

Form 3160-3
(June 2015)FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☐ DRILL ☐ REENTER 1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other 1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		5. Lease Serial No. 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. [332472]	
2. Name of Operator [373910]		9. API Well No. 30-025-49809	
3a. Address		3b. Phone No. (include area code)	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		10. Field and Pool, or Exploratory [97779]	
14. Distance in miles and direction from nearest town or post office*		11. Sec., T. R. M. or Blk. and Survey or Area 12. County or Parish 13. State	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)		16. No of acres in lease	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.		17. Spacing Unit dedicated to this well 20. BLM/BIA Bond No. in file	
21. Elevations (Show whether DF, KDB, RT, GL, etc.)		19. Proposed Depth 22. Approximate date work will start*	
23. Estimated duration		24. Attachments	
The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)			
1. Well plat certified by a registered surveyor. 2. A Drilling Plan. 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).		4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). 5. Operator certification. 6. Such other site specific information and/or plans as may be requested by the BLM.	
25. Signature		Name (Printed/Typed)	
Title		Date	
Approved by (Signature)		Name (Printed/Typed)	
Title		Office	
Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Conditions of approval, if any, are attached.			
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.			

NGMP Rec 03/03/2022

SL

(Continued on page 2)



Approval Date: 02/11/2022

KZ
03/04/2022

*(Instructions on page 2)

INSTRUCTIONS

GENERAL: This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

ITEM I: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

ITEM 24: If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160

PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

ROUTINE USE: Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM connects this information to an evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Connection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

Additional Operator Remarks

Location of Well

0. SHL: TR M / 650 FNL / 1268 FWL / TWSP: 24S / RANGE: 35E / SECTION: 36 / LAT: 32.167668 / LONG: -103.325688 (TVD: 0 feet, MD: 0 feet)

PPP: SWSW / 0 FSL / 384 FWL / TWSP: 24S / RANGE: 35E / SECTION: 25 / LAT: 32.181268 / LONG: -103.328571 (TVD: 8618 feet, MD: 13500 feet)

PPP: NWNW / 0 FSL / 384 FWL / TWSP: 24S / RANGE: 35E / SECTION: 36 / LAT: 32.177628 / LONG: -103.328568 (TVD: 8618 feet, MD: 12200 feet)

PPP: TR M / 807 FSL / 380 FWL / TWSP: 24S / RANGE: 35E / SECTION: 36 / LAT: 32.168936 / LONG: -103.328097 (TVD: 8618 feet, MD: 9023 feet)

BHL: TR D / 150 FNL / 380 FWL / TWSP: 24S / RANGE: 35E / SECTION: 25 / LAT: 32.195362 / LONG: -103.328581 (TVD: 8618 feet, MD: 18636 feet)

BLM Point of Contact

Name: TENILLE ORTIZ

Title: Legal Instruments Examiner

Phone: (575) 234-2224

Email: tortiz@blm.gov

CONFIDENTIAL

Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

CONFIDENTIAL

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 30-025-49808		² Pool Code 97779		³ Pool Name DOGIE DRAW;DELAWARE	
⁴ Property Code 332472		⁵ Property Name FMM FED COM			⁶ Well Number 101H
⁷ OGRID No. 373910		⁸ Operator Name FRANKLIN MOUNTAIN ENERGY LLC			⁹ Elevation 3287.8'

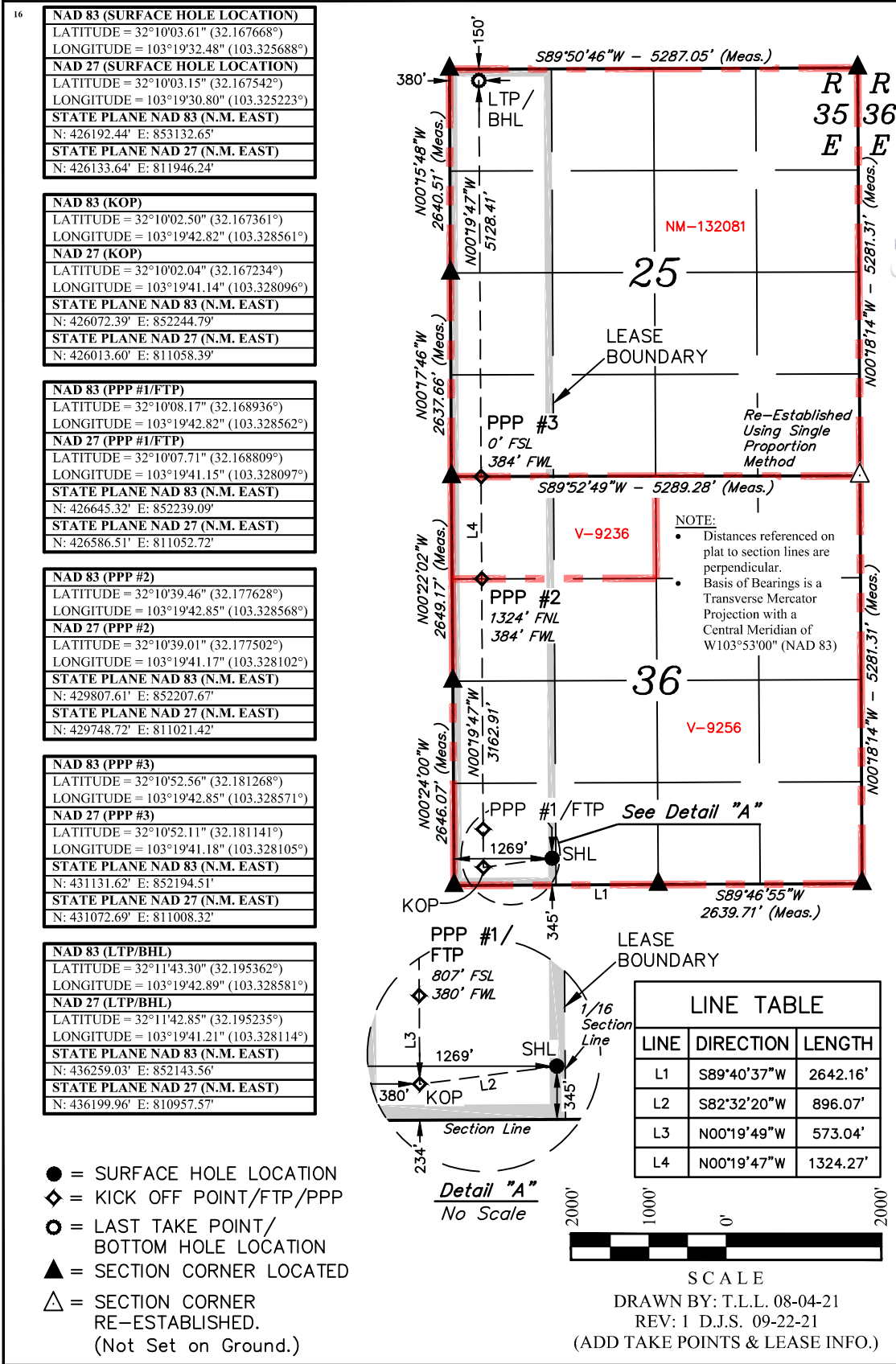
¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	36	24S	35E		345	SOUTH	1269	WEST	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
D	25	24S	35E		150	NORTH	380	WEST	LEA
¹² Dedicated Acres 320		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.			

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.

Signature: *Shelly Albrecht* Date: 9/23/2021

Printed Name: Shelly Albrecht

salbrecht@fmellc.com

E-mail Address

¹⁸ SURVEYOR
CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

July 31, 2021

Date of Survey

Signature and Seal of Professional Surveyor:

PAUL BUCHELE
NEW MEXICO
23782
09-22-21
PROFESSIONAL SURVEYOR

Certificate Number:

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: Franklin Mountain Energy, LLC **OGRID:** 373910 **Date:** 02/24/2022

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
See Attached Well List						

IV. Central Delivery Point Name: FMM CTB: (##) fAPP2203348319 [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
See Attached Well List						

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

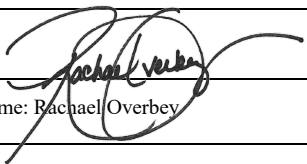
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(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: Rachael Overbey
Title: Director Operations Planning & Regulatory
E-mail Address: roverbey@fmelle.com
Date: 2/24/2022
Phone: 720-414-7868
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

NATURAL GAS MANAGEMENT PLAN

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 14 Digit	ULSTR	Surface Location FTG	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
FMM Fed Com 101H	TBD	M-36-24S-35E	345 FSL 1269 FWL	800 +/-	700 +/-	600 +/-
FMM Fed Com 102H	TBD	M-36-24S-35E	345 FSL 1319 FWL	800 +/-	700 +/-	600 +/-
FMM Fed Com 301H	TBD	M-36-24S-35E	345 FSL 1294 FWL	800 +/-	700 +/-	600 +/-
FMM Fed Com 302H	TBD	N-36-24S-35E	345 FSL 1344 FWL	800 +/-	700 +/-	600 +/-
FMM Fed Com 801H	TBD	M-36-24S-35E	270 FSL 1281 FWL	800 +/-	700 +/-	600 +/-
FMM Fed Com 802H	TBD	M-36-24S-35E	270 FSL 1306 FWL	800 +/-	700 +/-	600 +/-
FMM Fed Com 803H	TBD	N-36-24S-35E	270 FSL 1331 FWL	800 +/-	700 +/-	600 +/-
FMM Fed Com 103H	TBD	O-36-24S-35E	345 FSL 2027 FEL	800 +/-	700 +/-	600 +/-
FMM Fed Com 104H	TBD	O-36-24S-35E	345 FSL 1977 FEL	800 +/-	700 +/-	600 +/-
FMM Fed Com 303H	TBD	O-36-24S-35E	345 FSL 2002 FEL	800 +/-	700 +/-	600 +/-
FMM Fed Com 304H	TBD	O-36-24S-35E	345 FSL 1952 FEL	800 +/-	700 +/-	600 +/-
FMM Fed Com 804H	TBD	O-36-24S-35E	270 FSL 2015 FEL	800 +/-	700 +/-	600 +/-
FMM Fed Com 805H	TBD	O-36-24S-35E	270 FSL 1990 FEL	800 +/-	700 +/-	600 +/-
FMM Fed Com 806H	TBD	O-36-24S-35E	270 FSL 1965 FEL	800 +/-	700 +/-	600 +/-

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 14 Digit	Spud Date (Batch Drilling)	TD Reached Date	Completion Commencement Date	Initial Flowback Date	First Production Date
FMM Fed Com 101H	TBD	6/27/2022	7/31/2022	11/14/2022	12/31/2022	1/2/2023
FMM Fed Com 102H	TBD	6/27/2022	7/31/2022	11/14/2022	12/31/2022	1/2/2023
FMM Fed Com 301H	TBD	6/27/2022	7/31/2022	11/14/2022	12/31/2022	1/2/2023
FMM Fed Com 302H	TBD	6/27/2022	7/31/2022	11/14/2022	12/31/2022	1/2/2023
FMM Fed Com 801H	TBD	6/27/2022	7/31/2022	11/14/2022	12/31/2022	1/2/2023
FMM Fed Com 802H	TBD	6/27/2022	7/31/2022	11/14/2022	12/31/2022	1/2/2023
FMM Fed Com 803H	TBD	6/27/2022	7/31/2022	11/14/2022	12/31/2022	1/2/2023
FMM Fed Com 103H	TBD	7/25/2022	8/27/2022	12/1/2022	1/4/2023	1/7/2023
FMM Fed Com 104H	TBD	7/25/2022	8/27/2022	12/1/2022	1/4/2023	1/7/2023
FMM Fed Com 303H	TBD	7/25/2022	8/27/2022	12/1/2022	1/4/2023	1/7/2023
FMM Fed Com 304H	TBD	7/25/2022	8/27/2022	12/1/2022	1/4/2023	1/7/2023
FMM Fed Com 804H	TBD	7/25/2022	8/27/2022	12/1/2022	1/4/2023	1/7/2023
FMM Fed Com 805H	TBD	7/25/2022	8/27/2022	12/1/2022	1/4/2023	1/7/2023
FMM Fed Com 806H	TBD	7/25/2022	8/27/2022	12/1/2022	1/4/2023	1/7/2023



Natural Gas Management Plan

Items VI-VIII

VI. Separation Equipment: Attach a complete description of how Operator will size separation equipment to optimize gas capture.

- Data from surrounding wells is used to generate type curves which provides the basis for expected gas rates during initial production, peak production and then the natural decline.
- Separation equipment will be sized to provide adequate separation for peak production.
- Facility design includes multiple stages of separation to minimize gas waste. Wells flow through a high pressure 2-phase separator to remove bulk gas, liquid from the 2-phase separator is sent to a 3-phase separator where additional gas is separated. Gas from the 2 Phase and 3 Phase separators are then sent through a gas scrubber before being route to treatment and/or sales. As production declines the 2-phase separator may be removed.
- Industry standard sizing calculations are used for gas-liquid separation and liquid-liquid separation.

VII. Operational Practices: Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F 19.15.27.8 NMAC.

- Drilling, completion and production setup is designed to minimize the waste of natural gas and to flare instead of vent.
- *Drilling Operations:*
 - Natural gas encountered will be flared instead of vented unless there is an equipment malfunction and/or to avoid risking safety or the environment.
 - Flares will be properly sized and placed at least 100' from the nearest surface hole on the pad.
- *Completions/Recompletions Operations:*
 - Flowback operations will not commence until connected to a properly sized gas gathering system.
 - During initial flowback wells are routed to the separation equipment as soon as technically feasible to minimize gas waste.
 - During separation flowback wells are routed to the separation equipment to minimize gas waste.
 - Gas sales is maximized. Gas will be flared instead of vented during an emergency or malfunction to avoid posing a risk to operations or personnel safety.
 - Flares are properly sized with a continuous pilot.
- *Production Operations:*
 - Gas sales will be maximized. Gas will be flared instead of vented during an emergency or malfunction to avoid posing a risk to operations or personnel safety.
 - After a well is stabilized from liquid unloading, the well will be turned back into the collection system.
- *Performance Standards:*
 - The facility will be designed to handle peak production rates and pressures.
 - All tanks will have automatic gauging equipment.
 - Flares will be designed to ensure proper combustion and will have continuous pilots. Flares will be located 100' from nearest surface hole on the pad and storage tanks.
 - Weekly AVOs will be performed, and any leaking thief hatches will be cleaned and properly re-sealed.



- **Measurement and Calibration:**
 - All volume that is flared and vented that is not measured will be estimated.
 - When metering is not practical due to low pressure/rate, all vented or flared volumes will be estimated.
 - Measurement will conform to industry standards. Measurement will not be bypassed except for purposes of inspection or calibration.

VIII. Best Management Practices: Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

- Venting will be minimized during active and planned maintenance.
- Systems and equipment requiring maintenance will be isolated and blown down to sales and then flare before any remaining gas is vented in an effort to minimize waste and venting.
- Downhole maintenance will use best management practices to minimize vent.



FMM Fed Com 101H

1. **Geologic name of surface location:** Permian
2. **Estimated tops of important geological markers:**

Formations	PROG SS	PROG TVD	Picked TVD	delta	Potential/Issues
Cenozoic Alluvium (surface)	3,288'	30'	30'	0	Sand/Gravels/unconsolidated
Rustler	2,083'	1,235'			Carbonates
Salado	2,018'	1,301'			Salt, Carbonate & Clastics
Base Salt	102'	3,216'			Shaley Carbonate & Shale
Capitan	-1,195'	4,513'			Carbonates
Lamar	-1,800'	5,118'			Carbonate & Clastics
Bell Canyon	-1,938'	5,256'			Sandstone - oil/gas/water
Cherry Canyon	-2,739'	6,057'			Sandstone - oil/gas/water
Brushy Canyon	-4,074'	7,392'			Sand/carb/shales - oil/gas/water
Leonard	-5,160'	8,478'			Sand/carb/shales - oil/gas/water
HZ Target at Landing	-5,300'	8,618'			Sand/carb/shales - oil/gas/water
Bone Spring Lime	-5,418'	8,736'			Shale/Carbonates - oil/gas
Avalon	-5,494'	8,812'			Shale/Carbonates - oil/gas

3. **Estimated depth of anticipated fresh water, oil or gas:**

Upper Permian Sands	0- 400'	Fresh Water
Delaware Sands	5,256'	Oil
Leonard	8,478'	Oil
Avalon	8,812'	Oil

No other formations are expected to give up oil, gas or fresh water in measurable quantities. Surface freshwater sands will be protected by setting 13 3/8" casing at 1,300' and circulating cement back to surface.

4. **Casing Program:**

All casing strings will be run new. Safety factors calculated assuming the well is vertical.

Casing string	Weight	Grade	Burst	Collapse	Tension	Conn	Length	API design factor			
								Burst	Collapse	Tension	Coupling
Surface 13 3/8"	54.5	J-55	2730	1130	853	BTC 909	1300	1.18	1.67	4.99	5.32
Intermediate 9 5/8"	40	HCL-80	7430	4230	916	BTC 1042	5200	1.77	1.74	2.97	3.38
Intermediate 7 5/8"	29.7	HCP-110	8280	7150	827	Stinger 564	9022	1.47	1.69	2.25	1.53
Long string 5 1/2"	23	P-110	14520	14520	729	Eagle 606 TVD	18636 8618	1.32	1.66	1.38	1.15 2.03

7 5/8" casing will be set at 9,022' MD/8,618' TVD at 90° Inc. Stress calculations on 5 1/2" casing performed assuming 18,636' depth. Actual max vertical depth is 8,618'.



Cementing Program:

Cementing Stage tool can be placed in the 1st Intermediate string as a contingency to ensure required TOC to surface.

String Type	Hole Size	Casing Size	Setting Depth	Sacks	Type of cmt	Lead Yield ft ³ /sk	Water gal/sk	TOC ft	Sacks	Type of cmt	Tail Yield ft ³ /sk	Water gal/sk	TOC	Excess
Surf	17.5	13.375	1300	803	Extenda Cem, 12.8 ppg Class C, 3lb/sk Kol-Seal	1.747	9.06	0	330	Tail, 14.8 ppg, Class C,	1.349	6.51	1000	100%
					0.125pps Poly-E-Flake					1% CaCl ₂ , 0.125pps Celo-Flake				
Int1	12.25	9.625	5200	1523	Lead, 12.8 ppg, Class C 5% Salt,	1.79	9.74	0	154	Tail, 14.8 ppg, Class C,	1.33	6.37	4900	100%
					0.125 pps Poly-E-Flake, 3lb/sk Kol-Seal					0.1% HR 800 .125 pps Poly-E-Flake				
Int2	8.75	7.625	9022	204	Lite Fill, 9.5 ppg, Class C 3lb/sk	2.13	5.97	4200	94	NeoCem 14.8 ppg, Class C	1.33	6.29	8022	50%
					Bridgemaker Gel, 5% Salt, 5pps LCM, 0.25pps Cello-Flake					0.25 pps Cello-Flake, 2% CaCl ₂				
Prod	6.75	5.5	18636	791	Tail, 14.5 ppg, Gas Migration Control	1.34	6.22	8022						20%

5. Minimum Specifications for Pressure Control:

The minimum blowout preventer equipment (BOPE) shown in Exhibit #1 will consist of a single ram, mud cross and double ram-type (10,000 psi WP) preventer and an annular preventer (5,000-psi WP). Both units will be hydraulically operated, and the ram-type will be equipped with blind rams on bottom and 4 ½" x 7" variable pipe rams on top. All BOPE will be tested in accordance with Onshore Oil & Gas order No. 2.

Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 5,000/250 psig and the annular preventer to 5,000/250 psig. The surface casing will be tested to 1500 psi for 30 minutes.

Before drilling out of the second intermediate casing, the ram-type BOP and accessory equipment will be tested to 10,000/250 psig and the annular preventer to 5,000/250 psig. The second intermediate casing will be tested to .22 psi/ft, but not to exceed 70 percent of the minimum internal yield, as per Onshore Order # 2 for 30 minutes prior to drillout.

Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets.

A hydraulically operated choke will be installed prior to drilling out of the intermediate casing shoe.



6. Types and characteristics of the proposed mud system:

During this procedure we plan to use a Closed-Loop System and haul contents to the required disposal. The applicable depths and properties of the drilling fluid systems are as follows.

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 1,300'	Fresh - Gel	8.6-8.8	28-34	N/c
1,300' – 9,022'	Brine	8.8-10.2	28-34	N/c
9,022' – 18,636' Lateral	Oil Base	10.0-12.0	58-68	3 - 6

The highest mud weight needed to balance formation is expected to be 10-11 ppg. In order to maintain hole stability, mud weights up to 12 ppg may be 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.

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.

7. Auxiliary well control and monitoring equipment:

(A) A kelly cock will be kept in the drill string at all times.

(B) A full opening drill pipe-stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.

(C) H₂S monitoring and detection equipment will be utilized from surface casing point to TD.

(D) A wear bushing will be installed in the wellhead prior to drilling out of the surface casing.

8. Logging, testing and coring program:

GR–CCL–CNL Will be run in cased hole during completions phase of operations.

Open-hole logs are not planned for this well.

9. Abnormal conditions, pressures, temperatures and potential hazards:

The estimated bottom-hole temperature at 8,618' TVD (deepest point of the well) is 160F with an estimated maximum bottom-hole pressure (BHP) at the same point of 5,488 psig (based on 12 ppg MW). Hydrogen sulfate may be present in the area. All necessary precautions will be taken before drilling operations commence. See Hydrogen Sulfide Plan below:

10. Hydrogen Sulfide Plan:

- A. All personnel shall receive proper awareness H₂S training.
- B. Briefing Area: two perpendicular areas will be designated by signs and readily accessible.
- C. Required Emergency Equipment
 - a. Well Control Equipment
 - i. Flare line 150' from wellhead to be ignited by auto ignition sparking system.
 - ii. Choke manifold with a remotely operated hydraulic choke.
 - iii. Mud/gas separator
 - b. Protective equipment for essential personnel
 - i. Breathing Apparatus
 1. Rescue packs (SCBA) – 1 unit shall be placed at each briefing area, 2 shall be stored in a safety trailer on site.



2. Work/Escapes packs – 4 packs shall be stored on the rig floor with sufficient air hose not to restrict work activity
3. Emergency Escape Packs – 4 packs shall be stored in the doghouse for emergency evacuation.
- ii. Auxiliary Rescue Equipment
 1. Stretcher
 2. Two OSHA full body harnesses
 3. 100 feet of 5/8 inches OSHA approved rope
 4. 1-20# class ABC fire extinguisher
- c. H2S Detection and Monitoring Equipment
 - i. A stationary detector with three sensors will be placed in the doghouse if equipped, set to visually alarm at 10 ppm and audible at 14 ppm. The detector will be calibrated a minimum of every 30 days or as needed. The sensors will be placed in the following places:
 1. Rig Floor
 2. Below Rig Floor / Near BOPs
 3. End of flow line or where well bore fluid is being discharged (near shakers)
 - ii. If H2S is encountered, measured values and formations will be provided to the BLM.
- d. Visual Warning Systems
 - i. One color code condition sign will be placed at the entrance to the site reflecting the possible conditions at the site.
 - ii. A colored condition flag will be on display, reflecting the current condition at the site at the time.
 - iii. Two windsocks will be placed in strategic locations, visible from all angles.
- e. Mud Program
 - i. The Mud program will be designed to minimize the volume of H2S circulated to surface. The operator will have the necessary mud products to minimize hazards while drilling in H2S bearing zones.
- f. Metallurgy
 - i. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service at the anticipated operating pressures to prevent sour sulfide stress cracking.
- g. Communication
 - i. Communication will be via cell phones and walkie talkies on location.

Franklin Mountain Energy has conducted a review of offset operated wells to determine if an H2S contingency plan is required for the proposed well. Based on concentrations of offset wells, proximity to main roads, and distance to populated areas, the radius of exposure created by a potential release was determined to be minimal and low enough to not necessitate an H2S contingency plan. This will be reevaluated during wellbore construction if H2S is observed and after the well is on production.

11. Anticipated starting date and duration of operations:

The drilling operations on the well should be finished in approximately one month. However, in order to minimize disturbance in the area and to improve efficiency Franklin Mountain is planning to drill all the wells on the pad prior to commence completion operations. To even further reduce the time heavy machinery is used



the "batch drilling" method may be used. A batch drilling sequence sundry will be submitted for BLM approval prior to spud. A drilling rig with walking/skidding capabilities will be used.

12. Disposal/environmental concerns:

- (A) Drilled cuttings will be hauled to and disposed of in a state-certified disposal site.
- (B) Non-hazardous waste mud/cement from the drilling process will also be hauled to and disposed of in a state-certified disposal site.
- (C) Garbage will be hauled to the Pecos City Landfill.
- (D) Sewage (grey water) will be hauled to the Carlsbad City Landfill

13. Wellhead:

A multi-bowl wellhead system will be utilized.

After running the 13 3/8" surface casing, a 13-5/8" BOP/BOPE system with a minimum working pressure of 10,000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 5,000 psi pressure test. This pressure test will be repeated at least every 21 days, as per Onshore Order No. 2

The minimum working pressure of the BOP and related BOPE required for drilling below the surface casing shoe shall be 5,000 psi.

After running the 2nd intermediate casing, and before drilling out, the wellhead, BOP, and related equipment will be tested to 10,000/250 psig.

The multi-bowl wellhead will be installed by vendor's representative(s). A copy of the installation instructions for the Cactus Multi-Bowl WH system has been sent to the BLM office in Carlsbad.

The wellhead will be installed by a third party welder while being monitored by WH vendor's representative.

All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type.

A solid steel body pack-off will be utilized after running and cementing the intermediate casing strings. After installation of the first intermediate string the pack-off and lower flanges will be pressure tested to 5000 psi. After installation of the second intermediate string, the pack-off and upper flange will be pressure tested to 10,000 psi.

Both the surface and intermediate casing strings will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater.

14. Additional variance requests

A. Casing.

In order to minimize potential environmental and technical hazards, this well is planned with two intermediate strings of casing.

1. Variance is requested to wave the centralizer requirements for the 7 5/8" casing due to the tight clearance with 9 5/8" string.
2. Variance is requested to wave/reduce the centralizer requirements for the 5 1/2" casing due to the tight clearance with 6 3/4" hole and 5 1/2" casing due to tight clearances.

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Franklin Mountain Energy

Project: Lea County, NM (NAD83)
Site: FMM Fed Com
Well: FMM Fed Com 101H
Wellbore: OH
Design: Plan #1



Azimuths to Grid North
True North: -0.54°
Magnetic North: 5.87°

Magnetic Field
Strength: 47465.2nT
Dip Angle: 59.88°
Date: 8/27/2021
Model: IGRF2020

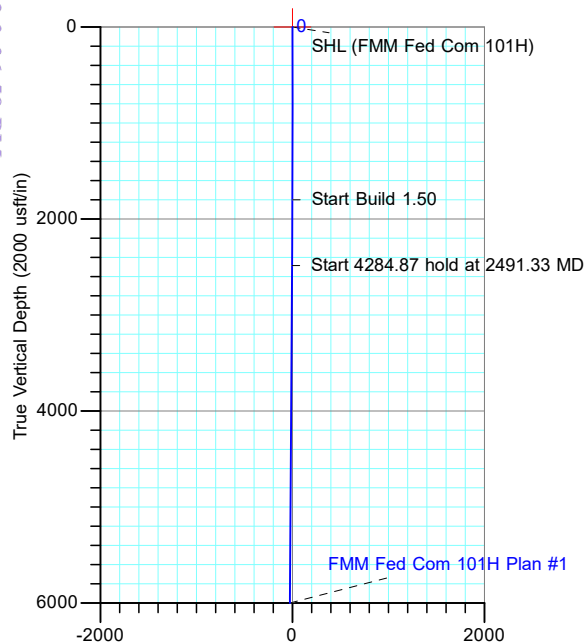
PROJECT DETAILS: Lea County, NM (NAD83)

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



Received by OCD: 3/3/2022 11:19:50 AM

3287.8' GE + 30' KB @ 3317.80usft

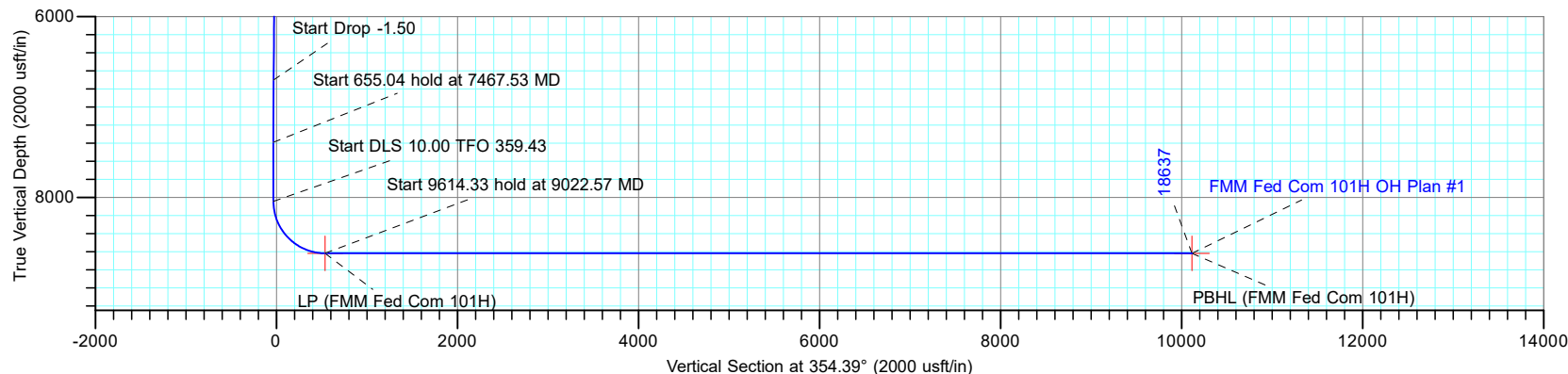
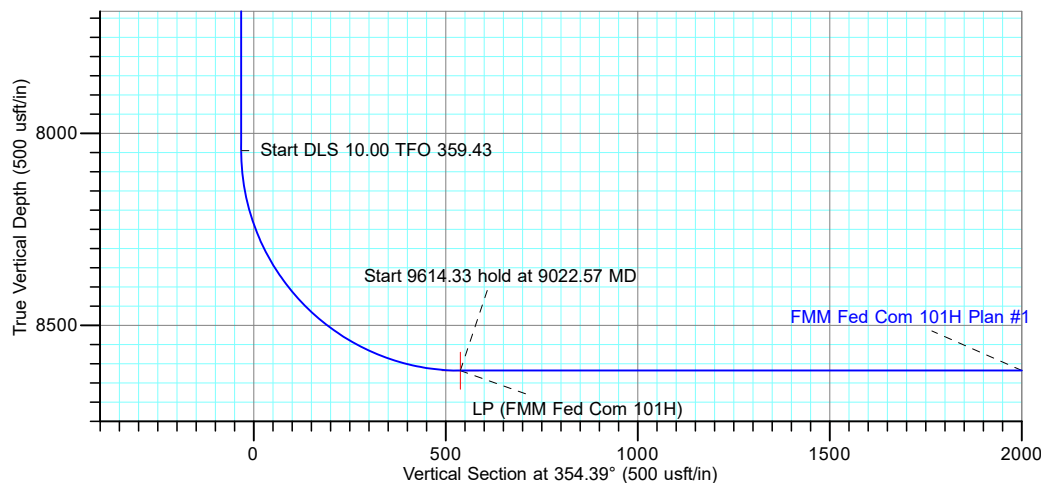


SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
2491.33	10.37	262.30	2487.56	-8.36	-61.83	1.50	262.30	-2.27	Start 4284.87 hold at 2491.33 MD
6776.20	10.37	262.30	6702.44	-111.64	-826.17	0.00	0.00	-30.31	Start Drop -1.50
7467.53	0.00	0.00	7390.00	-120.00	-888.00	1.50	180.00	-32.57	Start 655.04 hold at 7467.53 MD
8122.57	0.00	0.00	8045.04	-120.00	-888.00	0.00	0.00	-32.57	Start DLS 10.00 TFO 359.43
9022.57	90.00	359.43	8618.00	452.93	-893.70	10.00	359.43	538.17	Start 9614.33 hold at 9022.57 MD
18636.90	90.00	359.43	8618.00	10066.79	-989.33	0.00	0.00	10115.28	TD at 18636.90

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
LP (FMM Fed Com 101H)	8618.00	452.93	-893.70	32.168936	-103.328562
PBHL (FMM Fed Com 101H)	8618.00	10066.79	-989.33	32.195362	-103.328581
SHL (FMM Fed Com 101H)	0.00	0.00	0.00	32.167668	-103.325688



TOTAL DIRECTIONAL SERVICES LLC

Plan: Plan #1 (FMM Fed Com 101H/OH)
Created By: Dustin Ault
Date: 14:45, August 27 2021
Approved: _____ Date: _____

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Franklin Mountain Energy

Project: Lea County, NM (NAD83)
Site: FMM Fed Com
Well: FMM Fed Com 101H
Wellbore: OH
Design: Plan #1



Azimuths to Grid North
True North: -0.54°
Magnetic North: 5.87°
Magnetic Field
Strength: 47465.2nT
Dip Angle: 59.88°
Date: 8/27/2021
Model: IGRF2020

PROJECT DETAILS: Lea County, NM (NAD83)
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone

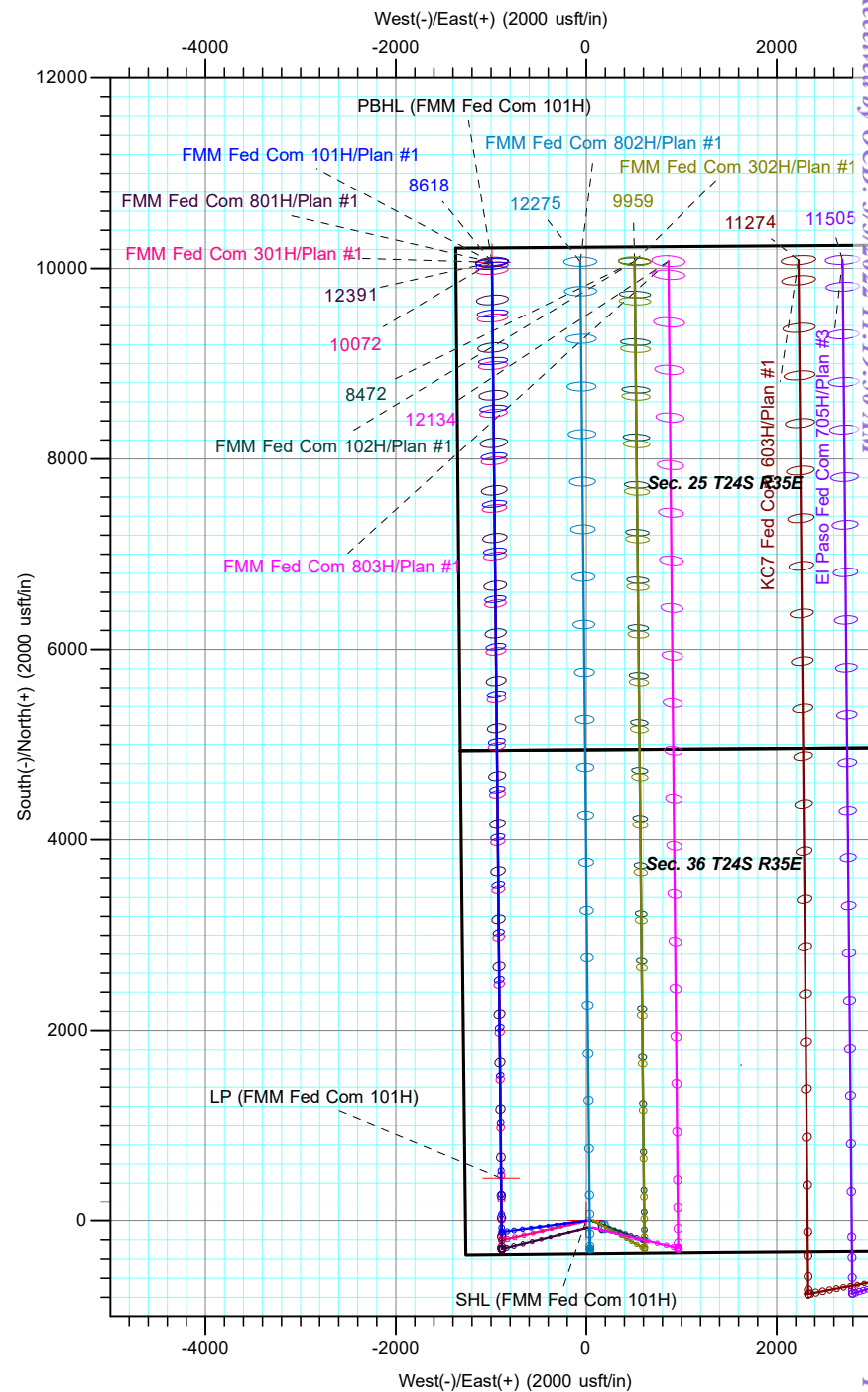
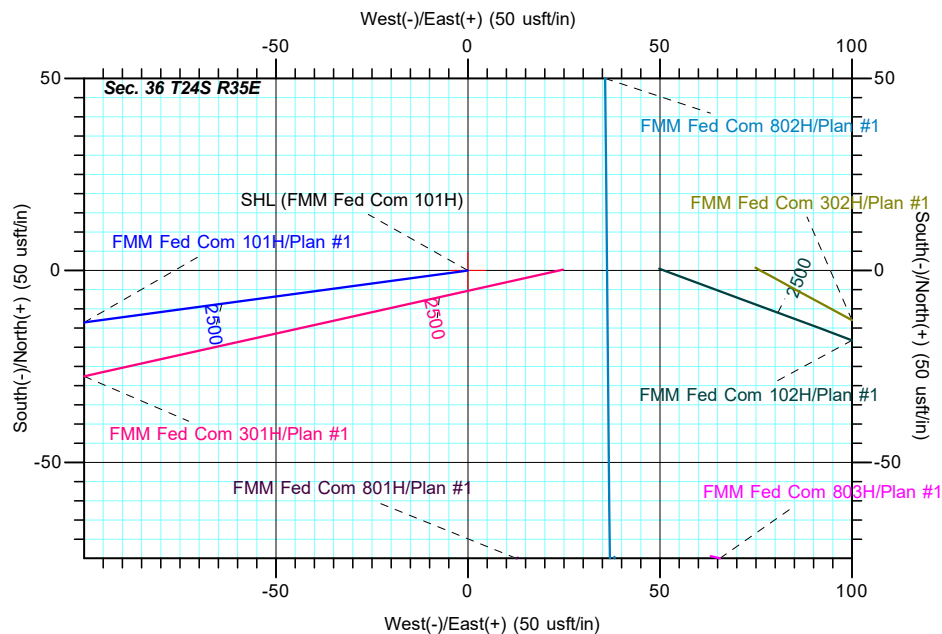


DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP (FMM Fed Com 101H)	8618.00	452.93	-893.70	426645.32	852239.09	32.168936	-103.328562
PBHL (FMM Fed Com 101H)	8618.00	10066.79	-989.33	436259.18	852143.46	32.195362	-103.328581
SHL (FMM Fed Com 101H)	0.00	0.00	0.00	426192.39	853132.79	32.167668	-103.325688

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
2491.33	10.37	262.30	2487.56	-8.36	-61.83	1.50	262.30	-2.27	Start 4284.87 hold at 2491.33 MD
6776.20	10.37	262.30	6702.44	-111.64	-826.17	0.00	0.00	-30.31	Start Drop -1.50
7467.53	0.00	0.00	7390.00	-120.00	-888.00	1.50	180.00	-32.57	Start 655.04 hold at 7467.53 MD
8122.57	0.00	0.00	8045.04	-120.00	-888.00	0.00	0.00	-32.57	Start DLS 10.00 TFO 359.43
9022.57	90.00	359.43	8618.00	452.93	-893.70	10.00	359.43	538.17	Start 9614.33 hold at 9022.57 MD
18636.90	90.00	359.43	8618.00	10066.79	-989.33	0.00	0.00	10115.28	TD at 18636.90



TOTAL DIRECTIONAL SERVICES LLC

Plan: Plan #1 (FMM Fed Com 101H/OH)
Created By: Dustin Ault
Date: 14:46, August 27 2021
Approved: _____
Date: _____

Received by OCD: 3/3/2022 11:19:50 AM

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Franklin Mountain Energy

Lea County, NM (NAD83)

FMM Fed Com

FMM Fed Com 101H

OH

Plan: Plan #1

Standard Planning Report

27 August, 2021





Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Company:	Franklin Mountain Energy	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Project:	Lea County, NM (NAD83)	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Project	Lea County, NM (NAD83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	FMM Fed Com			
Site Position:		Northing:	426,192.39 usft	Latitude: 32.167668
From:	Lat/Long	Easting:	853,132.79 usft	Longitude: -103.325688
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.54 °

Well	FMM Fed Com 101H			
Well Position	+N/-S	0.00 usft	Northing:	426,192.39 usft
	+E/-W	0.00 usft	Easting:	853,132.79 usft
Position Uncertainty	0.00 usft		Wellhead Elevation:	
			Ground Level:	3,287.80 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	8/27/2021	6.40	59.88	47,465.15804989

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	354.39

Plan Survey Tool Program	Date	8/27/2021		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	18,636.73 Plan #1 (OH)	OWSG (Rev2) MWD	
			OWSG MWD - Standard	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,491.33	10.37	262.30	2,487.56	-8.36	-61.83	1.50	1.50	0.00	262.30	
6,776.20	10.37	262.30	6,702.44	-111.64	-826.17	0.00	0.00	0.00	0.00	
7,467.53	0.00	0.00	7,390.00	-120.00	-888.00	1.50	-1.50	0.00	180.00	
8,122.57	0.00	0.00	8,045.04	-120.00	-888.00	0.00	0.00	0.00	0.00	
9,022.57	90.00	359.43	8,618.00	452.93	-893.70	10.00	10.00	-0.06	359.43	
18,636.90	90.00	359.43	8,618.00	10,066.79	-989.33	0.00	0.00	0.00	0.00	PBHL (FMM Fed Corr)



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Company:	Franklin Mountain Energy	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Project:	Lea County, NM (NAD83)	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHL (FMM Fed Com 101H)									
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
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 1.50									
1,900.00	1.50	262.30	1,899.99	-0.18	-1.30	-0.05	1.50	1.50	0.00
2,000.00	3.00	262.30	1,999.91	-0.70	-5.19	-0.19	1.50	1.50	0.00
2,100.00	4.50	262.30	2,099.69	-1.58	-11.67	-0.43	1.50	1.50	0.00
2,200.00	6.00	262.30	2,199.27	-2.80	-20.74	-0.76	1.50	1.50	0.00
2,300.00	7.50	262.30	2,298.57	-4.38	-32.38	-1.19	1.50	1.50	0.00
2,400.00	9.00	262.30	2,397.54	-6.30	-46.60	-1.71	1.50	1.50	0.00
2,491.33	10.37	262.30	2,487.56	-8.36	-61.83	-2.27	1.50	1.50	0.00
Start 4284.87 hold at 2491.33 MD									
2,500.00	10.37	262.30	2,496.09	-8.56	-63.38	-2.32	0.00	0.00	0.00
2,600.00	10.37	262.30	2,594.46	-10.97	-81.21	-2.98	0.00	0.00	0.00
2,700.00	10.37	262.30	2,692.82	-13.39	-99.05	-3.63	0.00	0.00	0.00
2,800.00	10.37	262.30	2,791.19	-15.80	-116.89	-4.29	0.00	0.00	0.00
2,900.00	10.37	262.30	2,889.56	-18.21	-134.73	-4.94	0.00	0.00	0.00
3,000.00	10.37	262.30	2,987.92	-20.62	-152.57	-5.60	0.00	0.00	0.00
3,100.00	10.37	262.30	3,086.29	-23.03	-170.40	-6.25	0.00	0.00	0.00
3,200.00	10.37	262.30	3,184.66	-25.44	-188.24	-6.91	0.00	0.00	0.00
3,300.00	10.37	262.30	3,283.02	-27.85	-206.08	-7.56	0.00	0.00	0.00
3,400.00	10.37	262.30	3,381.39	-30.26	-223.92	-8.21	0.00	0.00	0.00
3,500.00	10.37	262.30	3,479.76	-32.67	-241.76	-8.87	0.00	0.00	0.00
3,600.00	10.37	262.30	3,578.12	-35.08	-259.60	-9.52	0.00	0.00	0.00
3,700.00	10.37	262.30	3,676.49	-37.49	-277.43	-10.18	0.00	0.00	0.00
3,800.00	10.37	262.30	3,774.86	-39.90	-295.27	-10.83	0.00	0.00	0.00
3,900.00	10.37	262.30	3,873.22	-42.31	-313.11	-11.49	0.00	0.00	0.00
4,000.00	10.37	262.30	3,971.59	-44.72	-330.95	-12.14	0.00	0.00	0.00
4,100.00	10.37	262.30	4,069.96	-47.13	-348.79	-12.79	0.00	0.00	0.00
4,200.00	10.37	262.30	4,168.32	-49.54	-366.62	-13.45	0.00	0.00	0.00
4,300.00	10.37	262.30	4,266.69	-51.95	-384.46	-14.10	0.00	0.00	0.00
4,400.00	10.37	262.30	4,365.06	-54.37	-402.30	-14.76	0.00	0.00	0.00
4,500.00	10.37	262.30	4,463.42	-56.78	-420.14	-15.41	0.00	0.00	0.00
4,600.00	10.37	262.30	4,561.79	-59.19	-437.98	-16.07	0.00	0.00	0.00
4,700.00	10.37	262.30	4,660.16	-61.60	-455.82	-16.72	0.00	0.00	0.00
4,800.00	10.37	262.30	4,758.52	-64.01	-473.65	-17.37	0.00	0.00	0.00



