

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. 30-025-49816
3a. Address	3b. Phone No. (include area code)	10. Field and Pool, or Exploratory [98187]
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		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	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	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)	Date
Title		
Approved by (Signature)	Name (Printed/Typed)	Date
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 / 270 FSL / 1306 FWL / TWSP: 24S / RANGE: 35E / SECTION: 36 / LAT: 32.167462 / LONG: -103.325567 (TVD: 0 feet, MD: 0 feet)

PPP: SESW / 0 FSL / 1310 FWL / TWSP: 24S / RANGE: 35E / SECTION: 25 / LAT: 32.18126 / LONG: -103.325579 (TVD: 12276 feet, MD: 17300 feet)

PPP: NENW / 0 FSL / 1309 FWL / TWSP: 24S / RANGE: 35E / SECTION: 36 / LAT: 32.177622 / LONG: -103.325577 (TVD: 12276 feet, MD: 16000 feet)

PPP: TR M / 623 FSL / 1306 FWL / TWSP: 24S / RANGE: 35E / SECTION: 36 / LAT: 32.168432 / LONG: -103.328871 (TVD: 12276 feet, MD: 12615 feet)

BHL: TR D / 150 FNL / 1306 FWL / TWSP: 24S / RANGE: 35E / SECTION: 25 / LAT: 32.195355 / LONG: -103.325588 (TVD: 12276 feet, MD: 22410 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.

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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 30-025-49816		² Pool Code 98187	³ Pool Name WC-025 G-09 S253502D;UPR WOLFCAMP	
⁴ Property Code 332472	⁵ Property Name FMM FED COM			⁶ Well Number 802H
⁷ OGRID No. 373910	⁸ Operator Name FRANKLIN MOUNTAIN ENERGY LLC			⁹ Elevation 3289.2'

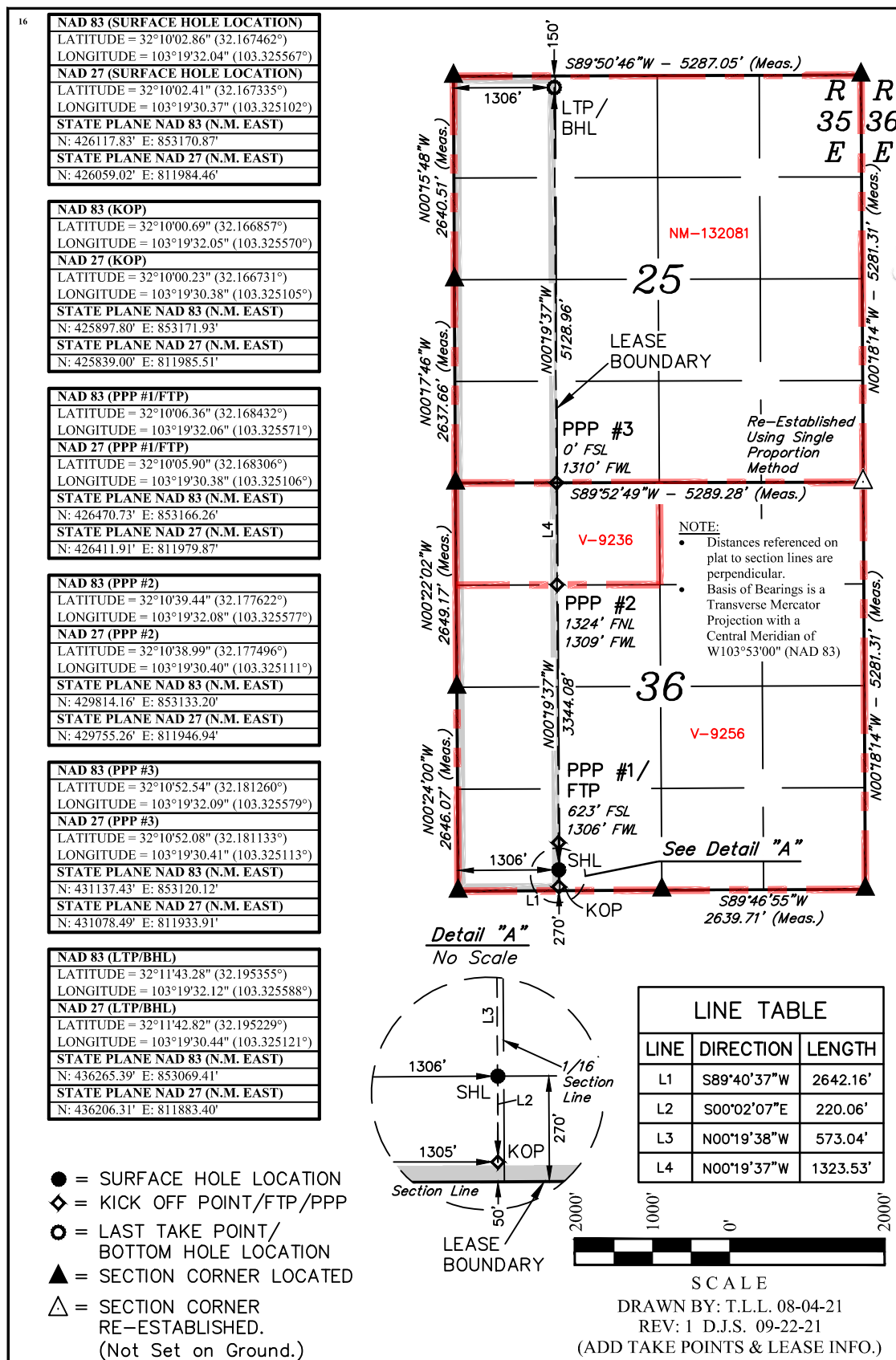
¹⁰Surface Location

UL or lot no. M	Section 36	Township 24S	Range 35E	Lot Idn	Feet from the 270	North/South line SOUTH	Feet from the 1306	East/West line WEST	County LEA
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"Bottom Hole Location If Different From Surface

UL or lot no. D	Section 25	Township 24S	Range 35E	Lot Idn	Feet from the 150	North/South line NORTH	Feet from the 1306	East/West line WEST	County LEA
¹² Dedicated Acres 640		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 9/23/2021
Date

Shelly Albrecht
Printed Name

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: _____



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

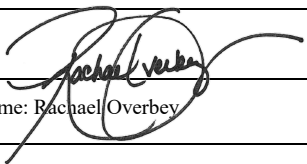
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(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 802H

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	2,117'	1,201'			Carbonates
Salado	2,002'	1,316'			Salt, Carbonate & Clastics
Base Salt	121'	3,197'			Shaley Carbonate & Shale
Lamar	-1,815'	5,133'			Carbonate & Clastics
Bell Canyon	-1,963'	5,281'			Sandstone - oil/gas/water
Cherry Canyon	-2,717'	6,035'			Sandstone - oil/gas/water
Brushy Canyon	-4,043'	7,361'			Sand/carb/shales - oil/gas/water
Bone Spring Lime	-5,324'	8,642'			Shale/Carbonates - oil/gas
Avalon	-5,400'	8,718'			Shale/Carbonates - oil/gas
Chert Zone	-5,636'	8,954'			Carbonate/Chert
First Bone Spring Sand	-6,628'	9,946'			Sandstone - oil/gas/water
Second Bone Spring Carbonates	-6,764'	10,082'			Shale/Carbonates - oil/gas
Second Bone Spring Sand	-7,161'	10,479'			Sandstone - oil/gas/water
Third Bone Spring Carbonates	-7,716'	11,034'			Shale/Carbonates - oil/gas
Third Bone Spring Sand	-8,252'	11,570'			Sandstone - oil/gas/water
Wolfcamp	-8,488'	11,806'			Overpressure shale/sand- Oil/Gas
Wolfcamp A	-8,559'	11,877'			Overpressure Shale - Oil/Gas
Wolfcamp B	-8,746'	12,064'			Overpressure Shale - Oil/Gas
HZ Target	-8,958'	12,276'			Overpressure Shale - Oil/Gas
Wolfcamp C	-9,026'	12,344'			Overpressure Shale - Oil/Gas

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

Upper Permian Sands	0- 400'	Fresh Water
Delaware Sands	5,281'	Oil
Bone Spring	9,946'	Oil
Wolfcamp	11,806'	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	5180	1.77	1.74	2.98	3.39
Intermediate 7 5/8"	29.7	HCP-110	8280	7150	827	Stinger 564	11700	1.13	1.31	1.85	1.26
Long string 5 1/2"	23	P-110	14520	14520	729	Eagle 606 TVD	22410 12276	1.32	1.38	1.18	0.98 1.58



7 5/8" casing will be set at 11,700' MD/11,688' TVD at 0° Inc. Stress calculations on 5 1/2" casing performed assuming 22,410' depth. Actual max vertical depth is 12,276'.

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%
Int1	12.25	9.625	5180	1516	0.125pps Poly-E-Flake					1% CaCl ₂ , 0.125pps Celo-Flake				
					Lead, 12.8 ppg, Class C 5% Salt,	1.79	9.74	0	154	Tail, 14.8 ppg, Class C,	1.33	6.37	4880	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	11700	350	Lite Fill, 9.5 ppg, Class C 3lb/sk	2.13	5.97	4100	94	NeoCem 14.8 ppg, Class C	1.33	6.29	10700	50%
					Bridgemaker Gel, 5% Salt, 5pps LCM, 0.25pps Cello-Flake					0.25 pps Cello-Flake, 2% CaCl ₂				
Prod	6.75	5.5	22410	873	Tail, 14.5 ppg, Gas Migration Control	1.34	6.22	10700						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 1/2" 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' – 11,700'	Brine	8.8-10.2	28-34	N/c
11,700' – 22,410'	Oil Base	11.0-12.5	58-68	3 - 6
Lateral				

The highest mud weight needed to balance formation is expected to be 11-12 ppg. In order to maintain hole stability, mud weights up to 13 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 12,276' TVD (deepest point of the well) is 195F with an estimated maximum bottom-hole pressure (BHP) at the same point of 8,298 psig (based on 13 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 802H
Wellbore: OH
Design: Plan #1



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

Magnetic Field
Strength: 47465.0nT
Dip Angle: 59.88°
Date: 8/27/2021
Model: IGRF2020

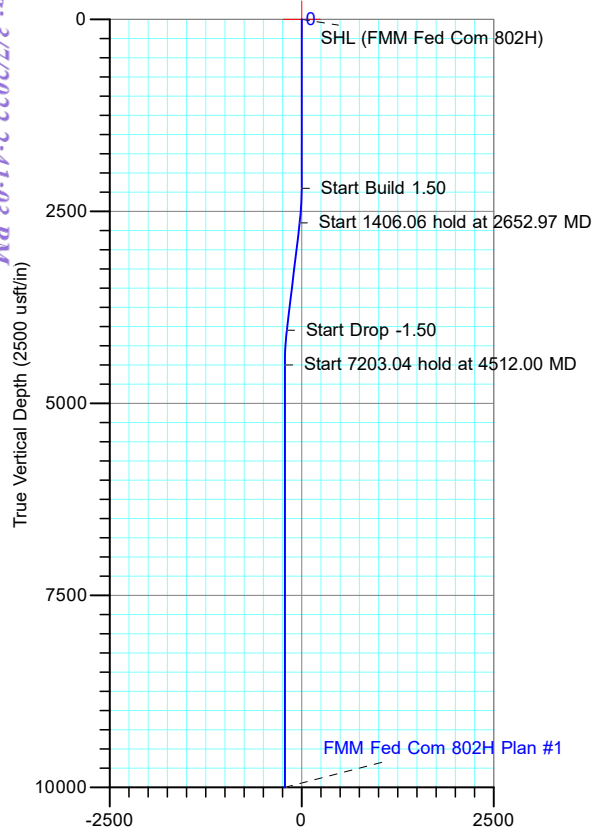
PROJECT DETAILS: Lea County, NM (NAD83)

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 12:47:50 PM

3289.2' GE + 30' KB @ 3319.20usft

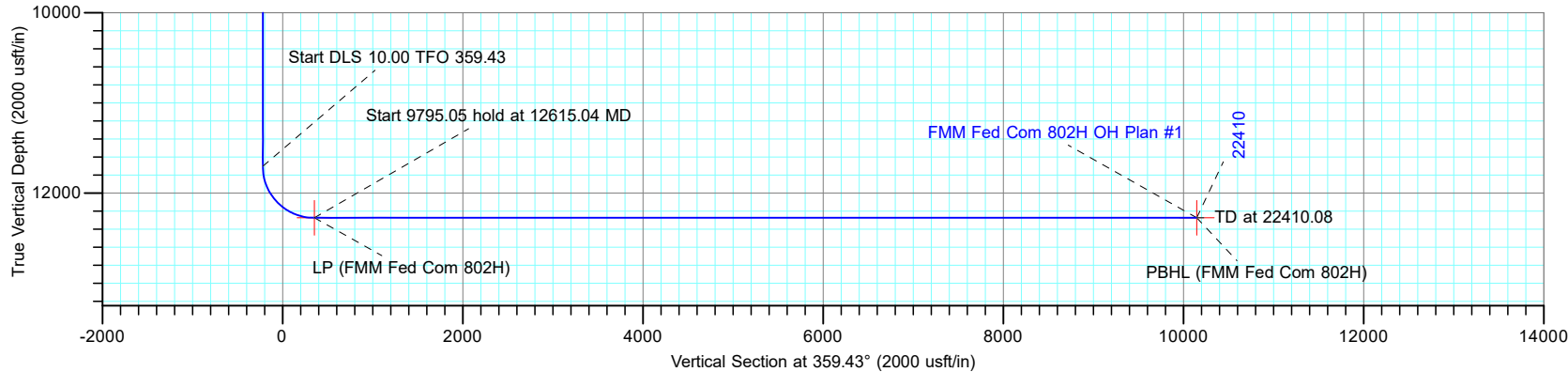
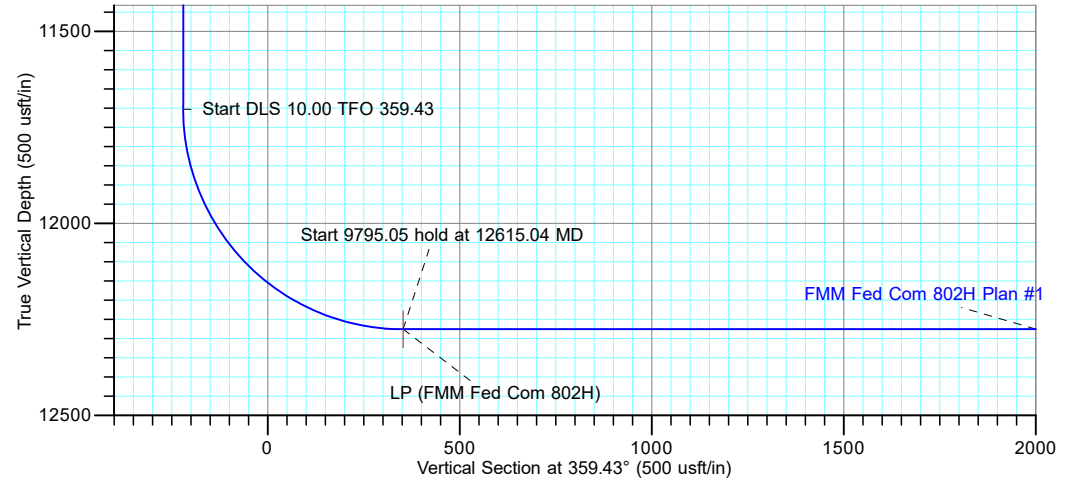


SECTION DETAILS

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	Start Build 1.50
2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00	Start 1406.06 hold at 2652.97 MD
2652.97	6.79	179.74	2651.91	-26.83	0.12	1.50	179.74	-26.83	Start Drop -1.50
4059.03	6.79	179.74	4048.09	-193.17	0.88	0.00	0.00	-193.17	Start 7203.04 hold at 4512.00 MD
4512.00	0.00	0.00	4500.00	-220.00	1.00	1.50	180.00	-220.00	Start DLS 10.00 TFO 359.43
11715.04	0.00	0.00	11703.04	-220.00	1.00	0.00	0.00	-220.00	Start 9795.05 hold at 12615.04 MD
12615.04	90.00	359.43	12276.00	352.93	-4.67	10.00	359.43	352.96	TD at 22410.08
22410.08	90.00	359.43	12276.00	10147.50	-101.57	0.00	0.00	10148.01	

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
LP (FMM Fed Com 802H)	12276.00	352.93	-4.67	32.168432	-103.325571
PBHL (FMM Fed Com 802H)	12276.00	10147.50	-101.57	32.195355	-103.325588
SHL (FMM Fed Com 802H)	0.00	0.00	0.00	32.167462	-103.325567



TOTAL DIRECTIONAL SERVICES LLC

Plan: Plan #1 (FMM Fed Com 802H/OH)
FMM Fed Com
Created By: Dustin Ault
Date: 15:22, August 27 2022
Approved: _____
Date: _____

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Released to Imaging: 3/7/2022 2:41:03 PM

Franklin Mountain Energy

Project: Lea County, NM (NAD83)
Site: FMM Fed Com
Well: FMM Fed Com 802H
Wellbore: OH
Design: Plan #1

T

G

M

Azimuths to Grid North

True North: -0.54°

Magnetic North: 5.87°

Magnetic Field

Strength: 47465.0nT

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

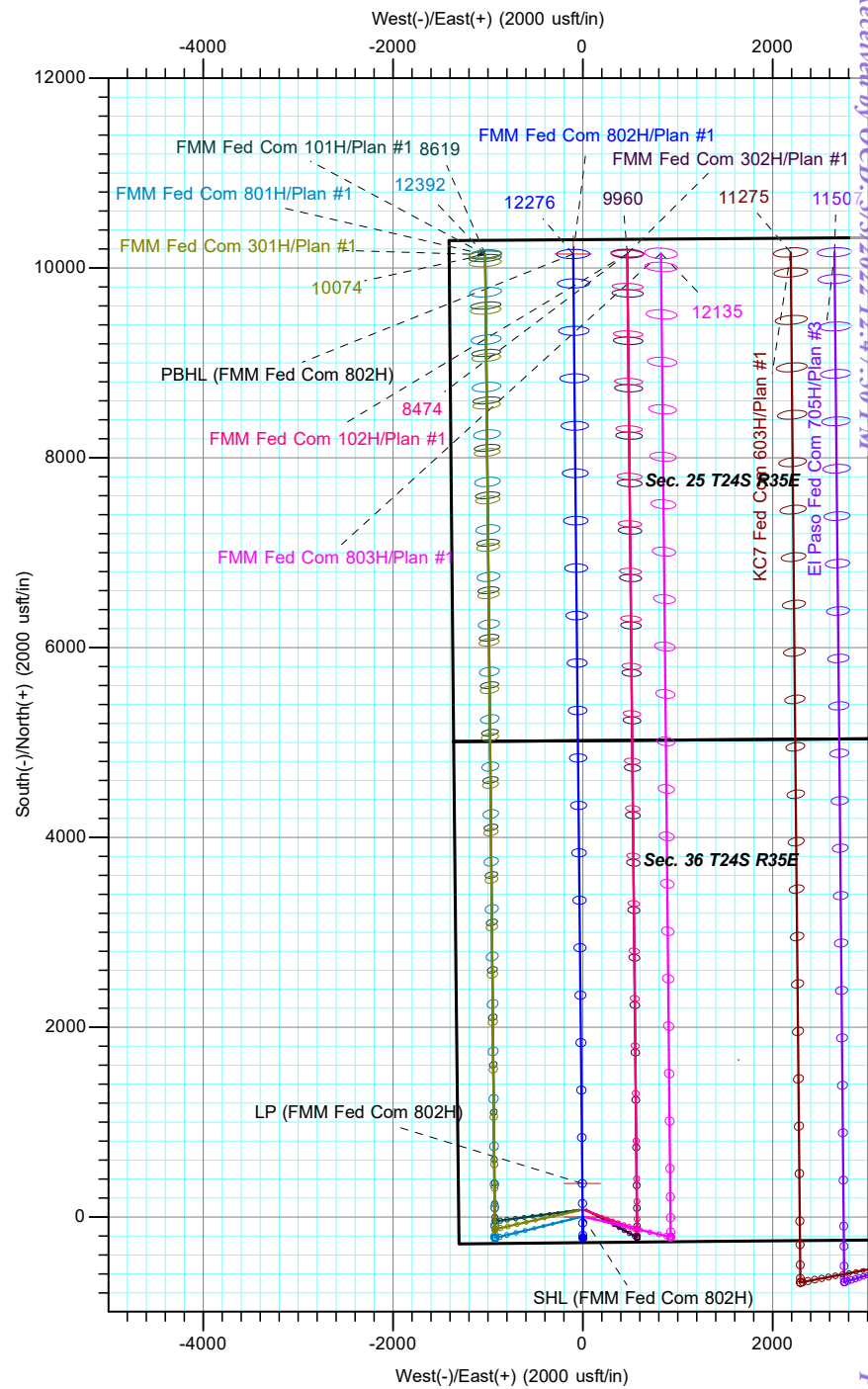
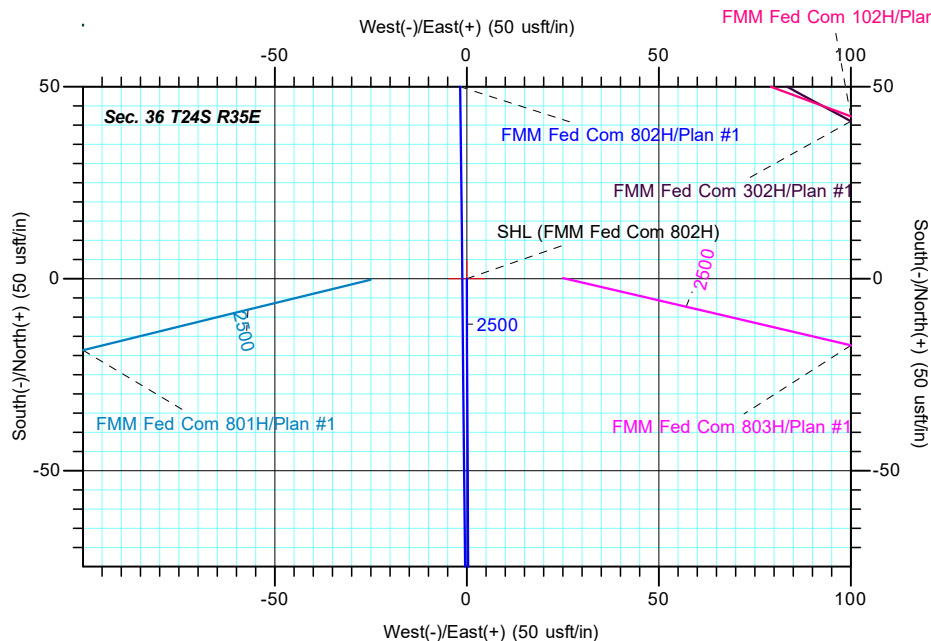


DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP (FMM Fed Com 802H)	12276.00	352.93	-4.67	426470.73	853166.26	32.168432	-103.325571
PBHL (FMM Fed Com 802H)	12276.00	10147.50	-101.57	436265.29	853069.36	32.195355	-103.325588
SHL (FMM Fed Com 802H)	0.00	0.00	0.00	426117.80	853170.93	32.167462	-103.325567

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	
2200.00	0.00	0.00	2200.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
2652.97	6.79	179.74	2651.91	-26.83	0.12	1.50	179.74	-26.83	Start 1406.06 hold at 2652.97 MD
4059.03	6.79	179.74	4048.09	-193.17	0.88	0.00	0.00	-193.17	Start Drop -1.50
4512.00	0.00	0.00	4500.00	-220.00	1.00	1.50	180.00	-220.00	Start 7203.04 hold at 4512.00 MD
11715.04	0.00	0.00	11703.04	-220.00	1.00	0.00	0.00	-220.00	Start DLS 10.00 TFO 359.43
12615.04	90.00	359.43	12276.00	352.93	-4.67	10.00	359.43	352.96	Start 9795.05 hold at 12615.04 MD
22410.08	90.00	359.43	12276.00	10147.50	-101.57	0.00	0.00	10148.01	TD at 22410.08



TOTAL DIRECTIONAL SERVICES LLC

Plan: Plan #1 (FMM Fed Com 802H/OH)
Created By: Dustin Ault
Date: 15:23, August 27 2021
Approved: _____
Date: _____

Received by OCD: 3/3/2022 12:47:50 PM

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Franklin Mountain Energy

Lea County, NM (NAD83)

FMM Fed Com

FMM Fed Com 802H

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 802H
Company:	Franklin Mountain Energy	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Project:	Lea County, NM (NAD83)	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 802H	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 802H			
Well Position	+N/-S	-74.59 usft	Northing:	426,117.80 usft
	+E/-W	38.14 usft	Easting:	853,170.93 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:		Ground Level: 3,289.20 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	8/27/2021	6.40	59.88	47,465.03784729

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	359.43

Plan Survey Tool Program	Date	8/27/2021		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	22,410.07 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	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,652.97	6.79	179.74	2,651.91	-26.83	0.12	1.50	1.50	0.00	179.74	
4,059.03	6.79	179.74	4,048.09	-193.17	0.88	0.00	0.00	0.00	0.00	
4,512.00	0.00	0.00	4,500.00	-220.00	1.00	1.50	-1.50	0.00	180.00	
11,715.04	0.00	0.00	11,703.04	-220.00	1.00	0.00	0.00	0.00	0.00	
12,615.04	90.00	359.43	12,276.00	352.93	-4.67	10.00	10.00	-0.06	359.43	
22,410.08	90.00	359.43	12,276.00	10,147.50	-101.57	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 802H
Company:	Franklin Mountain Energy	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Project:	Lea County, NM (NAD83)	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 802H	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 802H)									
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
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 1.50									
2,300.00	1.50	179.74	2,299.99	-1.31	0.01	-1.31	1.50	1.50	0.00
2,400.00	3.00	179.74	2,399.91	-5.23	0.02	-5.23	1.50	1.50	0.00
2,500.00	4.50	179.74	2,499.69	-11.77	0.05	-11.77	1.50	1.50	0.00
2,600.00	6.00	179.74	2,599.27	-20.92	0.10	-20.92	1.50	1.50	0.00
2,652.97	6.79	179.74	2,651.91	-26.83	0.12	-26.83	1.50	1.50	0.00
Start 1406.06 hold at 2652.97 MD									
2,700.00	6.79	179.74	2,698.61	-32.39	0.15	-32.39	0.00	0.00	0.00
2,800.00	6.79	179.74	2,797.91	-44.22	0.20	-44.22	0.00	0.00	0.00
2,900.00	6.79	179.74	2,897.20	-56.05	0.25	-56.05	0.00	0.00	0.00
3,000.00	6.79	179.74	2,996.50	-67.88	0.31	-67.88	0.00	0.00	0.00
3,100.00	6.79	179.74	3,095.80	-79.71	0.36	-79.71	0.00	0.00	0.00
3,200.00	6.79	179.74	3,195.10	-91.54	0.42	-91.54	0.00	0.00	0.00
3,300.00	6.79	179.74	3,294.39	-103.37	0.47	-103.37	0.00	0.00	0.00
3,400.00	6.79	179.74	3,393.69	-115.21	0.52	-115.21	0.00	0.00	0.00
3,500.00	6.79	179.74	3,492.99	-127.04	0.58	-127.04	0.00	0.00	0.00
3,600.00	6.79	179.74	3,592.29	-138.87	0.63	-138.87	0.00	0.00	0.00
3,700.00	6.79	179.74	3,691.59	-150.70	0.68	-150.70	0.00	0.00	0.00
3,800.00	6.79	179.74	3,790.88	-162.53	0.74	-162.53	0.00	0.00	0.00
3,900.00	6.79	179.74	3,890.18	-174.36	0.79	-174.36	0.00	0.00	0.00
4,000.00	6.79	179.74	3,989.48	-186.19	0.85	-186.19	0.00	0.00	0.00
4,059.03	6.79	179.74	4,048.09	-193.17	0.88	-193.17	0.00	0.00	0.00
Start Drop -1.50									
4,100.00	6.18	179.74	4,088.80	-197.80	0.90	-197.80	1.50	-1.50	0.00
4,200.00	4.68	179.74	4,188.35	-207.27	0.94	-207.26	1.50	-1.50	0.00
4,300.00	3.18	179.74	4,288.11	-214.12	0.97	-214.12	1.50	-1.50	0.00
4,400.00	1.68	179.74	4,388.02	-218.36	0.99	-218.36	1.50	-1.50	0.00
4,500.00	0.18	179.74	4,488.00	-219.98	1.00	-219.98	1.50	-1.50	0.00
4,512.00	0.00	0.00	4,500.00	-220.00	1.00	-220.00	1.50	-1.50	0.00



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well FMM Fed Com 802H
Company:	Franklin Mountain Energy	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Project:	Lea County, NM (NAD83)	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 802H	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)
Start 7203.04 hold at 4512.00 MD									
4,600.00	0.00	0.00	4,588.00	-220.00	1.00	-220.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,688.00	-220.00	1.00	-220.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,788.00	-220.00	1.00	-220.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,888.00	-220.00	1.00	-220.00	0.00	0.00	0.00
5,000.00	0.00	0.00	4,988.00	-220.00	1.00	-220.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,088.00	-220.00	1.00	-220.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,188.00	-220.00	1.00	-220.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,288.00	-220.00	1.00	-220.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,388.00	-220.00	1.00	-220.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,488.00	-220.00	1.00	-220.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,588.00	-220.00	1.00	-220.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,688.00	-220.00	1.00	-220.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,788.00	-220.00	1.00	-220.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,888.00	-220.00	1.00	-220.00	0.00	0.00	0.00
6,000.00	0.00	0.00	5,988.00	-220.00	1.00	-220.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,088.00	-220.00	1.00	-220.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,188.00	-220.00	1.00	-220.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,288.00	-220.00	1.00	-220.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,388.00	-220.00	1.00	-220.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,488.00	-220.00	1.00	-220.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,588.00	-220.00	1.00	-220.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,688.00	-220.00	1.00	-220.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,788.00	-220.00	1.00	-220.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,888.00	-220.00	1.00	-220.00	0.00	0.00	0.00
7,000.00	0.00	0.00	6,988.00	-220.00	1.00	-220.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,088.00	-220.00	1.00	-220.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,188.00	-220.00	1.00	-220.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,288.00	-220.00	1.00	-220.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,388.00	-220.00	1.00	-220.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,488.00	-220.00	1.00	-220.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,588.00	-220.00	1.00	-220.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,688.00	-220.00	1.00	-220.00	0.00	0.00	0.00
7,800.00	0.00	0.00	7,788.00	-220.00	1.00	-220.00	0.00	0.00	0.00
7,900.00	0.00	0.00	7,888.00	-220.00	1.00	-220.00	0.00	0.00	0.00
8,000.00	0.00	0.00	7,988.00	-220.00	1.00	-220.00	0.00	0.00	0.00
8,100.00	0.00	0.00	8,088.00	-220.00	1.00	-220.00	0.00	0.00	0.00
8,200.00	0.00	0.00	8,188.00	-220.00	1.00	-220.00	0.00	0.00	0.00
8,300.00	0.00	0.00	8,288.00	-220.00	1.00	-220.00	0.00	0.00	0.00
8,400.00	0.00	0.00	8,388.00	-220.00	1.00	-220.00	0.00	0.00	0.00
8,500.00	0.00	0.00	8,488.00	-220.00	1.00	-220.00	0.00	0.00	0.00
8,600.00	0.00	0.00	8,588.00	-220.00	1.00	-220.00	0.00	0.00	0.00
8,700.00	0.00	0.00	8,688.00	-220.00	1.00	-220.00	0.00	0.00	0.00
8,800.00	0.00	0.00	8,788.00	-220.00	1.00	-220.00	0.00	0.00	0.00
8,900.00	0.00	0.00	8,888.00	-220.00	1.00	-220.00	0.00	0.00	0.00
9,000.00	0.00	0.00	8,988.00	-220.00	1.00	-220.00	0.00	0.00	0.00
9,100.00	0.00	0.00	9,088.00	-220.00	1.00	-220.00	0.00	0.00	0.00
9,200.00	0.00	0.00	9,188.00	-220.00	1.00	-220.00	0.00	0.00	0.00
9,300.00	0.00	0.00	9,288.00	-220.00	1.00	-220.00	0.00	0.00	0.00
9,400.00	0.00	0.00	9,388.00	-220.00	1.00	-220.00	0.00	0.00	0.00
9,500.00	0.00	0.00	9,488.00	-220.00	1.00	-220.00	0.00	0.00	0.00
9,600.00	0.00	0.00	9,588.00	-220.00	1.00	-220.00	0.00	0.00	0.00
9,700.00	0.00	0.00	9,688.00	-220.00	1.00	-220.00	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 802H
Company:	Franklin Mountain Energy	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Project:	Lea County, NM (NAD83)	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 802H	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)
9,800.00	0.00	0.00	9,788.00	-220.00	1.00	-220.00	0.00	0.00	0.00
9,900.00	0.00	0.00	9,888.00	-220.00	1.00	-220.00	0.00	0.00	0.00
10,000.00	0.00	0.00	9,988.00	-220.00	1.00	-220.00	0.00	0.00	0.00
10,100.00	0.00	0.00	10,088.00	-220.00	1.00	-220.00	0.00	0.00	0.00
10,200.00	0.00	0.00	10,188.00	-220.00	1.00	-220.00	0.00	0.00	0.00
10,300.00	0.00	0.00	10,288.00	-220.00	1.00	-220.00	0.00	0.00	0.00
10,400.00	0.00	0.00	10,388.00	-220.00	1.00	-220.00	0.00	0.00	0.00
10,500.00	0.00	0.00	10,488.00	-220.00	1.00	-220.00	0.00	0.00	0.00
10,600.00	0.00	0.00	10,588.00	-220.00	1.00	-220.00	0.00	0.00	0.00
10,700.00	0.00	0.00	10,688.00	-220.00	1.00	-220.00	0.00	0.00	0.00
10,800.00	0.00	0.00	10,788.00	-220.00	1.00	-220.00	0.00	0.00	0.00
10,900.00	0.00	0.00	10,888.00	-220.00	1.00	-220.00	0.00	0.00	0.00
11,000.00	0.00	0.00	10,988.00	-220.00	1.00	-220.00	0.00	0.00	0.00
11,100.00	0.00	0.00	11,088.00	-220.00	1.00	-220.00	0.00	0.00	0.00
11,200.00	0.00	0.00	11,188.00	-220.00	1.00	-220.00	0.00	0.00	0.00
11,300.00	0.00	0.00	11,288.00	-220.00	1.00	-220.00	0.00	0.00	0.00
11,400.00	0.00	0.00	11,388.00	-220.00	1.00	-220.00	0.00	0.00	0.00
11,500.00	0.00	0.00	11,488.00	-220.00	1.00	-220.00	0.00	0.00	0.00
11,600.00	0.00	0.00	11,588.00	-220.00	1.00	-220.00	0.00	0.00	0.00
11,700.00	0.00	0.00	11,688.00	-220.00	1.00	-220.00	0.00	0.00	0.00
11,715.04	0.00	0.00	11,703.04	-220.00	1.00	-220.00	0.00	0.00	0.00
Start DLS 10.00 TFO 359.43									
11,750.00	3.50	359.43	11,737.98	-218.93	0.99	-218.93	10.00	10.00	0.00
11,800.00	8.50	359.43	11,787.69	-213.71	0.94	-213.71	10.00	10.00	0.00
11,850.00	13.50	359.43	11,836.76	-204.18	0.84	-204.18	10.00	10.00	0.00
11,900.00	18.50	359.43	11,884.81	-190.40	0.71	-190.40	10.00	10.00	0.00
11,950.00	23.50	359.43	11,931.47	-172.50	0.53	-172.49	10.00	10.00	0.00
12,000.00	28.50	359.43	11,976.40	-150.59	0.31	-150.58	10.00	10.00	0.00
12,050.00	33.50	359.43	12,019.25	-124.85	0.06	-124.84	10.00	10.00	0.00
12,100.00	38.50	359.43	12,059.69	-95.47	-0.23	-95.47	10.00	10.00	0.00
12,150.00	43.50	359.43	12,097.41	-62.68	-0.56	-62.68	10.00	10.00	0.00
12,200.00	48.50	359.43	12,132.14	-26.73	-0.91	-26.72	10.00	10.00	0.00
12,250.00	53.50	359.43	12,163.59	12.11	-1.30	12.12	10.00	10.00	0.00
12,300.00	58.50	359.43	12,191.55	53.54	-1.71	53.56	10.00	10.00	0.00
12,350.00	63.50	359.43	12,215.78	97.26	-2.14	97.27	10.00	10.00	0.00
12,400.00	68.50	359.43	12,236.12	142.92	-2.59	142.93	10.00	10.00	0.00
12,450.00	73.50	359.43	12,252.39	190.17	-3.06	190.19	10.00	10.00	0.00
12,500.00	78.50	359.43	12,264.49	238.67	-3.54	238.69	10.00	10.00	0.00
12,550.00	83.50	359.43	12,272.31	288.04	-4.03	288.06	10.00	10.00	0.00
12,600.00	88.50	359.43	12,275.80	337.90	-4.52	337.92	10.00	10.00	0.00
12,615.04	90.00	359.43	12,276.00	352.93	-4.67	352.96	10.00	10.00	0.00
Start 9795.05 hold at 12615.04 MD - LP (FMM Fed Com 802H)									
12,700.00	90.00	359.43	12,276.00	437.89	-5.51	437.92	0.00	0.00	0.00
12,800.00	90.00	359.43	12,276.00	537.88	-6.50	537.92	0.00	0.00	0.00
12,900.00	90.00	359.43	12,276.00	637.88	-7.49	637.92	0.00	0.00	0.00
13,000.00	90.00	359.43	12,276.00	737.87	-8.48	737.92	0.00	0.00	0.00
13,100.00	90.00	359.43	12,276.00	837.87	-9.47	837.92	0.00	0.00	0.00
13,200.00	90.00	359.43	12,276.00	937.86	-10.45	937.92	0.00	0.00	0.00
13,300.00	90.00	359.43	12,276.00	1,037.86	-11.44	1,037.92	0.00	0.00	0.00
13,400.00	90.00	359.43	12,276.00	1,137.85	-12.43	1,137.92	0.00	0.00	0.00
13,500.00	90.00	359.43	12,276.00	1,237.85	-13.42	1,237.92	0.00	0.00	0.00
13,600.00	90.00	359.43	12,276.00	1,337.84	-14.41	1,337.92	0.00	0.00	0.00
13,700.00	90.00	359.43	12,276.00	1,437.84	-15.40	1,437.92	0.00	0.00	0.00
13,800.00	90.00	359.43	12,276.00	1,537.83	-16.39	1,537.92	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 802H
Company:	Franklin Mountain Energy	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Project:	Lea County, NM (NAD83)	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 802H	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	12,276.00	1,637.83	-17.38	1,637.92	0.00	0.00	0.00
14,000.00	90.00	359.43	12,276.00	1,737.83	-18.37	1,737.92	0.00	0.00	0.00
14,100.00	90.00	359.43	12,276.00	1,837.82	-19.36	1,837.92	0.00	0.00	0.00
14,200.00	90.00	359.43	12,276.00	1,937.82	-20.35	1,937.92	0.00	0.00	0.00
14,300.00	90.00	359.43	12,276.00	2,037.81	-21.34	2,037.92	0.00	0.00	0.00
14,400.00	90.00	359.43	12,276.00	2,137.81	-22.33	2,137.92	0.00	0.00	0.00
14,500.00	90.00	359.43	12,276.00	2,237.80	-23.32	2,237.92	0.00	0.00	0.00
14,600.00	90.00	359.43	12,276.00	2,337.80	-24.30	2,337.92	0.00	0.00	0.00
14,700.00	90.00	359.43	12,276.00	2,437.79	-25.29	2,437.92	0.00	0.00	0.00
14,800.00	90.00	359.43	12,276.00	2,537.79	-26.28	2,537.92	0.00	0.00	0.00
14,900.00	90.00	359.43	12,276.00	2,637.78	-27.27	2,637.92	0.00	0.00	0.00
15,000.00	90.00	359.43	12,276.00	2,737.78	-28.26	2,737.92	0.00	0.00	0.00
15,100.00	90.00	359.43	12,276.00	2,837.77	-29.25	2,837.92	0.00	0.00	0.00
15,200.00	90.00	359.43	12,276.00	2,937.77	-30.24	2,937.92	0.00	0.00	0.00
15,300.00	90.00	359.43	12,276.00	3,037.76	-31.23	3,037.92	0.00	0.00	0.00
15,400.00	90.00	359.43	12,276.00	3,137.76	-32.22	3,137.92	0.00	0.00	0.00
15,500.00	90.00	359.43	12,276.00	3,237.75	-33.21	3,237.92	0.00	0.00	0.00
15,600.00	90.00	359.43	12,276.00	3,337.75	-34.20	3,337.92	0.00	0.00	0.00
15,700.00	90.00	359.43	12,276.00	3,437.74	-35.19	3,437.92	0.00	0.00	0.00
15,800.00	90.00	359.43	12,276.00	3,537.74	-36.18	3,537.92	0.00	0.00	0.00
15,900.00	90.00	359.43	12,276.00	3,637.73	-37.17	3,637.92	0.00	0.00	0.00
16,000.00	90.00	359.43	12,276.00	3,737.73	-38.15	3,737.92	0.00	0.00	0.00
16,100.00	90.00	359.43	12,276.00	3,837.72	-39.14	3,837.92	0.00	0.00	0.00
16,200.00	90.00	359.43	12,276.00	3,937.72	-40.13	3,937.92	0.00	0.00	0.00
16,300.00	90.00	359.43	12,276.00	4,037.71	-41.12	4,037.92	0.00	0.00	0.00
16,400.00	90.00	359.43	12,276.00	4,137.71	-42.11	4,137.92	0.00	0.00	0.00
16,500.00	90.00	359.43	12,276.00	4,237.70	-43.10	4,237.92	0.00	0.00	0.00
16,600.00	90.00	359.43	12,276.00	4,337.70	-44.09	4,337.92	0.00	0.00	0.00
16,700.00	90.00	359.43	12,276.00	4,437.69	-45.08	4,437.92	0.00	0.00	0.00
16,800.00	90.00	359.43	12,276.00	4,537.69	-46.07	4,537.92	0.00	0.00	0.00
16,900.00	90.00	359.43	12,276.00	4,637.68	-47.06	4,637.92	0.00	0.00	0.00
17,000.00	90.00	359.43	12,276.00	4,737.68	-48.05	4,737.92	0.00	0.00	0.00
17,100.00	90.00	359.43	12,276.00	4,837.67	-49.04	4,837.92	0.00	0.00	0.00
17,200.00	90.00	359.43	12,276.00	4,937.67	-50.03	4,937.92	0.00	0.00	0.00
17,300.00	90.00	359.43	12,276.00	5,037.66	-51.01	5,037.92	0.00	0.00	0.00
17,400.00	90.00	359.43	12,276.00	5,137.66	-52.00	5,137.92	0.00	0.00	0.00
17,500.00	90.00	359.43	12,276.00	5,237.65	-52.99	5,237.92	0.00	0.00	0.00
17,600.00	90.00	359.43	12,276.00	5,337.65	-53.98	5,337.92	0.00	0.00	0.00
17,700.00	90.00	359.43	12,276.00	5,437.64	-54.97	5,437.92	0.00	0.00	0.00
17,800.00	90.00	359.43	12,276.00	5,537.64	-55.96	5,537.92	0.00	0.00	0.00
17,900.00	90.00	359.43	12,276.00	5,637.63	-56.95	5,637.92	0.00	0.00	0.00
18,000.00	90.00	359.43	12,276.00	5,737.63	-57.94	5,737.92	0.00	0.00	0.00
18,100.00	90.00	359.43	12,276.00	5,837.62	-58.93	5,837.92	0.00	0.00	0.00
18,200.00	90.00	359.43	12,276.00	5,937.62	-59.92	5,937.92	0.00	0.00	0.00
18,300.00	90.00	359.43	12,276.00	6,037.61	-60.91	6,037.92	0.00	0.00	0.00
18,400.00	90.00	359.43	12,276.00	6,137.61	-61.90	6,137.92	0.00	0.00	0.00
18,500.00	90.00	359.43	12,276.00	6,237.61	-62.89	6,237.92	0.00	0.00	0.00
18,600.00	90.00	359.43	12,276.00	6,337.60	-63.88	6,337.92	0.00	0.00	0.00
18,700.00	90.00	359.43	12,276.00	6,437.60	-64.86	6,437.92	0.00	0.00	0.00
18,800.00	90.00	359.43	12,276.00	6,537.59	-65.85	6,537.92	0.00	0.00	0.00
18,900.00	90.00	359.43	12,276.00	6,637.59	-66.84	6,637.92	0.00	0.00	0.00
19,000.00	90.00	359.43	12,276.00	6,737.58	-67.83	6,737.92	0.00	0.00	0.00
19,100.00	90.00	359.43	12,276.00	6,837.58	-68.82	6,837.92	0.00	0.00	0.00
19,200.00	90.00	359.43	12,276.00	6,937.57	-69.81	6,937.92	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 802H
Company:	Franklin Mountain Energy	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Project:	Lea County, NM (NAD83)	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 802H	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)	
19,300.00	90.00	359.43	12,276.00	7,037.57	-70.80	7,037.92	0.00	0.00	0.00	
19,400.00	90.00	359.43	12,276.00	7,137.56	-71.79	7,137.92	0.00	0.00	0.00	
19,500.00	90.00	359.43	12,276.00	7,237.56	-72.78	7,237.92	0.00	0.00	0.00	
19,600.00	90.00	359.43	12,276.00	7,337.55	-73.77	7,337.92	0.00	0.00	0.00	
19,700.00	90.00	359.43	12,276.00	7,437.55	-74.76	7,437.92	0.00	0.00	0.00	
19,800.00	90.00	359.43	12,276.00	7,537.54	-75.75	7,537.92	0.00	0.00	0.00	
19,900.00	90.00	359.43	12,276.00	7,637.54	-76.74	7,637.92	0.00	0.00	0.00	
20,000.00	90.00	359.43	12,276.00	7,737.53	-77.72	7,737.92	0.00	0.00	0.00	
20,100.00	90.00	359.43	12,276.00	7,837.53	-78.71	7,837.92	0.00	0.00	0.00	
20,200.00	90.00	359.43	12,276.00	7,937.52	-79.70	7,937.92	0.00	0.00	0.00	
20,300.00	90.00	359.43	12,276.00	8,037.52	-80.69	8,037.92	0.00	0.00	0.00	
20,400.00	90.00	359.43	12,276.00	8,137.51	-81.68	8,137.92	0.00	0.00	0.00	
20,500.00	90.00	359.43	12,276.00	8,237.51	-82.67	8,237.92	0.00	0.00	0.00	
20,600.00	90.00	359.43	12,276.00	8,337.50	-83.66	8,337.92	0.00	0.00	0.00	
20,700.00	90.00	359.43	12,276.00	8,437.50	-84.65	8,437.92	0.00	0.00	0.00	
20,800.00	90.00	359.43	12,276.00	8,537.49	-85.64	8,537.92	0.00	0.00	0.00	
20,900.00	90.00	359.43	12,276.00	8,637.49	-86.63	8,637.92	0.00	0.00	0.00	
21,000.00	90.00	359.43	12,276.00	8,737.48	-87.62	8,737.92	0.00	0.00	0.00	
21,100.00	90.00	359.43	12,276.00	8,837.48	-88.61	8,837.92	0.00	0.00	0.00	
21,200.00	90.00	359.43	12,276.00	8,937.47	-89.60	8,937.92	0.00	0.00	0.00	
21,300.00	90.00	359.43	12,276.00	9,037.47	-90.59	9,037.92	0.00	0.00	0.00	
21,400.00	90.00	359.43	12,276.00	9,137.46	-91.57	9,137.92	0.00	0.00	0.00	
21,500.00	90.00	359.43	12,276.00	9,237.46	-92.56	9,237.92	0.00	0.00	0.00	
21,600.00	90.00	359.43	12,276.00	9,337.45	-93.55	9,337.92	0.00	0.00	0.00	
21,700.00	90.00	359.43	12,276.00	9,437.45	-94.54	9,437.92	0.00	0.00	0.00	
21,800.00	90.00	359.43	12,276.00	9,537.44	-95.53	9,537.92	0.00	0.00	0.00	
21,900.00	90.00	359.43	12,276.00	9,637.44	-96.52	9,637.92	0.00	0.00	0.00	
22,000.00	90.00	359.43	12,276.00	9,737.43	-97.51	9,737.92	0.00	0.00	0.00	
22,100.00	90.00	359.43	12,276.00	9,837.43	-98.50	9,837.92	0.00	0.00	0.00	
22,200.00	90.00	359.43	12,276.00	9,937.42	-99.49	9,937.92	0.00	0.00	0.00	
22,300.00	90.00	359.43	12,276.00	10,037.42	-100.48	10,037.92	0.00	0.00	0.00	
22,400.00	90.00	359.43	12,276.00	10,137.41	-101.47	10,137.92	0.00	0.00	0.00	
22,410.08	90.00	359.43	12,276.00	10,147.50	-101.57	10,148.01	0.00	0.00	0.00	
TD at 22410.08 - PBHL (FMM Fed Com 802H)										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
- hit/miss target										
- Shape										
SHL (FMM Fed Com 802H)	0.00	0.00	0.00	0.00	0.00	426,117.80	853,170.93	32.167462	-103.325567	
- plan hits target center										
- Point										
LP (FMM Fed Com 802H)	0.00	0.00	12,276.00	352.93	-4.67	426,470.73	853,166.26	32.168432	-103.325572	
- plan hits target center										
- Point										
PBHL (FMM Fed Com 802H)	0.00	0.00	12,276.00	10,147.50	-101.57	436,265.29	853,069.36	32.195355	-103.325588	
- plan hits target center										
- Point										



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well FMM Fed Com 802H
Company:	Franklin Mountain Energy	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Project:	Lea County, NM (NAD83)	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 802H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,200.00	2,200.00	0.00	0.00	Start Build 1.50
2,652.97	2,651.91	-26.83	0.12	Start 1406.06 hold at 2652.97 MD
4,059.03	4,048.09	-193.17	0.88	Start Drop -1.50
4,512.00	4,500.00	-220.00	1.00	Start 7203.04 hold at 4512.00 MD
11,715.04	11,703.04	-220.00	1.00	Start DLS 10.00 TFO 359.43
12,615.04	12,276.00	352.93	-4.67	Start 9795.05 hold at 12615.04 MD
22,410.08	12,276.00	10,147.50	-101.57	TD at 22410.08



Franklin Mountain Energy

Lea County, NM (NAD83)

FMM Fed Com

FMM Fed Com 802H

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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	Error Model:	ISCWSA
Depth Range:	1,843.00 to 28,999.00usft	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum ellipse separation of 1,000.00 usft	Error Surface:	Combined Separation
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	8/27/2021		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	22,410.07	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 101H - OH - Plan #1	1,843.00	1,841.30	83.85	74.85	9.311	CC, ES
FMM Fed Com 101H - OH - Plan #1	2,100.00	2,095.85	88.30	78.03	8.597	SF
FMM Fed Com 102H - OH - Plan #1	2,226.33	2,227.46	75.00	64.07	6.862	CC, ES
FMM Fed Com 102H - OH - Plan #1	2,300.00	2,301.10	75.76	64.47	6.714	SF
FMM Fed Com 301H - OH - Plan #1	2,156.63	2,156.07	75.95	65.36	7.174	CC
FMM Fed Com 301H - OH - Plan #1	2,200.00	2,199.39	75.97	65.17	7.034	ES
FMM Fed Com 301H - OH - Plan #1	2,300.00	2,299.05	77.67	66.38	6.884	SF
FMM Fed Com 302H - OH - Plan #1	2,162.73	2,163.88	83.71	73.09	7.884	CC
FMM Fed Com 302H - OH - Plan #1	2,200.00	2,201.10	83.73	72.93	7.752	ES
FMM Fed Com 302H - OH - Plan #1	2,300.00	2,300.79	85.20	73.93	7.555	SF
FMM Fed Com 801H - OH - Plan #1	2,000.00	1,999.70	25.07	15.26	2.555	CC, ES
FMM Fed Com 801H - OH - Plan #1	2,100.00	2,099.04	26.33	16.02	2.555	SF
FMM Fed Com 803H - OH - Plan #1	1,916.47	1,917.07	25.07	15.68	2.670	CC
FMM Fed Com 803H - OH - Plan #1	2,000.00	2,000.60	25.07	15.26	2.555	ES, SF
KC7 Fed Com/EI Paso Fed Com						
EI Paso Fed Com 604H - OH - Plan #1	11,506.05	11,797.04	3,326.38	3,268.94	57.912	CC
EI Paso Fed Com 604H - OH - Plan #1	22,410.08	22,140.01	3,495.06	3,253.38	14.462	ES, SF
EI Paso Fed Com 705H - OH - Plan #3	11,809.63	12,124.83	2,750.39	2,691.30	46.548	CC
EI Paso Fed Com 705H - OH - Plan #3	22,410.08	22,467.40	2,860.14	2,616.74	11.751	ES, SF
EI Paso Fed Com 706H - OH - Plan #1	5,400.47	5,433.17	3,376.22	3,349.23	125.094	CC
EI Paso Fed Com 706H - OH - Plan #1	5,500.00	5,500.00	3,376.38	3,348.98	123.225	ES
EI Paso Fed Com 706H - OH - Plan #1	22,410.08	22,290.16	3,742.71	3,497.36	15.255	SF
KC7 Fed Com 603H - OH - Plan #1	11,589.05	11,943.85	2,287.38	2,229.07	39.229	CC, ES
KC7 Fed Com 603H - OH - Plan #1	22,410.08	22,286.75	2,500.78	2,267.92	10.739	SF

