee 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
2,302.30	2,250.00	9 5/8"	9.625	12.250	

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
300.00	300.00	0.00	0.00	Start Build 1.50 at 300.00 MD	
1,400.00	1,384.86	78.65	136.22	Start 2186.43 hold at 1400.00 MD	
3,586.43	3,481.25	389.14	674.01	Start DLS 1.50 TFO 159.16 at 3586.43 MD	
4,515.02	4,392.67	434.79	832.98	Start 200.00 hold at 4515.02 MD	
4,715.02	4,591.57	425.95	851.92	Start DLS 8.00 TFO 46.99 at 4715.02 MD	
5,412.55	5,158.34	101.98	1,003.94	Start 250.00 hold at 5412.55 MD	
5,662.55	5,283.34	-100.55	1,080.47	Start DLS 10.00 TFO 35.92 at 5662.55 MD	
6,017.42	5,375.00	-432.38	1,139.11	Start 5094.06 hold at 6017.42 MD	
11,111.48	5,375.00	-5,525.96	1,209.17	TD at 11111.48 MD	

Steward Energy II, LLC

Lea County, NM (NAD 83) NM East Zone

Gray Matter Fee

Gray Matter Fee 2H

Wellbore #1

Plan: Plan #1

Standard Planning Report - Geographic

11 October, 2022

Planning Report - Geographic

Database:	edmdb	Local Co-ordinate Reference:	Well Gray Matter Fee 2H
Company:	Steward Energy II, LLC	TVD Reference:	Rig Floor @ 3833.00ft
Project:	Lea County, NM (NAD 83) NM East Zone	MD Reference:	Rig Floor @ 3833.00ft
Site:	Gray Matter Fee	North Reference:	Grid
Well:	Gray Matter Fee 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

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	Gray Matter Fee				
Site Position:		Northing:	791,932.32 usft	Latitude:	33.171°N
From:	Map	Easting:	918,270.71 usft	Longitude:	103.101°W
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in		

Well	Gray Matter Fee 2H					
Well Position	+N/-S	0.00 ft	Northing:	791,932.32 usft	Latitude:	33.171°N
	+E/-W	0.00 ft	Easting:	918,270.71 usft	Longitude:	103.101°W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	3,814.00 ft
Grid Convergence:		0.67 °				

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	10/10/2022	6.24	60.78	47,958.12476634

Design	Plan #1			
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	179.21

Plan Survey Tool Program	Date	10/11/2022		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	11,111.40 Plan #1 (Wellbore #1)	MWD	
			MWD - Standard	

Planning Report - Geographic

Database:	edmdb	Local Co-ordinate Reference:	Well Gray Matter Fee 2H
Company:	Steward Energy II, LLC	TVD Reference:	Rig Floor @ 3833.00ft
Project:	Lea County, NM (NAD 83) NM East Zone	MD Reference:	Rig Floor @ 3833.00ft
Site:	Gray Matter Fee	North Reference:	Grid
Well:	Gray Matter Fee 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

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	
1,400.00	16.50	60.00	1,384.86	78.65	136.22	1.50	1.50	0.00	60.00	
3,586.43	16.50	60.00	3,481.25	389.14	674.01	0.00	0.00	0.00	0.00	
4,515.02	6.00	115.00	4,392.67	434.79	832.98	1.50	-1.13	5.92	159.16	
4,715.02	6.00	115.00	4,591.57	425.95	851.92	0.00	0.00	0.00	0.00	
5,412.55	60.00	159.30	5,158.34	101.98	1,003.94	8.00	7.74	6.35	46.99	
5,662.55	60.00	159.30	5,283.34	-100.55	1,080.47	0.00	0.00	0.00	0.00	
6,017.42	90.00	179.21	5,375.00	-432.38	1,139.11	10.00	8.45	5.61	35.92	
11,111.48	90.00	179.21	5,375.00	-5,525.96	1,209.17	0.00	0.00	0.00	0.00	LTP/BHL Gray Matter