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Company:	Franklin Mountain Energy	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Project:	Lea County, NM (NAD83)	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,900.00	10.37	262.30	4,856.89	-66.42	-491.49	-18.03	0.00	0.00	0.00
5,000.00	10.37	262.30	4,955.26	-68.83	-509.33	-18.68	0.00	0.00	0.00
5,100.00	10.37	262.30	5,053.62	-71.24	-527.17	-19.34	0.00	0.00	0.00
5,200.00	10.37	262.30	5,151.99	-73.65	-545.01	-19.99	0.00	0.00	0.00
5,300.00	10.37	262.30	5,250.36	-76.06	-562.84	-20.65	0.00	0.00	0.00
5,400.00	10.37	262.30	5,348.72	-78.47	-580.68	-21.30	0.00	0.00	0.00
5,500.00	10.37	262.30	5,447.09	-80.88	-598.52	-21.95	0.00	0.00	0.00
5,600.00	10.37	262.30	5,545.46	-83.29	-616.36	-22.61	0.00	0.00	0.00
5,700.00	10.37	262.30	5,643.82	-85.70	-634.20	-23.26	0.00	0.00	0.00
5,800.00	10.37	262.30	5,742.19	-88.11	-652.04	-23.92	0.00	0.00	0.00
5,900.00	10.37	262.30	5,840.55	-90.52	-669.87	-24.57	0.00	0.00	0.00
6,000.00	10.37	262.30	5,938.92	-92.93	-687.71	-25.23	0.00	0.00	0.00
6,100.00	10.37	262.30	6,037.29	-95.34	-705.55	-25.88	0.00	0.00	0.00
6,200.00	10.37	262.30	6,135.65	-97.76	-723.39	-26.54	0.00	0.00	0.00
6,300.00	10.37	262.30	6,234.02	-100.17	-741.23	-27.19	0.00	0.00	0.00
6,400.00	10.37	262.30	6,332.39	-102.58	-759.06	-27.84	0.00	0.00	0.00
6,500.00	10.37	262.30	6,430.75	-104.99	-776.90	-28.50	0.00	0.00	0.00
6,600.00	10.37	262.30	6,529.12	-107.40	-794.74	-29.15	0.00	0.00	0.00
6,700.00	10.37	262.30	6,627.49	-109.81	-812.58	-29.81	0.00	0.00	0.00
6,776.20	10.37	262.30	6,702.44	-111.64	-826.17	-30.31	0.00	0.00	0.00
Start Drop -1.50									
6,800.00	10.01	262.30	6,725.87	-112.21	-830.34	-30.46	1.50	-1.50	0.00
6,900.00	8.51	262.30	6,824.56	-114.36	-846.30	-31.04	1.50	-1.50	0.00
7,000.00	7.01	262.30	6,923.64	-116.17	-859.68	-31.53	1.50	-1.50	0.00
7,100.00	5.51	262.30	7,023.04	-117.63	-870.49	-31.93	1.50	-1.50	0.00
7,200.00	4.01	262.30	7,122.69	-118.75	-878.72	-32.23	1.50	-1.50	0.00
7,300.00	2.51	262.30	7,222.53	-119.51	-884.36	-32.44	1.50	-1.50	0.00
7,400.00	1.01	262.30	7,322.48	-119.92	-887.41	-32.55	1.50	-1.50	0.00
7,467.53	0.00	0.00	7,390.00	-120.00	-888.00	-32.57	1.50	-1.50	0.00
Start 655.04 hold at 7467.53 MD									
7,500.00	0.00	0.00	7,422.47	-120.00	-888.00	-32.57	0.00	0.00	0.00
7,600.00	0.00	0.00	7,522.47	-120.00	-888.00	-32.57	0.00	0.00	0.00
7,700.00	0.00	0.00	7,622.47	-120.00	-888.00	-32.57	0.00	0.00	0.00
7,800.00	0.00	0.00	7,722.47	-120.00	-888.00	-32.57	0.00	0.00	0.00
7,900.00	0.00	0.00	7,822.47	-120.00	-888.00	-32.57	0.00	0.00	0.00
8,000.00	0.00	0.00	7,922.47	-120.00	-888.00	-32.57	0.00	0.00	0.00
8,100.00	0.00	0.00	8,022.47	-120.00	-888.00	-32.57	0.00	0.00	0.00
8,122.57	0.00	0.00	8,045.04	-120.00	-888.00	-32.57	0.00	0.00	0.00
Start DLS 10.00 TFO 359.43									
8,150.00	2.74	359.43	8,072.46	-119.34	-888.01	-31.92	10.00	10.00	0.00
8,200.00	7.74	359.43	8,122.24	-114.78	-888.05	-27.37	10.00	10.00	0.00
8,250.00	12.74	359.43	8,171.43	-105.89	-888.14	-18.51	10.00	10.00	0.00
8,300.00	17.74	359.43	8,219.65	-92.75	-888.27	-5.42	10.00	10.00	0.00
8,350.00	22.74	359.43	8,266.55	-75.45	-888.44	11.80	10.00	10.00	0.00
8,400.00	27.74	359.43	8,311.76	-54.14	-888.66	33.04	10.00	10.00	0.00
8,450.00	32.74	359.43	8,354.94	-28.96	-888.91	58.12	10.00	10.00	0.00
8,500.00	37.74	359.43	8,395.76	-0.12	-889.19	86.85	10.00	10.00	0.00
8,550.00	42.74	359.43	8,433.92	32.17	-889.51	119.02	10.00	10.00	0.00
8,600.00	47.74	359.43	8,469.11	67.66	-889.87	154.37	10.00	10.00	0.00
8,650.00	52.74	359.43	8,501.08	106.09	-890.25	192.65	10.00	10.00	0.00
8,700.00	57.74	359.43	8,529.57	147.15	-890.66	233.56	10.00	10.00	0.00
8,750.00	62.74	359.43	8,554.38	190.54	-891.09	276.78	10.00	10.00	0.00
8,800.00	67.74	359.43	8,575.31	235.93	-891.54	322.00	10.00	10.00	0.00



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Company:	Franklin Mountain Energy	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Project:	Lea County, NM (NAD83)	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,850.00	72.74	359.43	8,592.21	282.97	-892.01	368.86	10.00	10.00	0.00
8,900.00	77.74	359.43	8,604.94	331.30	-892.49	417.00	10.00	10.00	0.00
8,950.00	82.74	359.43	8,613.41	380.56	-892.98	466.08	10.00	10.00	0.00
9,000.00	87.74	359.43	8,617.55	430.37	-893.47	515.69	10.00	10.00	0.00
9,022.57	90.00	359.43	8,618.00	452.93	-893.70	538.17	10.00	10.00	0.00
Start 9614.33 hold at 9022.57 MD - LP (FMM Fed Com 101H)									
9,100.00	90.00	359.43	8,618.00	530.36	-894.47	615.30	0.00	0.00	0.00
9,200.00	90.00	359.43	8,618.00	630.36	-895.46	714.91	0.00	0.00	0.00
9,300.00	90.00	359.43	8,618.00	730.35	-896.46	814.53	0.00	0.00	0.00
9,400.00	90.00	359.43	8,618.00	830.35	-897.45	914.14	0.00	0.00	0.00
9,500.00	90.00	359.43	8,618.00	930.34	-898.45	1,013.75	0.00	0.00	0.00
9,600.00	90.00	359.43	8,618.00	1,030.34	-899.44	1,113.37	0.00	0.00	0.00
9,700.00	90.00	359.43	8,618.00	1,130.33	-900.44	1,212.98	0.00	0.00	0.00
9,800.00	90.00	359.43	8,618.00	1,230.33	-901.43	1,312.59	0.00	0.00	0.00
9,900.00	90.00	359.43	8,618.00	1,330.32	-902.43	1,412.20	0.00	0.00	0.00
10,000.00	90.00	359.43	8,618.00	1,430.32	-903.42	1,511.82	0.00	0.00	0.00
10,100.00	90.00	359.43	8,618.00	1,530.31	-904.42	1,611.43	0.00	0.00	0.00
10,200.00	90.00	359.43	8,618.00	1,630.31	-905.41	1,711.04	0.00	0.00	0.00
10,300.00	90.00	359.43	8,618.00	1,730.30	-906.41	1,810.66	0.00	0.00	0.00
10,400.00	90.00	359.43	8,618.00	1,830.30	-907.40	1,910.27	0.00	0.00	0.00
10,500.00	90.00	359.43	8,618.00	1,930.29	-908.39	2,009.88	0.00	0.00	0.00
10,600.00	90.00	359.43	8,618.00	2,030.29	-909.39	2,109.50	0.00	0.00	0.00
10,700.00	90.00	359.43	8,618.00	2,130.28	-910.38	2,209.11	0.00	0.00	0.00
10,800.00	90.00	359.43	8,618.00	2,230.28	-911.38	2,308.72	0.00	0.00	0.00
10,900.00	90.00	359.43	8,618.00	2,330.27	-912.37	2,408.33	0.00	0.00	0.00
11,000.00	90.00	359.43	8,618.00	2,430.27	-913.37	2,507.95	0.00	0.00	0.00
11,100.00	90.00	359.43	8,618.00	2,530.26	-914.36	2,607.56	0.00	0.00	0.00
11,200.00	90.00	359.43	8,618.00	2,630.26	-915.36	2,707.17	0.00	0.00	0.00
11,300.00	90.00	359.43	8,618.00	2,730.25	-916.35	2,806.79	0.00	0.00	0.00
11,400.00	90.00	359.43	8,618.00	2,830.25	-917.35	2,906.40	0.00	0.00	0.00
11,500.00	90.00	359.43	8,618.00	2,930.24	-918.34	3,006.01	0.00	0.00	0.00
11,600.00	90.00	359.43	8,618.00	3,030.24	-919.34	3,105.62	0.00	0.00	0.00
11,700.00	90.00	359.43	8,618.00	3,130.23	-920.33	3,205.24	0.00	0.00	0.00
11,800.00	90.00	359.43	8,618.00	3,230.23	-921.33	3,304.85	0.00	0.00	0.00
11,900.00	90.00	359.43	8,618.00	3,330.22	-922.32	3,404.46	0.00	0.00	0.00
12,000.00	90.00	359.43	8,618.00	3,430.22	-923.31	3,504.08	0.00	0.00	0.00
12,100.00	90.00	359.43	8,618.00	3,530.21	-924.31	3,603.69	0.00	0.00	0.00
12,200.00	90.00	359.43	8,618.00	3,630.21	-925.30	3,703.30	0.00	0.00	0.00
12,300.00	90.00	359.43	8,618.00	3,730.20	-926.30	3,802.92	0.00	0.00	0.00
12,400.00	90.00	359.43	8,618.00	3,830.20	-927.29	3,902.53	0.00	0.00	0.00
12,500.00	90.00	359.43	8,618.00	3,930.19	-928.29	4,002.14	0.00	0.00	0.00
12,600.00	90.00	359.43	8,618.00	4,030.19	-929.28	4,101.75	0.00	0.00	0.00
12,700.00	90.00	359.43	8,618.00	4,130.18	-930.28	4,201.37	0.00	0.00	0.00
12,800.00	90.00	359.43	8,618.00	4,230.18	-931.27	4,300.98	0.00	0.00	0.00
12,900.00	90.00	359.43	8,618.00	4,330.17	-932.27	4,400.59	0.00	0.00	0.00
13,000.00	90.00	359.43	8,618.00	4,430.17	-933.26	4,500.21	0.00	0.00	0.00
13,100.00	90.00	359.43	8,618.00	4,530.16	-934.26	4,599.82	0.00	0.00	0.00
13,200.00	90.00	359.43	8,618.00	4,630.16	-935.25	4,699.43	0.00	0.00	0.00
13,300.00	90.00	359.43	8,618.00	4,730.15	-936.25	4,799.04	0.00	0.00	0.00
13,400.00	90.00	359.43	8,618.00	4,830.15	-937.24	4,898.66	0.00	0.00	0.00
13,500.00	90.00	359.43	8,618.00	4,930.14	-938.23	4,998.27	0.00	0.00	0.00
13,600.00	90.00	359.43	8,618.00	5,030.14	-939.23	5,097.88	0.00	0.00	0.00
13,700.00	90.00	359.43	8,618.00	5,130.13	-940.22	5,197.50	0.00	0.00	0.00
13,800.00	90.00	359.43	8,618.00	5,230.13	-941.22	5,297.11	0.00	0.00	0.00



Total Directional Services

Planning Report



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Project:	Lea County, NM (NAD83)	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,900.00	90.00	359.43	8,618.00	5,330.12	-942.21	5,396.72	0.00	0.00	0.00
14,000.00	90.00	359.43	8,618.00	5,430.12	-943.21	5,496.33	0.00	0.00	0.00
14,100.00	90.00	359.43	8,618.00	5,530.11	-944.20	5,595.95	0.00	0.00	0.00
14,200.00	90.00	359.43	8,618.00	5,630.11	-945.20	5,695.56	0.00	0.00	0.00
14,300.00	90.00	359.43	8,618.00	5,730.10	-946.19	5,795.17	0.00	0.00	0.00
14,400.00	90.00	359.43	8,618.00	5,830.10	-947.19	5,894.79	0.00	0.00	0.00
14,500.00	90.00	359.43	8,618.00	5,930.09	-948.18	5,994.40	0.00	0.00	0.00
14,600.00	90.00	359.43	8,618.00	6,030.09	-949.18	6,094.01	0.00	0.00	0.00
14,700.00	90.00	359.43	8,618.00	6,130.08	-950.17	6,193.63	0.00	0.00	0.00
14,800.00	90.00	359.43	8,618.00	6,230.08	-951.17	6,293.24	0.00	0.00	0.00
14,900.00	90.00	359.43	8,618.00	6,330.07	-952.16	6,392.85	0.00	0.00	0.00
15,000.00	90.00	359.43	8,618.00	6,430.07	-953.15	6,492.46	0.00	0.00	0.00
15,100.00	90.00	359.43	8,618.00	6,530.06	-954.15	6,592.08	0.00	0.00	0.00
15,200.00	90.00	359.43	8,618.00	6,630.06	-955.14	6,691.69	0.00	0.00	0.00
15,300.00	90.00	359.43	8,618.00	6,730.05	-956.14	6,791.30	0.00	0.00	0.00
15,400.00	90.00	359.43	8,618.00	6,830.05	-957.13	6,890.92	0.00	0.00	0.00
15,500.00	90.00	359.43	8,618.00	6,930.04	-958.13	6,990.53	0.00	0.00	0.00
15,600.00	90.00	359.43	8,618.00	7,030.04	-959.12	7,090.14	0.00	0.00	0.00
15,700.00	90.00	359.43	8,618.00	7,130.03	-960.12	7,189.75	0.00	0.00	0.00
15,800.00	90.00	359.43	8,618.00	7,230.03	-961.11	7,289.37	0.00	0.00	0.00
15,900.00	90.00	359.43	8,618.00	7,330.02	-962.11	7,388.98	0.00	0.00	0.00
16,000.00	90.00	359.43	8,618.00	7,430.02	-963.10	7,488.59	0.00	0.00	0.00
16,100.00	90.00	359.43	8,618.00	7,530.01	-964.10	7,588.21	0.00	0.00	0.00
16,200.00	90.00	359.43	8,618.00	7,630.01	-965.09	7,687.82	0.00	0.00	0.00
16,300.00	90.00	359.43	8,618.00	7,730.00	-966.09	7,787.43	0.00	0.00	0.00
16,400.00	90.00	359.43	8,618.00	7,830.00	-967.08	7,887.04	0.00	0.00	0.00
16,500.00	90.00	359.43	8,618.00	7,929.99	-968.08	7,986.66	0.00	0.00	0.00
16,600.00	90.00	359.43	8,618.00	8,029.99	-969.07	8,086.27	0.00	0.00	0.00
16,700.00	90.00	359.43	8,618.00	8,129.98	-970.06	8,185.88	0.00	0.00	0.00
16,800.00	90.00	359.43	8,618.00	8,229.98	-971.06	8,285.50	0.00	0.00	0.00
16,900.00	90.00	359.43	8,618.00	8,329.97	-972.05	8,385.11	0.00	0.00	0.00
17,000.00	90.00	359.43	8,618.00	8,429.97	-973.05	8,484.72	0.00	0.00	0.00
17,100.00	90.00	359.43	8,618.00	8,529.96	-974.04	8,584.34	0.00	0.00	0.00
17,200.00	90.00	359.43	8,618.00	8,629.96	-975.04	8,683.95	0.00	0.00	0.00
17,300.00	90.00	359.43	8,618.00	8,729.95	-976.03	8,783.56	0.00	0.00	0.00
17,400.00	90.00	359.43	8,618.00	8,829.95	-977.03	8,883.17	0.00	0.00	0.00
17,500.00	90.00	359.43	8,618.00	8,929.95	-978.02	8,982.79	0.00	0.00	0.00
17,600.00	90.00	359.43	8,618.00	9,029.94	-979.02	9,082.40	0.00	0.00	0.00
17,700.00	90.00	359.43	8,618.00	9,129.94	-980.01	9,182.01	0.00	0.00	0.00
17,800.00	90.00	359.43	8,618.00	9,229.93	-981.01	9,281.63	0.00	0.00	0.00
17,900.00	90.00	359.43	8,618.00	9,329.93	-982.00	9,381.24	0.00	0.00	0.00
18,000.00	90.00	359.43	8,618.00	9,429.92	-983.00	9,480.85	0.00	0.00	0.00
18,100.00	90.00	359.43	8,618.00	9,529.92	-983.99	9,580.46	0.00	0.00	0.00
18,200.00	90.00	359.43	8,618.00	9,629.91	-984.98	9,680.08	0.00	0.00	0.00
18,300.00	90.00	359.43	8,618.00	9,729.91	-985.98	9,779.69	0.00	0.00	0.00
18,400.00	90.00	359.43	8,618.00	9,829.90	-986.97	9,879.30	0.00	0.00	0.00
18,500.00	90.00	359.43	8,618.00	9,929.90	-987.97	9,978.92	0.00	0.00	0.00
18,600.00	90.00	359.43	8,618.00	10,029.89	-988.96	10,078.53	0.00	0.00	0.00
18,636.90	90.00	359.43	8,618.00	10,066.79	-989.33	10,115.28	0.00	0.00	0.00
TD at 18636.90 - PBHL (FMM Fed Com 101H)									



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Company:	Franklin Mountain Energy	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Project:	Lea County, NM (NAD83)	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL (FMM Fed Com 101H) - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	426,192.39	853,132.79	32.167668	-103.325688
PBHL (FMM Fed Com 101H) - plan hits target center - Point	0.00	0.00	8,618.00	10,066.79	-989.33	436,259.18	852,143.46	32.195362	-103.328581
LP (FMM Fed Com 101H) - plan hits target center - Point	0.00	0.00	8,618.00	452.93	-893.70	426,645.32	852,239.09	32.168936	-103.328562

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,800.00	1,800.00	0.00	0.00	Start Build 1.50	
2,491.33	2,487.56	-8.36	-61.83	Start 4284.87 hold at 2491.33 MD	
6,776.20	6,702.44	-111.64	-826.17	Start Drop -1.50	
7,467.53	7,390.00	-120.00	-888.00	Start 655.04 hold at 7467.53 MD	
8,122.57	8,045.04	-120.00	-888.00	Start DLS 10.00 TFO 359.43	
9,022.57	8,618.00	452.93	-893.70	Start 9614.33 hold at 9022.57 MD	
18,636.90	8,618.00	10,066.79	-989.33	TD at 18636.90	



Franklin Mountain Energy

Lea County, NM (NAD83)

FMM Fed Com

FMM Fed Com 101H

OH

Plan #1

Anticollision Report

27 August, 2021





Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference	Plan #1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations
Depth Range:	1,843.00 to 28,999.00usft
Results Limited by:	Maximum ellipse separation of 1,000.00 usft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Combined Separation
Casing Method:	Not applied

Survey Tool Program		Date	8/27/2021		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	18,636.73	Plan #1 (OH)	OWSG (Rev2) MWD	OWSG MWD - Standard	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
FMM Fed Com						
FMM Fed Com 102H - OH - Plan #1	1,843.00	1,844.90	50.06	41.05	5.553	CC, ES
FMM Fed Com 102H - OH - Plan #1	1,900.00	1,901.89	51.12	41.82	5.497	SF
FMM Fed Com 301H - OH - Plan #1	1,843.00	1,843.80	25.00	15.98	2.774	CC, ES
FMM Fed Com 301H - OH - Plan #1	8,122.57	8,134.15	82.77	37.45	1.826	SF
FMM Fed Com 302H - OH - Plan #1	1,843.00	1,845.50	75.13	66.11	8.332	CC, ES
FMM Fed Com 302H - OH - Plan #1	2,000.00	2,002.37	80.09	70.29	8.176	SF
FMM Fed Com 801H - OH - Plan #1	1,843.00	1,844.10	75.97	66.96	8.429	CC
FMM Fed Com 801H - OH - Plan #1	2,000.00	2,001.01	76.34	66.55	7.796	ES
FMM Fed Com 801H - OH - Plan #1	8,122.57	8,133.85	174.83	129.57	3.863	SF
FMM Fed Com 802H - OH - Plan #1	1,843.00	1,844.40	83.86	74.85	9.303	CC, ES
FMM Fed Com 802H - OH - Plan #1	2,100.00	2,101.09	88.39	78.10	8.591	SF
FMM Fed Com 803H - OH - Plan #1	1,843.00	1,845.00	97.72	88.71	10.839	CC, ES
FMM Fed Com 803H - OH - Plan #1	2,000.00	2,001.87	100.52	90.72	10.263	SF
KC7 Fed Com/EI Paso Fed Com						
EI Paso Fed Com 604H - OH - Plan #1	1,843.00	1,889.30	3,418.02	3,408.89	374.426	CC, ES
EI Paso Fed Com 604H - OH - Plan #1	18,636.90	22,160.64	4,986.44	4,765.19	22.537	SF
EI Paso Fed Com 705H - OH - Plan #3	1,843.00	1,889.70	3,383.58	3,374.45	370.611	CC, ES
EI Paso Fed Com 705H - OH - Plan #3	18,636.90	22,482.46	4,678.09	4,467.94	22.261	SF
EI Paso Fed Com 706H - OH - Plan #1	1,843.00	1,889.10	3,452.46	3,443.33	378.220	CC, ES
EI Paso Fed Com 706H - OH - Plan #1	8,800.00	8,256.82	4,596.77	4,554.74	109.363	SF
KC7 Fed Com 603H - OH - Plan #1	1,843.00	1,889.40	3,349.17	3,340.04	366.872	CC, ES
KC7 Fed Com 603H - OH - Plan #1	18,636.90	22,310.90	4,172.11	3,964.14	20.061	SF

Offset Design												
FMM Fed Com - FMM Fed Com 102H - OH - Plan #1												
Survey Program: 0-OWSG (Rev2) MWD												
Reference												
Offset												
Semi Major Axis												
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor
1,843.00	1,843.00	1,844.90	1,844.90	6.37	6.38	-172.87	0.47	49.82	50.06	41.05	9.02	5.553 CC, ES
1,900.00	1,899.99	1,901.89	1,901.89	6.57	6.58	-173.02	0.47	49.82	51.12	41.82	9.30	5.497 SF
2,000.00	1,999.91	2,001.78	2,001.78	6.91	6.94	-173.51	0.47	49.82	55.02	45.23	9.79	5.618
2,100.00	2,099.69	2,100.00	2,099.99	7.25	7.28	-173.72	0.01	51.05	62.76	52.48	10.27	6.109
2,200.00	2,199.27	2,197.63	2,197.54	7.60	7.61	-173.37	-1.31	54.61	75.45	64.71	10.74	7.026
2,300.00	2,298.57	2,294.08	2,293.78	7.96	7.94	-172.74	-3.47	60.43	93.06	81.86	11.20	8.312

