

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. 30-025-49813
3a. Address	3b. Phone No. (include area code)	10. Field and Pool, or Exploratory [98185]
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)



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 a new 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 O / 345 FSL / 2002 FEL / TWSP: 24S / RANGE: 35E / SECTION: 36 / LAT: 32.167667 / LONG: -103.319189 (TVD: 0 feet, MD: 0 feet)

PPP: SWSE / 0 FSL / 1877 FEL / TWSP: 24S / RANGE: 35E / SECTION: 25 / LAT: 32.181242 / LONG: -103.318786 (TVD: 9906 feet, MD: 14900 feet)

PPP: TR O / 623 FSL / 1877 FEL / TWSP: 24S / RANGE: 35E / SECTION: 36 / LAT: 32.168431 / LONG: -103.318785 (TVD: 9906 feet, MD: 10244 feet)

BHL: TR B / 150 FNL / 1877 FEL / TWSP: 24S / RANGE: 35E / SECTION: 25 / LAT: 32.195341 / LONG: -103.318787 (TVD: 9906 feet, MD: 20034 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 30-025-49813		² Pool Code 98185	³ Pool Name WC-025 G-09 S253502B:LWR BONE SPRING	
⁴ Property Code 332472	⁵ Property Name FMM FED COM			⁶ Well Number 303H
⁷ OGRID No. 373910	⁸ Operator Name FRANKLIN MOUNTAIN ENERGY LLC			⁹ Elevation 3333.5'

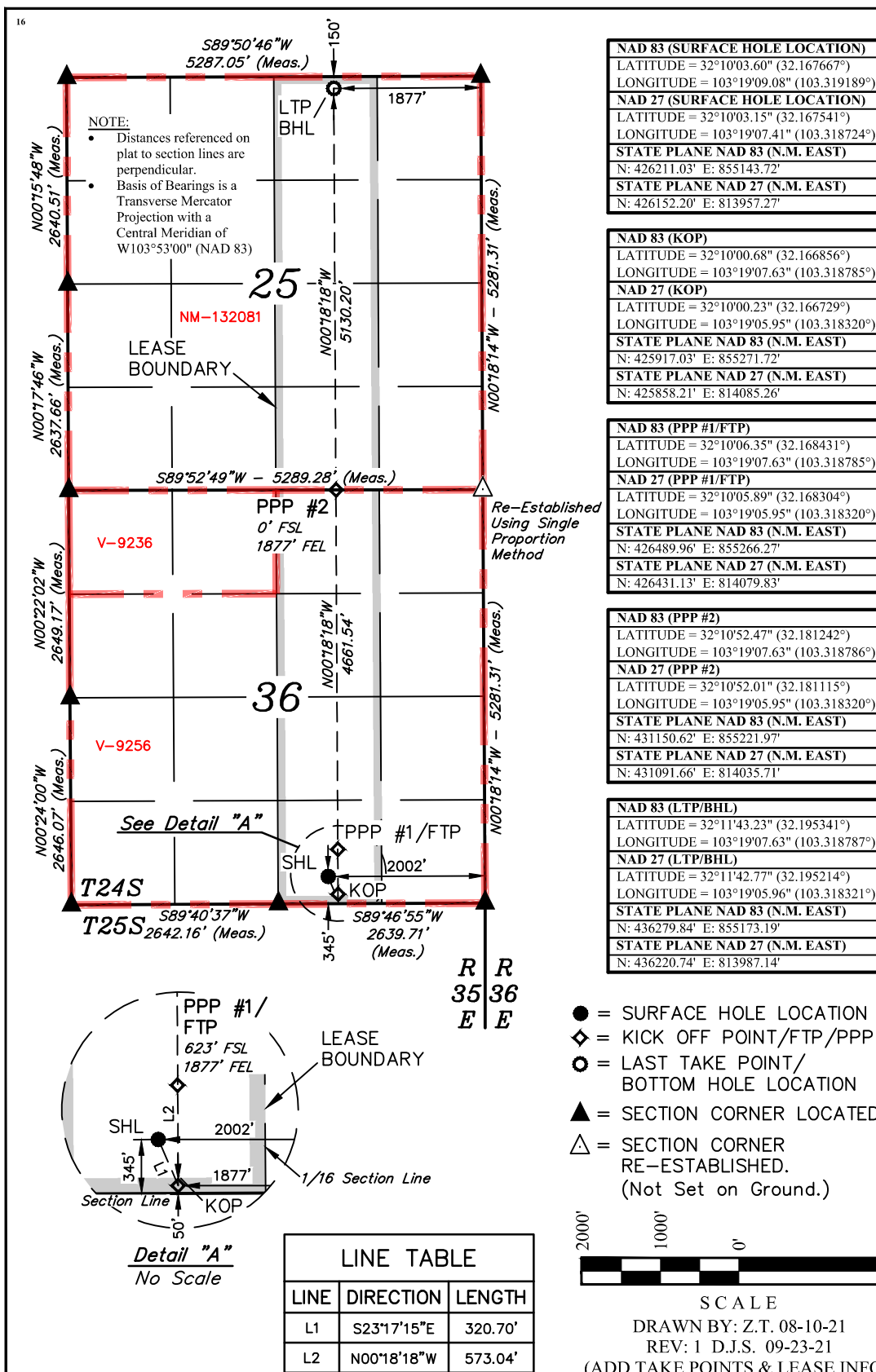
¹⁰Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	36	24S	35E		345	SOUTH	2002	EAST	LEA

" Bottom Hole Location If Different From Surface

UL or lot no. B	Section 25	Township 24S	Range 35E	Lot Idn	Feet from the 150	North/South line NORTH	Feet from the 1877	East/West line EAST	County LEA
¹² Dedicated Acres 320		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.			

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature Julia Hunt Date 9/24/2021

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
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit Electronically
Via E-permitting

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

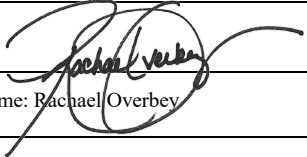
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(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 303H

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)	3,333'	30'	30'	0	Sand/Gravels/unconsolidated
Rustler	2,104'	1,259'			Carbonates
Salado	1,884'	1,479'			Salt, Carbonate & Clastics
Base Salt	83'	3,280'			Shaley Carbonate & Shale
Capitan	-713'	4,076'			Carbonates
Lamar	-1,877'	5,240'			Carbonate & Clastics
Bell Canyon	-2,004'	5,367'			Sandstone - oil/gas/water
Cherry Canyon	-2,676'	6,039'			Sandstone - oil/gas/water
Brushy Canyon	-3,985'	7,348'			Sand/carb/shales - oil/gas/water
Bone Spring Lime	-5,145'	8,508'			Shale/Carbonates - oil/gas
Avalon	-5,211'	8,574'			Shale/Carbonates - oil/gas
Chert Zone	-5,471'	8,834'			Carbonate/Chert
First Bone Spring Sand	-6,481'	9,844'			Sandstone - oil/gas/water
HZ Target	-6,543'	9,906'			Sandstone - oil/gas/water
Second Bone Spring Carbonates	-6,618'	9,981'			Shale/Carbonates - oil/gas
Second Bone Spring Sand	-7,037'	10,400'			Sandstone - oil/gas/water

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

Upper Permian Sands	0- 400'	Fresh Water
Delaware Sands	5,367'	Oil
Avalon	8,574'	Oil
First Bone Sand	9,844'	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	5280	1.75	1.71	2.94	3.35
Intermediate 7 5/8"	29.7	HCP-110	8280	7150	827	Stinger 564	10244	1.30	1.49	2.05	1.40
Long string 5 1/2"	23	P-110	14520	14520	729	Eagle 606 TVD	20034 9906	1.32	1.55	1.30	1.08 1.85

7 5/8" casing will be set at 10,244' MD/9,906' TVD at 90° Inc. Stress calculations on 5 1/2" casing performed assuming 20,034' depth. Actual max vertical depth is 9,906'.



Cementing Program:

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

String Type	Hole Size	Casing Size	Setting Depth	Sacks	Type of cmt	Lead Yield ft ³ /sk	Water gal/sk	TOC ft	Sacks	Type of cmt	Tail Yield ft ³ /sk	Water gal/sk	TOC	Excess
Surf	17.5	13.375	1300	803	Extenda Cem, 12.8 ppg Class C, 3lb/sk Kol-Seal	1.747	9.06	0	330	Tail, 14.8 ppg, Class C,	1.349	6.51	1000	100%
					0.125pps Poly-E-Flake					1% CaCl ₂ , 0.125pps Celo-Flake				
Int1	12.25	9.625	5280	1551	Lead, 12.8 ppg, Class C 5% Salt,	1.79	9.74	0	154	Tail, 14.8 ppg, Class C,	1.33	6.37	4980	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	10244	266	Lite Fill, 9.5 ppg, Class C 3lb/sk	2.13	5.97	4280	94	NeoCem 14.8 ppg, Class C	1.33	6.29	9244	50%
					Bridgemaker Gel, 5% Salt, 5pps LCM, 0.25pps Cello-Flake					0.25 pps Cello-Flake, 2% CaCl ₂				
Prod	6.75	5.5	20034	805	Tail, 14.5 ppg, Gas Migration Control	1.34	6.22	9244						20%

5. Minimum Specifications for Pressure Control:

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

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

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

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

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



6. Types and characteristics of the proposed mud system:

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

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 1,300'	Fresh - Gel	8.6-8.8	28-34	N/c
1,300' – 10,244'	Brine	8.8-10.2	28-34	N/c
10,244' – 20,034'	Oil Base	10.0-12.0	58-68	3 - 6
Lateral				

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

An electronic pit volume totalizer (PVT) will be utilized on the circulating system, to monitor pit volume, flow rate, pump pressure and stroke rate.

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept at the wellsite at all times.

7. Auxiliary well control and monitoring equipment:

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

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

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

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

8. Logging, testing and coring program:

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

Open-hole logs are not planned for this well.

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

The estimated bottom-hole temperature at 9,906' TVD (deepest point of the well) is 160F with an estimated maximum bottom-hole pressure (BHP) at the same point of 6,121 psig (based on 12 ppg MW). Hydrogen sulfate may be present in the area. All necessary precautions will be taken before drilling operations commence. See Hydrogen Sulfide Plan below:

10. Hydrogen Sulfide Plan:

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



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

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

11. Anticipated starting date and duration of operations:

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



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

12. Disposal/environmental concerns:

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

13. Wellhead:

A multi-bowl wellhead system will be utilized.

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

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

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

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

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

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

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

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

14. Additional variance requests

A. Casing.

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

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

Franklin Mountain Energy

Project: Lea County, NM (NAD83)
 Site: FMM Fed Com
 Well: FMM Fed Com 303H
 Wellbore: OH
 Design: Plan #1



Azimuths to Grid North
 True North: -0.54°
 Magnetic North: 5.86°
 Magnetic Field
 Strength: 47462.3nT
 Dip Angle: 59.88°
 Date: 9/7/2021
 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



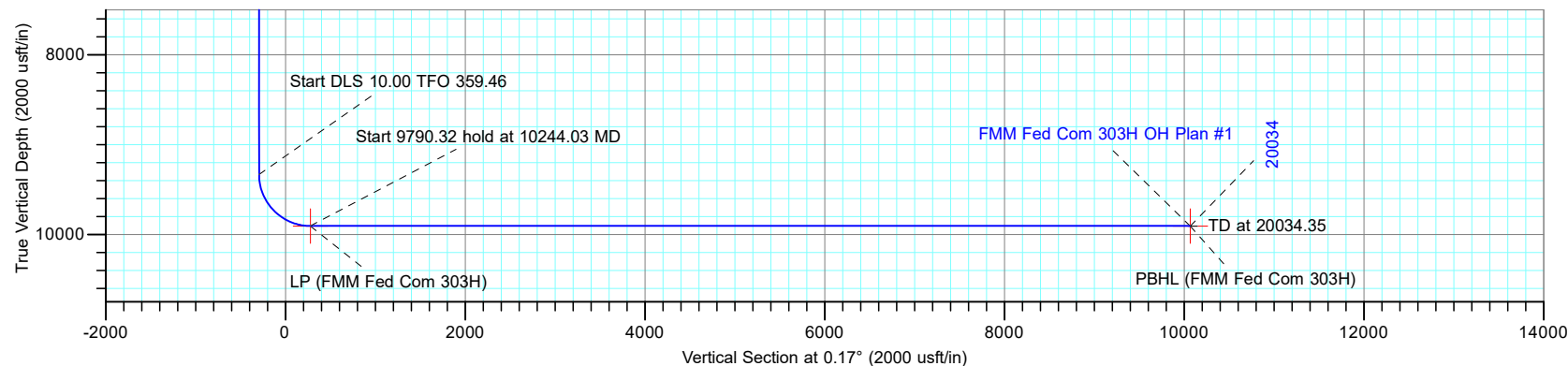
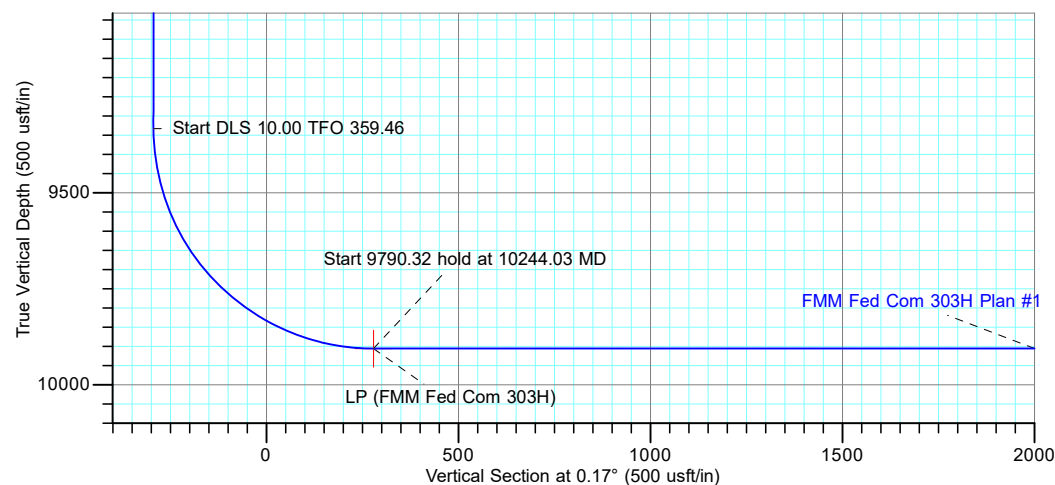
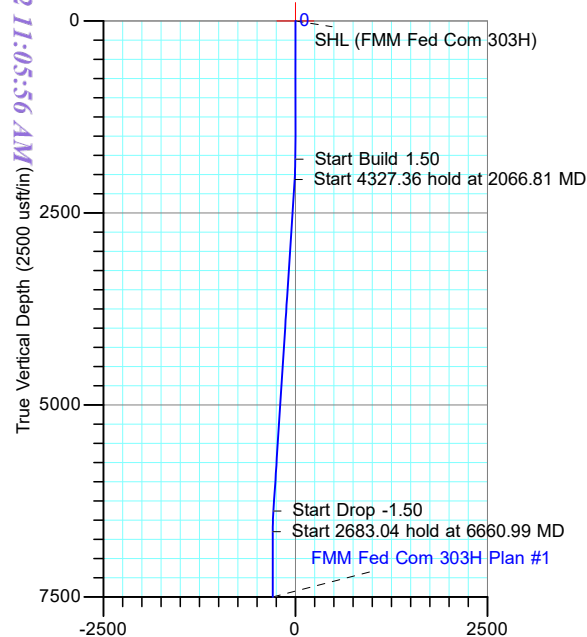
3333.5' GE + 30' KB @ 3363.50usft