Planning Report - Geographic

Database:	edmdb	Local Co-ordinate Reference:	Well Gray Matter Fee 2H
Company:	Steward Energy II, LLC	TVD Reference:	Rig Floor @ 3833.00ft
Project:	Lea County, NM (NAD 83) NM East Zone	MD Reference:	Rig Floor @ 3833.00ft
Site:	Gray Matter Fee	North Reference:	Grid
Well:	Gray Matter Fee 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	791,932.32	918,270.71	33.171°N	103.101°W
100.00	0.00	0.00	100.00	0.00	0.00	791,932.32	918,270.71	33.171°N	103.101°W
200.00	0.00	0.00	200.00	0.00	0.00	791,932.32	918,270.71	33.171°N	103.101°W
300.00	0.00	0.00	300.00	0.00	0.00	791,932.32	918,270.71	33.171°N	103.101°W
Start Build 1.50 at 300.00 MD									
400.00	1.50	60.00	399.99	0.65	1.13	791,932.97	918,271.84	33.171°N	103.101°W
500.00	3.00	60.00	499.91	2.62	4.53	791,934.94	918,275.24	33.171°N	103.101°W
600.00	4.50	60.00	599.69	5.89	10.20	791,938.21	918,280.91	33.171°N	103.101°W
700.00	6.00	60.00	699.27	10.46	18.12	791,942.78	918,288.83	33.171°N	103.101°W
800.00	7.50	60.00	798.57	16.34	28.30	791,948.66	918,299.01	33.171°N	103.101°W
900.00	9.00	60.00	897.54	23.51	40.73	791,955.83	918,311.44	33.171°N	103.101°W
1,000.00	10.50	60.00	996.09	31.98	55.39	791,964.30	918,326.10	33.171°N	103.101°W
1,100.00	12.00	60.00	1,094.16	41.74	72.29	791,974.05	918,343.00	33.171°N	103.101°W
1,200.00	13.50	60.00	1,191.70	52.77	91.40	791,985.09	918,362.11	33.171°N	103.101°W
1,300.00	15.00	60.00	1,288.62	65.08	112.72	791,997.39	918,383.43	33.171°N	103.101°W
1,400.00	16.50	60.00	1,384.86	78.65	136.22	792,010.97	918,406.93	33.171°N	103.101°W
Start 2186.43 hold at 1400.00 MD									
1,500.00	16.50	60.00	1,480.74	92.85	160.82	792,025.17	918,431.53	33.171°N	103.101°W
1,600.00	16.50	60.00	1,576.62	107.05	185.42	792,039.37	918,456.13	33.171°N	103.101°W
1,700.00	16.50	60.00	1,672.50	121.25	210.01	792,053.57	918,480.72	33.171°N	103.101°W
1,800.00	16.50	60.00	1,768.39	135.45	234.61	792,067.77	918,505.32	33.171°N	103.101°W
1,900.00	16.50	60.00	1,864.27	149.65	259.21	792,081.97	918,529.92	33.171°N	103.101°W
2,000.00	16.50	60.00	1,960.15	163.85	283.80	792,096.17	918,554.51	33.171°N	103.101°W
2,100.00	16.50	60.00	2,056.03	178.05	308.40	792,110.37	918,579.11	33.171°N	103.100°W
2,200.00	16.50	60.00	2,151.91	192.25	332.99	792,124.57	918,603.70	33.171°N	103.100°W
2,300.00	16.50	60.00	2,247.80	206.46	357.59	792,138.77	918,628.30	33.171°N	103.100°W
2,302.30	16.50	60.00	2,250.00	206.78	358.16	792,139.10	918,628.87	33.171°N	103.100°W
9 5/8"									
2,400.00	16.50	60.00	2,343.68	220.66	382.19	792,152.97	918,652.90	33.171°N	103.100°W
2,500.00	16.50	60.00	2,439.56	234.86	406.78	792,167.17	918,677.49	33.172°N	103.100°W
2,600.00	16.50	60.00	2,535.44	249.06	431.38	792,181.37	918,702.09	33.172°N	103.100°W
2,700.00	16.50	60.00	2,631.32	263.26	455.98	792,195.58	918,726.69	33.172°N	103.100°W
2,800.00	16.50	60.00	2,727.21	277.46	480.57	792,209.78	918,751.28	33.172°N	103.100°W
2,900.00	16.50	60.00	2,823.09	291.66	505.17	792,223.98	918,775.88	33.172°N	103.100°W
3,000.00	16.50	60.00	2,918.97	305.86	529.77	792,238.18	918,800.48	33.172°N	103.100°W
3,100.00	16.50	60.00	3,014.85	320.06	554.36	792,252.38	918,825.07	33.172°N	103.100°W
3,200.00	16.50	60.00	3,110.73	334.26	578.96	792,266.58	918,849.67	33.172°N	103.100°W
3,300.00	16.50	60.00	3,206.62	348.46	603.56	792,280.78	918,874.27	33.172°N	103.100°W
3,400.00	16.50	60.00	3,302.50	362.66	628.15	792,294.98	918,898.86	33.172°N	103.099°W
3,500.00	16.50	60.00	3,398.38	376.86	652.75	792,309.18	918,923.46	33.172°N	103.099°W
3,586.43	16.50	60.00	3,481.25	389.14	674.01	792,321.46	918,944.72	33.172°N	103.099°W
Start DLS 1.50 TFO 159.16 at 3586.43 MD									
3,600.00	16.31	60.26	3,494.27	391.05	677.33	792,323.36	918,948.04	33.172°N	103.099°W
3,700.00	14.92	62.35	3,590.58	403.99	700.93	792,336.30	918,971.64	33.172°N	103.099°W
3,800.00	13.55	64.87	3,687.50	414.94	722.94	792,347.25	918,993.65	33.172°N	103.099°W
3,900.00	12.22	67.92	3,784.99	423.89	743.35	792,356.21	919,014.06	33.172°N	103.099°W
4,000.00	10.92	71.71	3,882.95	430.84	762.15	792,363.16	919,032.86	33.172°N	103.099°W
4,100.00	9.68	76.47	3,981.34	435.78	779.33	792,368.10	919,050.03	33.172°N	103.099°W
4,200.00	8.53	82.55	4,080.08	438.72	794.86	792,371.03	919,065.57	33.172°N	103.099°W
4,300.00	7.50	90.39	4,179.10	439.63	808.75	792,371.95	919,079.45	33.172°N	103.099°W
4,400.00	6.65	100.46	4,278.34	438.54	820.97	792,370.85	919,091.68	33.172°N	103.099°W
4,500.00	6.06	112.94	4,377.73	435.43	831.53	792,367.74	919,102.24	33.172°N	103.099°W
4,515.02	6.00	115.00	4,392.67	434.79	832.98	792,367.10	919,103.68	33.172°N	103.099°W
Start 200.00 hold at 4515.02 MD									