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
2,400.00	2,397.54	2,389.08	2,388.41	8.32	8.27	-172.03	-6.42	68.38	115.52	103.87	11.65	9.920		
2,491.33	2,487.56	2,474.59	2,473.37	8.66	8.57	-171.41	-9.77	77.42	140.18	128.13	12.05	11.634		
2,500.00	2,496.09	2,482.89	2,481.60	8.69	8.60	-171.36	-10.12	78.37	142.70	130.61	12.09	11.801		
2,600.00	2,594.46	2,578.58	2,576.59	9.08	8.94	-170.89	-14.17	89.31	171.69	159.13	12.56	13.667		
2,700.00	2,692.82	2,674.28	2,671.57	9.47	9.28	-170.56	-18.23	100.24	200.69	187.66	13.04	15.395		
2,800.00	2,791.19	2,769.98	2,766.56	9.86	9.63	-170.32	-22.28	111.18	229.70	216.18	13.51	16.998		
2,900.00	2,889.56	2,865.67	2,861.54	10.27	9.98	-170.13	-26.34	122.11	258.70	244.71	13.99	18.489		
3,000.00	2,987.92	2,961.37	2,956.52	10.67	10.33	-169.97	-30.39	133.05	287.71	273.24	14.47	19.878		
3,100.00	3,086.29	3,057.07	3,051.51	11.09	10.69	-169.85	-34.45	143.98	316.73	301.77	14.96	21.174		
3,200.00	3,184.66	3,152.77	3,146.49	11.50	11.05	-169.75	-38.50	154.92	345.74	330.29	15.44	22.386		
3,300.00	3,283.02	3,248.46	3,241.47	11.92	11.41	-169.66	-42.55	165.85	374.75	358.82	15.93	23.521		
3,400.00	3,381.39	3,344.16	3,336.46	12.34	11.77	-169.58	-46.61	176.79	403.77	387.34	16.42	24.586		
3,500.00	3,479.76	3,439.86	3,431.44	12.77	12.13	-169.52	-50.66	187.72	432.78	415.87	16.91	25.588		
3,600.00	3,578.12	3,535.55	3,526.43	13.19	12.50	-169.46	-54.72	198.66	461.80	444.39	17.41	26.530		
3,700.00	3,676.49	3,631.25	3,621.41	13.62	12.87	-169.41	-58.77	209.60	490.81	472.91	17.90	27.419		
3,800.00	3,774.86	3,726.95	3,716.39	14.06	13.24	-169.37	-62.83	220.53	519.83	501.43	18.40	28.259		
3,900.00	3,873.22	3,822.64	3,811.38	14.49	13.61	-169.33	-66.88	231.47	548.85	529.95	18.89	29.052		
4,000.00	3,971.59	3,918.34	3,906.36	14.93	13.98	-169.29	-70.94	242.40	577.86	558.47	19.39	29.803		
4,100.00	4,069.96	4,014.04	4,001.34	15.36	14.35	-169.26	-74.99	253.34	606.88	586.99	19.89	30.516		
4,200.00	4,168.32	4,109.74	4,096.33	15.80	14.72	-169.23	-79.05	264.27	635.90	615.51	20.39	31.192		
4,300.00	4,266.69	4,205.43	4,191.31	16.24	15.10	-169.20	-83.10	275.21	664.91	644.03	20.89	31.834		
4,400.00	4,365.06	4,301.13	4,286.30	16.68	15.47	-169.18	-87.15	286.14	693.93	672.54	21.39	32.446		
4,500.00	4,463.42	4,396.83	4,381.28	17.13	15.85	-169.16	-91.21	297.08	722.95	701.06	21.89	33.028		
4,600.00	4,561.79	4,492.52	4,476.26	17.57	16.23	-169.13	-95.26	308.02	751.96	729.57	22.39	33.583		
4,700.00	4,660.16	4,588.22	4,571.25	18.01	16.60	-169.11	-99.32	318.95	780.98	758.09	22.89	34.113		
4,800.00	4,758.52	4,683.92	4,666.23	18.46	16.98	-169.10	-103.37	329.89	810.00	786.60	23.40	34.619		
4,900.00	4,856.89	4,779.62	4,761.21	18.91	17.36	-169.08	-107.43	340.82	839.02	815.12	23.90	35.103		
5,000.00	4,955.26	4,875.31	4,856.20	19.35	17.74	-169.06	-111.48	351.76	868.03	843.63	24.41	35.566		
5,100.00	5,053.62	4,971.01	4,951.18	19.80	18.12	-169.05	-115.54	362.69	897.05	872.14	24.91	36.010		
5,200.00	5,151.99	5,066.71	5,046.16	20.25	18.50	-169.04	-119.59	373.63	926.07	900.65	25.42	36.435		
5,300.00	5,250.36	5,162.40	5,141.15	20.70	18.88	-169.02	-123.65	384.56	955.09	929.16	25.92	36.843		
5,400.00	5,348.72	5,258.10	5,236.13	21.15	19.26	-169.01	-127.70	395.50	984.11	957.68	26.43	37.235		
5,500.00	5,447.09	5,353.80	5,331.12	21.60	19.64	-169.00	-131.75	406.43	1,013.12	986.19	26.94	37.612		
5,600.00	5,545.46	5,449.49	5,426.10	22.05	20.02	-168.99	-135.81	417.37	1,042.14	1,014.70	27.44	37.974		
5,700.00	5,643.82	5,545.19	5,521.08	22.50	20.41	-168.98	-139.86	428.31	1,071.16	1,043.21	27.95	38.322		
5,800.00	5,742.19	5,640.89	5,616.07	22.95	20.79	-168.97	-143.92	439.24	1,100.18	1,071.72	28.46	38.658		
5,900.00	5,840.55	5,736.59	5,711.05	23.41	21.17	-168.96	-147.97	450.18	1,129.19	1,100.23	28.97	38.981		
6,000.00	5,938.92	5,832.28	5,806.03	23.86	21.56	-168.95	-152.03	461.11	1,158.21	1,128.74	29.48	39.293		
6,100.00	6,037.29	5,927.98	5,901.02	24.31	21.94	-168.94	-156.08	472.05	1,187.23	1,157.24	29.99	39.593		
6,200.00	6,135.65	6,023.68	5,996.00	24.77	22.32	-168.94	-160.14	482.98	1,216.25	1,185.75	30.50	39.883		
6,300.00	6,234.02	6,119.37	6,090.99	25.22	22.71	-168.93	-164.19	493.92	1,245.27	1,214.26	31.00	40.164		
6,400.00	6,332.39	6,215.07	6,185.97	25.67	23.09	-168.92	-168.24	504.85	1,274.28	1,242.77	31.51	40.434		
6,500.00	6,430.75	6,310.77	6,280.95	26.13	23.48	-168.91	-172.30	515.79	1,303.30	1,271.28	32.03	40.696		
6,600.00	6,529.12	6,406.47	6,375.94	26.58	23.86	-168.91	-176.35	526.73	1,332.32	1,299.79	32.54	40.949		
6,700.00	6,627.49	6,502.16	6,470.92	27.04	24.24	-168.90	-180.41	537.66	1,361.34	1,328.29	33.05	41.194		
6,776.20	6,702.44	6,575.08	6,543.29	27.39	24.54	-168.90	-183.50	545.99	1,383.45	1,350.01	33.44	41.376		
6,800.00	6,725.87	6,597.88	6,565.92	27.49	24.63	-168.92	-184.46	548.60	1,390.29	1,356.73	33.56	41.430		
6,900.00	6,824.56	6,694.11	6,661.43	27.93	25.02	-168.98	-188.54	559.59	1,417.49	1,383.42	34.07	41.607		
7,000.00	6,923.64	6,791.00	6,757.60	28.35	25.41	-169.01	-192.65	570.67	1,442.20	1,407.62	34.58	41.708		
7,100.00	7,023.04	6,888.48	6,854.36	28.75	25.80	-169.01	-196.78	581.81	1,464.42	1,429.33	35.09	41.735		
7,200.00	7,122.69	7,032.41	6,997.44	29.12	26.37	-168.97	-202.18	596.39	1,482.93	1,447.10	35.83	41.388		
7,300.00	7,222.53	7,190.65	7,155.29	29.48	26.96	-168.95	-205.98	606.63	1,495.10	1,458.51	36.59	40.862		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 102H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
7,400.00	7,322.48	7,350.41	7,314.98	29.81	27.51	-168.96	-207.50	610.74	1,500.74	1,463.45	37.29	40.243				
7,467.53	7,390.00	7,427.33	7,391.90	30.02	27.76	93.34	-207.53	610.82	1,501.37	1,463.73	37.64	39.884				
7,500.00	7,422.47	7,459.81	7,424.37	30.12	27.87	93.34	-207.53	610.82	1,501.37	1,463.58	37.80	39.722				
7,600.00	7,522.47	7,559.81	7,524.37	30.43	28.19	93.34	-207.53	610.82	1,501.37	1,463.10	38.27	39.230				
7,700.00	7,622.47	7,659.81	7,624.37	30.73	28.52	93.34	-207.53	610.82	1,501.37	1,462.63	38.75	38.750				
7,800.00	7,722.47	7,759.81	7,724.37	31.04	28.85	93.34	-207.53	610.82	1,501.37	1,462.15	39.22	38.280				
7,900.00	7,822.47	7,859.81	7,824.37	31.34	29.17	93.34	-207.53	610.82	1,501.37	1,461.68	39.70	37.821				
8,000.00	7,922.47	7,964.87	7,929.43	31.65	29.52	93.32	-206.83	610.81	1,501.33	1,461.15	40.19	37.359				
8,100.00	8,022.47	8,083.39	8,046.35	31.96	29.87	92.63	-188.80	610.63	1,500.37	1,459.68	40.69	36.875				
8,122.57	8,045.04	8,108.79	8,070.77	32.03	29.94	92.36	-181.82	610.56	1,500.03	1,459.23	40.79	36.771				
8,150.00	8,072.46	8,139.00	8,099.38	32.12	30.02	92.63	-172.11	610.47	1,499.61	1,458.69	40.92	36.650				
8,200.00	8,122.24	8,192.70	8,148.81	32.27	30.15	92.07	-151.19	610.26	1,498.95	1,457.82	41.13	36.441				
8,250.00	8,171.43	8,244.74	8,194.65	32.41	30.27	91.51	-126.59	610.01	1,498.44	1,457.11	41.34	36.249				
8,300.00	8,219.65	8,295.25	8,236.82	32.55	30.36	90.94	-98.83	609.73	1,498.09	1,456.56	41.53	36.071				
8,350.00	8,266.55	8,344.34	8,275.32	32.68	30.44	90.38	-68.39	609.42	1,497.90	1,456.18	41.72	35.907				
8,384.69	8,298.12	8,377.64	8,299.89	32.77	30.49	89.99	-45.92	609.20	1,497.86	1,456.02	41.84	35.800				
8,400.00	8,311.76	8,392.15	8,310.17	32.80	30.51	89.82	-35.69	609.10	1,497.87	1,455.98	41.89	35.754				
8,450.00	8,354.94	8,438.78	8,341.43	32.92	30.56	89.26	-1.11	608.75	1,497.99	1,455.93	42.07	35.611				
8,500.00	8,395.76	8,484.34	8,369.15	33.02	30.61	88.72	35.03	608.39	1,498.26	1,456.03	42.23	35.477				
8,550.00	8,433.92	8,528.93	8,393.42	33.11	30.64	88.19	72.42	608.01	1,498.67	1,456.27	42.40	35.349				
8,600.00	8,469.11	8,572.65	8,414.32	33.19	30.67	87.67	110.81	607.63	1,499.19	1,456.63	42.56	35.225				
8,650.00	8,501.08	8,615.58	8,431.94	33.27	30.70	87.17	149.94	607.23	1,499.81	1,457.08	42.73	35.104				
8,700.00	8,529.57	8,657.80	8,446.36	33.34	30.73	86.69	189.61	606.84	1,500.51	1,457.62	42.89	34.984				
8,750.00	8,554.38	8,700.00	8,457.82	33.41	30.78	86.22	230.22	606.43	1,501.28	1,458.21	43.06	34.862				
8,800.00	8,575.31	8,740.41	8,465.96	33.49	30.84	85.79	269.78	606.03	1,502.08	1,458.84	43.24	34.740				
8,850.00	8,592.21	8,780.93	8,471.31	33.56	30.94	85.39	309.94	605.63	1,502.91	1,459.48	43.42	34.612				
8,900.00	8,604.94	8,821.00	8,473.79	33.65	31.05	85.01	349.92	605.23	1,503.73	1,460.12	43.61	34.480				
8,950.00	8,613.41	8,866.67	8,474.00	33.76	31.21	84.65	395.59	604.77	1,504.48	1,460.64	43.83	34.322				
9,000.00	8,617.55	8,916.48	8,474.00	33.88	31.42	84.46	445.40	604.27	1,504.87	1,460.77	44.10	34.126				
9,022.57	8,618.00	8,939.04	8,474.00	33.94	31.52	84.44	467.95	604.04	1,504.91	1,460.68	44.23	34.026				
9,100.00	8,618.00	9,016.47	8,474.00	34.19	31.89	84.44	545.39	603.27	1,504.90	1,460.19	44.71	33.657				
9,200.00	8,618.00	9,116.47	8,474.00	34.60	32.44	84.44	645.38	602.26	1,504.89	1,459.45	45.44	33.117				
9,300.00	8,618.00	9,216.47	8,474.00	35.09	33.07	84.44	745.38	601.26	1,504.88	1,458.61	46.28	32.519				
9,400.00	8,618.00	9,316.47	8,474.00	35.67	33.76	84.44	845.37	600.26	1,504.88	1,457.66	47.21	31.875				
9,500.00	8,618.00	9,416.47	8,474.00	36.33	34.52	84.44	945.37	599.25	1,504.87	1,456.63	48.24	31.195				
9,600.00	8,618.00	9,516.47	8,474.00	37.05	35.34	84.44	1,045.36	598.25	1,504.86	1,455.50	49.36	30.489				
9,700.00	8,618.00	9,616.47	8,474.00	37.84	36.21	84.44	1,145.36	597.25	1,504.85	1,454.29	50.56	29.765				
9,800.00	8,618.00	9,716.47	8,474.00	38.69	37.13	84.44	1,245.35	596.25	1,504.84	1,453.01	51.83	29.032				
9,900.00	8,618.00	9,816.47	8,474.00	39.59	38.10	84.44	1,345.35	595.24	1,504.83	1,451.65	53.18	28.296				
10,000.00	8,618.00	9,916.47	8,474.00	40.54	39.12	84.44	1,445.34	594.24	1,504.83	1,450.23	54.60	27.563				
10,100.00	8,618.00	10,016.47	8,474.00	41.53	40.18	84.44	1,545.33	593.24	1,504.82	1,448.75	56.07	26.837				
10,200.00	8,618.00	10,116.47	8,474.00	42.57	41.27	84.44	1,645.33	592.23	1,504.81	1,447.21	57.60	26.124				
10,300.00	8,618.00	10,216.47	8,474.00	43.64	42.41	84.44	1,745.32	591.23	1,504.80	1,445.61	59.19	25.425				
10,400.00	8,618.00	10,316.47	8,474.00	44.75	43.57	84.44	1,845.32	590.23	1,504.79	1,443.97	60.82	24.742				
10,500.00	8,618.00	10,416.47	8,474.00	45.90	44.77	84.44	1,945.31	589.22	1,504.78	1,442.29	62.49	24.079				
10,600.00	8,618.00	10,516.47	8,474.00	47.07	45.99	84.44	2,045.31	588.22	1,504.78	1,440.57	64.21	23.435				
10,700.00	8,618.00	10,616.47	8,474.00	48.27	47.24	84.44	2,145.30	587.22	1,504.77	1,438.80	65.96	22.812				
10,800.00	8,618.00	10,716.47	8,474.00	49.50	48.51	84.44	2,245.30	586.21	1,504.76	1,437.01	67.75	22.210				
10,900.00	8,618.00	10,816.47	8,474.00	50.75	49.81	84.44	2,345.29	585.21	1,504.75	1,435.18	69.57	21.629				
11,000.00	8,618.00	10,916.47	8,474.00	52.02	51.12	84.44	2,445.29	584.21	1,504.74	1,433.32	71.42	21.068				
11,100.00	8,618.00	11,016.47	8,474.00	53.32	52.46	84.44	2,545.28	583.20	1,504.73	1,431.43	73.30	20.529				
11,200.00	8,618.00	11,116.47	8,474.00	54.63	53.81	84.44	2,645.28	582.20	1,504.72	1,429.52	75.20	20.009				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design FMM Fed Com - FMM Fed Com 102H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
11,300.00	8,618.00	11,216.47	8,474.00	55.96	55.17	84.44	2,745.27	581.20	1,504.72	1,427.59	77.13	19.510		
11,400.00	8,618.00	11,316.47	8,474.00	57.31	56.56	84.44	2,845.27	580.20	1,504.71	1,425.63	79.07	19.029		
11,500.00	8,618.00	11,416.47	8,474.00	58.68	57.95	84.44	2,945.26	579.19	1,504.70	1,423.66	81.04	18.567		
11,600.00	8,618.00	11,516.47	8,474.00	60.05	59.36	84.44	3,045.26	578.19	1,504.69	1,421.66	83.03	18.123		
11,700.00	8,618.00	11,616.47	8,474.00	61.45	60.79	84.44	3,145.25	577.19	1,504.68	1,419.65	85.03	17.696		
11,800.00	8,618.00	11,716.47	8,474.00	62.85	62.22	84.44	3,245.25	576.18	1,504.67	1,417.62	87.05	17.285		
11,900.00	8,618.00	11,816.47	8,474.00	64.27	63.66	84.44	3,345.24	575.18	1,504.67	1,415.58	89.08	16.890		
12,000.00	8,618.00	11,916.47	8,474.00	65.69	65.12	84.44	3,445.24	574.18	1,504.66	1,413.52	91.13	16.511		
12,100.00	8,618.00	12,016.47	8,474.00	67.13	66.58	84.44	3,545.23	573.17	1,504.65	1,411.46	93.19	16.145		
12,200.00	8,618.00	12,116.47	8,474.00	68.58	68.05	84.44	3,645.23	572.17	1,504.64	1,409.37	95.27	15.794		
12,300.00	8,618.00	12,216.47	8,474.00	70.03	69.53	84.44	3,745.22	571.17	1,504.63	1,407.28	97.35	15.456		
12,400.00	8,618.00	12,316.47	8,474.00	71.50	71.02	84.44	3,845.22	570.16	1,504.62	1,405.18	99.45	15.130		
12,500.00	8,618.00	12,416.47	8,474.00	72.97	72.52	84.44	3,945.21	569.16	1,504.62	1,403.06	101.55	14.816		
12,600.00	8,618.00	12,516.47	8,474.00	74.45	74.02	84.44	4,045.21	568.16	1,504.61	1,400.94	103.67	14.514		
12,700.00	8,618.00	12,616.47	8,474.00	75.94	75.52	84.44	4,145.20	567.16	1,504.60	1,398.81	105.79	14.222		
12,800.00	8,618.00	12,716.47	8,474.00	77.43	77.04	84.44	4,245.20	566.15	1,504.59	1,396.66	107.93	13.941		
12,900.00	8,618.00	12,816.47	8,474.00	78.93	78.56	84.44	4,345.19	565.15	1,504.58	1,394.52	110.07	13.670		
13,000.00	8,618.00	12,916.47	8,474.00	80.44	80.08	84.44	4,445.19	564.15	1,504.57	1,392.36	112.21	13.408		
13,100.00	8,618.00	13,016.47	8,474.00	81.95	81.61	84.44	4,545.18	563.14	1,504.56	1,390.20	114.37	13.155		
13,200.00	8,618.00	13,116.47	8,474.00	83.47	83.14	84.44	4,645.18	562.14	1,504.56	1,388.03	116.53	12.911		
13,300.00	8,618.00	13,216.47	8,474.00	84.99	84.68	84.44	4,745.17	561.14	1,504.55	1,385.85	118.70	12.675		
13,400.00	8,618.00	13,316.47	8,474.00	86.52	86.23	84.44	4,845.17	560.13	1,504.54	1,383.67	120.87	12.447		
13,500.00	8,618.00	13,416.47	8,474.00	88.05	87.77	84.44	4,945.16	559.13	1,504.53	1,381.48	123.05	12.227		
13,600.00	8,618.00	13,516.47	8,474.00	89.58	89.32	84.44	5,045.16	558.13	1,504.52	1,379.29	125.24	12.013		
13,700.00	8,618.00	13,616.47	8,474.00	91.12	90.88	84.44	5,145.15	557.12	1,504.51	1,377.09	127.43	11.807		
13,800.00	8,618.00	13,716.47	8,474.00	92.67	92.43	84.43	5,245.15	556.12	1,504.51	1,374.89	129.62	11.607		
13,900.00	8,618.00	13,816.47	8,474.00	94.21	93.99	84.43	5,345.14	555.12	1,504.50	1,372.68	131.82	11.413		
14,000.00	8,618.00	13,916.47	8,474.00	95.76	95.56	84.43	5,445.14	554.11	1,504.49	1,370.47	134.02	11.226		
14,100.00	8,618.00	14,016.47	8,474.00	97.32	97.12	84.43	5,545.13	553.11	1,504.48	1,368.25	136.23	11.044		
14,200.00	8,618.00	14,116.47	8,474.00	98.88	98.69	84.43	5,645.13	552.11	1,504.47	1,366.03	138.44	10.867		
14,300.00	8,618.00	14,216.47	8,474.00	100.44	100.27	84.43	5,745.12	551.11	1,504.46	1,363.81	140.66	10.696		
14,400.00	8,618.00	14,316.47	8,474.00	102.00	101.84	84.43	5,845.12	550.10	1,504.46	1,361.58	142.87	10.530		
14,500.00	8,618.00	14,416.47	8,474.00	103.57	103.42	84.43	5,945.11	549.10	1,504.45	1,359.35	145.10	10.369		
14,600.00	8,618.00	14,516.47	8,474.00	105.13	105.00	84.43	6,045.11	548.10	1,504.44	1,357.12	147.32	10.212		
14,700.00	8,618.00	14,616.47	8,474.00	106.71	106.58	84.43	6,145.10	547.09	1,504.43	1,354.88	149.55	10.060		
14,800.00	8,618.00	14,716.47	8,474.00	108.28	108.16	84.43	6,245.10	546.09	1,504.42	1,352.64	151.78	9.912		
14,900.00	8,618.00	14,816.47	8,474.00	109.85	109.75	84.43	6,345.09	545.09	1,504.41	1,350.40	154.01	9.768		
15,000.00	8,618.00	14,916.47	8,474.00	111.43	111.33	84.43	6,445.09	544.08	1,504.41	1,348.15	156.25	9.628		
15,100.00	8,618.00	15,016.47	8,474.00	113.01	112.92	84.43	6,545.08	543.08	1,504.40	1,345.91	158.49	9.492		
15,200.00	8,618.00	15,116.47	8,474.00	114.60	114.52	84.43	6,645.08	542.08	1,504.39	1,343.66	160.73	9.360		
15,300.00	8,618.00	15,216.47	8,474.00	116.18	116.11	84.43	6,745.07	541.07	1,504.38	1,341.40	162.98	9.231		
15,400.00	8,618.00	15,316.47	8,474.00	117.77	117.70	84.43	6,845.07	540.07	1,504.37	1,339.15	165.22	9.105		
15,500.00	8,618.00	15,416.47	8,474.00	119.35	119.30	84.43	6,945.06	539.07	1,504.36	1,336.89	167.47	8.983		
15,600.00	8,618.00	15,516.47	8,474.00	120.94	120.90	84.43	7,045.06	538.06	1,504.35	1,334.63	169.72	8.864		
15,700.00	8,618.00	15,616.47	8,474.00	122.53	122.50	84.43	7,145.05	537.06	1,504.35	1,332.37	171.97	8.747		
15,800.00	8,618.00	15,716.47	8,474.00	124.13	124.10	84.43	7,245.05	536.06	1,504.34	1,330.11	174.23	8.634		
15,900.00	8,618.00	15,816.47	8,474.00	125.72	125.70	84.43	7,345.04	535.06	1,504.33	1,327.84	176.49	8.524		
16,000.00	8,618.00	15,916.47	8,474.00	127.32	127.30	84.43	7,445.04	534.05	1,504.32	1,325.58	178.74	8.416		
16,100.00	8,618.00	16,016.47	8,474.00	128.91	128.91	84.43	7,545.03	533.05	1,504.31	1,323.31	181.00	8.311		
16,200.00	8,618.00	16,116.47	8,474.00	130.51	130.51	84.43	7,645.03	532.05	1,504.30	1,321.04	183.26	8.208		
16,300.00	8,618.00	16,216.47	8,474.00	132.11	132.12	84.43	7,745.02	531.04	1,504.30	1,318.77	185.53	8.108		
16,400.00	8,618.00	16,316.47	8,474.00	133.71	133.73	84.43	7,845.02	530.04	1,504.29	1,316.50	187.79	8.010		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
16,500.00	8,618.00	16,416.47	8,474.00	135.32	135.34	84.43	7,945.01	529.04	1,504.28	1,314.22	190.06	7.915		
16,600.00	8,618.00	16,516.47	8,474.00	136.92	136.95	84.43	8,045.01	528.03	1,504.27	1,311.95	192.33	7.821		
16,700.00	8,618.00	16,616.47	8,474.00	138.52	138.56	84.43	8,145.00	527.03	1,504.26	1,309.67	194.59	7.730		
16,800.00	8,618.00	16,716.47	8,474.00	140.13	140.17	84.43	8,245.00	526.03	1,504.25	1,307.39	196.86	7.641		
16,900.00	8,618.00	16,816.47	8,474.00	141.74	141.78	84.43	8,344.99	525.02	1,504.25	1,305.11	199.14	7.554		
17,000.00	8,618.00	16,916.47	8,474.00	143.35	143.39	84.43	8,444.99	524.02	1,504.24	1,302.83	201.41	7.469		
17,100.00	8,618.00	17,016.47	8,474.00	144.95	145.01	84.43	8,544.98	523.02	1,504.23	1,300.55	203.68	7.385		
17,200.00	8,618.00	17,116.47	8,474.00	146.56	146.62	84.43	8,644.98	522.01	1,504.22	1,298.26	205.96	7.304		
17,300.00	8,618.00	17,216.47	8,474.00	148.18	148.24	84.43	8,744.97	521.01	1,504.21	1,295.98	208.23	7.224		
17,400.00	8,618.00	17,316.47	8,474.00	149.79	149.86	84.43	8,844.97	520.01	1,504.20	1,293.69	210.51	7.145		
17,500.00	8,618.00	17,416.47	8,474.00	151.40	151.48	84.43	8,944.96	519.01	1,504.20	1,291.41	212.79	7.069		
17,600.00	8,618.00	17,516.47	8,474.00	153.01	153.09	84.43	9,044.96	518.00	1,504.19	1,289.12	215.07	6.994		
17,700.00	8,618.00	17,616.47	8,474.00	154.63	154.71	84.43	9,144.95	517.00	1,504.18	1,286.83	217.35	6.921		
17,800.00	8,618.00	17,716.47	8,474.00	156.24	156.33	84.43	9,244.95	516.00	1,504.17	1,284.54	219.63	6.849		
17,900.00	8,618.00	17,816.47	8,474.00	157.86	157.95	84.43	9,344.94	514.99	1,504.16	1,282.25	221.91	6.778		
18,000.00	8,618.00	17,916.47	8,474.00	159.47	159.58	84.43	9,444.94	513.99	1,504.15	1,279.96	224.19	6.709		
18,100.00	8,618.00	18,016.47	8,474.00	161.09	161.20	84.43	9,544.93	512.99	1,504.14	1,277.67	226.48	6.641		
18,200.00	8,618.00	18,116.47	8,474.00	162.71	162.82	84.43	9,644.93	511.98	1,504.14	1,275.37	228.76	6.575		
18,300.00	8,618.00	18,216.47	8,474.00	164.33	164.44	84.43	9,744.92	510.98	1,504.13	1,273.08	231.05	6.510		
18,400.00	8,618.00	18,316.47	8,474.00	165.95	166.07	84.43	9,844.92	509.98	1,504.12	1,270.78	233.34	6.446		
18,500.00	8,618.00	18,416.47	8,474.00	167.57	167.69	84.43	9,944.91	508.97	1,504.11	1,268.49	235.62	6.384		
18,600.00	8,618.00	18,516.47	8,474.00	169.19	169.32	84.43	10,044.91	507.97	1,504.10	1,266.19	237.91	6.322		
18,632.03	8,618.00	18,548.37	8,474.00	169.71	169.83	84.43	10,076.81	507.65	1,504.10	1,265.46	238.64	6.303		
18,636.90	8,618.00	18,548.37	8,474.00	169.79	169.83	84.43	10,076.81	507.65	1,504.11	1,265.43	238.68	6.302		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 301H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre		Between	Between	Minimum	Separation				
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	(usft)	(usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Centres (usft)	Ellipses (usft)	Separation (usft)	Factor				
1,843.00	1,843.00	1,843.80	1,843.80	6.37	6.38	-172.91	0.23	24.76	25.00	15.98	9.01	2.774	CC, ES			
1,900.00	1,899.99	1,900.79	1,900.79	6.57	6.58	-173.20	0.23	24.76	26.06	16.76	9.30	2.802				
2,000.00	1,999.91	2,000.71	2,000.71	6.91	6.94	-174.08	0.23	24.76	29.96	20.17	9.79	3.060				
2,100.00	2,099.69	2,101.42	2,101.41	7.25	7.29	-174.77	-0.06	23.44	35.15	24.88	10.28	3.421				
2,200.00	2,199.27	2,202.27	2,202.17	7.60	7.63	-174.96	-0.93	19.53	40.36	29.62	10.75	3.755				
2,300.00	2,298.57	2,303.25	2,302.93	7.96	7.98	-174.83	-2.38	13.01	45.58	34.36	11.22	4.064				
2,400.00	2,397.54	2,404.37	2,403.62	8.32	8.33	-174.46	-4.41	3.88	50.80	39.12	11.68	4.349				
2,491.33	2,487.56	2,496.84	2,495.44	8.66	8.65	-173.98	-6.78	-6.74	55.56	43.47	12.10	4.593				
2,500.00	2,496.09	2,505.63	2,504.15	8.69	8.69	-173.93	-7.03	-7.86	56.01	43.87	12.14	4.614				
2,600.00	2,594.46	2,607.06	2,604.51	9.08	9.05	-173.11	-10.23	-22.23	59.71	47.11	12.59	4.741				
2,700.00	2,692.82	2,708.62	2,704.56	9.47	9.43	-171.84	-14.01	-39.22	60.83	47.78	13.04	4.663				
2,800.00	2,791.19	2,809.40	2,803.42	9.86	9.81	-170.08	-18.26	-58.34	59.70	46.18	13.52	4.416				
2,900.00	2,889.56	2,909.37	2,901.41	10.27	10.21	-168.16	-22.56	-77.65	58.30	44.27	14.03	4.155				
3,000.00	2,987.92	3,009.34	2,999.41	10.67	10.60	-166.15	-26.86	-96.96	56.97	42.42	14.55	3.916				
3,100.00	3,086.29	3,109.31	3,097.40	11.09	11.01	-164.05	-31.16	-116.27	55.71	40.64	15.07	3.696				
3,200.00	3,184.66	3,209.28	3,195.39	11.50	11.42	-161.85	-35.46	-135.58	54.52	38.92	15.60	3.494				
3,300.00	3,283.02	3,309.25	3,293.39	11.92	11.84	-159.56	-39.75	-154.88	53.43	37.28	16.15	3.309				
3,400.00	3,381.39	3,409.22	3,391.38	12.34	12.26	-157.18	-44.05	-174.19	52.42	35.72	16.70	3.139				
3,500.00	3,479.76	3,509.19	3,489.38	12.77	12.69	-154.71	-48.35	-193.50	51.50	34.24	17.26	2.983				
3,600.00	3,578.12	3,609.16	3,587.37	13.19	13.12	-152.15	-52.65	-212.81	50.69	32.85	17.84	2.841				
3,700.00	3,676.49	3,709.13	3,685.37	13.62	13.55	-149.52	-56.94	-232.12	49.97	31.54	18.43	2.712				
3,800.00	3,774.86	3,809.11	3,783.36	14.06	13.99	-146.82	-61.24	-251.42	49.37	30.34	19.03	2.594				
3,900.00	3,873.22	3,909.08	3,881.35	14.49	14.43	-144.05	-65.54	-270.73	48.88	29.23	19.65	2.488				
4,000.00	3,971.59	4,009.05	3,979.35	14.93	14.87	-141.24	-69.84	-290.04	48.50	28.23	20.28	2.392				
4,100.00	4,069.96	4,109.02	4,077.34	15.36	15.32	-138.39	-74.14	-309.35	48.25	27.33	20.92	2.306				
4,200.00	4,168.32	4,208.99	4,175.34	15.80	15.77	-135.51	-78.43	-328.66	48.11	26.53	21.58	2.230				
4,261.50	4,228.82	4,270.47	4,235.60	16.07	16.04	-133.74	-81.08	-340.53	48.09	26.10	21.99	2.187				
4,300.00	4,266.69	4,308.96	4,273.33	16.24	16.21	-132.63	-82.73	-347.96	48.10	25.85	22.25	2.162				
4,400.00	4,365.06	4,408.93	4,371.32	16.68	16.67	-129.75	-87.03	-367.27	48.21	25.28	22.93	2.103				
4,500.00	4,463.42	4,508.90	4,469.32	17.13	17.12	-126.90	-91.33	-386.58	48.43	24.82	23.61	2.051				
4,600.00	4,561.79	4,608.87	4,567.31	17.57	17.57	-124.07	-95.62	-405.89	48.78	24.47	24.31	2.007				
4,700.00	4,660.16	4,708.84	4,665.31	18.01	18.03	-121.30	-99.92	-425.20	49.25	24.24	25.01	1.969				
4,800.00	4,758.52	4,808.81	4,763.30	18.46	18.49	-118.58	-104.22	-444.51	49.82	24.12	25.71	1.938				
4,900.00	4,856.89	4,908.78	4,861.30	18.91	18.95	-115.93	-108.52	-463.81	50.51	24.10	26.41	1.912				
5,000.00	4,955.26	5,008.75	4,959.29	19.35	19.41	-113.35	-112.82	-483.12	51.31	24.19	27.11	1.892				
5,100.00	5,053.62	5,108.72	5,057.28	19.80	19.87	-110.86	-117.11	-502.43	52.20	24.38	27.81	1.877				
5,200.00	5,151.99	5,208.70	5,155.28	20.25	20.33	-108.46	-121.41	-521.74	53.19	24.68	28.51	1.865				
5,300.00	5,250.36	5,308.67	5,253.27	20.70	20.79	-106.15	-125.71	-541.05	54.26	25.06	29.20	1.858				
5,400.00	5,348.72	5,408.64	5,351.27	21.15	21.26	-103.93	-130.01	-560.35	55.43	25.54	29.89	1.854				
5,500.00	5,447.09	5,508.61	5,449.26	21.60	21.72	-101.81	-134.30	-579.66	56.67	26.10	30.57	1.854				
5,600.00	5,545.46	5,608.58	5,547.26	22.05	22.19	-99.78	-138.60	-598.97	57.99	26.75	31.24	1.856				
5,700.00	5,643.82	5,708.55	5,645.25	22.50	22.65	-97.84	-142.90	-618.28	59.37	27.47	31.91	1.861				
5,800.00	5,742.19	5,808.52	5,743.24	22.95	23.12	-95.99	-147.20	-637.59	60.83	28.26	32.57	1.868				
5,900.00	5,840.55	5,908.49	5,841.24	23.41	23.59	-94.23	-151.50	-656.89	62.34	29.11	33.22	1.876				
6,000.00	5,938.92	6,008.46	5,939.23	23.86	24.06	-92.56	-155.79	-676.20	63.91	30.03	33.87	1.887				
6,100.00	6,037.29	6,108.43	6,037.23	24.31	24.53	-90.96	-160.09	-695.51	65.53	31.01	34.52	1.898				
6,200.00	6,135.65	6,208.40	6,135.22	24.77	25.00	-89.45	-164.39	-714.82	67.19	32.04	35.15	1.911				
6,300.00	6,234.02	6,308.37	6,233.22	25.22	25.47	-88.01	-168.69	-734.13	68.91	33.12	35.78	1.926				
6,400.00	6,332.39	6,408.34	6,331.21	25.67	25.94	-86.64	-172.98	-753.43	70.66	34.25	36.41	1.941				
6,500.00	6,430.75	6,508.31	6,429.20	26.13	26.41	-85.34	-177.28	-772.74	72.45	35.42	37.04	1.956				
6,600.00	6,529.12	6,608.29	6,527.20	26.58	26.88	-84.10	-181.58	-792.05	74.28	36.63	37.66	1.973				
6,700.00	6,627.49	6,708.26	6,625.19	27.04	27.35	-82.92	-185.88	-811.36	76.14	37.87	38.27	1.990				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
6,776.20	6,702.44	6,784.71	6,700.25	27.39	27.71	-82.45	-189.05	-825.59	77.46	38.71	38.75	1.999		
6,800.00	6,725.87	6,808.62	6,723.77	27.49	27.81	-82.49	-189.97	-829.75	77.82	38.91	38.91	2.000		
6,900.00	6,824.56	6,909.05	6,822.87	27.93	28.26	-82.60	-193.50	-845.63	79.18	39.65	39.53	2.003		
7,000.00	6,923.64	7,009.48	6,922.37	28.35	28.68	-82.70	-196.47	-858.96	80.33	40.20	40.13	2.002		
7,100.00	7,023.04	7,109.92	7,022.20	28.75	29.08	-82.76	-198.87	-869.73	81.26	40.56	40.69	1.997		
7,200.00	7,122.69	7,210.37	7,122.29	29.12	29.45	-82.81	-200.70	-877.94	81.96	40.74	41.22	1.988		
7,300.00	7,222.53	7,310.82	7,222.57	29.48	29.81	-82.83	-201.95	-883.57	82.45	40.73	41.72	1.976		
7,400.00	7,322.48	7,411.27	7,322.97	29.81	30.14	-82.84	-202.63	-886.64	82.72	40.53	42.19	1.961		
7,467.53	7,390.00	7,479.10	7,390.79	30.02	30.35	179.48	-202.77	-887.24	82.77	40.29	42.49	1.948		
7,500.00	7,422.47	7,511.58	7,423.27	30.12	30.45	179.48	-202.77	-887.24	82.77	40.15	42.62	1.942		
7,600.00	7,522.47	7,611.58	7,523.27	30.43	30.75	179.48	-202.77	-887.24	82.77	39.72	43.05	1.922		
7,700.00	7,622.47	7,711.58	7,623.27	30.73	31.05	179.48	-202.77	-887.24	82.77	39.29	43.49	1.903		
7,800.00	7,722.47	7,811.58	7,723.27	31.04	31.35	179.48	-202.77	-887.24	82.77	38.85	43.92	1.885		
7,900.00	7,822.47	7,911.58	7,823.27	31.34	31.65	179.48	-202.77	-887.24	82.77	38.42	44.35	1.866		
8,000.00	7,922.47	8,011.58	7,923.27	31.65	31.96	179.48	-202.77	-887.24	82.77	37.98	44.79	1.848		
8,100.00	8,022.47	8,111.58	8,023.27	31.96	32.26	179.48	-202.77	-887.24	82.77	37.55	45.23	1.830		
8,122.57	8,045.04	8,134.15	8,045.84	32.03	32.33	179.48	-202.77	-887.24	82.77	37.45	45.32	1.826 SF		
8,150.00	8,072.46	8,161.57	8,073.26	32.12	32.42	-179.95	-202.77	-887.24	83.43	37.98	45.44	1.836		
8,200.00	8,122.24	8,211.35	8,123.04	32.27	32.57	-179.96	-202.77	-887.24	88.00	42.33	45.66	1.927		
8,250.00	8,171.43	8,260.53	8,172.23	32.41	32.72	-179.96	-202.77	-887.24	96.89	51.00	45.88	2.112		
8,300.00	8,219.65	8,308.76	8,220.45	32.55	32.87	-179.96	-202.77	-887.24	110.03	63.93	46.09	2.387		
8,350.00	8,266.55	8,355.66	8,267.35	32.68	33.02	-179.97	-202.77	-887.24	127.32	81.02	46.30	2.750		
8,400.00	8,311.76	8,400.87	8,312.56	32.80	33.16	-179.97	-202.77	-887.24	148.64	102.14	46.49	3.197		
8,450.00	8,354.94	8,444.05	8,355.74	32.92	33.29	-179.97	-202.77	-887.24	173.81	127.14	46.68	3.724		
8,500.00	8,395.76	8,484.87	8,396.56	33.02	33.42	-179.98	-202.77	-887.24	202.66	155.81	46.85	4.326		
8,550.00	8,433.92	8,523.02	8,434.72	33.11	33.53	-179.98	-202.77	-887.24	234.95	187.94	47.00	4.998		
8,600.00	8,469.11	8,558.22	8,469.91	33.19	33.64	-179.98	-202.77	-887.24	270.44	223.30	47.15	5.736		
8,650.00	8,501.08	8,590.18	8,501.88	33.27	33.74	-179.98	-202.77	-887.24	308.87	261.60	47.27	6.534		
8,700.00	8,529.57	8,618.68	8,530.37	33.34	33.83	-179.98	-202.77	-887.24	349.94	302.56	47.38	7.386		
8,750.00	8,554.38	8,643.49	8,555.18	33.41	33.91	-179.98	-202.77	-887.24	393.33	345.86	47.47	8.286		
8,800.00	8,575.31	8,664.42	8,576.11	33.49	33.97	-179.98	-202.77	-887.24	438.72	391.17	47.55	9.227		
8,850.00	8,592.21	8,681.31	8,593.01	33.56	34.03	-179.97	-202.77	-887.24	485.76	438.16	47.60	10.204		
8,900.00	8,604.94	8,694.05	8,605.74	33.65	34.07	-179.97	-202.77	-887.24	534.10	486.45	47.65	11.210		
8,950.00	8,613.41	8,702.52	8,614.21	33.76	34.09	-179.95	-202.77	-887.24	583.36	535.68	47.67	12.236		
9,000.00	8,617.55	8,706.66	8,618.35	33.88	34.11	-179.84	-202.77	-887.24	633.17	585.48	47.69	13.277		
9,022.57	8,618.00	8,707.10	8,618.80	33.94	34.11	-90.13	-202.77	-887.24	655.73	608.04	47.69	13.749		
9,100.00	8,618.00	8,707.10	8,618.80	34.19	34.11	-90.14	-202.77	-887.24	733.16	685.47	47.69	15.372		
9,200.00	8,618.00	8,707.10	8,618.80	34.60	34.11	-90.16	-202.77	-887.24	833.16	785.46	47.70	17.467		
9,300.00	8,618.00	8,707.10	8,618.80	35.09	34.11	-90.18	-202.77	-887.24	933.16	885.46	47.70	19.561		
9,400.00	8,618.00	8,707.10	8,618.80	35.67	34.11	-90.20	-202.77	-887.24	1,033.16	985.45	47.71	21.655		
9,500.00	8,618.00	8,707.10	8,618.80	36.33	34.11	-90.22	-202.77	-887.24	1,133.16	1,085.45	47.72	23.748		
9,600.00	8,618.00	8,707.10	8,618.80	37.05	34.11	-90.24	-202.77	-887.24	1,233.16	1,185.44	47.72	25.840		
9,700.00	8,618.00	8,707.10	8,618.80	37.84	34.11	-90.26	-202.77	-887.24	1,333.16	1,285.43	47.73	27.931		
9,800.00	8,618.00	8,707.10	8,618.80	38.69	34.11	-90.28	-202.77	-887.24	1,433.16	1,385.43	47.74	30.022		
9,900.00	8,618.00	11,448.55	10,073.00	39.59	43.70	-180.00	1,330.32	-902.48	1,454.20	1,424.38	29.82	48.773		
10,000.00	8,618.00	11,548.55	10,073.00	40.54	44.56	-180.00	1,430.32	-903.48	1,454.20	1,423.74	30.46	47.740		
10,100.00	8,618.00	11,648.55	10,073.00	41.53	45.48	-180.00	1,530.31	-904.47	1,454.20	1,423.07	31.13	46.710		
10,200.00	8,618.00	11,748.55	10,073.00	42.57	46.43	-180.00	1,630.31	-905.47	1,454.20	1,422.37	31.83	45.689		
10,300.00	8,618.00	11,848.55	10,073.00	43.64	47.43	-180.00	1,730.30	-906.46	1,454.20	1,421.65	32.55	44.680		
10,400.00	8,618.00	11,948.55	10,073.00	44.75	48.46	-180.00	1,830.30	-907.45	1,454.20	1,420.91	33.29	43.686		
10,500.00	8,618.00	12,048.55	10,073.00	45.90	49.52	-180.00	1,930.29	-908.45	1,454.20	1,420.15	34.05	42.710		
10,600.00	8,618.00	12,148.55	10,073.00	47.07	50.62	-180.00	2,030.29	-909.44	1,454.20	1,419.37	34.83	41.754		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design FMM Fed Com - FMM Fed Com 301H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,700.00	8,618.00	12,248.55	10,073.00	48.27	51.74	-180.00	2,130.28	-910.44	1,454.20	1,418.58	35.62	40.820		
10,800.00	8,618.00	12,348.55	10,073.00	49.50	52.90	-180.00	2,230.28	-911.43	1,454.20	1,417.76	36.44	39.909		
10,900.00	8,618.00	12,448.55	10,073.00	50.75	54.08	-180.00	2,330.27	-912.42	1,454.20	1,416.93	37.27	39.021		
11,000.00	8,618.00	12,548.55	10,073.00	52.02	55.28	-180.00	2,430.27	-913.42	1,454.20	1,416.09	38.11	38.158		
11,100.00	8,618.00	12,648.55	10,073.00	53.32	56.51	-180.00	2,530.26	-914.41	1,454.20	1,415.23	38.97	37.319		
11,200.00	8,618.00	12,748.55	10,073.00	54.63	57.75	-180.00	2,630.26	-915.41	1,454.20	1,414.36	39.84	36.505		
11,300.00	8,618.00	12,848.55	10,073.00	55.96	59.02	-180.00	2,730.25	-916.40	1,454.20	1,413.48	40.72	35.716		
11,400.00	8,618.00	12,948.55	10,073.00	57.31	60.31	-180.00	2,830.25	-917.39	1,454.20	1,412.59	41.61	34.950		
11,500.00	8,618.00	13,048.55	10,073.00	58.68	61.61	-180.00	2,930.24	-918.39	1,454.20	1,411.69	42.51	34.209		
11,600.00	8,618.00	13,148.55	10,073.00	60.05	62.93	-180.00	3,030.24	-919.38	1,454.20	1,410.78	43.42	33.490		
11,700.00	8,618.00	13,248.55	10,073.00	61.45	64.26	-180.00	3,130.23	-920.38	1,454.20	1,409.86	44.34	32.795		
11,800.00	8,618.00	13,348.55	10,073.00	62.85	65.61	-180.00	3,230.23	-921.37	1,454.20	1,408.93	45.27	32.122		
11,900.00	8,618.00	13,448.55	10,073.00	64.27	66.97	-180.00	3,330.22	-922.36	1,454.20	1,407.99	46.21	31.470		
12,000.00	8,618.00	13,548.55	10,073.00	65.69	68.35	-180.00	3,430.22	-923.36	1,454.20	1,407.05	47.15	30.840		
12,100.00	8,618.00	13,648.55	10,073.00	67.13	69.74	-180.00	3,530.21	-924.35	1,454.20	1,406.09	48.11	30.229		
12,200.00	8,618.00	13,748.55	10,073.00	68.58	71.14	-180.00	3,630.21	-925.35	1,454.20	1,405.14	49.06	29.639		
12,300.00	8,618.00	13,848.55	10,073.00	70.03	72.55	-180.00	3,730.20	-926.34	1,454.20	1,404.17	50.03	29.067		
12,400.00	8,618.00	13,948.55	10,073.00	71.50	73.96	-180.00	3,830.20	-927.33	1,454.20	1,403.20	51.00	28.514		
12,500.00	8,618.00	14,048.55	10,073.00	72.97	75.39	-180.00	3,930.19	-928.33	1,454.20	1,402.22	51.98	27.978		
12,600.00	8,618.00	14,148.55	10,073.00	74.45	76.83	-180.00	4,030.19	-929.32	1,454.20	1,401.24	52.96	27.460		
12,700.00	8,618.00	14,248.55	10,073.00	75.94	78.28	-180.00	4,130.18	-930.32	1,454.20	1,400.26	53.94	26.958		
12,800.00	8,618.00	14,348.55	10,073.00	77.43	79.73	-180.00	4,230.18	-931.31	1,454.20	1,399.26	54.94	26.471		
12,900.00	8,618.00	14,448.55	10,073.00	78.93	81.19	-180.00	4,330.17	-932.30	1,454.20	1,398.27	55.93	26.000		
13,000.00	8,618.00	14,548.55	10,073.00	80.44	82.66	-180.00	4,430.17	-933.30	1,454.20	1,397.27	56.93	25.543		
13,100.00	8,618.00	14,648.55	10,073.00	81.95	84.14	-180.00	4,530.16	-934.29	1,454.20	1,396.27	57.93	25.101		
13,200.00	8,618.00	14,748.55	10,073.00	83.47	85.62	-180.00	4,630.16	-935.29	1,454.20	1,395.26	58.94	24.672		
13,300.00	8,618.00	14,848.55	10,073.00	84.99	87.11	-180.00	4,730.15	-936.28	1,454.20	1,394.25	59.95	24.255		
13,400.00	8,618.00	14,948.55	10,073.00	86.52	88.60	-180.00	4,830.15	-937.27	1,454.20	1,393.23	60.97	23.852		
13,500.00	8,618.00	15,048.55	10,073.00	88.05	90.10	-180.00	4,930.14	-938.27	1,454.20	1,392.21	61.99	23.460		
13,600.00	8,618.00	15,148.55	10,073.00	89.58	91.61	-180.00	5,030.14	-939.26	1,454.20	1,391.19	63.01	23.080		
13,700.00	8,618.00	15,248.55	10,073.00	91.12	93.12	-180.00	5,130.13	-940.26	1,454.20	1,390.17	64.03	22.711		
13,800.00	8,618.00	15,348.55	10,073.00	92.67	94.63	-180.00	5,230.13	-941.25	1,454.20	1,389.14	65.06	22.352		
13,900.00	8,618.00	15,448.55	10,073.00	94.21	96.15	-180.00	5,330.12	-942.24	1,454.20	1,388.11	66.09	22.004		
14,000.00	8,618.00	15,548.55	10,073.00	95.76	97.67	-180.00	5,430.12	-943.24	1,454.20	1,387.08	67.12	21.665		
14,100.00	8,618.00	15,648.55	10,073.00	97.32	99.20	-180.00	5,530.11	-944.23	1,454.20	1,386.04	68.16	21.336		
14,200.00	8,618.00	15,748.55	10,073.00	98.88	100.73	-180.00	5,630.11	-945.23	1,454.20	1,385.01	69.19	21.017		
14,300.00	8,618.00	15,848.55	10,073.00	100.44	102.27	-180.00	5,730.10	-946.22	1,454.20	1,383.97	70.23	20.706		
14,400.00	8,618.00	15,948.55	10,073.00	102.00	103.80	-180.00	5,830.10	-947.21	1,454.20	1,382.93	71.27	20.403		
14,500.00	8,618.00	16,048.55	10,073.00	103.57	105.35	-180.00	5,930.09	-948.21	1,454.20	1,381.88	72.32	20.109		
14,600.00	8,618.00	16,148.55	10,073.00	105.13	106.89	-180.00	6,030.09	-949.20	1,454.20	1,380.84	73.36	19.822		
14,700.00	8,618.00	16,248.55	10,073.00	106.71	108.44	-180.00	6,130.08	-950.20	1,454.20	1,379.79	74.41	19.543		
14,800.00	8,618.00	16,348.55	10,073.00	108.28	109.99	-180.00	6,230.08	-951.19	1,454.20	1,378.74	75.46	19.272		
14,900.00	8,618.00	16,448.55	10,073.00	109.85	111.55	-180.00	6,330.07	-952.18	1,454.20	1,377.69	76.51	19.007		
15,000.00	8,618.00	16,548.55	10,073.00	111.43	113.10	-180.00	6,430.07	-953.18	1,454.20	1,376.64	77.56	18.749		
15,100.00	8,618.00	16,648.55	10,073.00	113.01	114.66	-180.00	6,530.06	-954.17	1,454.20	1,375.59	78.61	18.498		
15,200.00	8,618.00	16,748.55	10,073.00	114.60	116.23	-180.00	6,630.06	-955.17	1,454.20	1,374.53	79.67	18.253		
15,300.00	8,618.00	16,848.55	10,073.00	116.18	117.79	-180.00	6,730.05	-956.16	1,454.20	1,373.47	80.73	18.014		
15,400.00	8,618.00	16,948.55	10,073.00	117.77	119.36	-180.00	6,830.05	-957.16	1,454.20	1,372.42	81.78	17.781		
15,500.00	8,618.00	17,048.55	10,073.00	119.35	120.93	-180.00	6,930.04	-958.15	1,454.20	1,371.36	82.84	17.553		
15,600.00	8,618.00	17,148.55	10,073.00	120.94	122.50	-180.00	7,030.04	-959.14	1,454.20	1,370.29	83.91	17.331		
15,700.00	8,618.00	17,248.55	10,073.00	122.53	124.07	-180.00	7,130.03	-960.14	1,454.20	1,369.23	84.97	17.115		
15,800.00	8,618.00	17,348.55	10,073.00	124.13	125.65	-180.00	7,230.03	-961.13	1,454.20	1,368.17	86.03	16.903		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
15,900.00	8,618.00	17,448.55	10,073.00	125.72	127.23	-180.00	7,330.02	-962.13	1,454.20	1,367.10	87.10	16.697		
16,000.00	8,618.00	17,548.55	10,073.00	127.32	128.81	-180.00	7,430.02	-963.12	1,454.20	1,366.04	88.16	16.495		
16,100.00	8,618.00	17,648.55	10,073.00	128.91	130.39	-180.00	7,530.01	-964.11	1,454.20	1,364.97	89.23	16.298		
16,200.00	8,618.00	17,748.55	10,073.00	130.51	131.97	-180.00	7,630.01	-965.11	1,454.20	1,363.90	90.30	16.105		
16,300.00	8,618.00	17,848.55	10,073.00	132.11	133.56	-180.00	7,730.00	-966.10	1,454.20	1,362.84	91.36	15.917		
16,400.00	8,618.00	17,948.55	10,073.00	133.71	135.14	-180.00	7,830.00	-967.10	1,454.20	1,361.77	92.43	15.732		
16,500.00	8,618.00	18,048.55	10,073.00	135.32	136.73	-180.00	7,929.99	-968.09	1,454.20	1,360.70	93.50	15.552		
16,600.00	8,618.00	18,148.55	10,073.00	136.92	138.32	-180.00	8,029.99	-969.08	1,454.20	1,359.62	94.58	15.376		
16,700.00	8,618.00	18,248.55	10,073.00	138.52	139.91	-180.00	8,129.98	-970.08	1,454.20	1,358.55	95.65	15.204		
16,800.00	8,618.00	18,348.55	10,073.00	140.13	141.50	-180.00	8,229.98	-971.07	1,454.20	1,357.48	96.72	15.035		
16,900.00	8,618.00	18,448.55	10,073.00	141.74	143.10	-180.00	8,329.97	-972.07	1,454.20	1,356.40	97.80	14.870		
17,000.00	8,618.00	18,548.55	10,073.00	143.35	144.69	-180.00	8,429.97	-973.06	1,454.20	1,355.33	98.87	14.708		
17,100.00	8,618.00	18,648.55	10,073.00	144.95	146.29	-180.00	8,529.96	-974.05	1,454.20	1,354.25	99.95	14.550		
17,200.00	8,618.00	18,748.55	10,073.00	146.56	147.89	-180.00	8,629.96	-975.05	1,454.20	1,353.18	101.02	14.395		
17,300.00	8,618.00	18,848.55	10,073.00	148.18	149.48	-180.00	8,729.95	-976.04	1,454.20	1,352.10	102.10	14.243		
17,400.00	8,618.00	18,948.55	10,073.00	149.79	151.08	-180.00	8,829.95	-977.04	1,454.20	1,351.02	103.18	14.094		
17,500.00	8,618.00	19,048.55	10,073.00	151.40	152.69	-180.00	8,929.94	-978.03	1,454.20	1,349.94	104.26	13.948		
17,600.00	8,618.00	19,148.55	10,073.00	153.01	154.29	-180.00	9,029.94	-979.02	1,454.20	1,348.86	105.34	13.805		
17,700.00	8,618.00	19,248.55	10,073.00	154.63	155.89	-180.00	9,129.93	-980.02	1,454.20	1,347.78	106.42	13.665		
17,800.00	8,618.00	19,348.55	10,073.00	156.24	157.49	-180.00	9,229.93	-981.01	1,454.20	1,346.70	107.50	13.528		
17,900.00	8,618.00	19,448.55	10,073.00	157.86	159.10	-180.00	9,329.92	-982.01	1,454.20	1,345.62	108.58	13.393		
18,000.00	8,618.00	19,548.55	10,073.00	159.47	160.71	-180.00	9,429.92	-983.00	1,454.20	1,344.54	109.66	13.261		
18,100.00	8,618.00	19,648.55	10,073.00	161.09	162.31	-180.00	9,529.92	-983.99	1,454.20	1,343.46	110.74	13.132		
18,200.00	8,618.00	19,748.55	10,073.00	162.71	163.92	-180.00	9,629.91	-984.99	1,454.20	1,342.38	111.82	13.004		
18,300.00	8,618.00	19,848.55	10,073.00	164.33	165.53	-180.00	9,729.91	-985.98	1,454.20	1,341.29	112.91	12.880		
18,400.00	8,618.00	19,948.55	10,073.00	165.95	167.14	-180.00	9,829.90	-986.98	1,454.20	1,340.21	113.99	12.757		
18,500.00	8,618.00	20,048.55	10,073.00	167.57	168.75	180.00	9,929.90	-987.97	1,454.20	1,339.13	115.07	12.637		
18,600.00	8,618.00	20,148.55	10,073.00	169.19	170.36	180.00	10,029.89	-988.96	1,454.20	1,338.04	116.16	12.519		
18,636.90	8,618.00	20,185.45	10,073.00	169.79	170.96	180.00	10,066.79	-989.33	1,454.20	1,337.64	116.56	12.476		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 302H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
1,843.00	1,843.00	1,845.50	1,845.50	6.37	6.38	-172.86	0.70	74.89	75.13	66.11	9.02	8.332 CC, ES				
1,900.00	1,899.99	1,902.49	1,902.49	6.57	6.59	-172.96	0.70	74.89	76.19	66.89	9.30	8.191				
2,000.00	1,999.91	2,002.37	2,002.37	6.91	6.94	-173.30	0.70	74.89	80.09	70.29	9.79	8.176 SF				
2,100.00	2,099.69	2,100.00	2,099.99	7.25	7.28	-173.35	0.08	76.04	87.75	77.48	10.27	8.542				
2,200.00	2,199.27	2,197.33	2,197.24	7.60	7.61	-172.85	-1.72	79.37	100.21	89.48	10.74	9.333				
2,300.00	2,298.57	2,293.42	2,293.13	7.96	7.93	-172.03	-4.66	84.79	117.45	106.25	11.19	10.491				
2,400.00	2,397.54	2,388.14	2,387.47	8.32	8.26	-171.09	-8.67	92.21	139.41	127.76	11.64	11.972				
2,491.33	2,487.56	2,473.19	2,471.98	8.66	8.55	-170.23	-13.23	100.63	163.54	151.49	12.05	13.575				
2,500.00	2,496.09	2,481.38	2,480.11	8.69	8.58	-170.16	-13.71	101.53	166.01	153.93	12.09	13.734				
2,600.00	2,594.46	2,577.18	2,575.16	9.08	8.92	-169.43	-19.38	112.00	194.62	182.07	12.56	15.498				
2,700.00	2,692.82	2,672.97	2,670.21	9.47	9.26	-168.89	-25.05	122.48	223.25	210.22	13.03	17.132				
2,800.00	2,791.19	2,768.77	2,765.26	9.86	9.61	-168.47	-30.72	132.95	251.90	238.39	13.51	18.647				
2,900.00	2,889.56	2,864.56	2,860.32	10.27	9.96	-168.13	-36.38	143.43	280.55	266.56	13.99	20.055				
3,000.00	2,987.92	2,960.36	2,955.37	10.67	10.31	-167.86	-42.05	153.91	309.22	294.74	14.47	21.366				
3,100.00	3,086.29	3,056.15	3,050.42	11.09	10.67	-167.64	-47.72	164.38	337.88	322.93	14.96	22.589				
3,200.00	3,184.66	3,151.95	3,145.47	11.50	11.03	-167.45	-53.39	174.86	366.55	351.11	15.45	23.732				
3,300.00	3,283.02	3,247.74	3,240.52	11.92	11.39	-167.28	-59.06	185.33	395.23	379.29	15.94	24.802				
3,400.00	3,381.39	3,343.54	3,335.57	12.34	11.75	-167.14	-64.72	195.81	423.91	407.48	16.43	25.806				
3,500.00	3,479.76	3,439.33	3,430.63	12.77	12.12	-167.02	-70.39	206.29	452.58	435.66	16.92	26.748				
3,600.00	3,578.12	3,535.13	3,525.68	13.19	12.48	-166.91	-76.06	216.76	481.27	463.85	17.41	27.635				
3,700.00	3,676.49	3,630.92	3,620.73	13.62	12.85	-166.82	-81.73	227.24	509.95	492.04	17.91	28.471				
3,800.00	3,774.86	3,726.72	3,715.78	14.06	13.22	-166.73	-87.40	237.72	538.63	520.22	18.41	29.259				
3,900.00	3,873.22	3,822.51	3,810.83	14.49	13.59	-166.65	-93.07	248.19	567.32	548.41	18.91	30.004				
4,000.00	3,971.59	3,918.31	3,905.88	14.93	13.97	-166.58	-98.73	258.67	596.00	576.59	19.41	30.709				
4,100.00	4,069.96	4,014.10	4,000.94	15.36	14.34	-166.52	-104.40	269.14	624.69	604.78	19.91	31.377				
4,200.00	4,168.32	4,109.90	4,095.99	15.80	14.71	-166.46	-110.07	279.62	653.37	632.96	20.41	32.011				
4,300.00	4,266.69	4,205.69	4,191.04	16.24	15.09	-166.41	-115.74	290.10	682.06	661.15	20.91	32.613				
4,400.00	4,365.06	4,301.49	4,286.09	16.68	15.47	-166.36	-121.41	300.57	710.75	689.33	21.42	33.185				
4,500.00	4,463.42	4,397.28	4,381.14	17.13	15.84	-166.32	-127.07	311.05	739.44	717.51	21.92	33.730				
4,600.00	4,561.79	4,493.08	4,476.19	17.57	16.22	-166.27	-132.74	321.52	768.12	745.70	22.43	34.249				
4,700.00	4,660.16	4,588.87	4,571.25	18.01	16.60	-166.24	-138.41	332.00	796.81	773.88	22.93	34.744				
4,800.00	4,758.52	4,684.67	4,666.30	18.46	16.98	-166.20	-144.08	342.48	825.50	802.06	23.44	35.217				
4,900.00	4,856.89	4,780.46	4,761.35	18.91	17.36	-166.17	-149.75	352.95	854.19	830.24	23.95	35.669				
5,000.00	4,955.26	4,876.26	4,856.40	19.35	17.74	-166.13	-155.41	363.43	882.88	858.43	24.46	36.101				
5,100.00	5,053.62	4,972.05	4,951.45	19.80	18.12	-166.11	-161.08	373.91	911.57	886.61	24.96	36.515				
5,200.00	5,151.99	5,067.85	5,046.50	20.25	18.51	-166.08	-166.75	384.38	940.26	914.79	25.47	36.912				
5,300.00	5,250.36	5,163.64	5,141.56	20.70	18.89	-166.05	-172.42	394.86	968.95	942.97	25.98	37.292				
5,400.00	5,348.72	5,259.44	5,236.61	21.15	19.27	-166.03	-178.09	405.33	997.64	971.15	26.49	37.657				
5,500.00	5,447.09	5,355.23	5,331.66	21.60	19.66	-166.00	-183.75	415.81	1,026.33	999.33	27.00	38.008				
5,600.00	5,545.46	5,451.03	5,426.71	22.05	20.04	-165.98	-189.42	426.29	1,055.02	1,027.51	27.51	38.345				
5,700.00	5,643.82	5,546.82	5,521.76	22.50	20.42	-165.96	-195.09	436.76	1,083.71	1,055.69	28.03	38.669				
5,800.00	5,742.19	5,642.62	5,616.81	22.95	20.81	-165.94	-200.76	447.24	1,112.40	1,083.87	28.54	38.981				
5,900.00	5,840.55	5,738.41	5,711.87	23.41	21.19	-165.92	-206.43	457.71	1,141.10	1,112.05	29.05	39.282				
6,000.00	5,938.92	5,834.21	5,806.92	23.86	21.58	-165.91	-212.09	468.19	1,169.79	1,140.23	29.56	39.571				
6,100.00	6,037.29	5,930.00	5,901.97	24.31	21.96	-165.89	-217.76	478.67	1,198.48	1,168.40	30.07	39.850				
6,200.00	6,135.65	6,025.80	5,997.02	24.77	22.35	-165.87	-223.43	489.14	1,227.17	1,196.58	30.59	40.120				
6,300.00	6,234.02	6,121.59	6,092.07	25.22	22.74	-165.86	-229.10	499.62	1,255.86	1,224.76	31.10	40.380				
6,400.00	6,332.39	6,217.39	6,187.12	25.67	23.12	-165.84	-234.77	510.10	1,284.55	1,252.94	31.61	40.631				
6,500.00	6,430.75	6,313.18	6,282.18	26.13	23.51	-165.83	-240.44	520.57	1,313.24	1,281.12	32.13	40.874				
6,600.00	6,529.12	6,408.98	6,377.23	26.58	23.90	-165.82	-246.10	531.05	1,341.94	1,309.29	32.64	41.109				
6,700.00	6,627.49	6,504.78	6,472.28	27.04	24.28	-165.80	-251.77	541.52	1,370.63	1,337.47	33.16	41.336				
6,776.20	6,702.44	6,577.77	6,544.70	27.39	24.58	-165.79	-256.09	549.51	1,392.49	1,358.94	33.55	41.505				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 302H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
6,800.00	6,725.87	6,600.59	6,567.35	27.49	24.67	-165.82	-257.44	552.00	1,399.25	1,365.58	33.67	41.554				
6,900.00	6,824.56	6,696.90	6,662.91	27.93	25.06	-165.89	-263.14	562.54	1,426.14	1,391.96	34.19	41.716				
7,000.00	6,923.64	6,793.86	6,759.12	28.35	25.45	-165.92	-268.88	573.14	1,450.58	1,415.88	34.70	41.803				
7,100.00	7,023.04	6,891.39	6,855.89	28.75	25.85	-165.92	-274.65	583.80	1,472.55	1,437.34	35.21	41.818				
7,200.00	7,122.69	7,039.80	7,003.44	29.12	26.43	-165.87	-282.23	597.82	1,490.54	1,454.57	35.98	41.431				
7,300.00	7,222.53	7,195.75	7,159.02	29.48	27.01	-165.85	-287.26	607.11	1,502.33	1,465.60	36.72	40.910				
7,400.00	7,322.48	7,353.10	7,316.30	29.81	27.56	-165.85	-289.26	610.82	1,507.79	1,470.38	37.41	40.301				
7,467.53	7,390.00	7,429.30	7,392.50	30.02	27.81	96.44	-289.30	610.89	1,508.42	1,470.66	37.76	39.947				
7,500.00	7,422.47	7,461.78	7,424.97	30.12	27.91	96.44	-289.30	610.89	1,508.42	1,470.50	37.91	39.786				
7,600.00	7,522.47	7,561.78	7,524.97	30.43	28.23	96.44	-289.30	610.89	1,508.42	1,470.03	38.38	39.297				
7,700.00	7,622.47	7,661.78	7,624.97	30.73	28.56	96.44	-289.30	610.89	1,508.42	1,469.56	38.86	38.820				
7,800.00	7,722.47	7,761.78	7,724.97	31.04	28.88	96.44	-289.30	610.89	1,508.42	1,469.09	39.33	38.354				
7,900.00	7,822.47	7,861.78	7,824.97	31.34	29.20	96.44	-289.30	610.89	1,508.42	1,468.61	39.80	37.897				
8,000.00	7,922.47	7,961.78	7,924.97	31.65	29.53	96.44	-289.30	610.89	1,508.42	1,468.14	40.28	37.451				
8,100.00	8,022.47	8,061.78	8,024.97	31.96	29.86	96.44	-289.30	610.89	1,508.42	1,467.66	40.75	37.014				
8,122.57	8,045.04	8,084.34	8,047.54	32.03	29.93	96.44	-289.30	610.89	1,508.42	1,467.56	40.86	36.917				
8,150.00	8,072.46	8,111.76	8,074.96	32.12	30.02	97.03	-289.30	610.89	1,508.50	1,467.51	40.99	36.802				
8,200.00	8,122.24	8,161.54	8,124.74	32.27	30.18	97.15	-289.30	610.89	1,509.06	1,467.84	41.22	36.607				
8,250.00	8,171.43	8,210.73	8,173.93	32.41	30.34	97.36	-289.30	610.89	1,510.20	1,468.75	41.45	36.433				
8,300.00	8,219.65	8,258.95	8,222.15	32.55	30.50	97.66	-289.30	610.89	1,511.99	1,470.31	41.67	36.282				
8,350.00	8,266.55	8,305.85	8,269.05	32.68	30.66	98.02	-289.30	610.89	1,514.50	1,472.62	41.89	36.158				
8,400.00	8,311.76	8,351.06	8,314.26	32.80	30.80	98.41	-289.30	610.89	1,517.87	1,475.78	42.09	36.062				
8,450.00	8,354.94	8,394.24	8,357.44	32.92	30.95	98.79	-289.30	610.89	1,522.22	1,479.93	42.29	35.998				
8,500.00	8,395.76	8,435.06	8,398.26	33.02	31.08	99.12	-289.30	610.89	1,527.70	1,485.23	42.47	35.970				
8,550.00	8,433.92	8,473.22	8,436.42	33.11	31.21	99.37	-289.30	610.89	1,534.45	1,491.81	42.65	35.981				
8,600.00	8,469.11	8,508.41	8,471.61	33.19	31.32	99.48	-289.30	610.89	1,542.62	1,499.81	42.81	36.035				
8,650.00	8,501.08	8,540.38	8,503.58	33.27	31.43	99.42	-289.30	610.89	1,552.33	1,509.37	42.96	36.135				
8,700.00	8,529.57	8,568.87	8,532.07	33.34	31.52	99.14	-289.30	610.89	1,563.69	1,520.59	43.10	36.282				
8,750.00	8,554.38	8,593.68	8,556.88	33.41	31.60	98.61	-289.30	610.89	1,576.76	1,533.54	43.22	36.480				
8,800.00	8,575.31	8,614.61	8,577.81	33.49	31.67	97.78	-289.30	610.89	1,591.59	1,548.25	43.33	36.730				
8,850.00	8,592.21	8,631.51	8,594.71	33.56	31.73	96.64	-289.30	610.89	1,608.16	1,564.73	43.43	37.032				
8,900.00	8,604.94	8,644.24	8,607.44	33.65	31.77	95.15	-289.30	610.89	1,626.43	1,582.93	43.51	37.385				
8,950.00	8,613.41	8,652.71	8,615.91	33.76	31.80	93.31	-289.30	610.89	1,646.31	1,602.74	43.57	37.788				
9,000.00	8,617.55	8,656.85	8,620.05	33.88	31.81	91.11	-289.30	610.89	1,667.64	1,624.03	43.61	38.238				
9,022.57	8,618.00	8,657.30	8,620.50	33.94	31.81	90.00	-289.30	610.89	1,677.70	1,634.07	43.63	38.456				
9,100.00	8,618.00	8,657.30	8,620.50	34.19	31.81	90.00	-289.30	610.89	1,714.04	1,670.37	43.67	39.246				
9,200.00	8,618.00	8,657.30	8,620.50	34.60	31.81	90.00	-289.30	610.89	1,764.89	1,721.15	43.75	40.343				
9,300.00	8,618.00	8,657.30	8,620.50	35.09	31.81	90.00	-289.30	610.89	1,819.83	1,776.00	43.83	41.521				
9,400.00	8,618.00	8,657.30	8,620.50	35.67	31.81	90.00	-289.30	610.89	1,878.48	1,834.56	43.92	42.773				
9,500.00	8,618.00	8,657.30	8,620.50	36.33	31.81	90.00	-289.30	610.89	1,940.52	1,896.51	44.01	44.094				
9,600.00	8,618.00	8,657.30	8,620.50	37.05	31.81	90.00	-289.30	610.89	2,005.62	1,961.52	44.10	45.476				
9,700.00	8,618.00	11,186.49	9,961.00	37.84	40.63	131.84	1,145.24	596.60	2,009.55	1,964.64	44.91	44.744				
9,800.00	8,618.00	11,286.49	9,961.00	38.69	41.47	131.84	1,245.23	595.60	2,009.55	1,963.64	45.91	43.776				
9,900.00	8,618.00	11,386.49	9,961.00	39.59	42.35	131.84	1,345.23	594.61	2,009.55	1,962.59	46.95	42.799				
10,000.00	8,618.00	11,486.49	9,961.00	40.54	43.28	131.84	1,445.22	593.61	2,009.54	1,961.49	48.05	41.821				
10,100.00	8,618.00	11,586.49	9,961.00	41.53	44.25	131.84	1,545.22	592.62	2,009.54	1,960.35	49.20	40.847				