Offset Design	FMM Fed Com - FMM Fed Com 101H - 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		Minimum Separation		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)	Separation Factor		
1,843.00	1,843.00	1,841.30	1,841.30	6.37	6.36	-27.23	74.56	-38.37	83.85	74.85	9.01	9.311	CC, ES
1,900.00	1,900.00	1,897.87	1,897.86	6.58	6.56	-27.89	74.42	-39.39	84.21	74.92	9.29	9.064	
2,000.00	2,000.00	1,996.99	1,996.90	6.94	6.90	-30.29	73.91	-43.18	85.62	75.84	9.78	8.753	
2,100.00	2,100.00	2,095.85	2,095.55	7.29	7.24	-34.12	73.06	-49.49	88.30	78.03	10.27	8.597	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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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 101H - 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	
2,200.00	2,200.00	2,194.31	2,193.61	7.65	7.58	-39.05	71.87	-58.30	92.67	81.92	10.76	8.615		
2,300.00	2,299.99	2,292.26	2,290.90	7.99	7.93	136.03	70.35	-69.54	100.15	88.92	11.23	8.921		
2,400.00	2,399.91	2,389.56	2,387.22	8.32	8.28	131.56	68.51	-83.14	111.73	100.05	11.68	9.568		
2,500.00	2,499.69	2,486.05	2,482.36	8.65	8.64	127.99	66.36	-99.03	127.19	115.07	12.12	10.492		
2,600.00	2,599.27	2,584.09	2,578.80	8.97	9.02	125.53	64.00	-116.52	145.52	132.92	12.60	11.550		
2,652.97	2,651.91	2,636.00	2,629.87	9.15	9.22	124.75	62.75	-125.78	155.89	143.03	12.86	12.126		
2,700.00	2,698.61	2,682.07	2,675.19	9.31	9.40	124.34	61.64	-134.00	165.29	152.21	13.08	12.633		
2,800.00	2,797.91	2,780.02	2,771.54	9.65	9.78	123.61	59.28	-151.47	185.31	171.74	13.58	13.650		
2,900.00	2,897.20	2,877.97	2,867.89	10.00	10.18	123.02	56.92	-168.94	205.35	191.28	14.07	14.593		
3,000.00	2,996.50	2,975.92	2,964.24	10.35	10.58	122.54	54.56	-186.42	225.41	210.84	14.57	15.467		
3,100.00	3,095.80	3,073.88	3,060.59	10.70	10.98	122.13	52.19	-203.89	245.48	230.40	15.08	16.278		
3,200.00	3,195.10	3,171.83	3,156.94	11.06	11.38	121.79	49.83	-221.36	265.56	249.97	15.59	17.034		
3,300.00	3,294.39	3,269.78	3,253.30	11.42	11.79	121.49	47.47	-238.83	285.65	269.55	16.10	17.737		
3,400.00	3,393.69	3,367.73	3,349.65	11.79	12.21	121.23	45.11	-256.31	305.75	289.13	16.62	18.395		
3,500.00	3,492.99	3,465.68	3,446.00	12.16	12.62	121.01	42.75	-273.78	325.85	308.71	17.14	19.009		
3,600.00	3,592.29	3,563.63	3,542.35	12.53	13.04	120.81	40.39	-291.25	345.96	328.29	17.66	19.585		
3,700.00	3,691.59	3,661.58	3,638.70	12.90	13.46	120.63	38.03	-308.73	366.06	347.87	18.19	20.125		
3,800.00	3,790.88	3,759.54	3,735.05	13.27	13.88	120.47	35.67	-326.20	386.18	367.46	18.72	20.632		
3,900.00	3,890.18	3,857.49	3,831.40	13.65	14.31	120.33	33.31	-343.67	406.29	387.04	19.25	21.109		
4,000.00	3,989.48	3,955.44	3,927.76	14.03	14.73	120.20	30.94	-361.14	426.41	406.63	19.78	21.559		
4,059.03	4,048.09	4,013.26	3,984.63	14.25	14.98	120.13	29.55	-371.46	438.28	418.19	20.09	21.812		
4,100.00	4,088.80	4,053.41	4,024.13	14.41	15.16	120.16	28.58	-378.62	446.42	426.11	20.31	21.979		
4,200.00	4,188.35	4,151.55	4,120.67	14.78	15.59	120.05	26.22	-396.13	465.37	444.53	20.84	22.331		
4,300.00	4,288.11	4,249.84	4,217.35	15.15	16.02	119.67	23.85	-413.66	483.07	461.71	21.36	22.614		
4,400.00	4,388.02	4,348.22	4,314.12	15.50	16.46	119.06	21.48	-431.21	499.57	477.70	21.88	22.837		
4,500.00	4,488.00	4,446.61	4,410.90	15.85	16.89	118.23	19.10	-448.76	514.95	492.57	22.38	23.007		
4,512.00	4,500.00	4,458.41	4,422.51	15.89	16.94	-62.14	18.82	-450.86	516.73	494.28	22.44	23.024		
4,600.00	4,588.00	4,544.97	4,507.66	16.19	17.33	-63.13	16.73	-466.31	529.76	506.88	22.88	23.152		
4,700.00	4,688.00	4,643.34	4,604.42	16.53	17.76	-64.20	14.36	-483.85	544.76	521.38	23.38	23.299		
4,800.00	4,788.00	4,741.71	4,701.18	16.87	18.20	-65.21	11.99	-501.40	559.93	536.05	23.88	23.447		
4,900.00	4,888.00	4,840.07	4,797.94	17.21	18.64	-66.17	9.62	-518.95	575.27	550.88	24.38	23.595		
5,000.00	4,988.00	4,938.44	4,894.70	17.55	19.08	-67.08	7.25	-536.49	590.75	565.87	24.88	23.744		
5,100.00	5,088.00	5,036.81	4,991.46	17.89	19.52	-67.94	4.88	-554.04	606.38	581.00	25.38	23.891		
5,200.00	5,188.00	5,135.17	5,088.22	18.24	19.96	-68.76	2.51	-571.59	622.13	596.25	25.88	24.038		
5,300.00	5,288.00	5,233.54	5,184.98	18.58	20.40	-69.54	0.13	-589.13	638.00	611.62	26.38	24.184		
5,400.00	5,388.00	5,331.91	5,281.74	18.92	20.84	-70.28	-2.24	-606.68	653.98	627.10	26.88	24.328		
5,500.00	5,488.00	5,430.27	5,378.50	19.27	21.29	-70.99	-4.61	-624.23	670.07	642.68	27.38	24.471		
5,600.00	5,588.00	5,528.64	5,475.26	19.61	21.73	-71.66	-6.98	-641.77	686.25	658.36	27.88	24.611		
5,700.00	5,688.00	5,627.01	5,572.02	19.96	22.17	-72.31	-9.35	-659.32	702.51	674.13	28.38	24.750		
5,800.00	5,788.00	5,725.37	5,668.78	20.31	22.62	-72.92	-11.72	-676.87	718.87	689.98	28.89	24.886		
5,900.00	5,888.00	5,823.74	5,765.54	20.65	23.06	-73.51	-14.09	-694.41	735.29	705.90	29.39	25.020		
6,000.00	5,988.00	5,922.11	5,862.30	21.00	23.51	-74.07	-16.46	-711.96	751.79	721.90	29.89	25.151		
6,100.00	6,088.00	6,020.47	5,959.06	21.35	23.95	-74.60	-18.83	-729.51	768.36	737.97	30.39	25.280		
6,200.00	6,188.00	6,118.84	6,055.82	21.69	24.40	-75.12	-21.21	-747.06	784.99	754.09	30.90	25.407		
6,300.00	6,288.00	6,217.21	6,152.58	22.04	24.84	-75.61	-23.58	-764.60	801.68	770.28	31.40	25.532		
6,400.00	6,388.00	6,315.57	6,249.34	22.39	25.29	-76.08	-25.95	-782.15	818.42	786.52	31.90	25.653		
6,500.00	6,488.00	6,413.94	6,346.10	22.74	25.74	-76.54	-28.32	-799.70	835.22	802.82	32.41	25.773		
6,600.00	6,588.00	6,512.31	6,442.86	23.09	26.19	-76.97	-30.69	-817.24	852.07	819.16	32.91	25.890		
6,700.00	6,688.00	6,610.67	6,539.62	23.44	26.63	-77.39	-33.06	-834.79	868.96	835.55	33.42	26.005		
6,800.00	6,788.00	6,709.04	6,636.38	23.79	27.08	-77.80	-35.43	-852.34	885.90	851.98	33.92	26.117		
6,900.00	6,888.00	6,816.37	6,742.00	24.14	27.57	-78.21	-37.99	-871.28	902.72	868.24	34.48	26.181		
7,000.00	6,988.00	6,943.91	6,868.03	24.49	28.12	-78.62	-40.61	-890.63	917.20	882.06	35.14	26.102		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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 101H - 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		
7,100.00	7,088.00	7,072.64	6,995.82	24.84	28.64	-78.94	-42.68	-905.93	928.56	892.78	35.77	25.958		
7,200.00	7,188.00	7,202.28	7,124.96	25.19	29.13	-79.16	-44.17	-917.02	936.74	900.37	36.37	25.756		
7,300.00	7,288.00	7,332.53	7,255.03	25.54	29.59	-79.29	-45.09	-923.78	941.71	904.77	36.93	25.498		
7,400.00	7,388.00	7,463.09	7,385.56	25.89	30.01	-79.34	-45.41	-926.14	943.44	905.98	37.46	25.187		
7,500.00	7,488.00	7,564.13	7,486.60	26.24	30.32	-79.34	-45.41	-926.14	943.44	905.50	37.94	24.868		
7,600.00	7,588.00	7,664.13	7,586.60	26.59	30.62	-79.34	-45.41	-926.14	943.44	905.02	38.42	24.556		
7,700.00	7,688.00	7,764.13	7,686.60	26.94	30.93	-79.34	-45.41	-926.14	943.44	904.54	38.90	24.252		
7,800.00	7,788.00	7,864.13	7,786.60	27.29	31.23	-79.34	-45.41	-926.14	943.44	904.06	39.38	23.955		
7,900.00	7,888.00	7,964.13	7,886.60	27.65	31.54	-79.34	-45.41	-926.14	943.44	903.57	39.87	23.664		
8,000.00	7,988.00	8,064.13	7,986.60	28.00	31.85	-79.34	-45.41	-926.14	943.44	903.09	40.35	23.381		
8,001.52	7,989.52	8,065.65	7,988.12	28.00	31.86	-79.34	-45.41	-926.14	943.44	903.08	40.36	23.376		
8,100.00	8,088.00	8,150.00	8,072.46	28.35	32.12	-79.30	-44.75	-926.15	943.67	902.85	40.83	23.115		
8,200.00	8,188.00	8,228.52	8,150.39	28.70	32.35	-78.75	-35.64	-926.24	946.09	904.81	41.28	22.920		
8,300.00	8,288.00	8,300.00	8,219.65	29.05	32.55	-77.72	-18.15	-926.42	951.49	909.79	41.69	22.821		
8,400.00	8,388.00	8,365.48	8,280.75	29.41	32.72	-76.35	5.32	-926.65	960.47	918.43	42.04	22.847		
8,500.00	8,488.00	8,425.20	8,333.79	29.76	32.86	-74.77	32.67	-926.92	973.77	931.48	42.29	23.027		
8,600.00	8,588.00	8,478.45	8,378.48	30.11	32.97	-73.12	61.61	-927.21	992.06	949.65	42.41	23.392		
8,700.00	8,688.00	8,525.47	8,415.55	30.47	33.06	-71.51	90.50	-927.50	1,015.87	973.49	42.38	23.971		
8,800.00	8,788.00	8,566.75	8,446.05	30.82	33.14	-69.99	118.31	-927.77	1,045.49	1,003.30	42.19	24.781		
8,900.00	8,888.00	8,600.00	8,469.11	31.17	33.19	-68.70	142.26	-928.01	1,081.01	1,039.19	41.83	25.846		
9,000.00	8,988.00	8,634.67	8,491.63	31.53	33.25	-67.31	168.60	-928.27	1,122.30	1,080.91	41.39	27.114		
9,100.00	9,088.00	8,650.00	8,501.08	31.88	33.27	-66.68	180.68	-928.39	1,169.26	1,128.56	40.69	28.733		
9,200.00	9,188.00	8,700.00	8,529.57	32.23	33.34	-64.59	221.74	-928.80	1,221.21	1,180.88	40.33	30.280		
9,300.00	9,288.00	8,700.00	8,529.57	32.59	33.34	-64.59	221.74	-928.80	1,277.80	1,238.36	39.44	32.401		
9,400.00	9,388.00	8,728.30	8,544.08	32.94	33.38	-63.39	246.03	-929.04	1,338.66	1,299.81	38.86	34.451		
9,500.00	9,488.00	8,750.00	8,554.38	33.29	33.41	-62.46	265.13	-929.23	1,403.47	1,365.24	38.23	36.707		
9,600.00	9,588.00	8,750.00	8,554.38	33.65	33.41	-62.46	265.13	-929.23	1,471.79	1,434.36	37.44	39.316		
9,700.00	9,688.00	8,775.07	8,565.37	34.00	33.45	-61.38	287.66	-929.46	1,542.93	1,505.99	36.94	41.765		
9,800.00	9,788.00	8,800.00	8,575.31	34.36	33.49	-60.32	310.52	-929.69	1,617.05	1,580.56	36.50	44.308		
9,900.00	9,888.00	8,800.00	8,575.31	34.71	33.49	-60.32	310.52	-929.69	1,693.26	1,657.38	35.87	47.202		
10,000.00	9,988.00	8,800.00	8,575.31	35.07	33.49	-60.32	310.52	-929.69	1,771.83	1,736.51	35.31	50.174		
10,100.00	10,088.00	8,819.18	8,582.28	35.42	33.51	-59.50	328.39	-929.86	1,852.09	1,817.11	34.98	52.943		
10,200.00	10,188.00	8,827.95	8,585.26	35.77	33.53	-59.12	336.63	-929.94	1,934.11	1,899.50	34.61	55.876		
10,300.00	10,288.00	8,850.00	8,592.21	36.13	33.56	-58.19	357.56	-930.15	2,017.82	1,983.42	34.40	58.653		
10,400.00	10,388.00	8,850.00	8,592.21	36.48	33.56	-58.19	357.56	-930.15	2,102.49	2,068.43	34.06	61.723		
10,500.00	10,488.00	8,850.00	8,592.21	36.84	33.56	-58.19	357.56	-930.15	2,188.46	2,154.69	33.77	64.797		
10,600.00	10,588.00	8,850.00	8,592.21	37.19	33.56	-58.19	357.56	-930.15	2,275.57	2,242.04	33.53	67.863		
10,700.00	10,688.00	8,850.00	8,592.21	37.55	33.56	-58.19	357.56	-930.15	2,363.71	2,330.38	33.33	70.911		
10,800.00	10,788.00	8,850.00	8,592.21	37.90	33.56	-58.19	357.56	-930.15	2,452.75	2,419.58	33.18	73.932		
10,900.00	10,888.00	8,873.44	8,598.70	38.26	33.60	-57.21	380.08	-930.38	2,542.06	2,508.86	33.20	76.572		
11,000.00	10,988.00	8,878.29	8,599.93	38.61	33.61	-57.00	384.78	-930.42	2,632.40	2,599.27	33.13	79.453		
11,100.00	11,088.00	8,900.00	8,604.94	38.97	33.65	-56.11	405.90	-930.63	2,723.66	2,690.47	33.19	82.060		
11,200.00	11,188.00	8,900.00	8,604.94	39.32	33.65	-56.11	405.90	-930.63	2,815.08	2,781.93	33.15	84.912		
11,300.00	11,288.00	8,900.00	8,604.94	39.68	33.65	-56.11	405.90	-930.63	2,907.06	2,873.92	33.14	87.716		
11,400.00	11,388.00	8,900.00	8,604.94	40.03	33.65	-56.11	405.90	-930.63	2,999.56	2,966.40	33.16	90.466		
11,500.00	11,488.00	8,900.00	8,604.94	40.39	33.65	-56.11	405.90	-930.63	3,092.52	3,059.33	33.19	93.164		
11,600.00	11,588.00	8,900.00	8,604.94	40.74	33.65	-56.11	405.90	-930.63	3,185.91	3,152.66	33.25	95.812		
11,700.00	11,688.00	8,900.00	8,604.94	41.10	33.65	-56.11	405.90	-930.63	3,279.69	3,246.36	33.33	98.402		
11,715.04	11,703.04	8,900.00	8,604.94	41.15	33.65	-56.11	405.90	-930.63	3,293.82	3,260.48	33.34	98.786		
11,750.00	11,737.98	8,900.00	8,604.94	41.28	33.65	-48.32	405.90	-930.63	3,326.49	3,293.12	33.37	99.679		
11,800.00	11,787.69	8,900.00	8,604.94	41.45	33.65	-40.28	405.90	-930.63	3,372.35	3,338.94	33.41	100.950		
11,850.00	11,836.76	8,900.00	8,604.94	41.61	33.65	-34.31	405.90	-930.63	3,416.94	3,383.50	33.43	102.204		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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		
11,900.00	11,884.81	8,900.00	8,604.94	41.77	33.65	-29.82	405.90	-930.63	3,459.96	3,426.51	33.45	103.433		
11,950.00	11,931.47	8,900.00	8,604.94	41.92	33.65	-26.40	405.90	-930.63	3,501.16	3,467.70	33.46	104.628		
12,000.00	11,976.40	8,923.36	8,609.43	42.06	33.70	-23.55	428.82	-930.86	3,539.75	3,506.19	33.56	105.480		
12,050.00	12,019.25	8,928.02	8,610.21	42.19	33.71	-21.46	433.41	-930.91	3,576.35	3,542.78	33.57	106.528		
12,100.00	12,059.69	8,950.00	8,613.41	42.32	33.76	-19.71	455.15	-931.12	3,610.67	3,577.03	33.64	107.326		
12,150.00	12,097.41	8,950.00	8,613.41	42.45	33.76	-18.42	455.15	-931.12	3,641.79	3,608.16	33.63	108.305		
12,200.00	12,132.14	8,950.00	8,613.41	42.57	33.76	-17.36	455.15	-931.12	3,670.03	3,636.42	33.61	109.207		
12,250.00	12,163.59	8,950.00	8,613.41	42.69	33.76	-16.51	455.15	-931.12	3,695.23	3,661.65	33.59	110.023		
12,300.00	12,191.55	8,950.00	8,613.41	42.81	33.76	-15.83	455.15	-931.12	3,717.28	3,683.71	33.57	110.743		
12,350.00	12,215.78	8,950.00	8,613.41	42.92	33.76	-15.28	455.15	-931.12	3,736.06	3,702.51	33.55	111.357		
12,400.00	12,236.12	8,950.00	8,613.41	43.04	33.76	-14.86	455.15	-931.12	3,751.47	3,717.93	33.54	111.856		
12,450.00	12,252.39	8,975.46	8,616.06	43.15	33.82	-14.53	480.47	-931.38	3,762.81	3,729.22	33.60	111.994		
12,500.00	12,264.49	9,000.00	8,617.55	43.27	33.88	-14.31	504.96	-931.62	3,771.23	3,737.57	33.66	112.052		
12,550.00	12,272.31	9,000.00	8,617.55	43.39	33.88	-14.21	504.96	-931.62	3,775.51	3,741.85	33.66	112.163		
12,600.00	12,275.80	9,000.00	8,617.55	43.51	33.88	-14.19	504.96	-931.62	3,776.24	3,742.56	33.68	112.130		
12,615.04	12,276.00	9,000.00	8,617.55	43.55	33.88	-14.20	504.96	-931.62	3,775.76	3,742.07	33.68	112.091		
12,700.00	12,276.00	9,000.00	8,617.55	43.78	33.88	-14.20	504.96	-931.62	3,773.08	3,739.33	33.75	111.784		
12,798.79	12,276.00	9,022.57	8,618.00	44.10	33.94	-14.20	527.52	-931.84	3,771.88	3,737.96	33.92	111.187		
12,800.00	12,276.00	9,023.72	8,618.00	44.10	33.95	-14.20	528.68	-931.86	3,771.88	3,737.95	33.93	111.175		
12,900.00	12,276.00	9,123.72	8,618.00	44.49	34.28	-14.20	628.68	-932.85	3,771.88	3,737.63	34.25	110.124		
13,000.00	12,276.00	9,223.72	8,618.00	44.93	34.71	-14.20	728.67	-933.84	3,771.88	3,737.27	34.61	108.972		
13,100.00	12,276.00	9,323.72	8,618.00	45.43	35.22	-14.20	828.67	-934.84	3,771.89	3,736.87	35.01	107.726		
13,200.00	12,276.00	9,423.72	8,618.00	45.98	35.82	-14.20	928.66	-935.83	3,771.89	3,736.44	35.45	106.396		
13,300.00	12,276.00	9,523.72	8,618.00	46.59	36.49	-14.20	1,028.66	-936.83	3,771.89	3,735.96	35.92	104.994		
13,400.00	12,276.00	9,623.72	8,618.00	47.24	37.23	-14.20	1,128.65	-937.82	3,771.89	3,735.46	36.43	103.530		
13,500.00	12,276.00	9,723.72	8,618.00	47.94	38.04	-14.20	1,228.65	-938.82	3,771.89	3,734.92	36.97	102.015		
13,600.00	12,276.00	9,823.72	8,618.00	48.69	38.90	-14.20	1,328.64	-939.81	3,771.89	3,734.35	37.55	100.460		
13,700.00	12,276.00	9,923.72	8,618.00	49.48	39.81	-14.20	1,428.64	-940.81	3,771.89	3,733.75	38.15	98.873		
13,800.00	12,276.00	10,023.72	8,618.00	50.32	40.77	-14.20	1,528.63	-941.80	3,771.90	3,733.12	38.78	97.263		
13,900.00	12,276.00	10,123.72	8,618.00	51.19	41.78	-14.20	1,628.63	-942.80	3,771.90	3,732.46	39.44	95.639		
14,000.00	12,276.00	10,223.72	8,618.00	52.10	42.82	-14.20	1,728.62	-943.79	3,771.90	3,731.77	40.12	94.007		
14,100.00	12,276.00	10,323.72	8,618.00	53.05	43.90	-14.20	1,828.62	-944.79	3,771.90	3,731.07	40.83	92.373		
14,200.00	12,276.00	10,423.72	8,618.00	54.03	45.02	-14.20	1,928.61	-945.78	3,771.90	3,730.33	41.57	90.745		
14,300.00	12,276.00	10,523.72	8,618.00	55.04	46.17	-14.20	2,028.61	-946.78	3,771.90	3,729.58	42.32	89.130		
14,400.00	12,276.00	10,623.72	8,618.00	56.09	47.35	-14.20	2,128.60	-947.77	3,771.90	3,728.81	43.09	87.529		
14,500.00	12,276.00	10,723.72	8,618.00	57.16	48.56	-14.20	2,228.60	-948.76	3,771.90	3,728.02	43.89	85.946		
14,600.00	12,276.00	10,823.72	8,618.00	58.26	49.79	-14.20	2,328.59	-949.76	3,771.91	3,727.21	44.70	84.383		
14,700.00	12,276.00	10,923.72	8,618.00	59.38	51.05	-14.20	2,428.59	-950.75	3,771.91	3,726.38	45.53	82.842		
14,800.00	12,276.00	11,023.72	8,618.00	60.53	52.33	-14.20	2,528.58	-951.75	3,771.91	3,725.53	46.38	81.327		
14,900.00	12,276.00	11,123.72	8,618.00	61.71	53.63	-14.20	2,628.58	-952.74	3,771.91	3,724.67	47.24	79.839		
15,000.00	12,276.00	11,223.72	8,618.00	62.90	54.95	-14.20	2,728.57	-953.74	3,771.91	3,723.79	48.12	78.380		
15,100.00	12,276.00	11,323.72	8,618.00	64.11	56.28	-14.20	2,828.57	-954.73	3,771.91	3,722.90	49.02	76.952		
15,200.00	12,276.00	11,423.72	8,618.00	65.35	57.64	-14.20	2,928.56	-955.73	3,771.91	3,721.99	49.92	75.553		
15,300.00	12,276.00	11,523.72	8,618.00	66.60	59.00	-14.20	3,028.56	-956.72	3,771.92	3,721.07	50.84	74.186		
15,400.00	12,276.00	11,623.72	8,618.00	67.87	60.38	-14.20	3,128.55	-957.72	3,771.92	3,720.14	51.77	72.854		
15,500.00	12,276.00	11,723.72	8,618.00	69.15	61.78	-14.20	3,228.55	-958.71	3,771.92	3,719.20	52.71	71.553		
15,600.00	12,276.00	11,823.72	8,618.00	70.45	63.19	-14.20	3,328.54	-959.71	3,771.92	3,718.25	53.67	70.284		
15,700.00	12,276.00	11,923.72	8,618.00	71.77	64.60	-14.20	3,428.54	-960.70	3,771.92	3,717.29	54.63	69.046		
15,800.00	12,276.00	12,023.72	8,618.00	73.10	66.03	-14.20	3,528.53	-961.70	3,771.92	3,716.32	55.60	67.839		
15,900.00	12,276.00	12,123.72	8,618.00	74.44	67.47	-14.20	3,628.53	-962.69	3,771.92	3,715.34	56.58	66.662		
16,000.00	12,276.00	12,223.72	8,618.00	75.79	68.92	-14.20	3,728.52	-963.68	3,771.92	3,714.35	57.57	65.514		
16,100.00	12,276.00	12,323.72	8,618.00	77.16	70.38	-14.20	3,828.52	-964.68	3,771.93	3,713.35	58.57	64.396		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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		
16,200.00	12,276.00	12,423.72	8,618.00	78.53	71.85	-14.20	3,928.51	-965.67	3,771.93	3,712.35	59.58	63.306		
16,300.00	12,276.00	12,523.72	8,618.00	79.92	73.32	-14.20	4,028.51	-966.67	3,771.93	3,711.33	60.60	62.246		
16,400.00	12,276.00	12,623.72	8,618.00	81.32	74.80	-14.20	4,128.50	-967.66	3,771.93	3,710.31	61.62	61.213		
16,500.00	12,276.00	12,723.72	8,618.00	82.72	76.29	-14.21	4,228.50	-968.66	3,771.93	3,709.28	62.65	60.210		
16,600.00	12,276.00	12,823.72	8,618.00	84.14	77.79	-14.21	4,328.49	-969.65	3,771.93	3,708.25	63.68	59.233		
16,700.00	12,276.00	12,923.72	8,618.00	85.56	79.29	-14.21	4,428.49	-970.65	3,771.93	3,707.21	64.72	58.281		
16,800.00	12,276.00	13,023.72	8,618.00	86.99	80.80	-14.21	4,528.48	-971.64	3,771.94	3,706.17	65.76	57.355		
16,900.00	12,276.00	13,123.72	8,618.00	88.43	82.31	-14.21	4,628.48	-972.64	3,771.94	3,705.12	66.82	56.453		
17,000.00	12,276.00	13,223.72	8,618.00	89.88	83.83	-14.21	4,728.47	-973.63	3,771.94	3,704.07	67.87	55.575		
17,100.00	12,276.00	13,323.72	8,618.00	91.34	85.35	-14.21	4,828.47	-974.63	3,771.94	3,703.01	68.93	54.719		
17,200.00	12,276.00	13,423.72	8,618.00	92.80	86.88	-14.21	4,928.46	-975.62	3,771.94	3,701.94	70.00	53.886		
17,300.00	12,276.00	13,523.72	8,618.00	94.26	88.41	-14.21	5,028.46	-976.62	3,771.94	3,700.87	71.07	53.074		
17,400.00	12,276.00	13,623.72	8,618.00	95.74	89.95	-14.21	5,128.45	-977.61	3,771.94	3,699.80	72.14	52.283		
17,500.00	12,276.00	13,723.72	8,618.00	97.21	91.49	-14.21	5,228.45	-978.60	3,771.94	3,698.72	73.22	51.513		
17,600.00	12,276.00	13,823.72	8,618.00	98.70	93.03	-14.21	5,328.44	-979.60	3,771.95	3,697.64	74.31	50.763		
17,700.00	12,276.00	13,923.72	8,618.00	100.19	94.58	-14.21	5,428.44	-980.59	3,771.95	3,696.56	75.39	50.032		
17,800.00	12,276.00	14,023.72	8,618.00	101.68	96.13	-14.21	5,528.43	-981.59	3,771.95	3,695.47	76.48	49.319		
17,900.00	12,276.00	14,123.72	8,618.00	103.18	97.69	-14.21	5,628.43	-982.58	3,771.95	3,694.38	77.57	48.625		
18,000.00	12,276.00	14,223.72	8,618.00	104.68	99.25	-14.21	5,728.42	-983.58	3,771.95	3,693.28	78.67	47.947		
18,100.00	12,276.00	14,323.72	8,618.00	106.19	100.81	-14.21	5,828.42	-984.57	3,771.95	3,692.18	79.77	47.286		
18,200.00	12,276.00	14,423.72	8,618.00	107.71	102.37	-14.21	5,928.41	-985.57	3,771.95	3,691.08	80.87	46.642		
18,300.00	12,276.00	14,523.72	8,618.00	109.22	103.94	-14.21	6,028.41	-986.56	3,771.96	3,689.98	81.98	46.013		
18,400.00	12,276.00	14,623.72	8,618.00	110.74	105.51	-14.21	6,128.40	-987.56	3,771.96	3,688.87	83.08	45.399		
18,500.00	12,276.00	14,723.72	8,618.00	112.27	107.08	-14.21	6,228.40	-988.55	3,771.96	3,687.76	84.20	44.800		
18,600.00	12,276.00	14,823.72	8,618.00	113.79	108.65	-14.21	6,328.39	-989.55	3,771.96	3,686.65	85.31	44.215		
18,700.00	12,276.00	14,923.72	8,618.00	115.33	110.23	-14.21	6,428.39	-990.54	3,771.96	3,685.54	86.42	43.645		
18,800.00	12,276.00	15,023.72	8,618.00	116.86	111.81	-14.21	6,528.38	-991.54	3,771.96	3,684.42	87.54	43.088		
18,900.00	12,276.00	15,123.72	8,618.00	118.40	113.39	-14.21	6,628.38	-992.53	3,771.96	3,683.30	88.66	42.544		
19,000.00	12,276.00	15,223.72	8,618.00	119.94	114.97	-14.21	6,728.37	-993.52	3,771.96	3,682.18	89.78	42.012		
19,100.00	12,276.00	15,323.72	8,618.00	121.48	116.56	-14.21	6,828.37	-994.52	3,771.97	3,681.06	90.91	41.493		
19,200.00	12,276.00	15,423.72	8,618.00	123.03	118.14	-14.21	6,928.36	-995.51	3,771.97	3,679.93	92.03	40.985		
19,300.00	12,276.00	15,523.72	8,618.00	124.58	119.73	-14.21	7,028.36	-996.51	3,771.97	3,678.81	93.16	40.489		
19,400.00	12,276.00	15,623.72	8,618.00	126.13	121.32	-14.21	7,128.35	-997.50	3,771.97	3,677.68	94.29	40.003		
19,500.00	12,276.00	15,723.72	8,618.00	127.68	122.91	-14.21	7,228.35	-998.50	3,771.97	3,676.55	95.42	39.529		
19,600.00	12,276.00	15,823.72	8,618.00	129.24	124.50	-14.21	7,328.34	-999.49	3,771.97	3,675.42	96.56	39.065		
19,700.00	12,276.00	15,923.72	8,618.00	130.80	126.10	-14.21	7,428.34	-1,000.49	3,771.97	3,674.28	97.69	38.611		
19,800.00	12,276.00	16,023.72	8,618.00	132.36	127.70	-14.21	7,528.33	-1,001.48	3,771.98	3,673.15	98.83	38.167		
19,900.00	12,276.00	16,123.72	8,618.00	133.93	129.29	-14.21	7,628.33	-1,002.48	3,771.98	3,672.01	99.97	37.733		
20,000.00	12,276.00	16,223.72	8,618.00	135.49	130.89	-14.21	7,728.32	-1,003.47	3,771.98	3,670.87	101.10	37.308		
20,100.00	12,276.00	16,323.72	8,618.00	137.06	132.49	-14.21	7,828.32	-1,004.47	3,771.98	3,669.74	102.24	36.892		
20,200.00	12,276.00	16,423.72	8,618.00	138.63	134.09	-14.21	7,928.31	-1,005.46	3,771.98	3,668.60	103.38	36.485		
20,300.00	12,276.00	16,523.72	8,618.00	140.20	135.70	-14.21	8,028.31	-1,006.46	3,771.98	3,667.45	104.53	36.086		
20,400.00	12,276.00	16,623.72	8,618.00	141.77	137.30	-14.21	8,128.30	-1,007.45	3,771.98	3,666.31	105.67	35.695		
20,500.00	12,276.00	16,723.72	8,618.00	143.35	138.91	-14.21	8,228.30	-1,008.44	3,771.98	3,665.17	106.82	35.312		
20,600.00	12,276.00	16,823.72	8,618.00	144.93	140.51	-14.21	8,328.29	-1,009.44	3,771.99	3,664.02	107.97	34.936		
20,700.00	12,276.00	16,923.72	8,618.00	146.50	142.12	-14.21	8,428.29	-1,010.43	3,771.99	3,662.87	109.12	34.568		
20,800.00	12,276.00	17,023.72	8,618.00	148.08	143.73	-14.21	8,528.28	-1,011.43	3,771.99	3,661.72	110.27	34.208		
20,900.00	12,276.00	17,123.72	8,618.00	149.67	145.34	-14.21	8,628.28	-1,012.42	3,771.99	3,660.57	111.42	33.855		
21,000.00	12,276.00	17,223.72	8,618.00	151.25	146.95	-14.21	8,728.27	-1,013.42	3,771.99	3,659.43	112.57	33.509		
21,100.00	12,276.00	17,323.72	8,618.00	152.83	148.56	-14.21	8,828.27	-1,014.41	3,771.99	3,658.28	113.72	33.170		
21,200.00	12,276.00	17,423.72	8,618.00	154.42	150.17	-14.21	8,928.26	-1,015.41	3,771.99	3,657.12	114.87	32.837		
21,300.00	12,276.00	17,523.72	8,618.00	156.01	151.78	-14.21	9,028.26	-1,016.40	3,771.99	3,655.97	116.02	32.511		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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
FMM Fed Com - FMM Fed Com 101H - OH - Plan #1												Offset Well Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													
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	
21,400.00	12,276.00	17,623.72	8,618.00	157.60	153.40	-14.21	9,128.25	-1,017.40	3,772.00	3,654.82	117.18	32.190	
21,500.00	12,276.00	17,723.72	8,618.00	159.19	155.01	-14.21	9,228.25	-1,018.39	3,772.00	3,653.66	118.33	31.876	
21,600.00	12,276.00	17,823.72	8,618.00	160.78	156.63	-14.21	9,328.24	-1,019.39	3,772.00	3,652.51	119.49	31.568	
21,700.00	12,276.00	17,923.72	8,618.00	162.37	158.24	-14.21	9,428.24	-1,020.38	3,772.00	3,651.35	120.65	31.265	
21,800.00	12,276.00	18,023.72	8,618.00	163.96	159.86	-14.21	9,528.23	-1,021.38	3,772.00	3,650.20	121.81	30.967	
21,900.00	12,276.00	18,123.72	8,618.00	165.56	161.48	-14.21	9,628.23	-1,022.37	3,772.00	3,649.04	122.96	30.676	
22,000.00	12,276.00	18,223.72	8,618.00	167.16	163.09	-14.21	9,728.23	-1,023.37	3,772.00	3,647.88	124.12	30.389	
22,100.00	12,276.00	18,323.72	8,618.00	168.75	164.71	-14.21	9,828.22	-1,024.36	3,772.01	3,646.72	125.28	30.107	
22,200.00	12,276.00	18,423.72	8,618.00	170.35	166.33	-14.21	9,928.22	-1,025.35	3,772.01	3,645.56	126.44	29.831	
22,300.00	12,276.00	18,523.72	8,618.00	171.95	167.95	-14.21	10,028.21	-1,026.35	3,772.01	3,644.40	127.60	29.560	
22,400.00	12,276.00	18,623.72	8,618.00	173.55	169.57	-14.21	10,128.21	-1,027.34	3,772.01	3,643.24	128.77	29.294	
22,410.08	12,276.00	18,633.81	8,618.00	173.71	169.74	-14.21	10,138.29	-1,027.44	3,772.01	3,643.13	128.88	29.267	

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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		
1,843.00	1,843.00	1,843.50	1,843.50	6.37	6.38	8.84	75.06	11.68	75.96	66.95	9.01	8.426		
1,900.00	1,900.00	1,900.50	1,900.50	6.58	6.58	8.84	75.06	11.68	75.96	66.66	9.30	8.165		
2,000.00	2,000.00	2,000.50	2,000.50	6.94	6.94	8.84	75.06	11.68	75.96	66.15	9.81	7.743		
2,100.00	2,100.00	2,100.88	2,100.88	7.29	7.29	9.83	74.60	12.92	75.71	65.40	10.31	7.343		
2,200.00	2,200.00	2,201.11	2,201.02	7.65	7.62	12.80	73.22	16.64	75.09	64.29	10.80	6.951		
2,226.33	2,226.33	2,227.46	2,227.33	7.74	7.71	-165.83	72.71	18.02	75.00	64.07	10.93	6.862 CC, ES		
2,300.00	2,299.99	2,301.10	2,300.78	7.99	7.96	-162.23	70.94	22.80	75.76	64.47	11.28	6.714 SF		
2,400.00	2,399.91	2,400.72	2,399.99	8.32	8.31	-156.47	67.76	31.37	79.44	67.68	11.76	6.757		
2,500.00	2,499.69	2,499.97	2,498.57	8.65	8.66	-150.47	63.75	42.18	86.49	74.26	12.23	7.072		
2,600.00	2,599.27	2,599.20	2,597.05	8.97	9.01	-145.92	59.55	53.52	96.63	83.92	12.71	7.602		
2,652.97	2,651.91	2,651.70	2,649.16	9.15	9.20	-144.21	57.32	59.52	103.05	90.08	12.97	7.948		
2,700.00	2,698.61	2,698.29	2,695.41	9.31	9.37	-143.00	55.35	64.84	109.07	95.88	13.19	8.267		
2,800.00	2,797.91	2,797.36	2,793.73	9.65	9.73	-140.84	51.15	76.16	122.01	108.33	13.68	8.918		
2,900.00	2,897.20	2,896.42	2,892.06	10.00	10.09	-139.10	46.95	87.48	135.09	120.92	14.17	9.531		
3,000.00	2,996.50	2,995.49	2,990.39	10.35	10.46	-137.66	42.76	98.80	148.28	133.60	14.67	10.106		
3,100.00	3,095.80	3,094.55	3,088.71	10.70	10.83	-136.46	38.56	110.12	161.53	146.36	15.17	10.646		
3,200.00	3,195.10	3,193.62	3,187.04	11.06	11.20	-135.44	34.36	121.44	174.85	159.17	15.68	11.153		
3,300.00	3,294.39	3,292.68	3,285.36	11.42	11.57	-134.56	30.16	132.76	188.21	172.03	16.19	11.628		
3,400.00	3,393.69	3,391.75	3,383.69	11.79	11.95	-133.80	25.97	144.08	201.62	184.92	16.70	12.075		
3,500.00	3,492.99	3,490.81	3,482.02	12.16	12.33	-133.14	21.77	155.40	215.05	197.84	17.21	12.495		
3,600.00	3,592.29	3,589.88	3,580.34	12.53	12.71	-132.55	17.57	166.72	228.51	210.78	17.73	12.890		
3,700.00	3,691.59	3,688.94	3,678.67	12.90	13.09	-132.03	13.38	178.04	241.98	223.74	18.25	13.262		
3,800.00	3,790.88	3,788.01	3,777.00	13.27	13.47	-131.56	9.18	189.36	255.48	236.71	18.77	13.612		
3,900.00	3,890.18	3,887.07	3,875.32	13.65	13.86	-131.14	4.98	200.68	268.99	249.70	19.29	13.944		
4,000.00	3,889.48	3,886.14	3,873.65	14.03	14.24	-130.77	0.78	212.00	282.51	262.70	19.82	14.257		
4,059.03	4,048.09	4,044.61	4,031.69	14.25	14.47	-130.56	-1.69	218.69	290.50	270.37	20.13	14.433		
4,100.00	4,088.80	4,085.22	4,071.99	14.41	14.63	-130.45	-3.41	223.33	295.91	275.56	20.34	14.546		
4,200.00	4,188.35	4,184.43	4,170.46	14.78	15.02	-129.93	-7.62	234.66	307.93	287.07	20.87	14.757		
4,300.00	4,288.11	4,283.74	4,269.04	15.15	15.41	-129.09	-11.83	246.01	318.36	296.97	21.39	14.885		
4,400.00	4,388.02	4,383.09	4,367.64	15.50	15.80	-127.92	-16.03	257.36	327.26	305.35	21.90	14.941		
4,500.00	4,488.00	4,482.39	4,466.21	15.85	16.19	-126.46	-20.24	268.71	334.76	312.34	22.41	14.935		
4,512.00	4,500.00	4,494.30	4,478.03	15.89	16.23	53.48	-20.75	270.07	335.57	313.10	22.48	14.931		
4,600.00	4,588.00	4,581.65	4,564.72	16.19	16.58	54.98	-24.45	280.06	341.58	318.66	22.92	14.904		
4,700.00	4,688.00	4,680.90	4,663.24	16.53	16.97	56.62	-28.65	291.40	348.69	325.26	23.42	14.886		
4,800.00	4,788.00	4,780.16	4,761.75	16.87	17.36	58.19	-32.86	302.74	356.07	332.14	23.93	14.882		
4,900.00	4,888.00	4,879.41	4,860.27	17.21	17.76	59.70	-37.06	314.08	363.71	339.28	24.43	14.888		
5,000.00	4,988.00	4,978.67	4,958.78	17.55	18.15	61.15	-41.27	325.42	371.59	346.66	24.93	14.904		
5,100.00	5,088.00	5,077.92	5,057.30	17.89	18.54	62.54	-45.47	336.77	379.70	354.27	25.43	14.929		
5,200.00	5,188.00	5,177.18	5,155.81	18.24	18.94	63.86	-49.68	348.11	388.02	362.09	25.93	14.962		
5,300.00	5,288.00	5,276.43	5,254.33	18.58	19.33	65.14	-53.88	359.45	396.55	370.11	26.44	15.001		
5,400.00	5,388.00	5,375.69	5,352.84	18.92	19.73	66.35	-58.09	370.79	405.26	378.32	26.94	15.045		
5,500.00	5,488.00	5,474.94	5,451.36	19.27	20.13	67.52	-62.29	382.13	414.14	386.71	27.44	15.095		
5,600.00	5,588.00	5,574.19	5,549.87	19.61	20.52	68.64	-66.50	393.48	423.19	395.26	27.94	15.149		
5,700.00	5,688.00	5,673.45	5,648.38	19.96	20.92	69.71	-70.70	404.82	432.40	403.96	28.44	15.206		
5,800.00	5,788.00	5,772.70	5,746.90	20.31	21.32	70.74	-74.91	416.16	441.75	412.81	28.94	15.267		
5,900.00	5,888.00	5,871.96	5,845.41	20.65	21.71	71.72	-79.12	427.50	451.23	421.80	29.44	15.330		
6,000.00	5,988.00	5,971.21	5,943.93	21.00	22.11	72.66	-83.32	438.84	460.84	430.91	29.94	15.395		
6,100.00	6,088.00	6,070.47	6,042.44	21.35	22.51	73.57	-87.53	450.19	470.57	440.14	30.43	15.462		
6,200.00	6,188.00	6,169.72	6,140.96	21.69	22.91	74.44	-91.73	461.53	480.42	449.48	30.93	15.530		
6,300.00	6,288.00	6,268.98	6,239.47	22.04	23.31	75.27	-95.94	472.87	490.36	458.93	31.43	15.599		
6,400.00	6,388.00	6,368.23	6,337.99	22.39	23.71	76.07	-100.14	484.21	500.41	468.48	31.93	15.670		
6,500.00	6,488.00	6,467.49	6,436.50	22.74	24.11	76.84	-104.35	495.55	510.55	478.12	32.43	15.741		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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	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				
6,600.00	6,588.00	6,566.74	6,535.02	23.09	24.50	77.58	-108.55	506.90	520.78	487.85	32.93	15.812				
6,700.00	6,688.00	6,665.99	6,633.53	23.44	24.90	78.29	-112.76	518.24	531.09	497.66	33.44	15.884				
6,800.00	6,788.00	6,765.25	6,732.05	23.79	25.30	78.97	-116.96	529.58	541.48	507.54	33.94	15.956				
6,900.00	6,888.00	6,864.50	6,830.56	24.14	25.70	79.63	-121.17	540.92	551.94	517.51	34.44	16.028				
7,000.00	6,988.00	6,971.80	6,937.12	24.49	26.13	80.28	-125.53	552.70	562.08	527.10	34.99	16.066				
7,100.00	7,088.00	7,086.11	7,050.95	24.84	26.57	80.81	-129.13	562.41	569.95	534.39	35.56	16.029				
7,200.00	7,188.00	7,200.94	7,165.57	25.19	27.00	81.15	-131.56	568.94	575.24	539.13	36.11	15.931				
7,300.00	7,288.00	7,316.08	7,280.65	25.54	27.40	81.32	-132.78	572.24	577.92	541.28	36.64	15.775				
7,400.00	7,388.00	7,423.94	7,388.50	25.89	27.75	81.34	-132.94	572.68	578.27	541.14	37.13	15.574				
7,500.00	7,488.00	7,523.94	7,488.50	26.24	28.08	81.34	-132.94	572.68	578.27	540.65	37.61	15.373				
7,600.00	7,588.00	7,623.94	7,588.50	26.59	28.40	81.34	-132.94	572.68	578.27	540.17	38.10	15.178				
7,700.00	7,688.00	7,723.94	7,688.50	26.94	28.73	81.34	-132.94	572.68	578.27	539.68	38.59	14.986				
7,800.00	7,788.00	7,823.94	7,788.50	27.29	29.06	81.34	-132.94	572.68	578.27	539.19	39.07	14.800				
7,900.00	7,888.00	7,923.94	7,888.50	27.65	29.38	81.34	-132.94	572.68	578.27	538.71	39.56	14.618				
8,000.00	7,988.00	8,012.61	7,976.96	28.00	29.67	80.85	-127.89	572.63	579.11	539.08	40.03	14.466				
8,100.00	8,088.00	8,100.00	8,062.36	28.35	29.92	79.08	-109.76	572.44	582.57	542.08	40.49	14.389				
8,200.00	8,188.00	8,173.66	8,131.51	28.70	30.11	76.66	-84.55	572.19	589.79	548.96	40.83	14.444				
8,300.00	8,288.00	8,242.81	8,192.99	29.05	30.26	73.69	-52.98	571.87	602.42	561.40	41.03	14.684				
8,400.00	8,388.00	8,300.00	8,240.66	29.41	30.37	70.81	-21.44	571.56	621.95	581.02	40.93	15.196				
8,500.00	8,488.00	8,350.00	8,279.59	29.76	30.45	68.04	9.91	571.24	649.37	608.85	40.52	16.025				
8,600.00	8,588.00	8,400.00	8,315.63	30.11	30.52	65.10	44.54	570.90	685.00	645.06	39.93	17.153				
8,700.00	8,688.00	8,450.00	8,348.52	30.47	30.58	62.05	82.18	570.52	728.87	689.64	39.23	18.578				
8,800.00	8,788.00	8,472.48	8,362.21	30.82	30.60	60.66	100.01	570.34	779.92	741.88	38.04	20.503				
8,900.00	8,888.00	8,500.00	8,378.01	31.17	30.62	58.96	122.54	570.11	837.75	800.81	36.95	22.675				
9,000.00	8,988.00	8,526.14	8,391.99	31.53	30.64	57.34	144.62	569.89	901.34	865.44	35.90	25.104				
9,100.00	9,088.00	8,550.00	8,403.86	31.88	30.66	55.88	165.32	569.68	969.85	934.91	34.94	27.760				
9,200.00	9,188.00	8,567.08	8,411.82	32.23	30.67	54.84	180.42	569.53	1,042.50	1,008.51	33.99	30.674				
9,300.00	9,288.00	8,584.00	8,419.27	32.59	30.68	53.82	195.62	569.38	1,118.65	1,085.48	33.17	33.728				
9,400.00	9,388.00	8,600.00	8,425.89	32.94	30.69	52.87	210.18	569.23	1,197.74	1,165.28	32.46	36.897				
9,500.00	9,488.00	8,600.00	8,425.89	33.29	30.69	52.87	210.18	569.23	1,279.49	1,247.82	31.67	40.399				
9,600.00	9,588.00	8,624.55	8,435.25	33.65	30.71	51.43	232.87	569.01	1,362.98	1,331.68	31.30	43.549				
9,700.00	9,688.00	8,650.00	8,443.92	34.00	30.73	49.98	256.80	568.77	1,448.68	1,417.68	31.00	46.728				
9,800.00	9,788.00	8,650.00	8,443.92	34.36	30.73	49.98	256.80	568.77	1,535.45	1,504.93	30.52	50.317				
9,900.00	9,888.00	8,650.00	8,443.92	34.71	30.73	49.98	256.80	568.77	1,623.74	1,593.62	30.12	53.912				
10,000.00	9,988.00	8,650.00	8,443.92	35.07	30.73	49.98	256.80	568.77	1,713.31	1,683.51	29.80	57.492				
10,100.00	10,088.00	8,669.95	8,449.97	35.42	30.74	48.86	275.81	568.58	1,803.54	1,773.82	29.72	60.681				
10,200.00	10,188.00	8,676.85	8,451.91	35.77	30.75	48.48	282.43	568.51	1,894.80	1,865.23	29.57	64.069				
10,300.00	10,288.00	8,700.00	8,457.82	36.13	30.78	47.23	304.81	568.28	1,987.12	1,957.52	29.60	67.139				
10,400.00	10,388.00	8,700.00	8,457.82	36.48	30.78	47.23	304.81	568.28	2,079.61	2,050.12	29.49	70.530				
10,500.00	10,488.00	8,700.00	8,457.82	36.84	30.78	47.23	304.81	568.28	2,172.76	2,143.35	29.41	73.869				
10,600.00	10,588.00	8,700.00	8,457.82	37.19	30.78	47.23	304.81	568.28	2,266.50	2,237.12	29.38	77.146				
10,700.00	10,688.00	8,700.00	8,457.82	37.55	30.78	47.23	304.81	568.28	2,360.76	2,331.38	29.38	80.357				
10,800.00	10,788.00	8,700.00	8,457.82	37.90	30.78	47.23	304.81	568.28	2,455.47	2,426.06	29.41	83.495				
10,900.00	10,888.00	8,700.00	8,457.82	38.26	30.78	47.23	304.81	568.28	2,550.58	2,521.11	29.47	86.560				
11,000.00	10,988.00	8,700.00	8,457.82	38.61	30.78	47.23	304.81	568.28	2,646.05	2,616.50	29.55	89.554				
11,100.00	11,088.00	8,700.00	8,457.82	38.97	30.78	47.23	304.81	568.28	2,741.85	2,712.20	29.65	92.480				
11,200.00	11,188.00	8,723.91	8,462.98	39.32	30.81	45.97	328.16	568.05	2,837.34	2,807.46	29.88	94.960				
11,300.00	11,288.00	8,727.15	8,463.60	39.68	30.82	45.80	331.34	568.02	2,933.52	2,903.50	30.03	97.695				
11,400.00	11,388.00	8,750.00	8,467.48	40.03	30.86	44.65	353.85	567.79	3,030.33	3,000.06	30.27	100.094				
11,500.00	11,488.00	8,750.00	8,467.48	40.39	30.86	44.65	353.85	567.79	3,126.84	3,096.40	30.44	102.733				
11,600.00	11,588.00	8,750.00	8,467.48	40.74	30.86	44.65	353.85	567.79	3,223.56	3,192.94	30.61	105.301				
11,700.00	11,688.00	8,750.00	8,467.48	41.10	30.86	44.65	353.85	567.79	3,320.47	3,289.67	30.80	107.797				