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
2066.81	4.00	156.47	2066.60	-8.54	3.72	1.50	156.47	-8.53	Start 4327.36 hold at 2066.81 MD
6394.17	4.00	156.47	6383.40	-285.46	124.28	0.00	0.00	-285.09	Start Drop -1.50
6660.99	0.00	0.00	6650.00	-294.00	128.00	1.50	180.00	-293.62	Start 2683.04 hold at 6660.99 MD
9344.03	0.00	0.00	9333.04	-294.00	128.00	0.00	0.00	-293.62	Start DLS 10.00 TFO 359.46
10244.03	90.00	359.46	9906.00	278.93	122.55	10.00	359.46	279.29	Start 9790.32 hold at 10244.03 MD
20034.35	90.00	359.46	9906.00	10068.81	29.47	0.00	0.00	10068.85	TD at 20034.35

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
LP (FMM Fed Com 303H)	9906.00	278.93	122.55	32.168431	-103.318785
PBHL (FMM Fed Com 303H)	9906.00	10068.81	29.47	32.195341	-103.318787
SHL (FMM Fed Com 303H)	0.00	0.00	0.00	32.167667	-103.319189



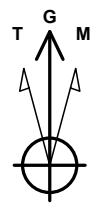
TOTAL DIRECTIONAL SERVICES LLC

Plan: Plan #1 (FMM Fed Com 303H/OH)
 Created By: Dustin Ault
 Date: 19:32, September 07 2021
 Approved: _____
 Date: _____

Released to Imaging: 3/7/2022 11:05:56 AM

Franklin Mountain Energy

Project: Lea County, NM (NAD83)
Site: FMM Fed Com
Well: FMM Fed Com 303H
Wellbore: OH
Design: Plan #1



Azimuths to Grid North
True North: -0.54°
Magnetic North: 5.86°

Magnetic Field
Strength: 47462.3nT
Dip Angle: 59.88°
Date: 9/7/2021
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

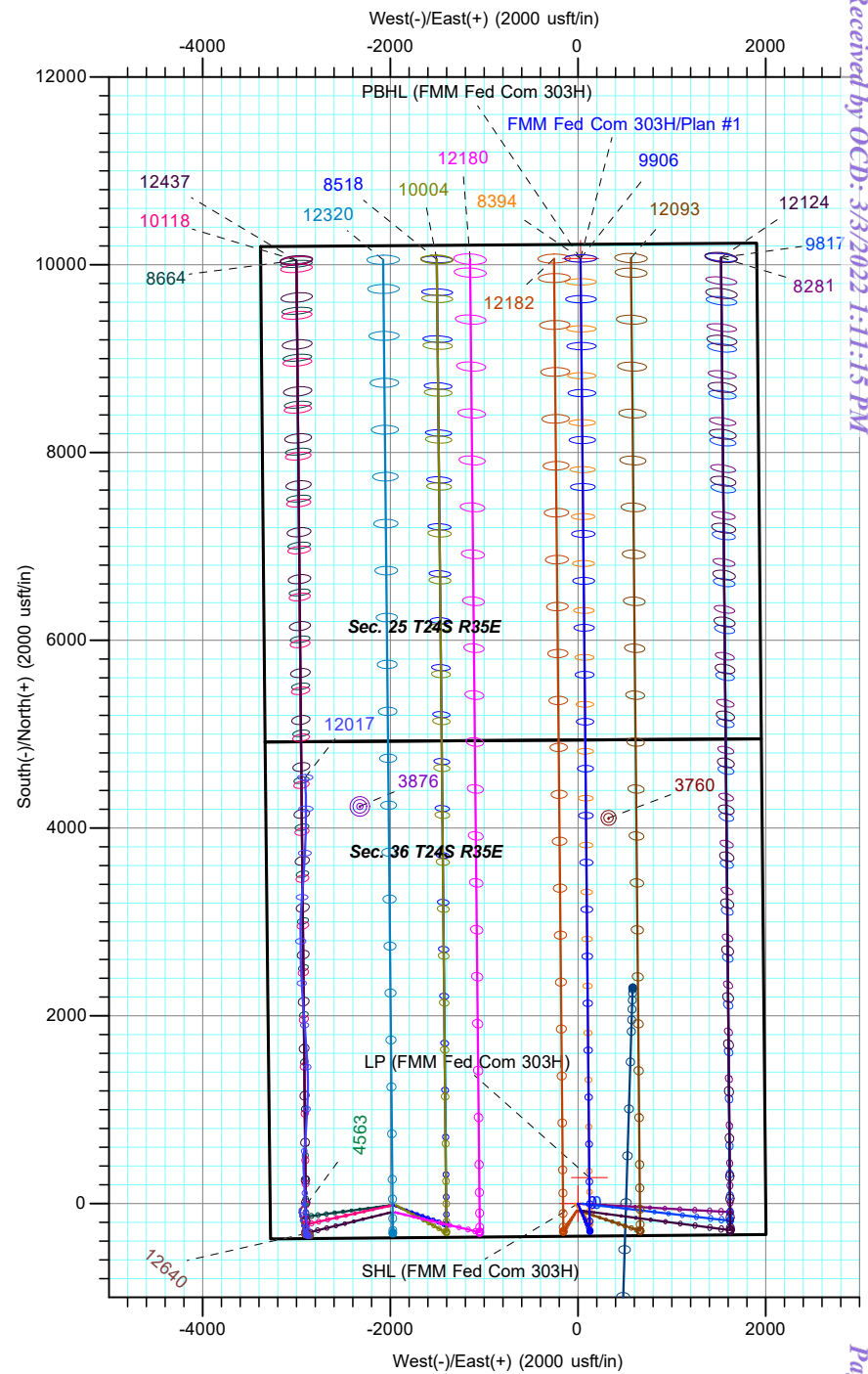
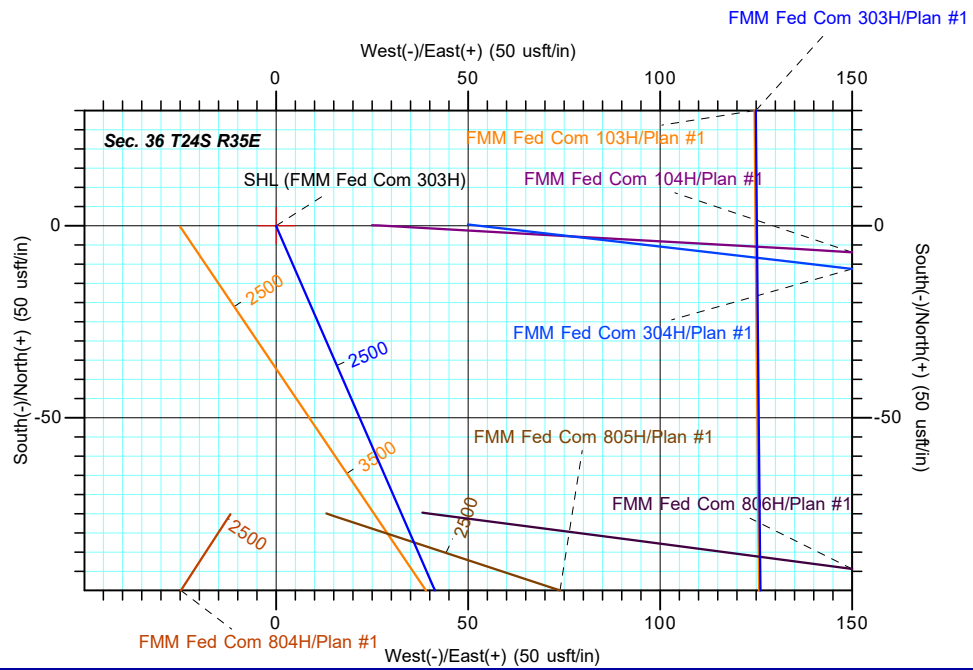


DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP (FMM Fed Com 303H)	9906.00	278.93	122.55	426489.96	855266.27	32.168431	-103.318785
PBHL (FMM Fed Com 303H)	9906.00	10068.81	29.47	436279.84	855173.19	32.195341	-103.318787
SHL (FMM Fed Com 303H)	0.00	0.00	0.00	426211.03	855143.72	32.167667	-103.319189

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
2066.81	4.00	156.47	2066.60	-8.54	3.72	1.50	156.47	-8.53	Start 4327.36 hold at 2066.81 MD
6394.17	4.00	156.47	6383.40	-285.46	124.28	0.00	0.00	-285.09	Start Drop -1.50
6660.99	0.00	0.00	6650.00	-294.00	128.00	1.50	180.00	-293.62	Start 2683.04 hold at 6660.99 MD
9344.03	0.00	0.00	9333.04	-294.00	128.00	0.00	0.00	-293.62	Start DLS 10.00 TFO 359.46
10244.03	90.00	359.46	9906.00	278.93	122.55	10.00	359.46	279.29	Start 9790.32 hold at 10244.03 MD
20034.35	90.00	359.46	9906.00	10068.81	29.47	0.00	0.00	10068.85	TD at 20034.35



TOTAL DIRECTIONAL SERVICES LLC



Franklin Mountain Energy

Lea County, NM (NAD83)

FMM Fed Com

FMM Fed Com 303H

OH

Plan: Plan #1

Standard Planning Report

07 September, 2021





Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well FMM Fed Com 303H
Company:	Franklin Mountain Energy	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Project:	Lea County, NM (NAD83)	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 303H	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 303H					
Well Position	+N/-S	18.64 usft	Northing:	426,211.03 usft	Latitude:	32.167667
	+E/-W	2,010.93 usft	Easting:	855,143.72 usft	Longitude:	-103.319190
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,333.50 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	9/7/2021	6.40	59.88	47,462.31891997

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	0.17

Plan Survey Tool Program	Date	9/7/2021		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	20,034.30 Plan #1 (OH)	OWSG (Rev2) MWD	
			OWSG MWD - Standard	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,066.81	4.00	156.47	2,066.60	-8.54	3.72	1.50	1.50	0.00	156.47	
6,394.17	4.00	156.47	6,383.40	-285.46	124.28	0.00	0.00	0.00	0.00	
6,660.99	0.00	0.00	6,650.00	-294.00	128.00	1.50	-1.50	0.00	180.00	
9,344.03	0.00	0.00	9,333.04	-294.00	128.00	0.00	0.00	0.00	0.00	
10,244.03	90.00	359.46	9,906.00	278.93	122.55	10.00	10.00	-0.06	359.46	
20,034.35	90.00	359.46	9,906.00	10,068.81	29.47	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 303H
Company:	Franklin Mountain Energy	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Project:	Lea County, NM (NAD83)	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 303H	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 303H)									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 1.50									
1,900.00	1.50	156.47	1,899.99	-1.20	0.52	-1.20	1.50	1.50	0.00
2,000.00	3.00	156.47	1,999.91	-4.80	2.09	-4.79	1.50	1.50	0.00
2,066.81	4.00	156.47	2,066.60	-8.54	3.72	-8.53	1.50	1.50	0.00
Start 4327.36 hold at 2066.81 MD									
2,100.00	4.00	156.47	2,099.70	-10.66	4.64	-10.65	0.00	0.00	0.00
2,200.00	4.00	156.47	2,199.46	-17.06	7.43	-17.04	0.00	0.00	0.00
2,300.00	4.00	156.47	2,299.21	-23.46	10.22	-23.43	0.00	0.00	0.00
2,400.00	4.00	156.47	2,398.97	-29.86	13.00	-29.82	0.00	0.00	0.00
2,500.00	4.00	156.47	2,498.73	-36.26	15.79	-36.21	0.00	0.00	0.00
2,600.00	4.00	156.47	2,598.48	-42.66	18.57	-42.61	0.00	0.00	0.00
2,700.00	4.00	156.47	2,698.24	-49.06	21.36	-49.00	0.00	0.00	0.00
2,800.00	4.00	156.47	2,798.00	-55.46	24.15	-55.39	0.00	0.00	0.00
2,900.00	4.00	156.47	2,897.75	-61.86	26.93	-61.78	0.00	0.00	0.00
3,000.00	4.00	156.47	2,997.51	-68.26	29.72	-68.17	0.00	0.00	0.00
3,100.00	4.00	156.47	3,097.26	-74.66	32.50	-74.56	0.00	0.00	0.00
3,200.00	4.00	156.47	3,197.02	-81.06	35.29	-80.95	0.00	0.00	0.00
3,300.00	4.00	156.47	3,296.78	-87.46	38.08	-87.34	0.00	0.00	0.00
3,400.00	4.00	156.47	3,396.53	-93.85	40.86	-93.73	0.00	0.00	0.00
3,500.00	4.00	156.47	3,496.29	-100.25	43.65	-100.13	0.00	0.00	0.00
3,600.00	4.00	156.47	3,596.04	-106.65	46.43	-106.52	0.00	0.00	0.00
3,700.00	4.00	156.47	3,695.80	-113.05	49.22	-112.91	0.00	0.00	0.00
3,800.00	4.00	156.47	3,795.56	-119.45	52.01	-119.30	0.00	0.00	0.00
3,900.00	4.00	156.47	3,895.31	-125.85	54.79	-125.69	0.00	0.00	0.00
4,000.00	4.00	156.47	3,995.07	-132.25	57.58	-132.08	0.00	0.00	0.00
4,100.00	4.00	156.47	4,094.83	-138.65	60.36	-138.47	0.00	0.00	0.00
4,200.00	4.00	156.47	4,194.58	-145.05	63.15	-144.86	0.00	0.00	0.00
4,300.00	4.00	156.47	4,294.34	-151.45	65.94	-151.25	0.00	0.00	0.00
4,400.00	4.00	156.47	4,394.09	-157.85	68.72	-157.65	0.00	0.00	0.00
4,500.00	4.00	156.47	4,493.85	-164.25	71.51	-164.04	0.00	0.00	0.00
4,600.00	4.00	156.47	4,593.61	-170.65	74.29	-170.43	0.00	0.00	0.00
4,700.00	4.00	156.47	4,693.36	-177.04	77.08	-176.82	0.00	0.00	0.00
4,800.00	4.00	156.47	4,793.12	-183.44	79.87	-183.21	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 303H
Company:	Franklin Mountain Energy	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Project:	Lea County, NM (NAD83)	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 303H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,900.00	4.00	156.47	4,892.87	-189.84	82.65	-189.60	0.00	0.00	0.00
5,000.00	4.00	156.47	4,992.63	-196.24	85.44	-195.99	0.00	0.00	0.00
5,100.00	4.00	156.47	5,092.39	-202.64	88.23	-202.38	0.00	0.00	0.00
5,200.00	4.00	156.47	5,192.14	-209.04	91.01	-208.77	0.00	0.00	0.00
5,300.00	4.00	156.47	5,291.90	-215.44	93.80	-215.17	0.00	0.00	0.00
5,400.00	4.00	156.47	5,391.65	-221.84	96.58	-221.56	0.00	0.00	0.00
5,500.00	4.00	156.47	5,491.41	-228.24	99.37	-227.95	0.00	0.00	0.00
5,600.00	4.00	156.47	5,591.17	-234.64	102.16	-234.34	0.00	0.00	0.00
5,700.00	4.00	156.47	5,690.92	-241.04	104.94	-240.73	0.00	0.00	0.00
5,800.00	4.00	156.47	5,790.68	-247.44	107.73	-247.12	0.00	0.00	0.00
5,900.00	4.00	156.47	5,890.44	-253.84	110.51	-253.51	0.00	0.00	0.00
6,000.00	4.00	156.47	5,990.19	-260.24	113.30	-259.90	0.00	0.00	0.00
6,100.00	4.00	156.47	6,089.95	-266.63	116.09	-266.29	0.00	0.00	0.00
6,200.00	4.00	156.47	6,189.70	-273.03	118.87	-272.68	0.00	0.00	0.00
6,300.00	4.00	156.47	6,289.46	-279.43	121.66	-279.08	0.00	0.00	0.00
6,394.17	4.00	156.47	6,383.40	-285.46	124.28	-285.09	0.00	0.00	0.00
Start Drop -1.50									
6,400.00	3.91	156.47	6,389.22	-285.83	124.44	-285.46	1.50	-1.50	0.00
6,500.00	2.41	156.47	6,489.06	-290.89	126.65	-290.52	1.50	-1.50	0.00
6,600.00	0.91	156.47	6,589.02	-293.55	127.81	-293.18	1.50	-1.50	0.00
6,660.99	0.00	0.00	6,650.00	-294.00	128.00	-293.62	1.50	-1.50	0.00
Start 2683.04 hold at 6660.99 MD									
6,700.00	0.00	0.00	6,689.01	-294.00	128.00	-293.62	0.00	0.00	0.00
6,800.00	0.00	0.00	6,789.01	-294.00	128.00	-293.62	0.00	0.00	0.00
6,900.00	0.00	0.00	6,889.01	-294.00	128.00	-293.62	0.00	0.00	0.00
7,000.00	0.00	0.00	6,989.01	-294.00	128.00	-293.62	0.00	0.00	0.00
7,100.00	0.00	0.00	7,089.01	-294.00	128.00	-293.62	0.00	0.00	0.00
7,200.00	0.00	0.00	7,189.01	-294.00	128.00	-293.62	0.00	0.00	0.00
7,300.00	0.00	0.00	7,289.01	-294.00	128.00	-293.62	0.00	0.00	0.00
7,400.00	0.00	0.00	7,389.01	-294.00	128.00	-293.62	0.00	0.00	0.00
7,500.00	0.00	0.00	7,489.01	-294.00	128.00	-293.62	0.00	0.00	0.00
7,600.00	0.00	0.00	7,589.01	-294.00	128.00	-293.62	0.00	0.00	0.00
7,700.00	0.00	0.00	7,689.01	-294.00	128.00	-293.62	0.00	0.00	0.00
7,800.00	0.00	0.00	7,789.01	-294.00	128.00	-293.62	0.00	0.00	0.00
7,900.00	0.00	0.00	7,889.01	-294.00	128.00	-293.62	0.00	0.00	0.00
8,000.00	0.00	0.00	7,989.01	-294.00	128.00	-293.62	0.00	0.00	0.00
8,100.00	0.00	0.00	8,089.01	-294.00	128.00	-293.62	0.00	0.00	0.00
8,200.00	0.00	0.00	8,189.01	-294.00	128.00	-293.62	0.00	0.00	0.00
8,300.00	0.00	0.00	8,289.01	-294.00	128.00	-293.62	0.00	0.00	0.00
8,400.00	0.00	0.00	8,389.01	-294.00	128.00	-293.62	0.00	0.00	0.00
8,500.00	0.00	0.00	8,489.01	-294.00	128.00	-293.62	0.00	0.00	0.00
8,600.00	0.00	0.00	8,589.01	-294.00	128.00	-293.62	0.00	0.00	0.00
8,700.00	0.00	0.00	8,689.01	-294.00	128.00	-293.62	0.00	0.00	0.00
8,800.00	0.00	0.00	8,789.01	-294.00	128.00	-293.62	0.00	0.00	0.00
8,900.00	0.00	0.00	8,889.01	-294.00	128.00	-293.62	0.00	0.00	0.00
9,000.00	0.00	0.00	8,989.01	-294.00	128.00	-293.62	0.00	0.00	0.00
9,100.00	0.00	0.00	9,089.01	-294.00	128.00	-293.62	0.00	0.00	0.00
9,200.00	0.00	0.00	9,189.01	-294.00	128.00	-293.62	0.00	0.00	0.00
9,300.00	0.00	0.00	9,289.01	-294.00	128.00	-293.62	0.00	0.00	0.00
9,344.03	0.00	0.00	9,333.04	-294.00	128.00	-293.62	0.00	0.00	0.00
Start DLS 10.00 TFO 359.46									
9,350.00	0.60	359.46	9,339.01	-293.97	128.00	-293.59	10.00	10.00	0.00
9,400.00	5.60	359.46	9,388.92	-291.27	127.97	-290.89	10.00	10.00	0.00