Planning Report - Geographic

Database:	edmdb	Local Co-ordinate Reference:	Well Gray Matter Fee 2H
Company:	Steward Energy II, LLC	TVD Reference:	Rig Floor @ 3833.00ft
Project:	Lea County, NM (NAD 83) NM East Zone	MD Reference:	Rig Floor @ 3833.00ft
Site:	Gray Matter Fee	North Reference:	Grid
Well:	Gray Matter Fee 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,600.00	6.00	115.00	4,477.19	431.03	841.03	792,363.35	919,111.74	33.172°N	103.099°W
4,700.00	6.00	115.00	4,576.64	426.61	850.50	792,358.93	919,121.21	33.172°N	103.099°W
4,715.02	6.00	115.00	4,591.57	425.95	851.92	792,358.27	919,122.63	33.172°N	103.099°W
Start DLS 8.00 TFO 46.99 at 4715.02 MD									
4,750.00	8.17	129.55	4,626.29	423.60	855.50	792,355.91	919,126.21	33.172°N	103.099°W
4,800.00	11.74	140.18	4,675.53	417.42	861.49	792,349.74	919,132.20	33.172°N	103.099°W
4,850.00	15.52	145.81	4,724.12	407.98	868.51	792,340.30	919,139.22	33.172°N	103.099°W
4,900.00	19.38	149.25	4,771.81	395.31	876.52	792,327.63	919,147.22	33.172°N	103.099°W
4,950.00	23.29	151.58	4,818.37	379.48	885.47	792,311.80	919,156.18	33.172°N	103.099°W
5,000.00	27.23	153.27	4,863.58	360.57	895.32	792,292.88	919,166.03	33.172°N	103.099°W
5,050.00	31.18	154.56	4,907.22	338.65	906.03	792,270.97	919,176.74	33.172°N	103.099°W
5,100.00	35.14	155.58	4,949.07	313.86	917.54	792,246.17	919,188.25	33.172°N	103.098°W
5,150.00	39.11	156.43	4,988.93	286.29	929.80	792,218.61	919,200.51	33.172°N	103.098°W
5,200.00	43.08	157.13	5,026.61	256.09	942.75	792,188.41	919,213.46	33.172°N	103.098°W
5,250.00	47.06	157.75	5,061.91	223.41	956.32	792,155.72	919,227.03	33.171°N	103.098°W
5,300.00	51.04	158.28	5,094.68	188.40	970.45	792,120.71	919,241.16	33.171°N	103.098°W
5,350.00	55.02	158.76	5,124.75	151.23	985.07	792,083.55	919,255.78	33.171°N	103.098°W
5,400.00	59.00	159.20	5,151.97	112.09	1,000.11	792,044.41	919,270.81	33.171°N	103.098°W
5,412.55	60.00	159.30	5,158.34	101.98	1,003.94	792,034.30	919,274.65	33.171°N	103.098°W
Start 250.00 hold at 5412.55 MD									
5,500.00	60.00	159.30	5,202.06	31.14	1,030.71	791,963.45	919,301.42	33.171°N	103.098°W
5,600.00	60.00	159.30	5,252.06	-49.88	1,061.32	791,882.44	919,332.03	33.171°N	103.098°W
5,662.55	60.00	159.30	5,283.34	-100.55	1,080.47	791,831.77	919,351.18	33.171°N	103.098°W
Start DLS 10.00 TFO 35.92 at 5662.55 MD									
5,700.00	63.06	161.76	5,301.19	-131.58	1,091.43	791,800.73	919,362.13	33.171°N	103.098°W
5,750.00	67.20	164.85	5,322.22	-175.02	1,104.43	791,757.29	919,375.14	33.170°N	103.098°W