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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			
11,715.04	11,703.04	8,750.00	8,467.48	41.15	30.86	44.65	353.85	567.79	3,335.06	3,304.22	30.83	108.167				
11,750.00	11,737.98	8,750.00	8,467.48	41.28	30.86	36.79	353.85	567.79	3,368.79	3,337.89	30.90	109.025				
11,800.00	11,787.69	8,750.00	8,467.48	41.45	30.86	28.68	353.85	567.79	3,416.22	3,385.23	30.99	110.247				
11,850.00	11,836.76	8,750.00	8,467.48	41.61	30.86	23.39	353.85	567.79	3,462.40	3,431.33	31.07	111.454				
11,900.00	11,884.81	8,750.00	8,467.48	41.77	30.86	19.74	353.85	567.79	3,507.04	3,475.90	31.14	112.637				
11,950.00	11,931.47	8,750.00	8,467.48	41.92	30.86	17.12	353.85	567.79	3,549.86	3,518.66	31.20	113.788				
12,000.00	11,976.40	8,750.00	8,467.48	42.06	30.86	15.16	353.85	567.79	3,590.61	3,559.36	31.25	114.899				
12,050.00	12,019.25	8,750.00	8,467.48	42.19	30.86	13.66	353.85	567.79	3,629.05	3,597.76	31.30	115.961				
12,100.00	12,059.69	8,750.00	8,467.48	42.32	30.86	12.49	353.85	567.79	3,664.97	3,633.64	31.33	116.966				
12,150.00	12,097.41	8,750.00	8,467.48	42.45	30.86	11.57	353.85	567.79	3,698.18	3,666.81	31.37	117.905				
12,200.00	12,132.14	8,774.30	8,470.63	42.57	30.92	10.78	377.94	567.55	3,727.90	3,696.44	31.45	118.518				
12,250.00	12,163.59	8,800.00	8,472.84	42.69	30.99	10.15	403.54	567.29	3,755.25	3,723.71	31.54	119.075				
12,300.00	12,191.55	8,800.00	8,472.84	42.81	30.99	9.69	403.54	567.29	3,778.73	3,747.18	31.55	119.766				
12,350.00	12,215.78	8,800.00	8,472.84	42.92	30.99	9.33	403.54	567.29	3,798.88	3,767.31	31.56	120.351				
12,400.00	12,236.12	8,800.00	8,472.84	43.04	30.99	9.05	403.54	567.29	3,815.59	3,784.01	31.58	120.820				
12,450.00	12,252.39	8,800.00	8,472.84	43.15	30.99	8.83	403.54	567.29	3,828.79	3,797.19	31.60	121.162				
12,500.00	12,264.49	8,800.00	8,472.84	43.27	30.99	8.68	403.54	567.29	3,838.42	3,806.79	31.63	121.369				
12,550.00	12,272.31	8,817.32	8,473.68	43.39	31.04	8.59	420.84	567.12	3,844.12	3,812.44	31.68	121.328				
12,600.00	12,275.80	8,836.47	8,474.00	43.51	31.11	8.56	439.99	566.93	3,846.36	3,814.61	31.75	121.156				
12,615.04	12,276.00	8,836.47	8,474.00	43.55	31.11	8.56	439.99	566.93	3,846.21	3,814.45	31.76	121.104				
12,700.00	12,276.00	8,840.12	8,474.00	43.78	31.12	8.56	443.63	566.89	3,845.35	3,813.49	31.86	120.699				
12,800.00	12,276.00	8,940.12	8,474.00	44.10	31.52	8.56	543.63	565.89	3,845.34	3,813.23	32.12	119.729				
12,900.00	12,276.00	9,040.12	8,474.00	44.49	32.02	8.56	643.62	564.89	3,845.34	3,812.93	32.41	118.641				
13,000.00	12,276.00	9,140.12	8,474.00	44.93	32.59	8.56	743.62	563.88	3,845.34	3,812.60	32.74	117.436				
13,100.00	12,276.00	9,240.12	8,474.00	45.43	33.23	8.56	843.61	562.88	3,845.34	3,812.22	33.11	116.127				
13,200.00	12,276.00	9,340.12	8,474.00	45.98	33.94	8.56	943.61	561.88	3,845.34	3,811.82	33.52	114.726				
13,300.00	12,276.00	9,440.12	8,474.00	46.59	34.71	8.56	1,043.60	560.87	3,845.33	3,811.38	33.96	113.244				
13,400.00	12,276.00	9,540.12	8,474.00	47.24	35.54	8.56	1,143.60	559.87	3,845.33	3,810.90	34.43	111.693				
13,500.00	12,276.00	9,640.12	8,474.00	47.94	36.42	8.56	1,243.59	558.87	3,845.33	3,810.40	34.93	110.085				
13,600.00	12,276.00	9,740.12	8,474.00	48.69	37.36	8.56	1,343.59	557.86	3,845.33	3,809.86	35.46	108.430				
13,700.00	12,276.00	9,840.12	8,474.00	49.48	38.34	8.56	1,443.58	556.86	3,845.32	3,809.30	36.03	106.739				
13,800.00	12,276.00	9,940.12	8,474.00	50.32	39.37	8.56	1,543.58	555.86	3,845.32	3,808.71	36.61	105.021				
13,900.00	12,276.00	10,040.12	8,474.00	51.19	40.44	8.56	1,643.57	554.85	3,845.32	3,808.09	37.23	103.285				
14,000.00	12,276.00	10,140.12	8,474.00	52.10	41.54	8.56	1,743.57	553.85	3,845.32	3,807.45	37.87	101.538				
14,100.00	12,276.00	10,240.12	8,474.00	53.05	42.68	8.56	1,843.56	552.85	3,845.32	3,806.78	38.53	99.788				
14,200.00	12,276.00	10,340.12	8,474.00	54.03	43.85	8.56	1,943.56	551.85	3,845.31	3,806.09	39.22	98.041				
14,300.00	12,276.00	10,440.12	8,474.00	55.04	45.05	8.56	2,043.55	550.84	3,845.31	3,805.38	39.93	96.303				
14,400.00	12,276.00	10,540.12	8,474.00	56.09	46.28	8.56	2,143.55	549.84	3,845.31	3,804.65	40.66	94.579				
14,500.00	12,276.00	10,640.12	8,474.00	57.16	47.54	8.56	2,243.54	548.84	3,845.31	3,803.90	41.40	92.872				
14,600.00	12,276.00	10,740.12	8,474.00	58.26	48.82	8.56	2,343.54	547.83	3,845.31	3,803.14	42.17	91.187				
14,700.00	12,276.00	10,840.12	8,474.00	59.38	50.12	8.56	2,443.53	546.83	3,845.30	3,802.35	42.95	89.526				
14,800.00	12,276.00	10,940.12	8,474.00	60.53	51.44	8.56	2,543.53	545.83	3,845.30	3,801.55	43.75	87.892				
14,900.00	12,276.00	11,040.12	8,474.00	61.71	52.77	8.56	2,643.52	544.82	3,845.30	3,800.74	44.56	86.287				
15,000.00	12,276.00	11,140.12	8,474.00	62.90	54.13	8.56	2,743.52	543.82	3,845.30	3,799.91	45.39	84.712				
15,100.00	12,276.00	11,240.12	8,474.00	64.11	55.50	8.56	2,843.51	542.82	3,845.30	3,799.06	46.23	83.169				
15,200.00	12,276.00	11,340.12	8,474.00	65.35	56.89	8.56	2,943.51	541.81	3,845.29	3,798.20	47.09	81.659				
15,300.00	12,276.00	11,440.12	8,474.00	66.60	58.29	8.56	3,043.50	540.81	3,845.29	3,797.34	47.96	80.182				
15,400.00	12,276.00	11,540.12	8,474.00	67.87	59.70	8.56	3,143.50	539.81	3,845.29	3,796.45	48.84	78.739				
15,500.00	12,276.00	11,640.12	8,474.00	69.15	61.13	8.56	3,243.49	538.80	3,845.29	3,795.56	49.73	77.330				
15,600.00	12,276.00	11,740.12	8,474.00	70.45	62.56	8.56	3,343.49	537.80	3,845.29	3,794.66	50.63	75.954				
15,700.00	12,276.00	11,840.12	8,474.00	71.77	64.01	8.55	3,443.48	536.80	3,845.28	3,793.75	51.54	74.612				
15,800.00	12,276.00	11,940.12	8,474.00	73.10	65.46	8.55	3,543.48	535.80	3,845.28	3,792.83	52.46	73.304				

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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		
15,900.00	12,276.00	12,040.12	8,474.00	74.44	66.93	8.55	3,643.47	534.79	3,845.28	3,791.89	53.39	72.029		
16,000.00	12,276.00	12,140.12	8,474.00	75.79	68.40	8.55	3,743.47	533.79	3,845.28	3,790.96	54.32	70.787		
16,100.00	12,276.00	12,240.12	8,474.00	77.16	69.88	8.55	3,843.46	532.79	3,845.28	3,790.01	55.27	69.578		
16,200.00	12,276.00	12,340.12	8,474.00	78.53	71.37	8.55	3,943.46	531.78	3,845.27	3,789.06	56.22	68.401		
16,300.00	12,276.00	12,440.12	8,474.00	79.92	72.87	8.55	4,043.45	530.78	3,845.27	3,788.10	57.17	67.255		
16,400.00	12,276.00	12,540.12	8,474.00	81.32	74.37	8.55	4,143.45	529.78	3,845.27	3,787.13	58.14	66.138		
16,500.00	12,276.00	12,640.12	8,474.00	82.72	75.88	8.55	4,243.44	528.77	3,845.27	3,786.15	59.11	65.049		
16,600.00	12,276.00	12,740.12	8,474.00	84.14	77.40	8.55	4,343.44	527.77	3,845.27	3,785.17	60.09	63.990		
16,700.00	12,276.00	12,840.12	8,474.00	85.56	78.92	8.55	4,443.43	526.77	3,845.26	3,784.19	61.08	62.959		
16,800.00	12,276.00	12,940.12	8,474.00	86.99	80.44	8.55	4,543.43	525.76	3,845.26	3,783.20	62.07	61.955		
16,900.00	12,276.00	13,040.12	8,474.00	88.43	81.97	8.55	4,643.42	524.76	3,845.26	3,782.20	63.06	60.977		
17,000.00	12,276.00	13,140.12	8,474.00	89.88	83.51	8.55	4,743.42	523.76	3,845.26	3,781.20	64.06	60.025		
17,100.00	12,276.00	13,240.12	8,474.00	91.34	85.05	8.55	4,843.41	522.75	3,845.25	3,780.19	65.07	59.097		
17,200.00	12,276.00	13,340.12	8,474.00	92.80	86.59	8.55	4,943.41	521.75	3,845.25	3,779.18	66.08	58.194		
17,300.00	12,276.00	13,440.12	8,474.00	94.26	88.14	8.55	5,043.40	520.75	3,845.25	3,778.16	67.09	57.314		
17,400.00	12,276.00	13,540.12	8,474.00	95.74	89.69	8.55	5,143.40	519.75	3,845.25	3,777.14	68.11	56.457		
17,500.00	12,276.00	13,640.12	8,474.00	97.21	91.24	8.55	5,243.39	518.74	3,845.25	3,776.11	69.13	55.622		
17,600.00	12,276.00	13,740.12	8,474.00	98.70	92.80	8.55	5,343.39	517.74	3,845.24	3,775.09	70.16	54.808		
17,700.00	12,276.00	13,840.12	8,474.00	100.19	94.36	8.55	5,443.38	516.74	3,845.24	3,774.05	71.19	54.015		
17,800.00	12,276.00	13,940.12	8,474.00	101.68	95.93	8.55	5,543.38	515.73	3,845.24	3,773.02	72.22	53.243		
17,900.00	12,276.00	14,040.12	8,474.00	103.18	97.50	8.55	5,643.37	514.73	3,845.24	3,771.98	73.26	52.491		
18,000.00	12,276.00	14,140.12	8,474.00	104.68	99.07	8.55	5,743.37	513.73	3,845.24	3,770.94	74.29	51.757		
18,100.00	12,276.00	14,240.12	8,474.00	106.19	100.64	8.55	5,843.36	512.72	3,845.23	3,769.90	75.34	51.041		
18,200.00	12,276.00	14,340.12	8,474.00	107.71	102.21	8.55	5,943.36	511.72	3,845.23	3,768.85	76.38	50.343		
18,300.00	12,276.00	14,440.12	8,474.00	109.22	103.79	8.55	6,043.35	510.72	3,845.23	3,767.80	77.43	49.661		
18,400.00	12,276.00	14,540.12	8,474.00	110.74	105.37	8.55	6,143.35	509.71	3,845.23	3,766.75	78.48	48.996		
18,500.00	12,276.00	14,640.12	8,474.00	112.27	106.95	8.55	6,243.34	508.71	3,845.23	3,765.69	79.53	48.347		
18,600.00	12,276.00	14,740.12	8,474.00	113.79	108.54	8.55	6,343.34	507.71	3,845.22	3,764.63	80.59	47.713		
18,700.00	12,276.00	14,840.12	8,474.00	115.33	110.12	8.55	6,443.33	506.70	3,845.22	3,763.57	81.65	47.094		
18,800.00	12,276.00	14,940.12	8,474.00	116.86	111.71	8.55	6,543.32	505.70	3,845.22	3,762.51	82.71	46.490		
18,900.00	12,276.00	15,040.12	8,474.00	118.40	113.30	8.55	6,643.32	504.70	3,845.22	3,761.44	83.77	45.899		
19,000.00	12,276.00	15,140.12	8,474.00	119.94	114.89	8.55	6,743.31	503.70	3,845.22	3,760.37	84.84	45.323		
19,100.00	12,276.00	15,240.12	8,474.00	121.48	116.49	8.55	6,843.31	502.69	3,845.21	3,759.30	85.91	44.759		
19,200.00	12,276.00	15,340.12	8,474.00	123.03	118.08	8.55	6,943.30	501.69	3,845.21	3,758.23	86.98	44.209		
19,300.00	12,276.00	15,440.12	8,474.00	124.58	119.68	8.55	7,043.30	500.69	3,845.21	3,757.16	88.05	43.670		
19,400.00	12,276.00	15,540.12	8,474.00	126.13	121.28	8.55	7,143.29	499.68	3,845.21	3,756.08	89.12	43.145		
19,500.00	12,276.00	15,640.12	8,474.00	127.68	122.87	8.55	7,243.29	498.68	3,845.21	3,755.01	90.20	42.631		
19,600.00	12,276.00	15,740.12	8,474.00	129.24	124.48	8.55	7,343.28	497.68	3,845.20	3,753.93	91.27	42.129		
19,700.00	12,276.00	15,840.12	8,474.00	130.80	126.08	8.55	7,443.28	496.67	3,845.20	3,752.85	92.35	41.637		
19,800.00	12,276.00	15,940.12	8,474.00	132.36	127.68	8.55	7,543.27	495.67	3,845.20	3,751.77	93.43	41.156		
19,900.00	12,276.00	16,040.12	8,474.00	133.93	129.29	8.55	7,643.27	494.67	3,845.20	3,750.69	94.51	40.685		
20,000.00	12,276.00	16,140.12	8,474.00	135.49	130.89	8.55	7,743.26	493.66	3,845.20	3,749.60	95.59	40.225		
20,100.00	12,276.00	16,240.12	8,474.00	137.06	132.50	8.55	7,843.26	492.66	3,845.19	3,748.52	96.68	39.774		
20,200.00	12,276.00	16,340.12	8,474.00	138.63	134.11	8.55	7,943.25	491.66	3,845.19	3,747.43	97.76	39.332		
20,300.00	12,276.00	16,440.12	8,474.00	140.20	135.72	8.55	8,043.25	490.65	3,845.19	3,746.34	98.85	38.900		
20,400.00	12,276.00	16,540.12	8,474.00	141.77	137.33	8.55	8,143.24	489.65	3,845.19	3,745.25	99.94	38.477		
20,500.00	12,276.00	16,640.12	8,474.00	143.35	138.94	8.55	8,243.24	488.65	3,845.18	3,744.16	101.03	38.062		
20,600.00	12,276.00	16,740.12	8,474.00	144.93	140.55	8.54	8,343.23	487.65	3,845.18	3,743.07	102.12	37.655		
20,700.00	12,276.00	16,840.12	8,474.00	146.50	142.16	8.54	8,443.23	486.64	3,845.18	3,741.97	103.21	37.257		
20,800.00	12,276.00	16,940.12	8,474.00	148.08	143.78	8.54	8,543.22	485.64	3,845.18	3,740.88	104.30	36.867		
20,900.00	12,276.00	17,040.12	8,474.00	149.67	145.39	8.54	8,643.22	484.64	3,845.18	3,739.78	105.39	36.484		
21,000.00	12,276.00	17,140.12	8,474.00	151.25	147.01	8.54	8,743.21	483.63	3,845.17	3,738.69	106.49	36.109		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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
FMM Fed Com - FMM Fed Com 102H - OH - Plan #1												Offset Well Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													
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
21,100.00	12,276.00	17,240.12	8,474.00	152.83	148.62	8.54	8,843.21	482.63	3,845.17	3,737.59	107.58	35.741	
21,200.00	12,276.00	17,340.12	8,474.00	154.42	150.24	8.54	8,943.20	481.63	3,845.17	3,736.49	108.68	35.381	
21,300.00	12,276.00	17,440.12	8,474.00	156.01	151.86	8.54	9,043.20	480.62	3,845.17	3,735.39	109.78	35.027	
21,400.00	12,276.00	17,540.12	8,474.00	157.60	153.48	8.54	9,143.19	479.62	3,845.17	3,734.29	110.87	34.680	
21,500.00	12,276.00	17,640.12	8,474.00	159.19	155.10	8.54	9,243.19	478.62	3,845.16	3,733.19	111.97	34.340	
21,600.00	12,276.00	17,740.12	8,474.00	160.78	156.72	8.54	9,343.18	477.61	3,845.16	3,732.09	113.07	34.006	
21,700.00	12,276.00	17,840.12	8,474.00	162.37	158.34	8.54	9,443.18	476.61	3,845.16	3,730.99	114.17	33.678	
21,800.00	12,276.00	17,940.12	8,474.00	163.96	159.96	8.54	9,543.17	475.61	3,845.16	3,729.88	115.27	33.356	
21,900.00	12,276.00	18,040.12	8,474.00	165.56	161.58	8.54	9,643.17	474.60	3,845.16	3,728.78	116.38	33.040	
22,000.00	12,276.00	18,140.12	8,474.00	167.16	163.20	8.54	9,743.16	473.60	3,845.15	3,727.67	117.48	32.730	
22,100.00	12,276.00	18,240.12	8,474.00	168.75	164.83	8.54	9,843.16	472.60	3,845.15	3,726.57	118.58	32.426	
22,200.00	12,276.00	18,340.12	8,474.00	170.35	166.45	8.54	9,943.15	471.60	3,845.15	3,725.46	119.69	32.126	
22,300.00	12,276.00	18,440.12	8,474.00	171.95	168.08	8.54	10,043.15	470.59	3,845.15	3,724.35	120.79	31.832	
22,400.00	12,276.00	18,540.12	8,474.00	173.55	169.70	8.54	10,143.14	469.59	3,845.15	3,723.25	121.90	31.543	
22,408.33	12,276.00	18,548.37	8,474.00	173.68	169.83	8.54	10,151.40	469.51	3,845.15	3,723.15	121.99	31.520	
22,410.08	12,276.00	18,548.37	8,474.00	173.71	169.83	8.54	10,151.40	469.51	3,845.15	3,723.14	122.00	31.516	

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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				
1,843.00	1,843.00	1,842.40	1,842.40	6.37	6.37	-10.15	74.82	-13.39	76.01	67.00	9.01	8.434				
1,900.00	1,900.00	1,899.40	1,899.40	6.58	6.58	-10.15	74.82	-13.39	76.01	66.71	9.30	8.172				
2,000.00	2,000.00	1,999.40	1,999.40	6.94	6.93	-10.15	74.82	-13.39	76.01	66.20	9.81	7.750				
2,100.00	2,100.00	2,099.46	2,099.45	7.29	7.28	-11.12	74.54	-14.65	75.97	65.66	10.31	7.370				
2,156.63	2,156.63	2,156.07	2,156.03	7.50	7.47	-12.55	74.13	-16.50	75.95	65.36	10.59	7.174 CC				
2,200.00	2,200.00	2,199.39	2,199.29	7.65	7.62	-14.07	73.69	-18.47	75.97	65.17	10.80	7.034 ES				
2,300.00	2,299.99	2,299.05	2,298.74	7.99	7.96	161.62	72.28	-24.81	77.67	66.38	11.28	6.884 SF				
2,400.00	2,399.91	2,398.31	2,397.59	8.32	8.31	156.19	70.32	-33.64	82.73	70.98	11.75	7.039				
2,500.00	2,499.69	2,497.01	2,495.61	8.65	8.65	150.64	67.81	-44.91	91.47	79.25	12.22	7.483				
2,600.00	2,599.27	2,595.01	2,592.61	8.97	9.01	145.54	64.78	-58.53	104.01	91.32	12.69	8.195				
2,652.97	2,651.91	2,646.58	2,643.50	9.15	9.20	143.13	62.96	-66.68	112.18	99.24	12.94	8.670				
2,700.00	2,698.61	2,692.18	2,688.40	9.31	9.37	141.18	61.24	-74.44	120.09	106.93	13.16	9.127				
2,800.00	2,797.91	2,789.06	2,783.48	9.65	9.73	137.15	57.20	-92.56	138.14	124.51	13.63	10.139				
2,900.00	2,897.20	2,886.89	2,879.38	10.00	10.12	133.83	53.00	-111.45	157.06	142.95	14.11	11.131				
3,000.00	2,996.50	2,984.72	2,975.27	10.35	10.51	131.22	48.79	-130.35	176.38	161.78	14.60	12.078				
3,100.00	3,095.80	3,082.56	3,071.17	10.70	10.90	129.13	44.58	-149.24	195.98	180.88	15.10	12.977				
3,200.00	3,195.10	3,180.39	3,167.07	11.06	11.30	127.42	40.38	-168.14	215.79	200.19	15.61	13.827				
3,300.00	3,294.39	3,278.22	3,262.97	11.42	11.71	126.00	36.17	-187.04	235.76	219.64	16.12	14.629				
3,400.00	3,393.69	3,376.05	3,358.87	11.79	12.12	124.80	31.97	-205.93	255.84	239.21	16.63	15.384				
3,500.00	3,492.99	3,473.89	3,454.77	12.16	12.54	123.77	27.76	-224.83	276.01	258.87	17.15	16.096				
3,600.00	3,592.29	3,571.72	3,550.67	12.53	12.96	122.89	23.56	-243.72	296.26	278.59	17.67	16.766				
3,700.00	3,691.59	3,669.55	3,646.56	12.90	13.38	122.12	19.35	-262.62	316.57	298.38	18.19	17.399				
3,800.00	3,790.88	3,767.38	3,742.46	13.27	13.81	121.44	15.14	-281.51	336.93	318.20	18.72	17.996				
3,900.00	3,890.18	3,865.22	3,838.36	13.65	14.24	120.83	10.94	-300.41	357.32	338.07	19.25	18.559				
4,000.00	3,989.48	3,963.05	3,934.26	14.03	14.67	120.30	6.73	-319.30	377.75	357.97	19.79	19.092				
4,059.03	4,048.09	4,020.80	3,990.87	14.25	14.93	120.01	4.25	-330.46	389.83	369.72	20.10	19.393				
4,100.00	4,088.80	4,060.90	4,030.17	14.41	15.10	119.90	2.53	-338.20	398.10	377.78	20.32	19.592				
4,200.00	4,188.35	4,158.88	4,126.22	14.78	15.54	119.43	-1.69	-357.12	417.44	396.60	20.85	20.022				
4,300.00	4,288.11	4,256.95	4,222.35	15.15	15.98	118.71	-5.90	-376.07	435.61	414.24	21.37	20.383				
4,400.00	4,388.02	4,355.07	4,318.53	15.50	16.42	117.76	-10.12	-395.01	452.69	430.81	21.89	20.685				
4,500.00	4,488.00	4,453.14	4,414.66	15.85	16.87	116.60	-14.34	-413.96	468.80	446.41	22.39	20.938				
4,512.00	4,500.00	4,464.90	4,426.19	15.89	16.92	-63.82	-14.84	-416.23	470.67	448.22	22.45	20.965				
4,600.00	4,588.00	4,551.16	4,510.75	16.19	17.31	-65.10	-18.55	-432.89	484.48	461.59	22.89	21.168				
4,700.00	4,688.00	4,649.19	4,606.83	16.53	17.76	-66.46	-22.76	-451.82	500.44	477.06	23.38	21.401				
4,800.00	4,788.00	4,747.21	4,702.92	16.87	18.21	-67.75	-26.98	-470.75	516.67	492.79	23.88	21.635				
4,900.00	4,888.00	4,845.23	4,799.00	17.21	18.66	-68.95	-31.19	-489.68	533.14	508.76	24.38	21.870				
5,000.00	4,988.00	4,943.26	4,895.09	17.55	19.11	-70.09	-35.41	-508.62	549.82	524.95	24.87	22.104				
5,100.00	5,088.00	5,041.28	4,991.17	17.89	19.56	-71.16	-39.62	-527.55	566.71	541.34	25.37	22.336				
5,200.00	5,188.00	5,139.30	5,087.26	18.24	20.01	-72.16	-43.83	-546.48	583.78	557.91	25.87	22.567				
5,300.00	5,288.00	5,237.33	5,183.34	18.58	20.46	-73.11	-48.05	-565.41	601.01	574.65	26.37	22.794				
5,400.00	5,388.00	5,335.35	5,279.43	18.92	20.92	-74.01	-52.26	-584.34	618.40	591.54	26.86	23.019				
5,500.00	5,488.00	5,433.37	5,375.51	19.27	21.37	-74.86	-56.48	-603.28	635.93	608.57	27.36	23.240				
5,600.00	5,588.00	5,531.39	5,471.60	19.61	21.83	-75.66	-60.69	-622.21	653.59	625.73	27.86	23.458				
5,700.00	5,688.00	5,629.42	5,567.68	19.96	22.29	-76.42	-64.91	-641.14	671.36	643.00	28.36	23.672				
5,800.00	5,788.00	5,727.44	5,663.77	20.31	22.74	-77.14	-69.12	-660.07	689.25	660.39	28.86	23.882				
5,900.00	5,888.00	5,825.46	5,759.85	20.65	23.20	-77.83	-73.33	-679.00	707.24	677.88	29.36	24.088				
6,000.00	5,988.00	5,923.49	5,855.94	21.00	23.66	-78.48	-77.55	-697.93	725.32	695.46	29.86	24.289				
6,100.00	6,088.00	6,021.51	5,952.02	21.35	24.12	-79.10	-81.76	-716.87	743.49	713.12	30.36	24.487				
6,200.00	6,188.00	6,119.53	6,048.11	21.69	24.58	-79.69	-85.98	-735.80	761.73	730.87	30.86	24.680				
6,300.00	6,288.00	6,217.55	6,144.19	22.04	25.04	-80.25	-90.19	-754.73	780.06	748.69	31.37	24.870				
6,400.00	6,388.00	6,315.58	6,240.28	22.39	25.50	-80.79	-94.40	-773.66	798.45	766.58	31.87	25.055				
6,500.00	6,488.00	6,413.60	6,336.36	22.74	25.96	-81.30	-98.62	-792.59	816.91	784.54	32.37	25.236				

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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				
6,600.00	6,588.00	6,511.62	6,432.45	23.09	26.42	-81.79	-102.83	-811.53	835.43	802.55	32.87	25.413				
6,700.00	6,688.00	6,609.65	6,528.53	23.44	26.88	-82.26	-107.05	-830.46	854.00	820.63	33.38	25.587				
6,800.00	6,788.00	6,707.67	6,624.62	23.79	27.35	-82.71	-111.26	-849.39	872.63	838.75	33.88	25.756				
6,900.00	6,888.00	6,830.05	6,744.88	24.14	27.91	-83.21	-116.18	-871.49	890.13	855.59	34.54	25.773				
7,000.00	6,988.00	6,957.12	6,870.45	24.49	28.46	-83.63	-120.40	-890.47	904.61	869.42	35.19	25.706				
7,100.00	7,088.00	7,085.36	6,997.76	24.84	28.98	-83.94	-123.74	-905.48	915.97	880.15	35.82	25.574				
7,200.00	7,188.00	7,214.50	7,126.41	25.19	29.47	-84.16	-126.17	-916.37	924.17	887.76	36.41	25.384				
7,300.00	7,288.00	7,344.26	7,255.98	25.54	29.92	-84.29	-127.65	-923.02	929.16	892.20	36.96	25.137				
7,400.00	7,388.00	7,474.33	7,386.02	25.89	30.33	-84.34	-128.17	-925.38	930.93	893.44	37.48	24.837				
7,500.00	7,488.00	7,575.71	7,487.40	26.24	30.64	-84.34	-128.18	-925.39	930.93	892.97	37.96	24.523				
7,600.00	7,588.00	7,675.71	7,587.40	26.59	30.94	-84.34	-128.18	-925.39	930.93	892.49	38.44	24.217				
7,700.00	7,688.00	7,775.71	7,687.40	26.94	31.24	-84.34	-128.18	-925.39	930.93	892.01	38.92	23.917				
7,800.00	7,788.00	7,875.71	7,787.40	27.29	31.54	-84.34	-128.18	-925.39	930.93	891.52	39.40	23.625				
7,900.00	7,888.00	7,975.71	7,887.40	27.65	31.85	-84.34	-128.18	-925.39	930.93	891.04	39.89	23.339				
8,000.00	7,988.00	8,075.71	7,987.40	28.00	32.15	-84.34	-128.18	-925.39	930.93	890.56	40.37	23.060				
8,100.00	8,088.00	8,175.71	8,087.40	28.35	32.46	-84.34	-128.18	-925.39	930.93	890.08	40.85	22.787				
8,200.00	8,188.00	8,275.71	8,187.40	28.70	32.77	-84.34	-128.18	-925.39	930.93	889.59	41.34	22.521				
8,300.00	8,288.00	8,375.71	8,287.40	29.05	33.08	-84.34	-128.18	-925.39	930.93	889.11	41.82	22.260				
8,400.00	8,388.00	8,475.71	8,387.40	29.41	33.39	-84.34	-128.18	-925.39	930.93	888.62	42.31	22.004				
8,500.00	8,488.00	8,575.71	8,487.40	29.76	33.70	-84.34	-128.18	-925.39	930.93	888.14	42.79	21.755				
8,600.00	8,588.00	8,675.71	8,587.40	30.11	34.01	-84.34	-128.18	-925.39	930.93	887.65	43.28	21.510				
8,700.00	8,688.00	8,775.71	8,687.40	30.47	34.32	-84.34	-128.18	-925.39	930.93	887.16	43.76	21.271				
8,800.00	8,788.00	8,875.71	8,787.40	30.82	34.63	-84.34	-128.18	-925.39	930.93	886.68	44.25	21.037				
8,900.00	8,888.00	8,975.71	8,887.40	31.17	34.95	-84.34	-128.18	-925.39	930.93	886.19	44.74	20.808				
9,000.00	8,988.00	9,075.71	8,987.40	31.53	35.26	-84.34	-128.18	-925.39	930.93	885.70	45.23	20.584				
9,100.00	9,088.00	9,175.71	9,087.40	31.88	35.58	-84.34	-128.18	-925.39	930.93	885.21	45.72	20.364				
9,200.00	9,188.00	9,275.71	9,187.40	32.23	35.90	-84.34	-128.18	-925.39	930.93	884.72	46.20	20.148				
9,300.00	9,288.00	9,375.71	9,287.40	32.59	36.21	-84.34	-128.18	-925.39	930.93	884.24	46.69	19.937				
9,400.00	9,388.00	9,475.71	9,387.40	32.94	36.53	-84.34	-128.18	-925.39	930.93	883.75	47.18	19.730				
9,500.00	9,488.00	9,575.71	9,487.40	33.29	36.85	-84.34	-128.18	-925.39	930.93	883.26	47.67	19.528				
9,600.00	9,588.00	9,662.20	9,573.69	33.65	37.12	-84.05	-123.42	-925.44	931.56	883.40	48.15	19.346				
9,700.00	9,688.00	9,743.70	9,653.50	34.00	37.36	-83.06	-107.24	-925.60	934.05	885.43	48.62	19.213				
9,800.00	9,788.00	9,819.26	9,724.76	34.36	37.55	-81.55	-82.27	-925.85	939.11	890.08	49.04	19.150				
9,900.00	9,888.00	9,887.22	9,785.54	34.71	37.71	-79.73	-51.98	-926.15	947.74	898.35	49.38	19.191				
10,000.00	9,988.00	9,950.00	9,838.15	35.07	37.83	-77.70	-17.78	-926.49	960.94	911.31	49.62	19.365				
10,100.00	10,088.00	10,000.00	9,877.18	35.42	37.92	-75.88	13.45	-926.80	979.54	929.87	49.67	19.722				
10,200.00	10,188.00	10,050.00	9,913.34	35.77	37.99	-73.90	47.95	-927.14	1,004.17	954.59	49.58	20.256				
10,300.00	10,288.00	10,082.71	9,935.31	36.13	38.03	-72.53	72.18	-927.38	1,035.00	985.80	49.20	21.036				
10,400.00	10,388.00	10,116.17	9,956.31	36.48	38.07	-71.08	98.22	-927.64	1,072.14	1,023.43	48.71	22.011				
10,500.00	10,488.00	10,150.00	9,975.97	36.84	38.11	-69.58	125.75	-927.91	1,115.34	1,067.21	48.13	23.172				
10,600.00	10,588.00	10,170.43	9,987.03	37.19	38.12	-68.66	142.91	-928.08	1,164.19	1,116.83	47.36	24.579				
10,700.00	10,688.00	10,200.00	10,001.96	37.55	38.15	-67.32	168.44	-928.34	1,218.35	1,171.68	46.67	26.104				
10,800.00	10,788.00	10,200.00	10,001.96	37.90	38.15	-67.32	168.44	-928.34	1,277.29	1,231.61	45.68	27.962				
10,900.00	10,888.00	10,229.24	10,015.40	38.26	38.17	-65.97	194.40	-928.60	1,340.25	1,295.22	45.03	29.766				
11,000.00	10,988.00	10,250.00	10,024.13	38.61	38.19	-65.02	213.23	-928.78	1,407.15	1,362.82	44.33	31.742				
11,100.00	11,088.00	10,250.00	10,024.13	38.97	38.19	-65.02	213.23	-928.78	1,477.41	1,433.91	43.49	33.969				
11,200.00	11,188.00	10,270.61	10,032.12	39.32	38.21	-64.07	232.23	-928.97	1,550.50	1,507.57	42.93	36.120				
11,300.00	11,288.00	10,281.74	10,036.15	39.68	38.22	-63.55	242.61	-929.07	1,626.25	1,583.91	42.34	38.413				
11,400.00	11,388.00	10,300.00	10,042.32	40.03	38.23	-62.72	259.79	-929.25	1,704.35	1,662.48	41.87	40.701				
11,500.00	11,488.00	10,300.00	10,042.32	40.39	38.23	-62.72	259.79	-929.25	1,784.33	1,743.00	41.33	43.174				
11,600.00	11,588.00	10,300.00	10,042.32	40.74	38.23	-62.72	259.79	-929.25	1,866.24	1,825.38	40.86	45.679				
11,700.00	11,688.00	10,300.00	10,042.32	41.10	38.23	-62.72	259.79	-929.25	1,949.84	1,909.39	40.45	48.203				

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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		
11,715.04	11,703.04	10,300.00	10,042.32	41.15	38.23	-62.72	259.79	-929.25	1,962.54	1,922.14	40.40	48.584		
11,750.00	11,737.98	10,320.95	10,048.72	41.28	38.25	-56.61	279.74	-929.44	1,991.47	1,951.05	40.42	49.269		
11,800.00	11,787.69	10,325.60	10,050.04	41.45	38.25	-50.67	284.19	-929.49	2,032.48	1,992.21	40.26	50.481		
11,850.00	11,836.76	10,350.00	10,056.38	41.61	38.28	-45.10	307.75	-929.72	2,072.60	2,032.36	40.23	51.515		
11,900.00	11,884.81	10,350.00	10,056.38	41.77	38.28	-41.10	307.75	-929.72	2,110.65	2,070.61	40.03	52.724		
11,950.00	11,931.47	10,350.00	10,056.38	41.92	38.28	-37.73	307.75	-929.72	2,147.03	2,107.20	39.83	53.901		
12,000.00	11,976.40	10,350.00	10,056.38	42.06	38.28	-34.90	307.75	-929.72	2,181.57	2,141.93	39.64	55.037		
12,050.00	12,019.25	10,350.00	10,056.38	42.19	38.28	-32.52	307.75	-929.72	2,214.08	2,174.63	39.45	56.125		
12,100.00	12,059.69	10,350.00	10,056.38	42.32	38.28	-30.53	307.75	-929.72	2,244.41	2,205.14	39.27	57.154		
12,150.00	12,097.41	10,375.82	10,061.98	42.45	38.30	-28.64	332.95	-929.97	2,271.75	2,232.52	39.24	57.900		
12,200.00	12,132.14	10,400.00	10,066.20	42.57	38.33	-27.12	356.76	-930.21	2,297.01	2,257.82	39.19	58.609		
12,250.00	12,163.59	10,400.00	10,066.20	42.69	38.33	-26.02	356.76	-930.21	2,319.10	2,280.06	39.04	59.404		
12,300.00	12,191.55	10,400.00	10,066.20	42.81	38.33	-25.11	356.76	-930.21	2,338.51	2,299.60	38.91	60.107		
12,350.00	12,215.78	10,400.00	10,066.20	42.92	38.33	-24.37	356.76	-930.21	2,355.16	2,316.37	38.79	60.710		
12,400.00	12,236.12	10,423.47	10,069.33	43.04	38.36	-23.73	380.02	-930.44	2,368.44	2,329.65	38.79	61.058		
12,450.00	12,252.39	10,450.00	10,071.72	43.15	38.40	-23.25	406.44	-930.70	2,379.08	2,340.28	38.81	61.306		
12,500.00	12,264.49	10,450.00	10,071.72	43.27	38.40	-22.97	406.44	-930.70	2,386.09	2,347.33	38.76	61.563		
12,550.00	12,272.31	10,450.00	10,071.72	43.39	38.40	-22.81	406.44	-930.70	2,390.13	2,351.39	38.74	61.693		
12,600.00	12,275.80	10,450.00	10,071.72	43.51	38.40	-22.77	406.44	-930.70	2,391.21	2,352.45	38.76	61.694		
12,615.04	12,276.00	10,467.50	10,072.62	43.55	38.42	-22.79	423.91	-930.88	2,390.64	2,351.83	38.81	61.604		
12,700.00	12,276.00	10,488.35	10,073.00	43.78	38.46	-22.79	444.75	-931.08	2,389.00	2,350.06	38.94	61.349		
12,716.02	12,276.00	10,488.35	10,073.00	43.83	38.46	-22.79	444.75	-931.08	2,388.94	2,349.97	38.97	61.304		
12,800.00	12,276.00	10,572.28	10,073.00	44.10	38.63	-22.79	528.69	-931.92	2,388.94	2,349.71	39.24	60.883		
12,900.00	12,276.00	10,672.28	10,073.00	44.49	38.92	-22.79	628.68	-932.91	2,388.95	2,349.35	39.60	60.328		
13,000.00	12,276.00	10,772.28	10,073.00	44.93	39.29	-22.79	728.68	-933.91	2,388.95	2,348.95	40.00	59.720		
13,100.00	12,276.00	10,872.28	10,073.00	45.43	39.75	-22.79	828.67	-934.90	2,388.95	2,348.50	40.45	59.063		
13,200.00	12,276.00	10,972.28	10,073.00	45.98	40.28	-22.79	928.67	-935.89	2,388.95	2,348.02	40.93	58.364		
13,300.00	12,276.00	11,072.28	10,073.00	46.59	40.89	-22.79	1,028.66	-936.89	2,388.95	2,347.50	41.46	57.627		
13,400.00	12,276.00	11,172.28	10,073.00	47.24	41.55	-22.79	1,128.66	-937.88	2,388.96	2,346.94	42.02	56.858		
13,500.00	12,276.00	11,272.28	10,073.00	47.94	42.28	-22.79	1,228.65	-938.88	2,388.96	2,346.34	42.61	56.063		
13,600.00	12,276.00	11,372.28	10,073.00	48.69	43.06	-22.79	1,328.65	-939.87	2,388.96	2,345.72	43.24	55.245		
13,700.00	12,276.00	11,472.28	10,073.00	49.48	43.90	-22.79	1,428.64	-940.86	2,388.96	2,345.05	43.91	54.411		
13,800.00	12,276.00	11,572.28	10,073.00	50.32	44.78	-22.79	1,528.64	-941.86	2,388.96	2,344.36	44.60	53.563		
13,900.00	12,276.00	11,672.28	10,073.00	51.19	45.70	-22.79	1,628.63	-942.85	2,388.96	2,343.64	45.32	52.708		
14,000.00	12,276.00	11,772.28	10,073.00	52.10	46.67	-22.79	1,728.63	-943.85	2,388.97	2,342.89	46.08	51.848		
14,100.00	12,276.00	11,872.28	10,073.00	53.05	47.67	-22.79	1,828.62	-944.84	2,388.97	2,342.11	46.86	50.986		
14,200.00	12,276.00	11,972.28	10,073.00	54.03	48.71	-22.79	1,928.62	-945.83	2,388.97	2,341.31	47.66	50.125		
14,300.00	12,276.00	12,072.28	10,073.00	55.04	49.78	-22.79	2,028.61	-946.83	2,388.97	2,340.48	48.49	49.268		
14,400.00	12,276.00	12,172.28	10,073.00	56.09	50.88	-22.79	2,128.61	-947.82	2,388.97	2,339.63	49.34	48.419		
14,500.00	12,276.00	12,272.28	10,073.00	57.16	52.01	-22.79	2,228.60	-948.82	2,388.98	2,338.76	50.21	47.578		
14,600.00	12,276.00	12,372.28	10,073.00	58.26	53.17	-22.79	2,328.60	-949.81	2,388.98	2,337.87	51.11	46.744		
14,700.00	12,276.00	12,472.28	10,073.00	59.38	54.36	-22.79	2,428.59	-950.80	2,388.98	2,336.96	52.02	45.922		
14,800.00	12,276.00	12,572.28	10,073.00	60.53	55.57	-22.79	2,528.59	-951.80	2,388.98	2,336.03	52.95	45.115		
14,900.00	12,276.00	12,672.28	10,073.00	61.71	56.80	-22.79	2,628.58	-952.79	2,388.98	2,335.08	53.90	44.321		
15,000.00	12,276.00	12,772.28	10,073.00	62.90	58.05	-22.79	2,728.58	-953.79	2,388.98	2,334.12	54.87	43.541		
15,100.00	12,276.00	12,872.28	10,073.00	64.11	59.32	-22.79	2,828.57	-954.78	2,388.99	2,333.14	55.85	42.776		
15,200.00	12,276.00	12,972.28	10,073.00	65.35	60.61	-22.80	2,928.57	-955.77	2,388.99	2,332.14	56.85	42.026		
15,300.00	12,276.00	13,072.28	10,073.00	66.60	61.92	-22.80	3,028.56	-956.77	2,388.99	2,331.13	57.86	41.292		
15,400.00	12,276.00	13,172.28	10,073.00	67.87	63.24	-22.80	3,128.56	-957.76	2,388.99	2,330.11	58.88	40.573		
15,500.00	12,276.00	13,272.28	10,073.00	69.15	64.58	-22.80	3,228.55	-958.76	2,388.99	2,329.08	59.92	39.871		
15,600.00	12,276.00	13,372.28	10,073.00	70.45	65.93	-22.80	3,328.55	-959.75	2,389.00	2,328.03	60.97	39.184		
15,700.00	12,276.00	13,472.28	10,073.00	71.77	67.30	-22.80	3,428.54	-960.75	2,389.00	2,326.97	62.03	38.515		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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		
15,800.00	12,276.00	13,572.28	10,073.00	73.10	68.68	-22.80	3,528.54	-961.74	2,389.00	2,325.90	63.10	37.862		
15,900.00	12,276.00	13,672.28	10,073.00	74.44	70.07	-22.80	3,628.53	-962.73	2,389.00	2,324.82	64.18	37.226		
16,000.00	12,276.00	13,772.28	10,073.00	75.79	71.47	-22.80	3,728.53	-963.73	2,389.00	2,323.74	65.27	36.605		
16,100.00	12,276.00	13,872.28	10,073.00	77.16	72.88	-22.80	3,828.52	-964.72	2,389.00	2,322.64	66.36	35.999		
16,200.00	12,276.00	13,972.28	10,073.00	78.53	74.30	-22.80	3,928.52	-965.72	2,389.01	2,321.54	67.47	35.408		
16,300.00	12,276.00	14,072.28	10,073.00	79.92	75.73	-22.80	4,028.51	-966.71	2,389.01	2,320.42	68.59	34.832		
16,400.00	12,276.00	14,172.28	10,073.00	81.32	77.17	-22.80	4,128.51	-967.70	2,389.01	2,319.30	69.71	34.271		
16,500.00	12,276.00	14,272.28	10,073.00	82.72	78.62	-22.80	4,228.50	-968.70	2,389.01	2,318.17	70.84	33.723		
16,600.00	12,276.00	14,372.28	10,073.00	84.14	80.08	-22.80	4,328.50	-969.69	2,389.01	2,317.03	71.98	33.190		
16,700.00	12,276.00	14,472.28	10,073.00	85.56	81.54	-22.80	4,428.49	-970.69	2,389.02	2,315.89	73.13	32.670		
16,800.00	12,276.00	14,572.28	10,073.00	86.99	83.01	-22.80	4,528.49	-971.68	2,389.02	2,314.74	74.28	32.163		
16,900.00	12,276.00	14,672.28	10,073.00	88.43	84.49	-22.80	4,628.48	-972.67	2,389.02	2,313.59	75.43	31.671		
17,000.00	12,276.00	14,772.28	10,073.00	89.88	85.97	-22.80	4,728.48	-973.67	2,389.02	2,312.43	76.59	31.191		
17,100.00	12,276.00	14,872.28	10,073.00	91.34	87.46	-22.80	4,828.47	-974.66	2,389.02	2,311.26	77.76	30.723		
17,200.00	12,276.00	14,972.28	10,073.00	92.80	88.96	-22.80	4,928.47	-975.66	2,389.03	2,310.09	78.93	30.267		
17,300.00	12,276.00	15,072.28	10,073.00	94.26	90.46	-22.80	5,028.46	-976.65	2,389.03	2,308.92	80.11	29.822		
17,400.00	12,276.00	15,172.28	10,073.00	95.74	91.96	-22.80	5,128.46	-977.64	2,389.03	2,307.74	81.29	29.388		
17,500.00	12,276.00	15,272.28	10,073.00	97.21	93.47	-22.80	5,228.45	-978.64	2,389.03	2,306.55	82.48	28.965		
17,600.00	12,276.00	15,372.28	10,073.00	98.70	94.99	-22.80	5,328.45	-979.63	2,389.03	2,305.36	83.67	28.552		
17,700.00	12,276.00	15,472.28	10,073.00	100.19	96.51	-22.80	5,428.44	-980.63	2,389.03	2,304.17	84.87	28.150		
17,800.00	12,276.00	15,572.28	10,073.00	101.68	98.03	-22.80	5,528.44	-981.62	2,389.04	2,302.97	86.07	27.757		
17,900.00	12,276.00	15,672.28	10,073.00	103.18	99.56	-22.80	5,628.43	-982.61	2,389.04	2,301.77	87.27	27.375		
18,000.00	12,276.00	15,772.28	10,073.00	104.68	101.09	-22.80	5,728.43	-983.61	2,389.04	2,300.56	88.48	27.002		
18,100.00	12,276.00	15,872.28	10,073.00	106.19	102.63	-22.80	5,828.42	-984.60	2,389.04	2,299.36	89.68	26.639		
18,200.00	12,276.00	15,972.28	10,073.00	107.71	104.17	-22.80	5,928.42	-985.60	2,389.04	2,298.15	90.90	26.283		
18,300.00	12,276.00	16,072.28	10,073.00	109.22	105.71	-22.80	6,028.41	-986.59	2,389.05	2,296.93	92.11	25.937		
18,400.00	12,276.00	16,172.28	10,073.00	110.74	107.26	-22.80	6,128.41	-987.58	2,389.05	2,295.72	93.33	25.598		
18,500.00	12,276.00	16,272.28	10,073.00	112.27	108.81	-22.80	6,228.40	-988.58	2,389.05	2,294.50	94.55	25.267		
18,600.00	12,276.00	16,372.28	10,073.00	113.79	110.36	-22.80	6,328.40	-989.57	2,389.05	2,293.28	95.78	24.944		
18,700.00	12,276.00	16,472.28	10,073.00	115.33	111.92	-22.80	6,428.39	-990.57	2,389.05	2,292.05	97.00	24.629		
18,800.00	12,276.00	16,572.28	10,073.00	116.86	113.47	-22.80	6,528.39	-991.56	2,389.05	2,290.82	98.23	24.320		
18,900.00	12,276.00	16,672.28	10,073.00	118.40	115.03	-22.80	6,628.38	-992.55	2,389.06	2,289.59	99.46	24.019		
19,000.00	12,276.00	16,772.28	10,073.00	119.94	116.60	-22.80	6,728.38	-993.55	2,389.06	2,288.36	100.70	23.725		
19,100.00	12,276.00	16,872.28	10,073.00	121.48	118.16	-22.80	6,828.37	-994.54	2,389.06	2,287.13	101.93	23.438		
19,200.00	12,276.00	16,972.28	10,073.00	123.03	119.73	-22.80	6,928.37	-995.54	2,389.06	2,285.89	103.17	23.157		
19,300.00	12,276.00	17,072.28	10,073.00	124.58	121.30	-22.80	7,028.36	-996.53	2,389.06	2,284.66	104.41	22.882		
19,400.00	12,276.00	17,172.28	10,073.00	126.13	122.87	-22.80	7,128.36	-997.52	2,389.07	2,283.42	105.65	22.614		
19,500.00	12,276.00	17,272.28	10,073.00	127.68	124.45	-22.80	7,228.35	-998.52	2,389.07	2,282.18	106.89	22.351		
19,600.00	12,276.00	17,372.28	10,073.00	129.24	126.02	-22.80	7,328.35	-999.51	2,389.07	2,280.93	108.14	22.093		
19,700.00	12,276.00	17,472.28	10,073.00	130.80	127.60	-22.80	7,428.34	-1,000.51	2,389.07	2,279.69	109.38	21.841		
19,800.00	12,276.00	17,572.28	10,073.00	132.36	129.18	-22.80	7,528.34	-1,001.50	2,389.07	2,278.44	110.63	21.595		
19,900.00	12,276.00	17,672.28	10,073.00	133.93	130.76	-22.80	7,628.33	-1,002.49	2,389.07	2,277.19	111.88	21.353		
20,000.00	12,276.00	17,772.28	10,073.00	135.49	132.35	-22.80	7,728.33	-1,003.49	2,389.08	2,275.94	113.13	21.117		
20,100.00	12,276.00	17,872.28	10,073.00	137.06	133.93	-22.80	7,828.32	-1,004.48	2,389.08	2,274.69	114.38	20.886		
20,200.00	12,276.00	17,972.28	10,073.00	138.63	135.52	-22.80	7,928.32	-1,005.48	2,389.08	2,273.44	115.64	20.660		
20,300.00	12,276.00	18,072.28	10,073.00	140.20	137.11	-22.80	8,028.31	-1,006.47	2,389.08	2,272.19	116.89	20.439		
20,400.00	12,276.00	18,172.28	10,073.00	141.77	138.70	-22.80	8,128.31	-1,007.46	2,389.08	2,270.94	118.14	20.222		
20,500.00	12,276.00	18,272.28	10,073.00	143.35	140.29	-22.80	8,228.30	-1,008.46	2,389.09	2,269.68	119.40	20.009		
20,600.00	12,276.00	18,372.28	10,073.00	144.93	141.88	-22.80	8,328.30	-1,009.45	2,389.09	2,268.43	120.66	19.800		
20,700.00	12,276.00	18,472.28	10,073.00	146.50	143.47	-22.80	8,428.30	-1,010.45	2,389.09	2,267.17	121.92	19.596		
20,800.00	12,276.00	18,572.28	10,073.00	148.08	145.07	-22.80	8,528.29	-1,011.44	2,389.09	2,265.91	123.18	19.395		
20,900.00	12,276.00	18,672.28	10,073.00	149.67	146.67	-22.80	8,628.29	-1,012.43	2,389.09	2,264.65	124.44	19.198		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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		
21,000.00	12,276.00	18,772.28	10,073.00	151.25	148.26	-22.80	8,728.28	-1,013.43	2,389.10	2,263.39	125.71	19.006		
21,100.00	12,276.00	18,872.28	10,073.00	152.83	149.86	-22.80	8,828.28	-1,014.42	2,389.10	2,262.13	126.97	18.817		
21,200.00	12,276.00	18,972.28	10,073.00	154.42	151.46	-22.80	8,928.27	-1,015.42	2,389.10	2,260.87	128.23	18.631		
21,300.00	12,276.00	19,072.28	10,073.00	156.01	153.07	-22.80	9,028.27	-1,016.41	2,389.10	2,259.61	129.49	18.450		
21,400.00	12,276.00	19,172.28	10,073.00	157.60	154.67	-22.80	9,128.26	-1,017.40	2,389.10	2,258.34	130.76	18.271		
21,500.00	12,276.00	19,272.28	10,073.00	159.19	156.27	-22.80	9,228.26	-1,018.40	2,389.10	2,257.08	132.02	18.096		
21,600.00	12,276.00	19,372.28	10,073.00	160.78	157.88	-22.80	9,328.25	-1,019.39	2,389.11	2,255.82	133.29	17.924		
21,700.00	12,276.00	19,472.28	10,073.00	162.37	159.48	-22.80	9,428.25	-1,020.39	2,389.11	2,254.55	134.56	17.755		
21,800.00	12,276.00	19,572.28	10,073.00	163.96	161.09	-22.80	9,528.24	-1,021.38	2,389.11	2,253.28	135.83	17.589		
21,900.00	12,276.00	19,672.28	10,073.00	165.56	162.69	-22.80	9,628.24	-1,022.37	2,389.11	2,252.02	137.10	17.427		
22,000.00	12,276.00	19,772.28	10,073.00	167.16	164.30	-22.80	9,728.23	-1,023.37	2,389.11	2,250.75	138.37	17.267		
22,100.00	12,276.00	19,872.28	10,073.00	168.75	165.91	-22.80	9,828.23	-1,024.36	2,389.12	2,249.48	139.64	17.110		
22,200.00	12,276.00	19,972.28	10,073.00	170.35	167.52	-22.80	9,928.22	-1,025.36	2,389.12	2,248.21	140.90	16.956		
22,300.00	12,276.00	20,072.28	10,073.00	171.95	169.13	-22.80	10,028.22	-1,026.35	2,389.12	2,246.95	142.17	16.804		
22,400.00	12,276.00	20,172.28	10,073.00	173.55	170.74	-22.80	10,128.21	-1,027.34	2,389.12	2,245.68	143.44	16.655		
22,410.08	12,276.00	20,182.37	10,073.00	173.71	170.91	-22.80	10,138.29	-1,027.44	2,389.12	2,245.55	143.57	16.641		