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well FMM Fed Com 303H
Company:	Franklin Mountain Energy	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Project:	Lea County, NM (NAD83)	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 303H	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)
9,450.00	10.60	359.46	9,438.41	-284.23	127.91	-283.85	10.00	10.00	0.00
9,500.00	15.60	359.46	9,487.09	-272.90	127.80	-272.53	10.00	10.00	0.00
9,550.00	20.60	359.46	9,534.61	-257.38	127.65	-257.00	10.00	10.00	0.00
9,600.00	25.60	359.46	9,580.58	-237.77	127.47	-237.39	10.00	10.00	0.00
9,650.00	30.60	359.46	9,624.68	-214.23	127.24	-213.85	10.00	10.00	0.00
9,700.00	35.60	359.46	9,666.55	-186.93	126.98	-186.56	10.00	10.00	0.00
9,750.00	40.60	359.46	9,705.89	-156.10	126.69	-155.72	10.00	10.00	0.00
9,800.00	45.60	359.46	9,742.38	-121.95	126.36	-121.58	10.00	10.00	0.00
9,850.00	50.60	359.46	9,775.77	-84.75	126.01	-84.38	10.00	10.00	0.00
9,900.00	55.60	359.46	9,805.78	-44.78	125.63	-44.41	10.00	10.00	0.00
9,950.00	60.60	359.46	9,832.20	-2.35	125.23	-1.98	10.00	10.00	0.00
10,000.00	65.60	359.46	9,854.81	42.23	124.80	42.59	10.00	10.00	0.00
10,050.00	70.60	359.46	9,873.46	88.60	124.36	88.96	10.00	10.00	0.00
10,100.00	75.60	359.46	9,887.99	136.42	123.91	136.79	10.00	10.00	0.00
10,150.00	80.60	359.46	9,898.30	185.33	123.44	185.69	10.00	10.00	0.00
10,200.00	85.60	359.46	9,904.31	234.95	122.97	235.31	10.00	10.00	0.00
10,244.03	90.00	359.46	9,906.00	278.93	122.55	279.29	10.00	10.00	0.00
Start 9790.32 hold at 10244.03 MD - LP (FMM Fed Com 303H)									
10,300.00	90.00	359.46	9,906.00	334.90	122.02	335.26	0.00	0.00	0.00
10,400.00	90.00	359.46	9,906.00	434.90	121.07	435.25	0.00	0.00	0.00
10,500.00	90.00	359.46	9,906.00	534.89	120.12	535.24	0.00	0.00	0.00
10,600.00	90.00	359.46	9,906.00	634.89	119.17	635.24	0.00	0.00	0.00
10,700.00	90.00	359.46	9,906.00	734.88	118.22	735.23	0.00	0.00	0.00
10,800.00	90.00	359.46	9,906.00	834.88	117.27	835.22	0.00	0.00	0.00
10,900.00	90.00	359.46	9,906.00	934.88	116.32	935.21	0.00	0.00	0.00
11,000.00	90.00	359.46	9,906.00	1,034.87	115.37	1,035.20	0.00	0.00	0.00
11,100.00	90.00	359.46	9,906.00	1,134.87	114.41	1,135.20	0.00	0.00	0.00
11,200.00	90.00	359.46	9,906.00	1,234.86	113.46	1,235.19	0.00	0.00	0.00
11,300.00	90.00	359.46	9,906.00	1,334.86	112.51	1,335.18	0.00	0.00	0.00
11,400.00	90.00	359.46	9,906.00	1,434.85	111.56	1,435.17	0.00	0.00	0.00
11,500.00	90.00	359.46	9,906.00	1,534.85	110.61	1,535.17	0.00	0.00	0.00
11,600.00	90.00	359.46	9,906.00	1,634.84	109.66	1,635.16	0.00	0.00	0.00
11,700.00	90.00	359.46	9,906.00	1,734.84	108.71	1,735.15	0.00	0.00	0.00
11,800.00	90.00	359.46	9,906.00	1,834.84	107.76	1,835.14	0.00	0.00	0.00
11,900.00	90.00	359.46	9,906.00	1,934.83	106.81	1,935.13	0.00	0.00	0.00
12,000.00	90.00	359.46	9,906.00	2,034.83	105.86	2,035.13	0.00	0.00	0.00
12,100.00	90.00	359.46	9,906.00	2,134.82	104.91	2,135.12	0.00	0.00	0.00
12,200.00	90.00	359.46	9,906.00	2,234.82	103.96	2,235.11	0.00	0.00	0.00
12,300.00	90.00	359.46	9,906.00	2,334.81	103.01	2,335.10	0.00	0.00	0.00
12,400.00	90.00	359.46	9,906.00	2,434.81	102.05	2,435.10	0.00	0.00	0.00
12,500.00	90.00	359.46	9,906.00	2,534.80	101.10	2,535.09	0.00	0.00	0.00
12,600.00	90.00	359.46	9,906.00	2,634.80	100.15	2,635.08	0.00	0.00	0.00
12,700.00	90.00	359.46	9,906.00	2,734.79	99.20	2,735.07	0.00	0.00	0.00
12,800.00	90.00	359.46	9,906.00	2,834.79	98.25	2,835.07	0.00	0.00	0.00
12,900.00	90.00	359.46	9,906.00	2,934.79	97.30	2,935.06	0.00	0.00	0.00
13,000.00	90.00	359.46	9,906.00	3,034.78	96.35	3,035.05	0.00	0.00	0.00
13,100.00	90.00	359.46	9,906.00	3,134.78	95.40	3,135.04	0.00	0.00	0.00
13,200.00	90.00	359.46	9,906.00	3,234.77	94.45	3,235.03	0.00	0.00	0.00
13,300.00	90.00	359.46	9,906.00	3,334.77	93.50	3,335.03	0.00	0.00	0.00
13,400.00	90.00	359.46	9,906.00	3,434.76	92.55	3,435.02	0.00	0.00	0.00
13,500.00	90.00	359.46	9,906.00	3,534.76	91.60	3,535.01	0.00	0.00	0.00
13,600.00	90.00	359.46	9,906.00	3,634.75	90.65	3,635.00	0.00	0.00	0.00
13,700.00	90.00	359.46	9,906.00	3,734.75	89.69	3,735.00	0.00	0.00	0.00
13,800.00	90.00	359.46	9,906.00	3,834.74	88.74	3,834.99	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 303H
Company:	Franklin Mountain Energy	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Project:	Lea County, NM (NAD83)	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 303H	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	359.46	9,906.00	3,934.74	87.79	3,934.98	0.00	0.00	0.00
14,000.00	90.00	359.46	9,906.00	4,034.74	86.84	4,034.97	0.00	0.00	0.00
14,100.00	90.00	359.46	9,906.00	4,134.73	85.89	4,134.96	0.00	0.00	0.00
14,200.00	90.00	359.46	9,906.00	4,234.73	84.94	4,234.96	0.00	0.00	0.00
14,300.00	90.00	359.46	9,906.00	4,334.72	83.99	4,334.95	0.00	0.00	0.00
14,400.00	90.00	359.46	9,906.00	4,434.72	83.04	4,434.94	0.00	0.00	0.00
14,500.00	90.00	359.46	9,906.00	4,534.71	82.09	4,534.93	0.00	0.00	0.00
14,600.00	90.00	359.46	9,906.00	4,634.71	81.14	4,634.93	0.00	0.00	0.00
14,700.00	90.00	359.46	9,906.00	4,734.70	80.19	4,734.92	0.00	0.00	0.00
14,800.00	90.00	359.46	9,906.00	4,834.70	79.24	4,834.91	0.00	0.00	0.00
14,900.00	90.00	359.46	9,906.00	4,934.69	78.29	4,934.90	0.00	0.00	0.00
15,000.00	90.00	359.46	9,906.00	5,034.69	77.33	5,034.90	0.00	0.00	0.00
15,100.00	90.00	359.46	9,906.00	5,134.69	76.38	5,134.89	0.00	0.00	0.00
15,200.00	90.00	359.46	9,906.00	5,234.68	75.43	5,234.88	0.00	0.00	0.00
15,300.00	90.00	359.46	9,906.00	5,334.68	74.48	5,334.87	0.00	0.00	0.00
15,400.00	90.00	359.46	9,906.00	5,434.67	73.53	5,434.86	0.00	0.00	0.00
15,500.00	90.00	359.46	9,906.00	5,534.67	72.58	5,534.86	0.00	0.00	0.00
15,600.00	90.00	359.46	9,906.00	5,634.66	71.63	5,634.85	0.00	0.00	0.00
15,700.00	90.00	359.46	9,906.00	5,734.66	70.68	5,734.84	0.00	0.00	0.00
15,800.00	90.00	359.46	9,906.00	5,834.65	69.73	5,834.83	0.00	0.00	0.00
15,900.00	90.00	359.46	9,906.00	5,934.65	68.78	5,934.83	0.00	0.00	0.00
16,000.00	90.00	359.46	9,906.00	6,034.65	67.83	6,034.82	0.00	0.00	0.00
16,100.00	90.00	359.46	9,906.00	6,134.64	66.88	6,134.81	0.00	0.00	0.00
16,200.00	90.00	359.46	9,906.00	6,234.64	65.93	6,234.80	0.00	0.00	0.00
16,300.00	90.00	359.46	9,906.00	6,334.63	64.97	6,334.79	0.00	0.00	0.00
16,400.00	90.00	359.46	9,906.00	6,434.63	64.02	6,434.79	0.00	0.00	0.00
16,500.00	90.00	359.46	9,906.00	6,534.62	63.07	6,534.78	0.00	0.00	0.00
16,600.00	90.00	359.46	9,906.00	6,634.62	62.12	6,634.77	0.00	0.00	0.00
16,700.00	90.00	359.46	9,906.00	6,734.61	61.17	6,734.76	0.00	0.00	0.00
16,800.00	90.00	359.46	9,906.00	6,834.61	60.22	6,834.76	0.00	0.00	0.00
16,900.00	90.00	359.46	9,906.00	6,934.60	59.27	6,934.75	0.00	0.00	0.00
17,000.00	90.00	359.46	9,906.00	7,034.60	58.32	7,034.74	0.00	0.00	0.00
17,100.00	90.00	359.46	9,906.00	7,134.60	57.37	7,134.73	0.00	0.00	0.00
17,200.00	90.00	359.46	9,906.00	7,234.59	56.42	7,234.73	0.00	0.00	0.00
17,300.00	90.00	359.46	9,906.00	7,334.59	55.47	7,334.72	0.00	0.00	0.00
17,400.00	90.00	359.46	9,906.00	7,434.58	54.52	7,434.71	0.00	0.00	0.00
17,500.00	90.00	359.46	9,906.00	7,534.58	53.57	7,534.70	0.00	0.00	0.00
17,600.00	90.00	359.46	9,906.00	7,634.57	52.61	7,634.69	0.00	0.00	0.00
17,700.00	90.00	359.46	9,906.00	7,734.57	51.66	7,734.69	0.00	0.00	0.00
17,800.00	90.00	359.46	9,906.00	7,834.56	50.71	7,834.68	0.00	0.00	0.00
17,900.00	90.00	359.46	9,906.00	7,934.56	49.76	7,934.67	0.00	0.00	0.00
18,000.00	90.00	359.46	9,906.00	8,034.55	48.81	8,034.66	0.00	0.00	0.00
18,100.00	90.00	359.46	9,906.00	8,134.55	47.86	8,134.66	0.00	0.00	0.00
18,200.00	90.00	359.46	9,906.00	8,234.55	46.91	8,234.65	0.00	0.00	0.00
18,300.00	90.00	359.46	9,906.00	8,334.54	45.96	8,334.64	0.00	0.00	0.00
18,400.00	90.00	359.46	9,906.00	8,434.54	45.01	8,434.63	0.00	0.00	0.00
18,500.00	90.00	359.46	9,906.00	8,534.53	44.06	8,534.62	0.00	0.00	0.00
18,600.00	90.00	359.46	9,906.00	8,634.53	43.11	8,634.62	0.00	0.00	0.00
18,700.00	90.00	359.46	9,906.00	8,734.52	42.16	8,734.61	0.00	0.00	0.00
18,800.00	90.00	359.46	9,906.00	8,834.52	41.21	8,834.60	0.00	0.00	0.00
18,900.00	90.00	359.46	9,906.00	8,934.51	40.25	8,934.59	0.00	0.00	0.00
19,000.00	90.00	359.46	9,906.00	9,034.51	39.30	9,034.59	0.00	0.00	0.00
19,100.00	90.00	359.46	9,906.00	9,134.51	38.35	9,134.58	0.00	0.00	0.00
19,200.00	90.00	359.46	9,906.00	9,234.50	37.40	9,234.57	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 303H
Company:	Franklin Mountain Energy	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Project:	Lea County, NM (NAD83)	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 303H	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	359.46	9,906.00	9,334.50	36.45	9,334.56	0.00	0.00	0.00
19,400.00	90.00	359.46	9,906.00	9,434.49	35.50	9,434.56	0.00	0.00	0.00
19,500.00	90.00	359.46	9,906.00	9,534.49	34.55	9,534.55	0.00	0.00	0.00
19,600.00	90.00	359.46	9,906.00	9,634.48	33.60	9,634.54	0.00	0.00	0.00
19,700.00	90.00	359.46	9,906.00	9,734.48	32.65	9,734.53	0.00	0.00	0.00
19,800.00	90.00	359.46	9,906.00	9,834.47	31.70	9,834.52	0.00	0.00	0.00
19,900.00	90.00	359.46	9,906.00	9,934.47	30.75	9,934.52	0.00	0.00	0.00
20,000.00	90.00	359.46	9,906.00	10,034.46	29.80	10,034.51	0.00	0.00	0.00
20,034.35	90.00	359.46	9,906.00	10,068.81	29.47	10,068.85	0.00	0.00	0.00
TD at 20034.35 - PBHL (FMM Fed Com 303H)									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL (FMM Fed Com 303H) - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	426,211.03	855,143.72	32.167667	-103.319190
PBHL (FMM Fed Com 303H) - plan hits target center - Point	0.00	0.00	9,906.00	10,068.81	29.47	436,279.84	855,173.19	32.195341	-103.318788
LP (FMM Fed Com 303H) - plan hits target center - Point	0.00	0.00	9,906.00	278.93	122.55	426,489.96	855,266.27	32.168431	-103.318785