10,200.00	8,618.00	11,686.49	9,961.00	42.57	45.27	131.84	1,645.21	591.62	2,009.54	1,959.16	50.39	39.883				
10,300.00	8,618.00	11,786.49	9,961.00	43.64	46.31	131.84	1,745.21	590.62	2,009.54	1,957.93	51.62	38.932				
10,400.00	8,618.00	11,886.49	9,961.00	44.75	47.39	131.84	1,845.20	589.63	2,009.54	1,956.66	52.88	37.999				
10,500.00	8,618.00	11,986.49	9,961.00	45.90	48.51	131.84	1,945.20	588.63	2,009.54	1,955.35	54.19	37.084				
10,600.00	8,618.00	12,086.49	9,961.00	47.07	49.65	131.84	2,045.19	587.64	2,009.54	1,954.02	55.52	36.193				
10,700.00	8,618.00	12,186.49	9,961.00	48.27	50.82	131.84	2,145.19	586.64	2,009.54	1,952.65	56.89	35.324				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,800.00	8,618.00	12,286.49	9,961.00	49.50	52.02	131.84	2,245.18	585.64	2,009.54	1,951.26	58.28	34.479		
10,900.00	8,618.00	12,386.49	9,961.00	50.75	53.24	131.84	2,345.18	584.65	2,009.54	1,949.83	59.70	33.659		
11,000.00	8,618.00	12,486.49	9,961.00	52.02	54.48	131.84	2,445.17	583.65	2,009.54	1,948.39	61.15	32.864		
11,100.00	8,618.00	12,586.49	9,961.00	53.32	55.74	131.84	2,545.17	582.66	2,009.54	1,946.92	62.61	32.095		
11,200.00	8,618.00	12,686.49	9,961.00	54.63	57.03	131.84	2,645.16	581.66	2,009.53	1,945.44	64.10	31.350		
11,300.00	8,618.00	12,786.49	9,961.00	55.96	58.33	131.84	2,745.16	580.67	2,009.53	1,943.93	65.61	30.630		
11,400.00	8,618.00	12,886.49	9,961.00	57.31	59.65	131.84	2,845.15	579.67	2,009.53	1,942.40	67.13	29.935		
11,500.00	8,618.00	12,986.49	9,961.00	58.68	60.98	131.84	2,945.15	578.67	2,009.53	1,940.86	68.67	29.263		
11,600.00	8,618.00	13,086.49	9,961.00	60.05	62.33	131.84	3,045.15	577.68	2,009.53	1,939.30	70.23	28.614		
11,700.00	8,618.00	13,186.49	9,961.00	61.45	63.70	131.84	3,145.14	576.68	2,009.53	1,937.73	71.80	27.988		
11,800.00	8,618.00	13,286.49	9,961.00	62.85	65.08	131.84	3,245.14	575.69	2,009.53	1,936.14	73.38	27.383		
11,900.00	8,618.00	13,386.49	9,961.00	64.27	66.47	131.84	3,345.13	574.69	2,009.53	1,934.55	74.98	26.800		
12,000.00	8,618.00	13,486.49	9,961.00	65.69	67.87	131.84	3,445.13	573.69	2,009.53	1,932.94	76.59	26.237		
12,100.00	8,618.00	13,586.49	9,961.00	67.13	69.28	131.84	3,545.12	572.70	2,009.53	1,931.31	78.21	25.693		
12,200.00	8,618.00	13,686.49	9,961.00	68.58	70.71	131.84	3,645.12	571.70	2,009.53	1,929.68	79.84	25.168		
12,300.00	8,618.00	13,786.49	9,961.00	70.03	72.14	131.84	3,745.11	570.71	2,009.52	1,928.04	81.49	24.661		
12,400.00	8,618.00	13,886.49	9,961.00	71.50	73.58	131.84	3,845.11	569.71	2,009.52	1,926.39	83.13	24.172		
12,500.00	8,618.00	13,986.49	9,961.00	72.97	75.03	131.84	3,945.10	568.72	2,009.52	1,924.73	84.79	23.700		
12,600.00	8,618.00	14,086.49	9,961.00	74.45	76.49	131.84	4,045.10	567.72	2,009.52	1,923.07	86.46	23.243		
12,700.00	8,618.00	14,186.49	9,961.00	75.94	77.96	131.84	4,145.09	566.72	2,009.52	1,921.39	88.13	22.802		
12,800.00	8,618.00	14,286.49	9,961.00	77.43	79.43	131.84	4,245.09	565.73	2,009.52	1,919.71	89.81	22.375		
12,900.00	8,618.00	14,386.49	9,961.00	78.93	80.91	131.84	4,345.08	564.73	2,009.52	1,918.02	91.50	21.962		
13,000.00	8,618.00	14,486.49	9,961.00	80.44	82.40	131.84	4,445.08	563.74	2,009.52	1,916.33	93.19	21.563		
13,100.00	8,618.00	14,586.49	9,961.00	81.95	83.90	131.84	4,545.07	562.74	2,009.52	1,914.63	94.89	21.177		
13,200.00	8,618.00	14,686.49	9,961.00	83.47	85.40	131.84	4,645.07	561.74	2,009.52	1,912.92	96.60	20.803		
13,300.00	8,618.00	14,786.49	9,961.00	84.99	86.90	131.84	4,745.06	560.75	2,009.52	1,911.21	98.30	20.442		
13,400.00	8,618.00	14,886.49	9,961.00	86.52	88.41	131.84	4,845.06	559.75	2,009.52	1,909.50	100.02	20.091		
13,500.00	8,618.00	14,986.49	9,961.00	88.05	89.93	131.84	4,945.05	558.76	2,009.51	1,907.78	101.74	19.752		
13,600.00	8,618.00	15,086.49	9,961.00	89.58	91.45	131.84	5,045.05	557.76	2,009.51	1,906.05	103.46	19.423		
13,700.00	8,618.00	15,186.49	9,961.00	91.12	92.97	131.84	5,145.04	556.77	2,009.51	1,904.32	105.19	19.104		
13,800.00	8,618.00	15,286.49	9,961.00	92.67	94.50	131.84	5,245.04	555.77	2,009.51	1,902.59	106.92	18.795		
13,900.00	8,618.00	15,386.49	9,961.00	94.21	96.03	131.84	5,345.03	554.77	2,009.51	1,900.86	108.66	18.494		
14,000.00	8,618.00	15,486.49	9,961.00	95.76	97.57	131.84	5,445.03	553.78	2,009.51	1,899.12	110.39	18.203		
14,100.00	8,618.00	15,586.49	9,961.00	97.32	99.11	131.84	5,545.02	552.78	2,009.51	1,897.38	112.13	17.921		
14,200.00	8,618.00	15,686.49	9,961.00	98.88	100.65	131.84	5,645.02	551.79	2,009.51	1,895.63	113.88	17.646		
14,300.00	8,618.00	15,786.49	9,961.00	100.44	102.20	131.84	5,745.01	550.79	2,009.51	1,893.88	115.63	17.379		
14,400.00	8,618.00	15,886.49	9,961.00	102.00	103.75	131.84	5,845.01	549.79	2,009.51	1,892.13	117.38	17.120		
14,500.00	8,618.00	15,986.49	9,961.00	103.57	105.30	131.84	5,945.00	548.80	2,009.51	1,890.38	119.13	16.868		
14,600.00	8,618.00	16,086.49	9,961.00	105.13	106.86	131.84	6,045.00	547.80	2,009.50	1,888.62	120.88	16.623		
14,700.00	8,618.00	16,186.49	9,961.00	106.71	108.42	131.84	6,144.99	546.81	2,009.50	1,886.86	122.64	16.385		
14,800.00	8,618.00	16,286.49	9,961.00	108.28	109.98	131.84	6,244.99	545.81	2,009.50	1,885.10	124.40	16.153		
14,900.00	8,618.00	16,386.49	9,961.00	109.85	111.55	131.84	6,344.98	544.82	2,009.50	1,883.34	126.16	15.928		
15,000.00	8,618.00	16,486.49	9,961.00	111.43	113.12	131.84	6,444.98	543.82	2,009.50	1,881.58	127.92	15.709		
15,100.00	8,618.00	16,586.49	9,961.00	113.01	114.68	131.84	6,544.97	542.82	2,009.50	1,879.81	129.69	15.495		
15,200.00	8,618.00	16,686.49	9,961.00	114.60	116.26	131.84	6,644.97	541.83	2,009.50	1,878.04	131.46	15.286		
15,300.00	8,618.00	16,786.49	9,961.00	116.18	117.83	131.84	6,744.96	540.83	2,009.50	1,876.27	133.23	15.083		
15,400.00	8,618.00	16,886.49	9,961.00	117.77	119.41	131.84	6,844.96	539.84	2,009.50	1,874.50	135.00	14.886		
15,500.00	8,618.00	16,986.49	9,961.00	119.35	120.99	131.84	6,944.95	538.84	2,009.50	1,872.73	136.77	14.693		
15,600.00	8,618.00	17,086.49	9,961.00	120.94	122.57	131.84	7,044.95	537.84	2,009.50	1,870.96	138.54	14.505		
15,700.00	8,618.00	17,186.49	9,961.00	122.53	124.15	131.84	7,144.94	536.85	2,009.50	1,869.18	140.31	14.322		
15,800.00	8,618.00	17,286.49	9,961.00	124.13	125.73	131.84	7,244.94	535.85	2,009.49	1,867.41	142.09	14.143		
15,900.00	8,618.00	17,386.49	9,961.00	125.72	127.32	131.84	7,344.93	534.86	2,009.49	1,865.63	143.86	13.968		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design												FMM Fed Com - FMM Fed Com 302H - OH - Plan #1		Offset Site Error:		0.00 usft
Survey Program: 0-OWSG (Rev2) MWD														Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis		Distance							Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
16,000.00	8,618.00	17,486.49	9,961.00	127.32	128.90	131.84	7,444.93	533.86	2,009.49	1,863.85	145.64	13.797				
16,100.00	8,618.00	17,586.49	9,961.00	128.91	130.49	131.84	7,544.92	532.87	2,009.49	1,862.07	147.42	13.631				
16,200.00	8,618.00	17,686.49	9,961.00	130.51	132.08	131.84	7,644.92	531.87	2,009.49	1,860.29	149.20	13.468				
16,300.00	8,618.00	17,786.49	9,961.00	132.11	133.68	131.84	7,744.91	530.87	2,009.49	1,858.51	150.98	13.310				
16,400.00	8,618.00	17,886.49	9,961.00	133.71	135.27	131.84	7,844.91	529.88	2,009.49	1,856.73	152.76	13.155				
16,500.00	8,618.00	17,986.49	9,961.00	135.32	136.86	131.84	7,944.90	528.88	2,009.49	1,854.95	154.54	13.003				
16,600.00	8,618.00	18,086.49	9,961.00	136.92	138.46	131.84	8,044.90	527.89	2,009.49	1,853.16	156.32	12.855				
16,700.00	8,618.00	18,186.49	9,961.00	138.52	140.06	131.84	8,144.89	526.89	2,009.49	1,851.38	158.11	12.710				
16,800.00	8,618.00	18,286.49	9,961.00	140.13	141.66	131.84	8,244.89	525.89	2,009.49	1,849.59	159.89	12.568				
16,900.00	8,618.00	18,386.49	9,961.00	141.74	143.26	131.84	8,344.88	524.90	2,009.49	1,847.81	161.68	12.429				
17,000.00	8,618.00	18,486.49	9,961.00	143.35	144.86	131.84	8,444.88	523.90	2,009.48	1,846.02	163.46	12.293				
17,100.00	8,618.00	18,586.49	9,961.00	144.95	146.46	131.84	8,544.87	522.91	2,009.48	1,844.24	165.25	12.161				
17,200.00	8,618.00	18,686.49	9,961.00	146.56	148.06	131.84	8,644.87	521.91	2,009.48	1,842.45	167.03	12.031				
17,300.00	8,618.00	18,786.49	9,961.00	148.18	149.67	131.84	8,744.86	520.92	2,009.48	1,840.66	168.82	11.903				
17,400.00	8,618.00	18,886.49	9,961.00	149.79	151.27	131.84	8,844.86	519.92	2,009.48	1,838.88	170.60	11.779				
17,500.00	8,618.00	18,986.49	9,961.00	151.40	152.88	131.84	8,944.85	518.92	2,009.48	1,837.09	172.39	11.656				
17,600.00	8,618.00	19,086.49	9,961.00	153.01	154.49	131.84	9,044.85	517.93	2,009.48	1,835.30	174.18	11.537				
17,700.00	8,618.00	19,186.49	9,961.00	154.63	156.10	131.84	9,144.84	516.93	2,009.48	1,833.51	175.97	11.420				
17,800.00	8,618.00	19,286.49	9,961.00	156.24	157.71	131.84	9,244.84	515.94	2,009.48	1,831.72	177.75	11.305				
17,900.00	8,618.00	19,386.49	9,961.00	157.86	159.32	131.84	9,344.83	514.94	2,009.48	1,829.94	179.54	11.192				
18,000.00	8,618.00	19,486.49	9,961.00	159.47	160.93	131.84	9,444.83	513.94	2,009.48	1,828.15	181.33	11.082				
18,100.00	8,618.00	19,586.49	9,961.00	161.09	162.54	131.84	9,544.82	512.95	2,009.47	1,826.36	183.12	10.974				
18,200.00	8,618.00	19,686.49	9,961.00	162.71	164.15	131.84	9,644.82	511.95	2,009.47	1,824.57	184.91	10.868				
18,300.00	8,618.00	19,786.49	9,961.00	164.33	165.76	131.84	9,744.81	510.96	2,009.47	1,822.78	186.70	10.763				
18,400.00	8,618.00	19,886.49	9,961.00	165.95	167.38	131.84	9,844.81	509.96	2,009.47	1,820.99	188.48	10.661				
18,500.00	8,618.00	19,986.49	9,961.00	167.57	168.99	131.84	9,944.80	508.97	2,009.47	1,819.20	190.27	10.561				
18,600.00	8,618.00	20,086.49	9,961.00	169.19	170.61	131.84	10,044.80	507.97	2,009.47	1,817.41	192.06	10.463				
18,632.17	8,618.00	20,118.66	9,961.00	169.71	171.13	131.84	10,076.96	507.65	2,009.47	1,816.83	192.64	10.431				
18,636.90	8,618.00	20,118.82	9,961.00	169.79	171.14	131.84	10,077.12	507.65	2,009.48	1,816.80	192.67	10.430				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design FMM Fed Com - FMM Fed Com 801H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
1,843.00	1,843.00	1,844.10	1,844.10	6.37	6.38	-92.40	-74.83	13.08	75.97	66.96	9.01	8.429	CC	
1,900.00	1,899.99	1,901.09	1,901.09	6.57	6.58	-93.20	-74.83	13.08	76.02	66.73	9.30	8.176		
2,000.00	1,999.91	2,001.01	2,001.01	6.91	6.94	-96.14	-74.83	13.08	76.34	66.55	9.79	7.796	ES	
2,100.00	2,099.69	2,100.94	2,100.93	7.25	7.29	-99.96	-75.14	11.78	77.22	66.93	10.28	7.510		
2,200.00	2,199.27	2,201.01	2,200.92	7.60	7.63	-103.65	-76.08	7.94	78.69	67.93	10.77	7.309		
2,300.00	2,298.57	2,301.22	2,300.90	7.96	7.97	-107.12	-77.65	1.55	80.76	69.50	11.26	7.172		
2,400.00	2,397.54	2,401.55	2,400.81	8.32	8.32	-110.35	-79.83	-7.40	83.36	71.60	11.76	7.090		
2,491.33	2,487.56	2,493.30	2,491.93	8.66	8.64	-113.06	-82.38	-17.82	86.18	73.96	12.22	7.053		
2,500.00	2,496.09	2,502.02	2,500.57	8.69	8.67	-113.30	-82.65	-18.92	86.47	74.20	12.26	7.051		
2,600.00	2,594.46	2,602.67	2,600.17	9.08	9.03	-115.12	-86.09	-33.01	89.37	76.60	12.78	6.994		
2,700.00	2,692.82	2,703.43	2,699.46	9.47	9.41	-115.26	-90.16	-49.66	91.46	78.16	13.31	6.874		
2,800.00	2,791.19	2,803.87	2,797.99	9.86	9.79	-113.99	-94.79	-68.57	92.77	78.92	13.85	6.697		
2,900.00	2,889.56	2,903.83	2,895.97	10.27	10.18	-112.50	-99.49	-87.83	94.00	79.58	14.41	6.522		
3,000.00	2,987.92	3,003.79	2,993.95	10.67	10.58	-111.04	-104.20	-107.09	95.28	80.30	14.98	6.359		
3,100.00	3,086.29	3,103.76	3,091.92	11.09	10.99	-109.62	-108.91	-126.35	96.63	81.07	15.56	6.209		
3,200.00	3,184.66	3,203.72	3,189.90	11.50	11.40	-108.25	-113.62	-145.61	98.03	81.88	16.15	6.070		
3,300.00	3,283.02	3,303.68	3,287.88	11.92	11.81	-106.91	-118.32	-164.86	99.49	82.75	16.74	5.942		
3,400.00	3,381.39	3,403.64	3,385.85	12.34	12.24	-105.61	-123.03	-184.12	101.00	83.66	17.34	5.823		
3,500.00	3,479.76	3,503.61	3,483.83	12.77	12.66	-104.35	-127.74	-203.38	102.57	84.62	17.95	5.714		
3,600.00	3,578.12	3,603.57	3,581.81	13.19	13.09	-103.13	-132.45	-222.64	104.18	85.62	18.56	5.613		
3,700.00	3,676.49	3,703.53	3,679.79	13.62	13.53	-101.95	-137.15	-241.90	105.83	86.66	19.18	5.519		
3,800.00	3,774.86	3,803.50	3,777.76	14.06	13.96	-100.80	-141.86	-261.15	107.53	87.74	19.80	5.432		
3,900.00	3,873.22	3,903.46	3,875.74	14.49	14.40	-99.69	-146.57	-280.41	109.27	88.86	20.42	5.352		
4,000.00	3,971.59	4,003.42	3,973.72	14.93	14.85	-98.62	-151.28	-299.67	111.06	90.01	21.04	5.278		
4,100.00	4,069.96	4,103.38	4,071.70	15.36	15.29	-97.58	-155.98	-318.93	112.87	91.21	21.67	5.209		
4,200.00	4,168.32	4,203.35	4,169.67	15.80	15.74	-96.57	-160.69	-338.19	114.73	92.43	22.30	5.145		
4,300.00	4,266.69	4,303.31	4,267.65	16.24	16.19	-95.60	-165.40	-357.44	116.62	93.69	22.93	5.086		
4,400.00	4,365.06	4,403.27	4,365.63	16.68	16.64	-94.65	-170.11	-376.70	118.54	94.98	23.56	5.032		
4,500.00	4,463.42	4,503.23	4,463.60	17.13	17.09	-93.74	-174.81	-395.96	120.49	96.30	24.19	4.981		
4,600.00	4,561.79	4,603.20	4,561.58	17.57	17.55	-92.86	-179.52	-415.22	122.48	97.65	24.83	4.933		
4,700.00	4,660.16	4,703.16	4,659.56	18.01	18.01	-92.00	-184.23	-434.47	124.49	99.03	25.46	4.889		
4,800.00	4,758.52	4,803.12	4,757.54	18.46	18.46	-91.17	-188.94	-453.73	126.53	100.43	26.10	4.849		
4,900.00	4,856.89	4,903.09	4,855.51	18.91	18.92	-90.37	-193.64	-472.99	128.59	101.86	26.73	4.811		
5,000.00	4,955.26	5,003.05	4,953.49	19.35	19.38	-89.59	-198.35	-492.25	130.68	103.31	27.37	4.775		
5,100.00	5,053.62	5,103.01	5,051.47	19.80	19.85	-88.84	-203.06	-511.51	132.79	104.79	28.00	4.742		
5,200.00	5,151.99	5,202.97	5,149.44	20.25	20.31	-88.11	-207.77	-530.76	134.92	106.28	28.64	4.711		
5,300.00	5,250.36	5,302.94	5,247.42	20.70	20.77	-87.41	-212.47	-550.02	137.08	107.80	29.27	4.683		
5,400.00	5,348.72	5,402.90	5,345.40	21.15	21.24	-86.72	-217.18	-569.28	139.25	109.34	29.91	4.656		
5,500.00	5,447.09	5,502.86	5,443.38	21.60	21.70	-86.06	-221.89	-588.54	141.44	110.90	30.54	4.631		
5,600.00	5,545.46	5,602.83	5,541.35	22.05	22.17	-85.42	-226.60	-607.80	143.66	112.48	31.18	4.608		
5,700.00	5,643.82	5,702.79	5,639.33	22.50	22.63	-84.80	-231.30	-627.05	145.88	114.07	31.81	4.586		
5,800.00	5,742.19	5,802.75	5,737.31	22.95	23.10	-84.19	-236.01	-646.31	148.13	115.69	32.45	4.566		
5,900.00	5,840.55	5,902.71	5,835.28	23.41	23.57	-83.61	-240.72	-665.57	150.39	117.31	33.08	4.546		
6,000.00	5,938.92	6,002.68	5,933.26	23.86	24.04	-83.04	-245.43	-684.83	152.67	118.96	33.71	4.529		
6,100.00	6,037.29	6,102.64	6,031.24	24.31	24.51	-82.49	-250.13	-704.09	154.96	120.62	34.34	4.512		
6,200.00	6,135.65	6,202.60	6,129.22	24.77	24.98	-81.95	-254.84	-723.34	157.27	122.29	34.98	4.496		
6,300.00	6,234.02	6,302.56	6,227.19	25.22	25.45	-81.43	-259.55	-742.60	159.59	123.98	35.61	4.482		
6,400.00	6,332.39	6,402.53	6,325.17	25.67	25.92	-80.93	-264.26	-761.86	161.92	125.68	36.24	4.468		
6,500.00	6,430.75	6,502.49	6,423.15	26.13	26.39	-80.44	-268.96	-781.12	164.26	127.39	36.87	4.455		
6,600.00	6,529.12	6,602.45	6,521.12	26.58	26.86	-79.96	-273.67	-800.38	166.62	129.12	37.50	4.443		
6,700.00	6,627.49	6,702.84	6,619.54	27.04	27.33	-79.55	-278.36	-819.57	168.94	130.81	38.13	4.430		
6,776.20	6,702.44	6,779.98	6,695.43	27.39	27.68	-79.67	-281.66	-833.04	170.34	131.71	38.63	4.409		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
6,800.00	6,725.87	6,804.08	6,719.20	27.49	27.79	-79.79	-282.61	-836.94	170.71	131.92	38.79	4.401		
6,900.00	6,824.56	6,905.31	6,819.27	27.93	28.23	-80.28	-286.23	-851.74	172.07	132.65	39.42	4.365		
7,000.00	6,923.64	7,006.52	6,919.68	28.35	28.64	-80.75	-289.21	-863.96	173.17	133.14	40.03	4.326		
7,100.00	7,023.04	7,107.70	7,020.37	28.75	29.03	-81.21	-291.57	-873.58	174.00	133.40	40.60	4.286		
7,200.00	7,122.69	7,208.85	7,121.27	29.12	29.40	-81.65	-293.28	-880.61	174.57	133.43	41.14	4.244		
7,300.00	7,222.53	7,309.97	7,222.28	29.48	29.75	-82.07	-294.37	-885.04	174.87	133.22	41.64	4.199		
7,400.00	7,322.48	7,411.07	7,323.36	29.81	30.07	-82.48	-294.81	-886.87	174.90	132.77	42.12	4.152		
7,467.53	7,390.00	7,478.81	7,391.10	30.02	30.28	-179.65	-294.83	-886.92	174.83	132.41	42.42	4.121		
7,500.00	7,422.47	7,511.28	7,423.57	30.12	30.37	-179.65	-294.83	-886.92	174.83	132.27	42.56	4.108		
7,600.00	7,522.47	7,611.28	7,523.57	30.43	30.67	-179.65	-294.83	-886.92	174.83	131.84	42.99	4.067		
7,700.00	7,622.47	7,711.28	7,623.57	30.73	30.98	-179.65	-294.83	-886.92	174.83	131.41	43.42	4.026		
7,800.00	7,722.47	7,811.28	7,723.57	31.04	31.28	-179.65	-294.83	-886.92	174.83	130.98	43.85	3.987		
7,900.00	7,822.47	7,911.28	7,823.57	31.34	31.58	-179.65	-294.83	-886.92	174.83	130.54	44.29	3.948		
8,000.00	7,922.47	8,011.28	7,923.57	31.65	31.89	-179.65	-294.83	-886.92	174.83	130.11	44.72	3.909		
8,100.00	8,022.47	8,111.28	8,023.57	31.96	32.19	-179.65	-294.83	-886.92	174.83	129.67	45.16	3.871		
8,122.57	8,045.04	8,133.85	8,046.14	32.03	32.26	-179.65	-294.83	-886.92	174.83	129.57	45.26	3.863 SF		
8,150.00	8,072.46	8,161.27	8,073.56	32.12	32.35	-179.78	-294.83	-886.92	175.49	130.11	45.38	3.867		
8,200.00	8,122.24	8,211.05	8,123.34	32.27	32.50	-179.79	-294.83	-886.92	180.06	134.45	45.60	3.949		
8,250.00	8,171.43	8,260.24	8,172.53	32.41	32.65	-179.79	-294.83	-886.92	188.94	143.13	45.82	4.124		
8,300.00	8,219.65	8,308.46	8,220.75	32.55	32.80	-179.80	-294.83	-886.92	202.09	156.06	46.03	4.391		
8,350.00	8,266.55	8,355.36	8,267.65	32.68	32.95	-179.81	-294.83	-886.92	219.38	173.15	46.23	4.745		
8,400.00	8,311.76	8,400.57	8,312.86	32.80	33.09	-179.82	-294.83	-886.92	240.70	194.27	46.43	5.185		
8,450.00	8,354.94	8,443.75	8,356.04	32.92	33.22	-179.83	-294.83	-886.92	265.87	219.26	46.61	5.704		
8,500.00	8,395.76	8,484.57	8,396.86	33.02	33.35	-179.84	-294.83	-886.92	294.72	247.94	46.78	6.300		
8,550.00	8,433.92	8,522.73	8,435.02	33.11	33.47	-179.84	-294.83	-886.92	327.01	280.07	46.94	6.967		
8,600.00	8,469.11	8,557.92	8,470.21	33.19	33.58	-179.84	-294.83	-886.92	362.50	315.42	47.08	7.700		
8,650.00	8,501.08	8,589.88	8,502.18	33.27	33.67	-179.84	-294.83	-886.92	400.93	353.73	47.20	8.494		
8,700.00	8,529.57	8,618.38	8,530.67	33.34	33.76	-179.84	-294.83	-886.92	441.99	394.68	47.31	9.342		
8,750.00	8,554.38	8,643.19	8,555.48	33.41	33.84	-179.83	-294.83	-886.92	485.39	437.98	47.40	10.239		
8,800.00	8,575.31	8,664.12	8,576.41	33.49	33.91	-179.81	-294.83	-886.92	530.78	483.30	47.48	11.179		
8,850.00	8,592.21	8,681.02	8,593.31	33.56	33.96	-179.78	-294.83	-886.92	577.82	530.28	47.54	12.155		
8,900.00	8,604.94	8,693.75	8,606.04	33.65	34.00	-179.72	-294.83	-886.92	626.16	578.57	47.58	13.160		
8,950.00	8,613.41	8,702.22	8,614.51	33.76	34.03	-179.56	-294.83	-886.92	675.42	627.81	47.61	14.187		
9,000.00	8,617.55	8,706.36	8,618.65	33.88	34.04	-178.68	-294.83	-886.92	725.23	677.61	47.62	15.229		
9,022.57	8,618.00	8,706.81	8,619.10	33.94	34.04	-90.01	-294.83	-886.92	747.79	700.16	47.63	15.701		
9,100.00	8,618.00	8,706.81	8,619.10	34.19	34.04	-90.02	-294.83	-886.92	825.22	777.59	47.63	17.326		
9,200.00	8,618.00	8,706.81	8,619.10	34.60	34.04	-90.02	-294.83	-886.92	925.22	877.59	47.63	19.424		
9,300.00	8,618.00	8,706.81	8,619.10	35.09	34.04	-90.02	-294.83	-886.92	1,025.22	977.58	47.64	21.521		
9,400.00	8,618.00	8,706.81	8,619.10	35.67	34.04	-90.02	-294.83	-886.92	1,125.22	1,077.58	47.65	23.617		
9,500.00	8,618.00	8,706.81	8,619.10	36.33	34.04	-90.02	-294.83	-886.92	1,225.22	1,177.57	47.65	25.712		
9,600.00	8,618.00	8,706.81	8,619.10	37.05	34.04	-90.03	-294.83	-886.92	1,325.22	1,277.56	47.66	27.807		
9,700.00	8,618.00	8,706.81	8,619.10	37.84	34.04	-90.03	-294.83	-886.92	1,425.22	1,377.56	47.67	29.900		
9,800.00	8,618.00	8,706.81	8,619.10	38.69	34.04	-90.03	-294.83	-886.92	1,525.22	1,477.55	47.67	31.993		
9,900.00	8,618.00	8,706.81	8,619.10	39.59	34.04	-90.03	-294.83	-886.92	1,625.22	1,577.54	47.68	34.085		
10,000.00	8,618.00	8,706.81	8,619.10	40.54	34.04	-90.03	-294.83	-886.92	1,725.22	1,677.53	47.69	36.175		
10,100.00	8,618.00	8,706.81	8,619.10	41.53	34.04	-90.04	-294.83	-886.92	1,825.22	1,777.52	47.70	38.264		
10,200.00	8,618.00	8,706.81	8,619.10	42.57	34.04	-90.04	-294.83	-886.92	1,925.22	1,877.51	47.71	40.352		
10,300.00	8,618.00	8,706.81	8,619.10	43.64	34.04	-90.04	-294.83	-886.92	2,025.22	1,977.50	47.72	42.438		
10,400.00	8,618.00	8,706.81	8,619.10	44.75	34.04	-90.04	-294.83	-886.92	2,125.22	2,077.49	47.73	44.522		
10,500.00	8,618.00	8,706.81	8,619.10	45.90	34.04	-90.04	-294.83	-886.92	2,225.22	2,177.48	47.75	46.605		
10,600.00	8,618.00	8,706.81	8,619.10	47.07	34.04	-90.05	-294.83	-886.92	2,325.22	2,277.46	47.76	48.686		
10,700.00	8,618.00	8,706.81	8,619.10	48.27	34.04	-90.05	-294.83	-886.92	2,425.22	2,377.45	47.77	50.766		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,800.00	8,618.00	8,706.81	8,619.10	49.50	34.04	-90.05	-294.83	-886.92	2,525.22	2,477.44	47.79	52.844		
10,900.00	8,618.00	8,706.81	8,619.10	50.75	34.04	-90.05	-294.83	-886.92	2,625.22	2,577.42	47.80	54.919		
11,000.00	8,618.00	8,706.81	8,619.10	52.02	34.04	-90.05	-294.83	-886.92	2,725.22	2,677.41	47.82	56.993		
11,100.00	8,618.00	8,706.81	8,619.10	53.32	34.04	-90.06	-294.83	-886.92	2,825.22	2,777.39	47.83	59.064		
11,200.00	8,618.00	8,706.81	8,619.10	54.63	34.04	-90.06	-294.83	-886.92	2,925.22	2,877.37	47.85	61.134		
11,300.00	8,618.00	8,706.81	8,619.10	55.96	34.04	-90.06	-294.83	-886.92	3,025.22	2,977.36	47.87	63.201		
11,400.00	8,618.00	8,706.81	8,619.10	57.31	34.04	-90.06	-294.83	-886.92	3,125.22	3,077.34	47.88	65.265		
11,500.00	8,618.00	8,706.81	8,619.10	58.68	34.04	-90.06	-294.83	-886.92	3,225.22	3,177.32	47.90	67.328		
11,600.00	8,618.00	8,706.81	8,619.10	60.05	34.04	-90.07	-294.83	-886.92	3,325.22	3,277.30	47.92	69.388		
11,700.00	8,618.00	8,706.81	8,619.10	61.45	34.04	-90.07	-294.83	-886.92	3,425.22	3,377.28	47.94	71.445		
11,800.00	8,618.00	8,706.81	8,619.10	62.85	34.04	-90.07	-294.83	-886.92	3,525.22	3,477.26	47.96	73.500		
11,900.00	8,618.00	8,706.81	8,619.10	64.27	34.04	-90.07	-294.83	-886.92	3,625.22	3,577.24	47.98	75.552		
12,000.00	8,618.00	8,706.81	8,619.10	65.69	34.04	-90.07	-294.83	-886.92	3,725.22	3,677.22	48.00	77.601		
12,100.00	8,618.00	16,059.01	12,392.00	67.13	75.06	-179.99	3,530.21	-924.73	3,772.90	3,720.65	52.25	72.212		
12,200.00	8,618.00	16,159.01	12,392.00	68.58	76.38	-179.99	3,630.20	-925.71	3,772.90	3,719.76	53.14	70.997		
12,300.00	8,618.00	16,259.01	12,392.00	70.03	77.72	-179.99	3,730.20	-926.70	3,772.90	3,718.86	54.04	69.811		
12,400.00	8,618.00	16,359.01	12,392.00	71.50	79.07	-179.99	3,830.19	-927.69	3,772.90	3,717.95	54.95	68.655		
12,500.00	8,618.00	16,459.01	12,392.00	72.97	80.43	-179.99	3,930.19	-928.68	3,772.90	3,717.03	55.87	67.527		
12,600.00	8,618.00	16,559.01	12,392.00	74.45	81.80	-179.99	4,030.18	-929.67	3,772.90	3,716.10	56.80	66.429		
12,700.00	8,618.00	16,659.01	12,392.00	75.94	83.19	-179.99	4,130.18	-930.66	3,772.90	3,715.17	57.73	65.357		
12,800.00	8,618.00	16,759.01	12,392.00	77.43	84.58	-179.99	4,230.17	-931.64	3,772.90	3,714.24	58.66	64.313		
12,900.00	8,618.00	16,859.01	12,392.00	78.93	85.98	-179.99	4,330.17	-932.63	3,772.90	3,713.29	59.61	63.296		
13,000.00	8,618.00	16,959.01	12,392.00	80.44	87.39	-179.99	4,430.16	-933.62	3,772.90	3,712.34	60.56	62.304		
13,100.00	8,618.00	17,059.01	12,392.00	81.95	88.81	-179.99	4,530.16	-934.61	3,772.90	3,711.39	61.51	61.338		
13,200.00	8,618.00	17,159.01	12,392.00	83.47	90.23	-179.99	4,630.15	-935.60	3,772.90	3,710.43	62.47	60.396		
13,300.00	8,618.00	17,259.01	12,392.00	84.99	91.67	-179.99	4,730.15	-936.59	3,772.90	3,709.47	63.43	59.478		
13,400.00	8,618.00	17,359.01	12,392.00	86.52	93.11	-179.99	4,830.14	-937.57	3,772.90	3,708.50	64.40	58.584		
13,500.00	8,618.00	17,459.01	12,392.00	88.05	94.56	-180.00	4,930.14	-938.56	3,772.90	3,707.52	65.38	57.711		
13,600.00	8,618.00	17,559.01	12,392.00	89.58	96.01	-180.00	5,030.13	-939.55	3,772.90	3,706.55	66.35	56.861		
13,700.00	8,618.00	17,659.01	12,392.00	91.12	97.47	-180.00	5,130.13	-940.54	3,772.90	3,705.57	67.33	56.032		
13,800.00	8,618.00	17,759.01	12,392.00	92.67	98.94	-180.00	5,230.12	-941.53	3,772.90	3,704.58	68.32	55.224		
13,900.00	8,618.00	17,859.01	12,392.00	94.21	100.41	-180.00	5,330.12	-942.52	3,772.90	3,703.59	69.31	54.435		
14,000.00	8,618.00	17,959.01	12,392.00	95.76	101.89	-180.00	5,430.11	-943.50	3,772.90	3,702.60	70.30	53.667		
14,100.00	8,618.00	18,059.01	12,392.00	97.32	103.37	-180.00	5,530.11	-944.49	3,772.90	3,701.60	71.30	52.917		
14,200.00	8,618.00	18,159.01	12,392.00	98.88	104.86	-180.00	5,630.10	-945.48	3,772.90	3,700.60	72.30	52.185		
14,300.00	8,618.00	18,259.01	12,392.00	100.44	106.36	-180.00	5,730.10	-946.47	3,772.90	3,699.60	73.30	51.471		
14,400.00	8,618.00	18,359.01	12,392.00	102.00	107.85	-180.00	5,830.09	-947.46	3,772.90	3,698.59	74.31	50.774		
14,500.00	8,618.00	18,459.01	12,392.00	103.57	109.36	-180.00	5,930.09	-948.44	3,772.90	3,697.58	75.32	50.094		
14,600.00	8,618.00	18,559.01	12,392.00	105.13	110.86	-180.00	6,030.09	-949.43	3,772.90	3,696.57	76.33	49.430		
14,700.00	8,618.00	18,659.01	12,392.00	106.71	112.37	-180.00	6,130.08	-950.42	3,772.90	3,695.56	77.34	48.782		
14,800.00	8,618.00	18,759.01	12,392.00	108.28	113.89	-180.00	6,230.08	-951.41	3,772.90	3,694.54	78.36	48.149		
14,900.00	8,618.00	18,859.01	12,392.00	109.85	115.41	-180.00	6,330.07	-952.40	3,772.90	3,693.52	79.38	47.530		
15,000.00	8,618.00	18,959.01	12,392.00	111.43	116.93	-180.00	6,430.07	-953.39	3,772.90	3,692.50	80.40	46.926		
15,100.00	8,618.00	19,059.01	12,392.00	113.01	118.45	-180.00	6,530.06	-954.37	3,772.90	3,691.48	81.43	46.336		
15,200.00	8,618.00	19,159.01	12,392.00	114.60	119.98	-180.00	6,630.06	-955.36	3,772.90	3,690.45	82.45	45.759		
15,300.00	8,618.00	19,259.01	12,392.00	116.18	121.51	-180.00	6,730.05	-956.35	3,772.90	3,689.42	83.48	45.195		
15,400.00	8,618.00	19,359.01	12,392.00	117.77	123.05	-180.00	6,830.05	-957.34	3,772.90	3,688.39	84.51	44.644		
15,500.00	8,618.00	19,459.01	12,392.00	119.35	124.59	-180.00	6,930.04	-958.33	3,772.90	3,687.36	85.54	44.105		
15,600.00	8,618.00	19,559.01	12,392.00	120.94	126.13	-180.00	7,030.04	-959.32	3,772.90	3,686.32	86.58	43.578		
15,700.00	8,618.00	19,659.01	12,392.00	122.53	127.67	-180.00	7,130.03	-960.30	3,772.90	3,685.29	87.61	43.063		
15,800.00	8,618.00	19,759.01	12,392.00	124.13	129.22	-180.00	7,230.03	-961.29	3,772.90	3,684.25	88.65	42.558		
15,900.00	8,618.00	19,859.01	12,392.00	125.72	130.77	-180.00	7,330.02	-962.28	3,772.90	3,683.21	89.69	42.065		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
16,000.00	8,618.00	19,959.01	12,392.00	127.32	132.32	-180.00	7,430.02	-963.27	3,772.90	3,682.17	90.73	41.582		
16,100.00	8,618.00	20,059.01	12,392.00	128.91	133.87	-180.00	7,530.01	-964.26	3,772.90	3,681.12	91.78	41.110		
16,200.00	8,618.00	20,159.01	12,392.00	130.51	135.43	-180.00	7,630.01	-965.25	3,772.90	3,680.08	92.82	40.647		
16,300.00	8,618.00	20,259.01	12,392.00	132.11	136.99	-180.00	7,730.00	-966.23	3,772.90	3,679.03	93.87	40.194		
16,400.00	8,618.00	20,359.01	12,392.00	133.71	138.55	-180.00	7,830.00	-967.22	3,772.90	3,677.99	94.91	39.750		
16,500.00	8,618.00	20,459.01	12,392.00	135.32	140.11	-180.00	7,929.99	-968.21	3,772.90	3,676.94	95.96	39.316		
16,600.00	8,618.00	20,559.01	12,392.00	136.92	141.68	-180.00	8,029.99	-969.20	3,772.90	3,675.89	97.01	38.890		
16,700.00	8,618.00	20,659.01	12,392.00	138.52	143.24	-180.00	8,129.98	-970.19	3,772.90	3,674.83	98.07	38.473		
16,800.00	8,618.00	20,759.01	12,392.00	140.13	144.81	-180.00	8,229.98	-971.18	3,772.90	3,673.78	99.12	38.064		
16,900.00	8,618.00	20,859.01	12,392.00	141.74	146.38	-180.00	8,329.97	-972.16	3,772.90	3,672.73	100.17	37.664		
17,000.00	8,618.00	20,959.01	12,392.00	143.35	147.96	-180.00	8,429.97	-973.15	3,772.90	3,671.67	101.23	37.271		
17,100.00	8,618.00	21,059.01	12,392.00	144.95	149.53	-180.00	8,529.96	-974.14	3,772.90	3,670.62	102.28	36.886		
17,200.00	8,618.00	21,159.01	12,392.00	146.56	151.11	-180.00	8,629.96	-975.13	3,772.90	3,669.56	103.34	36.509		
17,300.00	8,618.00	21,259.01	12,392.00	148.18	152.68	-180.00	8,729.95	-976.12	3,772.90	3,668.50	104.40	36.138		
17,400.00	8,618.00	21,359.01	12,392.00	149.79	154.26	-180.00	8,829.95	-977.11	3,772.90	3,667.44	105.46	35.775		
17,500.00	8,618.00	21,459.01	12,392.00	151.40	155.84	-180.00	8,929.94	-978.09	3,772.90	3,666.38	106.52	35.419		
17,600.00	8,618.00	21,559.01	12,392.00	153.01	157.42	-180.00	9,029.94	-979.08	3,772.90	3,665.32	107.58	35.069		
17,700.00	8,618.00	21,659.01	12,392.00	154.63	159.01	-180.00	9,129.93	-980.07	3,772.90	3,664.25	108.65	34.726		
17,800.00	8,618.00	21,759.01	12,392.00	156.24	160.59	-180.00	9,229.93	-981.06	3,772.90	3,663.19	109.71	34.390		
17,900.00	8,618.00	21,859.01	12,392.00	157.86	162.18	-180.00	9,329.92	-982.05	3,772.90	3,662.13	110.77	34.059		
18,000.00	8,618.00	21,959.01	12,392.00	159.47	163.77	-180.00	9,429.92	-983.04	3,772.90	3,661.06	111.84	33.735		
18,100.00	8,618.00	22,059.01	12,392.00	161.09	165.35	-180.00	9,529.91	-984.02	3,772.90	3,659.99	112.91	33.416		
18,200.00	8,618.00	22,159.01	12,392.00	162.71	166.94	-180.00	9,629.91	-985.01	3,772.90	3,658.93	113.97	33.103		
18,300.00	8,618.00	22,259.01	12,392.00	164.33	168.54	-180.00	9,729.90	-986.00	3,772.90	3,657.86	115.04	32.796		
18,400.00	8,618.00	22,359.01	12,392.00	165.95	170.13	-180.00	9,829.90	-986.99	3,772.90	3,656.79	116.11	32.494		
18,500.00	8,618.00	22,459.01	12,392.00	167.57	171.72	-180.00	9,929.89	-987.98	3,772.90	3,655.72	117.18	32.198		
18,600.00	8,618.00	22,559.01	12,392.00	169.19	173.32	180.00	10,029.89	-988.97	3,772.90	3,654.65	118.25	31.906		
18,636.90	8,618.00	22,595.91	12,392.00	169.79	173.90	180.00	10,066.79	-989.33	3,772.90	3,654.25	118.65	31.800		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 802H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
1,843.00	1,843.00	1,844.40	1,844.40	6.37	6.38	-109.54	-74.59	38.14	83.86	74.85	9.01	9.303	CC, ES			
1,900.00	1,899.99	1,901.39	1,901.39	6.57	6.58	-110.22	-74.59	38.14	84.22	74.92	9.30	9.057				
2,000.00	1,999.91	2,001.31	2,001.31	6.91	6.94	-112.66	-74.59	38.14	85.66	75.87	9.79	8.747				
2,100.00	2,099.69	2,101.09	2,101.09	7.25	7.30	-116.54	-74.59	38.14	88.39	78.10	10.29	8.591	SF			
2,200.00	2,199.27	2,200.00	2,200.00	7.60	7.65	-121.48	-74.59	38.14	92.85	82.07	10.78	8.609				
2,300.00	2,298.57	2,298.14	2,298.13	7.96	7.99	-126.58	-75.85	38.15	100.44	89.17	11.27	8.914				
2,400.00	2,397.54	2,395.25	2,395.17	8.32	8.30	-130.88	-79.58	38.17	112.12	100.39	11.73	9.555				
2,491.33	2,487.56	2,483.48	2,483.22	8.66	8.59	-133.99	-85.11	38.19	126.21	114.04	12.16	10.377				
2,500.00	2,496.09	2,491.83	2,491.55	8.69	8.62	-134.26	-85.74	38.20	127.70	115.50	12.20	10.465				
2,600.00	2,594.46	2,587.98	2,587.31	9.08	8.93	-136.52	-94.28	38.23	145.88	133.21	12.67	11.512				
2,700.00	2,692.82	2,684.50	2,683.22	9.47	9.26	-137.62	-105.15	38.28	165.54	152.39	13.15	12.590				
2,800.00	2,791.19	2,782.45	2,780.48	9.86	9.59	-138.35	-116.74	38.34	185.56	171.91	13.64	13.602				
2,900.00	2,889.56	2,880.40	2,877.74	10.27	9.93	-138.94	-128.33	38.39	205.60	191.46	14.14	14.540				
3,000.00	2,987.92	2,978.35	2,975.01	10.67	10.27	-139.42	-139.91	38.44	225.66	211.01	14.64	15.410				
3,100.00	3,086.29	3,076.30	3,072.27	11.09	10.62	-139.83	-151.50	38.49	245.73	230.58	15.15	16.219				
3,200.00	3,184.66	3,174.26	3,169.53	11.50	10.97	-140.17	-163.09	38.55	265.81	250.15	15.66	16.972				
3,300.00	3,283.02	3,272.21	3,266.80	11.92	11.32	-140.47	-174.68	38.60	285.90	269.72	16.18	17.674				
3,400.00	3,381.39	3,370.16	3,364.06	12.34	11.68	-140.72	-186.27	38.65	306.00	289.30	16.69	18.330				
3,500.00	3,479.76	3,468.11	3,461.32	12.77	12.04	-140.95	-197.86	38.70	326.10	308.88	17.21	18.944				
3,600.00	3,578.12	3,566.06	3,558.59	13.19	12.40	-141.15	-209.44	38.76	346.20	328.46	17.74	19.518				
3,700.00	3,676.49	3,664.01	3,655.85	13.62	12.77	-141.32	-221.03	38.81	366.31	348.05	18.26	20.058				
3,800.00	3,774.86	3,761.96	3,753.11	14.06	13.13	-141.48	-232.62	38.86	386.42	367.63	18.79	20.565				
3,900.00	3,873.22	3,859.91	3,850.38	14.49	13.50	-141.63	-244.21	38.92	406.54	387.22	19.32	21.042				
4,000.00	3,971.59	3,957.87	3,947.64	14.93	13.87	-141.75	-255.80	38.97	426.65	406.80	19.85	21.491				
4,100.00	4,069.96	4,055.82	4,044.90	15.36	14.24	-141.87	-267.39	39.02	446.77	426.39	20.39	21.916				
4,200.00	4,168.32	4,159.90	4,148.40	15.80	14.63	-142.13	-278.38	39.07	466.27	445.32	20.95	22.254				
4,300.00	4,266.69	4,264.57	4,252.74	16.24	15.02	-142.67	-286.58	39.11	484.46	462.95	21.51	22.521				
4,400.00	4,365.06	4,369.48	4,357.51	16.68	15.39	-143.46	-291.93	39.13	501.38	479.32	22.06	22.728				
4,500.00	4,463.42	4,474.46	4,462.47	17.13	15.76	-144.47	-294.41	39.14	517.12	494.53	22.60	22.884				
4,600.00	4,561.79	4,575.19	4,563.19	17.57	16.11	-145.60	-294.59	39.14	532.04	508.93	23.11	23.023				
4,700.00	4,660.16	4,673.55	4,661.56	18.01	16.44	-146.66	-294.59	39.14	547.06	523.45	23.61	23.171				
4,800.00	4,758.52	4,771.92	4,759.92	18.46	16.77	-147.67	-294.59	39.14	562.26	538.15	24.11	23.320				
4,900.00	4,856.89	4,870.29	4,858.29	18.91	17.11	-148.62	-294.59	39.14	577.61	553.00	24.61	23.470				
5,000.00	4,955.26	4,968.65	4,956.66	19.35	17.44	-149.52	-294.59	39.14	593.12	568.01	25.11	23.619				
5,100.00	5,053.62	5,067.02	5,055.02	19.80	17.78	-150.38	-294.59	39.14	608.77	583.15	25.61	23.769				
5,200.00	5,151.99	5,165.39	5,153.39	20.25	18.12	-151.19	-294.59	39.14	624.54	598.43	26.11	23.917				
5,300.00	5,250.36	5,263.75	5,251.76	20.70	18.46	-151.96	-294.59	39.14	640.43	613.81	26.61	24.064				
5,400.00	5,348.72	5,362.12	5,350.12	21.15	18.79	-152.70	-294.59	39.14	656.43	629.31	27.12	24.209				
5,500.00	5,447.09	5,460.49	5,448.49	21.60	19.13	-153.40	-294.59	39.14	672.52	644.91	27.62	24.353				
5,600.00	5,545.46	5,558.85	5,546.86	22.05	19.47	-154.07	-294.59	39.14	688.72	660.60	28.12	24.494				
5,700.00	5,643.82	5,657.22	5,645.22	22.50	19.81	-154.71	-294.59	39.14	705.00	676.38	28.62	24.634				
5,800.00	5,742.19	5,755.59	5,743.59	22.95	20.15	-155.32	-294.59	39.14	721.36	692.24	29.12	24.771				
5,900.00	5,840.55	5,853.95	5,841.95	23.41	20.49	-155.90	-294.59	39.14	737.80	708.18	29.62	24.906				
6,000.00	5,938.92	5,952.32	5,940.32	23.86	20.83	-156.45	-294.59	39.14	754.31	724.19	30.13	25.039				
6,100.00	6,037.29	6,050.68	6,038.69	24.31	21.18	-156.99	-294.59	39.14	770.89	740.26	30.63	25.169				
6,200.00	6,135.65	6,149.05	6,137.05	24.77	21.52	-157.50	-294.59	39.14	787.53	756.40	31.13	25.297				
6,300.00	6,234.02	6,247.42	6,235.42	25.22	21.86	-157.99	-294.59	39.14	804.23	772.59	31.63	25.423				
6,400.00	6,332.39	6,345.78	6,333.79	25.67	22.20	-158.46	-294.59	39.14	820.98	788.84	32.14	25.546				
6,500.00	6,430.75	6,444.15	6,432.15	26.13	22.54	-158.91	-294.59	39.14	837.78	805.14	32.64	25.666				
6,600.00	6,529.12	6,542.52	6,530.52	26.58	22.89	-159.34	-294.59	39.14	854.64	821.49	33.15	25.785				
6,700.00	6,627.49	6,640.88	6,628.89	27.04	23.23	-159.76	-294.59	39.14	871.54	837.89	33.65	25.901				
6,776.20	6,702.44	6,715.84	6,703.84	27.39	23.49	-160.07	-294.59	39.14	884.44	850.41	34.03	25.987				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 802H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
6,800.00	6,725.87	6,739.26	6,727.27	27.49	23.57	-160.18	-294.59	39.14	888.41	854.26	34.15	26.012				
6,900.00	6,824.56	6,837.96	6,825.96	27.93	23.92	-160.60	-294.59	39.14	903.60	868.94	34.66	26.072				
7,000.00	6,923.64	6,937.04	6,925.04	28.35	24.27	-160.94	-294.59	39.14	916.36	881.20	35.16	26.063				
7,100.00	7,023.04	7,036.44	7,024.44	28.75	24.61	-161.21	-294.59	39.14	926.69	891.03	35.66	25.987				
7,200.00	7,122.69	7,136.09	7,124.09	29.12	24.96	-161.42	-294.59	39.14	934.56	898.40	36.16	25.847				
7,300.00	7,222.53	7,235.93	7,223.93	29.48	25.31	-161.55	-294.59	39.14	939.95	903.30	36.65	25.645				
7,400.00	7,322.48	7,335.88	7,323.88	29.81	25.66	-161.63	-294.59	39.14	942.87	905.73	37.15	25.383				
7,467.53	7,390.00	7,403.40	7,391.40	30.02	25.90	100.66	-294.59	39.14	943.44	905.97	37.47	25.176				
7,500.00	7,422.47	7,435.87	7,423.87	30.12	26.01	100.66	-294.59	39.14	943.44	905.81	37.63	25.072				
7,600.00	7,522.47	7,535.87	7,523.87	30.43	26.37	100.66	-294.59	39.14	943.44	905.33	38.11	24.755				
7,700.00	7,622.47	7,635.87	7,623.87	30.73	26.72	100.66	-294.59	39.14	943.44	904.85	38.59	24.446				
7,800.00	7,722.47	7,735.87	7,723.87	31.04	27.07	100.66	-294.59	39.14	943.44	904.37	39.07	24.145				
7,900.00	7,822.47	7,835.87	7,823.87	31.34	27.42	100.66	-294.59	39.14	943.44	903.88	39.56	23.850				
8,000.00	7,922.47	7,935.87	7,923.87	31.65	27.77	100.66	-294.59	39.14	943.44	903.40	40.04	23.562				
8,100.00	8,022.47	8,035.87	8,023.87	31.96	28.12	100.66	-294.59	39.14	943.44	902.92	40.52	23.281				
8,122.57	8,045.04	8,058.44	8,046.44	32.03	28.20	100.66	-294.59	39.14	943.44	902.81	40.63	23.218				
8,150.00	8,072.46	8,085.86	8,073.86	32.12	28.30	101.26	-294.59	39.14	943.57	902.80	40.77	23.145				
8,200.00	8,122.24	8,135.64	8,123.64	32.27	28.48	101.44	-294.59	39.14	944.47	903.46	41.01	23.030				
8,250.00	8,171.43	8,184.82	8,172.83	32.41	28.65	101.78	-294.59	39.14	946.29	905.04	41.25	22.940				
8,300.00	8,219.65	8,233.05	8,221.05	32.55	28.82	102.26	-294.59	39.14	949.13	907.64	41.49	22.877				
8,350.00	8,266.55	8,279.95	8,267.95	32.68	28.98	102.82	-294.59	39.14	953.12	911.40	41.72	22.845				
8,400.00	8,311.76	8,325.16	8,313.16	32.80	29.14	103.43	-294.59	39.14	958.45	916.50	41.95	22.848				
8,450.00	8,354.94	8,368.34	8,356.34	32.92	29.30	104.03	-294.59	39.14	965.32	923.15	42.17	22.892				
8,500.00	8,395.76	8,409.16	8,397.16	33.02	29.44	104.55	-294.59	39.14	973.92	931.54	42.38	22.982				
8,550.00	8,433.92	8,447.31	8,435.32	33.11	29.57	104.93	-294.59	39.14	984.47	941.89	42.58	23.122				
8,600.00	8,469.11	8,482.51	8,470.51	33.19	29.70	105.11	-294.59	39.14	997.14	954.38	42.76	23.318				
8,650.00	8,501.08	8,514.47	8,502.48	33.27	29.81	105.01	-294.59	39.14	1,012.09	969.15	42.93	23.573				
8,700.00	8,529.57	8,542.97	8,530.97	33.34	29.91	104.58	-294.59	39.14	1,029.40	986.31	43.09	23.891				
8,750.00	8,554.38	8,567.78	8,555.78	33.41	30.00	103.75	-294.59	39.14	1,049.14	1,005.91	43.22	24.272				
8,800.00	8,575.31	8,588.71	8,576.71	33.49	30.07	102.46	-294.59	39.14	1,071.27	1,027.94	43.34	24.718				
8,850.00	8,592.21	8,605.60	8,593.61	33.56	30.13	100.65	-294.59	39.14	1,095.73	1,052.30	43.43	25.228				
8,900.00	8,604.94	8,618.34	8,606.34	33.65	30.18	98.29	-294.59	39.14	1,122.36	1,078.85	43.51	25.798				
8,950.00	8,613.41	8,626.81	8,614.81	33.76	30.21	95.34	-294.59	39.14	1,150.95	1,107.40	43.56	26.425				
9,000.00	8,617.55	8,630.95	8,618.95	33.88	30.22	91.79	-294.59	39.14	1,181.25	1,137.67	43.58	27.104				
9,022.57	8,618.00	8,631.39	8,619.40	33.94	30.22	90.00	-294.59	39.14	1,195.40	1,151.81	43.59	27.425				
9,100.00	8,618.00	8,631.39	8,619.40	34.19	30.22	90.00	-294.59	39.14	1,245.87	1,202.27	43.60	28.575				
9,200.00	8,618.00	8,631.39	8,619.40	34.60	30.22	90.00	-294.59	39.14	1,314.92	1,271.31	43.61	30.149				
9,300.00	8,618.00	8,631.39	8,619.40	35.09	30.22	90.00	-294.59	39.14	1,387.75	1,344.13	43.63	31.809				
9,400.00	8,618.00	8,631.39	8,619.40	35.67	30.22	90.00	-294.59	39.14	1,463.80	1,420.16	43.64	33.543				
9,500.00	8,618.00	8,631.39	8,619.40	36.33	30.22	90.00	-294.59	39.14	1,542.58	1,498.92	43.65	35.338				
9,600.00	8,618.00	8,631.39	8,619.40	37.05	30.22	90.00	-294.59	39.14	1,623.69	1,580.03	43.66	37.187				
9,700.00	8,618.00	8,631.39	8,619.40	37.84	30.22	90.00	-294.59	39.14	1,706.82	1,663.14	43.67	39.080				
9,800.00	8,618.00	8,631.40	8,619.40	38.69	30.22	90.00	-294.59	39.14	1,791.66	1,747.98	43.69	41.012				
9,900.00	8,618.00	8,631.40	8,619.40	39.59	30.22	90.00	-294.59	39.14	1,878.00	1,834.31	43.70	42.977				
10,000.00	8,618.00	8,631.40	8,619.40	40.54	30.22	90.00	-294.59	39.14	1,965.64	1,921.93	43.71	44.970				
10,100.00	8,618.00	8,631.40	8,619.40	41.53	30.22	90.00	-294.59	39.14	2,054.40	2,010.68	43.72	46.988				
10,200.00	8,618.00	8,631.40	8,619.40	42.57	30.22	90.00	-294.59	39.14	2,144.16	2,100.42	43.73	49.027				
10,300.00	8,618.00	8,631.40	8,619.40	43.64	30.22	90.00	-294.59	39.14	2,234.78	2,191.04	43.75	51.084				
10,400.00	8,618.00	8,631.40	8,619.40	44.75	30.22	90.00	-294.59	39.14	2,326.18	2,282.42	43.76	53.156				
10,500.00	8,618.00	8,631.40	8,619.40	45.90	30.22	90.00	-294.59	39.14	2,418.25	2,374.48	43.78	55.243				
10,600.00	8,618.00	8,631.40	8,619.40	47.07	30.22	90.00	-294.59	39.14	2,510.93	2,467.14	43.79	57.341				
10,700.00	8,618.00	8,631.40	8,619.40	48.27	30.22	90.00	-294.59	39.14	2,604.15	2,560.35	43.81	59.449				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 802H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
10,800.00	8,618.00	8,631.40	8,619.40	49.50	30.22	90.00	-294.59	39.14	2,697.86	2,654.04	43.82	61.566				
10,900.00	8,618.00	8,631.40	8,619.40	50.75	30.22	90.00	-294.59	39.14	2,792.01	2,748.17	43.84	63.690				
11,000.00	8,618.00	8,631.40	8,619.40	52.02	30.22	90.00	-294.59	39.14	2,886.54	2,842.69	43.85	65.821				
11,100.00	8,618.00	8,631.40	8,619.40	53.32	30.22	90.00	-294.59	39.14	2,981.44	2,937.57	43.87	67.958				
11,200.00	8,618.00	8,631.40	8,619.40	54.63	30.22	90.00	-294.59	39.14	3,076.66	3,032.77	43.89	70.099				
11,300.00	8,618.00	8,631.40	8,619.40	55.96	30.22	90.00	-294.59	39.14	3,172.17	3,128.26	43.91	72.244				
11,400.00	8,618.00	8,631.40	8,619.40	57.31	30.22	90.00	-294.59	39.14	3,267.95	3,224.02	43.93	74.392				
11,500.00	8,618.00	8,631.40	8,619.40	58.68	30.22	90.00	-294.59	39.14	3,363.98	3,320.03	43.95	76.542				
11,600.00	8,618.00	8,631.40	8,619.40	60.05	30.22	90.00	-294.59	39.14	3,460.23	3,416.26	43.97	78.695				
11,700.00	8,618.00	8,631.40	8,619.40	61.45	30.22	90.00	-294.59	39.14	3,556.69	3,512.69	43.99	80.849				
11,800.00	8,618.00	8,631.40	8,619.40	62.85	30.22	90.00	-294.59	39.14	3,653.33	3,609.32	44.01	83.003				
11,900.00	8,618.00	8,631.40	8,619.40	64.27	30.22	90.00	-294.59	39.14	3,750.16	3,706.12	44.04	85.159				
12,000.00	8,618.00	15,776.23	12,276.00	65.69	72.78	165.80	3,439.37	2.20	3,771.92	3,716.55	55.37	68.121				
12,100.00	8,618.00	15,876.23	12,276.00	67.13	74.12	165.80	3,539.37	1.21	3,771.92	3,715.57	56.35	66.938				
12,200.00	8,618.00	15,976.23	12,276.00	68.58	75.47	165.80	3,639.36	0.23	3,771.92	3,714.59	57.34	65.785				
12,300.00	8,618.00	16,076.23	12,276.00	70.03	76.83	165.80	3,739.36	-0.76	3,771.93	3,713.59	58.33	64.660				
12,400.00	8,618.00	16,176.23	12,276.00	71.50	78.21	165.80	3,839.35	-1.75	3,771.93	3,712.59	59.34	63.564				
12,500.00	8,618.00	16,276.23	12,276.00	72.97	79.59	165.80	3,939.35	-2.74	3,771.93	3,711.57	60.35	62.497				
12,600.00	8,618.00	16,376.23	12,276.00	74.45	80.99	165.80	4,039.34	-3.73	3,771.93	3,710.56	61.37	61.458				
12,700.00	8,618.00	16,476.23	12,276.00	75.94	82.39	165.79	4,139.34	-4.72	3,771.93	3,709.53	62.40	60.446				
12,800.00	8,618.00	16,576.23	12,276.00	77.43	83.80	165.79	4,239.33	-5.71	3,771.93	3,708.50	63.43	59.462				
12,900.00	8,618.00	16,676.23	12,276.00	78.93	85.22	165.79	4,339.33	-6.70	3,771.93	3,707.46	64.47	58.505				
13,000.00	8,618.00	16,776.23	12,276.00	80.44	86.65	165.79	4,439.32	-7.69	3,771.93	3,706.42	65.52	57.574				
13,100.00	8,618.00	16,876.23	12,276.00	81.95	88.09	165.79	4,539.32	-8.68	3,771.94	3,705.37	66.56	56.666				
13,200.00	8,618.00	16,976.23	12,276.00	83.47	89.54	165.79	4,639.31	-9.67	3,771.94	3,704.32	67.62	55.782				
13,300.00	8,618.00	17,076.23	12,276.00	84.99	90.99	165.79	4,739.31	-10.66	3,771.94	3,703.26	68.68	54.922				
13,400.00	8,618.00	17,176.23	12,276.00	86.52	92.45	165.79	4,839.30	-11.65	3,771.94	3,702.20	69.74	54.083				
13,500.00	8,618.00	17,276.23	12,276.00	88.05	93.91	165.79	4,939.30	-12.64	3,771.94	3,701.13	70.81	53.267				
13,600.00	8,618.00	17,376.23	12,276.00	89.58	95.38	165.79	5,039.29	-13.62	3,771.94	3,700.06	71.89	52.471				
13,700.00	8,618.00	17,476.23	12,276.00	91.12	96.86	165.79	5,139.29	-14.61	3,771.94	3,698.98	72.96	51.696				
13,800.00	8,618.00	17,576.23	12,276.00	92.67	98.34	165.79	5,239.28	-15.60	3,771.95	3,697.90	74.05	50.941				
13,900.00	8,618.00	17,676.23	12,276.00	94.21	99.83	165.79	5,339.28	-16.59	3,771.95	3,696.81	75.13	50.204				
14,000.00	8,618.00	17,776.23	12,276.00	95.76	101.33	165.79	5,439.27	-17.58	3,771.95	3,695.73	76.22	49.487				
14,100.00	8,618.00	17,876.23	12,276.00	97.32	102.82	165.79	5,539.27	-18.57	3,771.95	3,694.64	77.31	48.788				
14,200.00	8,618.00	17,976.23	12,276.00	98.88	104.33	165.79	5,639.26	-19.56	3,771.95	3,693.54	78.41	48.107				
14,300.00	8,618.00	18,076.23	12,276.00	100.44	105.83	165.79	5,739.26	-20.55	3,771.95	3,692.45	79.51	47.443				
14,400.00	8,618.00	18,176.23	12,276.00	102.00	107.35	165.79	5,839.26	-21.54	3,771.95	3,691.35	80.61	46.794				
14,500.00	8,618.00	18,276.23	12,276.00	103.57	108.86	165.79	5,939.25	-22.53	3,771.95	3,690.24	81.71	46.162				
14,600.00	8,618.00	18,376.23	12,276.00	105.13	110.38	165.79	6,039.25	-23.52	3,771.96	3,689.14	82.82	45.545				
14,700.00	8,618.00	18,476.23	12,276.00	106.71	111.90	165.79	6,139.24	-24.51	3,771.96	3,688.03	83.93	44.942				
14,800.00	8,618.00	18,576.23	12,276.00	108.28	113.43	165.79	6,239.24	-25.50	3,771.96	3,686.92	85.04	44.354				
14,900.00	8,618.00	18,676.23	12,276.00	109.85	114.96	165.79	6,339.23	-26.48	3,771.96	3,685.80	86.16	43.779				
15,000.00	8,618.00	18,776.23	12,276.00	111.43	116.50	165.79	6,439.23	-27.47	3,771.96	3,684.68	87.28	43.218				
15,100.00	8,618.00	18,876.23	12,276.00	113.01	118.03	165.79	6,539.22	-28.46	3,771.96	3,683.57	88.40	42.672				
15,200.00	8,618.00	18,976.23	12,276.00	114.60	119.57	165.79	6,639.22	-29.45	3,771.96	3,682.45	89.52	42.137				
15,300.00	8,618.00	19,076.23	12,276.00	116.18	121.12	165.79	6,739.21	-30.44	3,771.97	3,681.33	90.64	41.615				
15,400.00	8,618.00	19,176.23	12,276.00	117.77	122.66	165.79	6,839.21	-31.43	3,771.97	3,680.20	91.76	41.105				
15,500.00	8,618.00	19,276.23	12,276.00	119.35	124.21	165.79	6,939.20	-32.42	3,771.97	3,679.08	92.89	40.606				
15,600.00	8,618.00	19,376.23	12,276.00	120.94	125.76	165.79	7,039.20	-33.41	3,771.97	3,677.95	94.02	40.118				
15,700.00	8,618.00	19,476.23	12,276.00	122.53	127.31	165.79	7,139.19	-34.40	3,771.97	3,676.82	95.15	39.642				
15,800.00	8,618.00	19,576.23	12,276.00	124.13	128.87	165.79	7,239.19	-35.39	3,771.97	3,675.69	96.28	39.175				
15,900.00	8,618.00	19,676.23	12,276.00	125.72	130.43	165.79	7,339.18	-36.38	3,771.97	3,674.55	97.42	38.719				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 802H - OH - Plan #1		Offset Site Error:		0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis		Distance								Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor					
16,000.00	8,618.00	19,776.23	12,276.00	127.32	131.99	165.79	7,439.18	-37.37	3,771.97	3,673.42	98.56	38.272					
16,100.00	8,618.00	19,876.23	12,276.00	128.91	133.55	165.79	7,539.17	-38.36	3,771.98	3,672.28	99.69	37.836					
16,200.00	8,618.00	19,976.23	12,276.00	130.51	135.12	165.79	7,639.17	-39.35	3,771.98	3,671.14	100.83	37.408					
16,300.00	8,618.00	20,076.23	12,276.00	132.11	136.69	165.79	7,739.16	-40.33	3,771.98	3,670.00	101.97	36.989					
16,400.00	8,618.00	20,176.23	12,276.00	133.71	138.25	165.79	7,839.16	-41.32	3,771.98	3,668.86	103.12	36.580					
16,500.00	8,618.00	20,276.23	12,276.00	135.32	139.83	165.79	7,939.15	-42.31	3,771.98	3,667.72	104.26	36.179					
16,600.00	8,618.00	20,376.23	12,276.00	136.92	141.40	165.79	8,039.15	-43.30	3,771.98	3,666.58	105.40	35.787					
16,700.00	8,618.00	20,476.23	12,276.00	138.52	142.97	165.79	8,139.14	-44.29	3,771.98	3,665.44	106.55	35.402					
16,800.00	8,618.00	20,576.23	12,276.00	140.13	144.55	165.79	8,239.14	-45.28	3,771.99	3,664.29	107.69	35.025					
16,900.00	8,618.00	20,676.23	12,276.00	141.74	146.13	165.79	8,339.13	-46.27	3,771.99	3,663.15	108.84	34.656					
17,000.00	8,618.00	20,776.23	12,276.00	143.35	147.71	165.79	8,439.13	-47.26	3,771.99	3,662.00	109.99	34.294					
17,100.00	8,618.00	20,876.23	12,276.00	144.95	149.29	165.79	8,539.12	-48.25	3,771.99	3,660.85	111.14	33.939					
17,200.00	8,618.00	20,976.23	12,276.00	146.56	150.87	165.79	8,639.12	-49.24	3,771.99	3,659.70	112.29	33.591					
17,300.00	8,618.00	21,076.23	12,276.00	148.18	152.46	165.79	8,739.11	-50.23	3,771.99	3,658.55	113.44	33.250					
17,400.00	8,618.00	21,176.23	12,276.00	149.79	154.04	165.79	8,839.11	-51.22	3,771.99	3,657.40	114.60	32.916					
17,500.00	8,618.00	21,276.23	12,276.00	151.40	155.63	165.79	8,939.10	-52.21	3,771.99	3,656.25	115.75	32.588					
17,600.00	8,618.00	21,376.23	12,276.00	153.01	157.22	165.79	9,039.10	-53.19	3,772.00	3,655.09	116.90	32.266					
17,700.00	8,618.00	21,476.23	12,276.00	154.63	158.81	165.79	9,139.09	-54.18	3,772.00	3,653.94	118.06	31.950					
17,800.00	8,618.00	21,576.23	12,276.00	156.24	160.40	165.79	9,239.09	-55.17	3,772.00	3,652.79	119.21	31.641					
17,900.00	8,618.00	21,676.23	12,276.00	157.86	161.99	165.79	9,339.08	-56.16	3,772.00	3,651.63	120.37	31.337					
18,000.00	8,618.00	21,776.23	12,276.00	159.47	163.59	165.79	9,439.08	-57.15	3,772.00	3,650.47	121.53	31.038					
18,100.00	8,618.00	21,876.23	12,276.00	161.09	165.18	165.79	9,539.07	-58.14	3,772.00	3,649.32	122.69	30.745					
18,200.00	8,618.00	21,976.23	12,276.00	162.71	166.78	165.79	9,639.07	-59.13	3,772.00	3,648.16	123.85	30.457					
18,300.00	8,618.00	22,076.23	12,276.00	164.33	168.37	165.79	9,739.06	-60.12	3,772.01	3,647.00	125.01	30.175					
18,400.00	8,618.00	22,176.23	12,276.00	165.95	169.97	165.79	9,839.06	-61.11	3,772.01	3,645.84	126.17	29.897					
18,500.00	8,618.00	22,276.23	12,276.00	167.57	171.57	165.79	9,939.05	-62.10	3,772.01	3,644.68	127.33	29.624					
18,600.00	8,618.00	22,376.23	12,276.00	169.19	173.17	165.79	10,039.05	-63.09	3,772.01	3,643.52	128.49	29.356					
18,602.66	8,618.00	22,378.89	12,276.00	169.23	173.21	165.79	10,041.71	-63.11	3,772.01	3,643.49	128.52	29.349					
18,636.90	8,618.00	22,410.08	12,276.00	169.79	173.71	165.79	10,072.90	-63.42	3,772.01	3,643.12	128.89	29.264					