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



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Anticollision Report



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Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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							
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	
1,843.00	1,843.00	1,844.10	1,844.10	6.37	6.38	26.01	75.29	36.74	83.78	74.76	9.02	9.292		
1,900.00	1,900.00	1,901.10	1,901.10	6.58	6.58	26.01	75.29	36.74	83.78	74.47	9.31	9.003		
2,000.00	2,000.00	2,001.10	2,001.10	6.94	6.94	26.01	75.29	36.74	83.78	73.97	9.81	8.538		
2,100.00	2,100.00	2,101.17	2,101.16	7.29	7.29	26.93	74.66	37.92	83.73	73.42	10.31	8.122		
2,162.73	2,162.73	2,163.88	2,163.83	7.52	7.50	28.42	73.62	39.83	83.71	73.09	10.62	7.884 CC		
2,200.00	2,200.00	2,201.10	2,201.01	7.65	7.62	29.63	72.78	41.40	83.73	72.93	10.80	7.752 ES		
2,300.00	2,299.99	2,300.79	2,300.48	7.99	7.96	-146.13	69.66	47.15	85.20	73.93	11.28	7.555 SF		
2,400.00	2,399.91	2,400.17	2,399.44	8.32	8.30	-141.67	65.33	55.16	89.56	77.82	11.75	7.624		
2,500.00	2,499.69	2,499.28	2,497.87	8.65	8.64	-137.20	59.82	65.34	96.94	84.72	12.22	7.934		
2,600.00	2,599.27	2,598.63	2,596.45	8.97	9.00	-133.95	53.94	76.20	106.83	94.14	12.70	8.415		
2,652.97	2,651.91	2,651.21	2,648.62	9.15	9.18	-132.85	50.83	81.95	112.90	99.95	12.95	8.717		
2,700.00	2,698.61	2,697.88	2,694.93	9.31	9.35	-132.13	48.07	87.06	118.53	105.35	13.18	8.993		
2,800.00	2,797.91	2,797.11	2,793.39	9.65	9.71	-130.81	42.20	97.91	130.56	116.89	13.67	9.552		
2,900.00	2,897.20	2,896.35	2,891.85	10.00	10.08	-129.71	36.33	108.76	142.65	128.49	14.16	10.072		
3,000.00	2,996.50	2,995.58	2,990.32	10.35	10.44	-128.79	30.46	119.61	154.78	140.12	14.66	10.556		
3,100.00	3,095.80	3,094.81	3,088.78	10.70	10.81	-128.00	24.58	130.47	166.95	151.78	15.17	11.008		
3,200.00	3,195.10	3,194.05	3,187.24	11.06	11.19	-127.32	18.71	141.32	179.14	163.46	15.67	11.429		
3,300.00	3,294.39	3,293.28	3,285.71	11.42	11.56	-126.72	12.84	152.17	191.35	175.17	16.18	11.823		
3,400.00	3,393.69	3,392.51	3,384.17	11.79	11.94	-126.20	6.97	163.02	203.58	186.88	16.70	12.191		
3,500.00	3,492.99	3,491.74	3,482.63	12.16	12.32	-125.73	1.10	173.87	215.83	198.61	17.22	12.536		
3,600.00	3,592.29	3,590.98	3,581.09	12.53	12.70	-125.32	-4.77	184.73	228.09	210.35	17.74	12.860		
3,700.00	3,691.59	3,690.21	3,679.56	12.90	13.08	-124.95	-10.64	195.58	240.36	222.10	18.26	13.164		
3,800.00	3,790.88	3,789.44	3,778.02	13.27	13.47	-124.61	-16.52	206.43	252.63	233.85	18.78	13.449		
3,900.00	3,890.18	3,888.68	3,876.48	13.65	13.85	-124.30	-22.39	217.28	264.92	245.61	19.31	13.719		
4,000.00	3,989.48	3,987.91	3,974.95	14.03	14.24	-124.03	-28.26	228.14	277.21	257.37	19.84	13.973		
4,059.03	4,048.09	4,046.49	4,033.07	14.25	14.47	-123.87	-31.72	234.54	284.47	264.32	20.15	14.116		
4,100.00	4,088.80	4,087.15	4,073.42	14.41	14.63	-123.80	-34.13	238.99	289.39	269.02	20.37	14.207		
4,200.00	4,188.35	4,186.50	4,171.99	14.78	15.02	-123.32	-40.01	249.85	300.39	279.50	20.90	14.375		
4,300.00	4,288.11	4,285.89	4,270.62	15.15	15.41	-122.47	-45.89	260.72	310.03	288.61	21.42	14.473		
4,400.00	4,388.02	4,385.28	4,369.23	15.50	15.80	-121.26	-51.77	271.59	318.39	296.45	21.94	14.513		
4,500.00	4,488.00	4,484.58	4,467.76	15.85	16.19	-119.70	-57.65	282.45	325.61	303.16	22.45	14.505		
4,512.00	4,500.00	4,496.49	4,479.58	15.89	16.24	60.24	-58.35	283.75	326.41	303.90	22.51	14.501		
4,600.00	4,588.00	4,583.81	4,566.22	16.19	16.58	61.84	-63.52	293.30	332.34	309.39	22.95	14.480		
4,700.00	4,688.00	4,683.03	4,664.67	16.53	16.98	63.58	-69.39	304.15	339.39	315.93	23.46	14.469		
4,800.00	4,788.00	4,782.25	4,763.13	16.87	17.37	65.25	-75.26	315.00	346.73	322.78	23.96	14.473		
4,900.00	4,888.00	4,881.48	4,861.58	17.21	17.76	66.85	-81.13	325.86	354.36	329.91	24.46	14.488		
5,000.00	4,988.00	4,980.70	4,960.03	17.55	18.16	68.39	-87.00	336.71	362.26	337.30	24.96	14.514		
5,100.00	5,088.00	5,079.93	5,058.49	17.89	18.56	69.86	-92.87	347.56	370.41	344.95	25.46	14.549		
5,200.00	5,188.00	5,179.15	5,156.94	18.24	18.95	71.26	-98.74	358.41	378.79	352.83	25.96	14.592		
5,300.00	5,288.00	5,278.37	5,255.40	18.58	19.35	72.60	-104.61	369.26	387.38	360.93	26.46	14.642		
5,400.00	5,388.00	5,377.60	5,353.85	18.92	19.75	73.89	-110.49	380.11	396.18	369.23	26.96	14.697		
5,500.00	5,488.00	5,476.82	5,452.30	19.27	20.14	75.12	-116.36	390.96	405.18	377.72	27.46	14.758		
5,600.00	5,588.00	5,576.05	5,550.76	19.61	20.54	76.29	-122.23	401.81	414.34	386.39	27.95	14.823		
5,700.00	5,688.00	5,675.27	5,649.21	19.96	20.94	77.42	-128.10	412.67	423.68	395.23	28.45	14.891		
5,800.00	5,788.00	5,774.49	5,747.67	20.31	21.34	78.49	-133.97	423.52	433.17	404.22	28.95	14.963		
5,900.00	5,888.00	5,873.72	5,846.12	20.65	21.74	79.52	-139.84	434.37	442.81	413.36	29.45	15.037		
6,000.00	5,988.00	5,972.94	5,944.57	21.00	22.14	80.51	-145.71	445.22	452.58	422.64	29.95	15.113		
6,100.00	6,088.00	6,072.17	6,043.03	21.35	22.54	81.45	-151.58	456.07	462.48	432.04	30.44	15.191		
6,200.00	6,188.00	6,171.39	6,141.48	21.69	22.94	82.35	-157.45	466.92	472.51	441.56	30.94	15.270		
6,300.00	6,288.00	6,270.61	6,239.94	22.04	23.34	83.22	-163.32	477.77	482.64	451.20	31.44	15.350		
6,400.00	6,388.00	6,369.84	6,338.39	22.39	23.74	84.05	-169.19	488.62	492.88	460.94	31.94	15.431		
6,500.00	6,488.00	6,469.06	6,436.84	22.74	24.14	84.85	-175.07	499.47	503.22	470.78	32.44	15.512		

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



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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				
				(usft)	(usft)	(°)										
6,600.00	6,588.00	6,568.29	6,535.30	23.09	24.54	85.61	-180.94	510.33	513.65	480.71	32.94	15.594				
6,700.00	6,688.00	6,667.51	6,633.75	23.44	24.94	86.35	-186.81	521.18	524.17	490.73	33.44	15.676				
6,800.00	6,788.00	6,766.73	6,732.21	23.79	25.34	87.05	-192.68	532.03	534.77	500.83	33.94	15.758				
6,900.00	6,888.00	6,865.96	6,830.66	24.14	25.75	87.73	-198.55	542.88	545.44	511.01	34.44	15.839				
7,000.00	6,988.00	6,974.51	6,938.45	24.49	26.18	88.41	-204.63	554.13	555.65	520.66	34.99	15.880				
7,100.00	7,088.00	7,088.63	7,052.11	24.84	26.62	88.93	-209.54	563.18	563.50	527.94	35.56	15.847				
7,200.00	7,188.00	7,203.28	7,166.54	25.19	27.04	89.28	-212.83	569.27	568.77	532.66	36.11	15.752				
7,300.00	7,288.00	7,318.24	7,281.44	25.54	27.44	89.45	-214.49	572.35	571.42	534.79	36.63	15.600				
7,400.00	7,388.00	7,425.90	7,389.10	25.89	27.79	89.47	-214.71	572.74	571.77	534.64	37.12	15.402				
7,500.00	7,488.00	7,525.90	7,489.10	26.24	28.12	89.47	-214.71	572.74	571.77	534.16	37.61	15.204				
7,600.00	7,588.00	7,625.90	7,589.10	26.59	28.44	89.47	-214.71	572.74	571.77	533.68	38.09	15.011				
7,700.00	7,688.00	7,725.90	7,689.10	26.94	28.76	89.47	-214.71	572.74	571.77	533.19	38.57	14.822				
7,800.00	7,788.00	7,825.90	7,789.10	27.29	29.09	89.47	-214.71	572.74	571.77	532.71	39.06	14.638				
7,900.00	7,888.00	7,925.90	7,889.10	27.65	29.41	89.47	-214.71	572.74	571.77	532.22	39.55	14.458				
8,000.00	7,988.00	8,025.90	7,989.10	28.00	29.74	89.47	-214.71	572.74	571.77	531.73	40.03	14.283				
8,100.00	8,088.00	8,125.90	8,089.10	28.35	30.07	89.47	-214.71	572.74	571.77	531.25	40.52	14.111				
8,200.00	8,188.00	8,225.90	8,189.10	28.70	30.39	89.47	-214.71	572.74	571.77	530.76	41.01	13.943				
8,300.00	8,288.00	8,325.90	8,289.10	29.05	30.72	89.47	-214.71	572.74	571.77	530.27	41.49	13.780				
8,400.00	8,388.00	8,425.90	8,389.10	29.41	31.05	89.47	-214.71	572.74	571.77	529.78	41.98	13.619				
8,500.00	8,488.00	8,525.90	8,489.10	29.76	31.38	89.47	-214.71	572.74	571.77	529.29	42.47	13.463				
8,600.00	8,588.00	8,625.90	8,589.10	30.11	31.71	89.47	-214.71	572.74	571.77	528.81	42.96	13.309				
8,700.00	8,688.00	8,725.90	8,689.10	30.47	32.04	89.47	-214.71	572.74	571.77	528.32	43.45	13.159				
8,800.00	8,788.00	8,825.90	8,789.10	30.82	32.37	89.47	-214.71	572.74	571.77	527.83	43.94	13.013				
8,900.00	8,888.00	8,925.90	8,889.10	31.17	32.70	89.47	-214.71	572.74	571.77	527.34	44.43	12.869				
9,000.00	8,988.00	9,025.90	8,989.10	31.53	33.04	89.47	-214.71	572.74	571.77	526.85	44.92	12.729				
9,100.00	9,088.00	9,125.90	9,089.10	31.88	33.37	89.47	-214.71	572.74	571.77	526.35	45.41	12.591				
9,200.00	9,188.00	9,225.90	9,189.10	32.23	33.70	89.47	-214.71	572.74	571.77	525.86	45.90	12.456				
9,300.00	9,288.00	9,325.90	9,289.10	32.59	34.04	89.47	-214.71	572.74	571.77	525.37	46.39	12.324				
9,400.00	9,388.00	9,425.90	9,389.10	32.94	34.37	89.47	-214.71	572.74	571.77	524.88	46.89	12.195				
9,419.26	9,407.26	9,445.16	9,408.36	33.01	34.44	89.43	-214.35	572.74	571.77	524.78	46.98	12.170				
9,500.00	9,488.00	9,524.94	9,487.63	33.29	34.69	88.60	-205.98	572.65	571.83	524.45	47.38	12.070				
9,600.00	9,588.00	9,618.34	9,577.88	33.65	34.95	86.23	-182.34	572.42	572.77	524.91	47.86	11.967				
9,700.00	9,688.00	9,700.00	9,652.74	34.00	35.14	83.00	-149.90	572.10	576.53	528.25	48.28	11.942				
9,800.00	9,788.00	9,774.94	9,716.76	34.36	35.29	79.19	-111.03	571.71	585.50	536.97	48.54	12.063				
9,900.00	9,888.00	9,836.74	9,765.37	34.71	35.38	75.54	-72.92	571.33	601.85	553.37	48.47	12.416				
10,000.00	9,988.00	9,888.75	9,802.90	35.07	35.45	72.19	-36.94	570.97	626.94	578.92	48.02	13.057				
10,100.00	10,088.00	9,932.46	9,831.81	35.42	35.49	69.25	-4.18	570.64	661.27	614.09	47.18	14.017				
10,200.00	10,188.00	9,969.29	9,854.17	35.77	35.52	66.71	25.07	570.35	704.56	658.51	46.05	15.299				
10,300.00	10,288.00	10,000.00	9,871.35	36.13	35.54	64.58	50.52	570.10	756.02	711.26	44.77	16.888				
10,400.00	10,388.00	10,027.17	9,885.40	36.48	35.55	62.69	73.78	569.87	814.64	771.18	43.46	18.744				
10,500.00	10,488.00	10,050.00	9,896.33	36.84	35.56	61.11	93.82	569.67	879.34	837.14	42.20	20.839				
10,600.00	10,588.00	10,069.96	9,905.24	37.19	35.56	59.74	111.68	569.49	949.14	908.10	41.04	23.129				
10,700.00	10,688.00	10,100.00	9,917.45	37.55	35.57	57.71	139.12	569.22	1,023.37	983.19	40.18	25.468				
10,800.00	10,788.00	10,100.00	9,917.45	37.90	35.57	57.71	139.12	569.22	1,100.74	1,061.67	39.07	28.176				
10,900.00	10,888.00	10,100.00	9,917.45	38.26	35.57	57.71	139.12	569.22	1,181.51	1,143.38	38.13	30.986				
11,000.00	10,988.00	10,128.06	9,927.54	38.61	35.57	55.85	165.30	568.96	1,264.10	1,226.42	37.68	33.546				
11,100.00	11,088.00	10,150.00	9,934.53	38.97	35.57	54.43	186.09	568.75	1,349.18	1,311.92	37.26	36.205				
11,200.00	11,188.00	10,150.00	9,934.53	39.32	35.57	54.43	186.09	568.75	1,435.69	1,398.97	36.72	39.100				
11,300.00	11,288.00	10,150.00	9,934.53	39.68	35.57	54.43	186.09	568.75	1,523.85	1,487.57	36.28	42.000				
11,400.00	11,388.00	10,150.00	9,934.53	40.03	35.57	54.43	186.09	568.75	1,613.39	1,577.45	35.94	44.891				
11,500.00	11,488.00	10,172.41	9,940.84	40.39	35.57	53.01	207.59	568.54	1,703.54	1,667.68	35.86	47.507				
11,600.00	11,588.00	10,179.03	9,942.54	40.74	35.57	52.59	213.99	568.47	1,794.86	1,759.15	35.71	50.267				

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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)								
11,700.00	11,688.00	10,200.00	9,947.45	41.10	35.57	51.31	234.37	568.27	1,887.22	1,851.51	35.71	52.850				
11,715.04	11,703.04	10,200.00	9,947.45	41.15	35.57	51.31	234.37	568.27	1,901.11	1,865.42	35.69	53.267				
11,750.00	11,737.98	10,200.00	9,947.45	41.28	35.57	45.79	234.37	568.27	1,933.19	1,897.55	35.65	54.233				
11,800.00	11,787.69	10,200.00	9,947.45	41.45	35.57	38.86	234.37	568.27	1,978.18	1,942.60	35.58	55.605				
11,850.00	11,836.76	10,200.00	9,947.45	41.61	35.57	33.55	234.37	568.27	2,021.87	1,986.37	35.50	56.956				
11,900.00	11,884.81	10,200.00	9,947.45	41.77	35.57	29.45	234.37	568.27	2,064.02	2,028.60	35.41	58.282				
11,950.00	11,931.47	10,200.00	9,947.45	41.92	35.57	26.25	234.37	568.27	2,104.42	2,069.09	35.33	59.565				
12,000.00	11,976.40	10,200.00	9,947.45	42.06	35.57	23.71	234.37	568.27	2,142.86	2,107.62	35.24	60.802				
12,050.00	12,019.25	10,222.04	9,951.80	42.19	35.57	21.46	255.98	568.05	2,178.65	2,143.39	35.27	61.779				
12,100.00	12,059.69	10,229.68	9,953.11	42.32	35.57	19.79	263.51	567.98	2,212.24	2,177.03	35.21	62.827				
12,150.00	12,097.41	10,250.00	9,956.12	42.45	35.58	18.37	283.60	567.78	2,243.38	2,208.17	35.21	63.709				
12,200.00	12,132.14	10,250.00	9,956.12	42.57	35.58	17.33	283.60	567.78	2,271.47	2,236.34	35.13	64.661				
12,250.00	12,163.59	10,250.00	9,956.12	42.69	35.58	16.47	283.60	567.78	2,296.82	2,261.76	35.06	65.518				
12,300.00	12,191.55	10,250.00	9,956.12	42.81	35.58	15.77	283.60	567.78	2,319.33	2,284.34	35.00	66.270				
12,350.00	12,215.78	10,273.27	9,958.68	42.92	35.60	15.15	306.73	567.55	2,338.36	2,303.34	35.02	66.771				
12,400.00	12,236.12	10,300.00	9,960.46	43.04	35.65	14.66	333.39	567.28	2,354.71	2,319.66	35.05	67.173				
12,450.00	12,252.39	10,300.00	9,960.46	43.15	35.65	14.33	333.39	567.28	2,367.24	2,332.20	35.03	67.571				
12,500.00	12,264.49	10,300.00	9,960.46	43.27	35.65	14.10	333.39	567.28	2,376.64	2,341.61	35.04	67.835				
12,550.00	12,272.31	10,312.04	9,960.85	43.39	35.67	13.94	345.42	567.16	2,382.74	2,347.66	35.08	67.923				
12,600.00	12,275.80	10,324.84	9,961.00	43.51	35.71	13.87	358.22	567.04	2,385.48	2,350.33	35.14	67.877				
12,615.04	12,276.00	10,325.24	9,961.00	43.55	35.71	13.87	358.62	567.03	2,385.62	2,350.46	35.16	67.843				
12,700.00	12,276.00	10,410.20	9,961.00	43.78	35.98	13.87	443.58	566.19	2,385.62	2,350.26	35.36	67.459				
12,800.00	12,276.00	10,510.20	9,961.00	44.10	36.37	13.87	543.58	565.19	2,385.62	2,349.98	35.63	66.946				
12,900.00	12,276.00	10,610.20	9,961.00	44.49	36.83	13.87	643.57	564.19	2,385.62	2,349.67	35.94	66.371				
13,000.00	12,276.00	10,710.20	9,961.00	44.93	37.35	13.87	743.57	563.20	2,385.62	2,349.33	36.29	65.737				
13,100.00	12,276.00	10,810.20	9,961.00	45.43	37.93	13.87	843.56	562.20	2,385.61	2,348.94	36.67	65.050				
13,200.00	12,276.00	10,910.20	9,961.00	45.98	38.57	13.87	943.56	561.21	2,385.61	2,348.52	37.09	64.316				
13,300.00	12,276.00	11,010.20	9,961.00	46.59	39.27	13.87	1,043.55	560.21	2,385.61	2,348.07	37.55	63.538				
13,400.00	12,276.00	11,110.20	9,961.00	47.24	40.02	13.87	1,143.55	559.21	2,385.61	2,347.58	38.03	62.725				
13,500.00	12,276.00	11,210.20	9,961.00	47.94	40.82	13.86	1,243.54	558.22	2,385.61	2,347.06	38.55	61.880				
13,600.00	12,276.00	11,310.20	9,961.00	48.69	41.67	13.86	1,343.54	557.22	2,385.61	2,346.51	39.10	61.011				
13,700.00	12,276.00	11,410.20	9,961.00	49.48	42.57	13.86	1,443.53	556.23	2,385.60	2,345.92	39.68	60.121				
13,800.00	12,276.00	11,510.20	9,961.00	50.32	43.51	13.86	1,543.53	555.23	2,385.60	2,345.32	40.29	59.217				
13,900.00	12,276.00	11,610.20	9,961.00	51.19	44.49	13.86	1,643.52	554.24	2,385.60	2,344.68	40.92	58.303				
14,000.00	12,276.00	11,710.20	9,961.00	52.10	45.51	13.86	1,743.52	553.24	2,385.60	2,344.03	41.57	57.381				
14,100.00	12,276.00	11,810.20	9,961.00	53.05	46.57	13.86	1,843.51	552.24	2,385.60	2,343.34	42.26	56.456				
14,200.00	12,276.00	11,910.20	9,961.00	54.03	47.65	13.86	1,943.51	551.25	2,385.60	2,342.64	42.96	55.530				
14,300.00	12,276.00	12,010.20	9,961.00	55.04	48.77	13.86	2,043.50	550.25	2,385.60	2,341.91	43.69	54.605				
14,400.00	12,276.00	12,110.20	9,961.00	56.09	49.92	13.86	2,143.50	549.26	2,385.59	2,341.16	44.44	53.685				
14,500.00	12,276.00	12,210.20	9,961.00	57.16	51.10	13.86	2,243.49	548.26	2,385.59	2,340.39	45.21	52.772				
14,600.00	12,276.00	12,310.20	9,961.00	58.26	52.30	13.86	2,343.49	547.26	2,385.59	2,339.60	45.99	51.869				
14,700.00	12,276.00	12,410.20	9,961.00	59.38	53.53	13.86	2,443.48	546.27	2,385.59	2,338.79	46.80	50.978				
14,800.00	12,276.00	12,510.20	9,961.00	60.53	54.78	13.86	2,543.48	545.27	2,385.59	2,337.97	47.62	50.100				
14,900.00	12,276.00	12,610.20	9,961.00	61.71	56.05	13.86	2,643.47	544.28	2,385.59	2,337.13	48.45	49.235				
15,000.00	12,276.00	12,710.20	9,961.00	62.90	57.33	13.86	2,743.47	543.28	2,385.58	2,336.28	49.31	48.384				
15,100.00	12,276.00	12,810.20	9,961.00	64.11	58.64	13.86	2,843.46	542.29	2,385.58	2,335.41	50.17	47.548				
15,200.00	12,276.00	12,910.20	9,961.00	65.35	59.96	13.86	2,943.46	541.29	2,385.58	2,334.53	51.05	46.728				
15,300.00	12,276.00	13,010.20	9,961.00	66.60	61.30	13.86	3,043.45	540.29	2,385.58	2,333.63	51.95	45.925				
15,400.00	12,276.00	13,110.20	9,961.00	67.87	62.66	13.86	3,143.45	539.30	2,385.58	2,332.73	52.85	45.137				
15,500.00	12,276.00	13,210.20	9,961.00	69.15	64.03	13.86	3,243.44	538.30	2,385.58	2,331.81	53.77	44.367				
15,600.00	12,276.00	13,310.20	9,961.00	70.45	65.41	13.86	3,343.44	537.31	2,385.57	2,330.88	54.70	43.613				
15,700.00	12,276.00	13,410.20	9,961.00	71.77	66.80	13.86	3,443.43	536.31	2,385.57	2,329.94	55.64	42.878				

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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		
15,800.00	12,276.00	13,510.20	9,961.00	73.10	68.20	13.86	3,543.43	535.31	2,385.57	2,328.99	56.58	42.160		
15,900.00	12,276.00	13,610.20	9,961.00	74.44	69.62	13.86	3,643.42	534.32	2,385.57	2,328.03	57.54	41.458		
16,000.00	12,276.00	13,710.20	9,961.00	75.79	71.05	13.86	3,743.42	533.32	2,385.57	2,327.06	58.51	40.772		
16,100.00	12,276.00	13,810.20	9,961.00	77.16	72.48	13.86	3,843.41	532.33	2,385.57	2,326.08	59.49	40.104		
16,200.00	12,276.00	13,910.20	9,961.00	78.53	73.93	13.86	3,943.41	531.33	2,385.57	2,325.10	60.47	39.452		
16,300.00	12,276.00	14,010.20	9,961.00	79.92	75.38	13.86	4,043.40	530.34	2,385.56	2,324.11	61.46	38.816		
16,400.00	12,276.00	14,110.20	9,961.00	81.32	76.84	13.86	4,143.40	529.34	2,385.56	2,323.11	62.46	38.196		
16,500.00	12,276.00	14,210.20	9,961.00	82.72	78.31	13.86	4,243.39	528.34	2,385.56	2,322.10	63.46	37.591		
16,600.00	12,276.00	14,310.20	9,961.00	84.14	79.78	13.86	4,343.39	527.35	2,385.56	2,321.09	64.47	37.001		
16,700.00	12,276.00	14,410.20	9,961.00	85.56	81.27	13.86	4,443.38	526.35	2,385.56	2,320.07	65.49	36.426		
16,800.00	12,276.00	14,510.20	9,961.00	86.99	82.76	13.86	4,543.38	525.36	2,385.56	2,319.04	66.52	35.865		
16,900.00	12,276.00	14,610.20	9,961.00	88.43	84.25	13.86	4,643.37	524.36	2,385.55	2,318.01	67.55	35.318		
17,000.00	12,276.00	14,710.20	9,961.00	89.88	85.75	13.86	4,743.37	523.36	2,385.55	2,316.97	68.58	34.784		
17,100.00	12,276.00	14,810.20	9,961.00	91.34	87.26	13.86	4,843.36	522.37	2,385.55	2,315.93	69.62	34.264		
17,200.00	12,276.00	14,910.20	9,961.00	92.80	88.77	13.86	4,943.36	521.37	2,385.55	2,314.88	70.67	33.757		
17,300.00	12,276.00	15,010.20	9,961.00	94.26	90.29	13.86	5,043.35	520.38	2,385.55	2,313.83	71.72	33.262		
17,400.00	12,276.00	15,110.20	9,961.00	95.74	91.81	13.86	5,143.35	519.38	2,385.55	2,312.77	72.77	32.780		
17,500.00	12,276.00	15,210.20	9,961.00	97.21	93.33	13.86	5,243.34	518.39	2,385.55	2,311.71	73.83	32.310		
17,600.00	12,276.00	15,310.20	9,961.00	98.70	94.86	13.86	5,343.34	517.39	2,385.54	2,310.65	74.89	31.852		
17,700.00	12,276.00	15,410.20	9,961.00	100.19	96.40	13.86	5,443.33	516.39	2,385.54	2,309.58	75.96	31.405		
17,800.00	12,276.00	15,510.20	9,961.00	101.68	97.93	13.86	5,543.33	515.40	2,385.54	2,308.51	77.03	30.969		
17,900.00	12,276.00	15,610.20	9,961.00	103.18	99.47	13.86	5,643.32	514.40	2,385.54	2,307.44	78.10	30.543		
18,000.00	12,276.00	15,710.20	9,961.00	104.68	101.02	13.86	5,743.32	513.41	2,385.54	2,306.36	79.18	30.128		
18,100.00	12,276.00	15,810.20	9,961.00	106.19	102.57	13.86	5,843.32	512.41	2,385.54	2,305.27	80.26	29.722		
18,200.00	12,276.00	15,910.20	9,961.00	107.71	104.12	13.86	5,943.31	511.41	2,385.53	2,304.19	81.35	29.326		
18,300.00	12,276.00	16,010.20	9,961.00	109.22	105.67	13.86	6,043.31	510.42	2,385.53	2,303.10	82.43	28.939		
18,400.00	12,276.00	16,110.20	9,961.00	110.74	107.23	13.86	6,143.30	509.42	2,385.53	2,302.01	83.52	28.562		
18,500.00	12,276.00	16,210.20	9,961.00	112.27	108.79	13.86	6,243.30	508.43	2,385.53	2,300.91	84.62	28.192		
18,600.00	12,276.00	16,310.20	9,961.00	113.79	110.35	13.86	6,343.29	507.43	2,385.53	2,299.82	85.71	27.832		
18,700.00	12,276.00	16,410.20	9,961.00	115.33	111.92	13.86	6,443.29	506.44	2,385.53	2,298.72	86.81	27.480		
18,800.00	12,276.00	16,510.20	9,961.00	116.86	113.49	13.86	6,543.28	505.44	2,385.52	2,297.61	87.91	27.135		
18,900.00	12,276.00	16,610.20	9,961.00	118.40	115.06	13.86	6,643.28	504.44	2,385.52	2,296.51	89.01	26.799		
19,000.00	12,276.00	16,710.20	9,961.00	119.94	116.63	13.86	6,743.27	503.45	2,385.52	2,295.40	90.12	26.471		
19,100.00	12,276.00	16,810.20	9,961.00	121.48	118.20	13.86	6,843.27	502.45	2,385.52	2,294.30	91.22	26.150		
19,200.00	12,276.00	16,910.20	9,961.00	123.03	119.78	13.86	6,943.26	501.46	2,385.52	2,293.19	92.33	25.836		
19,300.00	12,276.00	17,010.20	9,961.00	124.58	121.36	13.86	7,043.26	500.46	2,385.52	2,292.08	93.44	25.530		
19,400.00	12,276.00	17,110.20	9,961.00	126.13	122.94	13.86	7,143.25	499.46	2,385.52	2,290.96	94.55	25.229		
19,500.00	12,276.00	17,210.20	9,961.00	127.68	124.52	13.86	7,243.25	498.47	2,385.51	2,289.85	95.67	24.935		
19,600.00	12,276.00	17,310.20	9,961.00	129.24	126.11	13.86	7,343.24	497.47	2,385.51	2,288.73	96.78	24.648		
19,700.00	12,276.00	17,410.20	9,961.00	130.80	127.69	13.86	7,443.24	496.48	2,385.51	2,287.61	97.90	24.366		
19,800.00	12,276.00	17,510.20	9,961.00	132.36	129.28	13.86	7,543.23	495.48	2,385.51	2,286.49	99.02	24.091		
19,900.00	12,276.00	17,610.20	9,961.00	133.93	130.87	13.86	7,643.23	494.49	2,385.51	2,285.36	100.14	23.821		
20,000.00	12,276.00	17,710.20	9,961.00	135.49	132.46	13.85	7,743.22	493.49	2,385.51	2,284.24	101.27	23.557		
20,100.00	12,276.00	17,810.20	9,961.00	137.06	134.05	13.85	7,843.22	492.49	2,385.50	2,283.11	102.39	23.298		
20,200.00	12,276.00	17,910.20	9,961.00	138.63	135.65	13.85	7,943.21	491.50	2,385.50	2,281.98	103.52	23.044		
20,300.00	12,276.00	18,010.20	9,961.00	140.20	137.24	13.85	8,043.21	490.50	2,385.50	2,280.85	104.65	22.796		
20,400.00	12,276.00	18,110.20	9,961.00	141.77	138.84	13.85	8,143.20	489.51	2,385.50	2,279.72	105.78	22.552		
20,500.00	12,276.00	18,210.20	9,961.00	143.35	140.44	13.85	8,243.20	488.51	2,385.50	2,278.59	106.90	22.314		
20,600.00	12,276.00	18,310.20	9,961.00	144.93	142.04	13.85	8,343.19	487.51	2,385.50	2,277.46	108.03	22.081		
20,700.00	12,276.00	18,410.20	9,961.00	146.50	143.64	13.85	8,443.19	486.52	2,385.49	2,276.33	109.16	21.852		
20,800.00	12,276.00	18,510.20	9,961.00	148.08	145.24	13.85	8,543.18	485.52	2,385.49	2,275.20	110.30	21.628		
20,900.00	12,276.00	18,610.20	9,961.00	149.67	146.84	13.85	8,643.18	484.53	2,385.49	2,274.06	111.43	21.408		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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		Highside Toolface (°)	Offset Wellbore Centre		Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
21,000.00	12,276.00	18,710.20	9,961.00	151.25	148.44	13.85	8,743.17	483.53	2,385.49	2,272.93	112.56	21.192		
21,100.00	12,276.00	18,810.20	9,961.00	152.83	150.05	13.85	8,843.17	482.54	2,385.49	2,271.79	113.70	20.981		
21,200.00	12,276.00	18,910.20	9,961.00	154.42	151.65	13.85	8,943.16	481.54	2,385.49	2,270.65	114.84	20.773		
21,300.00	12,276.00	19,010.20	9,961.00	156.01	153.26	13.85	9,043.16	480.54	2,385.49	2,269.51	115.97	20.569		
21,400.00	12,276.00	19,110.20	9,961.00	157.60	154.87	13.85	9,143.15	479.55	2,385.48	2,268.37	117.11	20.369		
21,500.00	12,276.00	19,210.20	9,961.00	159.19	156.48	13.85	9,243.15	478.55	2,385.48	2,267.23	118.25	20.173		
21,600.00	12,276.00	19,310.20	9,961.00	160.78	158.09	13.85	9,343.14	477.56	2,385.48	2,266.09	119.40	19.980		
21,700.00	12,276.00	19,410.20	9,961.00	162.37	159.70	13.85	9,443.14	476.56	2,385.48	2,264.94	120.54	19.790		
21,800.00	12,276.00	19,510.20	9,961.00	163.96	161.31	13.85	9,543.13	475.56	2,385.48	2,263.80	121.68	19.604		
21,900.00	12,276.00	19,610.20	9,961.00	165.56	162.92	13.85	9,643.13	474.57	2,385.48	2,262.65	122.82	19.422		
22,000.00	12,276.00	19,710.20	9,961.00	167.16	164.53	13.85	9,743.12	473.57	2,385.47	2,261.51	123.97	19.243		
22,100.00	12,276.00	19,810.20	9,961.00	168.75	166.15	13.85	9,843.12	472.58	2,385.47	2,260.36	125.11	19.067		
22,200.00	12,276.00	19,910.20	9,961.00	170.35	167.76	13.85	9,943.11	471.58	2,385.47	2,259.22	126.25	18.894		
22,300.00	12,276.00	20,010.20	9,961.00	171.95	169.38	13.85	10,043.11	470.59	2,385.47	2,258.07	127.40	18.724		
22,400.00	12,276.00	20,110.20	9,961.00	173.55	170.99	13.85	10,143.10	469.59	2,385.47	2,256.92	128.54	18.558		
22,408.65	12,276.00	20,118.82	9,961.00	173.69	171.14	13.85	10,151.71	469.50	2,385.47	2,256.82	128.65	18.542		
22,410.08	12,276.00	20,118.82	9,961.00	173.71	171.14	13.85	10,151.71	469.50	2,385.47	2,256.81	128.66	18.541		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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	1,842.70	1,842.70	6.37	6.37	-90.54	-0.23	-25.06	25.07	16.05	9.01	2.781	2.555 CC, ES 2.555 SF			
1,900.00	1,900.00	1,899.70	1,899.70	6.58	6.58	-90.54	-0.23	-25.06	25.07	15.76	9.30	2.695				
2,000.00	2,000.00	1,999.70	1,999.70	6.94	6.94	-90.54	-0.23	-25.06	25.07	15.26	9.81	2.555				
2,100.00	2,100.00	2,099.04	2,099.03	7.29	7.28	-91.17	-0.54	-26.31	26.33	16.02	10.30	2.555				
2,200.00	2,200.00	2,198.25	2,198.17	7.65	7.62	-92.77	-1.46	-30.06	30.14	19.36	10.78	2.795				
2,300.00	2,299.99	2,297.21	2,296.91	7.99	7.96	87.51	-2.98	-36.29	36.44	25.20	11.24	3.242				
2,400.00	2,399.91	2,395.78	2,395.07	8.32	8.30	90.13	-5.10	-44.96	45.22	33.54	11.68	3.871				
2,500.00	2,499.69	2,493.81	2,492.43	8.65	8.64	93.74	-7.80	-56.03	56.65	44.53	12.12	4.674				
2,600.00	2,599.27	2,591.16	2,588.80	8.97	8.99	97.42	-11.08	-69.41	70.94	58.37	12.56	5.647				
2,652.97	2,651.91	2,642.40	2,639.37	9.15	9.18	99.24	-13.03	-77.42	79.70	66.90	12.80	6.228				
2,700.00	2,698.61	2,687.71	2,684.00	9.31	9.35	100.69	-14.90	-85.04	88.13	75.13	13.00	6.777				
2,800.00	2,797.91	2,784.02	2,778.54	9.65	9.71	102.59	-19.26	-102.90	107.77	94.32	13.46	8.009				
2,900.00	2,897.20	2,881.90	2,874.47	10.00	10.09	103.77	-23.87	-121.75	128.16	114.21	13.95	9.186				
3,000.00	2,996.50	2,979.77	2,970.40	10.35	10.48	104.62	-28.48	-140.61	148.58	134.13	14.45	10.281				
3,100.00	3,095.80	3,077.64	3,066.33	10.70	10.88	105.27	-33.09	-159.46	169.02	154.07	14.96	11.302				
3,200.00	3,195.10	3,175.51	3,162.25	11.06	11.28	105.78	-37.70	-178.32	189.48	174.02	15.46	12.254				
3,300.00	3,294.39	3,273.38	3,258.18	11.42	11.69	106.19	-42.31	-197.17	209.96	193.98	15.98	13.142				
3,400.00	3,393.69	3,371.26	3,354.11	11.79	12.10	106.52	-46.91	-216.03	230.44	213.94	16.49	13.973				
3,500.00	3,492.99	3,469.13	3,450.04	12.16	12.51	106.80	-51.52	-234.88	250.92	233.91	17.01	14.751				
3,600.00	3,592.29	3,567.00	3,545.97	12.53	12.93	107.04	-56.13	-253.74	271.42	253.88	17.53	15.480				
3,700.00	3,691.59	3,664.87	3,641.89	12.90	13.36	107.25	-60.74	-272.59	291.91	273.85	18.06	16.165				
3,800.00	3,790.88	3,762.74	3,737.82	13.27	13.79	107.43	-65.35	-291.45	312.41	293.82	18.59	16.809				
3,900.00	3,890.18	3,860.62	3,833.75	13.65	14.22	107.58	-69.96	-310.30	332.91	313.79	19.12	17.415				
4,000.00	3,989.48	3,958.49	3,929.68	14.03	14.65	107.72	-74.57	-329.16	353.42	333.77	19.65	17.986				
4,059.03	4,048.09	4,016.26	3,986.30	14.25	14.90	107.80	-77.29	-340.29	365.52	345.55	19.96	18.308				
4,100.00	4,088.80	4,056.37	4,025.62	14.41	15.08	107.93	-79.18	-348.02	373.85	353.67	20.18	18.523				
4,200.00	4,188.35	4,154.38	4,121.68	14.78	15.52	108.00	-83.79	-366.90	393.64	372.93	20.71	19.006				
4,300.00	4,288.11	4,252.48	4,217.83	15.15	15.96	107.72	-88.41	-385.80	412.66	391.43	21.23	19.436				
4,400.00	4,388.02	4,350.60	4,314.00	15.50	16.40	107.14	-93.03	-404.70	430.96	409.22	21.74	19.821				
4,500.00	4,488.00	4,448.67	4,410.12	15.85	16.85	106.30	-97.65	-423.59	448.62	426.38	22.24	20.168				
4,512.00	4,500.00	4,460.43	4,421.65	15.89	16.90	-74.08	-98.21	-425.86	450.70	428.40	22.30	20.208				
4,600.00	4,588.00	4,546.69	4,506.19	16.19	17.29	-75.13	-102.27	-442.47	466.02	443.28	22.74	20.496				
4,700.00	4,688.00	4,644.70	4,602.26	16.53	17.74	-76.25	-106.88	-461.36	483.60	460.37	23.23	20.817				
4,800.00	4,788.00	4,742.71	4,698.33	16.87	18.19	-77.29	-111.50	-480.24	501.35	477.62	23.73	21.131				
4,900.00	4,888.00	4,840.73	4,794.39	17.21	18.64	-78.27	-116.12	-499.12	519.25	495.03	24.22	21.438				
5,000.00	4,988.00	4,938.74	4,890.46	17.55	19.09	-79.17	-120.73	-518.00	537.29	512.57	24.72	21.738				
5,100.00	5,088.00	5,036.75	4,986.53	17.89	19.54	-80.02	-125.35	-536.89	555.44	530.23	25.21	22.031				
5,200.00	5,188.00	5,134.77	5,082.59	18.24	19.99	-80.81	-129.96	-555.77	573.71	548.00	25.71	22.316				
5,300.00	5,288.00	5,232.78	5,178.66	18.58	20.45	-81.56	-134.58	-574.65	592.08	565.88	26.21	22.593				
5,400.00	5,388.00	5,330.80	5,274.73	18.92	20.90	-82.26	-139.19	-593.53	610.54	583.84	26.70	22.863				
5,500.00	5,488.00	5,428.81	5,370.79	19.27	21.36	-82.92	-143.81	-612.42	629.09	601.89	27.20	23.126				
5,600.00	5,588.00	5,526.82	5,466.86	19.61	21.81	-83.54	-148.43	-631.30	647.71	620.01	27.70	23.381				
5,700.00	5,688.00	5,624.84	5,562.93	19.96	22.27	-84.13	-153.04	-650.18	666.40	638.20	28.20	23.629				
5,800.00	5,788.00	5,722.85	5,658.99	20.31	22.73	-84.68	-157.66	-669.06	685.16	656.45	28.70	23.871				
5,900.00	5,888.00	5,820.86	5,755.06	20.65	23.19	-85.21	-162.27	-687.95	703.97	674.77	29.20	24.106				
6,000.00	5,988.00	5,918.88	5,851.13	21.00	23.64	-85.71	-166.89	-706.83	722.84	693.13	29.71	24.334				
6,100.00	6,088.00	6,016.89	5,947.19	21.35	24.10	-86.18	-171.50	-725.71	741.76	711.55	30.21	24.556				
6,200.00	6,188.00	6,114.91	6,043.26	21.69	24.56	-86.63	-176.12	-744.59	760.72	730.01	30.71	24.772				
6,300.00	6,288.00	6,212.92	6,139.33	22.04	25.03	-87.06	-180.74	-763.48	779.73	748.52	31.21	24.981				
6,400.00	6,388.00	6,310.93	6,235.39	22.39	25.49	-87.47	-185.35	-782.36	798.78	767.06	31.72	25.185				
6,500.00	6,488.00	6,408.95	6,331.46	22.74	25.95	-87.86	-189.97	-801.24	817.87	785.65	32.22	25.384				
6,600.00	6,588.00	6,506.96	6,427.53	23.09	26.41	-88.23	-194.58	-820.12	836.99	804.26	32.72	25.577				