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,800.00	1,800.00	0.00	0.00	Start Build 1.50
2,066.81	2,066.60	-8.54	3.72	Start 4327.36 hold at 2066.81 MD
6,394.17	6,383.40	-285.46	124.28	Start Drop -1.50
6,660.99	6,650.00	-294.00	128.00	Start 2683.04 hold at 6660.99 MD
9,344.03	9,333.04	-294.00	128.00	Start DLS 10.00 TFO 359.46
10,244.03	9,906.00	278.93	122.55	Start 9790.32 hold at 10244.03 MD
20,034.35	9,906.00	10,068.81	29.47	TD at 20034.35



Franklin Mountain Energy

Lea County, NM (NAD83)

FMM Fed Com

FMM Fed Com 303H

OH

Plan #1

Anticollision Report

07 September, 2021





Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

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

Survey Tool Program	Date	9/7/2021
From (usft)	To (usft)	Survey (Wellbore)
0.00	20,034.30	Plan #1 (OH)
		Tool Name
		OWSG (Rev2) MWD
		Description
		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						
Amoco State #001 (Offset) - OH - OH	1,159.93	1,287.96	4,121.90	4,087.77	120.779	CC
Amoco State #001 (Offset) - OH - OH	1,900.00	1,914.25	4,124.10	4,083.32	101.131	ES
Amoco State #001 (Offset) - OH - OH	3,800.00	3,775.00	4,238.49	4,157.88	52.579	SF
Blue Bay WCA State Com #001C (Offset Plan) - OH - PI	12,260.36	9,915.50	480.70	417.57	7.614	CC, ES
Blue Bay WCA State Com #001C (Offset Plan) - OH - PI	12,300.00	9,915.50	482.33	418.82	7.594	SF
FMM Fed Com 101H - OH - Plan #1	1,800.00	1,754.30	2,011.02	2,002.34	231.668	CC, ES
FMM Fed Com 101H - OH - Plan #1	20,034.35	18,627.43	3,274.59	3,047.44	14.416	SF
FMM Fed Com 102H - OH - Plan #1	7,900.65	7,881.30	1,529.62	1,490.20	38.802	CC
FMM Fed Com 102H - OH - Plan #1	8,000.00	7,974.99	1,529.70	1,489.82	38.362	ES
FMM Fed Com 102H - OH - Plan #1	20,034.35	18,543.64	2,067.97	1,877.68	10.867	SF
FMM Fed Com 103H - OH - Plan #1	1,800.00	1,799.80	25.00	16.21	2.843	CC, ES
FMM Fed Com 103H - OH - Plan #1	7,800.00	7,795.83	68.81	30.31	1.787	SF
FMM Fed Com 104H - OH - Plan #1	1,600.00	1,599.50	25.00	17.22	3.213	CC, ES, SF
FMM Fed Com 301H - OH - Plan #1	1,800.00	1,755.10	1,986.26	1,977.58	228.763	CC, ES
FMM Fed Com 301H - OH - Plan #1	20,034.35	20,176.00	3,037.19	2,796.24	12.605	SF
FMM Fed Com 302H - OH - Plan #1	9,370.02	9,352.63	1,528.11	1,481.47	32.761	CC
FMM Fed Com 302H - OH - Plan #1	20,034.35	20,113.88	1,535.92	1,294.23	6.355	ES, SF
FMM Fed Com 304H - OH - Plan #1	1,400.00	1,400.00	49.99	43.22	7.387	CC, ES
FMM Fed Com 304H - OH - Plan #1	20,034.35	20,062.22	1,499.44	1,257.81	6.206	SF
FMM Fed Com 801H - OH - Plan #1	1,800.00	1,755.40	2,000.04	1,991.36	230.330	CC
FMM Fed Com 801H - OH - Plan #1	1,900.00	1,855.39	2,000.51	1,991.33	217.977	ES
FMM Fed Com 801H - OH - Plan #1	20,034.35	22,586.63	3,947.60	3,748.45	19.822	SF
FMM Fed Com 802H - OH - Plan #1	1,800.00	1,755.70	1,974.99	1,966.31	227.426	CC
FMM Fed Com 802H - OH - Plan #1	1,900.00	1,855.69	1,975.46	1,966.28	215.230	ES
FMM Fed Com 802H - OH - Plan #1	20,034.35	22,403.82	3,202.36	3,021.01	17.658	SF
FMM Fed Com 803H - OH - Plan #1	9,380.50	9,413.65	1,173.77	1,126.88	25.035	CC
FMM Fed Com 803H - OH - Plan #1	9,500.00	9,531.25	1,173.94	1,126.48	24.738	ES
FMM Fed Com 803H - OH - Plan #1	20,034.35	22,339.58	2,560.72	2,407.34	16.696	SF
FMM Fed Com 804H - OH - Plan #1	2,533.27	2,528.90	48.73	36.37	3.941	CC, ES
FMM Fed Com 804H - OH - Plan #1	2,600.00	2,594.68	49.45	36.78	3.903	SF
FMM Fed Com 805H - OH - Plan #1	2,415.85	2,411.13	55.10	43.38	4.700	CC, ES
FMM Fed Com 805H - OH - Plan #1	2,500.00	2,494.11	56.19	44.09	4.642	SF
FMM Fed Com 806H - OH - Plan #1	1,600.00	1,599.30	83.84	76.06	10.777	CC, ES
FMM Fed Com 806H - OH - Plan #1	1,900.00	1,893.45	92.10	82.87	9.982	SF
Pre-Ongard Well #001 (Offset) - OH - OH	1,138.16	1,189.87	4,827.68	4,802.21	189.513	CC
Pre-Ongard Well #001 (Offset) - OH - OH	1,900.00	1,958.75	4,829.70	4,779.44	96.092	ES
Pre-Ongard Well #001 (Offset) - OH - OH	3,900.00	3,875.00	4,964.64	4,859.47	47.205	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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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

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						
Proxy WCA State Com #001H (Offset) - OH - OH	100.00	33.27	2,900.32	2,900.19	10,000.000	CC
Proxy WCA State Com #001H (Offset) - OH - OH	200.00	124.44	2,900.59	2,900.06	5,540.245	ES
Proxy WCA State Com #001H (Offset) - OH - OH	5,100.00	4,501.00	3,032.61	3,009.39	130.591	SF
Proxy WCA State Com #001H (Offset) - ST01 - ST01	100.00	33.27	2,900.32	2,900.19	10,000.000	CC
Proxy WCA State Com #001H (Offset) - ST01 - ST01	200.00	124.44	2,900.59	2,900.06	5,540.245	ES
Proxy WCA State Com #001H (Offset) - ST01 - ST01	10,150.00	9,880.94	3,053.30	3,009.09	69.067	SF
Proxy WCA State Com #001H (Offset) - ST02 - ST02	100.00	33.27	2,900.32	2,900.19	10,000.000	CC
Proxy WCA State Com #001H (Offset) - ST02 - ST02	200.00	124.44	2,900.59	2,900.06	5,540.245	ES
Proxy WCA State Com #001H (Offset) - ST02 - ST02	15,200.00	16,762.00	3,717.46	3,611.20	34.987	SF

Offset Design

FMM Fed Com - Amoco State #001 (Offset) - OH - OH

Offset Site Error: 0.00 usft

Survey Program: 635-INC-ONLY

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	13.50	13.50	0.00	0.22	4.55	4,109.98	326.72	4,122.94				
100.00	100.00	113.50	113.50	0.13	1.81	4.55	4,109.98	326.72	4,122.94	4,121.12	1.82	2,266.561	
200.00	200.00	213.50	213.50	0.48	3.41	4.55	4,109.98	326.72	4,122.94	4,119.50	3.45	1,195.859	
300.00	300.00	313.50	313.50	0.84	5.01	4.55	4,109.98	326.72	4,122.94	4,117.86	5.08	811.172	
400.00	400.00	413.50	413.50	1.20	6.61	4.55	4,109.98	326.72	4,122.94	4,116.22	6.72	613.585	
500.00	500.00	513.50	513.50	1.56	8.21	4.55	4,109.98	326.72	4,122.94	4,114.59	8.36	493.359	
600.00	600.00	613.50	613.50	1.92	9.81	4.55	4,109.98	326.72	4,122.94	4,112.95	9.99	412.513	
700.00	700.00	713.66	713.50	2.28	13.02	4.55	4,109.98	326.72	4,122.94	4,109.73	13.21	312.042	
800.00	800.00	813.66	813.50	2.63	16.65	4.55	4,109.98	326.72	4,122.94	4,106.08	16.86	244.522	
900.00	900.00	917.05	916.83	2.99	20.42	4.54	4,112.63	326.72	4,125.59	4,104.95	20.63	199.936	
1,000.00	1,000.00	1,059.70	1,059.45	3.35	25.61	4.54	4,111.78	326.72	4,124.99	4,099.17	25.82	159.733	
1,100.00	1,100.00	1,202.41	1,202.10	3.71	30.80	4.55	4,109.45	326.72	4,123.37	4,092.35	31.02	132.941	
1,159.93	1,159.93	1,287.96	1,287.59	3.93	33.91	4.55	4,107.34	326.72	4,121.90	4,087.77	34.13	120.779	CC
1,200.00	1,200.00	1,214.25	1,213.50	4.07	30.79	4.55	4,109.98	326.72	4,122.94	4,091.88	31.06	132.748	
1,300.00	1,300.00	1,314.26	1,313.50	4.43	32.11	4.55	4,109.98	326.72	4,122.94	4,090.53	32.42	127.187	
1,400.00	1,400.00	1,414.26	1,413.50	4.79	33.06	4.55	4,109.98	326.72	4,122.94	4,089.54	33.41	123.420	
1,500.00	1,500.00	1,514.26	1,513.50	5.14	34.50	4.55	4,109.98	326.72	4,122.94	4,088.07	34.88	118.213	
1,600.00	1,600.00	1,614.26	1,613.50	5.50	35.93	4.55	4,109.98	326.72	4,122.94	4,086.59	36.35	113.415	
1,700.00	1,700.00	1,714.26	1,713.50	5.86	37.37	4.55	4,109.98	326.72	4,122.94	4,085.11	37.83	108.989	
1,800.00	1,800.00	1,814.26	1,813.50	6.22	38.81	4.55	4,109.98	326.72	4,122.94	4,083.64	39.31	104.894	
1,900.00	1,899.99	1,914.25	1,913.49	6.56	40.25	-151.93	4,109.98	326.72	4,124.10	4,083.32	40.78	101.131	ES
2,000.00	1,999.91	2,014.17	2,013.41	6.89	41.69	-151.93	4,109.98	326.72	4,127.56	4,085.31	42.25	97.692	
2,066.81	2,066.80	2,080.86	2,080.10	7.11	42.64	-151.93	4,109.98	326.72	4,131.16	4,087.93	43.23	95.556	
2,100.00	2,099.70	2,113.97	2,113.20	7.22	43.12	-151.95	4,109.98	326.72	4,133.21	4,089.49	43.72	94.536	
2,200.00	2,199.46	2,213.72	2,212.96	7.55	44.56	-151.99	4,109.98	326.72	4,139.37	4,094.18	45.19	91.598	
2,300.00	2,299.21	2,313.48	2,312.71	7.89	45.99	-152.04	4,109.98	326.72	4,145.54	4,098.88	46.66	88.843	
2,400.00	2,398.97	2,413.23	2,412.47	8.23	47.43	-152.08	4,109.98	326.72	4,151.71	4,103.58	48.13	86.255	
2,500.00	2,498.73	2,512.99	2,512.23	8.58	48.86	-152.13	4,109.98	326.72	4,157.88	4,108.28	49.60	83.821	
2,600.00	2,598.48	2,612.76	2,611.98	8.92	50.61	-152.17	4,109.98	326.72	4,164.06	4,112.67	51.39	81.030	
2,700.00	2,698.24	2,712.52	2,711.74	9.27	52.55	-152.22	4,109.98	326.72	4,170.23	4,116.87	53.36	78.157	
2,800.00	2,798.00	2,812.27	2,811.50	9.62	54.49	-152.26	4,109.98	326.72	4,176.41	4,121.09	55.33	75.487	
2,900.00	2,897.75	2,918.21	2,917.42	9.98	56.55	-152.31	4,110.51	326.72	4,183.13	4,125.71	57.41	72.860	
3,000.00	2,997.51	3,025.06	3,024.28	10.33	58.62	-152.36	4,110.26	326.72	4,189.08	4,129.56	59.52	70.383	
3,100.00	3,097.26	3,111.59	3,110.76	10.69	60.41	-152.39	4,109.98	326.72	4,194.96	4,133.62	61.34	68.387	