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 803H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
1,843.00	1,843.00	1,845.00	1,845.00	6.37	6.38	-122.79	-74.36	63.21	97.72	88.71	9.02	10.839	CC, ES			
1,900.00	1,899.99	1,901.99	1,901.99	6.57	6.59	-123.30	-74.36	63.21	98.31	89.01	9.30	10.570				
2,000.00	1,999.91	2,001.87	2,001.87	6.91	6.94	-125.15	-74.36	63.21	100.52	90.72	9.79	10.263	SF			
2,100.00	2,099.69	2,100.00	2,099.99	7.25	7.28	-128.34	-74.66	64.48	105.56	95.28	10.28	10.271				
2,200.00	2,199.27	2,196.06	2,195.97	7.60	7.61	-132.65	-75.50	68.11	114.92	104.18	10.74	10.698				
2,300.00	2,298.57	2,291.66	2,291.38	7.96	7.94	-137.43	-76.89	74.05	129.12	117.91	11.20	11.526				
2,400.00	2,397.54	2,385.81	2,385.15	8.32	8.26	-142.04	-78.79	82.17	148.47	136.82	11.65	12.742				
2,491.33	2,487.56	2,470.25	2,469.06	8.66	8.56	-145.81	-80.94	91.36	170.75	158.70	12.05	14.168				
2,500.00	2,496.09	2,478.18	2,476.93	8.69	8.59	-146.16	-81.17	92.32	173.09	161.00	12.09	14.316				
2,600.00	2,594.46	2,568.94	2,566.84	9.08	8.91	-149.64	-83.99	104.39	201.64	189.12	12.51	16.112				
2,700.00	2,692.82	2,658.31	2,655.05	9.47	9.24	-152.32	-87.25	118.31	232.99	220.06	12.93	18.022				
2,800.00	2,791.19	2,746.21	2,741.47	9.86	9.57	-154.39	-90.91	133.96	266.91	253.58	13.33	20.021				
2,900.00	2,889.56	2,838.02	2,831.46	10.27	9.92	-156.09	-95.05	151.68	302.57	288.78	13.79	21.949				
3,000.00	2,987.92	2,931.08	2,922.66	10.67	10.29	-157.45	-99.27	169.69	338.47	324.21	14.26	23.742				
3,100.00	3,086.29	3,024.14	3,013.87	11.09	10.66	-158.56	-103.48	187.70	374.50	359.77	14.73	25.425				
3,200.00	3,184.66	3,117.20	3,105.07	11.50	11.04	-159.47	-107.69	205.71	410.63	395.43	15.21	27.006				
3,300.00	3,283.02	3,210.26	3,196.28	11.92	11.43	-160.23	-111.90	223.72	446.84	431.16	15.68	28.490				
3,400.00	3,381.39	3,303.32	3,287.48	12.34	11.81	-160.88	-116.12	241.72	483.11	466.94	16.16	29.888				
3,500.00	3,479.76	3,396.39	3,378.69	12.77	12.21	-161.44	-120.33	259.73	519.42	502.78	16.65	31.203				
3,600.00	3,578.12	3,489.45	3,469.89	13.19	12.60	-161.93	-124.54	277.74	555.77	538.64	17.13	32.444				
3,700.00	3,676.49	3,582.51	3,561.10	13.62	13.00	-162.35	-128.75	295.75	592.16	574.54	17.62	33.614				
3,800.00	3,774.86	3,675.57	3,652.30	14.06	13.41	-162.73	-132.97	313.76	628.56	610.46	18.10	34.721				
3,900.00	3,873.22	3,768.63	3,743.51	14.49	13.81	-163.07	-137.18	331.77	664.99	646.40	18.59	35.768				
4,000.00	3,971.59	3,861.69	3,834.72	14.93	14.22	-163.37	-141.39	349.78	701.44	682.36	19.08	36.759				
4,100.00	4,069.96	3,954.76	3,925.92	15.36	14.63	-163.64	-145.61	367.78	737.90	718.33	19.57	37.700				
4,200.00	4,168.32	4,047.82	4,017.13	15.80	15.05	-163.88	-149.82	385.79	774.37	754.31	20.07	38.592				
4,300.00	4,266.69	4,140.88	4,108.33	16.24	15.46	-164.11	-154.03	403.80	810.86	790.30	20.56	39.441				
4,400.00	4,365.06	4,233.94	4,199.54	16.68	15.88	-164.31	-158.24	421.81	847.36	826.30	21.05	40.248				
4,500.00	4,463.42	4,327.00	4,290.74	17.13	16.30	-164.50	-162.46	439.82	883.86	862.31	21.55	41.017				
4,600.00	4,561.79	4,420.06	4,381.95	17.57	16.72	-164.67	-166.67	457.83	920.37	898.33	22.05	41.750				
4,700.00	4,660.16	4,513.13	4,473.15	18.01	17.14	-164.83	-170.88	475.84	956.89	934.35	22.54	42.449				
4,800.00	4,758.52	4,606.19	4,564.36	18.46	17.57	-164.98	-175.09	493.84	993.41	970.37	23.04	43.117				
4,900.00	4,856.89	4,699.25	4,655.56	18.91	17.99	-165.12	-179.31	511.85	1,029.94	1,006.41	23.54	43.755				
5,000.00	4,955.26	4,792.31	4,746.77	19.35	18.42	-165.25	-183.52	529.86	1,066.48	1,042.44	24.04	44.366				
5,100.00	5,053.62	4,885.37	4,837.97	19.80	18.85	-165.37	-187.73	547.87	1,103.02	1,078.48	24.54	44.951				
5,200.00	5,151.99	4,978.44	4,929.18	20.25	19.27	-165.48	-191.94	565.88	1,139.56	1,114.52	25.04	45.511				
5,300.00	5,250.36	5,071.50	5,020.39	20.70	19.70	-165.58	-196.16	583.89	1,176.11	1,150.57	25.54	46.049				
5,400.00	5,348.72	5,164.56	5,111.59	21.15	20.13	-165.68	-200.37	601.90	1,212.66	1,186.61	26.04	46.565				
5,500.00	5,447.09	5,257.62	5,202.80	21.60	20.56	-165.77	-204.58	619.90	1,249.21	1,222.66	26.54	47.060				
5,600.00	5,545.46	5,350.68	5,294.00	22.05	21.00	-165.86	-208.80	637.91	1,285.76	1,258.72	27.05	47.537				
5,700.00	5,643.82	5,443.74	5,385.21	22.50	21.43	-165.94	-213.01	655.92	1,322.32	1,294.77	27.55	47.995				
5,800.00	5,742.19	5,536.81	5,476.41	22.95	21.86	-166.02	-217.22	673.93	1,358.88	1,330.82	28.06	48.436				
5,900.00	5,840.55	5,629.87	5,567.62	23.41	22.30	-166.10	-221.43	691.94	1,395.44	1,366.88	28.56	48.860				
6,000.00	5,938.92	5,722.93	5,658.82	23.86	22.73	-166.17	-225.65	709.95	1,432.01	1,402.94	29.06	49.269				
6,100.00	6,037.29	5,815.99	5,750.03	24.31	23.17	-166.23	-229.86	727.96	1,468.57	1,439.00	29.57	49.664				
6,200.00	6,135.65	5,909.05	5,841.23	24.77	23.60	-166.30	-234.07	745.96	1,505.14	1,475.06	30.08	50.044				
6,300.00	6,234.02	6,002.11	5,932.44	25.22	24.04	-166.36	-238.28	763.97	1,541.71	1,511.12	30.58	50.412				
6,400.00	6,332.39	6,095.18	6,023.65	25.67	24.48	-166.42	-242.50	781.98	1,578.28	1,547.19	31.09	50.766				
6,500.00	6,430.75	6,188.24	6,114.85	26.13	24.91	-166.47	-246.71	799.99	1,614.85	1,583.25	31.60	51.109				
6,600.00	6,529.12	6,281.30	6,206.06	26.58	25.35	-166.52	-250.92	818.00	1,651.42	1,619.32	32.10	51.440				
6,700.00	6,627.49	6,374.36	6,297.26	27.04	25.79	-166.57	-255.13	836.01	1,688.00	1,655.38	32.61	51.761				
6,776.20	6,702.44	6,445.27	6,366.76	27.39	26.12	-166.61	-258.34	849.73	1,715.86	1,682.87	33.00	51.998				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design FMM Fed Com - FMM Fed Com 803H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
6,800.00	6,725.87	6,467.45	6,388.49	27.49	26.23	-166.65	-259.35	854.02	1,724.50	1,691.38	33.12	52.069		
6,900.00	6,824.56	6,561.18	6,480.36	27.93	26.67	-166.81	-263.59	872.16	1,759.32	1,725.69	33.63	52.317		
7,000.00	6,923.64	6,655.78	6,573.07	28.35	27.12	-166.94	-267.87	890.46	1,791.74	1,757.60	34.14	52.487		
7,100.00	7,023.04	6,833.83	6,748.31	28.75	27.92	-167.04	-275.03	921.08	1,819.63	1,784.54	35.09	51.852		
7,200.00	7,122.69	7,019.94	6,932.82	29.12	28.69	-167.11	-280.52	944.54	1,840.45	1,804.44	36.01	51.112		
7,300.00	7,222.53	7,210.07	7,122.32	29.48	29.40	-167.16	-284.01	959.44	1,853.94	1,817.09	36.85	50.310		
7,400.00	7,322.48	7,402.54	7,314.68	29.81	30.03	-167.20	-285.35	965.16	1,859.96	1,822.35	37.61	49.452		
7,467.53	7,390.00	7,479.86	7,392.00	30.02	30.26	95.10	-285.36	965.21	1,860.57	1,822.62	37.95	49.021		
7,500.00	7,422.47	7,512.33	7,424.47	30.12	30.36	95.10	-285.36	965.21	1,860.57	1,822.47	38.11	48.825		
7,600.00	7,522.47	7,612.33	7,524.47	30.43	30.66	95.10	-285.36	965.21	1,860.57	1,822.00	38.58	48.231		
7,700.00	7,622.47	7,712.33	7,624.47	30.73	30.97	95.10	-285.36	965.21	1,860.57	1,821.53	39.05	47.650		
7,800.00	7,722.47	7,812.33	7,724.47	31.04	31.27	95.10	-285.36	965.21	1,860.57	1,821.05	39.52	47.082		
7,900.00	7,822.47	7,912.33	7,824.47	31.34	31.57	95.10	-285.36	965.21	1,860.57	1,820.58	39.99	46.526		
8,000.00	7,922.47	8,012.33	7,924.47	31.65	31.88	95.10	-285.36	965.21	1,860.57	1,820.11	40.46	45.982		
8,100.00	8,022.47	8,112.33	8,024.47	31.96	32.19	95.10	-285.36	965.21	1,860.57	1,819.64	40.94	45.450		
8,122.57	8,045.04	8,134.90	8,047.04	32.03	32.26	95.10	-285.36	965.21	1,860.57	1,819.53	41.04	45.332		
8,150.00	8,072.46	8,162.32	8,074.46	32.12	32.34	95.68	-285.36	965.21	1,860.64	1,819.46	41.17	45.191		
8,200.00	8,122.24	8,212.10	8,124.24	32.27	32.49	95.78	-285.36	965.21	1,861.10	1,819.69	41.41	44.948		
8,250.00	8,171.43	8,261.29	8,173.43	32.41	32.65	95.95	-285.36	965.21	1,862.02	1,820.39	41.63	44.725		
8,300.00	8,219.65	8,309.51	8,221.65	32.55	32.79	96.20	-285.36	965.21	1,863.46	1,821.61	41.85	44.524		
8,350.00	8,266.55	8,356.41	8,268.55	32.68	32.94	96.49	-285.36	965.21	1,865.50	1,823.43	42.07	44.347		
8,400.00	8,311.76	8,401.62	8,313.76	32.80	33.08	96.81	-285.36	965.21	1,868.23	1,825.96	42.27	44.198		
8,450.00	8,354.94	8,444.80	8,356.94	32.92	33.21	97.12	-285.36	965.21	1,871.76	1,829.29	42.47	44.077		
8,500.00	8,395.76	8,485.62	8,397.76	33.02	33.34	97.39	-285.36	965.21	1,876.21	1,833.56	42.65	43.989		
8,550.00	8,433.92	8,523.77	8,435.92	33.11	33.46	97.59	-285.36	965.21	1,881.71	1,838.88	42.83	43.936		
8,600.00	8,469.11	8,558.97	8,471.11	33.19	33.57	97.68	-285.36	965.21	1,888.37	1,845.37	43.00	43.920		
8,650.00	8,501.08	8,590.93	8,503.08	33.27	33.67	97.63	-285.36	965.21	1,896.30	1,853.15	43.15	43.944		
8,700.00	8,529.57	8,619.43	8,531.57	33.34	33.76	97.41	-285.36	965.21	1,905.60	1,862.30	43.30	44.009		
8,750.00	8,554.38	8,644.24	8,556.38	33.41	33.84	96.97	-285.36	965.21	1,916.33	1,872.90	43.44	44.119		
8,800.00	8,575.31	8,665.17	8,577.31	33.49	33.90	96.30	-285.36	965.21	1,928.54	1,884.98	43.56	44.273		
8,850.00	8,592.21	8,682.07	8,594.21	33.56	33.95	95.37	-285.36	965.21	1,942.23	1,898.56	43.67	44.473		
8,900.00	8,604.94	8,694.80	8,606.94	33.65	33.99	94.16	-285.36	965.21	1,957.37	1,913.60	43.77	44.718		
8,950.00	8,613.41	8,703.27	8,615.41	33.76	34.02	92.67	-285.36	965.21	1,973.91	1,930.05	43.86	45.008		
9,000.00	8,617.55	8,707.41	8,619.55	33.88	34.03	90.89	-285.36	965.21	1,991.73	1,947.80	43.93	45.340		
9,022.57	8,618.00	8,707.86	8,620.00	33.94	34.03	90.00	-285.36	965.21	2,000.15	1,956.20	43.96	45.504		
9,100.00	8,618.00	8,707.86	8,620.00	34.19	34.03	90.00	-285.36	965.21	2,030.71	1,986.66	44.05	46.099		
9,200.00	8,618.00	8,707.86	8,620.00	34.60	34.03	90.00	-285.36	965.21	2,073.80	2,029.61	44.19	46.927		
9,300.00	8,618.00	8,707.86	8,620.00	35.09	34.03	90.00	-285.36	965.21	2,120.72	2,076.38	44.35	47.819		
9,400.00	8,618.00	8,707.86	8,620.00	35.67	34.03	90.00	-285.36	965.21	2,171.25	2,126.73	44.52	48.773		
9,500.00	8,618.00	8,707.86	8,620.00	36.33	34.03	90.00	-285.36	965.21	2,225.12	2,180.42	44.69	49.786		
9,600.00	8,618.00	8,707.86	8,620.00	37.05	34.03	90.00	-285.36	965.21	2,282.10	2,237.22	44.88	50.855		
9,700.00	8,618.00	8,707.86	8,620.00	37.84	34.03	90.00	-285.36	965.21	2,341.97	2,296.91	45.06	51.976		
9,800.00	8,618.00	8,707.86	8,620.00	38.69	34.03	90.00	-285.36	965.21	2,404.51	2,359.26	45.24	53.148		
9,900.00	8,618.00	8,707.86	8,620.00	39.59	34.03	90.00	-285.36	965.21	2,469.51	2,424.09	45.42	54.366		
10,000.00	8,618.00	8,707.86	8,620.00	40.54	34.03	90.00	-285.36	965.21	2,536.79	2,491.19	45.60	55.628		
10,100.00	8,618.00	8,707.86	8,620.00	41.53	34.03	90.00	-285.36	965.21	2,606.18	2,560.40	45.78	56.932		
10,200.00	8,618.00	8,707.86	8,620.00	42.57	34.03	90.00	-285.36	965.21	2,677.50	2,631.55	45.95	58.273		
10,300.00	8,618.00	8,707.86	8,620.00	43.64	34.03	90.00	-285.36	965.21	2,750.60	2,704.49	46.11	59.650		
10,400.00	8,618.00	8,707.86	8,620.00	44.75	34.03	90.00	-285.36	965.21	2,825.36	2,779.09	46.27	61.061		
10,500.00	8,618.00	8,707.86	8,620.00	45.90	34.03	90.00	-285.36	965.21	2,901.64	2,855.21	46.42	62.502		
10,600.00	8,618.00	8,707.86	8,620.00	47.07	34.03	90.00	-285.36	965.21	2,979.32	2,932.75	46.57	63.973		
10,700.00	8,618.00	8,707.86	8,620.00	48.27	34.03	90.00	-285.36	965.21	3,058.29	3,011.58	46.71	65.472		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design FMM Fed Com - FMM Fed Com 803H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,800.00	8,618.00	8,707.86	8,620.00	49.50	34.03	90.00	-285.36	965.21	3,138.47	3,091.62	46.85	66.995		
10,900.00	8,618.00	8,707.86	8,620.00	50.75	34.03	90.00	-285.36	965.21	3,219.76	3,172.78	46.98	68.540		
11,000.00	8,618.00	8,707.86	8,620.00	52.02	34.03	90.00	-285.36	965.21	3,302.07	3,254.97	47.10	70.106		
11,100.00	8,618.00	8,707.86	8,620.00	53.32	34.03	90.00	-285.36	965.21	3,385.34	3,338.12	47.22	71.691		
11,200.00	8,618.00	8,707.86	8,620.00	54.63	34.03	90.00	-285.36	965.21	3,469.49	3,422.15	47.34	73.294		
11,300.00	8,618.00	8,707.86	8,620.00	55.96	34.03	90.00	-285.36	965.21	3,554.46	3,507.01	47.45	74.913		
11,400.00	8,618.00	8,707.86	8,620.00	57.31	34.03	90.00	-285.36	965.21	3,640.19	3,592.64	47.55	76.548		
11,500.00	8,618.00	8,707.86	8,620.00	58.68	34.03	90.00	-285.36	965.21	3,726.64	3,678.98	47.66	78.197		
11,600.00	8,618.00	8,707.86	8,620.00	60.05	34.03	90.00	-285.36	965.21	3,813.75	3,765.99	47.76	79.859		
11,700.00	8,618.00	8,707.86	8,620.00	61.45	34.03	90.00	-285.36	965.21	3,901.48	3,853.62	47.85	81.533		
11,800.00	8,618.00	15,512.05	12,136.00	62.85	70.68	152.23	3,248.58	930.18	3,973.75	3,912.72	61.03	65.112		
11,900.00	8,618.00	15,612.05	12,136.00	64.27	71.97	152.23	3,348.57	929.19	3,973.75	3,911.54	62.21	63.878		
12,000.00	8,618.00	15,712.05	12,136.00	65.69	73.28	152.23	3,448.57	928.20	3,973.75	3,910.35	63.40	62.679		
12,100.00	8,618.00	15,812.05	12,136.00	67.13	74.61	152.23	3,548.56	927.21	3,973.75	3,909.15	64.60	61.513		
12,200.00	8,618.00	15,912.05	12,136.00	68.58	75.95	152.23	3,648.56	926.22	3,973.76	3,907.94	65.81	60.381		
12,300.00	8,618.00	16,012.05	12,136.00	70.03	77.30	152.23	3,748.55	925.23	3,973.76	3,906.73	67.03	59.282		
12,400.00	8,618.00	16,112.05	12,136.00	71.50	78.66	152.23	3,848.55	924.24	3,973.76	3,905.50	68.26	58.217		
12,500.00	8,618.00	16,212.05	12,136.00	72.97	80.03	152.23	3,948.54	923.25	3,973.76	3,904.27	69.49	57.182		
12,600.00	8,618.00	16,312.05	12,136.00	74.45	81.41	152.23	4,048.54	922.26	3,973.76	3,903.03	70.74	56.176		
12,700.00	8,618.00	16,412.05	12,136.00	75.94	82.80	152.23	4,148.53	921.26	3,973.76	3,901.78	71.99	55.200		
12,800.00	8,618.00	16,512.05	12,136.00	77.43	84.21	152.23	4,248.53	920.27	3,973.77	3,900.52	73.25	54.251		
12,900.00	8,618.00	16,612.05	12,136.00	78.93	85.62	152.23	4,348.52	919.28	3,973.77	3,899.25	74.51	53.330		
13,000.00	8,618.00	16,712.05	12,136.00	80.44	87.04	152.23	4,448.52	918.29	3,973.77	3,897.98	75.79	52.434		
13,100.00	8,618.00	16,812.05	12,136.00	81.95	88.46	152.23	4,548.51	917.30	3,973.77	3,896.71	77.06	51.564		
13,200.00	8,618.00	16,912.05	12,136.00	83.47	89.90	152.23	4,648.51	916.31	3,973.77	3,895.42	78.35	50.719		
13,300.00	8,618.00	17,012.05	12,136.00	84.99	91.34	152.23	4,748.50	915.32	3,973.77	3,894.13	79.64	49.897		
13,400.00	8,618.00	17,112.05	12,136.00	86.52	92.79	152.23	4,848.50	914.33	3,973.78	3,892.84	80.94	49.098		
13,500.00	8,618.00	17,212.05	12,136.00	88.05	94.25	152.23	4,948.49	913.34	3,973.78	3,891.54	82.24	48.321		
13,600.00	8,618.00	17,312.05	12,136.00	89.58	95.71	152.23	5,048.49	912.34	3,973.78	3,890.24	83.54	47.568		
13,700.00	8,618.00	17,412.05	12,136.00	91.12	97.18	152.23	5,148.48	911.35	3,973.78	3,888.93	84.85	46.835		
13,800.00	8,618.00	17,512.05	12,136.00	92.67	98.65	152.23	5,248.48	910.36	3,973.78	3,887.62	86.16	46.121		
13,900.00	8,618.00	17,612.05	12,136.00	94.21	100.13	152.23	5,348.47	909.37	3,973.78	3,886.31	87.48	45.426		
14,000.00	8,618.00	17,712.05	12,136.00	95.76	101.61	152.23	5,448.47	908.38	3,973.79	3,884.99	88.80	44.752		
14,100.00	8,618.00	17,812.05	12,136.00	97.32	103.10	152.23	5,548.46	907.39	3,973.79	3,883.67	90.12	44.095		
14,200.00	8,618.00	17,912.05	12,136.00	98.88	104.60	152.23	5,648.46	906.40	3,973.79	3,882.34	91.44	43.456		
14,300.00	8,618.00	18,012.05	12,136.00	100.44	106.10	152.23	5,748.45	905.41	3,973.79	3,881.02	92.77	42.833		
14,400.00	8,618.00	18,112.05	12,136.00	102.00	107.60	152.23	5,848.45	904.42	3,973.79	3,879.68	94.11	42.226		
14,500.00	8,618.00	18,212.05	12,136.00	103.57	109.11	152.23	5,948.44	903.43	3,973.79	3,878.35	95.44	41.635		
14,600.00	8,618.00	18,312.05	12,136.00	105.13	110.62	152.23	6,048.44	902.43	3,973.80	3,877.01	96.78	41.059		
14,700.00	8,618.00	18,412.05	12,136.00	106.71	112.14	152.23	6,148.43	901.44	3,973.80	3,875.67	98.13	40.497		
14,800.00	8,618.00	18,512.05	12,136.00	108.28	113.66	152.23	6,248.43	900.45	3,973.80	3,874.33	99.47	39.949		
14,900.00	8,618.00	18,612.05	12,136.00	109.85	115.18	152.23	6,348.42	899.46	3,973.80	3,872.98	100.82	39.415		
15,000.00	8,618.00	18,712.05	12,136.00	111.43	116.71	152.23	6,448.42	898.47	3,973.80	3,871.63	102.17	38.894		
15,100.00	8,618.00	18,812.05	12,136.00	113.01	118.24	152.23	6,548.41	897.48	3,973.80	3,870.28	103.52	38.386		
15,200.00	8,618.00	18,912.05	12,136.00	114.60	119.78	152.23	6,648.41	896.49	3,973.81	3,868.93	104.87	37.891		
15,300.00	8,618.00	19,012.05	12,136.00	116.18	121.31	152.23	6,748.40	895.50	3,973.81	3,867.58	106.23	37.407		
15,400.00	8,618.00	19,112.05	12,136.00	117.77	122.85	152.23	6,848.40	894.51	3,973.81	3,866.22	107.59	36.935		
15,500.00	8,618.00	19,212.05	12,136.00	119.35	124.40	152.23	6,948.40	893.51	3,973.81	3,864.86	108.95	36.474		
15,600.00	8,618.00	19,312.05	12,136.00	120.94	125.94	152.23	7,048.39	892.52	3,973.81	3,863.50	110.31	36.024		
15,700.00	8,618.00	19,412.05	12,136.00	122.53	127.49	152.23	7,148.39	891.53	3,973.81	3,862.14	111.67	35.585		
15,800.00	8,618.00	19,512.05	12,136.00	124.13	129.04	152.23	7,248.38	890.54	3,973.82	3,860.78	113.04	35.156		
15,900.00	8,618.00	19,612.05	12,136.00	125.72	130.59	152.23	7,348.38	889.55	3,973.82	3,859.42	114.40	34.736		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
16,000.00	8,618.00	19,712.05	12,136.00	127.32	132.15	152.23	7,448.37	888.56	3,973.82	3,858.05	115.77	34.326		
16,100.00	8,618.00	19,812.05	12,136.00	128.91	133.71	152.23	7,548.37	887.57	3,973.82	3,856.68	117.14	33.924		
16,200.00	8,618.00	19,912.05	12,136.00	130.51	135.27	152.23	7,648.36	886.58	3,973.82	3,855.31	118.51	33.532		
16,300.00	8,618.00	20,012.05	12,136.00	132.11	136.83	152.23	7,748.36	885.59	3,973.82	3,853.94	119.88	33.148		
16,400.00	8,618.00	20,112.05	12,136.00	133.71	138.39	152.23	7,848.35	884.59	3,973.83	3,852.57	121.25	32.773		
16,500.00	8,618.00	20,212.05	12,136.00	135.32	139.96	152.23	7,948.35	883.60	3,973.83	3,851.20	122.63	32.405		
16,600.00	8,618.00	20,312.05	12,136.00	136.92	141.53	152.23	8,048.34	882.61	3,973.83	3,849.82	124.01	32.045		
16,700.00	8,618.00	20,412.05	12,136.00	138.52	143.10	152.23	8,148.34	881.62	3,973.83	3,848.45	125.38	31.694		
16,800.00	8,618.00	20,512.05	12,136.00	140.13	144.67	152.23	8,248.33	880.63	3,973.83	3,847.07	126.76	31.350		
16,900.00	8,618.00	20,612.05	12,136.00	141.74	146.25	152.23	8,348.33	879.64	3,973.83	3,845.70	128.14	31.013		
17,000.00	8,618.00	20,712.05	12,136.00	143.35	147.82	152.23	8,448.32	878.65	3,973.84	3,844.32	129.51	30.683		
17,100.00	8,618.00	20,812.05	12,136.00	144.95	149.40	152.23	8,548.32	877.66	3,973.84	3,842.94	130.90	30.359		
17,200.00	8,618.00	20,912.05	12,136.00	146.56	150.98	152.23	8,648.31	876.67	3,973.84	3,841.56	132.28	30.042		
17,300.00	8,618.00	21,012.05	12,136.00	148.18	152.56	152.23	8,748.31	875.68	3,973.84	3,840.18	133.66	29.731		
17,400.00	8,618.00	21,112.05	12,136.00	149.79	154.14	152.23	8,848.30	874.68	3,973.84	3,838.80	135.05	29.426		
17,500.00	8,618.00	21,212.05	12,136.00	151.40	155.72	152.23	8,948.30	873.69	3,973.84	3,837.42	136.43	29.128		
17,600.00	8,618.00	21,312.05	12,136.00	153.01	157.31	152.23	9,048.29	872.70	3,973.85	3,836.04	137.81	28.836		
17,700.00	8,618.00	21,412.05	12,136.00	154.63	158.89	152.23	9,148.29	871.71	3,973.85	3,834.65	139.20	28.548		
17,800.00	8,618.00	21,512.05	12,136.00	156.24	160.48	152.23	9,248.28	870.72	3,973.85	3,833.26	140.58	28.267		
17,900.00	8,618.00	21,612.05	12,136.00	157.86	162.07	152.22	9,348.28	869.73	3,973.85	3,831.88	141.97	27.991		
18,000.00	8,618.00	21,712.05	12,136.00	159.47	163.66	152.22	9,448.27	868.74	3,973.85	3,830.50	143.36	27.720		
18,100.00	8,618.00	21,812.05	12,136.00	161.09	165.25	152.22	9,548.27	867.75	3,973.85	3,829.11	144.74	27.455		
18,200.00	8,618.00	21,912.05	12,136.00	162.71	166.84	152.22	9,648.26	866.76	3,973.86	3,827.73	146.13	27.194		
18,300.00	8,618.00	22,012.05	12,136.00	164.33	168.44	152.22	9,748.26	865.76	3,973.86	3,826.34	147.52	26.938		
18,400.00	8,618.00	22,112.05	12,136.00	165.95	170.03	152.22	9,848.25	864.77	3,973.86	3,824.95	148.91	26.686		
18,500.00	8,618.00	22,212.05	12,136.00	167.57	171.63	152.22	9,948.25	863.78	3,973.86	3,823.56	150.30	26.439		
18,600.00	8,618.00	22,312.05	12,136.00	169.19	173.23	152.22	10,048.24	862.79	3,973.86	3,822.17	151.69	26.197		
18,601.78	8,618.00	22,313.83	12,136.00	169.22	173.25	152.22	10,050.03	862.77	3,973.86	3,822.15	151.72	26.193		
18,636.90	8,618.00	22,343.71	12,136.00	169.79	173.75	152.22	10,079.90	862.48	3,973.87	3,821.70	152.16	26.116		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
1,843.00	1,843.00	1,889.30	1,889.30	6.37	6.54	-162.55	-578.93	3,368.40	3,418.02	3,408.89	9.13	374.426	CC, ES	
1,900.00	1,899.99	1,946.29	1,946.29	6.57	6.74	-162.55	-578.93	3,368.40	3,419.04	3,409.63	9.41	363.204		
2,000.00	1,999.91	2,046.21	2,046.21	6.91	7.10	-162.56	-578.93	3,368.40	3,422.79	3,412.88	9.91	345.482		
2,100.00	2,099.69	2,145.99	2,145.99	7.25	7.46	-162.56	-578.93	3,368.40	3,429.03	3,418.62	10.40	329.654		
2,200.00	2,199.27	2,245.57	2,245.57	7.60	7.82	-162.57	-578.93	3,368.40	3,437.76	3,426.86	10.90	315.474		
2,300.00	2,298.57	2,344.87	2,344.87	7.96	8.17	-162.57	-578.93	3,368.40	3,448.98	3,437.59	11.39	302.736		
2,400.00	2,397.54	2,443.84	2,443.84	8.32	8.53	-162.58	-578.93	3,368.40	3,462.68	3,450.80	11.89	291.263		
2,491.33	2,487.56	2,533.86	2,533.86	8.66	8.85	-162.59	-578.93	3,368.40	3,477.36	3,465.02	12.34	281.762		
2,500.00	2,496.09	2,542.39	2,542.39	8.69	8.88	-162.60	-578.93	3,368.40	3,478.85	3,466.47	12.39	280.889		
2,600.00	2,594.46	2,640.76	2,640.76	9.08	9.23	-162.69	-578.93	3,368.40	3,496.06	3,483.18	12.88	271.421		
2,700.00	2,692.82	2,739.12	2,739.12	9.47	9.59	-162.78	-578.93	3,368.40	3,513.27	3,499.90	13.38	262.616		
2,800.00	2,791.19	2,837.49	2,837.49	9.86	9.94	-162.86	-578.93	3,368.40	3,530.49	3,516.62	13.88	254.411		
2,900.00	2,889.56	2,935.86	2,935.86	10.27	10.29	-162.95	-578.93	3,368.40	3,547.72	3,533.35	14.38	246.750		
3,000.00	2,987.92	3,034.22	3,034.22	10.67	10.64	-163.03	-578.93	3,368.40	3,564.96	3,550.08	14.88	239.582		
3,100.00	3,086.29	3,132.59	3,132.59	11.09	11.00	-163.12	-578.93	3,368.40	3,582.20	3,566.82	15.38	232.863		
3,200.00	3,184.66	3,230.96	3,230.96	11.50	11.35	-163.20	-578.93	3,368.40	3,599.46	3,583.57	15.89	226.555		
3,300.00	3,283.02	3,329.32	3,329.32	11.92	11.70	-163.28	-578.93	3,368.40	3,616.72	3,600.32	16.39	220.622		
3,400.00	3,381.39	3,427.69	3,427.69	12.34	12.05	-163.36	-578.93	3,368.40	3,633.98	3,617.08	16.90	215.033		
3,500.00	3,479.76	3,526.06	3,526.06	12.77	12.41	-163.44	-578.93	3,368.40	3,651.25	3,633.85	17.41	209.759		
3,600.00	3,578.12	3,624.42	3,624.42	13.19	12.76	-163.52	-578.93	3,368.40	3,668.54	3,650.62	17.91	204.776		
3,700.00	3,676.49	3,722.79	3,722.79	13.62	13.11	-163.60	-578.93	3,368.40	3,685.82	3,667.40	18.42	200.061		
3,800.00	3,774.86	3,821.16	3,821.16	14.06	13.46	-163.68	-578.93	3,368.40	3,703.12	3,684.18	18.93	195.593		
3,900.00	3,873.22	3,919.52	3,919.52	14.49	13.82	-163.76	-578.93	3,368.40	3,720.42	3,700.97	19.44	191.353		
4,000.00	3,971.59	4,017.89	4,017.89	14.93	14.17	-163.84	-578.93	3,368.40	3,737.72	3,717.77	19.95	187.326		
4,100.00	4,069.96	4,116.26	4,116.26	15.36	14.52	-163.91	-578.93	3,368.40	3,755.04	3,734.57	20.46	183.496		
4,200.00	4,168.32	4,214.62	4,214.62	15.80	14.88	-163.99	-578.93	3,368.40	3,772.36	3,751.38	20.98	179.849		
4,300.00	4,266.69	4,312.99	4,312.99	16.24	15.23	-164.06	-578.93	3,368.40	3,789.68	3,768.20	21.49	176.373		
4,400.00	4,365.06	4,411.36	4,411.36	16.68	15.58	-164.14	-578.93	3,368.40	3,807.02	3,785.02	22.00	173.056		
4,500.00	4,463.42	4,509.72	4,509.72	17.13	15.93	-164.21	-578.93	3,368.40	3,824.36	3,801.85	22.51	169.887		
4,600.00	4,561.79	4,608.09	4,608.09	17.57	16.29	-164.28	-578.93	3,368.40	3,841.70	3,818.68	23.02	166.858		
4,700.00	4,660.16	4,706.46	4,706.46	18.01	16.64	-164.36	-578.93	3,368.40	3,859.05	3,835.52	23.54	163.958		
4,800.00	4,758.52	4,804.82	4,804.82	18.46	16.99	-164.43	-578.93	3,368.40	3,876.41	3,852.36	24.05	161.181		
4,900.00	4,856.89	4,903.19	4,903.19	18.91	17.34	-164.50	-578.93	3,368.40	3,893.77	3,869.21	24.56	158.518		
5,000.00	4,955.26	5,001.56	5,001.56	19.35	17.70	-164.57	-578.93	3,368.40	3,911.14	3,886.06	25.08	155.964		
5,100.00	5,053.62	5,099.92	5,099.92	19.80	18.05	-164.64	-578.93	3,368.40	3,928.51	3,902.92	25.59	153.511		
5,200.00	5,151.99	5,198.29	5,198.29	20.25	18.40	-164.71	-578.93	3,368.40	3,945.89	3,919.79	26.11	151.153		
5,300.00	5,250.36	5,296.66	5,296.66	20.70	18.75	-164.78	-578.93	3,368.40	3,963.28	3,936.66	26.62	148.886		
5,400.00	5,348.72	5,395.02	5,395.02	21.15	19.11	-164.85	-578.93	3,368.40	3,980.67	3,953.54	27.13	146.704		
5,500.00	5,447.09	5,493.39	5,493.39	21.60	19.46	-164.91	-578.93	3,368.40	3,998.07	3,970.42	27.65	144.602		
5,600.00	5,545.46	5,589.69	5,589.69	22.05	19.76	-164.96	-579.78	3,368.41	4,015.60	3,987.48	28.12	142.797		
5,700.00	5,643.82	5,686.83	5,686.83	22.50	20.04	-164.98	-582.57	3,368.44	4,033.42	4,004.84	28.58	141.118		
5,800.00	5,742.19	5,783.07	5,783.07	22.95	20.32	-164.97	-587.31	3,368.48	4,051.55	4,022.50	29.04	139.513		
5,900.00	5,840.55	5,883.95	5,883.95	23.41	20.60	-164.93	-594.04	3,368.54	4,069.96	4,040.46	29.50	137.956		
6,000.00	5,938.92	5,983.14	5,983.14	23.86	20.92	-164.87	-602.60	3,368.62	4,088.51	4,058.51	29.99	136.306		
6,100.00	6,037.29	6,083.33	6,083.33	24.31	21.23	-164.82	-611.16	3,368.70	4,107.06	4,076.57	30.49	134.704		
6,200.00	6,135.65	6,184.52	6,184.52	24.77	21.56	-164.77	-619.72	3,368.78	4,125.62	4,094.63	30.99	133.145		
6,300.00	6,234.02	6,284.71	6,284.71	25.22	21.88	-164.71	-628.28	3,368.86	4,144.18	4,112.69	31.48	131.630		
6,400.00	6,332.39	6,384.89	6,384.89	25.67	22.21	-164.66	-636.84	3,368.94	4,162.74	4,130.75	31.98	130.155		
6,500.00	6,430.75	6,489.08	6,489.08	26.13	22.53	-164.60	-645.40	3,369.02	4,181.30	4,148.82	32.48	128.721		
6,600.00	6,529.12	6,587.27	6,587.27	26.58	22.86	-164.55	-653.96	3,369.10	4,199.87	4,166.89	32.99	127.325		
6,700.00	6,627.49	6,685.46	6,685.46	27.04	23.19	-164.50	-662.52	3,369.18	4,218.45	4,184.96	33.49	125.967		
6,776.20	6,702.44	6,700.27	6,696.55	27.39	23.44	-164.46	-669.04	3,369.24	4,232.60	4,198.73	33.87	124.956		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
6,800.00	6,725.87	6,723.66	6,719.84	27.49	23.52	-164.47	-671.08	3,369.26	4,236.95	4,202.96	33.99	124.642		
6,900.00	6,824.56	6,822.15	6,817.96	27.93	23.86	-164.48	-679.66	3,369.34	4,253.70	4,219.20	34.50	123.307		
7,000.00	6,923.64	6,921.00	6,916.44	28.35	24.20	-164.47	-688.28	3,369.42	4,267.96	4,232.96	35.00	121.945		
7,100.00	7,023.04	7,020.14	7,015.20	28.75	24.53	-164.44	-696.92	3,369.50	4,279.72	4,244.22	35.50	120.556		
7,200.00	7,122.69	7,119.50	7,114.18	29.12	24.88	-164.39	-705.59	3,369.58	4,288.99	4,252.99	36.00	119.144		
7,300.00	7,222.53	7,219.02	7,213.32	29.48	25.22	-164.32	-714.26	3,369.66	4,295.76	4,259.26	36.49	117.711		
7,400.00	7,322.48	7,318.62	7,312.54	29.81	25.56	-164.24	-722.95	3,369.74	4,300.02	4,263.03	36.99	116.259		
7,467.53	7,390.00	7,385.89	7,379.56	30.02	25.80	98.14	-728.81	3,369.80	4,301.48	4,264.16	37.31	115.277		
7,500.00	7,422.47	7,418.24	7,411.79	30.12	25.91	98.17	-731.63	3,369.82	4,301.91	4,264.44	37.47	114.809		
7,600.00	7,522.47	7,519.37	7,512.53	30.43	26.26	98.29	-740.44	3,369.91	4,303.24	4,265.28	37.96	113.375		
7,700.00	7,622.47	7,640.20	7,633.07	30.73	26.68	98.40	-748.79	3,369.98	4,304.31	4,265.81	38.50	111.808		
7,800.00	7,722.47	7,761.44	7,754.21	31.04	27.10	98.46	-753.34	3,370.03	4,304.89	4,265.86	39.04	110.279		
7,900.00	7,822.47	7,876.01	7,868.77	31.34	27.50	98.47	-754.23	3,370.03	4,305.01	4,265.45	39.56	108.828		
8,000.00	7,922.47	7,976.01	7,968.77	31.65	27.85	98.47	-754.23	3,370.03	4,305.01	4,264.97	40.04	107.510		
8,100.00	8,022.47	8,076.01	8,068.77	31.96	28.20	98.47	-754.23	3,370.03	4,305.01	4,264.48	40.53	106.222		
8,122.57	8,045.04	8,098.57	8,091.34	32.03	28.28	98.47	-754.23	3,370.03	4,305.01	4,264.37	40.64	105.936		
8,150.00	8,072.46	8,126.00	8,118.76	32.12	28.38	99.04	-754.23	3,370.03	4,305.11	4,264.34	40.77	105.593		
8,200.00	8,122.24	8,175.77	8,168.54	32.27	28.55	99.03	-754.23	3,370.03	4,305.83	4,264.82	41.01	104.998		
8,250.00	8,171.43	8,224.96	8,217.73	32.41	28.73	99.00	-754.23	3,370.03	4,307.25	4,266.01	41.24	104.441		
8,300.00	8,219.65	8,273.18	8,265.95	32.55	28.90	98.96	-754.23	3,370.03	4,309.38	4,267.91	41.47	103.925		
8,350.00	8,266.55	8,320.08	8,312.85	32.68	29.06	98.89	-754.23	3,370.03	4,312.23	4,270.55	41.68	103.454		
8,400.00	8,311.76	8,365.29	8,358.06	32.80	29.22	98.79	-754.23	3,370.03	4,315.85	4,273.96	41.89	103.027		
8,450.00	8,354.94	8,408.47	8,401.24	32.92	29.38	98.63	-754.23	3,370.03	4,320.25	4,278.16	42.09	102.647		
8,500.00	8,395.76	8,449.30	8,442.06	33.02	29.52	98.43	-754.23	3,370.03	4,325.47	4,283.19	42.28	102.314		
8,550.00	8,433.92	8,487.45	8,480.22	33.11	29.66	98.15	-754.23	3,370.03	4,331.53	4,289.08	42.45	102.028		
8,600.00	8,469.11	8,522.64	8,515.41	33.19	29.78	97.78	-754.23	3,370.03	4,338.46	4,295.84	42.62	101.790		
8,650.00	8,501.08	8,554.61	8,547.38	33.27	29.89	97.32	-754.23	3,370.03	4,346.28	4,303.50	42.78	101.599		
8,700.00	8,529.57	8,583.10	8,575.87	33.34	30.00	96.76	-754.23	3,370.03	4,354.99	4,312.07	42.92	101.456		
8,750.00	8,554.38	8,607.91	8,600.68	33.41	30.08	96.07	-754.23	3,370.03	4,364.60	4,321.54	43.06	101.360		
8,800.00	8,575.31	8,628.84	8,621.61	33.49	30.16	95.26	-754.23	3,370.03	4,375.09	4,331.91	43.19	101.310		
8,850.00	8,592.21	8,645.74	8,638.51	33.56	30.22	94.31	-754.23	3,370.03	4,386.43	4,343.13	43.30	101.305		
8,900.00	8,604.94	8,658.47	8,651.24	33.65	30.26	93.22	-754.23	3,370.03	4,398.58	4,355.18	43.40	101.346		
8,950.00	8,613.41	8,666.94	8,659.71	33.76	30.29	92.00	-754.23	3,370.03	4,411.47	4,367.97	43.49	101.430		
9,000.00	8,617.55	8,671.09	8,663.85	33.88	30.31	90.65	-754.23	3,370.03	4,425.02	4,381.45	43.57	101.557		
9,022.57	8,618.00	8,671.53	8,664.30	33.94	30.31	90.00	-754.23	3,370.03	4,431.33	4,387.72	43.60	101.628		
9,100.00	8,618.00	8,671.53	8,664.30	34.19	30.31	90.00	-754.23	3,370.03	4,453.78	4,410.06	43.72	101.872		
9,200.00	8,618.00	8,671.53	8,664.30	34.60	30.31	90.00	-754.23	3,370.03	4,484.59	4,440.69	43.90	102.153		
9,300.00	8,618.00	8,671.53	8,664.30	35.09	30.31	90.00	-754.23	3,370.03	4,517.40	4,473.29	44.11	102.403		
9,400.00	8,618.00	8,671.53	8,664.30	35.67	30.31	90.00	-754.23	3,370.03	4,552.18	4,507.82	44.36	102.624		
9,500.00	8,618.00	8,671.53	8,664.30	36.33	30.31	90.00	-754.23	3,370.03	4,588.87	4,544.24	44.63	102.824		
9,600.00	8,618.00	8,671.53	8,664.30	37.05	30.31	90.00	-754.23	3,370.03	4,627.43	4,582.50	44.92	103.005		
9,700.00	8,618.00	8,671.53	8,664.30	37.84	30.31	90.00	-754.23	3,370.03	4,667.81	4,622.57	45.24	103.173		
9,800.00	8,618.00	8,671.53	8,664.30	38.69	30.31	90.00	-754.23	3,370.03	4,709.98	4,664.40	45.58	103.333		
9,900.00	8,618.00	8,671.53	8,664.30	39.59	30.31	90.00	-754.23	3,370.03	4,753.87	4,707.93	45.94	103.489		
10,000.00	8,618.00	8,671.53	8,664.30	40.54	30.31	90.00	-754.23	3,370.03	4,799.44	4,753.14	46.31	103.645		
10,100.00	8,618.00	8,671.53	8,664.30	41.53	30.31	90.00	-754.23	3,370.03	4,846.65	4,799.96	46.69	103.805		
10,200.00	8,618.00	8,671.53	8,664.30	42.57	30.31	90.00	-754.23	3,370.03	4,895.45	4,848.37	47.08	103.973		
10,300.00	8,618.00	8,671.53	8,664.30	43.64	30.31	90.00	-754.23	3,370.03	4,945.79	4,898.30	47.49	104.150		
10,400.00	8,618.00	8,671.53	8,664.30	44.75	30.31	90.00	-754.23	3,370.03	4,997.62	4,949.73	47.89	104.346		
17,700.00	8,618.00	21,306.95	11,285.08	154.63	167.92	121.62	9,242.56	3,275.29	4,998.88	4,795.81	203.07	24.617		
17,800.00	8,618.00	21,406.91	11,282.32	156.24	169.53	121.60	9,342.48	3,274.34	4,997.47	4,792.36	205.11	24.365		
17,900.00	8,618.00	21,506.88	11,279.57	157.86	171.13	121.57	9,442.40	3,273.40	4,996.07	4,788.91	207.15	24.118		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design KC7 Fed Com/El Paso Fed Com - El Paso Fed Com 604H - OH - Plan #1												Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD												Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
18,000.00	8,618.00	21,606.84	11,276.81	159.47	172.74	121.54	9,542.32	3,272.45	4,994.66	4,785.46	209.20	23.875	
18,100.00	8,618.00	21,706.80	11,274.06	161.09	174.34	121.51	9,642.24	3,271.50	4,993.26	4,782.01	211.25	23.637	
18,200.00	8,618.00	21,806.76	11,271.30	162.71	175.95	121.49	9,742.16	3,270.56	4,991.86	4,778.56	213.30	23.403	
18,300.00	8,618.00	21,906.72	11,268.54	164.33	177.56	121.46	9,842.07	3,269.61	4,990.46	4,775.11	215.35	23.173	
18,400.00	8,618.00	22,006.69	11,265.79	165.95	179.17	121.43	9,941.99	3,268.66	4,989.06	4,771.65	217.41	22.948	
18,500.00	8,618.00	22,106.65	11,263.03	167.57	180.78	121.40	10,041.91	3,267.71	4,987.66	4,768.20	219.46	22.726	
18,600.00	8,618.00	22,160.64	11,261.54	169.19	181.65	121.39	10,095.88	3,267.20	4,986.48	4,765.52	220.96	22.568	
18,623.65	8,618.00	22,160.64	11,261.54	169.57	181.65	121.39	10,095.88	3,267.20	4,986.42	4,765.27	221.15	22.548	
18,636.90	8,618.00	22,160.64	11,261.54	169.79	181.65	121.39	10,095.88	3,267.20	4,986.44	4,765.19	221.25	22.537 SF	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													KC7 Fed Com/EI Paso Fed Com - EI Paso Fed Com 705H - OH - Plan #3		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
1,843.00	1,843.00	1,889.70	1,889.70	6.37	6.54	-162.45	-579.22	3,333.40	3,383.58	3,374.45	9.13	370.611	CC, ES			
1,900.00	1,899.99	1,946.69	1,946.69	6.57	6.75	-162.45	-579.22	3,333.40	3,384.60	3,375.19	9.41	359.506				
2,000.00	1,999.91	2,046.61	2,046.61	6.91	7.10	-162.45	-579.22	3,333.40	3,388.34	3,378.44	9.91	341.970				
2,100.00	2,099.69	2,146.39	2,146.39	7.25	7.46	-162.46	-579.22	3,333.40	3,394.58	3,384.18	10.40	326.310				
2,200.00	2,199.27	2,245.97	2,245.97	7.60	7.82	-162.46	-579.22	3,333.40	3,403.31	3,392.41	10.90	312.283				
2,300.00	2,298.57	2,345.27	2,345.27	7.96	8.17	-162.47	-579.22	3,333.40	3,414.52	3,403.13	11.39	299.684				
2,400.00	2,397.54	2,444.24	2,444.24	8.32	8.53	-162.48	-579.22	3,333.40	3,428.22	3,416.33	11.89	288.339				
2,491.33	2,487.56	2,534.26	2,534.26	8.66	8.85	-162.49	-579.22	3,333.40	3,442.89	3,430.55	12.34	278.945				
2,500.00	2,496.09	2,542.79	2,542.79	8.69	8.88	-162.50	-579.22	3,333.40	3,444.38	3,431.99	12.39	278.081				
2,600.00	2,594.46	2,641.16	2,641.16	9.08	9.23	-162.59	-579.22	3,333.40	3,461.58	3,448.70	12.88	268.721				
2,700.00	2,692.82	2,739.52	2,739.52	9.47	9.59	-162.68	-579.22	3,333.40	3,478.78	3,465.40	13.38	260.016				
2,800.00	2,791.19	2,837.89	2,837.89	9.86	9.94	-162.76	-579.22	3,333.40	3,495.99	3,482.12	13.88	251.904				
2,900.00	2,889.56	2,936.26	2,936.26	10.27	10.29	-162.85	-579.22	3,333.40	3,513.21	3,498.84	14.38	244.329				
3,000.00	2,987.92	3,034.62	3,034.62	10.67	10.65	-162.94	-579.22	3,333.40	3,530.44	3,515.56	14.88	237.242				
3,100.00	3,086.29	3,132.99	3,132.99	11.09	11.00	-163.02	-579.22	3,333.40	3,547.68	3,532.29	15.38	230.600				
3,200.00	3,184.66	3,231.36	3,231.36	11.50	11.35	-163.11	-579.22	3,333.40	3,564.92	3,549.03	15.89	224.363				
3,300.00	3,283.02	3,329.72	3,329.72	11.92	11.70	-163.19	-579.22	3,333.40	3,582.17	3,565.78	16.39	218.497				
3,400.00	3,381.39	3,428.09	3,428.09	12.34	12.06	-163.27	-579.22	3,333.40	3,599.43	3,582.53	16.90	212.971				
3,500.00	3,479.76	3,536.04	3,536.04	12.77	12.44	-163.36	-579.37	3,333.33	3,616.66	3,599.23	17.43	207.503				
3,600.00	3,578.12	3,670.51	3,670.45	13.19	12.88	-163.42	-582.67	3,331.80	3,633.18	3,615.18	18.01	201.747				
3,700.00	3,676.49	3,805.49	3,805.17	13.62	13.32	-163.40	-590.29	3,328.24	3,648.73	3,630.14	18.58	196.348				
3,800.00	3,774.86	4,123.41	4,122.00	14.06	14.39	-163.35	-606.97	3,309.38	3,661.33	3,641.74	19.59	186.857				
3,900.00	3,873.22	4,210.96	4,209.22	14.49	14.70	-163.37	-609.16	3,302.08	3,670.78	3,650.71	20.07	182.890				
4,000.00	3,971.59	4,310.51	4,308.38	14.93	15.05	-163.39	-611.63	3,293.76	3,680.22	3,659.65	20.58	178.855				
4,100.00	4,069.96	4,410.05	4,407.55	15.36	15.39	-163.41	-614.09	3,285.44	3,689.67	3,668.59	21.08	175.003				
4,200.00	4,168.32	4,509.59	4,506.71	15.80	15.75	-163.44	-616.55	3,277.12	3,699.11	3,677.52	21.59	171.321				
4,300.00	4,266.69	4,609.14	4,605.88	16.24	16.10	-163.46	-619.02	3,268.80	3,708.56	3,686.46	22.10	167.800				
4,400.00	4,365.06	4,708.68	4,705.04	16.68	16.45	-163.48	-621.48	3,260.48	3,718.01	3,695.39	22.61	164.429				
4,500.00	4,463.42	4,808.22	4,804.20	17.13	16.81	-163.50	-623.94	3,252.15	3,727.45	3,704.33	23.12	161.200				
4,600.00	4,561.79	4,907.76	4,903.37	17.57	17.16	-163.52	-626.40	3,243.83	3,736.90	3,713.26	23.64	158.104				
4,700.00	4,660.16	5,007.31	5,002.53	18.01	17.52	-163.54	-628.87	3,235.51	3,746.35	3,722.20	24.15	155.134				
4,800.00	4,758.52	5,106.85	5,101.70	18.46	17.88	-163.57	-631.33	3,227.19	3,755.79	3,731.13	24.66	152.283				
4,900.00	4,856.89	5,206.39	5,200.86	18.91	18.24	-163.59	-633.79	3,218.87	3,765.24	3,740.06	25.18	149.543				
5,000.00	4,955.26	5,305.94	5,300.02	19.35	18.60	-163.61	-636.25	3,210.55	3,774.69	3,749.00	25.69	146.908				
5,100.00	5,053.62	5,405.48	5,399.19	19.80	18.96	-163.63	-638.72	3,202.22	3,784.14	3,757.93	26.21	144.374				
5,200.00	5,151.99	5,505.02	5,498.35	20.25	19.32	-163.65	-641.18	3,193.90	3,793.59	3,766.86	26.73	141.934				
5,300.00	5,250.36	5,604.57	5,597.52	20.70	19.69	-163.67	-643.64	3,185.58	3,803.04	3,775.80	27.25	139.584				
5,400.00	5,348.72	5,704.11	5,696.68	21.15	20.05	-163.69	-646.11	3,177.26	3,812.49	3,784.73	27.76	137.318				
5,500.00	5,447.09	5,803.65	5,795.84	21.60	20.41	-163.71	-648.57	3,168.94	3,821.94	3,793.66	28.28	135.133				
5,600.00	5,545.46	5,903.19	5,895.01	22.05	20.78	-163.73	-651.03	3,160.62	3,831.40	3,802.59	28.80	133.024				
5,700.00	5,643.82	6,002.74	5,994.17	22.50	21.14	-163.75	-653.49	3,152.30	3,840.85	3,811.53	29.32	130.988				
5,800.00	5,742.19	6,102.28	6,093.33	22.95	21.51	-163.77	-655.96	3,143.97	3,850.30	3,820.46	29.84	129.021				
5,900.00	5,840.55	6,201.82	6,192.50	23.41	21.88	-163.79	-658.42	3,135.65	3,859.75	3,829.39	30.36	127.119				
6,000.00	5,938.92	6,301.37	6,291.66	23.86	22.25	-163.81	-660.88	3,127.33	3,869.21	3,838.32	30.88	125.280				
6,100.00	6,037.29	6,400.91	6,390.83	24.31	22.61	-163.83	-663.35	3,119.01	3,878.66	3,847.26	31.41	123.501				
6,200.00	6,135.65	6,500.45	6,489.99	24.77	22.98	-163.85	-665.81	3,110.69	3,888.12	3,856.19	31.93	121.778				
6,300.00	6,234.02	6,599.99	6,589.15	25.22	23.35	-163.87	-668.27	3,102.37	3,897.57	3,865.12	32.45	120.109				
6,400.00	6,332.39	6,699.54	6,688.32	25.67	23.72	-163.89	-670.73	3,094.04	3,907.03	3,874.06	32.97	118.492				
6,500.00	6,430.75	6,799.08	6,787.48	26.13	24.09	-163.91	-673.20	3,085.72	3,916.49	3,882.99	33.50	116.924				
6,600.00	6,529.12	6,898.62	6,886.65	26.58	24.46	-163.93	-675.66	3,077.40	3,925.94	3,891.92	34.02	115.404				
6,700.00	6,627.49	6,998.17	6,985.81	27.04	24.83	-163.95	-678.12	3,069.08	3,935.40	3,900.86	34.54	113.928				
6,776.20	6,702.44	7,074.01	7,061.37	27.39	25.12	-163.97	-680.00	3,062.74	3,942.61	3,907.66	34.94	112.833				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
6,800.00	6,725.87	7,097.72	7,084.98	27.49	25.20	-163.98	-680.59	3,060.76	3,944.79	3,909.72	35.07	112.495		
6,900.00	6,824.56	7,197.42	7,184.31	27.93	25.58	-164.02	-683.05	3,052.42	3,952.39	3,916.80	35.59	111.059		
7,000.00	6,923.64	7,297.29	7,283.79	28.35	25.95	-164.05	-685.52	3,044.07	3,957.49	3,921.38	36.11	109.603		
7,100.00	7,023.04	7,397.25	7,383.37	28.75	26.32	-164.05	-688.00	3,035.72	3,960.07	3,923.45	36.62	108.131		
7,200.00	7,122.69	7,497.24	7,482.98	29.12	26.70	-164.03	-690.47	3,027.36	3,960.13	3,923.00	37.13	106.642		
7,300.00	7,222.53	7,597.18	7,582.55	29.48	27.07	-163.99	-692.94	3,019.00	3,957.68	3,920.04	37.64	105.139		
7,400.00	7,322.48	7,697.02	7,682.00	29.81	27.45	-163.93	-695.41	3,010.66	3,952.72	3,914.57	38.15	103.623		
7,467.53	7,390.00	7,764.33	7,749.06	30.02	27.70	98.43	-697.08	3,005.03	3,947.95	3,909.47	38.48	102.599		
7,500.00	7,422.47	7,796.68	7,781.29	30.12	27.82	98.45	-697.88	3,002.33	3,945.38	3,906.74	38.64	102.111		
7,600.00	7,522.47	7,896.30	7,880.53	30.43	28.19	98.50	-700.34	2,994.00	3,937.47	3,898.34	39.13	100.632		
7,700.00	7,622.47	7,995.92	7,979.77	30.73	28.57	98.56	-702.81	2,985.67	3,929.56	3,889.94	39.62	99.188		
7,800.00	7,722.47	8,095.54	8,079.01	31.04	28.94	98.61	-705.27	2,977.34	3,921.66	3,881.55	40.11	97.777		
7,900.00	7,822.47	8,195.16	8,178.25	31.34	29.32	98.66	-707.74	2,969.01	3,913.76	3,873.16	40.60	96.400		
8,000.00	7,922.47	8,294.78	8,277.49	31.65	29.69	98.72	-710.20	2,960.69	3,905.87	3,864.77	41.09	95.054		
8,100.00	8,022.47	8,394.40	8,376.73	31.96	30.07	98.77	-712.67	2,952.36	3,897.97	3,856.39	41.58	93.739		
8,122.57	8,045.04	8,416.88	8,399.12	32.03	30.15	98.79	-713.22	2,950.48	3,896.19	3,854.50	41.69	93.447		
8,150.00	8,072.46	8,444.18	8,426.32	32.12	30.26	99.58	-713.90	2,948.20	3,894.14	3,852.31	41.83	93.097		
8,200.00	8,122.24	8,493.66	8,475.61	32.27	30.44	99.99	-715.12	2,944.06	3,890.96	3,848.89	42.07	92.486		
8,250.00	8,171.43	8,542.45	8,524.21	32.41	30.63	100.38	-716.33	2,939.98	3,888.55	3,846.25	42.31	91.912		
8,300.00	8,219.65	8,590.17	8,571.76	32.55	30.81	100.74	-717.51	2,935.99	3,886.98	3,844.44	42.54	91.378		
8,350.00	8,266.55	8,636.48	8,617.88	32.68	30.98	101.07	-718.66	2,932.12	3,886.29	3,843.53	42.76	90.887		
8,361.84	8,277.42	8,647.20	8,628.56	32.71	31.02	101.14	-718.92	2,931.23	3,886.26	3,843.45	42.81	90.778		
8,400.00	8,311.76	8,681.01	8,662.24	32.80	31.15	101.34	-719.76	2,928.40	3,886.55	3,843.57	42.97	90.441		
8,450.00	8,354.94	8,723.42	8,704.50	32.92	31.31	101.55	-720.81	2,924.85	3,887.82	3,844.64	43.18	90.042		
8,500.00	8,395.76	8,763.40	8,744.32	33.02	31.46	101.67	-721.80	2,921.51	3,890.17	3,846.79	43.37	89.691		
8,550.00	8,433.92	8,800.64	8,781.42	33.11	31.60	101.69	-722.72	2,918.40	3,893.65	3,850.09	43.56	89.391		
8,600.00	8,469.11	8,834.85	8,815.50	33.19	31.73	101.60	-723.56	2,915.54	3,898.33	3,854.60	43.73	89.141		
8,650.00	8,501.08	8,865.77	8,846.31	33.27	31.85	101.37	-724.33	2,912.95	3,904.24	3,860.34	43.90	88.942		
8,700.00	8,529.57	8,893.18	8,873.61	33.34	31.95	101.00	-725.01	2,910.66	3,911.41	3,867.36	44.05	88.796		
8,750.00	8,554.38	8,916.85	8,897.19	33.41	32.04	100.46	-725.59	2,908.68	3,919.85	3,875.66	44.19	88.702		
8,800.00	8,575.31	8,936.62	8,916.88	33.49	32.12	99.76	-726.08	2,907.03	3,929.57	3,885.25	44.32	88.661		
8,850.00	8,592.21	8,952.33	8,932.53	33.56	32.17	98.87	-726.47	2,905.72	3,940.55	3,896.11	44.44	88.672		
8,900.00	8,604.94	8,963.85	8,944.01	33.65	32.22	97.79	-726.76	2,904.75	3,952.72	3,908.18	44.55	88.734		
8,950.00	8,613.41	8,971.11	8,951.25	33.76	32.25	96.53	-726.94	2,904.15	3,966.04	3,921.40	44.64	88.848		
9,000.00	8,617.55	8,974.05	8,954.17	33.88	32.26	95.08	-727.01	2,903.90	3,980.41	3,935.69	44.72	89.011		
9,022.57	8,618.00	8,973.96	8,954.08	33.94	32.26	94.37	-727.01	2,903.91	3,987.21	3,942.46	44.75	89.101		
9,100.00	8,618.00	8,972.10	8,952.23	34.19	32.25	94.34	-726.96	2,904.06	4,011.53	3,966.67	44.86	89.420		
9,200.00	8,618.00	8,969.71	8,949.85	34.60	32.24	94.31	-726.90	2,904.26	4,044.92	3,999.89	45.03	89.818		
9,300.00	8,618.00	8,967.32	8,947.47	35.09	32.23	94.27	-726.84	2,904.46	4,080.49	4,035.25	45.24	90.206		
9,400.00	8,618.00	8,964.93	8,945.09	35.67	32.22	94.24	-726.78	2,904.66	4,118.17	4,072.71	45.46	90.586		
9,500.00	8,618.00	8,962.54	8,942.71	36.33	32.21	94.20	-726.72	2,904.86	4,157.92	4,112.21	45.71	90.963		
9,600.00	8,618.00	8,960.15	8,940.32	37.05	32.20	94.16	-726.67	2,905.06	4,199.68	4,153.70	45.98	91.338		
9,700.00	8,618.00	8,957.76	8,937.94	37.84	32.20	94.13	-726.61	2,905.26	4,243.38	4,197.11	46.27	91.715		
9,800.00	8,618.00	8,955.37	8,935.56	38.69	32.19	94.09	-726.55	2,905.46	4,288.96	4,242.39	46.57	92.098		
9,900.00	8,618.00	8,952.98	8,933.18	39.59	32.18	94.05	-726.49	2,905.66	4,336.37	4,289.48	46.89	92.488		
10,000.00	8,618.00	8,950.59	8,930.80	40.54	32.17	94.02	-726.43	2,905.86	4,385.54	4,338.33	47.21	92.888		
10,100.00	8,618.00	8,948.20	8,928.42	41.53	32.16	93.98	-726.37	2,906.06	4,436.43	4,388.88	47.55	93.301		
10,200.00	8,618.00	8,945.81	8,926.03	42.57	32.15	93.95	-726.31	2,906.26	4,488.96	4,441.07	47.89	93.728		
10,300.00	8,618.00	8,943.41	8,923.65	43.64	32.14	93.91	-726.25	2,906.46	4,543.09	4,494.85	48.24	94.171		
10,400.00	8,618.00	8,941.02	8,921.27	44.75	32.13	93.87	-726.19	2,906.66	4,598.75	4,550.16	48.59	94.636		
10,500.00	8,618.00	8,938.63	8,918.89	45.90	32.12	93.84	-726.13	2,906.86	4,655.90	4,606.95	48.95	95.122		
10,600.00	8,618.00	8,936.24	8,916.51	47.07	32.11	93.80	-726.07	2,907.06	4,714.47	4,665.17	49.30	95.626		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,700.00	8,618.00	8,933.85	8,914.12	48.27	32.10	93.77	-726.01	2,907.26	4,774.42	4,724.76	49.66	96.149		
10,800.00	8,618.00	14,741.55	11,774.66	49.50	64.76	130.22	2,354.56	2,764.57	4,816.62	4,746.87	69.75	69.052		
10,900.00	8,618.00	14,841.50	11,771.78	50.75	66.02	130.20	2,454.47	2,763.62	4,814.80	4,743.57	71.23	67.596		
11,000.00	8,618.00	14,941.46	11,768.91	52.02	67.31	130.17	2,554.38	2,762.67	4,812.98	4,740.26	72.73	66.179		
11,100.00	8,618.00	15,041.42	11,766.03	53.32	68.60	130.14	2,654.30	2,761.73	4,811.17	4,736.92	74.24	64.802		
11,200.00	8,618.00	15,141.38	11,763.16	54.63	69.91	130.12	2,754.21	2,760.78	4,809.35	4,733.57	75.78	63.463		
11,300.00	8,618.00	15,241.34	11,760.28	55.96	71.24	130.09	2,854.12	2,759.84	4,807.53	4,730.19	77.34	62.163		
11,400.00	8,618.00	15,341.30	11,757.41	57.31	72.58	130.06	2,954.03	2,758.89	4,805.72	4,726.81	78.91	60.903		
11,500.00	8,618.00	15,441.26	11,754.54	58.68	73.93	130.04	3,053.95	2,757.94	4,803.90	4,723.41	80.49	59.680		
11,600.00	8,618.00	15,541.21	11,751.66	60.05	75.30	130.01	3,153.86	2,757.00	4,802.09	4,719.99	82.10	58.493		
11,700.00	8,618.00	15,641.17	11,748.79	61.45	76.67	129.98	3,253.77	2,756.05	4,800.28	4,716.56	83.71	57.341		
11,800.00	8,618.00	15,741.13	11,745.91	62.85	78.06	129.96	3,353.68	2,755.11	4,798.46	4,713.12	85.34	56.225		
11,900.00	8,618.00	15,841.09	11,743.04	64.27	79.45	129.93	3,453.60	2,754.16	4,796.65	4,709.66	86.99	55.140		
12,000.00	8,618.00	15,941.05	11,740.16	65.69	80.86	129.90	3,553.51	2,753.21	4,794.85	4,706.20	88.65	54.088		
12,100.00	8,618.00	16,041.01	11,737.29	67.13	82.27	129.88	3,653.42	2,752.27	4,793.04	4,702.72	90.32	53.068		
12,200.00	8,618.00	16,140.97	11,734.41	68.58	83.70	129.85	3,753.34	2,751.32	4,791.23	4,699.23	92.00	52.078		
12,300.00	8,618.00	16,240.93	11,731.54	70.03	85.13	129.82	3,853.25	2,750.38	4,789.42	4,695.73	93.69	51.118		
12,400.00	8,618.00	16,340.88	11,728.66	71.50	86.57	129.80	3,953.16	2,749.43	4,787.62	4,692.22	95.40	50.187		
12,500.00	8,618.00	16,440.84	11,725.79	72.97	88.02	129.77	4,053.07	2,748.48	4,785.82	4,688.71	97.11	49.284		
12,600.00	8,618.00	16,540.80	11,722.92	74.45	89.47	129.74	4,152.99	2,747.54	4,784.01	4,685.19	98.83	48.409		
12,700.00	8,618.00	16,640.76	11,720.04	75.94	90.93	129.72	4,252.90	2,746.59	4,782.21	4,681.66	100.55	47.559		
12,800.00	8,618.00	16,740.72	11,717.17	77.43	92.40	129.69	4,352.81	2,745.65	4,780.41	4,678.12	102.29	46.734		
12,900.00	8,618.00	16,840.68	11,714.29	78.93	93.87	129.66	4,452.73	2,744.70	4,778.61	4,674.58	104.03	45.933		
13,000.00	8,618.00	16,940.64	11,711.42	80.44	95.35	129.64	4,552.64	2,743.75	4,776.81	4,671.02	105.79	45.155		
13,100.00	8,618.00	17,040.59	11,708.54	81.95	96.84	129.61	4,652.55	2,742.81	4,775.01	4,667.47	107.55	44.399		
13,200.00	8,618.00	17,140.55	11,705.67	83.47	98.33	129.58	4,752.46	2,741.86	4,773.22	4,663.90	109.31	43.665		
13,300.00	8,618.00	17,240.51	11,702.79	84.99	99.82	129.56	4,852.38	2,740.92	4,771.42	4,660.33	111.09	42.951		
13,400.00	8,618.00	17,340.47	11,699.92	86.52	101.32	129.53	4,952.29	2,739.97	4,769.63	4,656.76	112.87	42.258		
13,500.00	8,618.00	17,440.43	11,697.05	88.05	102.83	129.50	5,052.20	2,739.02	4,767.84	4,653.18	114.66	41.584		
13,600.00	8,618.00	17,540.39	11,694.17	89.58	104.33	129.47	5,152.12	2,738.08	4,766.04	4,649.60	116.45	40.929		
13,700.00	8,618.00	17,640.35	11,691.30	91.12	105.85	129.45	5,252.03	2,737.13	4,764.25	4,646.01	118.24	40.292		
13,800.00	8,618.00	17,740.30	11,688.42	92.67	107.37	129.42	5,351.94	2,736.19	4,762.46	4,642.41	120.05	39.672		
13,900.00	8,618.00	17,840.26	11,685.55	94.21	108.89	129.39	5,451.85	2,735.24	4,760.67	4,638.82	121.85	39.068		
14,000.00	8,618.00	17,940.22	11,682.67	95.76	110.41	129.37	5,551.77	2,734.29	4,758.88	4,635.22	123.67	38.481		
14,100.00	8,618.00	18,040.18	11,679.80	97.32	111.94	129.34	5,651.68	2,733.35	4,757.10	4,631.61	125.49	37.909		
14,200.00	8,618.00	18,140.14	11,676.92	98.88	113.47	129.31	5,751.59	2,732.40	4,755.31	4,628.00	127.31	37.352		
14,300.00	8,618.00	18,240.10	11,674.05	100.44	115.01	129.28	5,851.51	2,731.46	4,753.53	4,624.39	129.14	36.809		
14,400.00	8,618.00	18,340.06	11,671.17	102.00	116.55	129.26	5,951.42	2,730.51	4,751.74	4,620.77	130.97	36.280		
14,500.00	8,618.00	18,440.02	11,668.30	103.57	118.09	129.23	6,051.33	2,729.56	4,749.96	4,617.15	132.81	35.766		
14,600.00	8,618.00	18,539.97	11,665.43	105.13	119.63	129.20	6,151.24	2,728.62	4,748.18	4,613.53	134.65	35.264		
14,700.00	8,618.00	18,639.93	11,662.55	106.71	121.18	129.18	6,251.16	2,727.67	4,746.40	4,609.91	136.49	34.774		
14,800.00	8,618.00	18,739.89	11,659.68	108.28	122.73	129.15	6,351.07	2,726.72	4,744.62	4,606.28	138.34	34.297		
14,900.00	8,618.00	18,839.85	11,656.80	109.85	124.28	129.12	6,450.98	2,725.78	4,742.84	4,602.65	140.19	33.831		
15,000.00	8,618.00	18,939.81	11,653.93	111.43	125.84	129.09	6,550.89	2,724.83	4,741.06	4,599.02	142.05	33.377		
15,100.00	8,618.00	19,039.77	11,651.05	113.01	127.40	129.07	6,650.81	2,723.89	4,739.29	4,595.38	143.91	32.933		
15,200.00	8,618.00	19,139.73	11,648.18	114.60	128.96	129.04	6,750.72	2,722.94	4,737.51	4,591.74	145.77	32.500		
15,300.00	8,618.00	19,239.68	11,645.30	116.18	130.52	129.01	6,850.63	2,721.99	4,735.74	4,588.10	147.64	32.077		
15,400.00	8,618.00	19,339.64	11,642.43	117.77	132.08	128.98	6,950.55	2,721.05	4,733.96	4,584.46	149.51	31.664		
15,500.00	8,618.00	19,439.60	11,639.56	119.35	133.65	128.96	7,050.46	2,720.10	4,732.19	4,580.81	151.38	31.261		
15,600.00	8,618.00	19,539.56	11,636.68	120.94	135.22	128.93	7,150.37	2,719.16	4,730.42	4,577.17	153.25	30.867		
15,700.00	8,618.00	19,639.52	11,633.81	122.53	136.79	128.90	7,250.28	2,718.21	4,728.65	4,573.52	155.13	30.482		
15,800.00	8,618.00	19,739.48	11,630.93	124.13	138.36	128.87	7,350.20	2,717.26	4,726.88	4,569.87	157.01	30.105		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
15,900.00	8,618.00	19,839.44	11,628.06	125.72	139.94	128.85	7,450.11	2,716.32	4,725.12	4,566.22	158.89	29.737		
16,000.00	8,618.00	19,939.39	11,625.18	127.32	141.51	128.82	7,550.02	2,715.37	4,723.35	4,562.57	160.78	29.377		
16,100.00	8,618.00	20,039.35	11,622.31	128.91	143.09	128.79	7,649.94	2,714.43	4,721.58	4,558.91	162.67	29.025		
16,200.00	8,618.00	20,139.31	11,619.43	130.51	144.67	128.76	7,749.85	2,713.48	4,719.82	4,555.26	164.56	28.681		
16,300.00	8,618.00	20,239.27	11,616.56	132.11	146.25	128.74	7,849.76	2,712.53	4,718.06	4,551.60	166.46	28.344		
16,400.00	8,618.00	20,339.23	11,613.68	133.71	147.83	128.71	7,949.67	2,711.59	4,716.29	4,547.94	168.36	28.014		
16,500.00	8,618.00	20,439.19	11,610.81	135.32	149.42	128.68	8,049.59	2,710.64	4,714.53	4,544.28	170.26	27.691		
16,600.00	8,618.00	20,539.15	11,607.94	136.92	151.00	128.65	8,149.50	2,709.70	4,712.77	4,540.62	172.16	27.375		
16,700.00	8,618.00	20,639.11	11,605.06	138.52	152.59	128.63	8,249.41	2,708.75	4,711.02	4,536.95	174.06	27.065		
16,800.00	8,618.00	20,739.06	11,602.19	140.13	154.18	128.60	8,349.33	2,707.80	4,709.26	4,533.29	175.97	26.762		
16,900.00	8,618.00	20,839.02	11,599.31	141.74	155.77	128.57	8,449.24	2,706.86	4,707.50	4,529.62	177.88	26.465		
17,000.00	8,618.00	20,938.98	11,596.44	143.35	157.36	128.54	8,549.15	2,705.91	4,705.75	4,525.96	179.79	26.174		
17,100.00	8,618.00	21,038.94	11,593.56	144.95	158.95	128.52	8,649.06	2,704.97	4,703.99	4,522.29	181.70	25.889		
17,200.00	8,618.00	21,138.90	11,590.69	146.56	160.54	128.49	8,748.98	2,704.02	4,702.24	4,518.62	183.62	25.609		
17,300.00	8,618.00	21,238.86	11,587.81	148.18	162.14	128.46	8,848.89	2,703.07	4,700.49	4,514.95	185.54	25.335		
17,400.00	8,618.00	21,338.82	11,584.94	149.79	163.73	128.43	8,948.80	2,702.13	4,698.73	4,511.28	187.46	25.066		
17,500.00	8,618.00	21,438.77	11,582.07	151.40	165.33	128.40	9,048.72	2,701.18	4,696.98	4,507.61	189.38	24.802		
17,600.00	8,618.00	21,538.73	11,579.19	153.01	166.93	128.38	9,148.63	2,700.24	4,695.24	4,503.94	191.30	24.544		
17,700.00	8,618.00	21,638.69	11,576.32	154.63	168.53	128.35	9,248.54	2,699.29	4,693.49	4,500.26	193.22	24.290		
17,800.00	8,618.00	21,738.65	11,573.44	156.24	170.13	128.32	9,348.45	2,698.34	4,691.74	4,496.59	195.15	24.042		
17,900.00	8,618.00	21,838.61	11,570.57	157.86	171.73	128.29	9,448.37	2,697.40	4,690.00	4,492.92	197.08	23.797		
18,000.00	8,618.00	21,938.57	11,567.69	159.47	173.33	128.27	9,548.28	2,696.45	4,688.25	4,489.24	199.01	23.558		
18,100.00	8,618.00	22,038.53	11,564.82	161.09	174.93	128.24	9,648.19	2,695.51	4,686.51	4,485.56	200.95	23.322		
18,200.00	8,618.00	22,138.48	11,561.94	162.71	176.54	128.21	9,748.10	2,694.56	4,684.77	4,481.89	202.88	23.091		
18,300.00	8,618.00	22,238.44	11,559.07	164.33	178.14	128.18	9,848.02	2,693.61	4,683.03	4,478.21	204.82	22.864		
18,400.00	8,618.00	22,338.40	11,556.20	165.95	179.75	128.15	9,947.93	2,692.67	4,681.29	4,474.53	206.76	22.642		
18,500.00	8,618.00	22,438.36	11,553.32	167.57	181.35	128.13	10,047.84	2,691.72	4,679.55	4,470.85	208.70	22.423		
18,600.00	8,618.00	22,482.46	11,552.05	169.19	182.06	128.11	10,091.92	2,691.30	4,678.14	4,468.22	209.92	22.285		
18,625.42	8,618.00	22,482.46	11,552.05	169.60	182.06	128.11	10,091.92	2,691.30	4,678.07	4,468.00	210.08	22.268		
18,636.90	8,618.00	22,482.46	11,552.05	169.79	182.06	128.11	10,091.92	2,691.30	4,678.09	4,467.94	210.15	22.261 SF		