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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		
6,700.00	6,688.00	6,604.97	6,523.60	23.44	26.87	-88.58	-199.20	-839.01	856.14	822.91	33.23	25.765		
6,800.00	6,788.00	6,712.64	6,629.17	23.79	27.38	-88.95	-204.21	-859.51	875.14	841.34	33.80	25.893		
6,900.00	6,888.00	6,839.62	6,754.28	24.14	27.95	-89.31	-209.36	-880.58	891.68	857.21	34.47	25.867		
7,000.00	6,988.00	6,967.93	6,881.36	24.49	28.49	-89.59	-213.56	-897.75	905.04	869.93	35.12	25.773		
7,100.00	7,088.00	7,097.31	7,010.03	24.84	29.00	-89.80	-216.76	-910.85	915.16	879.43	35.73	25.615		
7,200.00	7,188.00	7,227.45	7,139.84	25.19	29.47	-89.93	-218.94	-919.76	922.00	885.70	36.30	25.396		
7,300.00	7,288.00	7,358.08	7,270.37	25.54	29.90	-90.00	-220.07	-924.38	925.54	888.69	36.84	25.120		
7,400.00	7,388.00	7,475.41	7,387.70	25.89	30.27	-90.01	-220.23	-925.07	926.07	888.73	37.34	24.801		
7,500.00	7,488.00	7,575.41	7,487.70	26.24	30.57	-90.01	-220.23	-925.07	926.07	888.24	37.82	24.485		
7,600.00	7,588.00	7,675.41	7,587.70	26.59	30.87	-90.01	-220.23	-925.07	926.07	887.76	38.30	24.177		
7,700.00	7,688.00	7,775.41	7,687.70	26.94	31.17	-90.01	-220.23	-925.07	926.07	887.28	38.79	23.877		
7,800.00	7,788.00	7,875.41	7,787.70	27.29	31.47	-90.01	-220.23	-925.07	926.07	886.80	39.27	23.583		
7,900.00	7,888.00	7,975.41	7,887.70	27.65	31.78	-90.01	-220.23	-925.07	926.07	886.31	39.75	23.296		
8,000.00	7,988.00	8,075.41	7,987.70	28.00	32.08	-90.01	-220.23	-925.07	926.07	885.83	40.24	23.016		
8,100.00	8,088.00	8,175.41	8,087.70	28.35	32.39	-90.01	-220.23	-925.07	926.07	885.34	40.72	22.742		
8,200.00	8,188.00	8,275.41	8,187.70	28.70	32.70	-90.01	-220.23	-925.07	926.07	884.86	41.21	22.474		
8,300.00	8,288.00	8,375.41	8,287.70	29.05	33.01	-90.01	-220.23	-925.07	926.07	884.37	41.69	22.212		
8,400.00	8,388.00	8,475.41	8,387.70	29.41	33.32	-90.01	-220.23	-925.07	926.07	883.89	42.18	21.956		
8,500.00	8,488.00	8,575.41	8,487.70	29.76	33.63	-90.01	-220.23	-925.07	926.07	883.40	42.67	21.705		
8,600.00	8,588.00	8,675.41	8,587.70	30.11	33.94	-90.01	-220.23	-925.07	926.07	882.91	43.15	21.460		
8,700.00	8,688.00	8,775.41	8,687.70	30.47	34.25	-90.01	-220.23	-925.07	926.07	882.42	43.64	21.220		
8,800.00	8,788.00	8,875.41	8,787.70	30.82	34.57	-90.01	-220.23	-925.07	926.07	881.94	44.13	20.985		
8,900.00	8,888.00	8,975.41	8,887.70	31.17	34.88	-90.01	-220.23	-925.07	926.07	881.45	44.62	20.756		
9,000.00	8,988.00	9,075.41	8,987.70	31.53	35.20	-90.01	-220.23	-925.07	926.07	880.96	45.11	20.531		
9,100.00	9,088.00	9,175.41	9,087.70	31.88	35.51	-90.01	-220.23	-925.07	926.07	880.47	45.60	20.310		
9,200.00	9,188.00	9,275.41	9,187.70	32.23	35.83	-90.01	-220.23	-925.07	926.07	879.98	46.09	20.094		
9,300.00	9,288.00	9,375.41	9,287.70	32.59	36.15	-90.01	-220.23	-925.07	926.07	879.49	46.58	19.883		
9,400.00	9,388.00	9,475.41	9,387.70	32.94	36.47	-90.01	-220.23	-925.07	926.07	879.00	47.07	19.676		
9,500.00	9,488.00	9,575.41	9,487.70	33.29	36.79	-90.01	-220.23	-925.07	926.07	878.51	47.56	19.473		
9,600.00	9,588.00	9,675.41	9,587.70	33.65	37.11	-90.01	-220.23	-925.07	926.07	878.02	48.05	19.274		
9,700.00	9,688.00	9,775.41	9,687.70	34.00	37.43	-90.01	-220.23	-925.07	926.07	877.53	48.54	19.078		
9,800.00	9,788.00	9,875.41	9,787.70	34.36	37.75	-90.01	-220.23	-925.07	926.07	877.03	49.03	18.887		
9,900.00	9,888.00	9,975.41	9,887.70	34.71	38.07	-90.01	-220.23	-925.07	926.07	876.54	49.52	18.699		
10,000.00	9,988.00	10,075.41	9,987.70	35.07	38.39	-90.01	-220.23	-925.07	926.07	876.05	50.02	18.515		
10,100.00	10,088.00	10,175.41	10,087.70	35.42	38.72	-90.01	-220.23	-925.07	926.07	875.56	50.51	18.335		
10,200.00	10,188.00	10,275.41	10,187.70	35.77	39.04	-90.01	-220.23	-925.07	926.07	875.06	51.00	18.157		
10,300.00	10,288.00	10,375.41	10,287.70	36.13	39.37	-90.01	-220.23	-925.07	926.07	874.57	51.50	17.983		
10,400.00	10,388.00	10,475.41	10,387.70	36.48	39.69	-90.01	-220.23	-925.07	926.07	874.08	51.99	17.813		
10,500.00	10,488.00	10,575.41	10,487.70	36.84	40.02	-90.01	-220.23	-925.07	926.07	873.58	52.48	17.645		
10,600.00	10,588.00	10,675.41	10,587.70	37.19	40.34	-90.01	-220.23	-925.07	926.07	873.09	52.98	17.481		
10,700.00	10,688.00	10,775.41	10,687.70	37.55	40.67	-90.01	-220.23	-925.07	926.07	872.59	53.47	17.319		
10,800.00	10,788.00	10,875.41	10,787.70	37.90	41.00	-90.01	-220.23	-925.07	926.07	872.10	53.97	17.160		
10,900.00	10,888.00	10,975.41	10,887.70	38.26	41.33	-90.01	-220.23	-925.07	926.07	871.60	54.46	17.004		
11,000.00	10,988.00	11,075.41	10,987.70	38.61	41.65	-90.01	-220.23	-925.07	926.07	871.11	54.96	16.851		
11,100.00	11,088.00	11,175.41	11,087.70	38.97	41.98	-90.01	-220.23	-925.07	926.07	870.61	55.45	16.701		
11,200.00	11,188.00	11,275.41	11,187.70	39.32	42.31	-90.01	-220.23	-925.07	926.07	870.12	55.95	16.553		
11,300.00	11,288.00	11,375.41	11,287.70	39.68	42.64	-90.01	-220.23	-925.07	926.07	869.62	56.44	16.408		
11,400.00	11,388.00	11,475.41	11,387.70	40.03	42.97	-90.01	-220.23	-925.07	926.07	869.13	56.94	16.265		
11,500.00	11,488.00	11,575.41	11,487.70	40.39	43.30	-90.01	-220.23	-925.07	926.07	868.63	57.43	16.124		
11,600.00	11,588.00	11,675.41	11,587.70	40.74	43.63	-90.01	-220.23	-925.07	926.07	868.14	57.93	15.986		
11,700.00	11,688.00	11,775.41	11,687.70	41.10	43.97	-90.01	-220.23	-925.07	926.07	867.64	58.43	15.850		
11,715.04	11,703.04	11,790.45	11,702.74	41.15	44.01	-90.01	-220.23	-925.07	926.07	867.56	58.50	15.830		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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		
11,750.00	11,737.98	11,825.39	11,737.68	41.28	44.13	-89.51	-220.23	-925.07	926.06	867.38	58.67	15.784		
11,800.00	11,787.69	11,875.10	11,787.39	41.45	44.30	-89.84	-220.23	-925.07	926.03	867.12	58.91	15.719		
11,816.31	11,803.79	11,891.20	11,803.49	41.50	44.35	-90.00	-220.23	-925.07	926.02	867.04	58.98	15.699		
11,850.00	11,836.76	11,924.37	11,836.66	41.61	44.46	-90.40	-219.96	-925.07	926.05	866.91	59.14	15.659		
11,900.00	11,884.81	11,974.35	11,886.49	41.77	44.62	-91.02	-216.25	-925.10	926.17	866.82	59.35	15.604		
11,950.00	11,931.47	12,025.26	11,936.71	41.92	44.78	-91.63	-208.02	-925.19	926.41	866.85	59.56	15.554		
12,000.00	11,976.40	12,077.14	11,986.93	42.06	44.93	-92.24	-195.09	-925.31	926.76	867.00	59.76	15.509		
12,050.00	12,019.25	12,130.04	12,036.72	42.19	45.07	-92.84	-177.28	-925.49	927.20	867.26	59.94	15.469		
12,100.00	12,059.69	12,183.98	12,085.58	42.32	45.21	-93.42	-154.47	-925.72	927.73	867.62	60.11	15.433		
12,150.00	12,097.41	12,238.99	12,132.97	42.45	45.33	-93.98	-126.58	-925.99	928.33	868.06	60.27	15.403		
12,200.00	12,132.14	12,295.07	12,178.30	42.57	45.44	-94.51	-93.61	-926.32	928.98	868.56	60.42	15.376		
12,250.00	12,163.59	12,352.21	12,220.96	42.69	45.53	-95.01	-55.63	-926.69	929.66	869.11	60.55	15.353		
12,300.00	12,191.55	12,410.38	12,260.28	42.81	45.61	-95.47	-12.79	-927.12	930.35	869.67	60.68	15.332		
12,350.00	12,215.78	12,469.54	12,295.60	42.92	45.67	-95.89	34.63	-927.58	931.02	870.22	60.80	15.313		
12,400.00	12,236.12	12,529.61	12,326.27	43.04	45.72	-96.26	86.25	-928.09	931.64	870.72	60.92	15.293		
12,450.00	12,252.39	12,590.49	12,351.67	43.15	45.77	-96.57	141.55	-928.64	932.19	871.16	61.04	15.273		
12,500.00	12,264.49	12,652.07	12,371.25	43.27	45.81	-96.82	199.89	-929.22	932.66	871.49	61.16	15.249		
12,550.00	12,272.31	12,714.19	12,384.54	43.39	45.85	-97.01	260.55	-929.82	933.01	871.71	61.30	15.220		
12,600.00	12,275.80	12,776.71	12,391.21	43.51	45.91	-97.13	322.67	-930.43	933.24	871.79	61.45	15.187		
12,615.04	12,276.00	12,795.56	12,391.89	43.55	45.94	-97.15	341.51	-930.62	933.28	871.78	61.50	15.176		
12,700.00	12,276.00	12,882.79	12,392.00	43.78	46.07	-97.16	428.74	-931.48	933.29	871.49	61.80	15.101		
12,800.00	12,276.00	12,982.79	12,392.00	44.10	46.28	-97.16	528.73	-932.47	933.29	871.05	62.24	14.996		
12,900.00	12,276.00	13,082.79	12,392.00	44.49	46.57	-97.16	628.73	-933.46	933.29	870.54	62.75	14.873		
13,000.00	12,276.00	13,182.79	12,392.00	44.93	46.93	-97.16	728.72	-934.44	933.29	869.94	63.35	14.733		
13,100.00	12,276.00	13,282.79	12,392.00	45.43	47.37	-97.16	828.72	-935.43	933.29	869.26	64.02	14.577		
13,200.00	12,276.00	13,382.79	12,392.00	45.98	47.86	-97.16	928.71	-936.42	933.29	868.51	64.77	14.408		
13,300.00	12,276.00	13,482.79	12,392.00	46.59	48.41	-97.16	1,028.71	-937.41	933.28	867.69	65.60	14.227		
13,400.00	12,276.00	13,582.79	12,392.00	47.24	49.02	-97.16	1,128.70	-938.40	933.28	866.79	66.49	14.036		
13,500.00	12,276.00	13,682.79	12,392.00	47.94	49.68	-97.16	1,228.70	-939.39	933.28	865.83	67.46	13.835		
13,600.00	12,276.00	13,782.79	12,392.00	48.69	50.38	-97.16	1,328.69	-940.37	933.28	864.80	68.49	13.627		
13,700.00	12,276.00	13,882.79	12,392.00	49.48	51.13	-97.16	1,428.69	-941.36	933.28	863.70	69.58	13.414		
13,800.00	12,276.00	13,982.79	12,392.00	50.32	51.93	-97.16	1,528.68	-942.35	933.28	862.55	70.73	13.196		
13,900.00	12,276.00	14,082.79	12,392.00	51.19	52.76	-97.16	1,628.68	-943.34	933.28	861.35	71.93	12.974		
14,000.00	12,276.00	14,182.79	12,392.00	52.10	53.64	-97.16	1,728.67	-944.33	933.28	860.09	73.19	12.751		
14,100.00	12,276.00	14,282.79	12,392.00	53.05	54.55	-97.16	1,828.67	-945.32	933.28	858.77	74.50	12.527		
14,200.00	12,276.00	14,382.79	12,392.00	54.03	55.49	-97.16	1,928.66	-946.30	933.28	857.41	75.86	12.302		
14,300.00	12,276.00	14,482.79	12,392.00	55.04	56.47	-97.16	2,028.66	-947.29	933.28	856.01	77.27	12.078		
14,400.00	12,276.00	14,582.79	12,392.00	56.09	57.48	-97.16	2,128.65	-948.28	933.27	854.56	78.72	11.856		
14,500.00	12,276.00	14,682.79	12,392.00	57.16	58.51	-97.16	2,228.65	-949.27	933.27	853.07	80.21	11.636		
14,600.00	12,276.00	14,782.79	12,392.00	58.26	59.58	-97.16	2,328.64	-950.26	933.27	851.54	81.73	11.418		
14,700.00	12,276.00	14,882.79	12,392.00	59.38	60.67	-97.16	2,428.64	-951.25	933.27	849.97	83.30	11.204		
14,800.00	12,276.00	14,982.79	12,392.00	60.53	61.78	-97.16	2,528.63	-952.23	933.27	848.37	84.90	10.993		
14,900.00	12,276.00	15,082.79	12,392.00	61.71	62.92	-97.16	2,628.63	-953.22	933.27	846.74	86.53	10.785		
15,000.00	12,276.00	15,182.79	12,392.00	62.90	64.09	-97.16	2,728.62	-954.21	933.27	845.07	88.19	10.582		
15,100.00	12,276.00	15,282.79	12,392.00	64.11	65.27	-97.16	2,828.62	-955.20	933.27	843.38	89.89	10.383		
15,200.00	12,276.00	15,382.79	12,392.00	65.35	66.47	-97.16	2,928.61	-956.19	933.27	841.66	91.60	10.188		
15,300.00	12,276.00	15,482.79	12,392.00	66.60	67.69	-97.16	3,028.61	-957.18	933.27	839.92	93.35	9.998		
15,400.00	12,276.00	15,582.79	12,392.00	67.87	68.93	-97.16	3,128.61	-958.16	933.26	838.15	95.12	9.812		
15,500.00	12,276.00	15,682.79	12,392.00	69.15	70.19	-97.16	3,228.60	-959.15	933.26	836.35	96.91	9.630		
15,600.00	12,276.00	15,782.79	12,392.00	70.45	71.46	-97.16	3,328.60	-960.14	933.26	834.54	98.73	9.453		
15,700.00	12,276.00	15,882.79	12,392.00	71.77	72.75	-97.16	3,428.59	-961.13	933.26	832.70	100.56	9.280		
15,800.00	12,276.00	15,982.79	12,392.00	73.10	74.05	-97.16	3,528.59	-962.12	933.26	830.84	102.42	9.112		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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	12,276.00	16,082.79	12,392.00	74.44	75.37	-97.16	3,628.58	-963.11	933.26	828.97	104.29	8.949		
16,000.00	12,276.00	16,182.79	12,392.00	75.79	76.70	-97.16	3,728.58	-964.09	933.26	827.08	106.18	8.789		
16,100.00	12,276.00	16,282.79	12,392.00	77.16	78.04	-97.16	3,828.57	-965.08	933.26	825.17	108.09	8.634		
16,200.00	12,276.00	16,382.79	12,392.00	78.53	79.39	-97.16	3,928.57	-966.07	933.26	823.24	110.01	8.483		
16,300.00	12,276.00	16,482.79	12,392.00	79.92	80.76	-97.16	4,028.56	-967.06	933.26	821.30	111.95	8.336		
16,400.00	12,276.00	16,582.79	12,392.00	81.32	82.13	-97.16	4,128.56	-968.05	933.26	819.35	113.91	8.193		
16,500.00	12,276.00	16,682.79	12,392.00	82.72	83.52	-97.16	4,228.55	-969.03	933.25	817.38	115.87	8.054		
16,600.00	12,276.00	16,782.79	12,392.00	84.14	84.91	-97.16	4,328.55	-970.02	933.25	815.40	117.85	7.919		
16,700.00	12,276.00	16,882.79	12,392.00	85.56	86.31	-97.16	4,428.54	-971.01	933.25	813.41	119.84	7.787		
16,800.00	12,276.00	16,982.79	12,392.00	86.99	87.73	-97.16	4,528.54	-972.00	933.25	811.41	121.85	7.659		
16,900.00	12,276.00	17,082.79	12,392.00	88.43	89.15	-97.16	4,628.53	-972.99	933.25	809.39	123.86	7.535		
17,000.00	12,276.00	17,182.79	12,392.00	89.88	90.57	-97.16	4,728.53	-973.98	933.25	807.37	125.88	7.414		
17,100.00	12,276.00	17,282.79	12,392.00	91.34	92.01	-97.16	4,828.52	-974.96	933.25	805.33	127.92	7.296		
17,200.00	12,276.00	17,382.79	12,392.00	92.80	93.45	-97.16	4,928.52	-975.95	933.25	803.29	129.96	7.181		
17,300.00	12,276.00	17,482.79	12,392.00	94.26	94.90	-97.16	5,028.51	-976.94	933.25	801.23	132.01	7.069		
17,400.00	12,276.00	17,582.79	12,392.00	95.74	96.36	-97.16	5,128.51	-977.93	933.25	799.17	134.08	6.961		
17,500.00	12,276.00	17,682.79	12,392.00	97.21	97.82	-97.16	5,228.50	-978.92	933.24	797.10	136.15	6.855		
17,600.00	12,276.00	17,782.79	12,392.00	98.70	99.29	-97.16	5,328.50	-979.91	933.24	795.02	138.22	6.752		
17,700.00	12,276.00	17,882.79	12,392.00	100.19	100.76	-97.16	5,428.49	-980.89	933.24	792.94	140.31	6.651		
17,800.00	12,276.00	17,982.79	12,392.00	101.68	102.24	-97.16	5,528.49	-981.88	933.24	790.84	142.40	6.554		
17,900.00	12,276.00	18,082.79	12,392.00	103.18	103.73	-97.16	5,628.48	-982.87	933.24	788.74	144.50	6.458		
18,000.00	12,276.00	18,182.79	12,392.00	104.68	105.22	-97.16	5,728.48	-983.86	933.24	786.64	146.60	6.366		
18,100.00	12,276.00	18,282.79	12,392.00	106.19	106.71	-97.16	5,828.47	-984.85	933.24	784.52	148.72	6.275		
18,200.00	12,276.00	18,382.79	12,392.00	107.71	108.21	-97.16	5,928.47	-985.84	933.24	782.40	150.83	6.187		
18,300.00	12,276.00	18,482.79	12,392.00	109.22	109.71	-97.16	6,028.46	-986.82	933.24	780.28	152.96	6.101		
18,400.00	12,276.00	18,582.79	12,392.00	110.74	111.22	-97.16	6,128.46	-987.81	933.24	778.15	155.09	6.018		
18,500.00	12,276.00	18,682.79	12,392.00	112.27	112.73	-97.16	6,228.45	-988.80	933.24	776.01	157.22	5.936		
18,600.00	12,276.00	18,782.79	12,392.00	113.79	114.25	-97.16	6,328.45	-989.79	933.23	773.87	159.36	5.856		
18,700.00	12,276.00	18,882.79	12,392.00	115.33	115.77	-97.16	6,428.44	-990.78	933.23	771.73	161.50	5.778		
18,800.00	12,276.00	18,982.79	12,392.00	116.86	117.29	-97.16	6,528.44	-991.77	933.23	769.58	163.65	5.703		
18,900.00	12,276.00	19,082.79	12,392.00	118.40	118.82	-97.16	6,628.43	-992.75	933.23	767.42	165.81	5.628		
19,000.00	12,276.00	19,182.79	12,392.00	119.94	120.35	-97.16	6,728.43	-993.74	933.23	765.27	167.96	5.556		
19,100.00	12,276.00	19,282.79	12,392.00	121.48	121.88	-97.16	6,828.42	-994.73	933.23	763.10	170.13	5.486		
19,200.00	12,276.00	19,382.79	12,392.00	123.03	123.41	-97.16	6,928.42	-995.72	933.23	760.94	172.29	5.417		
19,300.00	12,276.00	19,482.79	12,392.00	124.58	124.95	-97.16	7,028.41	-996.71	933.23	758.77	174.46	5.349		
19,400.00	12,276.00	19,582.79	12,392.00	126.13	126.50	-97.16	7,128.41	-997.70	933.23	756.59	176.63	5.283		
19,500.00	12,276.00	19,682.79	12,392.00	127.68	128.04	-97.16	7,228.40	-998.68	933.23	754.42	178.81	5.219		
19,600.00	12,276.00	19,782.79	12,392.00	129.24	129.59	-97.16	7,328.40	-999.67	933.22	752.23	180.99	5.156		
19,700.00	12,276.00	19,882.79	12,392.00	130.80	131.14	-97.16	7,428.40	-1,000.66	933.22	750.05	183.17	5.095		
19,800.00	12,276.00	19,982.79	12,392.00	132.36	132.69	-97.16	7,528.39	-1,001.65	933.22	747.86	185.36	5.035		
19,900.00	12,276.00	20,082.79	12,392.00	133.93	134.24	-97.16	7,628.39	-1,002.64	933.22	745.67	187.55	4.976		
20,000.00	12,276.00	20,182.79	12,392.00	135.49	135.80	-97.16	7,728.38	-1,003.63	933.22	743.48	189.74	4.918		
20,100.00	12,276.00	20,282.79	12,392.00	137.06	137.36	-97.16	7,828.38	-1,004.61	933.22	741.28	191.94	4.862		
20,200.00	12,276.00	20,382.79	12,392.00	138.63	138.92	-97.16	7,928.37	-1,005.60	933.22	739.08	194.14	4.807		
20,300.00	12,276.00	20,482.79	12,392.00	140.20	140.48	-97.16	8,028.37	-1,006.59	933.22	736.88	196.34	4.753		
20,400.00	12,276.00	20,582.79	12,392.00	141.77	142.05	-97.16	8,128.36	-1,007.58	933.22	734.68	198.54	4.700		
20,500.00	12,276.00	20,682.79	12,392.00	143.35	143.62	-97.16	8,228.36	-1,008.57	933.22	732.47	200.75	4.649		
20,600.00	12,276.00	20,782.79	12,392.00	144.93	145.19	-97.16	8,328.35	-1,009.56	933.22	730.26	202.96	4.598		
20,700.00	12,276.00	20,882.79	12,392.00	146.50	146.76	-97.16	8,428.35	-1,010.54	933.21	728.05	205.17	4.549		
20,800.00	12,276.00	20,982.79	12,392.00	148.08	148.33	-97.16	8,528.34	-1,011.53	933.21	725.84	207.38	4.500		
20,900.00	12,276.00	21,082.79	12,392.00	149.67	149.90	-97.16	8,628.34	-1,012.52	933.21	723.62	209.59	4.452		
21,000.00	12,276.00	21,182.79	12,392.00	151.25	151.48	-97.16	8,728.33	-1,013.51	933.21	721.40	211.81	4.406		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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
FMM Fed Com - FMM Fed Com 801H - OH - Plan #1												Offset Well Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													
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
21,100.00	12,276.00	21,282.79	12,392.00	152.83	153.06	-97.16	8,828.33	-1,014.50	933.21	719.18	214.03	4.360	
21,200.00	12,276.00	21,382.79	12,392.00	154.42	154.64	-97.16	8,928.32	-1,015.49	933.21	716.96	216.25	4.315	
21,300.00	12,276.00	21,482.79	12,392.00	156.01	156.22	-97.16	9,028.32	-1,016.47	933.21	714.74	218.47	4.272	
21,400.00	12,276.00	21,582.79	12,392.00	157.60	157.80	-97.16	9,128.31	-1,017.46	933.21	712.51	220.70	4.228	
21,500.00	12,276.00	21,682.79	12,392.00	159.19	159.38	-97.16	9,228.31	-1,018.45	933.21	710.28	222.92	4.186	
21,600.00	12,276.00	21,782.79	12,392.00	160.78	160.97	-97.16	9,328.30	-1,019.44	933.21	708.06	225.15	4.145	
21,700.00	12,276.00	21,882.79	12,392.00	162.37	162.56	-97.16	9,428.30	-1,020.43	933.21	705.82	227.38	4.104	
21,800.00	12,276.00	21,982.79	12,392.00	163.96	164.14	-97.16	9,528.29	-1,021.42	933.20	703.59	229.61	4.064	
21,900.00	12,276.00	22,082.79	12,392.00	165.56	165.73	-97.16	9,628.29	-1,022.40	933.20	701.36	231.84	4.025	
22,000.00	12,276.00	22,182.79	12,392.00	167.16	167.32	-97.16	9,728.28	-1,023.39	933.20	699.12	234.08	3.987	
22,100.00	12,276.00	22,282.79	12,392.00	168.75	168.91	-97.16	9,828.28	-1,024.38	933.20	696.89	236.31	3.949	
22,200.00	12,276.00	22,382.79	12,392.00	170.35	170.51	-97.16	9,928.27	-1,025.37	933.20	694.65	238.55	3.912	
22,300.00	12,276.00	22,482.79	12,392.00	171.95	172.10	-97.16	10,028.27	-1,026.36	933.20	692.41	240.79	3.876	
22,400.00	12,276.00	22,582.79	12,392.00	173.55	173.70	-97.16	10,128.26	-1,027.35	933.20	690.17	243.03	3.840	
22,410.08	12,276.00	22,592.88	12,392.00	173.71	173.86	-97.16	10,138.35	-1,027.44	933.20	689.94	243.26	3.836	

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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									
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			
1,843.00	1,843.00	1,843.60	1,843.60	6.37	6.38	89.46	0.23	25.06	25.07	16.05	9.02	2.780				
1,900.00	1,900.00	1,900.60	1,900.60	6.58	6.58	89.46	0.23	25.06	25.07	15.76	9.30	2.694				
1,916.47	1,916.47	1,917.07	1,917.07	6.64	6.64	89.46	0.23	25.06	25.07	15.68	9.39	2.670	CC			
2,000.00	2,000.00	2,000.60	2,000.60	6.94	6.94	89.46	0.23	25.07	25.07	15.26	9.81	2.555	ES, SF			
2,100.00	2,100.00	2,100.00	2,099.99	7.29	7.28	90.14	-0.06	26.34	26.35	16.04	10.31	2.557				
2,200.00	2,200.00	2,199.15	2,199.06	7.65	7.62	91.80	-0.95	30.12	30.17	19.39	10.78	2.798				
2,300.00	2,299.99	2,298.10	2,297.80	7.99	7.96	-87.89	-2.41	36.39	36.50	25.26	11.24	3.247				
2,400.00	2,399.91	2,396.67	2,395.95	8.32	8.30	-90.43	-4.45	45.10	45.31	33.63	11.68	3.879				
2,500.00	2,499.69	2,494.69	2,493.31	8.65	8.65	-93.98	-7.05	56.21	56.79	44.66	12.12	4.684				
2,600.00	2,599.27	2,592.04	2,589.67	8.97	9.00	-97.60	-10.19	69.65	71.11	58.55	12.57	5.660				
2,652.97	2,651.91	2,643.27	2,640.24	9.15	9.19	-99.40	-12.07	77.68	79.90	67.10	12.80	6.242				
2,700.00	2,698.61	2,688.58	2,684.86	9.31	9.35	-100.83	-13.86	85.34	88.35	75.34	13.01	6.792				
2,800.00	2,797.91	2,784.87	2,779.37	9.65	9.72	-102.70	-18.06	103.25	108.03	94.57	13.46	8.026				
2,900.00	2,897.20	2,882.73	2,875.28	10.00	10.10	-103.86	-22.49	122.19	128.46	114.51	13.96	9.205				
3,000.00	2,996.50	2,980.59	2,971.19	10.35	10.49	-104.69	-26.92	141.13	148.93	134.47	14.46	10.302				
3,100.00	3,095.80	3,078.46	3,067.10	10.70	10.88	-105.33	-31.35	160.07	169.42	154.46	14.96	11.325				
3,200.00	3,195.10	3,176.32	3,163.01	11.06	11.29	-105.83	-35.78	179.00	189.93	174.46	15.47	12.278				
3,300.00	3,294.39	3,274.18	3,258.92	11.42	11.69	-106.23	-40.21	197.94	210.44	194.46	15.98	13.168				
3,400.00	3,393.69	3,372.05	3,354.83	11.79	12.10	-106.56	-44.64	216.88	230.97	214.47	16.50	14.000				
3,500.00	3,492.99	3,469.91	3,450.74	12.16	12.52	-106.84	-49.07	235.82	251.50	234.48	17.02	14.779				
3,600.00	3,592.29	3,567.77	3,546.65	12.53	12.94	-107.07	-53.50	254.75	272.04	254.50	17.54	15.510				
3,700.00	3,691.59	3,665.63	3,642.57	12.90	13.36	-107.27	-57.93	273.69	292.58	274.51	18.06	16.196				
3,800.00	3,790.88	3,763.50	3,738.48	13.27	13.79	-107.45	-62.36	292.63	313.12	294.53	18.59	16.841				
3,900.00	3,890.18	3,861.36	3,834.39	13.65	14.22	-107.60	-66.79	311.57	333.67	314.54	19.12	17.448				
4,000.00	3,989.48	3,959.22	3,930.30	14.03	14.65	-107.74	-71.22	330.50	354.21	334.56	19.66	18.020				
4,059.03	4,048.09	4,016.99	3,986.91	14.25	14.91	-107.81	-73.83	341.68	366.34	346.37	19.97	18.343				
4,100.00	4,088.80	4,057.10	4,026.22	14.41	15.09	-107.95	-75.65	349.44	374.70	354.51	20.19	18.558				
4,200.00	4,188.35	4,155.10	4,122.27	14.78	15.53	-108.01	-80.08	368.41	394.53	373.81	20.72	19.042				
4,300.00	4,288.11	4,253.19	4,218.40	15.15	15.97	-107.73	-84.52	387.39	413.59	392.35	21.24	19.473				
4,400.00	4,388.02	4,351.30	4,314.55	15.50	16.41	-107.16	-88.96	406.38	431.93	410.18	21.75	19.859				
4,500.00	4,488.00	4,449.36	4,410.66	15.85	16.85	-106.32	-93.40	425.35	449.64	427.38	22.25	20.207				
4,512.00	4,500.00	4,461.12	4,422.19	15.89	16.91	73.54	-93.93	427.63	451.72	429.41	22.31	20.247				
4,600.00	4,588.00	4,547.37	4,506.71	16.19	17.30	74.59	-97.84	444.32	467.08	444.33	22.74	20.536				
4,700.00	4,688.00	4,645.37	4,602.76	16.53	17.75	75.71	-102.28	463.28	484.70	461.46	23.24	20.858				
4,800.00	4,788.00	4,743.38	4,698.81	16.87	18.19	76.75	-106.71	482.25	502.49	478.76	23.73	21.173				
4,900.00	4,888.00	4,841.39	4,794.86	17.21	18.64	77.72	-111.15	501.21	520.43	496.20	24.23	21.481				
5,000.00	4,988.00	4,939.39	4,890.91	17.55	19.09	78.63	-115.58	520.18	538.51	513.79	24.72	21.781				
5,100.00	5,088.00	5,037.40	4,986.96	17.89	19.55	79.48	-120.02	539.14	556.71	531.49	25.22	22.074				
5,200.00	5,188.00	5,135.40	5,083.01	18.24	20.00	80.27	-124.46	558.11	575.02	549.30	25.72	22.360				
5,300.00	5,288.00	5,233.41	5,179.07	18.58	20.45	81.01	-128.89	577.07	593.43	567.22	26.21	22.638				
5,400.00	5,388.00	5,331.41	5,275.12	18.92	20.91	81.71	-133.33	596.04	611.93	585.22	26.71	22.908				
5,500.00	5,488.00	5,429.42	5,371.17	19.27	21.36	82.37	-137.77	615.00	630.52	603.31	27.21	23.172				
5,600.00	5,588.00	5,527.42	5,467.22	19.61	21.82	82.99	-142.20	633.97	649.18	621.47	27.71	23.428				
5,700.00	5,688.00	5,625.43	5,563.27	19.96	22.28	83.58	-146.64	652.93	667.91	639.70	28.21	23.677				
5,800.00	5,788.00	5,723.43	5,659.32	20.31	22.73	84.13	-151.08	671.90	686.71	658.00	28.71	23.919				
5,900.00	5,888.00	5,821.44	5,755.37	20.65	23.19	84.66	-155.51	690.86	705.57	676.36	29.21	24.154				
6,000.00	5,988.00	5,919.44	5,851.42	21.00	23.65	85.16	-159.95	709.83	724.48	694.76	29.71	24.383				
6,100.00	6,088.00	6,017.45	5,947.47	21.35	24.11	85.63	-164.39	728.80	743.44	713.22	30.21	24.605				
6,200.00	6,188.00	6,115.45	6,043.52	21.69	24.57	86.08	-168.82	747.76	762.44	731.73	30.72	24.821				
6,300.00	6,288.00	6,213.46	6,139.57	22.04	25.03	86.51	-173.26	766.73	781.49	750.27	31.22	25.032				
6,400.00	6,388.00	6,311.46	6,235.62	22.39	25.49	86.91	-177.69	785.69	800.58	768.86	31.72	25.236				
6,500.00	6,488.00	6,409.47	6,331.67	22.74	25.95	87.30	-182.13	804.66	819.71	787.48	32.23	25.435				

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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				
6,600.00	6,588.00	6,507.48	6,427.72	23.09	26.42	87.67	-186.57	823.62	838.87	806.14	32.73	25.629				
6,700.00	6,688.00	6,605.48	6,523.77	23.44	26.88	88.03	-191.00	842.59	858.07	824.83	33.24	25.817				
6,800.00	6,788.00	6,716.30	6,632.46	23.79	27.40	88.40	-195.92	863.62	876.96	843.14	33.83	25.926				
6,900.00	6,888.00	6,843.42	6,757.78	24.14	27.96	88.75	-200.77	884.35	893.19	858.70	34.50	25.892				
7,000.00	6,988.00	6,971.85	6,885.04	24.49	28.50	89.03	-204.71	901.17	906.24	871.10	35.14	25.791				
7,100.00	7,088.00	7,101.31	7,013.84	24.84	29.00	89.23	-207.68	913.89	916.03	880.29	35.75	25.626				
7,200.00	7,188.00	7,231.52	7,143.74	25.19	29.47	89.36	-209.67	922.40	922.55	886.23	36.32	25.401				
7,300.00	7,288.00	7,362.17	7,274.32	25.54	29.90	89.42	-210.66	926.60	925.75	888.90	36.85	25.119				
7,400.00	7,388.00	7,476.46	7,388.60	25.89	30.25	89.43	-210.77	927.07	926.11	888.76	37.35	24.797				
7,500.00	7,488.00	7,576.46	7,488.60	26.24	30.56	89.43	-210.77	927.07	926.11	888.28	37.83	24.482				
7,600.00	7,588.00	7,676.46	7,588.60	26.59	30.86	89.43	-210.77	927.07	926.11	887.80	38.31	24.174				
7,700.00	7,688.00	7,776.46	7,688.60	26.94	31.16	89.43	-210.77	927.07	926.11	887.32	38.79	23.873				
7,800.00	7,788.00	7,876.46	7,788.60	27.29	31.46	89.43	-210.77	927.07	926.11	886.83	39.28	23.579				
7,900.00	7,888.00	7,976.46	7,888.60	27.65	31.77	89.43	-210.77	927.07	926.11	886.35	39.76	23.292				
8,000.00	7,988.00	8,076.46	7,988.60	28.00	32.08	89.43	-210.77	927.07	926.11	885.87	40.24	23.012				
8,100.00	8,088.00	8,176.46	8,088.60	28.35	32.38	89.43	-210.77	927.07	926.11	885.38	40.73	22.738				
8,200.00	8,188.00	8,276.46	8,188.60	28.70	32.69	89.43	-210.77	927.07	926.11	884.90	41.21	22.470				
8,300.00	8,288.00	8,376.46	8,288.60	29.05	33.00	89.43	-210.77	927.07	926.11	884.41	41.70	22.208				
8,400.00	8,388.00	8,476.46	8,388.60	29.41	33.31	89.43	-210.77	927.07	926.11	883.92	42.19	21.952				
8,500.00	8,488.00	8,576.46	8,488.60	29.76	33.62	89.43	-210.77	927.07	926.11	883.44	42.67	21.702				
8,600.00	8,588.00	8,676.46	8,588.60	30.11	33.94	89.43	-210.77	927.07	926.11	882.95	43.16	21.457				
8,700.00	8,688.00	8,776.46	8,688.60	30.47	34.25	89.43	-210.77	927.07	926.11	882.46	43.65	21.217				
8,800.00	8,788.00	8,876.46	8,788.60	30.82	34.56	89.43	-210.77	927.07	926.11	881.97	44.14	20.982				
8,900.00	8,888.00	8,976.46	8,888.60	31.17	34.88	89.43	-210.77	927.07	926.11	881.48	44.63	20.752				
9,000.00	8,988.00	9,076.46	8,988.60	31.53	35.19	89.43	-210.77	927.07	926.11	881.00	45.12	20.527				
9,100.00	9,088.00	9,176.46	9,088.60	31.88	35.51	89.43	-210.77	927.07	926.11	880.51	45.61	20.307				
9,200.00	9,188.00	9,276.46	9,188.60	32.23	35.83	89.43	-210.77	927.07	926.11	880.02	46.10	20.091				
9,300.00	9,288.00	9,376.46	9,288.60	32.59	36.15	89.43	-210.77	927.07	926.11	879.53	46.59	19.880				
9,400.00	9,388.00	9,476.46	9,388.60	32.94	36.47	89.43	-210.77	927.07	926.11	879.03	47.08	19.673				
9,500.00	9,488.00	9,576.46	9,488.60	33.29	36.79	89.43	-210.77	927.07	926.11	878.54	47.57	19.469				
9,600.00	9,588.00	9,676.46	9,588.60	33.65	37.11	89.43	-210.77	927.07	926.11	878.05	48.06	19.270				
9,700.00	9,688.00	9,776.46	9,688.60	34.00	37.43	89.43	-210.77	927.07	926.11	877.56	48.55	19.075				
9,800.00	9,788.00	9,876.46	9,788.60	34.36	37.75	89.43	-210.77	927.07	926.11	877.07	49.04	18.884				
9,900.00	9,888.00	9,976.46	9,888.60	34.71	38.07	89.43	-210.77	927.07	926.11	876.58	49.53	18.696				
10,000.00	9,988.00	10,076.46	9,988.60	35.07	38.40	89.43	-210.77	927.07	926.11	876.08	50.03	18.512				
10,100.00	10,088.00	10,176.46	10,088.60	35.42	38.72	89.43	-210.77	927.07	926.11	875.59	50.52	18.332				
10,200.00	10,188.00	10,276.46	10,188.60	35.77	39.04	89.43	-210.77	927.07	926.11	875.10	51.01	18.154				
10,300.00	10,288.00	10,376.46	10,288.60	36.13	39.37	89.43	-210.77	927.07	926.11	874.60	51.51	17.981				
10,400.00	10,388.00	10,476.46	10,388.60	36.48	39.69	89.43	-210.77	927.07	926.11	874.11	52.00	17.810				
10,500.00	10,488.00	10,576.46	10,488.60	36.84	40.02	89.43	-210.77	927.07	926.11	873.62	52.49	17.642				
10,600.00	10,588.00	10,676.46	10,588.60	37.19	40.35	89.43	-210.77	927.07	926.11	873.12	52.99	17.478				
10,700.00	10,688.00	10,776.46	10,688.60	37.55	40.67	89.43	-210.77	927.07	926.11	872.63	53.48	17.316				
10,800.00	10,788.00	10,876.46	10,788.60	37.90	41.00	89.43	-210.77	927.07	926.11	872.13	53.98	17.158				
10,900.00	10,888.00	10,976.46	10,888.60	38.26	41.33	89.43	-210.77	927.07	926.11	871.64	54.47	17.002				
11,000.00	10,988.00	11,076.46	10,988.60	38.61	41.66	89.43	-210.77	927.07	926.11	871.14	54.97	16.849				
11,100.00	11,088.00	11,176.46	11,088.60	38.97	41.99	89.43	-210.77	927.07	926.11	870.65	55.46	16.698				
11,200.00	11,188.00	11,276.46	11,188.60	39.32	42.32	89.43	-210.77	927.07	926.11	870.15	55.96	16.550				
11,300.00	11,288.00	11,376.46	11,288.60	39.68	42.65	89.43	-210.77	927.07	926.11	869.66	56.45	16.405				
11,400.00	11,388.00	11,476.46	11,388.60	40.03	42.98	89.43	-210.77	927.07	926.11	869.16	56.95	16.262				
11,500.00	11,488.00	11,576.46	11,488.60	40.39	43.31	89.43	-210.77	927.07	926.11	868.67	57.45	16.122				
11,511.27	11,499.27	11,587.73	11,499.87	40.43	43.35	89.43	-210.77	927.07	926.11	868.61	57.50	16.106				
11,600.00	11,588.00	11,676.44	11,588.58	40.74	43.64	89.39	-210.20	927.06	926.11	868.17	57.94	15.984				

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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				
11,700.00	11,688.00	11,774.50	11,685.68	41.10	43.95	88.61	-197.49	926.93	926.21	867.77	58.44	15.850				
11,715.04	11,703.04	11,788.76	11,699.58	41.15	43.99	88.41	-194.26	926.90	926.27	867.76	58.51	15.830				
11,750.00	11,737.98	11,821.52	11,731.15	41.28	44.08	88.48	-185.55	926.82	926.46	867.78	58.68	15.788				
11,800.00	11,787.69	11,867.66	11,774.67	41.45	44.21	87.78	-170.25	926.66	926.85	867.93	58.91	15.732				
11,850.00	11,836.76	11,913.02	11,816.11	41.61	44.32	87.10	-151.85	926.48	927.36	868.22	59.14	15.682				
11,900.00	11,884.81	11,957.67	11,855.37	41.77	44.42	86.44	-130.59	926.27	927.98	868.64	59.34	15.638				
11,950.00	11,931.47	12,000.00	11,890.94	41.92	44.51	85.83	-107.67	926.04	928.69	869.16	59.53	15.601				
12,000.00	11,976.40	12,045.10	11,926.87	42.06	44.59	85.21	-80.43	925.77	929.47	869.76	59.71	15.567				
12,050.00	12,019.25	12,088.00	11,958.96	42.19	44.66	84.65	-51.98	925.49	930.29	870.42	59.87	15.539				
12,100.00	12,059.69	12,130.42	11,988.51	42.32	44.72	84.12	-21.56	925.19	931.14	871.12	60.01	15.515				
12,150.00	12,097.41	12,172.41	12,015.47	42.45	44.77	83.63	10.63	924.87	931.99	871.84	60.15	15.494				
12,200.00	12,132.14	12,214.04	12,039.79	42.57	44.81	83.19	44.39	924.54	932.82	872.54	60.28	15.476				
12,250.00	12,163.59	12,255.34	12,061.44	42.69	44.84	82.78	79.55	924.19	933.61	873.21	60.40	15.458				
12,300.00	12,191.55	12,300.00	12,081.94	42.81	44.87	82.40	119.22	923.79	934.35	873.83	60.53	15.437				
12,350.00	12,215.78	12,337.13	12,096.58	42.92	44.89	82.12	153.33	923.46	935.00	874.37	60.63	15.421				
12,400.00	12,236.12	12,377.70	12,110.02	43.04	44.91	81.87	191.60	923.08	935.57	874.81	60.75	15.400				
12,450.00	12,252.39	12,418.12	12,120.68	43.15	44.93	81.66	230.57	922.69	936.03	875.15	60.88	15.375				
12,500.00	12,264.49	12,458.41	12,128.55	43.27	44.96	81.51	270.08	922.30	936.38	875.36	61.01	15.347				
12,550.00	12,272.31	12,500.00	12,133.74	43.39	44.99	81.41	311.34	921.89	936.61	875.45	61.16	15.314				
12,600.00	12,275.80	12,538.78	12,135.87	43.51	45.02	81.37	350.05	921.51	936.71	875.40	61.31	15.278				
12,615.04	12,276.00	12,550.90	12,136.00	43.55	45.03	81.37	362.16	921.39	936.71	875.35	61.36	15.266				
12,700.00	12,276.00	12,635.81	12,136.00	43.78	45.15	81.37	447.07	920.55	936.71	875.02	61.69	15.185				
12,800.00	12,276.00	12,735.81	12,136.00	44.10	45.36	81.37	547.06	919.55	936.71	874.56	62.15	15.072				
12,900.00	12,276.00	12,835.81	12,136.00	44.49	45.65	81.37	647.06	918.56	936.71	874.02	62.69	14.941				
13,000.00	12,276.00	12,935.81	12,136.00	44.93	46.02	81.37	747.05	917.57	936.71	873.39	63.31	14.795				
13,100.00	12,276.00	13,035.81	12,136.00	45.43	46.46	81.37	847.05	916.58	936.70	872.69	64.01	14.633				
13,200.00	12,276.00	13,135.81	12,136.00	45.98	46.97	81.37	947.04	915.59	936.70	871.91	64.79	14.458				
13,300.00	12,276.00	13,235.81	12,136.00	46.59	47.54	81.37	1,047.04	914.60	936.70	871.06	65.64	14.271				
13,400.00	12,276.00	13,335.81	12,136.00	47.24	48.17	81.37	1,147.03	913.61	936.70	870.14	66.55	14.074				
13,500.00	12,276.00	13,435.81	12,136.00	47.94	48.85	81.37	1,247.03	912.62	936.70	869.16	67.54	13.869				
13,600.00	12,276.00	13,535.81	12,136.00	48.69	49.57	81.37	1,347.02	911.63	936.70	868.11	68.59	13.657				
13,700.00	12,276.00	13,635.81	12,136.00	49.48	50.34	81.37	1,447.02	910.63	936.69	867.00	69.70	13.440				
13,800.00	12,276.00	13,735.81	12,136.00	50.32	51.16	81.37	1,547.01	909.64	936.69	865.83	70.86	13.218				
13,900.00	12,276.00	13,835.81	12,136.00	51.19	52.01	81.37	1,647.01	908.65	936.69	864.60	72.09	12.994				
14,000.00	12,276.00	13,935.81	12,136.00	52.10	52.90	81.37	1,747.00	907.66	936.69	863.33	73.36	12.768				
14,100.00	12,276.00	14,035.81	12,136.00	53.05	53.83	81.37	1,847.00	906.67	936.69	862.00	74.69	12.541				
14,200.00	12,276.00	14,135.81	12,136.00	54.03	54.80	81.37	1,946.99	905.68	936.68	860.62	76.06	12.315				
14,300.00	12,276.00	14,235.81	12,136.00	55.04	55.79	81.37	2,046.99	904.69	936.68	859.20	77.48	12.089				
14,400.00	12,276.00	14,335.81	12,136.00	56.09	56.82	81.37	2,146.98	903.70	936.68	857.74	78.94	11.866				
14,500.00	12,276.00	14,435.81	12,136.00	57.16	57.87	81.37	2,246.98	902.71	936.68	856.24	80.44	11.644				
14,600.00	12,276.00	14,535.81	12,136.00	58.26	58.95	81.37	2,346.97	901.71	936.68	854.70	81.98	11.426				
14,700.00	12,276.00	14,635.81	12,136.00	59.38	60.06	81.37	2,446.97	900.72	936.68	853.12	83.55	11.211				
14,800.00	12,276.00	14,735.81	12,136.00	60.53	61.19	81.37	2,546.96	899.73	936.67	851.52	85.16	10.999				
14,900.00	12,276.00	14,835.81	12,136.00	61.71	62.35	81.37	2,646.96	898.74	936.67	849.87	86.80	10.791				
15,000.00	12,276.00	14,935.81	12,136.00	62.90	63.52	81.37	2,746.95	897.75	936.67	848.20	88.47	10.588				
15,100.00	12,276.00	15,035.81	12,136.00	64.11	64.72	81.37	2,846.95	896.76	936.67	846.50	90.17	10.388				
15,200.00	12,276.00	15,135.81	12,136.00	65.35	65.94	81.37	2,946.94	895.77	936.67	844.78	91.89	10.193				
15,300.00	12,276.00	15,235.81	12,136.00	66.60	67.17	81.37	3,046.94	894.78	936.66	843.02	93.64	10.003				
15,400.00	12,276.00	15,335.81	12,136.00	67.87	68.43	81.37	3,146.93	893.79	936.66	841.25	95.42	9.817				
15,500.00	12,276.00	15,435.81	12,136.00	69.15	69.70	81.37	3,246.93	892.80	936.66	839.45	97.21	9.635				
15,600.00	12,276.00	15,535.81	12,136.00	70.45	70.98	81.37	3,346.92	891.80	936.66	837.63	99.03	9.458				
15,700.00	12,276.00	15,635.81	12,136.00	71.77	72.28	81.37	3,446.92	890.81	936.66	835.79	100.87	9.286				

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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				
15,800.00	12,276.00	15,735.81	12,136.00	73.10	73.60	81.37	3,546.91	889.82	936.66	833.93	102.73	9.118				
15,900.00	12,276.00	15,835.81	12,136.00	74.44	74.93	81.37	3,646.91	888.83	936.65	832.05	104.60	8.954				
16,000.00	12,276.00	15,935.81	12,136.00	75.79	76.27	81.37	3,746.91	887.84	936.65	830.16	106.50	8.795				
16,100.00	12,276.00	16,035.81	12,136.00	77.16	77.62	81.37	3,846.90	886.85	936.65	828.24	108.41	8.640				
16,200.00	12,276.00	16,135.81	12,136.00	78.53	78.98	81.37	3,946.90	885.86	936.65	826.32	110.33	8.489				
16,300.00	12,276.00	16,235.81	12,136.00	79.92	80.36	81.37	4,046.89	884.87	936.65	824.38	112.27	8.343				
16,400.00	12,276.00	16,335.81	12,136.00	81.32	81.74	81.37	4,146.89	883.88	936.65	822.42	114.22	8.200				
16,500.00	12,276.00	16,435.81	12,136.00	82.72	83.14	81.37	4,246.88	882.88	936.64	820.45	116.19	8.061				
16,600.00	12,276.00	16,535.81	12,136.00	84.14	84.54	81.37	4,346.88	881.89	936.64	818.47	118.17	7.926				
16,700.00	12,276.00	16,635.81	12,136.00	85.56	85.95	81.37	4,446.87	880.90	936.64	816.48	120.16	7.795				
16,800.00	12,276.00	16,735.81	12,136.00	86.99	87.37	81.37	4,546.87	879.91	936.64	814.48	122.16	7.667				
16,900.00	12,276.00	16,835.81	12,136.00	88.43	88.80	81.37	4,646.86	878.92	936.64	812.46	124.17	7.543				
17,000.00	12,276.00	16,935.81	12,136.00	89.88	90.24	81.37	4,746.86	877.93	936.63	810.44	126.20	7.422				
17,100.00	12,276.00	17,035.81	12,136.00	91.34	91.68	81.37	4,846.85	876.94	936.63	808.40	128.23	7.304				
17,200.00	12,276.00	17,135.81	12,136.00	92.80	93.14	81.37	4,946.85	875.95	936.63	806.36	130.27	7.190				
17,300.00	12,276.00	17,235.81	12,136.00	94.26	94.59	81.37	5,046.84	874.96	936.63	804.31	132.32	7.078				
17,400.00	12,276.00	17,335.81	12,136.00	95.74	96.06	81.37	5,146.84	873.96	936.63	802.25	134.38	6.970				
17,500.00	12,276.00	17,435.81	12,136.00	97.21	97.53	81.37	5,246.83	872.97	936.63	800.18	136.45	6.864				
17,600.00	12,276.00	17,535.81	12,136.00	98.70	99.00	81.37	5,346.83	871.98	936.62	798.10	138.52	6.761				
17,700.00	12,276.00	17,635.81	12,136.00	100.19	100.48	81.37	5,446.82	870.99	936.62	796.02	140.61	6.661				
17,800.00	12,276.00	17,735.81	12,136.00	101.68	101.97	81.37	5,546.82	870.00	936.62	793.92	142.70	6.564				
17,900.00	12,276.00	17,835.81	12,136.00	103.18	103.46	81.37	5,646.81	869.01	936.62	791.83	144.79	6.469				
18,000.00	12,276.00	17,935.81	12,136.00	104.68	104.96	81.37	5,746.81	868.02	936.62	789.72	146.89	6.376				
18,100.00	12,276.00	18,035.81	12,136.00	106.19	106.46	81.37	5,846.80	867.03	936.61	787.61	149.00	6.286				
18,200.00	12,276.00	18,135.81	12,136.00	107.71	107.96	81.37	5,946.80	866.04	936.61	785.50	151.12	6.198				
18,300.00	12,276.00	18,235.81	12,136.00	109.22	109.47	81.37	6,046.79	865.05	936.61	783.37	153.24	6.112				
18,400.00	12,276.00	18,335.81	12,136.00	110.74	110.98	81.37	6,146.79	864.05	936.61	781.25	155.36	6.029				
18,500.00	12,276.00	18,435.81	12,136.00	112.27	112.50	81.37	6,246.78	863.06	936.61	779.12	157.49	5.947				
18,600.00	12,276.00	18,535.81	12,136.00	113.79	114.02	81.37	6,346.78	862.07	936.61	776.98	159.63	5.867				
18,700.00	12,276.00	18,635.81	12,136.00	115.33	115.55	81.37	6,446.77	861.08	936.60	774.84	161.77	5.790				
18,800.00	12,276.00	18,735.81	12,136.00	116.86	117.07	81.37	6,546.77	860.09	936.60	772.69	163.91	5.714				
18,900.00	12,276.00	18,835.81	12,136.00	118.40	118.61	81.37	6,646.76	859.10	936.60	770.54	166.06	5.640				
19,000.00	12,276.00	18,935.81	12,136.00	119.94	120.14	81.37	6,746.76	858.11	936.60	768.38	168.21	5.568				
19,100.00	12,276.00	19,035.81	12,136.00	121.48	121.68	81.37	6,846.75	857.12	936.60	766.23	170.37	5.497				
19,200.00	12,276.00	19,135.81	12,136.00	123.03	123.22	81.37	6,946.75	856.13	936.60	764.06	172.53	5.429				
19,300.00	12,276.00	19,235.81	12,136.00	124.58	124.76	81.37	7,046.74	855.13	936.59	761.90	174.70	5.361				
19,400.00	12,276.00	19,335.81	12,136.00	126.13	126.31	81.37	7,146.74	854.14	936.59	759.73	176.87	5.296				
19,500.00	12,276.00	19,435.81	12,136.00	127.68	127.86	81.37	7,246.73	853.15	936.59	757.55	179.04	5.231				
19,600.00	12,276.00	19,535.81	12,136.00	129.24	129.41	81.37	7,346.73	852.16	936.59	755.38	181.21	5.168				
19,700.00	12,276.00	19,635.81	12,136.00	130.80	130.96	81.37	7,446.72	851.17	936.59	753.20	183.39	5.107				
19,800.00	12,276.00	19,735.81	12,136.00	132.36	132.52	81.37	7,546.72	850.18	936.58	751.01	185.57	5.047				
19,900.00	12,276.00	19,835.81	12,136.00	133.93	134.08	81.37	7,646.71	849.19	936.58	748.83	187.76	4.988				
20,000.00	12,276.00	19,935.81	12,136.00	135.49	135.64	81.37	7,746.71	848.20	936.58	746.64	189.94	4.931				
20,100.00	12,276.00	20,035.81	12,136.00	137.06	137.20	81.37	7,846.70	847.21	936.58	744.45	192.13	4.875				
20,200.00	12,276.00	20,135.81	12,136.00	138.63	138.77	81.37	7,946.70	846.21	936.58	742.25	194.33	4.820				
20,300.00	12,276.00	20,235.81	12,136.00	140.20	140.33	81.37	8,046.69	845.22	936.58	740.05	196.52	4.766				
20,400.00	12,276.00	20,335.81	12,136.00	141.77	141.90	81.37	8,146.69	844.23	936.57	737.86	198.72	4.713				
20,500.00	12,276.00	20,435.81	12,136.00	143.35	143.47	81.37	8,246.68	843.24	936.57	735.65	200.92	4.661				
20,600.00	12,276.00	20,535.81	12,136.00	144.93	145.05	81.37	8,346.68	842.25	936.57	733.45	203.12	4.611				
20,700.00	12,276.00	20,635.81	12,136.00	146.50	146.62	81.37	8,446.67	841.26	936.57	731.24	205.33	4.561				
20,800.00	12,276.00	20,735.81	12,136.00	148.08	148.20	81.37	8,546.67	840.27	936.57	729.03	207.53	4.513				
20,900.00	12,276.00	20,835.81	12,136.00	149.67	149.77	81.37	8,646.66	839.28	936.56	726.82	209.74	4.465				