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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: 635-INC-ONLY													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		
3,200.00	3,197.02	3,211.35	3,210.52	11.05	63.29	-152.44	4,109.98	326.72	4,201.15	4,136.92	64.24	65.402		
3,300.00	3,296.78	3,311.10	3,310.28	11.41	66.17	-152.48	4,109.98	326.72	4,207.35	4,140.22	67.13	62.674		
3,400.00	3,396.53	3,410.86	3,410.03	11.77	69.04	-152.53	4,109.98	326.72	4,213.54	4,143.51	70.03	60.172		
3,500.00	3,496.29	3,510.62	3,509.79	12.13	71.92	-152.57	4,109.98	326.72	4,219.74	4,146.82	72.92	57.868		
3,600.00	3,596.04	3,610.37	3,609.54	12.49	74.80	-152.61	4,109.98	326.72	4,225.94	4,150.12	75.82	55.739		
3,700.00	3,695.80	3,710.13	3,709.30	12.85	77.67	-152.66	4,109.98	326.72	4,232.14	4,153.43	78.71	53.767		
3,800.00	3,795.56	3,775.00	3,773.73	13.22	79.54	-152.68	4,109.98	326.72	4,238.49	4,157.88	80.61	52.579 SF		
3,900.00	3,895.31	3,775.00	3,773.73	13.58	79.54	-152.68	4,109.98	326.72	4,246.70	4,166.07	80.63	52.668		
4,000.00	3,995.07	3,775.00	3,773.73	13.95	79.54	-152.68	4,109.98	326.72	4,257.24	4,176.63	80.61	52.814		
4,100.00	4,094.83	3,775.00	3,773.73	14.31	79.54	-152.68	4,109.98	326.72	4,270.10	4,189.55	80.54	53.015		
4,200.00	4,194.58	3,775.00	3,773.73	14.68	79.54	-152.68	4,109.98	326.72	4,285.25	4,204.81	80.44	53.272		
4,300.00	4,294.34	3,775.00	3,773.73	15.05	79.54	-152.68	4,109.98	326.72	4,302.68	4,222.38	80.30	53.585		
4,400.00	4,394.09	3,775.00	3,773.73	15.41	79.54	-152.68	4,109.98	326.72	4,322.35	4,242.24	80.11	53.956		
4,500.00	4,493.85	3,775.00	3,773.73	15.78	79.54	-152.68	4,109.98	326.72	4,344.23	4,264.34	79.89	54.381		
4,600.00	4,593.61	3,775.00	3,773.73	16.15	79.54	-152.68	4,109.98	326.72	4,368.29	4,288.66	79.63	54.859		
4,700.00	4,693.36	3,775.00	3,773.73	16.52	79.54	-152.68	4,109.98	326.72	4,394.50	4,315.16	79.34	55.391		
4,800.00	4,793.12	3,775.00	3,773.73	16.89	79.54	-152.68	4,109.98	326.72	4,422.81	4,343.80	79.01	55.975		
4,900.00	4,892.87	3,775.00	3,773.73	17.26	79.54	-152.68	4,109.98	326.72	4,453.19	4,374.53	78.66	56.612		
5,000.00	4,992.63	3,775.00	3,773.73	17.63	79.54	-152.68	4,109.98	326.72	4,485.60	4,407.31	78.28	57.301		
5,100.00	5,092.39	3,775.00	3,773.73	18.00	79.54	-152.68	4,109.98	326.72	4,519.98	4,442.10	77.88	58.040		
5,200.00	5,192.14	3,775.00	3,773.73	18.37	79.54	-152.68	4,109.98	326.72	4,556.30	4,478.85	77.45	58.831		
5,300.00	5,291.90	3,775.00	3,773.73	18.74	79.54	-152.68	4,109.98	326.72	4,594.51	4,517.51	77.00	59.671		
5,400.00	5,391.65	3,775.00	3,773.73	19.11	79.54	-152.68	4,109.98	326.72	4,634.56	4,558.04	76.53	60.562		
5,500.00	5,491.41	3,775.00	3,773.73	19.48	79.54	-152.68	4,109.98	326.72	4,676.41	4,600.37	76.04	61.502		
5,600.00	5,591.17	3,775.00	3,773.73	19.85	79.54	-152.68	4,109.98	326.72	4,720.01	4,644.47	75.53	62.491		
5,700.00	5,690.92	3,775.00	3,773.73	20.22	79.54	-152.68	4,109.98	326.72	4,765.30	4,690.29	75.01	63.530		
5,800.00	5,790.68	3,775.00	3,773.73	20.59	79.54	-152.68	4,109.98	326.72	4,812.25	4,737.78	74.47	64.617		
5,900.00	5,890.44	3,775.00	3,773.73	20.97	79.54	-152.68	4,109.98	326.72	4,860.80	4,786.87	73.93	65.751		
6,000.00	5,990.19	3,775.00	3,773.73	21.34	79.54	-152.68	4,109.98	326.72	4,910.91	4,837.54	73.37	66.931		
6,100.00	6,089.95	3,775.00	3,773.73	21.71	79.54	-152.68	4,109.98	326.72	4,962.53	4,889.72	72.81	68.157		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
0.00	0.00	9.50	9.50	0.00	0.01	14.25	2,299.74	584.06	2,372.75					
100.00	100.00	109.50	109.50	0.13	0.17	14.25	2,299.74	584.06	2,372.75	2,372.54	0.21	N/A		
200.00	200.00	209.50	209.50	0.48	0.53	14.25	2,299.74	584.06	2,372.75	2,372.03	0.72	3,316.424		
300.00	300.00	309.50	309.50	0.84	0.89	14.25	2,299.74	584.06	2,372.75	2,371.53	1.22	1,941.469		
400.00	400.00	409.50	409.50	1.20	1.24	14.25	2,299.74	584.06	2,372.75	2,371.02	1.73	1,372.336		
500.00	500.00	509.50	509.50	1.56	1.60	14.25	2,299.74	584.06	2,372.75	2,370.51	2.24	1,061.215		
600.00	600.00	609.50	609.50	1.92	1.96	14.25	2,299.74	584.06	2,372.75	2,370.01	2.74	865.084		
700.00	700.00	709.50	709.50	2.28	2.32	14.25	2,299.74	584.06	2,372.75	2,369.50	3.25	730.138		
800.00	800.00	809.50	809.50	2.63	2.68	14.25	2,299.74	584.06	2,372.75	2,368.99	3.76	631.611		
900.00	900.00	909.50	909.50	2.99	3.04	14.25	2,299.74	584.06	2,372.75	2,368.49	4.26	556.513		
1,000.00	1,000.00	1,009.50	1,009.50	3.35	3.39	14.25	2,299.74	584.06	2,372.75	2,367.98	4.77	497.375		
1,100.00	1,100.00	1,109.50	1,109.50	3.71	3.75	14.25	2,299.74	584.06	2,372.75	2,367.47	5.28	449.598		
1,200.00	1,200.00	1,209.50	1,209.50	4.07	4.11	14.25	2,299.74	584.06	2,372.75	2,366.96	5.78	410.195		
1,300.00	1,300.00	1,309.50	1,309.50	4.43	4.47	14.25	2,299.74	584.06	2,372.75	2,366.46	6.29	377.142		
1,400.00	1,400.00	1,409.50	1,409.50	4.79	4.83	14.25	2,299.74	584.06	2,372.75	2,365.95	6.80	349.019		
1,500.00	1,500.00	1,509.50	1,509.50	5.14	5.19	14.25	2,299.74	584.06	2,372.75	2,365.44	7.31	324.799		
1,600.00	1,600.00	1,609.50	1,609.50	5.50	5.55	14.25	2,299.74	584.06	2,372.75	2,364.94	7.81	303.722		
1,700.00	1,700.00	1,709.50	1,709.50	5.86	5.90	14.25	2,299.74	584.06	2,372.75	2,364.43	8.32	285.214		
1,800.00	1,800.00	1,809.50	1,809.50	6.22	6.26	14.25	2,299.74	584.06	2,372.75	2,363.92	8.83	268.832		
1,900.00	1,899.99	1,909.49	1,909.49	6.56	6.62	-142.23	2,299.74	584.06	2,373.78	2,364.46	9.32	254.673		
2,000.00	1,999.91	2,009.41	2,009.41	6.89	6.98	-142.26	2,299.74	584.06	2,376.89	2,367.08	9.81	242.405		
2,066.81	2,066.60	2,076.10	2,076.10	7.11	7.22	-142.29	2,299.74	584.06	2,380.12	2,369.99	10.13	234.946		
2,100.00	2,099.70	2,109.20	2,109.20	7.22	7.34	-142.33	2,299.74	584.06	2,381.95	2,371.66	10.29	231.432		
2,200.00	2,199.46	2,208.96	2,208.96	7.55	7.69	-142.43	2,299.74	584.06	2,387.49	2,376.71	10.78	221.460		
2,300.00	2,299.21	2,308.71	2,308.71	7.89	8.05	-142.53	2,299.74	584.06	2,393.03	2,381.76	11.27	212.314		
2,400.00	2,398.97	2,408.47	2,408.47	8.23	8.41	-142.63	2,299.74	584.06	2,398.58	2,386.81	11.76	203.900		
2,500.00	2,498.73	2,508.23	2,508.23	8.58	8.77	-142.73	2,299.74	584.06	2,404.13	2,391.87	12.26	196.137		
2,600.00	2,598.48	2,607.98	2,607.98	8.92	9.12	-142.83	2,299.74	584.06	2,409.69	2,396.94	12.75	188.954		
2,700.00	2,698.24	2,707.74	2,707.74	9.27	9.48	-142.93	2,299.74	584.06	2,415.26	2,402.02	13.25	182.293		
2,800.00	2,798.00	2,807.50	2,807.50	9.62	9.84	-143.03	2,299.74	584.06	2,420.84	2,407.10	13.75	176.099		
2,900.00	2,897.75	2,907.25	2,907.25	9.98	10.20	-143.13	2,299.74	584.06	2,426.43	2,412.18	14.25	170.326		
3,000.00	2,997.51	3,007.01	3,007.01	10.33	10.56	-143.23	2,299.74	584.06	2,432.02	2,417.27	14.75	164.935		
3,100.00	3,097.26	3,106.76	3,106.76	10.69	10.91	-143.33	2,299.74	584.06	2,437.62	2,422.37	15.25	159.889		
3,200.00	3,197.02	3,206.52	3,206.52	11.05	11.27	-143.43	2,299.74	584.06	2,443.23	2,427.48	15.75	155.157		
3,300.00	3,296.78	3,306.28	3,306.28	11.41	11.63	-143.52	2,299.74	584.06	2,448.84	2,432.59	16.25	150.711		
3,400.00	3,396.53	3,406.03	3,406.03	11.77	11.99	-143.62	2,299.74	584.06	2,454.46	2,437.71	16.75	146.527		
3,500.00	3,496.29	3,505.79	3,505.79	12.13	12.34	-143.72	2,299.74	584.06	2,460.09	2,442.83	17.25	142.583		
3,600.00	3,596.04	3,605.54	3,605.54	12.49	12.70	-143.81	2,299.74	584.06	2,465.72	2,447.96	17.76	138.858		
3,700.00	3,695.80	3,705.30	3,705.30	12.85	13.06	-143.91	2,299.74	584.06	2,471.36	2,453.10	18.26	135.336		
3,800.00	3,795.56	3,805.06	3,805.06	13.22	13.42	-144.00	2,299.74	584.06	2,477.01	2,458.25	18.77	132.001		
3,900.00	3,895.31	3,904.81	3,904.81	13.58	13.77	-144.10	2,299.74	584.06	2,482.67	2,463.40	19.27	128.838		
4,000.00	3,995.07	4,004.57	4,004.57	13.95	14.13	-144.19	2,299.74	584.06	2,488.33	2,468.55	19.77	125.835		
4,100.00	4,094.83	4,104.33	4,104.33	14.31	14.49	-144.29	2,299.74	584.06	2,493.99	2,473.72	20.28	122.980		
4,200.00	4,194.58	4,204.08	4,204.08	14.68	14.85	-144.38	2,299.74	584.06	2,499.67	2,478.88	20.79	120.262		
4,300.00	4,294.34	4,303.84	4,303.84	15.05	15.20	-144.47	2,299.74	584.06	2,505.35	2,484.06	21.29	117.672		
4,400.00	4,394.09	4,403.59	4,403.59	15.41	15.56	-144.56	2,299.74	584.06	2,511.04	2,489.24	21.80	115.201		
4,500.00	4,493.85	4,503.35	4,503.35	15.78	15.92	-144.66	2,299.74	584.06	2,516.73	2,494.43	22.30	112.842		
4,600.00	4,593.61	4,603.11	4,603.11	16.15	16.28	-144.75	2,299.74	584.06	2,522.43	2,499.62	22.81	110.586		
4,700.00	4,693.36	4,702.86	4,702.86	16.52	16.63	-144.84	2,299.74	584.06	2,528.14	2,504.83	23.32	108.428		
4,800.00	4,793.12	4,802.62	4,802.62	16.89	16.99	-144.93	2,299.74	584.06	2,533.86	2,510.03	23.82	106.361		
4,900.00	4,892.87	4,902.37	4,902.37	17.26	17.35	-145.02	2,299.74	584.06	2,539.58	2,515.25	24.33	104.380		
5,000.00	4,992.63	5,002.13	5,002.13	17.63	17.71	-145.11	2,299.74	584.06	2,545.30	2,520.46	24.84	102.479		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
5,100.00	5,092.39	5,101.89	5,101.89	18.00	18.06	-145.20	2,299.74	584.06	2,551.03	2,525.69	25.34	100.654		
5,200.00	5,192.14	5,201.64	5,201.64	18.37	18.42	-145.29	2,299.74	584.06	2,556.77	2,530.92	25.85	98.901		
5,300.00	5,291.90	5,301.40	5,301.40	18.74	18.78	-145.38	2,299.74	584.06	2,562.52	2,536.16	26.36	97.214		
5,400.00	5,391.65	5,401.15	5,401.15	19.11	19.14	-145.47	2,299.74	584.06	2,568.27	2,541.40	26.87	95.592		
5,500.00	5,491.41	5,500.91	5,500.91	19.48	19.50	-145.55	2,299.74	584.06	2,574.03	2,546.65	27.37	94.029		
5,600.00	5,591.17	5,600.67	5,600.67	19.85	19.85	-145.64	2,299.74	584.06	2,579.79	2,551.91	27.88	92.523		
5,700.00	5,690.92	5,700.42	5,700.42	20.22	20.21	-145.73	2,299.74	584.06	2,585.56	2,557.17	28.39	91.071		
5,800.00	5,790.68	5,800.18	5,800.18	20.59	20.57	-145.82	2,299.74	584.06	2,591.33	2,562.44	28.90	89.669		
5,900.00	5,890.44	5,899.94	5,899.94	20.97	20.93	-145.90	2,299.74	584.06	2,597.12	2,567.71	29.41	88.317		
6,000.00	5,990.19	5,999.69	5,999.69	21.34	21.28	-145.99	2,299.74	584.06	2,602.90	2,572.99	29.92	87.010		
6,100.00	6,089.95	6,099.45	6,099.45	21.71	21.64	-146.07	2,299.74	584.06	2,608.69	2,578.27	30.42	85.746		