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
1,843.00	1,843.00	1,889.10	1,889.10	6.37	6.54	-162.66	-578.63	3,403.39	3,452.46	3,443.33	9.13	378.220			
1,900.00	1,899.99	1,946.09	1,946.09	6.57	6.74	-162.66	-578.63	3,403.39	3,453.48	3,444.07	9.41	366.883			
2,000.00	1,999.91	2,046.01	2,046.01	6.91	7.10	-162.66	-578.63	3,403.39	3,457.23	3,447.32	9.91	348.977			
2,100.00	2,099.69	2,145.79	2,145.79	7.25	7.46	-162.66	-578.63	3,403.39	3,463.47	3,453.07	10.40	332.982			
2,200.00	2,199.27	2,245.37	2,245.37	7.60	7.82	-162.67	-578.63	3,403.39	3,472.21	3,461.31	10.90	318.650			
2,300.00	2,298.57	2,344.67	2,344.67	7.96	8.17	-162.68	-578.63	3,403.39	3,483.44	3,472.04	11.39	305.774			
2,400.00	2,397.54	2,443.64	2,443.64	8.32	8.53	-162.68	-578.63	3,403.39	3,497.15	3,485.26	11.89	294.176			
2,491.33	2,487.56	2,533.66	2,533.66	8.66	8.85	-162.69	-578.63	3,403.39	3,511.83	3,499.49	12.34	284.568			
2,500.00	2,496.09	2,542.19	2,542.19	8.69	8.88	-162.70	-578.63	3,403.39	3,513.33	3,500.94	12.38	283.685			
2,600.00	2,594.46	2,640.56	2,640.56	9.08	9.23	-162.79	-578.63	3,403.39	3,530.54	3,517.66	12.88	274.111			
2,700.00	2,692.82	2,738.92	2,738.92	9.47	9.59	-162.87	-578.63	3,403.39	3,547.76	3,534.39	13.38	265.207			
2,800.00	2,791.19	2,837.29	2,837.29	9.86	9.94	-162.96	-578.63	3,403.39	3,564.99	3,551.12	13.88	256.909			
2,900.00	2,889.56	2,935.66	2,935.66	10.27	10.29	-163.04	-578.63	3,403.39	3,582.23	3,567.85	14.38	249.161			
3,000.00	2,987.92	3,034.02	3,034.02	10.67	10.64	-163.13	-578.63	3,403.39	3,599.48	3,584.60	14.88	241.913			
3,100.00	3,086.29	3,132.39	3,132.39	11.09	11.00	-163.21	-578.63	3,403.39	3,616.73	3,601.35	15.38	235.119			
3,200.00	3,184.66	3,230.76	3,230.76	11.50	11.35	-163.29	-578.63	3,403.39	3,633.99	3,618.10	15.89	228.740			
3,300.00	3,283.02	3,329.12	3,329.12	11.92	11.70	-163.37	-578.63	3,403.39	3,651.26	3,634.86	16.39	222.740			
3,400.00	3,381.39	3,427.49	3,427.49	12.34	12.05	-163.45	-578.63	3,403.39	3,668.53	3,651.63	16.90	217.088			
3,500.00	3,479.76	3,525.86	3,525.86	12.77	12.41	-163.53	-578.63	3,403.39	3,685.81	3,668.40	17.41	211.755			
3,600.00	3,578.12	3,624.22	3,624.22	13.19	12.76	-163.61	-578.63	3,403.39	3,703.10	3,685.18	17.91	206.716			
3,700.00	3,676.49	3,722.59	3,722.59	13.62	13.11	-163.69	-578.63	3,403.39	3,720.39	3,701.97	18.42	201.948			
3,800.00	3,774.86	3,820.96	3,820.96	14.06	13.46	-163.77	-578.63	3,403.39	3,737.69	3,718.76	18.93	197.429			
3,900.00	3,873.22	3,919.32	3,919.32	14.49	13.82	-163.84	-578.63	3,403.39	3,755.00	3,735.56	19.44	193.142			
4,000.00	3,971.59	4,017.69	4,017.69	14.93	14.17	-163.92	-578.63	3,403.39	3,772.32	3,752.36	19.95	189.070			
4,100.00	4,069.96	4,116.06	4,116.06	15.36	14.52	-163.99	-578.63	3,403.39	3,789.64	3,769.17	20.46	185.197			
4,200.00	4,168.32	4,214.42	4,214.42	15.80	14.87	-164.07	-578.63	3,403.39	3,806.96	3,785.99	20.97	181.509			
4,300.00	4,266.69	4,312.79	4,312.79	16.24	15.23	-164.14	-578.63	3,403.39	3,824.30	3,802.81	21.49	177.994			
4,400.00	4,365.06	4,411.16	4,411.16	16.68	15.58	-164.22	-578.63	3,403.39	3,841.64	3,819.64	22.00	174.639			
4,500.00	4,463.42	4,509.52	4,509.52	17.13	15.93	-164.29	-578.63	3,403.39	3,858.98	3,836.47	22.51	171.435			
4,600.00	4,561.79	4,607.89	4,607.89	17.57	16.28	-164.36	-578.63	3,403.39	3,876.33	3,853.31	23.02	168.371			
4,700.00	4,660.16	4,706.26	4,706.26	18.01	16.64	-164.43	-578.63	3,403.39	3,893.69	3,870.15	23.54	165.439			
4,800.00	4,758.52	4,804.62	4,804.62	18.46	16.99	-164.50	-578.63	3,403.39	3,911.05	3,887.00	24.05	162.630			
4,900.00	4,856.89	4,902.99	4,902.99	18.91	17.34	-164.57	-578.63	3,403.39	3,928.42	3,903.86	24.56	159.938			
5,000.00	4,955.26	5,001.36	5,001.36	19.35	17.70	-164.64	-578.63	3,403.39	3,945.80	3,920.72	25.08	157.354			
5,100.00	5,053.62	5,099.72	5,099.72	19.80	18.05	-164.71	-578.63	3,403.39	3,963.18	3,937.59	25.59	154.873			
5,200.00	5,151.99	5,198.09	5,198.09	20.25	18.40	-164.78	-578.63	3,403.39	3,980.56	3,954.46	26.10	152.489			
5,300.00	5,250.36	5,296.46	5,296.46	20.70	18.75	-164.85	-578.63	3,403.39	3,997.95	3,971.33	26.62	150.196			
5,400.00	5,348.72	5,394.82	5,394.82	21.15	19.11	-164.91	-578.63	3,403.39	4,015.35	3,988.22	27.13	147.989			
5,500.00	5,447.09	5,493.19	5,493.19	21.60	19.46	-164.98	-578.63	3,403.39	4,032.75	4,005.10	27.65	145.864			
5,600.00	5,545.46	5,546.86	5,546.85	22.05	19.64	-165.01	-578.79	3,403.63	4,050.66	4,022.63	28.03	144.516			
5,700.00	5,643.82	5,600.00	5,599.99	22.50	19.83	-165.04	-579.34	3,404.49	4,069.74	4,041.33	28.41	143.271			
5,800.00	5,742.19	5,646.93	5,646.90	22.95	19.98	-165.06	-580.16	3,405.77	4,089.97	4,061.21	28.76	142.224			
5,900.00	5,840.55	5,700.00	5,699.91	23.41	20.16	-165.08	-581.47	3,407.79	4,111.35	4,082.23	29.12	141.174			
6,000.00	5,938.92	5,746.09	5,745.92	23.86	20.31	-165.10	-582.94	3,410.05	4,133.87	4,104.41	29.46	140.300			
6,100.00	6,037.29	5,800.00	5,799.69	24.31	20.49	-165.11	-585.03	3,413.28	4,157.53	4,127.70	29.83	139.390			
6,200.00	6,135.65	5,854.59	5,854.09	24.77	20.67	-165.12	-587.54	3,417.15	4,182.26	4,152.07	30.19	138.539			
6,300.00	6,234.02	5,951.39	5,950.52	25.22	21.00	-165.13	-592.12	3,424.24	4,207.35	4,176.67	30.68	137.134			
6,400.00	6,332.39	6,048.19	6,046.95	25.67	21.33	-165.14	-596.71	3,431.33	4,232.43	4,201.26	31.17	135.770			
6,500.00	6,430.75	6,144.99	6,143.38	26.13	21.65	-165.15	-601.30	3,438.42	4,257.52	4,225.85	31.67	134.444			
6,600.00	6,529.12	6,241.79	6,239.81	26.58	21.98	-165.16	-605.89	3,445.51	4,282.60	4,250.44	32.16	133.155			
6,700.00	6,627.49	6,338.59	6,336.24	27.04	22.31	-165.17	-610.48	3,452.59	4,307.69	4,275.03	32.66	131.902			
6,776.20	6,702.44	6,412.35	6,409.72	27.39	22.57	-165.18	-613.97	3,457.99	4,326.80	4,293.76	33.04	130.970			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
6,800.00	6,725.87	6,435.41	6,432.69	27.49	22.65	-165.20	-615.07	3,459.68	4,332.70	4,299.55	33.15	130.681		
6,900.00	6,824.56	6,532.66	6,529.57	27.93	22.98	-165.30	-619.68	3,466.80	4,355.98	4,322.32	33.65	129.446		
7,000.00	6,923.64	6,630.47	6,627.01	28.35	23.32	-165.37	-624.31	3,473.97	4,376.78	4,342.63	34.15	128.178		
7,100.00	7,023.04	6,728.77	6,724.93	28.75	23.66	-165.43	-628.97	3,481.17	4,395.10	4,360.46	34.64	126.879		
7,200.00	7,122.69	6,827.49	6,823.28	29.12	24.00	-165.47	-633.65	3,488.39	4,410.92	4,375.79	35.13	125.552		
7,300.00	7,222.53	6,926.57	6,921.98	29.48	24.35	-165.49	-638.35	3,495.65	4,424.23	4,388.61	35.62	124.198		
7,400.00	7,322.48	7,025.93	7,020.97	29.81	24.70	-165.49	-643.06	3,502.93	4,435.04	4,398.93	36.11	122.821		
7,467.53	7,390.00	7,093.16	7,087.93	30.02	24.93	96.83	-646.25	3,507.85	4,440.90	4,404.47	36.43	121.888		
7,500.00	7,422.47	7,125.51	7,120.16	30.12	25.05	96.84	-647.78	3,510.22	4,443.45	4,406.86	36.59	121.442		
7,600.00	7,522.47	7,225.13	7,219.40	30.43	25.40	96.89	-652.50	3,517.51	4,451.29	4,414.23	37.07	120.092		
7,700.00	7,622.47	7,324.75	7,318.64	30.73	25.75	96.94	-657.22	3,524.81	4,459.14	4,421.60	37.54	118.772		
7,800.00	7,722.47	7,424.37	7,417.88	31.04	26.10	96.99	-661.95	3,532.10	4,466.99	4,428.97	38.02	117.483		
7,900.00	7,822.47	7,523.99	7,517.12	31.34	26.45	97.04	-666.67	3,539.40	4,474.84	4,436.34	38.50	116.224		
8,000.00	7,922.47	7,623.60	7,616.36	31.65	26.81	97.09	-671.39	3,546.69	4,482.70	4,443.71	38.98	114.993		
8,100.00	8,022.47	7,723.22	7,715.60	31.96	27.16	97.14	-676.11	3,553.99	4,490.56	4,451.09	39.46	113.790		
8,122.57	8,045.04	7,745.70	7,737.99	32.03	27.24	97.15	-677.18	3,555.63	4,492.33	4,452.76	39.57	113.522		
8,150.00	8,072.46	7,772.99	7,765.17	32.12	27.34	97.52	-678.47	3,557.63	4,494.57	4,454.87	39.70	113.202		
8,200.00	8,122.24	7,822.36	7,814.35	32.27	27.52	97.14	-680.81	3,561.24	4,499.11	4,459.17	39.94	112.648		
8,250.00	8,171.43	7,870.93	7,862.74	32.41	27.69	96.77	-683.11	3,564.80	4,504.19	4,464.03	40.17	112.133		
8,300.00	8,219.65	7,918.34	7,909.97	32.55	27.86	96.39	-685.36	3,568.27	4,509.83	4,469.44	40.39	111.659		
8,350.00	8,266.55	7,964.22	7,955.68	32.68	28.03	95.99	-687.54	3,571.63	4,516.01	4,475.41	40.60	111.229		
8,400.00	8,311.76	8,008.24	7,999.52	32.80	28.18	95.57	-689.62	3,574.86	4,522.74	4,481.94	40.80	110.844		
8,450.00	8,354.94	8,050.04	8,041.17	32.92	28.33	95.13	-691.61	3,577.92	4,530.02	4,489.03	40.99	110.504		
8,500.00	8,395.76	8,089.32	8,080.30	33.02	28.48	94.64	-693.47	3,580.79	4,537.87	4,496.69	41.18	110.209		
8,550.00	8,433.92	8,125.77	8,116.61	33.11	28.61	94.10	-695.20	3,583.46	4,546.28	4,504.93	41.35	109.960		
8,600.00	8,469.11	8,159.12	8,149.83	33.19	28.73	93.50	-696.78	3,585.91	4,555.26	4,513.76	41.50	109.755		
8,650.00	8,501.08	8,189.12	8,179.72	33.27	28.84	92.84	-698.20	3,588.10	4,564.81	4,523.16	41.65	109.594		
8,700.00	8,529.57	8,215.53	8,206.03	33.34	28.93	92.09	-699.45	3,590.04	4,574.93	4,533.14	41.79	109.476		
8,750.00	8,554.38	8,238.15	8,228.56	33.41	29.01	91.25	-700.52	3,591.69	4,585.59	4,543.68	41.92	109.399		
8,800.00	8,575.31	8,256.82	8,247.16	33.49	29.08	90.33	-701.41	3,593.06	4,596.77	4,554.74	42.03	109.363 SF		
8,850.00	8,592.21	8,271.39	8,261.67	33.56	29.13	89.31	-702.10	3,594.13	4,608.43	4,566.29	42.14	109.367		
8,900.00	8,604.94	8,281.74	8,271.99	33.65	29.17	88.19	-702.59	3,594.88	4,620.51	4,578.28	42.23	109.407		
8,950.00	8,613.41	8,287.81	8,278.03	33.76	29.19	86.98	-702.88	3,595.33	4,632.95	4,590.64	42.32	109.484		
9,000.00	8,617.55	8,289.54	8,279.76	33.88	29.20	85.69	-702.96	3,595.46	4,645.68	4,603.29	42.39	109.595		
9,022.57	8,618.00	8,288.90	8,279.12	33.94	29.19	85.09	-702.93	3,595.41	4,651.48	4,609.06	42.42	109.656		
9,100.00	8,618.00	8,285.17	8,275.40	34.19	29.18	85.04	-702.75	3,595.14	4,672.07	4,629.54	42.53	109.857		
9,200.00	8,618.00	8,280.36	8,270.61	34.60	29.16	84.98	-702.52	3,594.78	4,700.40	4,657.69	42.70	110.067		
9,300.00	8,618.00	8,275.55	8,265.82	35.09	29.15	84.92	-702.29	3,594.43	4,730.66	4,687.75	42.92	110.229		
9,400.00	8,618.00	8,270.74	8,261.02	35.67	29.13	84.85	-702.07	3,594.08	4,762.84	4,719.68	43.16	110.350		
9,500.00	8,618.00	8,265.92	8,256.23	36.33	29.11	84.79	-701.84	3,593.73	4,796.87	4,753.44	43.44	110.434		
9,600.00	8,618.00	8,261.11	8,251.43	37.05	29.09	84.73	-701.61	3,593.37	4,832.73	4,789.00	43.74	110.489		
9,700.00	8,618.00	8,256.30	8,246.64	37.84	29.08	84.67	-701.38	3,593.02	4,870.38	4,826.31	44.07	110.519		
9,800.00	8,618.00	8,251.48	8,241.84	38.69	29.06	84.61	-701.15	3,592.67	4,909.77	4,865.35	44.42	110.532		
9,900.00	8,618.00	8,246.67	8,237.05	39.59	29.04	84.55	-700.93	3,592.32	4,950.86	4,906.07	44.79	110.533		
10,000.00	8,618.00	8,241.86	8,232.25	40.54	29.03	84.49	-700.70	3,591.96	4,993.62	4,948.44	45.18	110.527		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
1,843.00	1,843.00	1,889.40	1,889.40	6.37	6.54	-162.34	-579.52	3,298.41	3,349.17	3,340.04	9.13	366.872	CC, ES	
1,900.00	1,899.99	1,946.39	1,946.39	6.57	6.74	-162.34	-579.52	3,298.41	3,350.18	3,340.77	9.41	355.880		
2,000.00	1,999.91	2,046.31	2,046.31	6.91	7.10	-162.34	-579.52	3,298.41	3,353.92	3,344.02	9.91	338.523		
2,100.00	2,099.69	2,146.09	2,146.09	7.25	7.46	-162.35	-579.52	3,298.41	3,360.16	3,349.76	10.40	323.025		
2,200.00	2,199.27	2,245.67	2,245.67	7.60	7.82	-162.36	-579.52	3,298.41	3,368.88	3,357.98	10.90	309.145		
2,300.00	2,298.57	2,344.97	2,344.97	7.96	8.17	-162.37	-579.52	3,298.41	3,380.09	3,368.70	11.39	296.681		
2,400.00	2,397.54	2,443.94	2,443.94	8.32	8.53	-162.38	-579.52	3,298.41	3,393.78	3,381.89	11.89	285.460		
2,491.33	2,487.56	2,533.96	2,533.96	8.66	8.85	-162.39	-579.52	3,298.41	3,408.44	3,396.10	12.34	276.170		
2,500.00	2,496.09	2,542.49	2,542.49	8.69	8.88	-162.39	-579.52	3,298.41	3,409.93	3,397.54	12.39	275.316		
2,600.00	2,594.46	2,640.86	2,640.86	9.08	9.23	-162.49	-579.52	3,298.41	3,427.12	3,414.24	12.88	266.060		
2,700.00	2,692.82	2,739.22	2,739.22	9.47	9.59	-162.58	-579.52	3,298.41	3,444.31	3,430.93	13.38	257.453		
2,800.00	2,791.19	2,837.59	2,837.59	9.86	9.94	-162.66	-579.52	3,298.41	3,461.51	3,447.64	13.88	249.431		
2,900.00	2,889.56	2,935.96	2,935.96	10.27	10.29	-162.75	-579.52	3,298.41	3,478.73	3,464.35	14.38	241.941		
3,000.00	2,987.92	3,034.32	3,034.32	10.67	10.64	-162.84	-579.52	3,298.41	3,495.95	3,481.06	14.88	234.933		
3,100.00	3,086.29	3,132.69	3,132.69	11.09	11.00	-162.93	-579.52	3,298.41	3,513.17	3,497.79	15.38	228.365		
3,200.00	3,184.66	3,231.06	3,231.06	11.50	11.35	-163.01	-579.52	3,298.41	3,530.41	3,514.52	15.89	222.198		
3,300.00	3,283.02	3,329.42	3,329.42	11.92	11.70	-163.10	-579.52	3,298.41	3,547.65	3,531.26	16.39	216.397		
3,400.00	3,381.39	3,427.79	3,427.79	12.34	12.05	-163.18	-579.52	3,298.41	3,564.90	3,548.00	16.90	210.933		
3,500.00	3,479.76	3,526.19	3,526.19	12.77	12.86	-163.26	-580.20	3,294.86	3,581.20	3,563.47	17.74	201.875		
3,600.00	3,578.12	3,624.59	3,624.59	13.19	14.48	-163.49	-589.04	3,248.45	3,586.49	3,567.42	19.07	188.038		
3,700.00	3,676.49	3,724.97	3,724.97	13.62	14.84	-163.49	-591.81	3,233.93	3,589.86	3,570.28	19.58	183.370		
3,800.00	3,774.86	3,823.36	3,823.36	14.06	15.20	-163.49	-594.58	3,219.41	3,593.23	3,573.15	20.08	178.917		
3,900.00	3,873.22	3,921.76	3,921.76	14.49	15.56	-163.50	-597.34	3,204.90	3,596.60	3,576.01	20.59	174.667		
4,000.00	3,971.59	4,020.15	4,020.15	14.93	15.93	-163.50	-600.11	3,190.38	3,599.97	3,578.87	21.10	170.606		
4,100.00	4,069.96	4,118.54	4,118.54	15.36	16.30	-163.50	-602.88	3,175.87	3,603.35	3,581.73	21.61	166.723		
4,200.00	4,168.32	4,216.92	4,216.92	15.80	16.68	-163.50	-605.64	3,161.35	3,606.72	3,584.59	22.13	163.009		
4,300.00	4,266.69	4,315.31	4,315.31	16.24	17.05	-163.51	-608.41	3,146.84	3,610.09	3,587.45	22.64	159.452		
4,400.00	4,365.06	4,413.68	4,413.68	16.68	17.43	-163.51	-611.18	3,132.32	3,613.46	3,590.30	23.16	156.044		
4,500.00	4,463.42	4,511.04	4,511.04	17.13	17.81	-163.51	-613.94	3,117.80	3,616.83	3,593.16	23.67	152.777		
4,600.00	4,561.79	4,608.41	4,608.41	17.57	18.20	-163.51	-616.71	3,103.29	3,620.20	3,596.01	24.19	149.641		
4,700.00	4,660.16	4,707.03	4,707.03	18.01	18.58	-163.52	-619.48	3,088.77	3,623.57	3,598.86	24.71	146.631		
4,800.00	4,758.52	4,806.39	4,806.39	18.46	18.97	-163.52	-622.24	3,074.26	3,626.94	3,601.71	25.23	143.738		
4,900.00	4,856.89	4,904.76	4,904.76	18.91	19.36	-163.52	-625.01	3,059.74	3,630.32	3,604.56	25.75	140.957		
5,000.00	4,955.26	5,003.13	5,003.13	19.35	19.75	-163.52	-627.78	3,045.23	3,633.69	3,607.41	26.28	138.281		
5,100.00	5,053.62	5,101.49	5,101.49	19.80	20.14	-163.53	-630.54	3,030.71	3,637.06	3,610.26	26.80	135.705		
5,200.00	5,151.99	5,200.00	5,200.00	20.25	20.54	-163.53	-633.31	3,016.19	3,640.43	3,613.11	27.33	133.224		
5,300.00	5,250.36	5,298.36	5,298.36	20.70	20.94	-163.53	-636.08	3,001.68	3,643.80	3,615.95	27.85	130.833		
5,400.00	5,348.72	5,396.72	5,396.72	21.15	21.33	-163.54	-638.84	2,987.16	3,647.17	3,618.80	28.38	128.527		
5,500.00	5,447.09	5,495.09	5,495.09	21.60	21.73	-163.54	-641.61	2,972.65	3,650.54	3,621.64	28.90	126.301		
5,600.00	5,545.46	5,593.46	5,593.46	22.05	22.13	-163.54	-644.38	2,958.13	3,653.92	3,624.49	29.43	124.153		
5,700.00	5,643.82	5,691.82	5,691.82	22.50	22.53	-163.54	-647.15	2,943.61	3,657.29	3,627.33	29.96	122.078		
5,800.00	5,742.19	5,790.19	5,790.19	22.95	22.93	-163.55	-649.91	2,929.10	3,660.66	3,630.17	30.49	120.072		
5,900.00	5,840.55	5,888.55	5,888.55	23.41	23.34	-163.55	-652.68	2,914.58	3,664.03	3,633.01	31.02	118.132		
6,000.00	5,938.92	5,986.92	5,986.92	23.86	23.74	-163.55	-655.45	2,900.07	3,667.40	3,635.86	31.55	116.255		
6,100.00	6,037.29	6,085.29	6,085.29	24.31	24.15	-163.55	-658.21	2,885.55	3,670.77	3,638.70	32.08	114.439		
6,200.00	6,135.65	6,183.65	6,183.65	24.77	24.55	-163.56	-660.98	2,871.04	3,674.15	3,641.54	32.61	112.680		
6,300.00	6,234.02	6,282.02	6,282.02	25.22	24.96	-163.56	-663.75	2,856.52	3,677.52	3,644.38	33.14	110.976		
6,400.00	6,332.39	6,380.39	6,380.39	25.67	25.37	-163.56	-666.51	2,842.00	3,680.89	3,647.22	33.67	109.324		
6,500.00	6,430.75	6,478.75	6,478.75	26.13	25.77	-163.56	-669.28	2,827.49	3,684.26	3,650.06	34.20	107.722		
6,600.00	6,529.12	6,577.12	6,577.12	26.58	26.18	-163.57	-672.05	2,812.97	3,687.63	3,652.90	34.73	106.168		
6,700.00	6,627.49	6,675.49	6,675.49	27.04	26.59	-163.57	-674.81	2,798.46	3,691.00	3,655.74	35.27	104.660		
6,776.20	6,702.44	6,750.44	6,750.44	27.39	26.91	-163.57	-676.92	2,787.40	3,693.57	3,657.90	35.67	103.540		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													KC7 Fed Com/EI Paso Fed Com - KC7 Fed Com 603H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
6,800.00	6,725.87	7,325.11	7,287.22	27.49	27.00	-163.57	-677.58	2,783.94	3,694.30	3,658.50	35.80	103.194				
6,900.00	6,824.56	7,425.09	7,386.10	27.93	27.41	-163.57	-680.35	2,769.42	3,695.82	3,659.49	36.33	101.727				
7,000.00	6,923.64	7,525.08	7,484.99	28.35	27.83	-163.55	-683.12	2,754.90	3,694.83	3,657.97	36.86	100.244				
7,100.00	7,023.04	7,625.00	7,583.81	28.75	28.24	-163.51	-685.88	2,740.38	3,691.33	3,653.95	37.38	98.746				
7,200.00	7,122.69	7,724.78	7,682.50	29.12	28.65	-163.44	-688.64	2,725.89	3,685.32	3,647.42	37.90	97.234				
7,300.00	7,222.53	7,824.36	7,780.98	29.48	29.06	-163.35	-691.40	2,711.43	3,676.81	3,638.40	38.42	95.710				
7,400.00	7,322.48	7,923.66	7,879.19	29.81	29.47	-163.24	-694.15	2,697.01	3,665.81	3,626.89	38.93	94.175				
7,467.53	7,390.00	7,990.53	7,945.33	30.02	29.75	99.15	-696.00	2,687.29	3,656.98	3,617.72	39.26	93.138				
7,500.00	7,422.47	8,022.65	7,977.09	30.12	29.88	99.18	-696.89	2,682.63	3,652.46	3,613.04	39.43	92.643				
7,600.00	7,522.47	8,121.55	8,074.91	30.43	30.29	99.26	-699.63	2,668.26	3,638.55	3,598.63	39.92	91.144				
7,700.00	7,622.47	8,220.45	8,172.72	30.73	30.70	99.34	-702.37	2,653.90	3,624.65	3,584.23	40.42	89.681				
7,800.00	7,722.47	8,319.35	8,270.53	31.04	31.12	99.42	-705.10	2,639.54	3,610.75	3,569.84	40.91	88.252				
7,900.00	7,822.47	8,418.25	8,368.35	31.34	31.53	99.50	-707.84	2,625.17	3,596.86	3,555.45	41.41	86.856				
8,000.00	7,922.47	8,517.15	8,466.16	31.65	31.94	99.58	-710.58	2,610.81	3,582.98	3,541.07	41.91	85.492				
8,100.00	8,022.47	8,616.05	8,563.97	31.96	32.35	99.66	-713.32	2,596.44	3,569.10	3,526.69	42.41	84.158				
8,122.57	8,045.04	8,638.37	8,586.05	32.03	32.45	99.68	-713.94	2,593.20	3,565.97	3,523.45	42.52	83.862				
8,150.00	8,072.46	8,665.48	8,612.85	32.12	32.56	100.65	-714.69	2,589.26	3,562.28	3,519.63	42.66	83.507				
8,200.00	8,122.24	8,714.58	8,661.42	32.27	32.76	101.37	-716.04	2,582.13	3,556.20	3,513.29	42.91	82.885				
8,250.00	8,171.43	8,763.00	8,709.30	32.41	32.97	102.06	-717.39	2,575.10	3,550.99	3,507.84	43.15	82.299				
8,300.00	8,219.65	8,810.35	8,756.13	32.55	33.16	102.71	-718.70	2,568.22	3,546.74	3,503.35	43.38	81.753				
8,350.00	8,266.55	8,856.28	8,801.56	32.68	33.36	103.31	-719.97	2,561.55	3,543.53	3,499.92	43.61	81.248				
8,400.00	8,311.76	8,900.43	8,845.23	32.80	33.54	103.85	-721.19	2,555.14	3,541.46	3,497.62	43.84	80.789				
8,450.00	8,354.94	8,942.48	8,886.81	32.92	33.72	104.30	-722.35	2,549.03	3,540.61	3,496.56	44.05	80.377				
8,457.93	8,361.58	8,948.93	8,893.19	32.93	33.74	104.36	-722.53	2,548.10	3,540.59	3,496.51	44.08	80.317				
8,500.00	8,395.76	8,982.09	8,925.99	33.02	33.88	104.65	-723.45	2,543.28	3,541.07	3,496.81	44.26	80.014				
8,550.00	8,433.92	9,018.98	8,962.47	33.11	34.04	104.87	-724.47	2,537.92	3,542.92	3,498.47	44.45	79.703				
8,600.00	8,469.11	9,052.86	8,995.98	33.19	34.18	104.95	-725.41	2,533.00	3,546.24	3,501.60	44.64	79.444				
8,650.00	8,501.08	9,083.46	9,026.25	33.27	34.31	104.87	-726.26	2,528.56	3,551.09	3,506.28	44.81	79.240				
8,700.00	8,529.57	9,110.57	9,053.05	33.34	34.42	104.61	-727.01	2,524.62	3,557.51	3,512.53	44.98	79.091				
8,750.00	8,554.38	9,133.96	9,076.19	33.41	34.52	104.16	-727.65	2,521.22	3,565.52	3,520.39	45.13	78.999				
8,800.00	8,575.31	9,153.47	9,095.49	33.49	34.60	103.50	-728.19	2,518.39	3,575.14	3,529.86	45.28	78.963				
8,850.00	8,592.21	9,168.95	9,110.79	33.56	34.66	102.62	-728.62	2,516.14	3,586.33	3,540.92	45.41	78.984				
8,900.00	8,604.94	9,180.27	9,121.99	33.65	34.71	101.52	-728.94	2,514.49	3,599.05	3,553.53	45.52	79.062				
8,950.00	8,613.41	9,187.36	9,129.00	33.76	34.74	100.18	-729.13	2,513.47	3,613.23	3,567.61	45.62	79.196				
9,000.00	8,617.55	9,190.15	9,131.76	33.88	34.75	98.62	-729.21	2,513.06	3,628.77	3,583.06	45.71	79.384				
9,022.57	8,618.00	9,190.00	9,131.61	33.94	34.75	97.84	-729.21	2,513.08	3,636.19	3,590.45	45.75	79.487				
9,100.00	8,618.00	9,187.97	9,129.60	34.19	34.74	97.80	-729.15	2,513.38	3,662.81	3,616.95	45.87	79.858				
9,200.00	8,618.00	9,185.34	9,127.01	34.60	34.73	97.76	-729.08	2,513.76	3,699.31	3,653.26	46.05	80.339				
9,300.00	8,618.00	9,182.72	9,124.41	35.09	34.72	97.71	-729.00	2,514.14	3,738.12	3,691.87	46.25	80.824				
9,400.00	8,618.00	9,180.10	9,121.82	35.67	34.71	97.67	-728.93	2,514.52	3,779.17	3,732.70	46.47	81.316				
9,500.00	8,618.00	9,177.47	9,119.22	36.33	34.70	97.63	-728.86	2,514.90	3,822.40	3,775.68	46.72	81.818				
9,600.00	8,618.00	9,174.85	9,116.63	37.05	34.69	97.58	-728.79	2,515.28	3,867.73	3,820.76	46.98	82.331				
9,700.00	8,618.00	9,172.22	9,114.03	37.84	34.68	97.54	-728.71	2,515.66	3,915.09	3,867.84	47.25	82.858				
9,800.00	8,618.00	9,169.60	9,111.44	38.69	34.67	97.50	-728.64	2,516.04	3,964.41	3,916.87	47.54	83.399				
9,900.00	8,618.00	9,166.98	9,108.84	39.59	34.66	97.45	-728.57	2,516.43	4,015.61	3,967.78	47.83	83.957				
10,000.00	8,618.00	9,164.35	9,106.25	40.54	34.64	97.41	-728.50	2,516.81	4,068.62	4,020.49	48.13	84.532				
10,100.00	8,618.00	9,161.73	9,103.65	41.53	34.63	97.36	-728.42	2,517.19	4,123.37	4,074.93	48.44	85.127				
10,200.00	8,618.00	9,159.11	9,101.06	42.57	34.62	97.32	-728.35	2,517.57	4,179.80	4,131.05	48.75	85.742				
10,300.00	8,618.00	9,156.48	9,098.46	43.64	34.61	97.28	-728.28	2,517.95	4,237.83	4,188.77	49.06	86.377				
10,400.00	8,618.00	9,153.86	9,095.87	44.75	34.60	97.23	-728.21	2,518.33	4,297.41	4,248.03	49.38	87.034				
10,500.00	8,618.00	14,265.72	11,561.11	45.90	61.58	132.03	2,047.53	2,304.46	4,327.48	4,262.20	65.28	66.291				
10,600.00	8,618.00	14,365.67	11,558.11	47.07	62.77	132.00	2,147.44	2,303.52	4,325.51	4,258.85	66.67	64.884				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,700.00	8,618.00	14,465.63	11,555.12	48.27	63.99	131.97	2,247.34	2,302.57	4,323.54	4,255.47	68.08	63.511		
10,800.00	8,618.00	14,565.58	11,552.12	49.50	65.22	131.94	2,347.25	2,301.63	4,321.58	4,252.07	69.51	62.172		
10,900.00	8,618.00	14,665.54	11,549.13	50.75	66.48	131.91	2,447.16	2,300.68	4,319.61	4,248.64	70.97	60.868		
11,000.00	8,618.00	14,765.49	11,546.13	52.02	67.75	131.88	2,547.06	2,299.73	4,317.64	4,245.20	72.44	59.599		
11,100.00	8,618.00	14,865.45	11,543.14	53.32	69.03	131.85	2,646.97	2,298.79	4,315.68	4,241.74	73.94	58.367		
11,200.00	8,618.00	14,965.40	11,540.14	54.63	70.33	131.82	2,746.87	2,297.84	4,313.72	4,238.26	75.45	57.169		
11,300.00	8,618.00	15,065.36	11,537.15	55.96	71.65	131.79	2,846.78	2,296.90	4,311.76	4,234.77	76.99	56.006		
11,400.00	8,618.00	15,165.32	11,534.15	57.31	72.98	131.76	2,946.68	2,295.95	4,309.80	4,231.26	78.54	54.876		
11,500.00	8,618.00	15,265.27	11,531.16	58.68	74.32	131.73	3,046.59	2,295.01	4,307.84	4,227.73	80.10	53.778		
11,600.00	8,618.00	15,365.23	11,528.16	60.05	75.67	131.70	3,146.50	2,294.06	4,305.88	4,224.19	81.69	52.712		
11,700.00	8,618.00	15,465.18	11,525.17	61.45	77.04	131.67	3,246.40	2,293.12	4,303.92	4,220.64	83.28	51.680		
11,800.00	8,618.00	15,565.14	11,522.17	62.85	78.41	131.64	3,346.31	2,292.17	4,301.96	4,217.08	84.89	50.678		
11,900.00	8,618.00	15,665.09	11,519.18	64.27	79.80	131.61	3,446.21	2,291.23	4,300.01	4,213.50	86.51	49.707		
12,000.00	8,618.00	15,765.05	11,516.18	65.69	81.20	131.58	3,546.12	2,290.28	4,298.06	4,209.92	88.14	48.764		
12,100.00	8,618.00	15,865.00	11,513.19	67.13	82.60	131.55	3,646.02	2,289.34	4,296.10	4,206.32	89.78	47.849		
12,200.00	8,618.00	15,964.96	11,510.19	68.58	84.02	131.52	3,745.93	2,288.39	4,294.15	4,202.71	91.44	46.962		
12,300.00	8,618.00	16,064.91	11,507.20	70.03	85.44	131.49	3,845.84	2,287.45	4,292.20	4,199.10	93.11	46.100		
12,400.00	8,618.00	16,164.87	11,504.20	71.50	86.87	131.46	3,945.74	2,286.50	4,290.26	4,195.47	94.78	45.265		
12,500.00	8,618.00	16,264.82	11,501.21	72.97	88.31	131.43	4,045.65	2,285.55	4,288.31	4,191.84	96.47	44.453		
12,600.00	8,618.00	16,364.78	11,498.21	74.45	89.76	131.40	4,145.55	2,284.61	4,286.36	4,188.20	98.16	43.666		
12,700.00	8,618.00	16,464.73	11,495.22	75.94	91.21	131.36	4,245.46	2,283.66	4,284.42	4,184.55	99.87	42.902		
12,800.00	8,618.00	16,564.69	11,492.22	77.43	92.67	131.33	4,345.36	2,282.72	4,282.47	4,180.89	101.58	42.159		
12,900.00	8,618.00	16,664.64	11,489.23	78.93	94.14	131.30	4,445.27	2,281.77	4,280.53	4,177.23	103.30	41.438		
13,000.00	8,618.00	16,764.60	11,486.23	80.44	95.61	131.27	4,545.18	2,280.83	4,278.59	4,173.56	105.03	40.738		
13,100.00	8,618.00	16,864.55	11,483.24	81.95	97.09	131.24	4,645.08	2,279.88	4,276.65	4,169.89	106.76	40.058		
13,200.00	8,618.00	16,964.51	11,480.24	83.47	98.57	131.21	4,744.99	2,278.94	4,274.71	4,166.21	108.50	39.398		
13,300.00	8,618.00	17,064.46	11,477.24	84.99	100.06	131.18	4,844.89	2,277.99	4,272.77	4,162.52	110.25	38.756		
13,400.00	8,618.00	17,164.42	11,474.25	86.52	101.55	131.15	4,944.80	2,277.05	4,270.84	4,158.83	112.00	38.131		
13,500.00	8,618.00	17,264.37	11,471.25	88.05	103.05	131.12	5,044.70	2,276.10	4,268.90	4,155.14	113.76	37.525		
13,600.00	8,618.00	17,364.33	11,468.26	89.58	104.56	131.09	5,144.61	2,275.16	4,266.97	4,151.44	115.53	36.935		
13,700.00	8,618.00	17,464.28	11,465.26	91.12	106.06	131.06	5,244.52	2,274.21	4,265.03	4,147.74	117.30	36.361		
13,800.00	8,618.00	17,564.24	11,462.27	92.67	107.58	131.03	5,344.42	2,273.27	4,263.10	4,144.03	119.07	35.802		
13,900.00	8,618.00	17,664.19	11,459.27	94.21	109.09	131.00	5,444.33	2,272.32	4,261.17	4,140.32	120.86	35.258		
14,000.00	8,618.00	17,764.15	11,456.28	95.76	110.61	130.97	5,544.23	2,271.37	4,259.24	4,136.60	122.64	34.729		
14,100.00	8,618.00	17,864.10	11,453.28	97.32	112.13	130.93	5,644.14	2,270.43	4,257.32	4,132.88	124.44	34.213		
14,200.00	8,618.00	17,964.06	11,450.29	98.88	113.66	130.90	5,744.04	2,269.48	4,255.39	4,129.16	126.23	33.711		
14,300.00	8,618.00	18,064.01	11,447.29	100.44	115.19	130.87	5,843.95	2,268.54	4,253.46	4,125.43	128.03	33.221		
14,400.00	8,618.00	18,163.97	11,444.30	102.00	116.73	130.84	5,943.86	2,267.59	4,251.54	4,121.70	129.84	32.744		
14,500.00	8,618.00	18,263.92	11,441.30	103.57	118.26	130.81	6,043.76	2,266.65	4,249.62	4,117.96	131.65	32.279		
14,600.00	8,618.00	18,363.88	11,438.31	105.13	119.80	130.78	6,143.67	2,265.70	4,247.70	4,114.23	133.47	31.825		
14,700.00	8,618.00	18,463.83	11,435.31	106.71	121.35	130.75	6,243.57	2,264.76	4,245.78	4,110.49	135.29	31.383		
14,800.00	8,618.00	18,563.79	11,432.32	108.28	122.89	130.72	6,343.48	2,263.81	4,243.86	4,106.74	137.11	30.952		
14,900.00	8,618.00	18,663.74	11,429.32	109.85	124.44	130.69	6,443.38	2,262.87	4,241.94	4,103.00	138.94	30.531		
15,000.00	8,618.00	18,763.70	11,426.33	111.43	125.99	130.66	6,543.29	2,261.92	4,240.02	4,099.25	140.77	30.121		
15,100.00	8,618.00	18,863.65	11,423.33	113.01	127.54	130.62	6,643.20	2,260.98	4,238.11	4,095.50	142.60	29.720		
15,200.00	8,618.00	18,963.61	11,420.34	114.60	129.10	130.59	6,743.10	2,260.03	4,236.19	4,091.75	144.44	29.329		
15,300.00	8,618.00	19,063.56	11,417.34	116.18	130.66	130.56	6,843.01	2,259.09	4,234.28	4,088.00	146.28	28.947		
15,400.00	8,618.00	19,163.52	11,414.35	117.77	132.22	130.53	6,942.91	2,258.14	4,232.37	4,084.25	148.12	28.574		
15,500.00	8,618.00	19,263.47	11,411.35	119.35	133.78	130.50	7,042.82	2,257.19	4,230.46	4,080.49	149.97	28.209		
15,600.00	8,618.00	19,363.43	11,408.36	120.94	135.35	130.47	7,142.72	2,256.25	4,228.55	4,076.73	151.82	27.853		
15,700.00	8,618.00	19,463.38	11,405.36	122.53	136.91	130.44	7,242.63	2,255.30	4,226.64	4,072.97	153.67	27.505		
15,800.00	8,618.00	19,563.34	11,402.37	124.13	138.48	130.41	7,342.54	2,254.36	4,224.73	4,069.21	155.53	27.164		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
15,900.00	8,618.00	19,663.29	11,399.37	125.72	140.05	130.37	7,442.44	2,253.41	4,222.83	4,065.44	157.38	26.831		
16,000.00	8,618.00	19,763.25	11,396.38	127.32	141.63	130.34	7,542.35	2,252.47	4,220.93	4,061.68	159.25	26.505		
16,100.00	8,618.00	19,863.20	11,393.38	128.91	143.20	130.31	7,642.25	2,251.52	4,219.02	4,057.91	161.11	26.187		
16,200.00	8,618.00	19,963.16	11,390.39	130.51	144.78	130.28	7,742.16	2,250.58	4,217.12	4,054.14	162.98	25.875		
16,300.00	8,618.00	20,063.11	11,387.39	132.11	146.35	130.25	7,842.07	2,249.63	4,215.22	4,050.37	164.85	25.570		
16,400.00	8,618.00	20,163.07	11,384.40	133.71	147.93	130.22	7,941.97	2,248.69	4,213.32	4,046.59	166.73	25.271		
16,500.00	8,618.00	20,263.02	11,381.40	135.32	149.51	130.19	8,041.88	2,247.74	4,211.42	4,042.82	168.60	24.978		
16,600.00	8,618.00	20,362.98	11,378.41	136.92	151.10	130.15	8,141.78	2,246.80	4,209.53	4,039.05	170.48	24.692		
16,700.00	8,618.00	20,462.93	11,375.41	138.52	152.68	130.12	8,241.69	2,245.85	4,207.63	4,035.27	172.36	24.412		
16,800.00	8,618.00	20,562.89	11,372.42	140.13	154.27	130.09	8,341.59	2,244.91	4,205.74	4,031.49	174.25	24.137		
16,900.00	8,618.00	20,662.84	11,369.42	141.74	155.85	130.06	8,441.50	2,243.96	4,203.85	4,027.72	176.13	23.868		
17,000.00	8,618.00	20,762.80	11,366.43	143.35	157.44	130.03	8,541.41	2,243.01	4,201.96	4,023.94	178.02	23.604		
17,100.00	8,618.00	20,862.76	11,363.43	144.95	159.03	130.00	8,641.31	2,242.07	4,200.07	4,020.16	179.90	23.346		
17,200.00	8,618.00	20,962.71	11,360.44	146.56	160.62	129.96	8,741.22	2,241.12	4,198.18	4,016.38	181.80	23.093		
17,300.00	8,618.00	21,062.67	11,357.44	148.18	162.21	129.93	8,841.12	2,240.18	4,196.29	4,012.60	183.69	22.845		
17,400.00	8,618.00	21,162.62	11,354.45	149.79	163.81	129.90	8,941.03	2,239.23	4,194.40	4,008.82	185.59	22.601		
17,500.00	8,618.00	21,262.58	11,351.45	151.40	165.40	129.87	9,040.93	2,238.29	4,192.52	4,005.04	187.48	22.362		
17,600.00	8,618.00	21,362.53	11,348.46	153.01	167.00	129.84	9,140.84	2,237.34	4,190.64	4,001.25	189.38	22.128		
17,700.00	8,618.00	21,462.49	11,345.46	154.63	168.59	129.80	9,240.75	2,236.40	4,188.75	3,997.47	191.29	21.898		
17,800.00	8,618.00	21,562.44	11,342.47	156.24	170.19	129.77	9,340.65	2,235.45	4,186.87	3,993.68	193.19	21.672		
17,900.00	8,618.00	21,662.40	11,339.47	157.86	171.79	129.74	9,440.56	2,234.51	4,184.99	3,989.89	195.10	21.450		
18,000.00	8,618.00	21,762.35	11,336.48	159.47	173.39	129.71	9,540.46	2,233.56	4,183.11	3,986.10	197.01	21.233		
18,100.00	8,618.00	21,862.31	11,333.48	161.09	174.99	129.68	9,640.37	2,232.62	4,181.24	3,982.31	198.92	21.019		
18,200.00	8,618.00	21,962.26	11,330.49	162.71	176.59	129.65	9,740.27	2,231.67	4,179.36	3,978.53	200.84	20.810		
18,300.00	8,618.00	22,062.22	11,327.49	164.33	178.19	129.61	9,840.18	2,230.73	4,177.49	3,974.74	202.75	20.604		
18,400.00	8,618.00	22,162.17	11,324.50	165.95	179.79	129.58	9,940.09	2,229.78	4,175.61	3,970.95	204.67	20.402		
18,500.00	8,618.00	22,262.13	11,321.50	167.57	181.40	129.55	10,039.99	2,228.83	4,173.74	3,967.16	206.59	20.203		
18,600.00	8,618.00	22,310.90	11,320.04	169.19	182.18	129.53	10,088.74	2,228.37	4,172.19	3,964.39	207.79	20.079		
18,626.85	8,618.00	22,310.90	11,320.04	169.62	182.18	129.53	10,088.74	2,228.37	4,172.10	3,964.18	207.92	20.065		
18,636.90	8,618.00	22,310.90	11,320.04	169.79	182.18	129.53	10,088.74	2,228.37	4,172.11	3,964.14	207.97	20.061 SF		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