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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				
21,000.00	12,276.00	20,935.81	12,136.00	151.25	151.35	81.37	8,746.66	838.29	936.56	724.61	211.95	4.419				
21,100.00	12,276.00	21,035.81	12,136.00	152.83	152.93	81.37	8,846.65	837.30	936.56	722.40	214.16	4.373				
21,200.00	12,276.00	21,135.81	12,136.00	154.42	154.52	81.37	8,946.65	836.30	936.56	720.18	216.38	4.328				
21,300.00	12,276.00	21,235.81	12,136.00	156.01	156.10	81.37	9,046.64	835.31	936.56	717.96	218.59	4.284				
21,400.00	12,276.00	21,335.81	12,136.00	157.60	157.68	81.37	9,146.64	834.32	936.56	715.74	220.81	4.241				
21,500.00	12,276.00	21,435.81	12,136.00	159.19	159.27	81.37	9,246.64	833.33	936.55	713.52	223.03	4.199				
21,600.00	12,276.00	21,535.81	12,136.00	160.78	160.86	81.37	9,346.63	832.34	936.55	711.30	225.26	4.158				
21,700.00	12,276.00	21,635.81	12,136.00	162.37	162.45	81.37	9,446.63	831.35	936.55	709.07	227.48	4.117				
21,800.00	12,276.00	21,735.81	12,136.00	163.96	164.04	81.37	9,546.62	830.36	936.55	706.85	229.70	4.077				
21,900.00	12,276.00	21,835.81	12,136.00	165.56	165.63	81.37	9,646.62	829.37	936.55	704.62	231.93	4.038				
22,000.00	12,276.00	21,935.81	12,136.00	167.16	167.22	81.37	9,746.61	828.38	936.55	702.39	234.16	4.000				
22,100.00	12,276.00	22,035.81	12,136.00	168.75	168.82	81.37	9,846.61	827.38	936.54	700.16	236.38	3.962				
22,200.00	12,276.00	22,135.81	12,136.00	170.35	170.41	81.37	9,946.60	826.39	936.54	697.93	238.61	3.925				
22,300.00	12,276.00	22,235.81	12,136.00	171.95	172.01	81.37	10,046.60	825.40	936.54	695.69	240.85	3.889				
22,400.00	12,276.00	22,335.81	12,136.00	173.55	173.61	81.37	10,146.59	824.41	936.54	693.46	243.08	3.853				
22,407.87	12,276.00	22,343.67	12,136.00	173.68	173.75	81.37	10,154.46	824.33	936.54	693.28	243.26	3.850				
22,410.08	12,276.00	22,343.71	12,136.00	173.71	173.75	81.37	10,154.50	824.33	936.54	693.24	243.30	3.849				

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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	1,887.90	1,887.90	6.37	6.53	98.61	-504.34	3,330.26	3,368.23	3,359.10	9.13	368.992		
1,900.00	1,900.00	1,944.90	1,944.90	6.58	6.74	98.61	-504.34	3,330.26	3,368.23	3,358.81	9.42	357.671		
2,000.00	2,000.00	2,044.90	2,044.90	6.94	7.10	98.61	-504.34	3,330.26	3,368.23	3,358.31	9.92	339.401		
2,100.00	2,100.00	2,144.90	2,144.90	7.29	7.46	98.61	-504.34	3,330.26	3,368.23	3,357.80	10.43	322.907		
2,200.00	2,200.00	2,244.90	2,244.90	7.65	7.81	98.61	-504.34	3,330.26	3,368.23	3,357.29	10.94	307.941		
2,300.00	2,299.99	2,344.89	2,344.89	7.99	8.17	-81.15	-504.34	3,330.26	3,368.03	3,356.60	11.43	294.619		
2,400.00	2,399.91	2,444.81	2,444.81	8.32	8.53	-81.23	-504.34	3,330.26	3,367.43	3,355.51	11.91	282.643		
2,500.00	2,499.69	2,544.59	2,544.59	8.65	8.89	-81.35	-504.34	3,330.26	3,366.44	3,354.04	12.40	271.528		
2,600.00	2,599.27	2,644.17	2,644.17	8.97	9.25	-81.53	-504.34	3,330.26	3,365.07	3,352.18	12.88	261.172		
2,652.97	2,651.91	2,696.81	2,696.81	9.15	9.43	-81.64	-504.34	3,330.26	3,364.20	3,351.05	13.14	255.964		
2,700.00	2,698.61	2,743.51	2,743.51	9.31	9.60	-81.73	-504.34	3,330.26	3,363.39	3,350.01	13.37	251.489		
2,800.00	2,797.91	2,842.81	2,842.81	9.65	9.96	-81.93	-504.34	3,330.26	3,361.69	3,347.83	13.87	242.423		
2,900.00	2,897.20	2,942.10	2,942.10	10.00	10.31	-82.13	-504.34	3,330.26	3,360.04	3,345.68	14.36	233.926		
3,000.00	2,996.50	3,041.40	3,041.40	10.35	10.67	-82.33	-504.34	3,330.26	3,358.43	3,343.57	14.86	225.952		
3,100.00	3,095.80	3,140.70	3,140.70	10.70	11.03	-82.52	-504.34	3,330.26	3,356.86	3,341.50	15.37	218.460		
3,200.00	3,195.10	3,240.00	3,240.00	11.06	11.38	-82.72	-504.34	3,330.26	3,355.33	3,339.46	15.87	211.412		
3,300.00	3,294.39	3,339.29	3,339.29	11.42	11.74	-82.92	-504.34	3,330.26	3,353.84	3,337.46	16.38	204.771		
3,400.00	3,393.69	3,438.59	3,438.59	11.79	12.09	-83.12	-504.34	3,330.26	3,352.40	3,335.51	16.89	198.507		
3,500.00	3,492.99	3,537.89	3,537.89	12.16	12.45	-83.32	-504.34	3,330.26	3,350.99	3,333.59	17.40	192.592		
3,600.00	3,592.29	3,637.19	3,637.19	12.53	12.81	-83.52	-504.34	3,330.26	3,349.63	3,331.71	17.91	186.997		
3,700.00	3,691.59	3,736.49	3,736.49	12.90	13.16	-83.72	-504.34	3,330.26	3,348.30	3,329.87	18.43	181.701		
3,800.00	3,790.88	3,835.78	3,835.78	13.27	13.52	-83.92	-504.34	3,330.26	3,347.02	3,328.08	18.94	176.681		
3,900.00	3,890.18	3,935.08	3,935.08	13.65	13.87	-84.12	-504.34	3,330.26	3,345.78	3,326.32	19.46	171.918		
4,000.00	3,989.48	4,034.38	4,034.38	14.03	14.23	-84.32	-504.34	3,330.26	3,344.58	3,324.60	19.98	167.392		
4,059.03	4,048.09	4,092.99	4,092.99	14.25	14.44	-84.44	-504.34	3,330.26	3,343.89	3,323.60	20.29	164.826		
4,100.00	4,088.80	4,133.70	4,133.70	14.41	14.59	-84.51	-504.34	3,330.26	3,343.44	3,322.94	20.50	163.094		
4,200.00	4,188.35	4,233.25	4,233.25	14.78	14.94	-84.66	-504.34	3,330.26	3,342.54	3,321.53	21.02	159.045		
4,300.00	4,288.11	4,333.01	4,333.01	15.15	15.30	-84.77	-504.34	3,330.26	3,341.91	3,320.38	21.53	155.240		
4,400.00	4,388.02	4,432.92	4,432.92	15.50	15.66	-84.83	-504.34	3,330.26	3,341.53	3,319.49	22.03	151.663		
4,500.00	4,488.00	4,532.90	4,532.90	15.85	16.02	-84.86	-504.34	3,330.26	3,341.38	3,318.85	22.53	148.296		
4,512.00	4,500.00	4,544.90	4,544.90	15.89	16.06	94.88	-504.34	3,330.26	3,341.38	3,318.79	22.59	147.907		
4,600.00	4,588.00	4,632.90	4,632.90	16.19	16.37	94.88	-504.34	3,330.26	3,341.38	3,318.35	23.02	145.120		
4,700.00	4,688.00	4,732.90	4,732.90	16.53	16.73	94.88	-504.34	3,330.26	3,341.38	3,317.86	23.52	142.074		
4,800.00	4,788.00	4,832.90	4,832.90	16.87	17.09	94.88	-504.34	3,330.26	3,341.38	3,317.37	24.01	139.150		
4,900.00	4,888.00	4,932.90	4,932.90	17.21	17.45	94.88	-504.34	3,330.26	3,341.38	3,316.87	24.51	136.342		
5,000.00	4,988.00	5,032.90	5,032.90	17.55	17.81	94.88	-504.34	3,330.26	3,341.38	3,316.38	25.00	133.642		
5,100.00	5,088.00	5,132.90	5,132.90	17.89	18.17	94.88	-504.34	3,330.26	3,341.38	3,315.88	25.50	131.044		
5,200.00	5,188.00	5,232.90	5,232.90	18.24	18.53	94.88	-504.34	3,330.26	3,341.38	3,315.38	25.99	128.543		
5,300.00	5,288.00	5,332.90	5,332.90	18.58	18.88	94.88	-504.34	3,330.26	3,341.38	3,314.89	26.49	126.134		
5,400.00	5,388.00	5,432.90	5,432.90	18.92	19.24	94.88	-504.34	3,330.26	3,341.38	3,314.39	26.99	123.812		
5,400.33	5,388.33	5,433.23	5,433.23	18.93	19.24	94.88	-504.34	3,330.26	3,341.38	3,314.39	26.99	123.805		
5,500.00	5,488.00	5,530.39	5,530.39	19.27	19.59	94.88	-504.46	3,330.26	3,341.39	3,313.92	27.47	121.619		
5,600.00	5,588.00	5,622.73	5,622.71	19.61	19.90	94.92	-506.31	3,330.28	3,341.58	3,313.64	27.94	119.612		
5,700.00	5,688.00	5,714.92	5,714.80	19.96	20.19	94.98	-510.38	3,330.32	3,342.00	3,313.61	28.39	117.716		
5,800.00	5,788.00	5,806.86	5,806.53	20.31	20.49	95.09	-516.66	3,330.37	3,342.67	3,313.82	28.84	115.888		
5,900.00	5,888.00	5,904.19	5,903.50	20.65	20.81	95.23	-525.05	3,330.45	3,343.53	3,314.22	29.31	114.071		
6,000.00	5,988.00	6,003.81	6,002.74	21.00	21.13	95.38	-533.73	3,330.53	3,344.42	3,314.63	29.79	112.284		
6,100.00	6,088.00	6,103.43	6,101.98	21.35	21.45	95.53	-542.42	3,330.61	3,345.33	3,315.07	30.26	110.548		
6,200.00	6,188.00	6,203.05	6,201.22	21.69	21.78	95.68	-551.10	3,330.69	3,346.27	3,315.53	30.74	108.861		
6,300.00	6,288.00	6,302.67	6,300.46	22.04	22.11	95.83	-559.79	3,330.77	3,347.22	3,316.01	31.22	107.221		
6,400.00	6,388.00	6,402.29	6,399.70	22.39	22.44	95.97	-568.47	3,330.86	3,348.20	3,316.51	31.70	105.626		
6,500.00	6,488.00	6,501.91	6,498.94	22.74	22.78	96.12	-577.15	3,330.94	3,349.21	3,317.03	32.18	104.075		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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 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	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				
6,600.00	6,588.00	6,601.53	6,598.18	23.09	23.11	96.27	-585.84	3,331.02	3,350.23	3,317.57	32.66	102.566				
6,700.00	6,688.00	6,701.15	6,697.42	23.44	23.45	96.42	-594.52	3,331.10	3,351.28	3,318.13	33.15	101.098				
6,800.00	6,788.00	6,800.77	6,796.66	23.79	23.79	96.56	-603.21	3,331.18	3,352.35	3,318.72	33.63	99.670				
6,900.00	6,888.00	6,900.39	6,895.90	24.14	24.13	96.71	-611.89	3,331.26	3,353.44	3,319.32	34.12	98.279				
7,000.00	6,988.00	7,000.00	6,995.14	24.49	24.47	96.86	-620.58	3,331.34	3,354.56	3,319.95	34.61	96.925				
7,100.00	7,088.00	7,099.62	7,094.38	24.84	24.81	97.01	-629.26	3,331.42	3,355.69	3,320.59	35.10	95.606				
7,200.00	7,188.00	7,199.24	7,193.62	25.19	25.15	97.15	-637.95	3,331.50	3,356.85	3,321.26	35.59	94.321				
7,300.00	7,288.00	7,298.86	7,292.86	25.54	25.50	97.30	-646.63	3,331.58	3,358.03	3,321.95	36.08	93.070				
7,400.00	7,388.00	7,398.48	7,392.10	25.89	25.84	97.45	-655.31	3,331.66	3,359.24	3,322.66	36.57	91.850				
7,500.00	7,488.00	7,498.10	7,491.34	26.24	26.19	97.59	-664.00	3,331.74	3,360.46	3,323.40	37.07	90.661				
7,600.00	7,588.00	7,610.37	7,603.29	26.59	26.58	97.74	-672.49	3,331.82	3,361.55	3,323.96	37.59	89.424				
7,700.00	7,688.00	7,724.86	7,717.64	26.94	26.97	97.83	-677.78	3,331.87	3,362.22	3,324.10	38.12	88.203				
7,800.00	7,788.00	7,839.55	7,832.32	27.29	27.37	97.86	-679.63	3,331.89	3,362.45	3,323.81	38.65	87.006				
7,900.00	7,888.00	7,940.14	7,932.90	27.65	27.72	97.86	-679.64	3,331.89	3,362.45	3,323.31	39.15	85.895				
8,000.00	7,988.00	8,040.14	8,032.90	28.00	28.08	97.86	-679.64	3,331.89	3,362.45	3,322.81	39.64	84.815				
8,100.00	8,088.00	8,140.14	8,132.90	28.35	28.43	97.86	-679.64	3,331.89	3,362.45	3,322.31	40.14	83.761				
8,200.00	8,188.00	8,240.14	8,232.90	28.70	28.78	97.86	-679.64	3,331.89	3,362.45	3,321.81	40.64	82.732				
8,300.00	8,288.00	8,340.14	8,332.90	29.05	29.14	97.86	-679.64	3,331.89	3,362.45	3,321.31	41.14	81.728				
8,400.00	8,388.00	8,440.14	8,432.90	29.41	29.49	97.86	-679.64	3,331.89	3,362.45	3,320.81	41.64	80.748				
8,500.00	8,488.00	8,540.14	8,532.90	29.76	29.84	97.86	-679.64	3,331.89	3,362.45	3,320.31	42.14	79.791				
8,600.00	8,588.00	8,640.14	8,632.90	30.11	30.20	97.86	-679.64	3,331.89	3,362.45	3,319.81	42.64	78.855				
8,700.00	8,688.00	8,740.14	8,732.90	30.47	30.55	97.86	-679.64	3,331.89	3,362.45	3,319.31	43.14	77.941				
8,800.00	8,788.00	8,840.14	8,832.90	30.82	30.90	97.86	-679.64	3,331.89	3,362.45	3,318.81	43.64	77.048				
8,900.00	8,888.00	8,940.14	8,932.90	31.17	31.26	97.86	-679.64	3,331.89	3,362.45	3,318.31	44.14	76.175				
9,000.00	8,988.00	9,040.14	9,032.90	31.53	31.61	97.86	-679.64	3,331.89	3,362.45	3,317.81	44.64	75.321				
9,100.00	9,088.00	9,140.14	9,132.90	31.88	31.97	97.86	-679.64	3,331.89	3,362.45	3,317.31	45.14	74.486				
9,200.00	9,188.00	9,240.14	9,232.90	32.23	32.32	97.86	-679.64	3,331.89	3,362.45	3,316.81	45.64	73.668				
9,300.00	9,288.00	9,340.14	9,332.90	32.59	32.68	97.86	-679.64	3,331.89	3,362.45	3,316.31	46.14	72.869				
9,400.00	9,388.00	9,440.14	9,432.90	32.94	33.03	97.86	-679.64	3,331.89	3,362.45	3,315.81	46.64	72.086				
9,500.00	9,488.00	9,540.14	9,532.90	33.29	33.39	97.86	-679.64	3,331.89	3,362.45	3,315.31	47.15	71.320				
9,600.00	9,588.00	9,640.14	9,632.90	33.65	33.74	97.86	-679.64	3,331.89	3,362.45	3,314.81	47.65	70.570				
9,700.00	9,688.00	9,740.14	9,732.90	34.00	34.10	97.86	-679.64	3,331.89	3,362.45	3,314.30	48.15	69.835				
9,800.00	9,788.00	9,840.14	9,832.90	34.36	34.45	97.86	-679.64	3,331.89	3,362.45	3,313.80	48.65	69.115				
9,900.00	9,888.00	9,940.14	9,932.90	34.71	34.81	97.86	-679.64	3,331.89	3,362.45	3,313.30	49.15	68.409				
10,000.00	9,988.00	10,040.14	10,032.90	35.07	35.16	97.86	-679.64	3,331.89	3,362.45	3,312.80	49.65	67.718				
10,100.00	10,088.00	10,140.14	10,132.90	35.42	35.52	97.86	-679.64	3,331.89	3,362.45	3,312.30	50.16	67.041				
10,200.00	10,188.00	10,240.14	10,232.90	35.77	35.87	97.86	-679.64	3,331.89	3,362.45	3,311.80	50.66	66.376				
10,300.00	10,288.00	10,340.14	10,332.90	36.13	36.23	97.86	-679.64	3,331.89	3,362.45	3,311.29	51.16	65.725				
10,400.00	10,388.00	10,440.14	10,432.90	36.48	36.58	97.86	-679.64	3,331.89	3,362.45	3,310.79	51.66	65.086				
10,500.00	10,488.00	10,540.14	10,532.90	36.84	36.94	97.86	-679.64	3,331.89	3,362.45	3,310.29	52.16	64.460				
10,600.00	10,588.00	10,640.14	10,632.90	37.19	37.29	97.86	-679.64	3,331.89	3,362.45	3,309.79	52.67	63.845				
10,700.00	10,688.00	10,740.14	10,732.90	37.55	37.65	97.86	-679.64	3,331.89	3,362.45	3,309.28	53.17	63.242				
10,800.00	10,788.00	10,840.14	10,832.90	37.90	38.00	97.86	-679.64	3,331.89	3,362.45	3,308.78	53.67	62.650				
10,900.00	10,888.00	10,940.14	10,932.90	38.26	38.36	97.86	-679.64	3,331.89	3,362.45	3,308.28	54.17	62.068				
11,000.00	10,988.00	11,346.50	11,314.60	38.61	39.64	95.93	-565.83	3,330.81	3,359.55	3,304.35	55.20	60.856				
11,100.00	11,088.00	11,609.88	11,482.73	38.97	40.32	92.51	-366.10	3,328.92	3,349.44	3,293.57	55.87	59.949				
11,200.00	11,188.00	11,705.15	11,518.62	39.32	40.57	91.00	-277.98	3,328.08	3,339.83	3,283.47	56.36	59.254				
11,300.00	11,288.00	11,751.47	11,530.66	39.68	40.70	90.23	-233.27	3,327.66	3,332.56	3,275.79	56.77	58.701				
11,400.00	11,388.00	11,778.51	11,536.01	40.03	40.77	89.77	-206.76	3,327.41	3,328.03	3,270.91	57.12	58.263				
11,500.00	11,488.00	11,796.16	11,538.83	40.39	40.82	89.47	-189.34	3,327.24	3,326.39	3,268.97	57.42	57.929				
11,506.05	11,494.05	11,797.04	11,538.95	40.41	40.82	89.46	-188.48	3,327.23	3,326.38	3,268.94	57.44	57.912 CC				
11,600.00	11,588.00	11,808.57	11,540.48	40.74	40.85	89.26	-177.04	3,327.13	3,327.69	3,270.00	57.68	57.690				

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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		
11,700.00	11,688.00	11,817.76	11,541.54	41.10	40.88	89.10	-167.91	3,327.04	3,331.95	3,274.04	57.90	57.542		
11,715.04	11,703.04	11,818.94	11,541.66	41.15	40.88	89.08	-166.74	3,327.03	3,332.84	3,274.91	57.93	57.528		
11,750.00	11,737.98	11,822.26	11,542.00	41.28	40.89	89.36	-163.44	3,327.00	3,335.18	3,277.18	58.00	57.501		
11,800.00	11,787.69	11,828.97	11,542.63	41.45	40.91	88.85	-156.76	3,326.93	3,339.10	3,281.00	58.09	57.479		
11,850.00	11,836.76	11,837.63	11,543.32	41.61	40.93	88.25	-148.13	3,326.85	3,343.64	3,285.47	58.17	57.476		
11,900.00	11,884.81	11,850.00	11,544.08	41.77	40.96	87.54	-135.78	3,326.73	3,348.75	3,290.50	58.25	57.486		
11,950.00	11,931.47	11,850.00	11,544.08	41.92	40.96	86.97	-135.78	3,326.73	3,354.38	3,296.08	58.30	57.539		
12,000.00	11,976.40	11,872.34	11,544.78	42.06	41.03	86.03	-113.45	3,326.52	3,360.38	3,302.00	58.38	57.563		
12,050.00	12,019.25	11,894.89	11,544.60	42.19	41.09	85.06	-90.91	3,326.31	3,366.75	3,308.30	58.45	57.602		
12,100.00	12,059.69	11,906.40	11,544.28	42.32	41.13	84.24	-79.40	3,326.20	3,373.33	3,314.83	58.50	57.668		
12,150.00	12,097.41	11,938.14	11,543.41	42.45	41.24	83.16	-47.68	3,325.90	3,379.97	3,321.39	58.59	57.693		
12,200.00	12,132.14	11,973.12	11,542.44	42.57	41.35	82.08	-12.71	3,325.57	3,386.50	3,327.82	58.68	57.709		
12,250.00	12,163.59	12,011.08	11,541.40	42.69	41.49	81.04	25.23	3,325.21	3,392.76	3,333.97	58.79	57.710		
12,300.00	12,191.55	12,051.73	11,540.28	42.81	41.65	80.06	65.87	3,324.82	3,398.62	3,339.70	58.92	57.683		
12,350.00	12,215.78	12,094.76	11,539.09	42.92	41.82	79.17	108.88	3,324.42	3,403.94	3,344.88	59.06	57.635		
12,400.00	12,236.12	12,139.85	11,537.85	43.04	42.02	78.39	153.94	3,323.99	3,408.60	3,349.37	59.23	57.549		
12,450.00	12,252.39	12,186.64	11,536.56	43.15	42.24	77.74	200.72	3,323.55	3,412.50	3,353.08	59.42	57.434		
12,500.00	12,264.49	12,234.79	11,535.23	43.27	42.48	77.23	248.84	3,323.09	3,415.53	3,355.90	59.63	57.279		
12,550.00	12,272.31	12,283.92	11,533.87	43.39	42.73	76.87	297.96	3,322.62	3,417.65	3,357.78	59.86	57.090		
12,600.00	12,275.80	12,333.67	11,532.50	43.51	43.01	76.68	347.68	3,322.15	3,418.79	3,358.66	60.13	56.861		
12,615.04	12,276.00	12,348.69	11,532.09	43.55	43.10	76.66	362.70	3,322.01	3,418.93	3,358.73	60.21	56.786		
12,700.00	12,276.00	12,433.62	11,529.75	43.78	43.60	76.62	447.59	3,321.21	3,419.51	3,358.80	60.71	56.327		
12,800.00	12,276.00	12,533.58	11,526.99	44.10	44.25	76.58	547.51	3,320.26	3,420.19	3,358.82	61.37	55.730		
12,900.00	12,276.00	12,633.55	11,524.23	44.49	44.95	76.53	647.43	3,319.31	3,420.87	3,358.76	62.11	55.077		
13,000.00	12,276.00	12,733.51	11,521.48	44.93	45.69	76.49	747.35	3,318.36	3,421.55	3,358.63	62.92	54.375		
13,100.00	12,276.00	12,833.47	11,518.72	45.43	46.49	76.44	847.27	3,317.42	3,422.24	3,358.43	63.81	53.632		
13,200.00	12,276.00	12,933.43	11,515.96	45.98	47.32	76.40	947.19	3,316.47	3,422.93	3,358.17	64.76	52.854		
13,300.00	12,276.00	13,033.39	11,513.21	46.59	48.20	76.35	1,047.11	3,315.52	3,423.62	3,357.84	65.78	52.047		
13,400.00	12,276.00	13,133.36	11,510.45	47.24	49.12	76.31	1,147.03	3,314.58	3,424.31	3,357.45	66.86	51.217		
13,500.00	12,276.00	13,233.32	11,507.70	47.94	50.08	76.26	1,246.95	3,313.63	3,425.01	3,357.01	68.00	50.369		
13,600.00	12,276.00	13,333.28	11,504.94	48.69	51.07	76.22	1,346.87	3,312.68	3,425.70	3,356.51	69.19	49.510		
13,700.00	12,276.00	13,433.24	11,502.18	49.48	52.10	76.18	1,446.79	3,311.74	3,426.40	3,355.96	70.44	48.643		
13,800.00	12,276.00	13,533.20	11,499.43	50.32	53.16	76.13	1,546.71	3,310.79	3,427.10	3,355.36	71.74	47.772		
13,900.00	12,276.00	13,633.17	11,496.67	51.19	54.24	76.09	1,646.63	3,309.84	3,427.80	3,354.72	73.08	46.903		
14,000.00	12,276.00	13,733.13	11,493.91	52.10	55.36	76.04	1,746.55	3,308.90	3,428.51	3,354.03	74.47	46.036		
14,100.00	12,276.00	13,833.09	11,491.16	53.05	56.50	76.00	1,846.47	3,307.95	3,429.21	3,353.31	75.91	45.177		
14,200.00	12,276.00	13,933.05	11,488.40	54.03	57.67	75.95	1,946.39	3,307.00	3,429.92	3,352.54	77.38	44.327		
14,300.00	12,276.00	14,033.01	11,485.65	55.04	58.86	75.91	2,046.30	3,306.05	3,430.63	3,351.75	78.89	43.487		
14,400.00	12,276.00	14,132.98	11,482.89	56.09	60.07	75.86	2,146.22	3,305.11	3,431.35	3,350.91	80.43	42.660		
14,500.00	12,276.00	14,232.94	11,480.13	57.16	61.30	75.82	2,246.14	3,304.16	3,432.06	3,350.05	82.01	41.848		
14,600.00	12,276.00	14,332.90	11,477.38	58.26	62.55	75.77	2,346.06	3,303.21	3,432.78	3,349.16	83.62	41.051		
14,700.00	12,276.00	14,432.86	11,474.62	59.38	63.82	75.73	2,445.98	3,302.27	3,433.50	3,348.24	85.26	40.270		
14,800.00	12,276.00	14,532.82	11,471.86	60.53	65.11	75.69	2,545.90	3,301.32	3,434.22	3,347.29	86.93	39.506		
14,900.00	12,276.00	14,632.79	11,469.11	61.71	66.41	75.64	2,645.82	3,300.37	3,434.94	3,346.32	88.62	38.759		
15,000.00	12,276.00	14,732.75	11,466.35	62.90	67.73	75.60	2,745.74	3,299.43	3,435.67	3,345.33	90.34	38.030		
15,100.00	12,276.00	14,832.71	11,463.60	64.11	69.06	75.55	2,845.66	3,298.48	3,436.40	3,344.31	92.08	37.318		
15,200.00	12,276.00	14,932.67	11,460.84	65.35	70.41	75.51	2,945.58	3,297.53	3,437.13	3,343.28	93.85	36.625		
15,300.00	12,276.00	15,032.63	11,458.08	66.60	71.77	75.46	3,045.50	3,296.58	3,437.86	3,342.23	95.63	35.949		
15,400.00	12,276.00	15,132.60	11,455.33	67.87	73.14	75.42	3,145.42	3,295.64	3,438.59	3,341.16	97.43	35.291		
15,500.00	12,276.00	15,232.56	11,452.57	69.15	74.52	75.38	3,245.34	3,294.69	3,439.33	3,340.07	99.26	34.651		
15,600.00	12,276.00	15,332.52	11,449.81	70.45	75.91	75.33	3,345.26	3,293.74	3,440.06	3,338.97	101.10	34.028		
15,700.00	12,276.00	15,432.48	11,447.06	71.77	77.32	75.29	3,445.18	3,292.80	3,440.80	3,337.85	102.95	33.422		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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		
15,800.00	12,276.00	15,532.44	11,444.30	73.10	78.73	75.24	3,545.10	3,291.85	3,441.54	3,336.72	104.82	32.832		
15,900.00	12,276.00	15,632.41	11,441.55	74.44	80.15	75.20	3,645.02	3,290.90	3,442.29	3,335.58	106.71	32.259		
16,000.00	12,276.00	15,732.37	11,438.79	75.79	81.58	75.15	3,744.94	3,289.96	3,443.03	3,334.43	108.61	31.702		
16,100.00	12,276.00	15,832.33	11,436.03	77.16	83.02	75.11	3,844.86	3,289.01	3,443.78	3,333.26	110.52	31.160		
16,200.00	12,276.00	15,932.29	11,433.28	78.53	84.47	75.07	3,944.78	3,288.06	3,444.53	3,332.09	112.44	30.634		
16,300.00	12,276.00	16,032.25	11,430.52	79.92	85.92	75.02	4,044.69	3,287.11	3,445.28	3,330.91	114.38	30.122		
16,400.00	12,276.00	16,132.22	11,427.76	81.32	87.38	74.98	4,144.61	3,286.17	3,446.04	3,329.72	116.32	29.625		
16,500.00	12,276.00	16,232.18	11,425.01	82.72	88.85	74.93	4,244.53	3,285.22	3,446.79	3,328.52	118.28	29.141		
16,600.00	12,276.00	16,332.14	11,422.25	84.14	90.32	74.89	4,344.45	3,284.27	3,447.55	3,327.31	120.24	28.671		
16,700.00	12,276.00	16,432.10	11,419.50	85.56	91.80	74.85	4,444.37	3,283.33	3,448.31	3,326.09	122.22	28.214		
16,800.00	12,276.00	16,532.06	11,416.74	86.99	93.29	74.80	4,544.29	3,282.38	3,449.08	3,324.87	124.20	27.770		
16,900.00	12,276.00	16,632.03	11,413.98	88.43	94.78	74.76	4,644.21	3,281.43	3,449.84	3,323.65	126.19	27.338		
17,000.00	12,276.00	16,731.99	11,411.23	89.88	96.28	74.71	4,744.13	3,280.49	3,450.61	3,322.41	128.19	26.917		
17,100.00	12,276.00	16,831.95	11,408.47	91.34	97.78	74.67	4,844.05	3,279.54	3,451.37	3,321.17	130.20	26.508		
17,200.00	12,276.00	16,931.91	11,405.71	92.80	99.29	74.63	4,943.97	3,278.59	3,452.14	3,319.93	132.22	26.110		
17,300.00	12,276.00	17,031.87	11,402.96	94.26	100.80	74.58	5,043.89	3,277.65	3,452.92	3,318.68	134.24	25.723		
17,400.00	12,276.00	17,131.83	11,400.20	95.74	102.31	74.54	5,143.81	3,276.70	3,453.69	3,317.43	136.26	25.346		
17,500.00	12,276.00	17,231.80	11,397.45	97.21	103.83	74.49	5,243.73	3,275.75	3,454.47	3,316.17	138.30	24.979		
17,600.00	12,276.00	17,331.76	11,394.69	98.70	105.36	74.45	5,343.65	3,274.80	3,455.25	3,314.91	140.34	24.621		
17,700.00	12,276.00	17,431.72	11,391.93	100.19	106.88	74.41	5,443.57	3,273.86	3,456.03	3,313.64	142.38	24.273		
17,800.00	12,276.00	17,531.68	11,389.18	101.68	108.42	74.36	5,543.49	3,272.91	3,456.81	3,312.38	144.43	23.934		
17,900.00	12,276.00	17,631.64	11,386.42	103.18	109.95	74.32	5,643.41	3,271.96	3,457.59	3,311.11	146.49	23.604		
18,000.00	12,276.00	17,731.61	11,383.66	104.68	111.49	74.28	5,743.33	3,271.02	3,458.38	3,309.84	148.54	23.282		
18,100.00	12,276.00	17,831.57	11,380.91	106.19	113.03	74.23	5,843.25	3,270.07	3,459.17	3,308.56	150.61	22.968		
18,200.00	12,276.00	17,931.53	11,378.15	107.71	114.57	74.19	5,943.16	3,269.12	3,459.96	3,307.28	152.67	22.662		
18,300.00	12,276.00	18,031.49	11,375.40	109.22	116.12	74.14	6,043.08	3,268.18	3,460.75	3,306.01	154.75	22.364		
18,400.00	12,276.00	18,131.45	11,372.64	110.74	117.67	74.10	6,143.00	3,267.23	3,461.55	3,304.73	156.82	22.073		
18,500.00	12,276.00	18,231.42	11,369.88	112.27	119.22	74.06	6,242.92	3,266.28	3,462.34	3,303.44	158.90	21.789		
18,600.00	12,276.00	18,331.38	11,367.13	113.79	120.78	74.01	6,342.84	3,265.33	3,463.14	3,302.16	160.98	21.513		
18,700.00	12,276.00	18,431.34	11,364.37	115.33	122.34	73.97	6,442.76	3,264.39	3,463.94	3,300.87	163.07	21.242		
18,800.00	12,276.00	18,531.30	11,361.61	116.86	123.90	73.93	6,542.68	3,263.44	3,464.74	3,299.59	165.16	20.978		
18,900.00	12,276.00	18,631.26	11,358.86	118.40	125.46	73.88	6,642.60	3,262.49	3,465.55	3,298.30	167.25	20.721		
19,000.00	12,276.00	18,731.23	11,356.10	119.94	127.02	73.84	6,742.52	3,261.55	3,466.36	3,297.01	169.34	20.469		
19,100.00	12,276.00	18,831.19	11,353.34	121.48	128.59	73.80	6,842.44	3,260.60	3,467.16	3,295.72	171.44	20.224		
19,200.00	12,276.00	18,931.15	11,350.59	123.03	130.16	73.75	6,942.36	3,259.65	3,467.98	3,294.44	173.54	19.984		
19,300.00	12,276.00	19,031.11	11,347.83	124.58	131.73	73.71	7,042.28	3,258.71	3,468.79	3,293.15	175.64	19.750		
19,400.00	12,276.00	19,131.07	11,345.08	126.13	133.31	73.66	7,142.20	3,257.76	3,469.60	3,291.86	177.74	19.520		
19,500.00	12,276.00	19,231.04	11,342.32	127.68	134.88	73.62	7,242.12	3,256.81	3,470.42	3,290.57	179.85	19.297		
19,600.00	12,276.00	19,331.00	11,339.56	129.24	136.46	73.58	7,342.04	3,255.86	3,471.24	3,289.28	181.95	19.078		
19,700.00	12,276.00	19,430.96	11,336.81	130.80	138.04	73.53	7,441.96	3,254.92	3,472.06	3,288.00	184.06	18.863		
19,800.00	12,276.00	19,530.92	11,334.05	132.36	139.62	73.49	7,541.88	3,253.97	3,472.88	3,286.71	186.17	18.654		
19,900.00	12,276.00	19,630.88	11,331.29	133.93	141.20	73.45	7,641.80	3,253.02	3,473.71	3,285.42	188.29	18.449		
20,000.00	12,276.00	19,730.85	11,328.54	135.49	142.78	73.40	7,741.72	3,252.08	3,474.53	3,284.13	190.40	18.248		
20,100.00	12,276.00	19,830.81	11,325.78	137.06	144.37	73.36	7,841.63	3,251.13	3,475.36	3,282.84	192.52	18.052		
20,200.00	12,276.00	19,930.77	11,323.03	138.63	145.95	73.32	7,941.55	3,250.18	3,476.19	3,281.56	194.64	17.860		
20,300.00	12,276.00	20,030.73	11,320.27	140.20	147.54	73.27	8,041.47	3,249.24	3,477.02	3,280.27	196.76	17.672		
20,400.00	12,276.00	20,130.69	11,317.51	141.77	149.13	73.23	8,141.39	3,248.29	3,477.86	3,278.98	198.88	17.488		
20,500.00	12,276.00	20,230.66	11,314.76	143.35	150.72	73.19	8,241.31	3,247.34	3,478.70	3,277.70	201.00	17.307		
20,600.00	12,276.00	20,330.62	11,312.00	144.93	152.31	73.14	8,341.23	3,246.40	3,479.53	3,276.41	203.12	17.130		
20,700.00	12,276.00	20,430.58	11,309.24	146.50	153.91	73.10	8,441.15	3,245.45	3,480.38	3,275.13	205.25	16.957		
20,800.00	12,276.00	20,530.54	11,306.49	148.08	155.50	73.06	8,541.07	3,244.50	3,481.22	3,273.85	207.37	16.787		
20,900.00	12,276.00	20,630.50	11,303.73	149.67	157.10	73.01	8,640.99	3,243.55	3,482.06	3,272.57	209.50	16.621		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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	
21,000.00	12,276.00	20,730.47	11,300.98	151.25	158.69	72.97	8,740.91	3,242.61	3,482.91	3,271.28	211.62	16.458	
21,100.00	12,276.00	20,830.43	11,298.22	152.83	160.29	72.93	8,840.83	3,241.66	3,483.76	3,270.00	213.75	16.298	
21,200.00	12,276.00	20,930.39	11,295.46	154.42	161.89	72.89	8,940.75	3,240.71	3,484.61	3,268.73	215.88	16.141	
21,300.00	12,276.00	21,030.35	11,292.71	156.01	163.49	72.84	9,040.67	3,239.77	3,485.46	3,267.45	218.01	15.987	
21,400.00	12,276.00	21,130.31	11,289.95	157.60	165.09	72.80	9,140.59	3,238.82	3,486.31	3,266.17	220.14	15.837	
21,500.00	12,276.00	21,230.28	11,287.19	159.19	166.69	72.76	9,240.51	3,237.87	3,487.17	3,264.90	222.27	15.689	
21,600.00	12,276.00	21,330.24	11,284.44	160.78	168.30	72.71	9,340.43	3,236.93	3,488.03	3,263.63	224.40	15.544	
21,700.00	12,276.00	21,430.20	11,281.68	162.37	169.90	72.67	9,440.35	3,235.98	3,488.89	3,262.36	226.53	15.401	
21,800.00	12,276.00	21,530.16	11,278.93	163.96	171.51	72.63	9,540.27	3,235.03	3,489.75	3,261.09	228.66	15.262	
21,900.00	12,276.00	21,630.12	11,276.17	165.56	173.11	72.58	9,640.19	3,234.08	3,490.62	3,259.82	230.79	15.124	
22,000.00	12,276.00	21,730.09	11,273.41	167.16	174.72	72.54	9,740.10	3,233.14	3,491.48	3,258.56	232.93	14.990	
22,100.00	12,276.00	21,830.05	11,270.66	168.75	176.33	72.50	9,840.02	3,232.19	3,492.35	3,257.29	235.06	14.857	
22,200.00	12,276.00	21,930.01	11,267.90	170.35	177.93	72.46	9,939.94	3,231.24	3,493.22	3,256.03	237.19	14.727	
22,300.00	12,276.00	22,029.97	11,265.14	171.95	179.54	72.41	10,039.86	3,230.30	3,494.09	3,254.77	239.32	14.600	
22,400.00	12,276.00	22,129.93	11,262.39	173.55	181.15	72.37	10,139.78	3,229.35	3,494.97	3,253.51	241.46	14.474	
22,410.08	12,276.00	22,140.01	11,262.11	173.71	181.32	72.37	10,149.86	3,229.25	3,495.06	3,253.38	241.67	14.462 ES, 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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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	1,888.30	1,888.30	6.37	6.54	98.71	-504.63	3,295.26	3,333.67	3,324.54	9.13	365.165		
1,900.00	1,900.00	1,945.30	1,945.30	6.58	6.74	98.71	-504.63	3,295.26	3,333.67	3,324.26	9.42	353.962		
2,000.00	2,000.00	2,045.30	2,045.30	6.94	7.10	98.71	-504.63	3,295.26	3,333.67	3,323.75	9.93	335.884		
2,100.00	2,100.00	2,145.30	2,145.30	7.29	7.46	98.71	-504.63	3,295.26	3,333.67	3,323.24	10.43	319.562		
2,200.00	2,200.00	2,245.30	2,245.30	7.65	7.82	98.71	-504.63	3,295.26	3,333.67	3,322.73	10.94	304.753		
2,300.00	2,299.99	2,345.29	2,345.29	7.99	8.17	-81.06	-504.63	3,295.26	3,333.47	3,322.04	11.43	291.570		
2,400.00	2,399.91	2,445.21	2,445.21	8.32	8.53	-81.13	-504.63	3,295.26	3,332.86	3,320.95	11.92	279.718		
2,500.00	2,499.69	2,544.99	2,544.99	8.65	8.89	-81.26	-504.63	3,295.26	3,331.86	3,319.46	12.40	268.717		
2,600.00	2,599.27	2,644.57	2,644.57	8.97	9.25	-81.44	-504.63	3,295.26	3,330.48	3,317.59	12.89	258.467		
2,652.97	2,651.91	2,697.21	2,697.21	9.15	9.44	-81.55	-504.63	3,295.26	3,329.60	3,316.45	13.14	253.311		
2,700.00	2,698.61	2,743.91	2,743.91	9.31	9.60	-81.64	-504.63	3,295.26	3,328.78	3,315.40	13.37	248.882		
2,800.00	2,797.91	2,843.21	2,843.21	9.65	9.96	-81.84	-504.63	3,295.26	3,327.07	3,313.20	13.87	239.908		
2,900.00	2,897.20	2,942.50	2,942.50	10.00	10.32	-82.04	-504.63	3,295.26	3,325.40	3,311.03	14.36	231.497		
3,000.00	2,996.50	3,041.80	3,041.80	10.35	10.67	-82.24	-504.63	3,295.26	3,323.77	3,308.90	14.86	223.605		
3,100.00	3,095.80	3,141.10	3,141.10	10.70	11.03	-82.44	-504.63	3,295.26	3,322.18	3,306.82	15.37	216.189		
3,200.00	3,195.10	3,240.40	3,240.40	11.06	11.38	-82.64	-504.63	3,295.26	3,320.64	3,304.76	15.87	209.212		
3,300.00	3,294.39	3,339.69	3,339.69	11.42	11.74	-82.85	-504.63	3,295.26	3,319.13	3,302.75	16.38	202.639		
3,400.00	3,393.69	3,438.99	3,438.99	11.79	12.09	-83.05	-504.63	3,295.26	3,317.67	3,300.78	16.89	196.439		
3,500.00	3,492.99	3,538.21	3,538.21	12.16	12.49	-83.27	-504.96	3,295.10	3,316.16	3,298.73	17.43	190.248		
3,600.00	3,592.29	3,639.34	3,639.34	12.53	12.95	-83.48	-508.92	3,293.26	3,313.77	3,295.76	18.01	183.979		
3,700.00	3,691.59	3,828.44	3,828.44	12.90	13.40	-83.61	-517.42	3,289.29	3,310.25	3,291.66	18.59	178.072		
3,800.00	3,790.88	4,095.98	4,094.68	13.27	14.30	-83.88	-531.71	3,273.54	3,303.69	3,284.23	19.45	169.836		
3,900.00	3,890.18	4,202.15	4,200.44	13.65	14.67	-84.04	-534.35	3,264.68	3,294.35	3,274.38	19.97	164.957		
4,000.00	3,989.48	4,301.35	4,299.27	14.03	15.01	-84.18	-536.81	3,256.38	3,285.03	3,264.55	20.48	160.423		
4,059.03	4,048.09	4,359.92	4,357.60	14.25	15.22	-84.27	-538.26	3,251.49	3,279.53	3,258.76	20.78	157.844		
4,100.00	4,088.80	4,400.58	4,398.12	14.41	15.36	-84.27	-539.26	3,248.09	3,275.75	3,254.76	20.99	156.099		
4,200.00	4,188.35	4,499.98	4,497.14	14.78	15.71	-84.24	-541.72	3,239.78	3,266.70	3,245.21	21.49	152.008		
4,300.00	4,288.11	4,599.53	4,596.31	15.15	16.06	-84.17	-544.18	3,231.46	3,257.92	3,235.93	21.99	148.148		
4,400.00	4,388.02	4,699.16	4,695.56	15.50	16.42	-84.06	-546.65	3,223.13	3,249.41	3,226.93	22.49	144.502		
4,500.00	4,488.00	4,798.80	4,794.82	15.85	16.77	-83.91	-549.12	3,214.80	3,241.17	3,218.20	22.98	141.059		
4,512.00	4,500.00	4,810.75	4,806.73	15.89	16.82	95.85	-549.41	3,213.80	3,240.20	3,217.17	23.04	140.660		
4,600.00	4,588.00	4,898.42	4,894.06	16.19	17.13	95.91	-551.58	3,206.47	3,233.11	3,209.64	23.46	137.798		
4,700.00	4,688.00	4,998.04	4,993.30	16.53	17.49	95.96	-554.04	3,198.14	3,225.04	3,201.09	23.95	134.664		
4,800.00	4,788.00	5,097.66	5,092.54	16.87	17.85	96.02	-556.51	3,189.81	3,216.98	3,192.55	24.44	131.649		
4,900.00	4,888.00	5,197.28	5,191.78	17.21	18.21	96.08	-558.97	3,181.48	3,208.92	3,184.00	24.92	128.746		
5,000.00	4,988.00	5,296.90	5,291.02	17.55	18.57	96.14	-561.44	3,173.16	3,200.87	3,175.46	25.41	125.951		
5,100.00	5,088.00	5,396.52	5,390.26	17.89	18.93	96.20	-563.90	3,164.83	3,192.82	3,166.92	25.90	123.257		
5,200.00	5,188.00	5,496.14	5,489.50	18.24	19.29	96.26	-566.37	3,156.50	3,184.78	3,158.38	26.39	120.659		
5,300.00	5,288.00	5,595.76	5,588.74	18.58	19.65	96.32	-568.83	3,148.17	3,176.73	3,149.85	26.89	118.153		
5,400.00	5,388.00	5,695.38	5,687.98	18.92	20.02	96.39	-571.30	3,139.85	3,168.69	3,141.31	27.38	115.733		
5,500.00	5,488.00	5,795.00	5,787.22	19.27	20.38	96.45	-573.76	3,131.52	3,160.66	3,132.79	27.87	113.396		
5,600.00	5,588.00	5,894.61	5,886.46	19.61	20.75	96.51	-576.23	3,123.19	3,152.63	3,124.26	28.37	111.138		
5,700.00	5,688.00	5,994.23	5,985.70	19.96	21.11	96.57	-578.69	3,114.86	3,144.60	3,115.74	28.86	108.955		
5,800.00	5,788.00	6,093.85	6,084.94	20.31	21.48	96.63	-581.16	3,106.53	3,136.57	3,107.22	29.36	106.844		
5,900.00	5,888.00	6,193.47	6,184.18	20.65	21.85	96.70	-583.62	3,098.21	3,128.55	3,098.70	29.85	104.800		
6,000.00	5,988.00	6,293.09	6,283.42	21.00	22.22	96.76	-586.09	3,089.88	3,120.54	3,090.19	30.35	102.821		
6,100.00	6,088.00	6,392.71	6,382.66	21.35	22.58	96.82	-588.55	3,081.55	3,112.52	3,081.68	30.85	100.905		
6,200.00	6,188.00	6,492.33	6,481.90	21.69	22.95	96.89	-591.02	3,073.22	3,104.51	3,073.17	31.34	99.047		
6,300.00	6,288.00	6,591.95	6,581.14	22.04	23.32	96.95	-593.48	3,064.89	3,096.51	3,064.67	31.84	97.246		
6,400.00	6,388.00	6,691.57	6,680.38	22.39	23.69	97.01	-595.94	3,056.57	3,088.51	3,056.17	32.34	95.500		
6,500.00	6,488.00	6,791.19	6,779.62	22.74	24.06	97.08	-598.41	3,048.24	3,080.51	3,047.67	32.84	93.805		
6,600.00	6,588.00	6,890.81	6,878.86	23.09	24.43	97.14	-600.87	3,039.91	3,072.51	3,039.17	33.34	92.160		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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	
6,700.00	6,688.00	6,990.43	6,978.10	23.44	24.80	97.21	-603.34	3,031.58	3,064.52	3,030.68	33.84	90.562		
6,800.00	6,788.00	7,090.05	7,077.34	23.79	25.18	97.27	-605.80	3,023.25	3,056.54	3,022.20	34.34	89.010		
6,900.00	6,888.00	7,189.67	7,176.58	24.14	25.55	97.34	-608.27	3,014.93	3,048.56	3,013.72	34.84	87.502		
7,000.00	6,988.00	7,289.28	7,275.82	24.49	25.92	97.41	-610.73	3,006.60	3,040.58	3,005.24	35.34	86.036		
7,100.00	7,088.00	7,388.90	7,375.06	24.84	26.29	97.47	-613.20	2,998.27	3,032.60	2,996.76	35.84	84.610		
7,200.00	7,188.00	7,488.52	7,474.30	25.19	26.67	97.54	-615.66	2,989.94	3,024.63	2,988.29	36.34	83.222		
7,300.00	7,288.00	7,588.14	7,573.54	25.54	27.04	97.61	-618.13	2,981.62	3,016.67	2,979.82	36.85	81.872		
7,400.00	7,388.00	7,687.76	7,672.78	25.89	27.41	97.68	-620.59	2,973.29	3,008.71	2,971.36	37.35	80.557		
7,500.00	7,488.00	7,787.38	7,772.02	26.24	27.79	97.74	-623.06	2,964.96	3,000.75	2,962.90	37.85	79.277		
7,600.00	7,588.00	7,887.00	7,871.26	26.59	28.16	97.81	-625.52	2,956.63	2,992.80	2,954.44	38.35	78.030		
7,700.00	7,688.00	7,986.62	7,970.50	26.94	28.53	97.88	-627.99	2,948.30	2,984.85	2,945.99	38.86	76.815		
7,800.00	7,788.00	8,086.24	8,069.74	27.29	28.91	97.95	-630.45	2,939.98	2,976.90	2,937.54	39.36	75.630		
7,900.00	7,888.00	8,185.86	8,168.98	27.65	29.28	98.02	-632.92	2,931.65	2,968.96	2,929.10	39.87	74.475		
8,000.00	7,988.00	8,285.48	8,268.22	28.00	29.66	98.09	-635.38	2,923.32	2,961.03	2,920.66	40.37	73.348		
8,100.00	8,088.00	8,385.10	8,367.46	28.35	30.03	98.16	-637.84	2,914.99	2,953.10	2,912.22	40.87	72.249		
8,200.00	8,188.00	8,484.72	8,466.70	28.70	30.41	98.23	-640.31	2,906.66	2,945.17	2,903.79	41.38	71.176		
8,300.00	8,288.00	8,584.33	8,565.94	29.05	30.79	98.30	-642.77	2,898.34	2,937.25	2,895.36	41.88	70.129		
8,400.00	8,388.00	8,683.95	8,665.18	29.41	31.16	98.37	-645.24	2,890.01	2,929.33	2,886.94	42.39	69.106		
8,500.00	8,488.00	8,783.57	8,764.42	29.76	31.54	98.45	-647.70	2,881.68	2,921.41	2,878.52	42.89	68.107		
8,600.00	8,588.00	8,883.19	8,863.66	30.11	31.91	98.52	-650.17	2,873.35	2,913.51	2,870.11	43.40	67.131		
8,700.00	8,688.00	8,982.81	8,962.90	30.47	32.29	98.59	-652.63	2,865.02	2,905.60	2,861.70	43.91	66.178		
8,800.00	8,788.00	9,082.43	9,062.14	30.82	32.67	98.66	-655.10	2,856.70	2,897.70	2,853.29	44.41	65.246		
8,900.00	8,888.00	9,182.05	9,161.38	31.17	33.04	98.74	-657.56	2,848.37	2,889.81	2,844.89	44.92	64.335		
9,000.00	8,988.00	9,281.67	9,260.62	31.53	33.42	98.81	-660.03	2,840.04	2,881.92	2,836.49	45.42	63.444		
9,100.00	9,088.00	9,381.29	9,359.86	31.88	33.80	98.88	-662.49	2,831.71	2,874.03	2,828.10	45.93	62.572		
9,200.00	9,188.00	9,480.91	9,459.10	32.23	34.17	98.96	-664.96	2,823.38	2,866.15	2,819.71	46.44	61.719		
9,300.00	9,288.00	9,580.53	9,558.34	32.59	34.55	99.03	-667.42	2,815.06	2,858.28	2,811.33	46.95	60.885		
9,400.00	9,388.00	9,680.15	9,657.58	32.94	34.93	99.11	-669.89	2,806.73	2,850.41	2,802.95	47.45	60.068		
9,500.00	9,488.00	9,779.77	9,756.82	33.29	35.31	99.19	-672.35	2,798.40	2,842.54	2,794.58	47.96	59.269		
9,600.00	9,588.00	9,879.38	9,856.06	33.65	35.69	99.26	-674.82	2,790.07	2,834.68	2,786.21	48.47	58.486		
9,700.00	9,688.00	9,979.00	9,955.30	34.00	36.06	99.34	-677.28	2,781.75	2,826.82	2,777.85	48.98	57.719		
9,800.00	9,788.00	10,078.62	10,054.54	34.36	36.44	99.42	-679.74	2,773.42	2,818.97	2,769.49	49.48	56.968		
9,900.00	9,888.00	10,155.53	10,131.17	34.71	36.73	99.47	-681.60	2,767.13	2,811.36	2,761.41	49.95	56.287		
10,000.00	9,988.00	10,200.00	10,175.52	35.07	36.90	99.50	-682.52	2,764.05	2,805.10	2,754.76	50.34	55.727		
10,100.00	10,088.00	10,275.75	10,251.14	35.42	37.18	99.54	-683.74	2,759.93	2,800.11	2,749.32	50.79	55.134		
10,200.00	10,188.00	10,336.01	10,311.35	35.77	37.39	99.56	-684.40	2,757.68	2,796.61	2,745.41	51.20	54.625		
10,300.00	10,288.00	10,400.00	10,375.33	36.13	37.62	99.58	-684.82	2,756.28	2,794.53	2,742.92	51.61	54.150		
10,400.00	10,388.00	10,457.97	10,433.30	36.48	37.82	99.58	-684.93	2,755.91	2,793.86	2,741.87	51.99	53.736		
10,500.00	10,488.00	10,557.97	10,533.30	36.84	38.16	99.58	-684.93	2,755.91	2,793.86	2,741.38	52.49	53.231		
10,600.00	10,588.00	10,657.97	10,633.30	37.19	38.50	99.58	-684.93	2,755.91	2,793.86	2,740.89	52.98	52.735		
10,700.00	10,688.00	10,757.97	10,733.30	37.55	38.83	99.58	-684.93	2,755.91	2,793.86	2,740.39	53.47	52.249		
10,800.00	10,788.00	10,857.97	10,833.30	37.90	39.17	99.58	-684.93	2,755.91	2,793.86	2,739.90	53.97	51.770		
10,900.00	10,888.00	10,957.97	10,933.30	38.26	39.51	99.58	-684.93	2,755.91	2,793.86	2,739.40	54.46	51.301		
11,000.00	10,988.00	11,057.97	11,033.30	38.61	39.85	99.58	-684.93	2,755.91	2,793.86	2,738.91	54.95	50.839		
11,100.00	11,088.00	11,157.97	11,133.30	38.97	40.19	99.58	-684.93	2,755.91	2,793.86	2,738.42	55.45	50.386		
11,200.00	11,188.00	11,257.97	11,233.30	39.32	40.53	99.58	-684.93	2,755.91	2,793.86	2,737.92	55.94	49.940		
11,300.00	11,288.00	11,655.47	11,608.29	39.68	41.69	97.40	-577.71	2,754.89	2,790.61	2,733.68	56.93	49.022		
11,400.00	11,388.00	11,926.13	11,783.66	40.03	42.07	93.22	-374.87	2,752.97	2,778.50	2,720.97	57.54	48.290		
11,500.00	11,488.00	12,023.46	11,820.77	40.39	42.17	91.35	-285.03	2,752.12	2,766.86	2,708.83	58.03	47.676		
11,600.00	11,588.00	12,070.53	11,833.13	40.74	42.24	90.41	-239.62	2,751.69	2,758.01	2,699.57	58.44	47.190		
11,700.00	11,688.00	12,097.93	11,838.59	41.10	42.30	89.85	-212.77	2,751.44	2,752.46	2,693.68	58.78	46.825		
11,715.04	11,703.04	12,101.08	11,839.14	41.15	42.30	89.78	-209.67	2,751.41	2,751.93	2,693.10	58.83	46.780		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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		
11,750.00	11,737.98	12,108.88	11,840.42	41.28	42.32	90.29	-201.98	2,751.34	2,750.99	2,692.06	58.93	46.684			
11,800.00	11,787.69	12,122.06	11,842.34	41.45	42.35	90.08	-188.94	2,751.21	2,750.40	2,691.34	59.06	46.568			
11,809.63	11,797.20	12,124.83	11,842.70	41.48	42.35	90.03	-186.20	2,751.19	2,750.39	2,691.30	59.09	46.548	CC		
11,850.00	11,836.76	12,137.10	11,844.16	41.61	42.38	89.76	-174.01	2,751.07	2,750.65	2,691.47	59.18	46.476			
11,900.00	11,884.81	12,153.56	11,845.71	41.77	42.43	89.33	-157.62	2,750.92	2,751.70	2,692.41	59.29	46.408			
11,950.00	11,931.47	12,171.15	11,846.84	41.92	42.47	88.82	-140.08	2,750.75	2,753.48	2,694.09	59.39	46.363			
12,000.00	11,976.40	12,189.62	11,847.45	42.06	42.52	88.24	-121.62	2,750.58	2,755.93	2,696.46	59.47	46.339			
12,050.00	12,019.25	12,208.81	11,847.45	42.19	42.58	87.59	-102.43	2,750.39	2,758.98	2,699.43	59.55	46.334			
12,100.00	12,059.69	12,234.39	11,846.75	42.32	42.65	86.80	-76.86	2,750.15	2,762.54	2,702.92	59.63	46.330			
12,150.00	12,097.41	12,266.08	11,845.84	42.45	42.76	85.90	-45.18	2,749.85	2,766.44	2,706.72	59.72	46.327			
12,200.00	12,132.14	12,301.02	11,844.84	42.57	42.88	84.97	-10.26	2,749.52	2,770.52	2,710.71	59.81	46.324			
12,250.00	12,163.59	12,338.94	11,843.75	42.69	43.02	84.05	27.65	2,749.16	2,774.63	2,714.72	59.92	46.307			
12,300.00	12,191.55	12,379.56	11,842.58	42.81	43.18	83.17	68.24	2,748.78	2,778.64	2,718.60	60.04	46.282			
12,350.00	12,215.78	12,422.56	11,841.34	42.92	43.36	82.34	111.22	2,748.37	2,782.39	2,722.21	60.17	46.238			
12,400.00	12,236.12	12,467.62	11,840.05	43.04	43.56	81.61	156.26	2,747.94	2,785.75	2,725.42	60.33	46.172			
12,450.00	12,252.39	12,514.39	11,838.70	43.15	43.78	80.99	203.01	2,747.50	2,788.62	2,728.11	60.51	46.083			
12,500.00	12,264.49	12,562.52	11,837.32	43.27	44.02	80.51	251.12	2,747.05	2,790.89	2,730.17	60.72	45.964			
12,550.00	12,272.31	12,611.64	11,835.91	43.39	44.27	80.16	300.22	2,746.58	2,792.49	2,731.55	60.95	45.819			
12,600.00	12,275.80	12,661.38	11,834.48	43.51	44.55	79.98	349.94	2,746.11	2,793.37	2,732.17	61.20	45.641			
12,615.04	12,276.00	12,676.41	11,834.04	43.55	44.63	79.95	364.96	2,745.97	2,793.49	2,732.20	61.28	45.584			
12,700.00	12,276.00	12,761.33	11,831.60	43.78	45.14	79.91	449.85	2,745.16	2,793.95	2,732.17	61.78	45.226			
12,800.00	12,276.00	12,861.29	11,828.73	44.10	45.77	79.85	549.76	2,744.22	2,794.50	2,732.06	62.43	44.760			
12,900.00	12,276.00	12,961.25	11,825.85	44.49	46.46	79.79	649.67	2,743.27	2,795.05	2,731.88	63.16	44.250			
13,000.00	12,276.00	13,061.21	11,822.98	44.93	47.20	79.73	749.58	2,742.33	2,795.60	2,731.63	63.97	43.701			
13,100.00	12,276.00	13,161.17	11,820.10	45.43	47.98	79.67	849.50	2,741.38	2,796.15	2,731.31	64.85	43.118			
13,200.00	12,276.00	13,261.13	11,817.23	45.98	48.80	79.62	949.41	2,740.43	2,796.71	2,730.92	65.79	42.507			
13,300.00	12,276.00	13,361.09	11,814.35	46.59	49.66	79.56	1,049.32	2,739.49	2,797.28	2,730.47	66.81	41.871			
13,400.00	12,276.00	13,461.05	11,811.48	47.24	50.56	79.50	1,149.24	2,738.54	2,797.84	2,729.96	67.88	41.217			
13,500.00	12,276.00	13,561.00	11,808.61	47.94	51.50	79.44	1,249.15	2,737.60	2,798.41	2,729.39	69.01	40.548			
13,600.00	12,276.00	13,660.96	11,805.73	48.69	52.47	79.39	1,349.06	2,736.65	2,798.98	2,728.77	70.21	39.869			
13,700.00	12,276.00	13,760.92	11,802.86	49.48	53.48	79.33	1,448.97	2,735.70	2,799.55	2,728.10	71.45	39.182			
13,800.00	12,276.00	13,860.88	11,799.98	50.32	54.52	79.27	1,548.89	2,734.76	2,800.13	2,727.38	72.74	38.493			
13,900.00	12,276.00	13,960.84	11,797.11	51.19	55.58	79.21	1,648.80	2,733.81	2,800.71	2,726.62	74.09	37.803			
14,000.00	12,276.00	14,060.80	11,794.23	52.10	56.68	79.15	1,748.71	2,732.87	2,801.29	2,725.81	75.48	37.115			
14,100.00	12,276.00	14,160.76	11,791.36	53.05	57.80	79.10	1,848.63	2,731.92	2,801.87	2,724.96	76.91	36.432			
14,200.00	12,276.00	14,260.71	11,788.48	54.03	58.94	79.04	1,948.54	2,730.97	2,802.46	2,724.08	78.38	35.755			
14,300.00	12,276.00	14,360.67	11,785.61	55.04	60.11	78.98	2,048.45	2,730.03	2,803.05	2,723.16	79.89	35.087			
14,400.00	12,276.00	14,460.63	11,782.73	56.09	61.30	78.92	2,148.36	2,729.08	2,803.64	2,722.21	81.44	34.428			
14,500.00	12,276.00	14,560.59	11,779.86	57.16	62.52	78.87	2,248.28	2,728.14	2,804.24	2,721.22	83.02	33.779			
14,600.00	12,276.00	14,660.55	11,776.99	58.26	63.75	78.81	2,348.19	2,727.19	2,804.84	2,720.21	84.63	33.143			
14,700.00	12,276.00	14,760.51	11,774.11	59.38	65.00	78.75	2,448.10	2,726.24	2,805.44	2,719.17	86.27	32.519			
14,800.00	12,276.00	14,860.47	11,771.24	60.53	66.27	78.70	2,548.01	2,725.30	2,806.04	2,718.10	87.94	31.908			
14,900.00	12,276.00	14,960.42	11,768.36	61.71	67.55	78.64	2,647.93	2,724.35	2,806.65	2,717.01	89.64	31.311			
15,000.00	12,276.00	15,060.38	11,765.49	62.90	68.85	78.58	2,747.84	2,723.40	2,807.26	2,715.90	91.36	30.727			
15,100.00	12,276.00	15,160.34	11,762.61	64.11	70.17	78.52	2,847.75	2,722.46	2,807.87	2,714.76	93.11	30.157			
15,200.00	12,276.00	15,260.30	11,759.74	65.35	71.49	78.47	2,947.67	2,721.51	2,808.49	2,713.61	94.88	29.602			
15,300.00	12,276.00	15,360.26	11,756.86	66.60	72.84	78.41	3,047.58	2,720.57	2,809.10	2,712.44	96.67	29.060			
15,400.00	12,276.00	15,460.22	11,753.99	67.87	74.19	78.35	3,147.49	2,719.62	2,809.72	2,711.25	98.48	28.532			
15,500.00	12,276.00	15,560.18	11,751.12	69.15	75.56	78.29	3,247.40	2,718.67	2,810.35	2,710.05	100.30	28.019			
15,600.00	12,276.00	15,660.14	11,748.24	70.45	76.93	78.24	3,347.32	2,717.73	2,810.98	2,708.83	102.15	27.519			
15,700.00	12,276.00	15,760.09	11,745.37	71.77	78.32	78.18	3,447.23	2,716.78	2,811.60	2,707.60	104.01	27.032			
15,800.00	12,276.00	15,860.05	11,742.49	73.10	79.72	78.12	3,547.14	2,715.84	2,812.24	2,706.35	105.89	26.559			