6,200.00	6,189.70	6,199.20	6,199.20	22.08	22.00	-146.16	2,299.74	584.06	2,614.49	2,583.56	30.93	84.525		
6,300.00	6,289.46	6,298.96	6,298.96	22.45	22.36	-146.24	2,299.74	584.06	2,620.30	2,588.86	31.44	83.342		
6,394.17	6,383.40	6,392.90	6,392.90	22.81	22.69	-146.32	2,299.74	584.06	2,625.77	2,593.85	31.92	82.264		
6,400.00	6,389.22	6,398.72	6,398.72	22.83	22.71	-146.33	2,299.74	584.06	2,626.10	2,594.16	31.95	82.198		
6,500.00	6,489.06	6,498.56	6,498.56	23.19	23.07	-146.44	2,299.74	584.06	2,630.70	2,598.25	32.46	81.055		
6,600.00	6,589.02	6,598.52	6,598.52	23.55	23.43	-146.49	2,299.74	584.06	2,633.13	2,600.16	32.96	79.886		
6,660.99	6,650.00	6,659.50	6,659.50	23.76	23.65	9.97	2,299.74	584.06	2,633.53	2,600.27	33.26	79.170		
6,700.00	6,689.01	6,698.51	6,698.51	23.89	23.79	9.97	2,299.74	584.06	2,633.53	2,600.08	33.46	78.717		
6,800.00	6,789.01	6,798.51	6,798.51	24.22	24.15	9.97	2,299.74	584.06	2,633.53	2,599.58	33.95	77.578		
6,900.00	6,889.01	6,898.51	6,898.51	24.55	24.51	9.97	2,299.74	584.06	2,633.53	2,599.09	34.44	76.470		
7,000.00	6,989.01	6,998.51	6,998.51	24.88	24.86	9.97	2,299.74	584.06	2,633.53	2,598.60	34.93	75.393		
7,100.00	7,089.01	7,098.51	7,098.51	25.22	25.22	9.97	2,299.74	584.06	2,633.53	2,598.11	35.42	74.344		
7,200.00	7,189.01	7,198.51	7,198.51	25.55	25.58	9.97	2,299.74	584.06	2,633.53	2,597.61	35.92	73.324		
7,300.00	7,289.01	7,298.51	7,298.51	25.88	25.94	9.97	2,299.74	584.06	2,633.53	2,597.12	36.41	72.330		
7,400.00	7,389.01	7,398.51	7,398.51	26.22	26.30	9.97	2,299.74	584.06	2,633.53	2,596.63	36.90	71.362		
7,500.00	7,489.01	7,498.51	7,498.51	26.55	26.66	9.97	2,299.74	584.06	2,633.53	2,596.13	37.40	70.419		
7,600.00	7,589.01	7,598.51	7,598.51	26.89	27.01	9.97	2,299.74	584.06	2,633.53	2,595.64	37.89	69.501		
7,700.00	7,689.01	7,698.51	7,698.51	27.23	27.37	9.97	2,299.74	584.06	2,633.53	2,595.14	38.39	68.605		
7,800.00	7,789.01	7,798.51	7,798.51	27.56	27.73	9.97	2,299.74	584.06	2,633.53	2,594.65	38.88	67.731		
7,900.00	7,889.01	7,898.51	7,898.51	27.90	28.09	9.97	2,299.74	584.06	2,633.53	2,594.15	39.38	66.879		
8,000.00	7,989.01	7,998.51	7,998.51	28.24	28.45	9.97	2,299.74	584.06	2,633.53	2,593.66	39.87	66.048		
8,100.00	8,089.01	8,098.51	8,098.51	28.58	28.81	9.97	2,299.74	584.06	2,633.53	2,593.16	40.37	65.236		
8,200.00	8,189.01	8,198.51	8,198.51	28.92	29.17	9.97	2,299.74	584.06	2,633.53	2,592.67	40.87	64.444		
8,300.00	8,289.01	8,298.51	8,298.51	29.25	29.52	9.97	2,299.74	584.06	2,633.53	2,592.17	41.36	63.671		
8,400.00	8,389.01	8,398.51	8,398.51	29.59	29.88	9.97	2,299.74	584.06	2,633.53	2,591.67	41.86	62.915		
8,500.00	8,489.01	8,498.51	8,498.51	29.93	30.24	9.97	2,299.74	584.06	2,633.53	2,591.18	42.36	62.177		
8,600.00	8,589.01	8,598.51	8,598.51	30.28	30.60	9.97	2,299.74	584.06	2,633.53	2,590.68	42.85	61.455		
8,700.00	8,689.01	8,698.51	8,698.51	30.62	30.96	9.97	2,299.74	584.06	2,633.53	2,590.18	43.35	60.750		
8,800.00	8,789.01	8,798.51	8,798.51	30.96	31.32	9.97	2,299.74	584.06	2,633.53	2,589.68	43.85	60.061		
8,900.00	8,889.01	8,898.51	8,898.51	31.30	31.67	9.97	2,299.74	584.06	2,633.53	2,589.19	44.35	59.386		
9,000.00	8,989.01	8,998.51	8,998.51	31.64	32.03	9.97	2,299.74	584.06	2,633.53	2,588.69	44.84	58.727		
9,100.00	9,089.01	9,098.51	9,098.51	31.99	32.39	9.97	2,299.74	584.06	2,633.53	2,588.19	45.34	58.081		
9,200.00	9,189.01	9,198.51	9,198.51	32.33	32.75	9.97	2,299.74	584.06	2,633.53	2,587.69	45.84	57.450		
9,300.00	9,289.01	9,298.51	9,298.51	32.67	33.11	9.97	2,299.74	584.06	2,633.53	2,587.19	46.34	56.832		
9,344.03	9,333.04	14,316.66	11,915.00	32.82	59.76	91.77	-305.60	503.61	2,599.77	2,562.60	37.17	69.948		
9,350.00	9,339.01	14,316.63	11,915.00	32.84	59.76	96.37	-305.57	503.61	2,593.86	2,556.68	37.18	69.766		
9,400.00	9,388.92	14,313.93	11,915.00	33.01	59.73	124.75	-302.87	503.70	2,544.50	2,507.23	37.27	68.273		
9,450.00	9,438.41	14,306.89	11,915.00	33.17	59.64	141.27	-295.84	503.91	2,495.61	2,458.27	37.34	66.832		
9,500.00	9,487.09	14,295.58	11,915.00	33.32	59.51	150.49	-284.53	504.26	2,447.56	2,410.17	37.40	65.451		
9,550.00	9,534.61	14,280.06	11,915.00	33.46	59.33	156.04	-269.02	504.74	2,400.73	2,363.30	37.43	64.136		
9,600.00	9,580.58	14,260.47	11,915.00	33.59	59.11	159.65	-249.44	505.35	2,355.46	2,318.01	37.45	62.898		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 - Blue Bay WCA State Com #001C (Offset Plan) - 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				
9,650.00	9,624.68	14,236.95	11,915.00	33.71	58.84	162.12	-225.93	506.07	2,312.10	2,274.66	37.45	61.743				
9,700.00	9,666.55	14,209.68	11,915.00	33.83	58.53	163.90	-198.67	506.91	2,270.99	2,233.56	37.43	60.677				
9,750.00	9,705.89	14,178.86	11,915.00	33.93	58.18	165.21	-167.87	507.87	2,232.43	2,195.04	37.39	59.704				
9,800.00	9,742.38	14,144.74	11,915.00	34.04	57.80	166.19	-133.76	508.92	2,196.72	2,159.38	37.34	58.830				
9,850.00	9,775.77	14,107.57	11,915.00	34.14	57.38	166.94	-96.61	510.07	2,164.12	2,126.85	37.27	58.064				
9,900.00	9,805.78	14,067.63	11,915.00	34.24	56.94	167.52	-56.69	511.30	2,134.88	2,097.69	37.19	57.402				
9,950.00	9,832.20	14,025.23	11,915.00	34.34	56.47	167.95	-14.31	512.61	2,109.22	2,072.12	37.10	56.854				
10,000.00	9,854.81	13,980.69	11,915.00	34.45	55.99	168.27	30.21	513.98	2,087.33	2,050.33	36.99	56.422				
10,050.00	9,873.46	13,934.35	11,915.00	34.57	55.50	168.50	76.52	515.41	2,069.37	2,032.48	36.88	56.106				
10,100.00	9,887.99	13,886.57	11,915.00	34.69	54.99	168.66	124.29	516.89	2,055.47	2,018.70	36.76	55.910				
10,150.00	9,898.30	13,837.70	11,915.00	34.81	54.48	168.74	173.13	518.39	2,045.73	2,009.09	36.64	55.831				
10,200.00	9,904.31	13,788.12	11,915.00	34.95	53.97	168.76	222.69	519.93	2,040.22	2,003.71	36.51	55.875				
10,239.41	9,905.98	13,748.78	11,915.00	35.06	53.57	168.73	262.01	521.14	2,038.89	2,002.48	36.41	55.993				
10,244.03	9,906.00	13,744.17	11,915.00	35.07	53.53	168.73	266.62	521.28	2,038.91	2,002.51	36.40	56.012				
10,300.00	9,906.00	9,915.50	9,915.50	35.24	35.32	90.00	2,299.74	584.06	2,018.43	1,969.30	49.13	41.084				
10,400.00	9,906.00	9,915.50	9,915.50	35.60	35.32	90.00	2,299.74	584.06	1,921.46	1,872.32	49.14	39.099				
10,500.00	9,906.00	9,915.50	9,915.50	36.03	35.32	90.00	2,299.74	584.06	1,824.81	1,775.64	49.17	37.116				
10,600.00	9,906.00	9,915.50	9,915.50	36.54	35.32	90.00	2,299.74	584.06	1,728.54	1,679.35	49.20	35.135				
10,700.00	9,906.00	9,915.50	9,915.50	37.11	35.32	90.00	2,299.74	584.06	1,632.72	1,583.48	49.24	33.157				
10,800.00	9,906.00	9,915.50	9,915.50	37.74	35.32	90.00	2,299.74	584.06	1,537.44	1,488.14	49.30	31.184				
10,900.00	9,906.00	9,915.50	9,915.50	38.44	35.32	90.00	2,299.74	584.06	1,442.79	1,393.40	49.39	29.214				
11,000.00	9,906.00	9,915.50	9,915.50	39.19	35.32	90.00	2,299.74	584.06	1,348.92	1,299.42	49.50	27.251				
11,100.00	9,906.00	9,915.50	9,915.50	40.00	35.32	90.00	2,299.74	584.06	1,255.99	1,206.34	49.65	25.297				
11,200.00	9,906.00	9,915.50	9,915.50	40.85	35.32	90.00	2,299.74	584.06	1,164.23	1,114.38	49.85	23.353				
11,300.00	9,906.00	9,915.50	9,915.50	41.76	35.32	90.00	2,299.74	584.06	1,073.95	1,023.81	50.13	21.423				
11,400.00	9,906.00	9,915.50	9,915.50	42.71	35.32	90.00	2,299.74	584.06	985.54	935.03	50.51	19.512				
11,500.00	9,906.00	9,915.50	9,915.50	43.70	35.32	90.00	2,299.74	584.06	899.56	848.54	51.02	17.631				
11,600.00	9,906.00	9,915.50	9,915.50	44.73	35.32	90.00	2,299.74	584.06	816.79	765.06	51.73	15.789				
11,700.00	9,906.00	9,915.50	9,915.50	45.80	35.32	90.00	2,299.74	584.06	738.29	685.59	52.70	14.010				
11,800.00	9,906.00	9,915.50	9,915.50	46.90	35.32	90.00	2,299.74	584.06	665.58	611.58	54.00	12.325				
11,900.00	9,906.00	9,915.50	9,915.50	48.03	35.32	90.00	2,299.74	584.06	600.78	545.06	55.72	10.783				
12,000.00	9,906.00	9,915.50	9,915.50	49.19	35.32	90.00	2,299.74	584.06	546.68	488.85	57.83	9.453				
12,100.00	9,906.00	9,915.50	9,915.50	50.38	35.32	90.00	2,299.74	584.06	506.74	446.59	60.15	8.424				
12,200.00	9,906.00	9,915.50	9,915.50	51.60	35.32	90.00	2,299.74	584.06	484.48	422.24	62.24	7.784				
12,260.36	9,906.00	9,915.50	9,915.50	52.34	35.32	90.00	2,299.74	584.06	480.70	417.57	63.14	7.614 CC, ES				
12,300.00	9,906.00	9,915.50	9,915.50	52.83	35.32	90.00	2,299.74	584.06	482.33	418.82	63.51	7.594 SF				
12,400.00	9,906.00	9,915.50	9,915.50	54.09	35.32	90.00	2,299.74	584.06	500.57	436.89	63.68	7.860				
12,500.00	9,906.00	9,915.50	9,915.50	55.38	35.32	90.00	2,299.74	584.06	537.12	474.18	62.94	8.534				
12,600.00	9,906.00	9,915.50	9,915.50	56.68	35.32	90.00	2,299.74	584.06	588.58	526.87	61.71	9.538				
12,700.00	9,906.00	9,915.50	9,915.50	57.99	35.32	90.00	2,299.74	584.06	651.43	591.07	60.36	10.792				
12,800.00	9,906.00	9,915.50	9,915.50	59.33	35.32	90.00	2,299.74	584.06	722.69	663.60	59.10	12.229				
12,900.00	9,906.00	9,915.50	9,915.50	60.68	35.32	90.00	2,299.74	584.06	800.14	742.14	58.00	13.797				
13,000.00	9,906.00	9,915.50	9,915.50	62.04	35.32	90.00	2,299.74	584.06	882.13	825.06	57.07	15.458				
13,100.00	9,906.00	9,915.50	9,915.50	63.42	35.32	90.00	2,299.74	584.06	967.51	911.21	56.29	17.187				
13,200.00	9,906.00	9,915.50	9,915.50	64.82	35.32	90.00	2,299.74	584.06	1,055.46	999.81	55.65	18.965				
13,300.00	9,906.00	9,915.50	9,915.50	66.22	35.32	90.00	2,299.74	584.06	1,145.40	1,090.28	55.12	20.781				
13,400.00	9,906.00	9,915.50	9,915.50	67.63	35.32	90.00	2,299.74	584.06	1,236.87	1,182.20	54.68	22.622				
13,500.00	9,906.00	9,915.50	9,915.50	69.06	35.32	90.00	2,299.74	584.06	1,329.58	1,275.28	54.30	24.484				
13,600.00	9,906.00	9,915.50	9,915.50	70.49	35.32	90.00	2,299.74	584.06	1,423.28	1,369.29	53.99	26.361				
13,700.00	9,906.00	9,915.50	9,915.50	71.94	35.32	90.00	2,299.74	584.06	1,517.78	1,464.05	53.73	28.250				
13,800.00	9,906.00	9,915.50	9,915.50	73.39	35.32	90.00	2,299.74	584.06	1,612.94	1,559.44	53.50	30.149				
13,900.00	9,906.00	9,915.50	9,915.50	74.85	35.32	90.00	2,299.74	584.06	1,708.65	1,655.35	53.31	32.053				