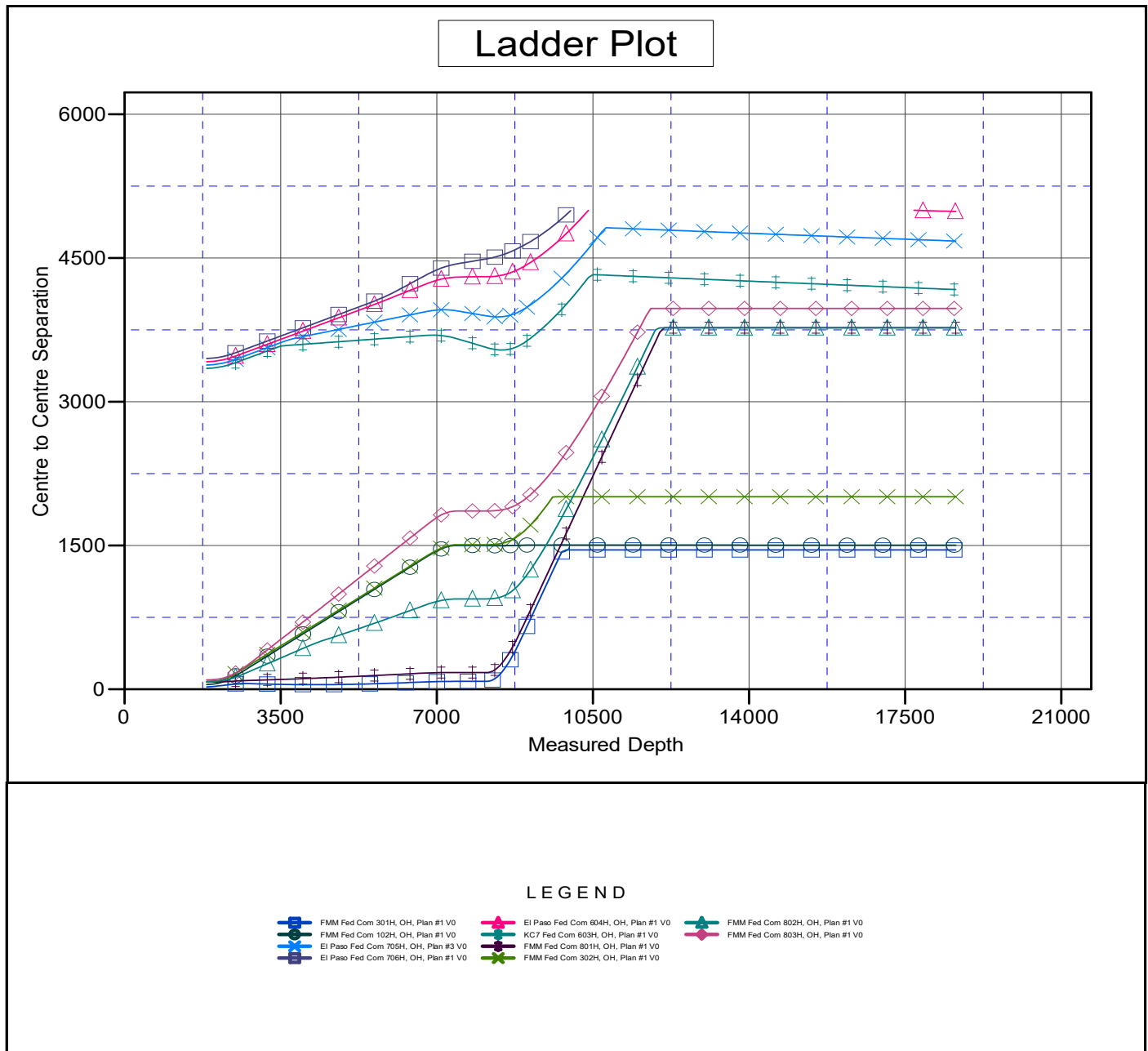
Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 3287.8' GE + 30' KB @ 3317.80usft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.333334