5,800.00	71.39	167.76	5,339.90	-220.45	1,115.48	791,711.87	919,386.19	33.170°N	103.098°W
5,850.00	75.63	170.52	5,354.08	-267.53	1,124.50	791,664.79	919,395.21	33.170°N	103.098°W
5,900.00	79.91	173.18	5,364.68	-315.88	1,131.41	791,616.44	919,402.12	33.170°N	103.098°W
5,950.00	84.20	175.77	5,371.59	-365.16	1,136.17	791,567.16	919,406.88	33.170°N	103.098°W
6,000.00	88.50	178.33	5,374.77	-414.97	1,138.74	791,517.34	919,409.44	33.170°N	103.098°W
6,017.42	90.00	179.21	5,375.00	-432.38	1,139.11	791,499.94	919,409.82	33.170°N	103.098°W
Start 5094.06 hold at 6017.42 MD									
6,100.00	90.00	179.21	5,375.00	-514.96	1,140.25	791,417.36	919,410.95	33.169°N	103.098°W
6,200.00	90.00	179.21	5,375.00	-614.95	1,141.62	791,317.37	919,412.33	33.169°N	103.098°W
6,300.00	90.00	179.21	5,375.00	-714.94	1,143.00	791,217.38	919,413.70	33.169°N	103.098°W
6,400.00	90.00	179.21	5,375.00	-814.93	1,144.37	791,117.39	919,415.08	33.169°N	103.098°W
6,500.00	90.00	179.21	5,375.00	-914.92	1,145.75	791,017.40	919,416.45	33.168°N	103.098°W
6,600.00	90.00	179.21	5,375.00	-1,014.91	1,147.12	790,917.41	919,417.83	33.168°N	103.098°W
6,700.00	90.00	179.21	5,375.00	-1,114.90	1,148.50	790,817.42	919,419.21	33.168°N	103.098°W
6,800.00	90.00	179.21	5,375.00	-1,214.89	1,149.87	790,717.43	919,420.58	33.168°N	103.098°W
6,900.00	90.00	179.21	5,375.00	-1,314.88	1,151.25	790,617.44	919,421.96	33.167°N	103.098°W
7,000.00	90.00	179.21	5,375.00	-1,414.87	1,152.62	790,517.45	919,423.33	33.167°N	103.098°W
7,100.00	90.00	179.21	5,375.00	-1,514.87	1,154.00	790,417.46	919,424.71	33.167°N	103.098°W
7,200.00	90.00	179.21	5,375.00	-1,614.86	1,155.37	790,317.46	919,426.08	33.166°N	103.098°W
7,300.00	90.00	179.21	5,375.00	-1,714.85	1,156.75	790,217.47	919,427.46	33.166°N	103.098°W
7,400.00	90.00	179.21	5,375.00	-1,814.84	1,158.13	790,117.48	919,428.83	33.166°N	103.098°W
7,500.00	90.00	179.21	5,375.00	-1,914.83	1,159.50	790,017.49	919,430.21	33.166°N	103.098°W
7,600.00	90.00	179.21	5,375.00	-2,014.82	1,160.88	789,917.50	919,431.58	33.165°N	103.098°W
7,700.00	90.00	179.21	5,375.00	-2,114.81	1,162.25	789,817.51	919,432.96	33.165°N	103.098°W
7,800.00	90.00	179.21	5,375.00	-2,214.80	1,163.63	789,717.52	919,434.33	33.165°N	103.098°W
7,900.00	90.00	179.21	5,375.00	-2,314.79	1,165.00	789,617.53	919,435.71	33.164°N	103.098°W
8,000.00	90.00	179.21	5,375.00	-2,414.78	1,166.38	789,517.54	919,437.09	33.164°N	103.098°W
8,100.00	90.00	179.21	5,375.00	-2,514.77	1,167.75	789,417.55	919,438.46	33.164°N	103.098°W