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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	12,276.00	15,960.01	11,739.62	74.44	81.13	78.07	3,647.06	2,714.89	2,812.87	2,705.09	107.78	26.099		
16,000.00	12,276.00	16,059.97	11,736.74	75.79	82.54	78.01	3,746.97	2,713.94	2,813.51	2,703.83	109.68	25.651		
16,100.00	12,276.00	16,159.93	11,733.87	77.16	83.97	77.95	3,846.88	2,713.00	2,814.15	2,702.55	111.60	25.216		
16,200.00	12,276.00	16,259.89	11,730.99	78.53	85.40	77.89	3,946.79	2,712.05	2,814.79	2,701.26	113.54	24.792		
16,300.00	12,276.00	16,359.85	11,728.12	79.92	86.84	77.84	4,046.71	2,711.11	2,815.44	2,699.96	115.48	24.380		
16,400.00	12,276.00	16,459.80	11,725.24	81.32	88.29	77.78	4,146.62	2,710.16	2,816.09	2,698.65	117.43	23.980		
16,500.00	12,276.00	16,559.76	11,722.37	82.72	89.75	77.72	4,246.53	2,709.21	2,816.74	2,697.34	119.40	23.591		
16,600.00	12,276.00	16,659.72	11,719.50	84.14	91.21	77.67	4,346.45	2,708.27	2,817.40	2,696.02	121.38	23.212		
16,700.00	12,276.00	16,759.68	11,716.62	85.56	92.68	77.61	4,446.36	2,707.32	2,818.05	2,694.69	123.36	22.844		
16,800.00	12,276.00	16,859.64	11,713.75	86.99	94.15	77.55	4,546.27	2,706.38	2,818.71	2,693.36	125.36	22.486		
16,900.00	12,276.00	16,959.60	11,710.87	88.43	95.63	77.50	4,646.18	2,705.43	2,819.38	2,692.02	127.36	22.138		
17,000.00	12,276.00	17,059.56	11,708.00	89.88	97.12	77.44	4,746.10	2,704.48	2,820.04	2,690.68	129.37	21.799		
17,100.00	12,276.00	17,159.51	11,705.12	91.34	98.61	77.38	4,846.01	2,703.54	2,820.71	2,689.33	131.38	21.469		
17,200.00	12,276.00	17,259.47	11,702.25	92.80	100.11	77.33	4,945.92	2,702.59	2,821.38	2,687.97	133.41	21.149		
17,300.00	12,276.00	17,359.43	11,699.37	94.26	101.61	77.27	5,045.84	2,701.65	2,822.06	2,686.62	135.44	20.836		
17,400.00	12,276.00	17,459.39	11,696.50	95.74	103.11	77.21	5,145.75	2,700.70	2,822.73	2,685.25	137.48	20.532		
17,500.00	12,276.00	17,559.35	11,693.63	97.21	104.62	77.15	5,245.66	2,699.75	2,823.41	2,683.89	139.52	20.236		
17,600.00	12,276.00	17,659.31	11,690.75	98.70	106.14	77.10	5,345.57	2,698.81	2,824.09	2,682.52	141.57	19.948		
17,700.00	12,276.00	17,759.27	11,687.88	100.19	107.65	77.04	5,445.49	2,697.86	2,824.78	2,681.15	143.63	19.667		
17,800.00	12,276.00	17,859.23	11,685.00	101.68	109.18	76.99	5,545.40	2,696.92	2,825.47	2,679.78	145.69	19.394		
17,900.00	12,276.00	17,959.18	11,682.13	103.18	110.70	76.93	5,645.31	2,695.97	2,826.16	2,678.40	147.75	19.127		
18,000.00	12,276.00	18,059.14	11,679.25	104.68	112.23	76.87	5,745.23	2,695.02	2,826.85	2,677.03	149.82	18.868		
18,100.00	12,276.00	18,159.10	11,676.38	106.19	113.76	76.82	5,845.14	2,694.08	2,827.55	2,675.65	151.90	18.615		
18,200.00	12,276.00	18,259.06	11,673.50	107.71	115.30	76.76	5,945.05	2,693.13	2,828.25	2,674.27	153.98	18.368		
18,300.00	12,276.00	18,359.02	11,670.63	109.22	116.84	76.70	6,044.96	2,692.19	2,828.95	2,672.89	156.06	18.127		
18,400.00	12,276.00	18,458.98	11,667.76	110.74	118.38	76.65	6,144.88	2,691.24	2,829.65	2,671.51	158.15	17.893		
18,500.00	12,276.00	18,558.94	11,664.88	112.27	119.93	76.59	6,244.79	2,690.29	2,830.36	2,670.12	160.24	17.664		
18,600.00	12,276.00	18,658.89	11,662.01	113.79	121.47	76.53	6,344.70	2,689.35	2,831.07	2,668.74	162.33	17.440		
18,700.00	12,276.00	18,758.85	11,659.13	115.33	123.03	76.48	6,444.61	2,688.40	2,831.78	2,667.35	164.43	17.222		
18,800.00	12,276.00	18,858.81	11,656.26	116.86	124.58	76.42	6,544.53	2,687.45	2,832.50	2,665.97	166.53	17.009		
18,900.00	12,276.00	18,958.77	11,653.38	118.40	126.13	76.36	6,644.44	2,686.51	2,833.21	2,664.58	168.63	16.801		
19,000.00	12,276.00	19,058.73	11,650.51	119.94	127.69	76.31	6,744.35	2,685.56	2,833.94	2,663.20	170.74	16.598		
19,100.00	12,276.00	19,158.69	11,647.63	121.48	129.25	76.25	6,844.27	2,684.62	2,834.66	2,661.81	172.84	16.400		
19,200.00	12,276.00	19,258.65	11,644.76	123.03	130.82	76.20	6,944.18	2,683.67	2,835.39	2,660.43	174.96	16.206		
19,300.00	12,276.00	19,358.60	11,641.88	124.58	132.38	76.14	7,044.09	2,682.72	2,836.11	2,659.05	177.07	16.017		
19,400.00	12,276.00	19,458.56	11,639.01	126.13	133.95	76.08	7,144.00	2,681.78	2,836.85	2,657.66	179.18	15.832		
19,500.00	12,276.00	19,558.52	11,636.14	127.68	135.52	76.03	7,243.92	2,680.83	2,837.58	2,656.28	181.30	15.651		
19,600.00	12,276.00	19,658.48	11,633.26	129.24	137.09	75.97	7,343.83	2,679.89	2,838.32	2,654.90	183.42	15.475		
19,700.00	12,276.00	19,758.44	11,630.39	130.80	138.66	75.91	7,443.74	2,678.94	2,839.06	2,653.52	185.54	15.302		
19,800.00	12,276.00	19,858.40	11,627.51	132.36	140.23	75.86	7,543.66	2,677.99	2,839.80	2,652.14	187.66	15.133		
19,900.00	12,276.00	19,958.36	11,624.64	133.93	141.81	75.80	7,643.57	2,677.05	2,840.55	2,650.76	189.79	14.967		
20,000.00	12,276.00	20,058.32	11,621.76	135.49	143.39	75.75	7,743.48	2,676.10	2,841.29	2,649.38	191.91	14.805		
20,100.00	12,276.00	20,158.27	11,618.89	137.06	144.97	75.69	7,843.39	2,675.16	2,842.04	2,648.00	194.04	14.647		
20,200.00	12,276.00	20,258.23	11,616.01	138.63	146.55	75.63	7,943.31	2,674.21	2,842.80	2,646.63	196.17	14.492		
20,300.00	12,276.00	20,358.19	11,613.14	140.20	148.13	75.58	8,043.22	2,673.26	2,843.55	2,645.26	198.30	14.340		
20,400.00	12,276.00	20,458.15	11,610.27	141.77	149.72	75.52	8,143.13	2,672.32	2,844.31	2,643.88	200.43	14.191		
20,500.00	12,276.00	20,558.11	11,607.39	143.35	151.30	75.47	8,243.05	2,671.37	2,845.07	2,642.51	202.56	14.046		
20,600.00	12,276.00	20,658.07	11,604.52	144.93	152.89	75.41	8,342.96	2,670.43	2,845.84	2,641.15	204.69	13.903		
20,700.00	12,276.00	20,758.03	11,601.64	146.50	154.48	75.36	8,442.87	2,669.48	2,846.61	2,639.78	206.83	13.763		
20,800.00	12,276.00	20,857.98	11,598.77	148.08	156.07	75.30	8,542.78	2,668.53	2,847.38	2,638.41	208.96	13.626		
20,900.00	12,276.00	20,957.94	11,595.89	149.67	157.66	75.24	8,642.70	2,667.59	2,848.15	2,637.05	211.10	13.492		
21,000.00	12,276.00	21,057.90	11,593.02	151.25	159.25	75.19	8,742.61	2,666.64	2,848.92	2,635.69	213.23	13.361		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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 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	
21,100.00	12,276.00	21,157.86	11,590.14	152.83	160.85	75.13	8,842.52	2,665.70	2,849.70	2,634.33	215.37	13.232	
21,200.00	12,276.00	21,257.82	11,587.27	154.42	162.44	75.08	8,942.44	2,664.75	2,850.48	2,632.97	217.51	13.105	
21,300.00	12,276.00	21,357.78	11,584.39	156.01	164.04	75.02	9,042.35	2,663.80	2,851.26	2,631.62	219.64	12.981	
21,400.00	12,276.00	21,457.74	11,581.52	157.60	165.63	74.97	9,142.26	2,662.86	2,852.05	2,630.27	221.78	12.860	
21,500.00	12,276.00	21,557.69	11,578.65	159.19	167.23	74.91	9,242.17	2,661.91	2,852.84	2,628.92	223.92	12.740	
21,600.00	12,276.00	21,657.65	11,575.77	160.78	168.83	74.85	9,342.09	2,660.97	2,853.63	2,627.57	226.06	12.623	
21,700.00	12,276.00	21,757.61	11,572.90	162.37	170.43	74.80	9,442.00	2,660.02	2,854.42	2,626.22	228.20	12.508	
21,800.00	12,276.00	21,857.57	11,570.02	163.96	172.03	74.74	9,541.91	2,659.07	2,855.22	2,624.88	230.34	12.396	
21,900.00	12,276.00	21,957.53	11,567.15	165.56	173.63	74.69	9,641.83	2,658.13	2,856.02	2,623.54	232.48	12.285	
22,000.00	12,276.00	22,057.49	11,564.27	167.16	175.24	74.63	9,741.74	2,657.18	2,856.82	2,622.20	234.62	12.176	
22,100.00	12,276.00	22,157.45	11,561.40	168.75	176.84	74.58	9,841.65	2,656.23	2,857.63	2,620.86	236.76	12.070	
22,200.00	12,276.00	22,257.41	11,558.52	170.35	178.44	74.52	9,941.56	2,655.29	2,858.43	2,619.53	238.90	11.965	
22,300.00	12,276.00	22,357.36	11,555.65	171.95	180.05	74.47	10,041.48	2,654.34	2,859.24	2,618.20	241.04	11.862	
22,400.00	12,276.00	22,457.32	11,552.78	173.55	181.66	74.41	10,141.39	2,653.40	2,860.06	2,616.87	243.18	11.761	
22,410.08	12,276.00	22,467.40	11,552.49	173.71	181.82	74.41	10,151.46	2,653.30	2,860.14	2,616.74	243.40	11.751 ES, SF	

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



Total Directional Services

Anticollision Report



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Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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	
1,843.00	1,843.00	1,887.70	1,887.70	6.37	6.53	98.52	-504.04	3,365.25	3,402.79	3,393.66	9.13	372.799		
1,900.00	1,900.00	1,944.70	1,944.70	6.58	6.74	98.52	-504.04	3,365.25	3,402.79	3,393.37	9.42	361.360		
2,000.00	2,000.00	2,044.70	2,044.70	6.94	7.10	98.52	-504.04	3,365.25	3,402.79	3,392.86	9.92	342.901		
2,100.00	2,100.00	2,144.70	2,144.70	7.29	7.46	98.52	-504.04	3,365.25	3,402.79	3,392.36	10.43	326.235		
2,200.00	2,200.00	2,244.70	2,244.70	7.65	7.81	98.52	-504.04	3,365.25	3,402.79	3,391.85	10.94	311.115		
2,300.00	2,299.99	2,344.69	2,344.69	7.99	8.17	-81.25	-504.04	3,365.25	3,402.59	3,391.16	11.43	297.656		
2,400.00	2,399.91	2,444.61	2,444.61	8.32	8.53	-81.32	-504.04	3,365.25	3,401.99	3,390.08	11.91	285.557		
2,500.00	2,499.69	2,544.39	2,544.39	8.65	8.89	-81.44	-504.04	3,365.25	3,401.01	3,388.61	12.40	274.328		
2,600.00	2,599.27	2,643.97	2,643.97	8.97	9.24	-81.62	-504.04	3,365.25	3,399.66	3,386.77	12.88	263.867		
2,652.97	2,651.91	2,696.61	2,696.61	9.15	9.43	-81.73	-504.04	3,365.25	3,398.80	3,385.65	13.14	258.606		
2,700.00	2,698.61	2,743.31	2,743.31	9.31	9.60	-81.82	-504.04	3,365.25	3,397.99	3,384.62	13.37	254.087		
2,800.00	2,797.91	2,842.61	2,842.61	9.65	9.96	-82.01	-504.04	3,365.25	3,396.32	3,382.45	13.87	244.929		
2,900.00	2,897.20	2,941.90	2,941.90	10.00	10.31	-82.21	-504.04	3,365.25	3,394.68	3,380.32	14.36	236.346		
3,000.00	2,996.50	3,041.20	3,041.20	10.35	10.67	-82.41	-504.04	3,365.25	3,393.09	3,378.23	14.86	228.292		
3,100.00	3,095.80	3,140.50	3,140.50	10.70	11.02	-82.60	-504.04	3,365.25	3,391.54	3,376.17	15.37	220.724		
3,200.00	3,195.10	3,239.80	3,239.80	11.06	11.38	-82.80	-504.04	3,365.25	3,390.02	3,374.15	15.87	213.604		
3,300.00	3,294.39	3,339.09	3,339.09	11.42	11.74	-83.00	-504.04	3,365.25	3,388.55	3,372.17	16.38	206.896		
3,400.00	3,393.69	3,438.39	3,438.39	11.79	12.09	-83.20	-504.04	3,365.25	3,387.12	3,370.23	16.89	200.569		
3,500.00	3,492.99	3,537.69	3,537.69	12.16	12.45	-83.39	-504.04	3,365.25	3,385.73	3,368.33	17.40	194.593		
3,600.00	3,592.29	3,636.99	3,636.99	12.53	12.80	-83.59	-504.04	3,365.25	3,384.38	3,366.46	17.91	188.943		
3,700.00	3,691.59	3,736.29	3,736.29	12.90	13.16	-83.79	-504.04	3,365.25	3,383.07	3,364.64	18.43	183.593		
3,800.00	3,790.88	3,835.58	3,835.58	13.27	13.52	-83.99	-504.04	3,365.25	3,381.80	3,362.85	18.94	178.522		
3,900.00	3,890.18	3,934.88	3,934.88	13.65	13.87	-84.18	-504.04	3,365.25	3,380.57	3,361.11	19.46	173.710		
4,000.00	3,989.48	4,034.18	4,034.18	14.03	14.23	-84.38	-504.04	3,365.25	3,379.38	3,359.40	19.98	169.138		
4,059.03	4,048.09	4,092.79	4,092.79	14.25	14.44	-84.50	-504.04	3,365.25	3,378.70	3,358.42	20.29	166.546		
4,100.00	4,088.80	4,133.50	4,133.50	14.41	14.58	-84.57	-504.04	3,365.25	3,378.26	3,357.76	20.50	164.796		
4,200.00	4,188.35	4,233.05	4,233.05	14.78	14.94	-84.72	-504.04	3,365.25	3,377.37	3,356.35	21.02	160.706		
4,300.00	4,288.11	4,332.81	4,332.81	15.15	15.30	-84.82	-504.04	3,365.25	3,376.74	3,355.22	21.53	156.861		
4,400.00	4,388.02	4,432.72	4,432.72	15.50	15.66	-84.89	-504.04	3,365.25	3,376.36	3,354.33	22.03	153.247		
4,500.00	4,488.00	4,532.70	4,532.70	15.85	16.02	-84.91	-504.04	3,365.25	3,376.22	3,353.69	22.53	149.846		
4,512.00	4,500.00	4,544.70	4,544.70	15.89	16.06	94.83	-504.04	3,365.25	3,376.22	3,353.63	22.59	149.452		
4,600.00	4,588.00	4,632.70	4,632.70	16.19	16.37	94.83	-504.04	3,365.25	3,376.22	3,353.19	23.02	146.636		
4,700.00	4,688.00	4,732.70	4,732.70	16.53	16.73	94.83	-504.04	3,365.25	3,376.22	3,352.70	23.52	143.558		
4,800.00	4,788.00	4,832.70	4,832.70	16.87	17.09	94.83	-504.04	3,365.25	3,376.22	3,352.21	24.01	140.604		
4,900.00	4,888.00	4,932.70	4,932.70	17.21	17.45	94.83	-504.04	3,365.25	3,376.22	3,351.71	24.51	137.766		
5,000.00	4,988.00	5,032.70	5,032.70	17.55	17.81	94.83	-504.04	3,365.25	3,376.22	3,351.22	25.00	135.038		
5,100.00	5,088.00	5,132.70	5,132.70	17.89	18.17	94.83	-504.04	3,365.25	3,376.22	3,350.72	25.50	132.413		
5,200.00	5,188.00	5,232.70	5,232.70	18.24	18.52	94.83	-504.04	3,365.25	3,376.22	3,350.22	25.99	129.886		
5,300.00	5,288.00	5,332.70	5,332.70	18.58	18.88	94.83	-504.04	3,365.25	3,376.22	3,349.73	26.49	127.452		
5,400.00	5,388.00	5,432.70	5,432.70	18.92	19.24	94.83	-504.04	3,365.25	3,376.22	3,349.23	26.99	125.105		
5,400.47	5,388.47	5,433.17	5,433.17	18.93	19.24	94.83	-504.04	3,365.25	3,376.22	3,349.23	26.99	125.094 CC		
5,500.00	5,488.00	5,500.00	5,500.00	19.27	19.48	94.83	-504.04	3,365.25	3,376.38	3,348.98	27.40	123.225 ES		
5,600.00	5,588.00	5,574.55	5,574.55	19.61	19.74	94.83	-504.43	3,365.86	3,377.36	3,349.54	27.82	121.386		
5,700.00	5,688.00	5,630.70	5,630.67	19.96	19.93	94.84	-505.25	3,367.13	3,379.73	3,351.54	28.19	119.873		
5,800.00	5,788.00	5,700.00	5,699.91	20.31	20.16	94.87	-506.88	3,369.64	3,383.44	3,354.85	28.59	118.327		
5,900.00	5,888.00	5,742.80	5,742.63	20.65	20.30	94.89	-508.23	3,371.72	3,388.36	3,359.44	28.92	117.158		
6,000.00	5,988.00	5,800.00	5,799.69	21.00	20.49	94.92	-510.44	3,375.13	3,394.62	3,365.33	29.28	115.924		
6,100.00	6,088.00	5,870.90	5,870.33	21.35	20.73	94.97	-513.72	3,380.20	3,402.07	3,372.39	29.68	114.622		
6,200.00	6,188.00	5,970.52	5,969.57	21.69	21.06	95.04	-518.44	3,387.50	3,409.79	3,379.63	30.16	113.056		
6,300.00	6,288.00	6,070.14	6,068.81	22.04	21.40	95.10	-523.16	3,394.79	3,417.51	3,386.87	30.64	111.535		
6,400.00	6,388.00	6,169.76	6,168.05	22.39	21.74	95.17	-527.88	3,402.09	3,425.23	3,394.11	31.12	110.057		
6,500.00	6,488.00	6,269.37	6,267.29	22.74	22.08	95.24	-532.60	3,409.38	3,432.96	3,401.36	31.60	108.622		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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		
6,600.00	6,588.00	6,368.99	6,366.53	23.09	22.42	95.31	-537.33	3,416.68	3,440.70	3,408.61	32.09	107.226		
6,700.00	6,688.00	6,468.61	6,465.77	23.44	22.76	95.37	-542.05	3,423.97	3,448.43	3,415.86	32.57	105.869		
6,800.00	6,788.00	6,568.23	6,565.01	23.79	23.10	95.44	-546.77	3,431.26	3,456.18	3,423.12	33.06	104.549		
6,900.00	6,888.00	6,667.85	6,664.25	24.14	23.45	95.51	-551.49	3,438.56	3,463.92	3,430.38	33.54	103.265		
7,000.00	6,988.00	6,767.47	6,763.48	24.49	23.79	95.57	-556.22	3,445.85	3,471.68	3,437.65	34.03	102.015		
7,100.00	7,088.00	6,867.09	6,862.72	24.84	24.14	95.64	-560.94	3,453.15	3,479.43	3,444.92	34.52	100.799		
7,200.00	7,188.00	6,966.71	6,961.96	25.19	24.49	95.71	-565.66	3,460.44	3,487.20	3,452.19	35.01	99.614		
7,300.00	7,288.00	7,066.32	7,061.20	25.54	24.84	95.77	-570.38	3,467.74	3,494.96	3,459.47	35.50	98.461		
7,400.00	7,388.00	7,165.94	7,160.44	25.89	25.19	95.84	-575.10	3,475.03	3,502.73	3,466.75	35.99	97.337		
7,500.00	7,488.00	7,265.56	7,259.68	26.24	25.54	95.90	-579.83	3,482.33	3,510.51	3,474.03	36.48	96.241		
7,600.00	7,588.00	7,365.18	7,358.92	26.59	25.89	95.97	-584.55	3,489.62	3,518.29	3,481.32	36.97	95.173		
7,700.00	7,688.00	7,464.80	7,458.16	26.94	26.24	96.03	-589.27	3,496.92	3,526.07	3,488.61	37.46	94.132		
7,800.00	7,788.00	7,564.42	7,557.40	27.29	26.60	96.09	-593.99	3,504.21	3,533.86	3,495.91	37.95	93.117		
7,900.00	7,888.00	7,664.04	7,656.64	27.65	26.95	96.16	-598.72	3,511.51	3,541.65	3,503.21	38.44	92.126		
8,000.00	7,988.00	7,763.66	7,755.88	28.00	27.31	96.22	-603.44	3,518.80	3,549.45	3,510.51	38.94	91.159		
8,100.00	8,088.00	7,863.27	7,855.11	28.35	27.66	96.28	-608.16	3,526.10	3,557.25	3,517.82	39.43	90.216		
8,200.00	8,188.00	7,962.89	7,954.35	28.70	28.02	96.35	-612.88	3,533.39	3,565.06	3,525.13	39.92	89.295		
8,300.00	8,288.00	8,062.51	8,053.59	29.05	28.38	96.41	-617.60	3,540.69	3,572.87	3,532.45	40.42	88.395		
8,400.00	8,388.00	8,162.13	8,152.83	29.41	28.74	96.47	-622.33	3,547.98	3,580.68	3,539.77	40.91	87.517		
8,500.00	8,488.00	8,261.75	8,252.07	29.76	29.10	96.53	-627.05	3,555.28	3,588.50	3,547.09	41.41	86.658		
8,600.00	8,588.00	8,361.37	8,351.31	30.11	29.46	96.59	-631.77	3,562.57	3,596.32	3,554.41	41.91	85.819		
8,700.00	8,688.00	8,460.99	8,450.55	30.47	29.82	96.66	-636.49	3,569.87	3,604.15	3,561.75	42.40	84.999		
8,800.00	8,788.00	8,560.61	8,549.79	30.82	30.18	96.72	-641.21	3,577.16	3,611.98	3,569.08	42.90	84.198		
8,900.00	8,888.00	8,660.23	8,649.03	31.17	30.54	96.78	-645.94	3,584.45	3,619.81	3,576.42	43.40	83.414		
9,000.00	8,988.00	8,759.84	8,748.27	31.53	30.90	96.84	-650.66	3,591.75	3,627.65	3,583.76	43.89	82.647		
9,100.00	9,088.00	8,859.46	8,847.51	31.88	31.26	96.90	-655.38	3,599.04	3,635.49	3,591.10	44.39	81.897		
9,200.00	9,188.00	8,959.08	8,946.74	32.23	31.63	96.96	-660.10	3,606.34	3,643.34	3,598.45	44.89	81.163		
9,300.00	9,288.00	9,058.70	9,045.98	32.59	31.99	97.02	-664.83	3,613.63	3,651.19	3,605.80	45.39	80.445		
9,400.00	9,388.00	9,267.53	9,254.18	32.94	32.75	97.13	-673.59	3,627.17	3,658.79	3,612.58	46.20	79.186		
9,500.00	9,488.00	9,546.16	9,532.70	33.29	33.73	97.17	-676.64	3,631.88	3,659.48	3,612.32	47.16	77.597		
9,600.00	9,588.00	9,646.16	9,632.70	33.65	34.08	97.17	-676.64	3,631.88	3,659.48	3,611.82	47.66	76.784		
9,700.00	9,688.00	9,746.16	9,732.70	34.00	34.43	97.17	-676.64	3,631.88	3,659.48	3,611.32	48.16	75.988		
9,800.00	9,788.00	9,846.16	9,832.70	34.36	34.78	97.17	-676.64	3,631.88	3,659.48	3,610.82	48.66	75.208		
9,900.00	9,888.00	9,946.16	9,932.70	34.71	35.13	97.17	-676.64	3,631.88	3,659.48	3,610.32	49.16	74.444		
10,000.00	9,988.00	10,046.16	10,032.70	35.07	35.48	97.17	-676.64	3,631.88	3,659.48	3,609.82	49.66	73.695		
10,100.00	10,088.00	10,146.16	10,132.70	35.42	35.83	97.17	-676.64	3,631.88	3,659.48	3,609.32	50.16	72.961		
10,200.00	10,188.00	10,246.16	10,232.70	35.77	36.18	97.17	-676.64	3,631.88	3,659.48	3,608.82	50.66	72.241		
10,300.00	10,288.00	10,346.16	10,332.70	36.13	36.53	97.17	-676.64	3,631.88	3,659.48	3,608.32	51.16	71.534		
10,400.00	10,388.00	10,446.16	10,432.70	36.48	36.88	97.17	-676.64	3,631.88	3,659.48	3,607.82	51.66	70.842		
10,500.00	10,488.00	10,546.16	10,532.70	36.84	37.23	97.17	-676.64	3,631.88	3,659.48	3,607.32	52.16	70.162		
10,600.00	10,588.00	10,646.16	10,632.70	37.19	37.58	97.17	-676.64	3,631.88	3,659.48	3,606.82	52.66	69.495		
10,700.00	10,688.00	10,746.16	10,732.70	37.55	37.93	97.17	-676.64	3,631.88	3,659.48	3,606.32	53.16	68.841		
10,800.00	10,788.00	10,846.16	10,832.70	37.90	38.28	97.17	-676.64	3,631.88	3,659.48	3,605.82	53.66	68.198		
10,900.00	10,888.00	10,946.16	10,932.70	38.26	38.64	97.17	-676.64	3,631.88	3,659.48	3,605.32	54.16	67.568		
11,000.00	10,988.00	11,046.16	11,032.70	38.61	38.99	97.17	-676.64	3,631.88	3,659.48	3,604.82	54.66	66.948		
11,100.00	11,088.00	11,231.98	11,217.81	38.97	39.63	97.00	-666.10	3,631.78	3,659.07	3,603.72	55.35	66.110		
11,200.00	11,188.00	11,684.89	11,586.29	39.32	40.68	93.21	-423.82	3,629.48	3,651.36	3,595.04	56.33	64.827		
11,300.00	11,288.00	11,821.69	11,648.52	39.68	40.98	91.30	-302.36	3,628.33	3,641.98	3,585.12	56.86	64.051		
11,400.00	11,388.00	11,881.66	11,666.34	40.03	41.14	90.40	-245.13	3,627.79	3,634.39	3,577.10	57.29	63.435		
11,500.00	11,488.00	11,914.61	11,673.55	40.39	41.23	89.89	-212.98	3,627.48	3,629.22	3,571.56	57.66	62.938		
11,600.00	11,588.00	11,935.31	11,677.13	40.74	41.29	89.57	-192.59	3,627.29	3,626.67	3,568.68	57.99	62.540		
11,645.48	11,633.48	11,942.37	11,678.18	40.91	41.31	89.46	-185.62	3,627.22	3,626.39	3,568.26	58.13	62.389		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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		
11,700.00	11,688.00	11,950.00	11,679.22	41.10	41.33	89.34	-178.06	3,627.15	3,626.79	3,568.51	58.28	62.232		
11,715.04	11,703.04	11,950.00	11,679.22	41.15	41.33	89.34	-178.06	3,627.15	3,627.04	3,568.73	58.32	62.196		
11,750.00	11,737.98	11,955.92	11,679.96	41.28	41.34	89.73	-172.18	3,627.10	3,627.86	3,569.45	58.41	62.110		
11,800.00	11,787.69	11,964.71	11,680.94	41.45	41.37	89.42	-163.45	3,627.01	3,629.58	3,571.05	58.54	62.006		
11,850.00	11,836.76	11,975.53	11,681.97	41.61	41.40	89.02	-152.68	3,626.91	3,631.92	3,573.26	58.66	61.920		
11,900.00	11,884.81	11,987.99	11,682.90	41.77	41.43	88.55	-140.26	3,626.79	3,634.81	3,576.04	58.77	61.852		
11,950.00	11,931.47	12,000.00	11,683.54	41.92	41.47	88.04	-128.26	3,626.68	3,638.21	3,579.34	58.87	61.804		
12,000.00	11,976.40	12,016.69	11,684.01	42.06	41.52	87.42	-111.57	3,626.52	3,642.05	3,583.08	58.97	61.764		
12,050.00	12,019.25	12,039.76	11,683.87	42.19	41.58	86.68	-88.51	3,626.30	3,646.29	3,587.22	59.07	61.726		
12,100.00	12,059.69	12,056.02	11,683.44	42.32	41.63	86.02	-72.25	3,626.15	3,650.80	3,591.64	59.16	61.711		
12,150.00	12,097.41	12,087.80	11,682.59	42.45	41.74	85.17	-40.49	3,625.85	3,655.47	3,596.19	59.28	61.668		
12,200.00	12,132.14	12,122.82	11,681.66	42.57	41.86	84.31	-5.48	3,625.52	3,660.14	3,600.74	59.40	61.614		
12,250.00	12,163.59	12,160.82	11,680.66	42.69	42.00	83.47	32.50	3,625.16	3,664.69	3,605.15	59.54	61.547		
12,300.00	12,191.55	12,201.50	11,679.58	42.81	42.15	82.68	73.16	3,624.77	3,669.00	3,609.31	59.69	61.468		
12,350.00	12,215.78	12,244.56	11,678.44	42.92	42.33	81.94	116.20	3,624.36	3,672.96	3,613.10	59.86	61.356		
12,400.00	12,236.12	12,289.66	11,677.24	43.04	42.53	81.30	161.29	3,623.93	3,676.45	3,616.41	60.05	61.227		
12,450.00	12,252.39	12,336.47	11,676.00	43.15	42.75	80.75	208.08	3,623.49	3,679.39	3,619.14	60.26	61.064		
12,500.00	12,264.49	12,384.63	11,674.72	43.27	42.98	80.33	256.23	3,623.03	3,681.69	3,621.22	60.48	60.875		
12,550.00	12,272.31	12,433.78	11,673.42	43.39	43.24	80.03	305.35	3,622.57	3,683.30	3,622.57	60.73	60.653		
12,600.00	12,275.80	12,483.53	11,672.10	43.51	43.51	79.87	355.08	3,622.10	3,684.16	3,623.17	60.99	60.404		
12,615.04	12,276.00	12,498.55	11,671.70	43.55	43.59	79.85	370.10	3,621.95	3,684.27	3,623.20	61.07	60.326		
12,700.00	12,276.00	12,583.49	11,669.45	43.78	44.09	79.82	455.00	3,621.15	3,684.71	3,623.12	61.58	59.833		
12,800.00	12,276.00	12,683.45	11,666.80	44.10	44.73	79.78	554.92	3,620.20	3,685.22	3,622.96	62.25	59.196		
12,900.00	12,276.00	12,783.42	11,664.15	44.49	45.42	79.74	654.85	3,619.25	3,685.73	3,622.73	63.00	58.501		
13,000.00	12,276.00	12,883.38	11,661.50	44.93	46.16	79.70	754.78	3,618.31	3,686.24	3,622.42	63.83	57.755		
13,100.00	12,276.00	12,983.35	11,658.85	45.43	46.95	79.66	854.70	3,617.36	3,686.76	3,622.04	64.72	56.964		
13,200.00	12,276.00	13,083.31	11,656.19	45.98	47.77	79.62	954.63	3,616.41	3,687.28	3,621.59	65.68	56.137		
13,300.00	12,276.00	13,183.28	11,653.54	46.59	48.64	79.58	1,054.55	3,615.46	3,687.80	3,621.08	66.71	55.279		
13,400.00	12,276.00	13,283.24	11,650.89	47.24	49.55	79.54	1,154.48	3,614.52	3,688.32	3,620.51	67.80	54.398		
13,500.00	12,276.00	13,383.21	11,648.24	47.94	50.50	79.50	1,254.40	3,613.57	3,688.84	3,619.89	68.95	53.498		
13,600.00	12,276.00	13,483.17	11,645.59	48.69	51.48	79.46	1,354.33	3,612.62	3,689.37	3,619.21	70.16	52.586		
13,700.00	12,276.00	13,583.14	11,642.94	49.48	52.50	79.42	1,454.25	3,611.67	3,689.89	3,618.47	71.42	51.665		
13,800.00	12,276.00	13,683.10	11,640.29	50.32	53.55	79.38	1,554.18	3,610.73	3,690.42	3,617.69	72.73	50.741		
13,900.00	12,276.00	13,783.07	11,637.64	51.19	54.63	79.34	1,654.10	3,609.78	3,690.95	3,616.86	74.09	49.818		
14,000.00	12,276.00	13,883.03	11,634.99	52.10	55.73	79.29	1,754.03	3,608.83	3,691.48	3,615.99	75.49	48.898		
14,100.00	12,276.00	13,983.00	11,632.34	53.05	56.86	79.25	1,853.95	3,607.88	3,692.02	3,615.08	76.94	47.985		
14,200.00	12,276.00	14,082.96	11,629.69	54.03	58.02	79.21	1,953.88	3,606.94	3,692.55	3,614.12	78.43	47.082		
14,300.00	12,276.00	14,182.92	11,627.04	55.04	59.20	79.17	2,053.80	3,605.99	3,693.09	3,613.14	79.95	46.190		
14,400.00	12,276.00	14,282.89	11,624.38	56.09	60.40	79.13	2,153.73	3,605.04	3,693.63	3,612.12	81.51	45.312		
14,500.00	12,276.00	14,382.85	11,621.73	57.16	61.63	79.09	2,253.65	3,604.09	3,694.17	3,611.06	83.11	44.449		
14,600.00	12,276.00	14,482.82	11,619.08	58.26	62.87	79.05	2,353.58	3,603.15	3,694.71	3,609.98	84.74	43.602		
14,700.00	12,276.00	14,582.78	11,616.43	59.38	64.13	79.01	2,453.50	3,602.20	3,695.26	3,608.87	86.39	42.772		
14,800.00	12,276.00	14,682.75	11,613.78	60.53	65.41	78.97	2,553.43	3,601.25	3,695.81	3,607.73	88.08	41.960		
14,900.00	12,276.00	14,782.71	11,611.13	61.71	66.71	78.93	2,653.35	3,600.30	3,696.36	3,606.56	89.79	41.166		
15,000.00	12,276.00	14,882.68	11,608.48	62.90	68.02	78.89	2,753.28	3,599.36	3,696.91	3,605.38	91.53	40.391		
15,100.00	12,276.00	14,982.64	11,605.83	64.11	69.34	78.85	2,853.20	3,598.41	3,697.46	3,604.17	93.29	39.634		
15,200.00	12,276.00	15,082.61	11,603.18	65.35	70.68	78.81	2,953.13	3,597.46	3,698.01	3,602.94	95.07	38.897		
15,300.00	12,276.00	15,182.57	11,600.53	66.60	72.03	78.77	3,053.05	3,596.51	3,698.57	3,601.69	96.88	38.178		
15,400.00	12,276.00	15,282.54	11,597.88	67.87	73.40	78.73	3,152.98	3,595.57	3,699.13	3,600.43	98.70	37.478		
15,500.00	12,276.00	15,382.50	11,595.23	69.15	74.77	78.69	3,252.90	3,594.62	3,699.69	3,599.14	100.54	36.797		
15,600.00	12,276.00	15,482.47	11,592.57	70.45	76.16	78.65	3,352.83	3,593.67	3,700.25	3,597.84	102.40	36.134		
15,700.00	12,276.00	15,582.43	11,589.92	71.77	77.56	78.61	3,452.76	3,592.72	3,700.81	3,596.53	104.28	35.489		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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		
15,800.00	12,276.00	15,682.40	11,587.27	73.10	78.96	78.57	3,552.68	3,591.78	3,701.38	3,595.20	106.17	34.861		
15,900.00	12,276.00	15,782.36	11,584.62	74.44	80.38	78.53	3,652.61	3,590.83	3,701.94	3,593.86	108.08	34.251		
16,000.00	12,276.00	15,882.33	11,581.97	75.79	81.80	78.49	3,752.53	3,589.88	3,702.51	3,592.51	110.00	33.658		
16,100.00	12,276.00	15,982.29	11,579.32	77.16	83.24	78.45	3,852.46	3,588.93	3,703.08	3,591.14	111.94	33.081		
16,200.00	12,276.00	16,082.26	11,576.67	78.53	84.68	78.41	3,952.38	3,587.99	3,703.65	3,589.77	113.89	32.520		
16,300.00	12,276.00	16,182.22	11,574.02	79.92	86.13	78.37	4,052.31	3,587.04	3,704.23	3,588.38	115.85	31.975		
16,400.00	12,276.00	16,282.19	11,571.37	81.32	87.58	78.33	4,152.23	3,586.09	3,704.80	3,586.98	117.82	31.445		
16,500.00	12,276.00	16,382.15	11,568.72	82.72	89.05	78.29	4,252.16	3,585.14	3,705.38	3,585.58	119.80	30.929		
16,600.00	12,276.00	16,482.12	11,566.07	84.14	90.52	78.25	4,352.08	3,584.20	3,705.96	3,584.17	121.79	30.428		
16,700.00	12,276.00	16,582.08	11,563.42	85.56	91.99	78.21	4,452.01	3,583.25	3,706.54	3,582.75	123.80	29.941		
16,800.00	12,276.00	16,682.05	11,560.76	86.99	93.47	78.17	4,551.93	3,582.30	3,707.13	3,581.32	125.81	29.467		
16,900.00	12,276.00	16,782.01	11,558.11	88.43	94.96	78.13	4,651.86	3,581.36	3,707.71	3,579.88	127.83	29.006		
17,000.00	12,276.00	16,881.98	11,555.46	89.88	96.45	78.09	4,751.78	3,580.41	3,708.30	3,578.44	129.86	28.557		
17,100.00	12,276.00	16,981.94	11,552.81	91.34	97.95	78.05	4,851.71	3,579.46	3,708.89	3,576.99	131.89	28.121		
17,200.00	12,276.00	17,081.90	11,550.16	92.80	99.45	78.01	4,951.63	3,578.51	3,709.48	3,575.54	133.94	27.696		
17,300.00	12,276.00	17,181.87	11,547.51	94.26	100.96	77.97	5,051.56	3,577.57	3,710.07	3,574.08	135.99	27.283		
17,400.00	12,276.00	17,281.83	11,544.86	95.74	102.47	77.93	5,151.48	3,576.62	3,710.66	3,572.62	138.04	26.880		
17,500.00	12,276.00	17,381.80	11,542.21	97.21	103.99	77.89	5,251.41	3,575.67	3,711.26	3,571.15	140.11	26.489		
17,600.00	12,276.00	17,481.76	11,539.56	98.70	105.51	77.85	5,351.33	3,574.72	3,711.86	3,569.68	142.18	26.107		
17,700.00	12,276.00	17,581.73	11,536.91	100.19	107.03	77.81	5,451.26	3,573.78	3,712.45	3,568.20	144.25	25.736		
17,800.00	12,276.00	17,681.69	11,534.26	101.68	108.56	77.77	5,551.18	3,572.83	3,713.06	3,566.72	146.33	25.374		
17,900.00	12,276.00	17,781.66	11,531.61	103.18	110.09	77.73	5,651.11	3,571.88	3,713.66	3,565.24	148.42	25.022		
18,000.00	12,276.00	17,881.62	11,528.96	104.68	111.63	77.69	5,751.03	3,570.93	3,714.26	3,563.76	150.51	24.678		
18,100.00	12,276.00	17,981.59	11,526.30	106.19	113.16	77.65	5,850.96	3,569.99	3,714.87	3,562.27	152.60	24.343		
18,200.00	12,276.00	18,081.55	11,523.65	107.71	114.71	77.61	5,950.88	3,569.04	3,715.48	3,560.78	154.70	24.017		
18,300.00	12,276.00	18,181.52	11,521.00	109.22	116.25	77.57	6,050.81	3,568.09	3,716.09	3,559.28	156.81	23.699		
18,400.00	12,276.00	18,281.48	11,518.35	110.74	117.80	77.53	6,150.74	3,567.14	3,716.70	3,557.79	158.91	23.388		
18,500.00	12,276.00	18,381.45	11,515.70	112.27	119.35	77.49	6,250.66	3,566.20	3,717.31	3,556.29	161.03	23.085		
18,600.00	12,276.00	18,481.41	11,513.05	113.79	120.90	77.45	6,350.59	3,565.25	3,717.93	3,554.79	163.14	22.790		
18,700.00	12,276.00	18,581.38	11,510.40	115.33	122.46	77.41	6,450.51	3,564.30	3,718.55	3,553.29	165.26	22.501		
18,800.00	12,276.00	18,681.34	11,507.75	116.86	124.01	77.37	6,550.44	3,563.35	3,719.17	3,551.78	167.38	22.219		
18,900.00	12,276.00	18,781.31	11,505.10	118.40	125.57	77.33	6,650.36	3,562.41	3,719.79	3,550.28	169.51	21.944		
19,000.00	12,276.00	18,881.27	11,502.45	119.94	127.14	77.29	6,750.29	3,561.46	3,720.41	3,548.77	171.64	21.676		
19,100.00	12,276.00	18,981.24	11,499.80	121.48	128.70	77.25	6,850.21	3,560.51	3,721.03	3,547.26	173.77	21.413		
19,200.00	12,276.00	19,081.20	11,497.15	123.03	130.27	77.22	6,950.14	3,559.56	3,721.66	3,545.75	175.91	21.157		
19,300.00	12,276.00	19,181.17	11,494.49	124.58	131.84	77.18	7,050.06	3,558.62	3,722.29	3,544.24	178.05	20.906		
19,400.00	12,276.00	19,281.13	11,491.84	126.13	133.41	77.14	7,149.99	3,557.67	3,722.92	3,542.73	180.19	20.661		
19,500.00	12,276.00	19,381.10	11,489.19	127.68	134.98	77.10	7,249.91	3,556.72	3,723.55	3,541.22	182.33	20.422		
19,600.00	12,276.00	19,481.06	11,486.54	129.24	136.55	77.06	7,349.84	3,555.77	3,724.18	3,539.71	184.47	20.188		
19,700.00	12,276.00	19,581.03	11,483.89	130.80	138.13	77.02	7,449.76	3,554.83	3,724.82	3,538.20	186.62	19.959		
19,800.00	12,276.00	19,680.99	11,481.24	132.36	139.71	76.98	7,549.69	3,553.88	3,725.45	3,536.69	188.77	19.735		
19,900.00	12,276.00	19,780.96	11,478.59	133.93	141.29	76.94	7,649.61	3,552.93	3,726.09	3,535.17	190.92	19.516		
20,000.00	12,276.00	19,880.92	11,475.94	135.49	142.87	76.90	7,749.54	3,551.98	3,726.73	3,533.66	193.07	19.302		
20,100.00	12,276.00	19,980.88	11,473.29	137.06	144.45	76.86	7,849.46	3,551.04	3,727.38	3,532.15	195.23	19.092		
20,200.00	12,276.00	20,080.85	11,470.64	138.63	146.04	76.82	7,949.39	3,550.09	3,728.02	3,530.64	197.38	18.887		
20,300.00	12,276.00	20,180.81	11,467.99	140.20	147.63	76.78	8,049.31	3,549.14	3,728.67	3,529.12	199.54	18.686		
20,400.00	12,276.00	20,280.78	11,465.34	141.77	149.21	76.74	8,149.24	3,548.19	3,729.31	3,527.61	201.70	18.489		
20,500.00	12,276.00	20,380.74	11,462.68	143.35	150.80	76.70	8,249.16	3,547.25	3,729.96	3,526.10	203.86	18.296		
20,600.00	12,276.00	20,480.71	11,460.03	144.93	152.39	76.66	8,349.09	3,546.30	3,730.61	3,524.59	206.02	18.108		
20,700.00	12,276.00	20,580.67	11,457.38	146.50	153.98	76.62	8,449.01	3,545.35	3,731.27	3,523.08	208.19	17.922		
20,800.00	12,276.00	20,680.64	11,454.73	148.08	155.58	76.58	8,548.94	3,544.40	3,731.92	3,521.57	210.35	17.741		
20,900.00	12,276.00	20,780.60	11,452.08	149.67	157.17	76.54	8,648.86	3,543.46	3,732.58	3,520.06	212.52	17.563		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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 706H - 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		
21,000.00	12,276.00	20,880.57	11,449.43	151.25	158.77	76.50	8,748.79	3,542.51	3,733.24	3,518.55	214.69	17.389		
21,100.00	12,276.00	20,980.53	11,446.78	152.83	160.36	76.46	8,848.72	3,541.56	3,733.90	3,517.04	216.86	17.218		
21,200.00	12,276.00	21,080.50	11,444.13	154.42	161.96	76.42	8,948.64	3,540.61	3,734.56	3,515.53	219.03	17.051		
21,300.00	12,276.00	21,180.46	11,441.48	156.01	163.56	76.39	9,048.57	3,539.67	3,735.22	3,514.02	221.20	16.886		
21,400.00	12,276.00	21,280.43	11,438.83	157.60	165.16	76.35	9,148.49	3,538.72	3,735.89	3,512.51	223.37	16.725		
21,500.00	12,276.00	21,380.39	11,436.18	159.19	166.76	76.31	9,248.42	3,537.77	3,736.55	3,511.01	225.54	16.567		
21,600.00	12,276.00	21,480.36	11,433.53	160.78	168.36	76.27	9,348.34	3,536.82	3,737.22	3,509.51	227.72	16.412		
21,700.00	12,276.00	21,580.32	11,430.87	162.37	169.96	76.23	9,448.27	3,535.88	3,737.89	3,508.00	229.89	16.259		
21,800.00	12,276.00	21,680.29	11,428.22	163.96	171.57	76.19	9,548.19	3,534.93	3,738.57	3,506.50	232.06	16.110		
21,900.00	12,276.00	21,780.25	11,425.57	165.56	173.17	76.15	9,648.12	3,533.98	3,739.24	3,505.00	234.24	15.963		
22,000.00	12,276.00	21,880.22	11,422.92	167.16	174.78	76.11	9,748.04	3,533.03	3,739.92	3,503.50	236.41	15.819		
22,100.00	12,276.00	21,980.18	11,420.27	168.75	176.38	76.07	9,847.97	3,532.09	3,740.59	3,502.00	238.59	15.678		
22,200.00	12,276.00	22,080.15	11,417.62	170.35	177.99	76.03	9,947.89	3,531.14	3,741.27	3,500.50	240.77	15.539		
22,300.00	12,276.00	22,180.11	11,414.97	171.95	179.60	75.99	10,047.82	3,530.19	3,741.95	3,499.01	242.95	15.402		
22,400.00	12,276.00	22,280.08	11,412.32	173.55	181.21	75.95	10,147.74	3,529.24	3,742.64	3,497.51	245.12	15.268		
22,410.08	12,276.00	22,290.16	11,412.05	173.71	181.37	75.95	10,157.82	3,529.15	3,742.71	3,497.36	245.34	15.255 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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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	1,888.00	1,888.00	6.37	6.53	98.80	-504.93	3,260.27	3,299.14	3,290.01	9.13	361.413		
1,900.00	1,900.00	1,945.00	1,945.00	6.58	6.74	98.80	-504.93	3,260.27	3,299.14	3,289.72	9.42	350.324		
2,000.00	2,000.00	2,045.00	2,045.00	6.94	7.10	98.80	-504.93	3,260.27	3,299.14	3,289.21	9.92	332.430		
2,100.00	2,100.00	2,145.00	2,145.00	7.29	7.46	98.80	-504.93	3,260.27	3,299.14	3,288.71	10.43	316.275		
2,200.00	2,200.00	2,245.00	2,245.00	7.65	7.81	98.80	-504.93	3,260.27	3,299.14	3,288.20	10.94	301.617		
2,300.00	2,299.99	2,344.99	2,344.99	7.99	8.17	-80.96	-504.93	3,260.27	3,298.93	3,287.50	11.43	288.569		
2,400.00	2,399.91	2,444.91	2,444.91	8.32	8.53	-81.04	-504.93	3,260.27	3,298.32	3,286.40	11.91	276.837		
2,500.00	2,499.69	2,544.69	2,544.69	8.65	8.89	-81.16	-504.93	3,260.27	3,297.30	3,284.90	12.40	265.946		
2,600.00	2,599.27	2,644.27	2,644.27	8.97	9.25	-81.34	-504.93	3,260.27	3,295.91	3,283.02	12.88	255.799		
2,652.97	2,651.91	2,696.91	2,696.91	9.15	9.43	-81.46	-504.93	3,260.27	3,295.02	3,281.87	13.14	250.695		
2,700.00	2,698.61	2,743.61	2,743.61	9.31	9.60	-81.55	-504.93	3,260.27	3,294.19	3,280.82	13.37	246.310		
2,800.00	2,797.91	2,842.91	2,842.91	9.65	9.96	-81.75	-504.93	3,260.27	3,292.46	3,278.59	13.87	237.426		
2,900.00	2,897.20	2,942.20	2,942.20	10.00	10.31	-81.96	-504.93	3,260.27	3,290.77	3,276.41	14.36	229.099		
3,000.00	2,996.50	3,041.50	3,041.50	10.35	10.67	-82.16	-504.93	3,260.27	3,289.13	3,274.26	14.86	221.286		
3,100.00	3,095.80	3,140.80	3,140.80	10.70	11.03	-82.36	-504.93	3,260.27	3,287.52	3,272.16	15.37	213.945		
3,200.00	3,195.10	3,240.10	3,240.10	11.06	11.38	-82.56	-504.93	3,260.27	3,285.96	3,270.09	15.87	207.038		
3,300.00	3,294.39	3,339.39	3,339.39	11.42	11.74	-82.77	-504.93	3,260.27	3,284.44	3,268.06	16.38	200.531		
3,400.00	3,393.69	3,438.69	3,438.69	11.79	12.09	-82.97	-504.93	3,260.27	3,282.96	3,266.07	16.89	194.393		
3,500.00	3,492.99	3,710.57	3,710.47	12.16	13.04	-83.50	-506.01	3,254.57	3,280.52	3,262.72	17.80	184.294		
3,600.00	3,592.29	4,101.16	4,098.70	12.53	14.39	-84.10	-513.74	3,214.05	3,267.94	3,249.05	18.90	172.931		
3,700.00	3,691.59	4,199.68	4,196.14	12.90	14.74	-84.23	-516.46	3,199.74	3,252.52	3,233.13	19.39	167.709		
3,800.00	3,790.88	4,298.21	4,293.59	13.27	15.09	-84.36	-519.19	3,185.43	3,237.12	3,217.22	19.89	162.725		
3,900.00	3,890.18	4,396.73	4,391.03	13.65	15.45	-84.49	-521.92	3,171.12	3,221.73	3,201.33	20.40	157.965		
4,000.00	3,989.48	4,495.26	4,488.47	14.03	15.81	-84.63	-524.65	3,156.81	3,206.36	3,185.46	20.90	153.417		
4,059.03	4,048.09	4,553.42	4,545.99	14.25	16.03	-84.71	-526.26	3,148.36	3,197.29	3,176.10	21.20	150.827		
4,100.00	4,088.80	4,593.81	4,585.94	14.41	16.18	-84.67	-527.38	3,142.49	3,191.03	3,169.62	21.41	149.073		
4,200.00	4,188.35	4,692.52	4,683.56	14.78	16.55	-84.53	-530.11	3,128.16	3,175.91	3,154.00	21.91	144.954		
4,300.00	4,288.11	4,791.37	4,781.32	15.15	16.92	-84.36	-532.84	3,113.80	3,161.04	3,138.63	22.41	141.055		
4,400.00	4,388.02	4,890.29	4,879.16	15.50	17.29	-84.14	-535.58	3,099.43	3,146.43	3,123.52	22.91	137.365		
4,500.00	4,488.00	4,989.22	4,977.00	15.85	17.67	-83.87	-538.32	3,085.06	3,132.08	3,108.68	23.40	133.870		
4,512.00	4,500.00	5,001.08	4,988.74	15.89	17.72	95.90	-538.65	3,083.34	3,130.38	3,106.92	23.45	133.464		
4,600.00	4,588.00	5,088.12	5,074.82	16.19	18.05	95.97	-541.06	3,070.70	3,117.90	3,094.02	23.88	130.552		
4,700.00	4,688.00	5,187.02	5,172.63	16.53	18.43	96.05	-543.80	3,056.33	3,103.74	3,079.37	24.37	127.360		
4,800.00	4,788.00	5,285.92	5,270.44	16.87	18.81	96.13	-546.54	3,041.97	3,089.57	3,064.72	24.86	124.287		
4,900.00	4,888.00	5,384.82	5,368.26	17.21	19.20	96.21	-549.27	3,027.60	3,075.42	3,050.07	25.35	121.327		
5,000.00	4,988.00	5,483.72	5,466.07	17.55	19.59	96.29	-552.01	3,013.24	3,061.27	3,035.43	25.84	118.475		
5,100.00	5,088.00	5,582.62	5,563.89	17.89	19.97	96.37	-554.75	2,998.88	3,047.13	3,020.79	26.33	115.724		
5,200.00	5,188.00	5,681.53	5,661.70	18.24	20.36	96.45	-557.49	2,984.51	3,032.99	3,006.16	26.82	113.070		
5,300.00	5,288.00	5,780.43	5,759.51	18.58	20.75	96.54	-560.22	2,970.15	3,018.86	2,991.54	27.32	110.507		
5,400.00	5,388.00	5,879.33	5,857.33	18.92	21.15	96.62	-562.96	2,955.78	3,004.73	2,976.92	27.81	108.033		
5,500.00	5,488.00	5,978.23	5,955.14	19.27	21.54	96.71	-565.70	2,941.42	2,990.61	2,962.30	28.31	105.642		
5,600.00	5,588.00	6,077.13	6,052.96	19.61	21.94	96.79	-568.44	2,927.05	2,976.50	2,947.70	28.81	103.330		
5,700.00	5,688.00	6,176.03	6,150.77	19.96	22.33	96.88	-571.18	2,912.69	2,962.40	2,933.09	29.30	101.094		
5,800.00	5,788.00	6,274.93	6,248.58	20.31	22.73	96.96	-573.91	2,898.32	2,948.30	2,918.49	29.80	98.930		
5,900.00	5,888.00	6,373.83	6,346.40	20.65	23.13	97.05	-576.65	2,883.96	2,934.20	2,903.90	30.30	96.836		
6,000.00	5,988.00	6,472.73	6,444.21	21.00	23.53	97.14	-579.39	2,869.60	2,920.12	2,889.32	30.80	94.807		
6,100.00	6,088.00	6,571.63	6,542.02	21.35	23.93	97.23	-582.13	2,855.23	2,906.04	2,874.74	31.30	92.841		
6,200.00	6,188.00	6,670.53	6,639.84	21.69	24.33	97.32	-584.87	2,840.87	2,891.97	2,860.17	31.80	90.935		
6,300.00	6,288.00	6,769.44	6,737.65	22.04	24.73	97.41	-587.60	2,826.50	2,877.90	2,845.60	32.30	89.087		
6,400.00	6,388.00	6,868.34	6,835.47	22.39	25.13	97.50	-590.34	2,812.14	2,863.85	2,831.04	32.81	87.294		
6,500.00	6,488.00	6,967.24	6,933.28	22.74	25.54	97.60	-593.08	2,797.77	2,849.80	2,816.49	33.31	85.554		
6,600.00	6,588.00	7,066.14	7,031.09	23.09	25.94	97.69	-595.82	2,783.41	2,835.76	2,801.94	33.81	83.864		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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	
6,700.00	6,688.00	7,165.04	7,128.91	23.44	26.35	97.79	-598.56	2,769.04	2,821.72	2,787.40		34.32	82.223	
6,800.00	6,788.00	7,263.94	7,226.72	23.79	26.75	97.88	-601.29	2,754.68	2,807.70	2,772.87		34.82	80.628	
6,900.00	6,888.00	7,362.84	7,324.54	24.14	27.16	97.98	-604.03	2,740.32	2,793.68	2,758.35		35.33	79.078	
7,000.00	6,988.00	7,461.74	7,422.35	24.49	27.57	98.08	-606.77	2,725.95	2,779.67	2,743.83		35.83	77.570	
7,100.00	7,088.00	7,560.64	7,520.16	24.84	27.97	98.18	-609.51	2,711.59	2,765.66	2,729.32		36.34	76.104	
7,200.00	7,188.00	7,659.54	7,617.98	25.19	28.38	98.28	-612.25	2,697.22	2,751.67	2,714.82		36.85	74.677	
7,300.00	7,288.00	7,758.44	7,715.79	25.54	28.79	98.38	-614.98	2,682.86	2,737.68	2,700.33		37.35	73.288	
7,400.00	7,388.00	7,857.35	7,813.61	25.89	29.20	98.48	-617.72	2,668.49	2,723.70	2,685.84		37.86	71.936	
7,500.00	7,488.00	7,956.25	7,911.42	26.24	29.61	98.58	-620.46	2,654.13	2,709.73	2,671.36		38.37	70.619	
7,600.00	7,588.00	8,055.15	8,009.23	26.59	30.02	98.69	-623.20	2,639.76	2,695.77	2,656.89		38.88	69.336	
7,700.00	7,688.00	8,154.05	8,107.05	26.94	30.43	98.79	-625.93	2,625.40	2,681.82	2,642.43		39.39	68.085	
7,800.00	7,788.00	8,252.95	8,204.86	27.29	30.84	98.90	-628.67	2,611.04	2,667.88	2,627.98		39.90	66.866	
7,900.00	7,888.00	8,351.85	8,302.67	27.65	31.25	99.01	-631.41	2,596.67	2,653.94	2,613.54		40.41	65.677	
8,000.00	7,988.00	8,450.75	8,400.49	28.00	31.66	99.11	-634.15	2,582.31	2,640.02	2,599.10		40.92	64.517	
8,100.00	8,088.00	8,549.65	8,498.30	28.35	32.08	99.22	-636.89	2,567.94	2,626.11	2,584.67		41.43	63.386	
8,200.00	8,188.00	8,648.55	8,596.12	28.70	32.49	99.34	-639.62	2,553.58	2,612.20	2,570.26		41.94	62.282	
8,300.00	8,288.00	8,747.45	8,693.93	29.05	32.90	99.45	-642.36	2,539.21	2,598.30	2,555.85		42.45	61.203	
8,400.00	8,388.00	8,846.35	8,791.74	29.41	33.31	99.56	-645.10	2,524.85	2,584.42	2,541.45		42.97	60.151	
8,500.00	8,488.00	8,945.25	8,889.56	29.76	33.73	99.68	-647.84	2,510.48	2,570.54	2,527.06		43.48	59.123	
8,600.00	8,588.00	9,044.16	8,987.37	30.11	34.14	99.79	-650.58	2,496.12	2,556.68	2,512.69		43.99	58.118	
8,700.00	8,688.00	9,143.06	9,085.19	30.47	34.56	99.91	-653.31	2,481.76	2,542.82	2,498.32		44.50	57.136	
8,800.00	8,788.00	9,241.96	9,183.00	30.82	34.97	100.03	-656.05	2,467.39	2,528.98	2,483.96		45.02	56.177	
8,900.00	8,888.00	9,340.86	9,280.81	31.17	35.38	100.15	-658.79	2,453.03	2,515.14	2,469.61		45.53	55.239	
9,000.00	8,988.00	9,439.76	9,378.63	31.53	35.80	100.27	-661.53	2,438.66	2,501.32	2,455.27		46.05	54.321	
9,100.00	9,088.00	9,538.66	9,476.44	31.88	36.22	100.39	-664.27	2,424.30	2,487.51	2,440.95		46.56	53.424	
9,200.00	9,188.00	9,637.56	9,574.26	32.23	36.63	100.51	-667.00	2,409.93	2,473.71	2,426.63		47.08	52.546	
9,300.00	9,288.00	9,736.46	9,672.07	32.59	37.05	100.64	-669.74	2,395.57	2,459.92	2,412.32		47.59	51.687	
9,400.00	9,388.00	9,835.36	9,769.88	32.94	37.46	100.76	-672.48	2,381.20	2,446.14	2,398.03		48.11	50.847	
9,500.00	9,488.00	9,934.26	9,867.70	33.29	37.88	100.89	-675.22	2,366.84	2,432.37	2,383.75		48.62	50.024	
9,600.00	9,588.00	10,033.16	9,965.51	33.65	38.30	101.02	-677.95	2,352.48	2,418.62	2,369.48		49.14	49.218	
9,700.00	9,688.00	10,132.07	10,063.32	34.00	38.71	101.15	-680.69	2,338.11	2,404.88	2,355.22		49.66	48.428	
9,800.00	9,788.00	10,200.00	10,130.54	34.36	39.00	101.24	-682.53	2,328.46	2,391.55	2,341.42		50.13	47.707	
9,900.00	9,888.00	10,267.41	10,197.39	34.71	39.27	101.32	-684.16	2,319.94	2,379.67	2,329.08		50.59	47.034	
10,000.00	9,988.00	10,330.46	10,260.04	35.07	39.52	101.38	-685.47	2,313.03	2,369.32	2,318.28		51.04	46.418	
10,100.00	10,088.00	10,400.00	10,329.28	35.42	39.79	101.44	-686.70	2,306.59	2,360.52	2,309.03		51.50	45.839	
10,200.00	10,188.00	10,457.16	10,386.26	35.77	40.01	101.48	-687.53	2,302.22	2,353.23	2,301.31		51.91	45.331	
10,300.00	10,288.00	10,520.75	10,449.73	36.13	40.24	101.52	-688.27	2,298.34	2,347.48	2,295.15		52.33	44.856	
10,400.00	10,388.00	10,600.00	10,528.90	36.48	40.52	101.55	-688.92	2,294.96	2,343.36	2,290.58		52.78	44.395	
10,500.00	10,488.00	10,648.25	10,577.13	36.84	40.69	101.56	-689.16	2,293.70	2,340.62	2,287.48		53.14	44.043	
10,600.00	10,588.00	10,712.08	10,640.96	37.19	40.90	101.57	-689.30	2,292.94	2,339.51	2,285.98		53.53	43.701	
10,642.73	10,630.74	10,746.86	10,675.74	37.34	41.01	101.57	-689.31	2,292.92	2,339.47	2,285.76		53.72	43.550	
10,700.00	10,688.00	10,804.12	10,733.00	37.55	41.20	101.57	-689.31	2,292.92	2,339.47	2,285.48		54.00	43.324	
10,800.00	10,788.00	10,904.12	10,833.00	37.90	41.52	101.57	-689.31	2,292.92	2,339.47	2,284.99		54.49	42.935	
10,900.00	10,888.00	11,004.12	10,933.00	38.26	41.84	101.57	-689.31	2,292.92	2,339.47	2,284.50		54.98	42.553	
11,000.00	10,988.00	11,104.12	11,033.00	38.61	42.16	101.57	-689.31	2,292.92	2,339.47	2,284.01		55.47	42.178	
11,100.00	11,088.00	11,532.28	11,427.66	38.97	43.28	98.22	-550.90	2,291.61	2,333.07	2,276.69		56.38	41.379	
11,200.00	11,188.00	11,778.82	11,575.41	39.32	43.58	93.40	-356.06	2,289.77	2,318.23	2,261.32		56.91	40.736	
11,300.00	11,288.00	11,861.80	11,604.56	39.68	43.65	91.46	-278.44	2,289.03	2,304.83	2,247.44		57.39	40.157	
11,400.00	11,388.00	11,903.74	11,614.94	40.03	43.69	90.45	-237.82	2,288.65	2,294.94	2,237.15		57.79	39.710	
11,500.00	11,488.00	11,928.79	11,619.71	40.39	43.72	89.83	-213.23	2,288.41	2,289.07	2,230.96		58.10	39.397	
11,589.05	11,577.06	11,943.85	11,622.06	40.71	43.74	89.46	-198.36	2,288.27	2,287.38	2,229.07		58.31	39.229 CC, ES	
11,600.00	11,588.00	11,945.39	11,622.28	40.74	43.74	89.42	-196.84	2,288.26	2,287.40	2,229.07		58.33	39.216	