Coordinates are relative to: FMM Fed Com 101H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.54°



CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 101H
Project:	Lea County, NM (NAD83)	TVD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Reference Site:	FMM Fed Com	MD Reference:	3287.8' GE + 30' KB @ 3317.80usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 101H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 3287.8' GE + 30' KB @ 3317.80usft

Coordinates are relative to: FMM Fed Com 101H

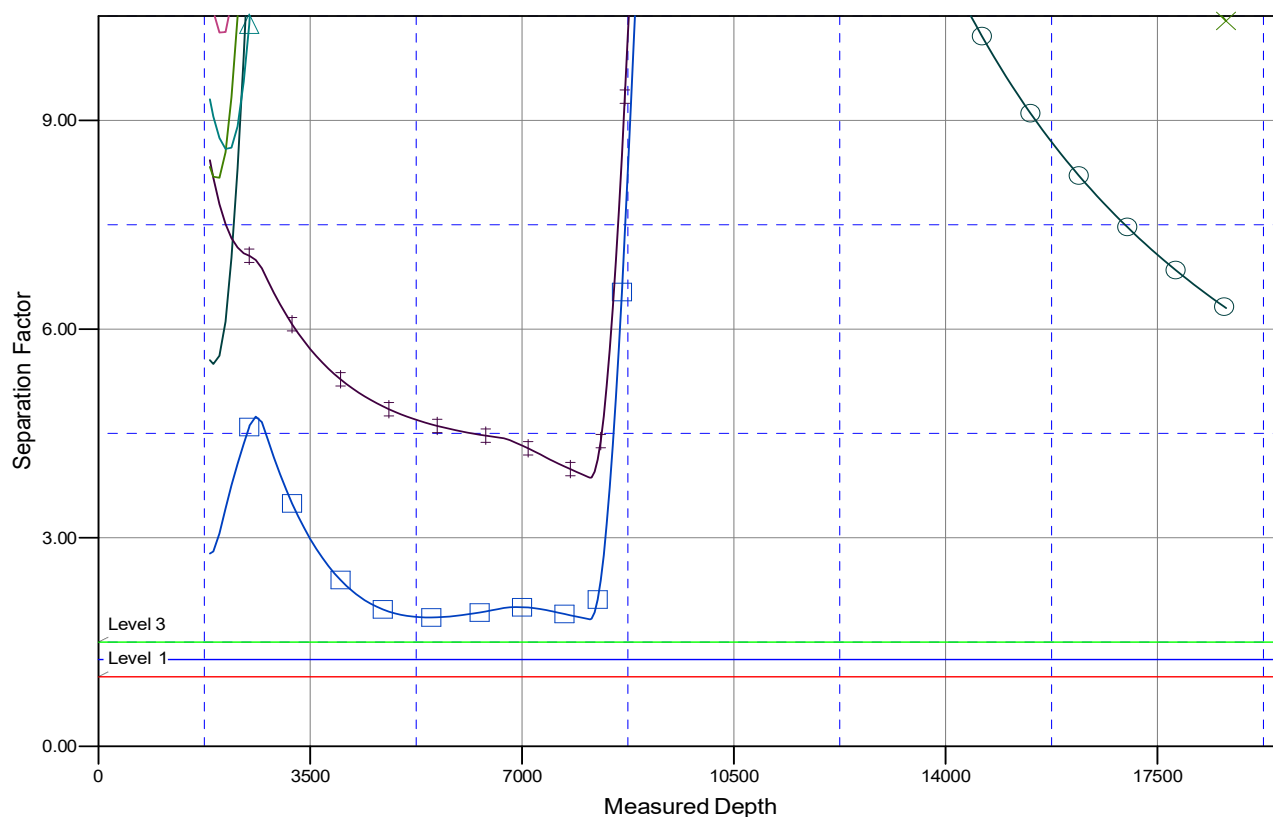
Offset Depths are relative to Offset Datum

Coordinate System is US State Plane 1983, New Mexico Eastern Zone

Central Meridian is -104.333334

Grid Convergence at Surface is: 0.54°

Separation Factor Plot



LEGEND

FMM Fed Com 301H, OH, Plan #1 V0	El Paso Fed Com 604H, OH, Plan #1 V0	FMM Fed Com 802H, OH, Plan #1 V0
FMM Fed Com 102H, OH, Plan #1 V0	KC7 Fed Com 603H, OH, Plan #1 V0	FMM Fed Com 803H, OH, Plan #1 V0
El Paso Fed Com 705H, OH, Plan #3 V0	FMM Fed Com 801H, OH, Plan #1 V0	
El Paso Fed Com 706H, OH, Plan #1 V0	FMM Fed Com 302H, OH, Plan #1 V0	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Franklin Mountain Energy LLC
LEASE NO.:	NMNM132081
LOCATION:	Section 36, T.24 S., R.35 E., NMPM
COUNTY:	Lea County, New Mexico
Sundry ID:	N/A

WELL NAME & NO.:	FMM Fed Com 101H
SURFACE HOLE FOOTAGE:	345'/S & 1269'/W
BOTTOM HOLE FOOTAGE:	150'/N & 380'/W

WELL NAME & NO.:	FMM Fed Com 102H
SURFACE HOLE FOOTAGE:	345'/S & 1319'/W
BOTTOM HOLE FOOTAGE:	150'/N & 1877'/W

WELL NAME & NO.:	FMM Fed Com 301H
SURFACE HOLE FOOTAGE:	345'/S & 1294'/W
BOTTOM HOLE FOOTAGE:	150'/N & 380'/W

WELL NAME & NO.:	FMM Fed Com 801H
SURFACE HOLE FOOTAGE:	270'/S & 1281'/W
BOTTOM HOLE FOOTAGE:	150'/N & 380'/W

WELL NAME & NO.:	FMM Fed Com 802H
SURFACE HOLE FOOTAGE:	270'/S & 1306'/W
BOTTOM HOLE FOOTAGE:	150'/N & 1306'/W

COA

H2S	☐ Yes	☒ No	
Potash	☒ None	☐ Secretary	☐ R-111-P
Cave/Karst Potential	☒ Low	☐ Medium	☐ High
Cave/Karst Potential	☐ Critical		
Variance	☒ None	☐ Flex Hose	☐ Other
Wellhead	☐ Conventional	☐ Multibowl	☒ Both
Wellhead Variance	☐ Diverter		
Other	☒ 4 String Area	☒ Capitan Reef	☐ WIPP
Other	☒ Fluid Filled	☐ Pilot Hole	☐ Open Annulus
Cementing	☐ Cement Squeeze	☐ EchoMeter	
Special Requirements	☐ Water Disposal	☒ COM	☐ Unit
Special Requirements Variance	☐ Break Testing	☐ Offline Cementing	

A. HYDROGEN SULFIDE

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

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1500 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.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing shall be set at approximately **5280 feet** is:

Option 1 (Single Stage):

- Cement to surface. If cement does not circulate see B.1.a, c-d above.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, potash or capitan reef.

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.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, potash or capitan reef.
- ❖ In Capitan Reef Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
- ❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:
- Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.
 - Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

3. The minimum required fill of cement behind the 7-5/8 inch intermediate casing is:
 - Cement should tie-back at least **50 feet** on top of Capitan Reef top or **200 feet** into the previous casing, whichever is greater. If cement does not circulate see B.1.a, c-d above.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, potash or capitan reef.
Cement excess is less than 25%, more cement might be required.

4. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

1.

Option 1:

- a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.
- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** intermediate casing shoe shall be **5000 (5M)** psi.
- a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **7-5/8** inch intermediate casing shoe shall be **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

Option 2:

- a. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **13-3/8** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**
 - i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - ii. 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.
 - iii. Manufacturer representative shall install the test plug for the initial BOP test.
 - iv. 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.
 - v. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)**Communitization Agreement**

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

☒ Eddy County

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

☒ Lea County

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

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not

hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

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 85951

CONDITIONS

Operator: Franklin Mountain Energy LLC 44 Cook Street Denver, CO 80206	OGRID: 373910
	Action Number: 85951
	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	3/4/2022
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	3/4/2022
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	3/4/2022
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	3/4/2022