Planning Report - Geographic

Database:	edmdb	Local Co-ordinate Reference:	Well Gray Matter Fee 2H
Company:	Steward Energy II, LLC	TVD Reference:	Rig Floor @ 3833.00ft
Project:	Lea County, NM (NAD 83) NM East Zone	MD Reference:	Rig Floor @ 3833.00ft
Site:	Gray Matter Fee	North Reference:	Grid
Well:	Gray Matter Fee 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
8,200.00	90.00	179.21	5,375.00	-2,614.76	1,169.13	789,317.56	919,439.84	33.164°N	103.098°W	
8,300.00	90.00	179.21	5,375.00	-2,714.75	1,170.50	789,217.57	919,441.21	33.163°N	103.098°W	
8,400.00	90.00	179.21	5,375.00	-2,814.74	1,171.88	789,117.58	919,442.59	33.163°N	103.098°W	
8,500.00	90.00	179.21	5,375.00	-2,914.73	1,173.25	789,017.59	919,443.96	33.163°N	103.098°W	
8,600.00	90.00	179.21	5,375.00	-3,014.72	1,174.63	788,917.60	919,445.34	33.163°N	103.098°W	
8,700.00	90.00	179.21	5,375.00	-3,114.71	1,176.01	788,817.61	919,446.71	33.162°N	103.098°W	
8,800.00	90.00	179.21	5,375.00	-3,214.70	1,177.38	788,717.62	919,448.09	33.162°N	103.098°W	
8,900.00	90.00	179.21	5,375.00	-3,314.70	1,178.76	788,617.63	919,449.46	33.162°N	103.098°W	
9,000.00	90.00	179.21	5,375.00	-3,414.69	1,180.13	788,517.64	919,450.84	33.161°N	103.098°W	
9,100.00	90.00	179.21	5,375.00	-3,514.68	1,181.51	788,417.65	919,452.21	33.161°N	103.098°W	
9,200.00	90.00	179.21	5,375.00	-3,614.67	1,182.88	788,317.66	919,453.59	33.161°N	103.098°W	
9,300.00	90.00	179.21	5,375.00	-3,714.66	1,184.26	788,217.67	919,454.97	33.161°N	103.098°W	
9,400.00	90.00	179.21	5,375.00	-3,814.65	1,185.63	788,117.68	919,456.34	33.160°N	103.098°W	
9,500.00	90.00	179.21	5,375.00	-3,914.64	1,187.01	788,017.69	919,457.72	33.160°N	103.098°W	
9,600.00	90.00	179.21	5,375.00	-4,014.63	1,188.38	787,917.70	919,459.09	33.160°N	103.098°W	
9,700.00	90.00	179.21	5,375.00	-4,114.62	1,189.76	787,817.71	919,460.47	33.160°N	103.098°W	
9,800.00	90.00	179.21	5,375.00	-4,214.61	1,191.13	787,717.72	919,461.84	33.159°N	103.098°W	
9,900.00	90.00	179.21	5,375.00	-4,314.60	1,192.51	787,617.73	919,463.22	33.159°N	103.098°W	
10,000.00	90.00	179.21	5,375.00	-4,414.59	1,193.89	787,517.74	919,464.59	33.159°N	103.098°W	
10,100.00	90.00	179.21	5,375.00	-4,514.58	1,195.26	787,417.74	919,465.97	33.158°N	103.098°W	
10,200.00	90.00	179.21	5,375.00	-4,614.57	1,196.64	787,317.75	919,467.34	33.158°N	103.098°W	
10,300.00	90.00	179.21	5,375.00	-4,714.56	1,198.01	787,217.76	919,468.72	33.158°N	103.098°W	
10,400.00	90.00	179.21	5,375.00	-4,814.55	1,199.39	787,117.77	919,470.10	33.158°N	103.098°W	
10,500.00	90.00	179.21	5,375.00	-4,914.54	1,200.76	787,017.78	919,471.47	33.157°N	103.098°W	
10,600.00	90.00	179.21	5,375.00	-5,014.53	1,202.14	786,917.79	919,472.85	33.157°N	103.098°W	
10,700.00	90.00	179.21	5,375.00	-5,114.53	1,203.51	786,817.80	919,474.22	33.157°N	103.098°W	
10,800.00	90.00	179.21	5,375.00	-5,214.52	1,204.89	786,717.81	919,475.60	33.157°N	103.098°W	
10,900.00	90.00	179.21	5,375.00	-5,314.51	1,206.26	786,617.82	919,476.97	33.156°N	103.098°W	
11,000.00	90.00	179.21	5,375.00	-5,414.50	1,207.64	786,517.83	919,478.35	33.156°N	103.098°W	
11,100.00	90.00	179.21	5,375.00	-5,514.49	1,209.01	786,417.84	919,479.72	33.156°N	103.098°W	
11,111.48	90.00	179.21	5,375.00	-5,525.96	1,209.17	786,406.37	919,479.88	33.156°N	103.098°W	
TD at 11111.48 MD										