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
14,000.00	9,906.00	9,915.50	9,915.50	76.32	35.32	90.00	2,299.74	584.06	1,804.84	1,751.69	53.14	33.963		
14,100.00	9,906.00	9,915.50	9,915.50	77.80	35.32	90.00	2,299.74	584.06	1,901.41	1,848.41	53.00	35.877		
14,200.00	9,906.00	9,915.50	9,915.50	79.28	35.32	90.00	2,299.74	584.06	1,998.32	1,945.45	52.87	37.794		
14,300.00	9,906.00	9,915.50	9,915.50	80.77	35.32	90.00	2,299.74	584.06	2,095.52	2,042.75	52.77	39.711		
14,400.00	9,906.00	9,915.50	9,915.50	82.27	35.32	90.00	2,299.74	584.06	2,192.98	2,140.30	52.68	41.629		
14,500.00	9,906.00	9,915.50	9,915.50	83.77	35.32	90.00	2,299.74	584.06	2,290.65	2,238.05	52.60	43.547		
14,600.00	9,906.00	9,915.50	9,915.50	85.28	35.32	90.00	2,299.74	584.06	2,388.51	2,335.98	52.54	45.464		
14,700.00	9,906.00	9,915.50	9,915.50	86.79	35.32	90.00	2,299.74	584.06	2,486.55	2,434.07	52.48	47.381		
14,800.00	9,906.00	9,915.50	9,915.50	88.31	35.32	90.00	2,299.74	584.06	2,584.74	2,532.30	52.43	49.298		
14,900.00	9,906.00	9,915.50	9,915.50	89.83	35.32	90.00	2,299.74	584.06	2,683.06	2,630.67	52.39	51.214		
15,000.00	9,906.00	9,915.50	9,915.50	91.36	35.32	90.00	2,299.74	584.06	2,781.50	2,729.14	52.35	53.128		
15,100.00	9,906.00	9,915.50	9,915.50	92.89	35.32	90.00	2,299.74	584.06	2,880.04	2,827.72	52.33	55.041		
15,200.00	9,906.00	9,915.50	9,915.50	94.43	35.32	90.00	2,299.74	584.06	2,978.69	2,926.38	52.30	56.951		
15,300.00	9,906.00	9,915.50	9,915.50	95.97	35.32	90.00	2,299.74	584.06	3,077.42	3,025.13	52.28	58.859		
15,400.00	9,906.00	9,915.50	9,915.50	97.51	35.32	90.00	2,299.74	584.06	3,176.23	3,123.96	52.27	60.764		
15,500.00	9,906.00	9,915.50	9,915.50	99.06	35.32	90.00	2,299.74	584.06	3,275.11	3,222.85	52.26	62.666		
15,600.00	9,906.00	9,915.50	9,915.50	100.61	35.32	90.00	2,299.74	584.06	3,374.06	3,321.80	52.26	64.565		
15,700.00	9,906.00	9,915.50	9,915.50	102.16	35.32	90.00	2,299.74	584.06	3,473.07	3,420.81	52.26	66.461		
15,800.00	9,906.00	9,915.50	9,915.50	103.72	35.32	90.00	2,299.74	584.06	3,572.13	3,519.88	52.26	68.354		
15,900.00	9,906.00	9,915.50	9,915.50	105.28	35.32	90.00	2,299.74	584.06	3,671.25	3,618.98	52.26	70.243		
16,000.00	9,906.00	9,915.50	9,915.50	106.84	35.32	90.00	2,299.74	584.06	3,770.41	3,718.14	52.27	72.129		
16,100.00	9,906.00	9,915.50	9,915.50	108.40	35.32	90.00	2,299.74	584.06	3,869.62	3,817.33	52.28	74.012		
16,200.00	9,906.00	9,915.50	9,915.50	109.97	35.32	90.00	2,299.74	584.06	3,968.86	3,916.56	52.30	75.890		
16,300.00	9,906.00	9,915.50	9,915.50	111.54	35.32	90.00	2,299.74	584.06	4,068.14	4,015.83	52.31	77.765		
16,400.00	9,906.00	9,915.50	9,915.50	113.11	35.32	90.00	2,299.74	584.06	4,167.46	4,115.13	52.33	79.636		
16,500.00	9,906.00	9,915.50	9,915.50	114.69	35.32	90.00	2,299.74	584.06	4,266.81	4,214.46	52.35	81.503		
16,600.00	9,906.00	9,915.50	9,915.50	116.26	35.32	90.00	2,299.74	584.06	4,366.19	4,313.81	52.37	83.365		
16,700.00	9,906.00	9,915.50	9,915.50	117.84	35.32	90.00	2,299.74	584.06	4,465.59	4,413.19	52.40	85.224		
16,800.00	9,906.00	9,915.50	9,915.50	119.42	35.32	90.00	2,299.74	584.06	4,565.02	4,512.60	52.42	87.078		
16,900.00	9,906.00	9,915.50	9,915.50	121.01	35.32	90.00	2,299.74	584.06	4,664.48	4,612.03	52.45	88.928		
17,000.00	9,906.00	9,915.50	9,915.50	122.59	35.32	90.00	2,299.74	584.06	4,763.96	4,711.48	52.48	90.774		
17,100.00	9,906.00	9,915.50	9,915.50	124.18	35.32	90.00	2,299.74	584.06	4,863.46	4,810.94	52.51	92.615		
17,200.00	9,906.00	9,915.50	9,915.50	125.76	35.32	90.00	2,299.74	584.06	4,962.98	4,910.43	52.54	94.454		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
0.00	0.00	0.00	0.00	0.00	0.00	-90.53	-18.64	-2,010.93	2,011.54					
100.00	100.00	54.30	54.30	0.13	0.07	-90.53	-18.64	-2,010.93	2,011.02	2,010.88	0.14	N/A		
200.00	200.00	154.30	154.30	0.48	0.32	-90.53	-18.64	-2,010.93	2,011.02	2,010.44	0.58	3,465.892		
300.00	300.00	254.30	254.30	0.84	0.68	-90.53	-18.64	-2,010.93	2,011.02	2,009.94	1.08	1,859.084		
400.00	400.00	354.30	354.30	1.20	1.04	-90.53	-18.64	-2,010.93	2,011.02	2,009.43	1.59	1,267.426		
500.00	500.00	454.30	454.30	1.56	1.40	-90.53	-18.64	-2,010.93	2,011.02	2,008.93	2.09	961.003		
600.00	600.00	554.30	554.30	1.92	1.75	-90.53	-18.64	-2,010.93	2,011.02	2,008.42	2.60	773.780		
700.00	700.00	654.30	654.30	2.28	2.11	-90.53	-18.64	-2,010.93	2,011.02	2,007.91	3.11	647.570		
800.00	800.00	754.30	754.30	2.63	2.47	-90.53	-18.64	-2,010.93	2,011.02	2,007.41	3.61	556.739		
900.00	900.00	854.30	854.30	2.99	2.83	-90.53	-18.64	-2,010.93	2,011.02	2,006.90	4.12	488.246		
1,000.00	1,000.00	954.30	954.30	3.35	3.19	-90.53	-18.64	-2,010.93	2,011.02	2,006.39	4.63	434.755		
1,100.00	1,100.00	1,054.30	1,054.30	3.71	3.55	-90.53	-18.64	-2,010.93	2,011.02	2,005.89	5.13	391.824		
1,200.00	1,200.00	1,154.30	1,154.30	4.07	3.90	-90.53	-18.64	-2,010.93	2,011.02	2,005.38	5.64	356.608		
1,300.00	1,300.00	1,254.30	1,254.30	4.43	4.26	-90.53	-18.64	-2,010.93	2,011.02	2,004.87	6.15	327.200		
1,400.00	1,400.00	1,354.30	1,354.30	4.79	4.62	-90.53	-18.64	-2,010.93	2,011.02	2,004.37	6.65	302.272		
1,500.00	1,500.00	1,454.30	1,454.30	5.14	4.98	-90.53	-18.64	-2,010.93	2,011.02	2,003.86	7.16	280.872		
1,600.00	1,600.00	1,554.30	1,554.30	5.50	5.34	-90.53	-18.64	-2,010.93	2,011.02	2,003.35	7.67	262.302		
1,700.00	1,700.00	1,654.30	1,654.30	5.86	5.70	-90.53	-18.64	-2,010.93	2,011.02	2,002.85	8.17	246.035		
1,800.00	1,800.00	1,754.30	1,754.30	6.22	6.06	-90.53	-18.64	-2,010.93	2,011.02	2,002.34	8.68	231.668	CC, ES	
1,900.00	1,899.99	1,854.66	1,855.66	6.56	6.34	113.01	-18.66	-2,011.10	2,011.78	2,002.66	9.13	220.458		
2,000.00	1,999.91	1,900.00	1,899.99	6.89	6.57	113.03	-18.82	-2,012.23	2,015.10	2,005.59	9.51	211.819		
2,066.81	2,066.60	1,944.97	1,944.93	7.11	6.72	113.04	-19.01	-2,013.66	2,018.83	2,009.06	9.78	206.529		
2,100.00	2,099.70	1,966.65	1,966.60	7.22	6.80	113.08	-19.13	-2,014.54	2,021.09	2,011.18	9.90	204.076		
2,200.00	2,199.46	2,031.89	2,031.74	7.55	7.02	113.18	-19.58	-2,017.91	2,029.01	2,018.72	10.29	197.165		
2,300.00	2,299.21	2,100.00	2,099.69	7.89	7.25	113.29	-20.22	-2,022.60	2,038.63	2,027.95	10.69	190.772		
2,400.00	2,398.97	2,161.79	2,161.25	8.23	7.47	113.38	-20.93	-2,027.90	2,049.93	2,038.87	11.07	185.257		
2,500.00	2,498.73	2,226.38	2,225.49	8.58	7.70	113.47	-21.82	-2,034.49	2,062.92	2,051.47	11.45	180.159		
2,600.00	2,598.48	2,300.00	2,298.57	8.92	7.96	113.57	-23.02	-2,043.32	2,077.60	2,065.73	11.86	175.155		
2,700.00	2,698.24	2,354.67	2,352.73	9.27	8.16	113.64	-24.02	-2,050.77	2,093.86	2,081.64	12.22	171.395		
2,800.00	2,798.00	2,418.31	2,415.61	9.62	8.39	113.71	-25.33	-2,060.42	2,111.79	2,099.20	12.60	167.656		
2,900.00	2,897.75	2,491.33	2,487.56	9.98	8.66	113.79	-27.00	-2,072.76	2,131.38	2,118.38	13.00	163.909		
3,000.00	2,997.51	2,573.94	2,568.83	10.33	8.98	113.88	-28.99	-2,087.50	2,151.94	2,138.49	13.44	160.093		
3,100.00	3,097.26	2,671.73	2,665.01	10.69	9.36	113.97	-31.34	-2,104.94	2,172.55	2,158.62	13.93	155.951		
3,200.00	3,197.02	2,769.51	2,761.20	11.05	9.74	114.07	-33.70	-2,122.39	2,193.17	2,178.75	14.42	152.064		
3,300.00	3,296.78	2,867.30	2,857.39	11.41	10.13	114.17	-36.06	-2,139.83	2,213.80	2,198.88	14.92	148.410		
3,400.00	3,396.53	2,965.08	2,953.57	11.77	10.53	114.26	-38.42	-2,157.27	2,234.43	2,219.02	15.41	144.971		
3,500.00	3,496.29	3,062.86	3,049.76	12.13	10.93	114.35	-40.77	-2,174.71	2,255.07	2,239.16	15.91	141.730		
3,600.00	3,596.04	3,160.65	3,145.95	12.49	11.34	114.44	-43.13	-2,192.16	2,275.71	2,259.30	16.41	138.671		
3,700.00	3,695.80	3,258.43	3,242.13	12.85	11.75	114.53	-45.49	-2,209.60	2,296.36	2,279.45	16.91	135.781		
3,800.00	3,795.56	3,356.22	3,338.32	13.22	12.16	114.62	-47.84	-2,227.04	2,317.01	2,299.60	17.42	133.045		
3,900.00	3,895.31	3,454.00	3,434.51	13.58	12.57	114.70	-50.20	-2,244.49	2,337.67	2,319.75	17.92	130.454		
4,000.00	3,995.07	3,551.78	3,530.69	13.95	12.99	114.79	-52.56	-2,261.93	2,358.34	2,339.91	18.43	127.996		
4,100.00	4,094.83	3,649.57	3,626.88	14.31	13.41	114.87	-54.92	-2,279.37	2,379.00	2,360.07	18.93	125.662		
4,200.00	4,194.58	3,747.35	3,723.07	14.68	13.83	114.95	-57.27	-2,296.81	2,399.68	2,380.24	19.44	123.444		
4,300.00	4,294.34	3,845.14	3,819.25	15.05	14.25	115.03	-59.63	-2,314.26	2,420.36	2,400.41	19.95	121.332		
4,400.00	4,394.09	3,942.92	3,915.44	15.41	14.68	115.11	-61.99	-2,331.70	2,441.04	2,420.58	20.46	119.320		
4,500.00	4,493.85	4,040.70	4,011.63	15.78	15.10	115.18	-64.34	-2,349.14	2,461.72	2,440.76	20.97	117.401		
4,600.00	4,593.61	4,138.49	4,107.81	16.15	15.53	115.26	-66.70	-2,366.59	2,482.41	2,460.93	21.48	115.569		
4,700.00	4,693.36	4,236.27	4,204.00	16.52	15.96	115.33	-69.06	-2,384.03	2,503.11	2,481.12	21.99	113.819		
4,800.00	4,793.12	4,334.06	4,300.19	16.89	16.39	115.41	-71.42	-2,401.47	2,523.81	2,501.30	22.50	112.145		
4,900.00	4,892.87	4,431.84	4,396.38	17.26	16.82	115.48	-73.77	-2,418.91	2,544.51	2,521.49	23.02	110.543		
5,000.00	4,992.63	4,529.62	4,492.56	17.63	17.26	115.55	-76.13	-2,436.36	2,565.22	2,541.68	23.53	109.008		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
5,100.00	5,092.39	4,627.41	4,588.75	18.00	17.69	115.62	-78.49	-2,453.80	2,585.93	2,561.88	24.05	107.536		
5,200.00	5,192.14	4,725.19	4,684.94	18.37	18.13	115.69	-80.84	-2,471.24	2,606.64	2,582.08	24.56	106.123		
5,300.00	5,291.90	4,822.98	4,781.12	18.74	18.56	115.75	-83.20	-2,488.69	2,627.36	2,602.28	25.08	104.766		
5,400.00	5,391.65	4,920.76	4,877.31	19.11	19.00	115.82	-85.56	-2,506.13	2,648.08	2,622.48	25.59	103.462		
5,500.00	5,491.41	5,018.54	4,973.50	19.48	19.44	115.89	-87.92	-2,523.57	2,668.80	2,642.69	26.11	102.208		
5,600.00	5,591.17	5,116.33	5,069.68	19.85	19.87	115.95	-90.27	-2,541.01	2,689.53	2,662.90	26.63	101.001		