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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	
11,700.00	11,688.00	11,957.17	11,623.81	41.10	43.75	89.13	-185.15	2,288.15	2,290.02	2,231.54	58.48	39.162		
11,715.04	11,703.04	11,958.65	11,623.99	41.15	43.75	89.09	-183.68	2,288.13	2,290.78	2,232.29	58.49	39.165		
11,750.00	11,737.98	11,962.69	11,624.45	41.28	43.76	89.34	-179.67	2,288.10	2,292.93	2,234.41	58.52	39.181		
11,800.00	11,787.69	11,970.52	11,625.26	41.45	43.77	88.76	-171.88	2,288.02	2,296.85	2,238.30	58.55	39.230		
11,850.00	11,836.76	11,980.36	11,626.13	41.61	43.78	88.03	-162.08	2,287.93	2,301.71	2,243.15	58.56	39.306		
11,900.00	11,884.81	12,000.00	11,627.36	41.77	43.81	87.00	-142.48	2,287.74	2,307.45	2,248.88	58.57	39.396		
11,950.00	11,931.47	12,000.00	11,627.36	41.92	43.81	86.35	-142.48	2,287.74	2,313.90	2,255.38	58.52	39.539		
12,000.00	11,976.40	12,018.67	11,627.91	42.06	43.84	85.22	-123.83	2,287.57	2,321.01	2,262.51	58.50	39.674		
12,050.00	12,019.25	12,033.59	11,627.91	42.19	43.86	84.13	-108.90	2,287.43	2,328.67	2,270.21	58.46	39.833		
12,100.00	12,059.69	12,054.36	11,627.37	42.32	43.90	82.89	-88.14	2,287.23	2,336.74	2,278.32	58.42	39.996		
12,150.00	12,097.41	12,086.01	11,626.42	42.45	43.96	81.47	-56.51	2,286.93	2,344.97	2,286.56	58.41	40.146		
12,200.00	12,132.14	12,120.91	11,625.38	42.57	44.04	80.04	-21.63	2,286.60	2,353.12	2,294.71	58.41	40.286		
12,250.00	12,163.59	12,158.79	11,624.24	42.69	44.14	78.66	16.24	2,286.24	2,361.00	2,302.57	58.43	40.410		
12,300.00	12,191.55	12,199.37	11,623.02	42.81	44.26	77.36	56.80	2,285.86	2,368.41	2,309.95	58.46	40.515		
12,350.00	12,215.78	12,242.34	11,621.74	42.92	44.39	76.18	99.74	2,285.45	2,375.18	2,316.65	58.52	40.585		
12,400.00	12,236.12	12,287.37	11,620.39	43.04	44.55	75.14	144.75	2,285.03	2,381.13	2,322.52	58.61	40.626		
12,450.00	12,252.39	12,334.12	11,618.99	43.15	44.73	74.27	191.48	2,284.58	2,386.12	2,327.38	58.73	40.626		
12,500.00	12,264.49	12,382.24	11,617.54	43.27	44.94	73.59	239.57	2,284.13	2,390.02	2,331.14	58.89	40.587		
12,550.00	12,272.31	12,431.35	11,616.07	43.39	45.16	73.12	288.66	2,283.67	2,392.75	2,333.68	59.08	40.502		
12,600.00	12,275.80	12,481.08	11,614.58	43.51	45.40	72.86	338.37	2,283.19	2,394.24	2,334.94	59.30	40.375		
12,615.04	12,276.00	12,496.11	11,614.13	43.55	45.48	72.83	353.39	2,283.05	2,394.44	2,335.06	59.37	40.330		
12,700.00	12,276.00	12,581.03	11,611.59	43.78	45.94	72.77	438.27	2,282.25	2,395.22	2,335.39	59.83	40.033		
12,800.00	12,276.00	12,680.99	11,608.59	44.10	46.54	72.70	538.17	2,281.30	2,396.16	2,335.71	60.44	39.644		
12,900.00	12,276.00	12,780.94	11,605.60	44.49	47.19	72.63	638.08	2,280.36	2,397.09	2,335.96	61.13	39.214		
13,000.00	12,276.00	12,880.90	11,602.60	44.93	47.90	72.57	737.99	2,279.41	2,398.03	2,336.14	61.89	38.748		
13,100.00	12,276.00	12,980.85	11,599.61	45.43	48.65	72.50	837.89	2,278.47	2,398.97	2,336.25	62.72	38.251		
13,200.00	12,276.00	13,080.81	11,596.61	45.98	49.45	72.43	937.80	2,277.52	2,399.91	2,336.30	63.61	37.726		
13,300.00	12,276.00	13,180.76	11,593.62	46.59	50.29	72.36	1,037.70	2,276.58	2,400.86	2,336.28	64.58	37.178		
13,400.00	12,276.00	13,280.72	11,590.62	47.24	51.17	72.30	1,137.61	2,275.63	2,401.81	2,336.21	65.60	36.612		
13,500.00	12,276.00	13,380.67	11,587.63	47.94	52.09	72.23	1,237.51	2,274.69	2,402.76	2,336.08	66.68	36.032		
13,600.00	12,276.00	13,480.63	11,584.63	48.69	53.05	72.16	1,337.42	2,273.74	2,403.72	2,335.90	67.82	35.441		
13,700.00	12,276.00	13,580.58	11,581.64	49.48	54.04	72.09	1,437.33	2,272.80	2,404.68	2,335.67	69.01	34.843		
13,800.00	12,276.00	13,680.54	11,578.64	50.32	55.06	72.02	1,537.23	2,271.85	2,405.65	2,335.39	70.26	34.241		
13,900.00	12,276.00	13,780.49	11,575.65	51.19	56.11	71.96	1,637.14	2,270.91	2,406.62	2,335.07	71.54	33.638		
14,000.00	12,276.00	13,880.45	11,572.65	52.10	57.18	71.89	1,737.04	2,269.96	2,407.59	2,334.71	72.88	33.037		
14,100.00	12,276.00	13,980.40	11,569.66	53.05	58.29	71.82	1,836.95	2,269.01	2,408.56	2,334.31	74.25	32.439		
14,200.00	12,276.00	14,080.36	11,566.66	54.03	59.42	71.76	1,936.85	2,268.07	2,409.54	2,333.88	75.66	31.846		
14,300.00	12,276.00	14,180.31	11,563.67	55.04	60.57	71.69	2,036.76	2,267.12	2,410.52	2,333.41	77.11	31.259		
14,400.00	12,276.00	14,280.27	11,560.67	56.09	61.75	71.62	2,136.67	2,266.18	2,411.50	2,332.90	78.60	30.681		
14,500.00	12,276.00	14,380.22	11,557.68	57.16	62.95	71.55	2,236.57	2,265.23	2,412.49	2,332.37	80.12	30.111		
14,600.00	12,276.00	14,480.18	11,554.68	58.26	64.17	71.49	2,336.48	2,264.29	2,413.48	2,331.81	81.67	29.551		
14,700.00	12,276.00	14,580.13	11,551.69	59.38	65.40	71.42	2,436.38	2,263.34	2,414.48	2,331.23	83.25	29.002		
14,800.00	12,276.00	14,680.09	11,548.69	60.53	66.66	71.35	2,536.29	2,262.40	2,415.48	2,330.62	84.86	28.465		
14,900.00	12,276.00	14,780.04	11,545.70	61.71	67.93	71.29	2,636.19	2,261.45	2,416.48	2,329.99	86.49	27.939		
15,000.00	12,276.00	14,880.00	11,542.70	62.90	69.22	71.22	2,736.10	2,260.51	2,417.48	2,329.33	88.15	27.426		
15,100.00	12,276.00	14,979.95	11,539.71	64.11	70.52	71.15	2,836.01	2,259.56	2,418.49	2,328.66	89.83	26.924		
15,200.00	12,276.00	15,079.91	11,536.71	65.35	71.84	71.08	2,935.91	2,258.62	2,419.50	2,327.97	91.53	26.435		
15,300.00	12,276.00	15,179.86	11,533.72	66.60	73.17	71.02	3,035.82	2,257.67	2,420.51	2,327.27	93.25	25.958		
15,400.00	12,276.00	15,279.82	11,530.72	67.87	74.51	70.95	3,135.72	2,256.73	2,421.53	2,326.54	94.99	25.493		
15,500.00	12,276.00	15,379.77	11,527.73	69.15	75.87	70.88	3,235.63	2,255.78	2,422.55	2,325.81	96.75	25.041		
15,600.00	12,276.00	15,479.73	11,524.73	70.45	77.24	70.82	3,335.53	2,254.83	2,423.58	2,325.06	98.52	24.600		
15,700.00	12,276.00	15,579.68	11,521.74	71.77	78.61	70.75	3,435.44	2,253.89	2,424.60	2,324.29	100.31	24.171		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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		
15,800.00	12,276.00	15,679.64	11,518.74	73.10	80.00	70.69	3,535.35	2,252.94	2,425.63	2,323.52	102.12	23.754		
15,900.00	12,276.00	15,779.59	11,515.75	74.44	81.40	70.62	3,635.25	2,252.00	2,426.67	2,322.73	103.93	23.348		
16,000.00	12,276.00	15,879.55	11,512.75	75.79	82.81	70.55	3,735.16	2,251.05	2,427.70	2,321.94	105.77	22.953		
16,100.00	12,276.00	15,979.50	11,509.75	77.16	84.22	70.49	3,835.06	2,250.11	2,428.74	2,321.13	107.61	22.569		
16,200.00	12,276.00	16,079.46	11,506.76	78.53	85.65	70.42	3,934.97	2,249.16	2,429.79	2,320.32	109.47	22.197		
16,300.00	12,276.00	16,179.41	11,503.76	79.92	87.08	70.35	4,034.87	2,248.22	2,430.83	2,319.50	111.33	21.834		
16,400.00	12,276.00	16,279.37	11,500.77	81.32	88.52	70.29	4,134.78	2,247.27	2,431.88	2,318.67	113.21	21.481		
16,500.00	12,276.00	16,379.32	11,497.77	82.72	89.97	70.22	4,234.69	2,246.33	2,432.94	2,317.84	115.10	21.138		
16,600.00	12,276.00	16,479.28	11,494.78	84.14	91.42	70.16	4,334.59	2,245.38	2,433.99	2,317.00	116.99	20.805		
16,700.00	12,276.00	16,579.23	11,491.78	85.56	92.88	70.09	4,434.50	2,244.44	2,435.05	2,316.16	118.89	20.481		
16,800.00	12,276.00	16,679.19	11,488.79	86.99	94.35	70.02	4,534.40	2,243.49	2,436.12	2,315.31	120.80	20.166		
16,900.00	12,276.00	16,779.14	11,485.79	88.43	95.82	69.96	4,634.31	2,242.55	2,437.18	2,314.46	122.72	19.859		
17,000.00	12,276.00	16,879.10	11,482.80	89.88	97.30	69.89	4,734.22	2,241.60	2,438.25	2,313.60	124.65	19.561		
17,100.00	12,276.00	16,979.05	11,479.80	91.34	98.79	69.83	4,834.12	2,240.66	2,439.33	2,312.74	126.58	19.271		
17,200.00	12,276.00	17,079.01	11,476.81	92.80	100.28	69.76	4,934.03	2,239.71	2,440.40	2,311.88	128.52	18.988		
17,300.00	12,276.00	17,178.96	11,473.81	94.26	101.77	69.70	5,033.93	2,238.76	2,441.48	2,311.01	130.47	18.713		
17,400.00	12,276.00	17,278.92	11,470.82	95.74	103.27	69.63	5,133.84	2,237.82	2,442.56	2,310.14	132.42	18.446		
17,500.00	12,276.00	17,378.88	11,467.82	97.21	104.78	69.56	5,233.74	2,236.87	2,443.65	2,309.27	134.38	18.185		
17,600.00	12,276.00	17,478.83	11,464.83	98.70	106.28	69.50	5,333.65	2,235.93	2,444.74	2,308.40	136.34	17.932		
17,700.00	12,276.00	17,578.79	11,461.83	100.19	107.80	69.43	5,433.56	2,234.98	2,445.83	2,307.52	138.30	17.684		
17,800.00	12,276.00	17,678.74	11,458.84	101.68	109.31	69.37	5,533.46	2,234.04	2,446.92	2,306.65	140.27	17.444		
17,900.00	12,276.00	17,778.70	11,455.84	103.18	110.83	69.30	5,633.37	2,233.09	2,448.02	2,305.77	142.25	17.210		
18,000.00	12,276.00	17,878.65	11,452.85	104.68	112.36	69.24	5,733.27	2,232.15	2,449.12	2,304.90	144.22	16.981		
18,100.00	12,276.00	17,978.61	11,449.85	106.19	113.88	69.17	5,833.18	2,231.20	2,450.23	2,304.02	146.20	16.759		
18,200.00	12,276.00	18,078.56	11,446.86	107.71	115.41	69.11	5,933.08	2,230.26	2,451.33	2,303.15	148.19	16.542		
18,300.00	12,276.00	18,178.52	11,443.86	109.22	116.95	69.04	6,032.99	2,229.31	2,452.45	2,302.27	150.18	16.331		
18,400.00	12,276.00	18,278.47	11,440.87	110.74	118.49	68.98	6,132.90	2,228.37	2,453.56	2,301.39	152.17	16.124		
18,500.00	12,276.00	18,378.43	11,437.87	112.27	120.03	68.91	6,232.80	2,227.42	2,454.68	2,300.52	154.16	15.923		
18,600.00	12,276.00	18,478.38	11,434.88	113.79	121.57	68.85	6,332.71	2,226.48	2,455.80	2,299.64	156.15	15.727		
18,700.00	12,276.00	18,578.34	11,431.88	115.33	123.12	68.78	6,432.61	2,225.53	2,456.92	2,298.77	158.15	15.535		
18,800.00	12,276.00	18,678.29	11,428.89	116.86	124.67	68.72	6,532.52	2,224.58	2,458.05	2,297.89	160.15	15.348		
18,900.00	12,276.00	18,778.25	11,425.89	118.40	126.22	68.65	6,632.42	2,223.64	2,459.18	2,297.02	162.16	15.165		
19,000.00	12,276.00	18,878.20	11,422.90	119.94	127.77	68.59	6,732.33	2,222.69	2,460.31	2,296.15	164.16	14.987		
19,100.00	12,276.00	18,978.16	11,419.90	121.48	129.33	68.52	6,832.24	2,221.75	2,461.45	2,295.28	166.17	14.813		
19,200.00	12,276.00	19,078.11	11,416.91	123.03	130.89	68.46	6,932.14	2,220.80	2,462.58	2,294.41	168.18	14.643		
19,300.00	12,276.00	19,178.07	11,413.91	124.58	132.45	68.40	7,032.05	2,219.86	2,463.73	2,293.54	170.19	14.477		
19,400.00	12,276.00	19,278.02	11,410.92	126.13	134.01	68.33	7,131.95	2,218.91	2,464.87	2,292.68	172.20	14.314		
19,500.00	12,276.00	19,377.98	11,407.92	127.68	135.57	68.27	7,231.86	2,217.97	2,466.02	2,291.81	174.21	14.156		
19,600.00	12,276.00	19,477.93	11,404.93	129.24	137.14	68.20	7,331.76	2,217.02	2,467.17	2,290.95	176.22	14.001		
19,700.00	12,276.00	19,577.89	11,401.93	130.80	138.71	68.14	7,431.67	2,216.08	2,468.33	2,290.10	178.23	13.849		
19,800.00	12,276.00	19,677.84	11,398.94	132.36	140.28	68.07	7,531.58	2,215.13	2,469.48	2,289.24	180.25	13.701		
19,900.00	12,276.00	19,777.80	11,395.94	133.93	141.85	68.01	7,631.48	2,214.19	2,470.65	2,288.39	182.26	13.556		
20,000.00	12,276.00	19,877.75	11,392.95	135.49	143.43	67.95	7,731.39	2,213.24	2,471.81	2,287.53	184.28	13.414		
20,100.00	12,276.00	19,977.71	11,389.95	137.06	145.01	67.88	7,831.29	2,212.30	2,472.98	2,286.68	186.29	13.275		
20,200.00	12,276.00	20,077.66	11,386.96	138.63	146.58	67.82	7,931.20	2,211.35	2,474.15	2,285.84	188.31	13.139		
20,300.00	12,276.00	20,177.62	11,383.96	140.20	148.16	67.75	8,031.10	2,210.40	2,475.32	2,284.99	190.33	13.005		
20,400.00	12,276.00	20,277.57	11,380.97	141.77	149.74	67.69	8,131.01	2,209.46	2,476.50	2,284.15	192.35	12.875		
20,500.00	12,276.00	20,377.53	11,377.97	143.35	151.33	67.63	8,230.92	2,208.51	2,477.68	2,283.31	194.37	12.747		
20,600.00	12,276.00	20,477.48	11,374.98	144.93	152.91	67.56	8,330.82	2,207.57	2,478.86	2,282.47	196.39	12.622		
20,700.00	12,276.00	20,577.44	11,371.98	146.50	154.50	67.50	8,430.73	2,206.62	2,480.04	2,281.64	198.40	12.500		
20,800.00	12,276.00	20,677.39	11,368.99	148.08	156.08	67.44	8,530.63	2,205.68	2,481.23	2,280.81	200.42	12.380		
20,900.00	12,276.00	20,777.35	11,365.99	149.67	157.67	67.37	8,630.54	2,204.73	2,482.42	2,279.99	202.44	12.263		

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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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	
21,000.00	12,276.00	20,877.30	11,363.00	151.25	159.26	67.31	8,730.44	2,203.79	2,483.62	2,279.16	204.45	12.148	
21,100.00	12,276.00	20,977.26	11,360.00	152.83	160.85	67.25	8,830.35	2,202.84	2,484.82	2,278.34	206.47	12.035	
21,200.00	12,276.00	21,077.21	11,357.01	154.42	162.44	67.18	8,930.26	2,201.90	2,486.02	2,277.53	208.49	11.924	
21,300.00	12,276.00	21,177.17	11,354.01	156.01	164.04	67.12	9,030.16	2,200.95	2,487.22	2,276.71	210.51	11.815	
21,400.00	12,276.00	21,277.12	11,351.02	157.60	165.63	67.06	9,130.07	2,200.01	2,488.43	2,275.90	212.52	11.709	
21,500.00	12,276.00	21,377.08	11,348.02	159.19	167.23	66.99	9,229.97	2,199.06	2,489.64	2,275.09	214.54	11.604	
21,600.00	12,276.00	21,477.03	11,345.03	160.78	168.82	66.93	9,329.88	2,198.12	2,490.85	2,274.29	216.56	11.502	
21,700.00	12,276.00	21,576.99	11,342.03	162.37	170.42	66.87	9,429.78	2,197.17	2,492.06	2,273.49	218.58	11.401	
21,800.00	12,276.00	21,676.94	11,339.04	163.96	172.02	66.80	9,529.69	2,196.22	2,493.28	2,272.69	220.59	11.303	
21,900.00	12,276.00	21,776.90	11,336.04	165.56	173.62	66.74	9,629.60	2,195.28	2,494.51	2,271.90	222.60	11.206	
22,000.00	12,276.00	21,876.85	11,333.04	167.16	175.22	66.68	9,729.50	2,194.33	2,495.73	2,271.11	224.62	11.111	
22,100.00	12,276.00	21,976.81	11,330.05	168.75	176.82	66.62	9,829.41	2,193.39	2,496.96	2,270.33	226.63	11.018	
22,200.00	12,276.00	22,076.76	11,327.05	170.35	178.42	66.55	9,929.31	2,192.44	2,498.19	2,269.55	228.64	10.926	
22,300.00	12,276.00	22,176.72	11,324.06	171.95	180.03	66.49	10,029.22	2,191.50	2,499.42	2,268.77	230.65	10.836	
22,400.00	12,276.00	22,276.67	11,321.06	173.55	181.63	66.43	10,129.12	2,190.55	2,500.66	2,268.00	232.66	10.748	
22,410.08	12,276.00	22,286.75	11,320.76	173.71	181.79	66.42	10,139.20	2,190.46	2,500.78	2,267.92	232.86	10.739 SF	

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



Total Directional Services

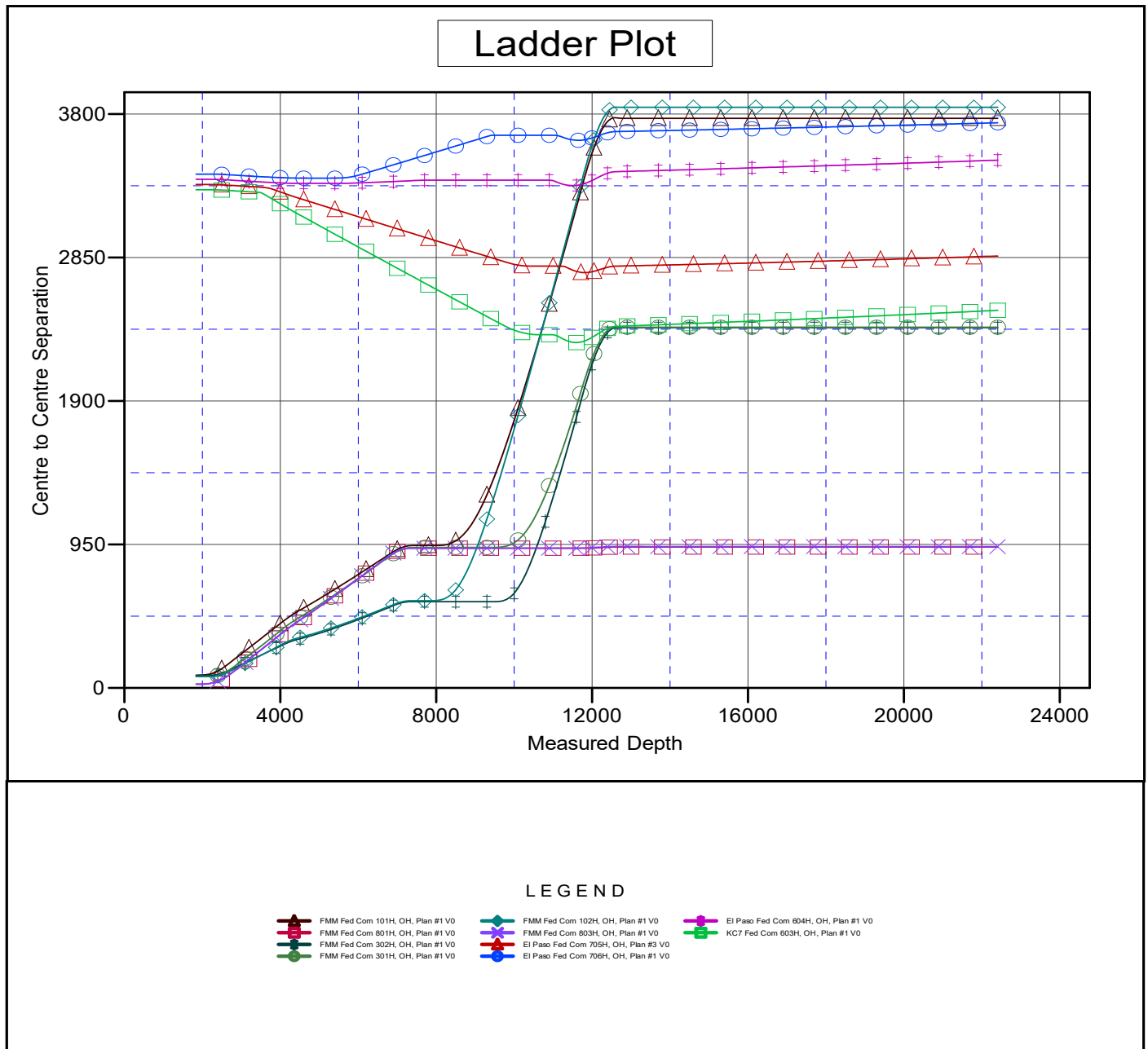
Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Reference Site:	FMM Fed Com	MD Reference:	3289.2' GE + 30' KB @ 3319.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 802H	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 3289.2' GE + 30' KB @ 3319.20usft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.333334

Coordinates are relative to: FMM Fed Com 802H
 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 802H
Project:	Lea County, NM (NAD83)	TVD Reference:	3289.2' GE + 30' KB @ 3319.20usft
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Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 3289.2' GE + 30' KB @ 3319.20usft

Offset Depths are relative to Offset Datum

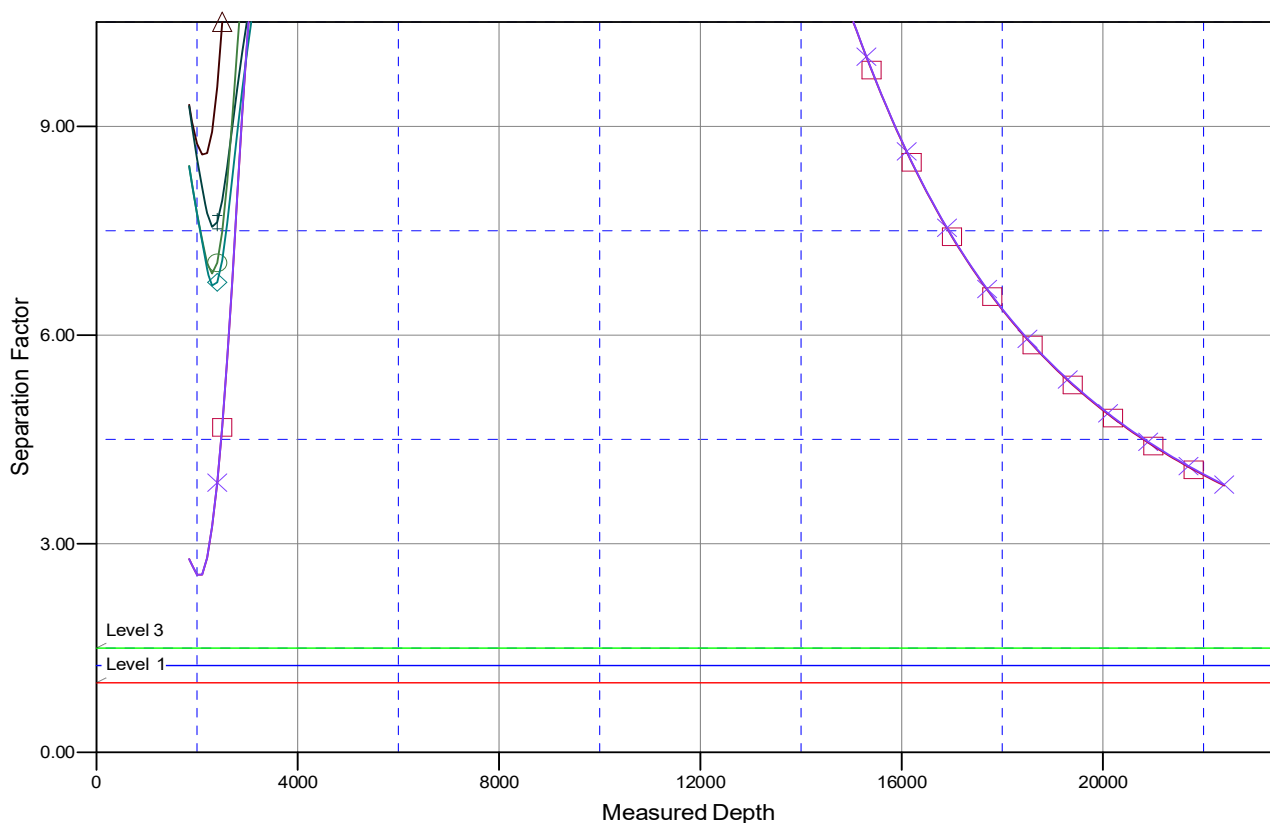
Central Meridian is -104.333334

Coordinates are relative to: FMM Fed Com 802H

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

Grid Convergence at Surface is: 0.54°

Separation Factor Plot



LEGEND

FMM Fed Com 101H, OH, Plan #1 V0	FMM Fed Com 102H, OH, Plan #1 V0	El Paso Fed Com 604H, OH, Plan #1 V0
FMM Fed Com 801H, OH, Plan #1 V0	FMM Fed Com 803H, OH, Plan #1 V0	KC7 Fed Com 603H, OH, Plan #1 V0
FMM Fed Com 302H, OH, Plan #1 V0	El Paso Fed Com 705H, OH, Plan #3 V0	
FMM Fed Com 301H, OH, Plan #1 V0	El Paso Fed Com 706H, 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

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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 85969

CONDITIONS

Operator: Franklin Mountain Energy LLC 44 Cook Street Denver, CO 80206	OGRID: 373910
	Action Number: 85969
	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	3/7/2022
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	3/7/2022
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	3/7/2022
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	3/7/2022