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	
SHL Gray Matter 2H - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	791,932.32	918,270.71	33.171°N	103.101°W	
LTP/BHL Gray Matter 2H - plan hits target center - Point	0.00	0.01	5,375.00	-5,525.96	1,209.17	786,406.37	919,479.88	33.156°N	103.098°W	
FTP Gray Matter 2H - plan misses target center by 0.20ft at 6022.80ft MD (5375.00 TVD, -437.77 N, 1139.18 E) - Point	0.00	0.00	5,375.00	-437.77	1,138.98	791,494.55	919,409.69	33.170°N	103.098°W	

Planning Report - Geographic

Database:	edmdb	Local Co-ordinate Reference:	Well Gray Matter Fee 2H
Company:	Steward Energy II, LLC	TVD Reference:	Rig Floor @ 3833.00ft
Project:	Lea County, NM (NAD 83) NM East Zone	MD Reference:	Rig Floor @ 3833.00ft
Site:	Gray Matter Fee	North Reference:	Grid
Well:	Gray Matter Fee 2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan #1		

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name		Casing Diameter (in)	Hole Diameter (in)
2,302.30	2,250.00	9 5/8"		9.625	12.250

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
300.00	300.00	0.00	0.00	Start Build 1.50 at 300.00 MD	
1,400.00	1,384.86	78.65	136.22	Start 2186.43 hold at 1400.00 MD	
3,586.43	3,481.25	389.14	674.01	Start DLS 1.50 TFO 159.16 at 3586.43 MD	
4,515.02	4,392.67	434.79	832.98	Start 200.00 hold at 4515.02 MD	
4,715.02	4,591.57	425.95	851.92	Start DLS 8.00 TFO 46.99 at 4715.02 MD	
5,412.55	5,158.34	101.98	1,003.94	Start 250.00 hold at 5412.55 MD	
5,662.55	5,283.34	-100.55	1,080.47	Start DLS 10.00 TFO 35.92 at 5662.55 MD	
6,017.42	5,375.00	-432.38	1,139.11	Start 5094.06 hold at 6017.42 MD	
11,111.48	5,375.00	-5,525.96	1,209.17	TD at 11111.48 MD	