5,700.00	5,690.92	5,214.11	5,165.87	20.22	20.31	116.01	-92.63	-2,558.46	2,710.26	2,683.11	27.15	99.839		
5,800.00	5,790.68	5,311.90	5,262.06	20.59	20.75	116.08	-94.99	-2,575.90	2,730.99	2,703.33	27.66	98.719		
5,900.00	5,890.44	5,409.68	5,358.24	20.97	21.19	116.14	-97.34	-2,593.34	2,751.73	2,723.54	28.18	97.638		
6,000.00	5,990.19	5,507.46	5,454.43	21.34	21.63	116.20	-99.70	-2,610.79	2,772.47	2,743.77	28.70	96.596		
6,100.00	6,089.95	5,605.25	5,550.62	21.71	22.07	116.26	-102.06	-2,628.23	2,793.21	2,763.99	29.22	95.589		
6,200.00	6,189.70	5,703.03	5,646.80	22.08	22.52	116.32	-104.42	-2,645.67	2,813.95	2,784.21	29.74	94.617		
6,300.00	6,289.46	5,800.82	5,742.99	22.45	22.96	116.37	-106.77	-2,663.11	2,834.70	2,804.44	30.26	93.677		
6,394.17	6,383.40	5,892.90	5,833.57	22.81	23.37	116.43	-108.99	-2,679.54	2,854.24	2,823.49	30.75	92.820		
6,400.00	6,389.22	5,898.60	5,839.18	22.83	23.40	116.45	-109.13	-2,680.56	2,855.45	2,824.67	30.78	92.768		
6,500.00	6,489.06	5,996.54	5,935.52	23.19	23.84	116.75	-111.49	-2,698.03	2,875.56	2,844.27	31.30	91.876		
6,600.00	6,589.02	6,094.72	6,032.10	23.55	24.29	116.99	-113.86	-2,715.54	2,894.52	2,862.71	31.81	90.991		
6,660.99	6,650.00	6,154.69	6,091.08	23.76	24.56	-86.42	-115.30	-2,726.24	2,905.51	2,873.40	32.12	90.466		
6,700.00	6,689.01	6,193.06	6,128.83	23.89	24.73	-86.44	-116.23	-2,733.08	2,912.40	2,880.09	32.31	90.139		
6,800.00	6,789.01	6,291.43	6,225.59	24.22	25.18	-86.51	-118.60	-2,750.63	2,930.07	2,897.27	32.81	89.318		
6,900.00	6,889.01	6,389.80	6,322.35	24.55	25.63	-86.58	-120.97	-2,768.18	2,947.74	2,914.44	33.30	88.519		
7,000.00	6,989.01	6,488.16	6,419.11	24.88	26.08	-86.65	-123.34	-2,785.72	2,965.42	2,931.62	33.80	87.742		
7,100.00	7,089.01	6,586.53	6,515.87	25.22	26.52	-86.71	-125.71	-2,803.27	2,983.10	2,948.80	34.29	86.987		
7,200.00	7,189.01	6,684.90	6,612.63	25.55	26.97	-86.78	-128.08	-2,820.82	3,000.78	2,965.99	34.79	86.251		
7,300.00	7,289.01	6,792.50	6,718.49	25.88	27.46	-86.85	-130.67	-2,839.96	3,018.43	2,983.11	35.32	85.448		
7,400.00	7,389.01	7,255.66	7,178.25	26.22	27.92	-87.04	-137.85	-2,893.11	3,029.64	2,992.67	36.97	81.938		
7,500.00	7,489.01	7,520.84	7,443.31	26.55	30.19	-87.06	-138.64	-2,898.93	3,030.92	2,993.10	37.82	80.143		
7,600.00	7,589.01	7,620.84	7,543.31	26.89	30.49	-87.06	-138.64	-2,898.93	3,030.92	2,992.63	38.29	79.153		
7,700.00	7,689.01	7,720.84	7,643.31	27.23	30.79	-87.06	-138.64	-2,898.93	3,030.92	2,992.15	38.77	78.185		
7,800.00	7,789.01	7,820.84	7,743.31	27.56	31.10	-87.06	-138.64	-2,898.93	3,030.92	2,991.68	39.24	77.240		
7,900.00	7,889.01	7,920.84	7,843.31	27.90	31.41	-87.06	-138.64	-2,898.93	3,030.92	2,991.20	39.72	76.315		
8,000.00	7,989.01	8,020.84	7,943.31	28.24	31.72	-87.06	-138.64	-2,898.93	3,030.92	2,990.73	40.19	75.411		
8,100.00	8,089.01	8,120.84	8,043.31	28.58	32.03	-87.06	-138.64	-2,898.93	3,030.92	2,990.25	40.67	74.526		
8,200.00	8,189.01	8,200.00	8,122.24	28.92	32.27	-86.96	-133.42	-2,898.99	3,031.32	2,990.21	41.10	73.749		
8,300.00	8,289.01	8,269.07	8,189.96	29.25	32.47	-86.71	-120.01	-2,899.12	3,032.58	2,991.08	41.51	73.060		
8,400.00	8,389.01	8,337.25	8,254.74	29.59	32.65	-86.31	-98.89	-2,899.33	3,034.90	2,993.00	41.90	72.428		
8,500.00	8,489.01	8,400.00	8,311.76	29.93	32.80	-85.82	-72.78	-2,899.59	3,038.51	2,996.23	42.27	71.875		
8,600.00	8,589.01	8,450.00	8,354.94	30.28	32.92	-85.35	-47.60	-2,899.84	3,043.68	3,001.07	42.61	71.432		
8,700.00	8,689.01	8,500.00	8,395.76	30.62	33.02	-84.81	-18.76	-2,900.13	3,050.67	3,007.74	42.93	71.061		
8,800.00	8,789.01	8,550.00	8,433.92	30.96	33.11	-84.20	13.53	-2,900.45	3,059.70	3,016.47	43.24	70.768		
8,900.00	8,889.01	8,587.23	8,460.42	31.30	33.17	-83.71	39.67	-2,900.71	3,070.99	3,027.50	43.49	70.606		
9,000.00	8,989.01	8,620.82	8,482.83	31.64	33.23	-83.25	64.68	-2,900.96	3,084.68	3,040.96	43.72	70.548		
9,100.00	9,089.01	8,650.00	8,501.08	31.99	33.27	-82.82	87.45	-2,901.18	3,100.88	3,056.96	43.92	70.595		
9,200.00	9,189.01	8,676.29	8,516.51	32.33	33.31	-82.43	108.73	-2,901.39	3,119.66	3,075.57	44.10	70.749		
9,300.00	9,289.01	8,700.00	8,529.57	32.67	33.34	-82.06	128.51	-2,901.59	3,141.08	3,096.84	44.23	71.013		
9,344.03	9,333.04	8,700.00	8,529.57	32.82	33.34	-82.06	128.51	-2,901.59	3,151.37	3,107.12	44.26	71.207		
9,350.00	9,339.01	8,700.00	8,529.57	32.84	33.34	-81.37	128.51	-2,901.59	3,152.81	3,108.55	44.26	71.235		
9,400.00	9,388.92	8,720.52	8,540.21	33.01	33.37	-79.84	146.06	-2,901.77	3,164.71	3,120.38	44.34	71.378		
9,450.00	9,438.41	8,732.04	8,545.90	33.17	33.39	-78.48	156.07	-2,901.86	3,176.55	3,132.17	44.38	71.582		
9,500.00	9,487.09	8,750.00	8,554.38	33.32	33.41	-77.07	171.90	-2,902.02	3,188.18	3,143.75	44.42	71.767		
9,550.00	9,534.61	8,750.00	8,554.38	33.46	33.41	-75.94	171.90	-2,902.02	3,199.46	3,155.05	44.41	72.042		
9,600.00	9,580.58	8,770.21	8,563.32	33.59	33.44	-74.63	190.03	-2,902.20	3,210.27	3,165.82	44.45	72.217		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
9,650.00	9,624.68	8,800.00	8,575.31	33.71	33.49	-73.31	217.29	-2,902.47	3,220.67	3,176.15	44.52	72.345		
9,700.00	9,666.55	8,800.00	8,575.31	33.83	33.49	-72.38	217.29	-2,902.47	3,230.19	3,185.70	44.49	72.601		
9,750.00	9,705.89	8,800.00	8,575.31	33.93	33.49	-71.52	217.29	-2,902.47	3,239.17	3,194.70	44.47	72.846		
9,800.00	9,742.38	8,827.11	8,584.98	34.04	33.53	-70.53	242.61	-2,902.73	3,247.18	3,202.65	44.53	72.927		
9,850.00	9,775.77	8,850.00	8,592.21	34.14	33.56	-69.70	264.33	-2,902.94	3,254.40	3,209.82	44.58	73.007		
9,900.00	9,805.78	8,850.00	8,592.21	34.24	33.56	-69.11	264.33	-2,902.94	3,260.63	3,216.07	44.57	73.162		
9,950.00	9,832.20	8,872.53	8,598.46	34.34	33.60	-68.52	285.97	-2,903.16	3,265.83	3,221.19	44.64	73.164		
10,000.00	9,854.81	8,900.00	8,604.94	34.45	33.65	-68.04	312.66	-2,903.42	3,270.06	3,225.33	44.73	73.105		
10,050.00	9,873.46	8,900.00	8,604.94	34.57	33.65	-67.76	312.66	-2,903.42	3,273.07	3,228.31	44.76	73.124		
10,100.00	9,887.99	8,919.15	8,608.69	34.69	33.69	-67.54	331.44	-2,903.61	3,275.01	3,230.14	44.86	73.001		
10,150.00	9,898.30	8,950.00	8,613.41	34.81	33.76	-67.45	361.92	-2,903.91	3,275.92	3,230.91	45.01	72.779		
10,200.00	9,904.31	8,950.00	8,613.41	34.95	33.76	-67.50	361.92	-2,903.91	3,275.46	3,230.37	45.10	72.635		
10,244.03	9,906.00	8,950.00	8,613.41	35.07	33.76	-67.60	361.92	-2,903.91	3,274.31	3,229.13	45.18	72.468		
10,300.00	9,906.00	8,981.76	8,616.55	35.24	33.83	-67.65	393.52	-2,904.23	3,272.39	3,226.99	45.40	72.079		
10,400.00	9,906.00	9,013.26	8,617.92	35.60	33.92	-67.68	424.98	-2,904.54	3,270.77	3,225.00	45.76	71.475		
10,428.15	9,906.00	9,022.57	8,618.00	35.72	33.94	-67.68	434.29	-2,904.63	3,270.69	3,224.81	45.88	71.290		
10,500.00	9,906.00	9,093.08	8,618.00	36.03	34.17	-67.68	504.80	-2,905.33	3,270.72	3,224.41	46.31	70.629		
10,600.00	9,906.00	9,193.08	8,618.00	36.54	34.56	-67.68	604.79	-2,906.33	3,270.76	3,223.76	47.00	69.592		
10,700.00	9,906.00	9,293.08	8,618.00	37.11	35.05	-67.68	704.79	-2,907.32	3,270.80	3,223.02	47.78	68.455		
10,800.00	9,906.00	9,393.08	8,618.00	37.74	35.63	-67.68	804.78	-2,908.32	3,270.84	3,222.19	48.65	67.233		
10,900.00	9,906.00	9,493.08	8,618.00	38.44	36.28	-67.68	904.78	-2,909.31	3,270.88	3,221.28	49.60	65.945		
11,000.00	9,906.00	9,593.08	8,618.00	39.19	37.00	-67.68	1,004.77	-2,910.31	3,270.92	3,220.29	50.63	64.605		
11,100.00	9,906.00	9,693.08	8,618.00	40.00	37.78	-67.68	1,104.77	-2,911.30	3,270.96	3,219.23	51.73	63.230		
11,200.00	9,906.00	9,793.08	8,618.00	40.85	38.63	-67.68	1,204.76	-2,912.30	3,271.00	3,218.10	52.90	61.832		
11,300.00	9,906.00	9,893.08	8,618.00	41.76	39.52	-67.68	1,304.76	-2,913.29	3,271.04	3,216.90	54.14	60.422		
11,400.00	9,906.00	9,993.08	8,618.00	42.71	40.47	-67.68	1,404.75	-2,914.29	3,271.08	3,215.65	55.43	59.012		
11,500.00	9,906.00	10,093.08	8,618.00	43.70	41.46	-67.68	1,504.75	-2,915.28	3,271.12	3,214.34	56.78	57.609		
11,600.00	9,906.00	10,193.08	8,618.00	44.73	42.50	-67.68	1,604.74	-2,916.28	3,271.16	3,212.98	58.18	56.222		
11,700.00	9,906.00	10,293.08	8,618.00	45.80	43.57	-67.68	1,704.74	-2,917.27	3,271.20	3,211.57	59.63	54.855		
11,800.00	9,906.00	10,393.08	8,618.00	46.90	44.68	-67.68	1,804.73	-2,918.26	3,271.24	3,210.12	61.13	53.514		
11,900.00	9,906.00	10,493.08	8,618.00	48.03	45.82	-67.68	1,904.73	-2,919.26	3,271.28	3,208.62	62.66	52.203		
12,000.00	9,906.00	10,593.08	8,618.00	49.19	46.99	-67.68	2,004.72	-2,920.25	3,271.32	3,207.08	64.24	50.924		
12,100.00	9,906.00	10,693.08	8,618.00	50.38	48.19	-67.68	2,104.72	-2,921.25	3,271.37	3,205.51	65.85	49.679		
12,200.00	9,906.00	10,793.08	8,618.00	51.60	49.41	-67.68	2,204.71	-2,922.24	3,271.41	3,203.91	67.49	48.469		
12,300.00	9,906.00	10,893.08	8,618.00	52.83	50.66	-67.68	2,304.71	-2,923.24	3,271.45	3,202.28	69.17	47.296		
12,400.00	9,906.00	10,993.08	8,618.00	54.09	51.93	-67.68	2,404.71	-2,924.23	3,271.49	3,200.62	70.87	46.161		
12,500.00	9,906.00	11,093.08	8,618.00	55.38	53.23	-67.68	2,504.70	-2,925.23	3,271.53	3,198.93	72.60	45.062		
12,600.00	9,906.00	11,193.08	8,618.00	56.68	54.54	-67.68	2,604.70	-2,926.22	3,271.57	3,197.21	74.35	43.999		
12,700.00	9,906.00	11,293.08	8,618.00	57.99	55.87	-67.68	2,704.69	-2,927.22	3,271.61	3,195.48	76.13	42.973		
12,800.00	9,906.00	11,393.08	8,618.00	59.33	57.22	-67.68	2,804.69	-2,928.21	3,271.65	3,193.72	77.93	41.982		
12,900.00	9,906.00	11,493.08	8,618.00	60.68	58.58	-67.68	2,904.68	-2,929.21	3,271.69	3,191.94	79.75	41.025		
13,000.00	9,906.00	11,593.08	8,618.00	62.04	59.96	-67.68	3,004.68	-2,930.20	3,271.73	3,190.15	81.59	40.102		
13,100.00	9,906.00	11,693.08	8,618.00	63.42	61.35	-67.68	3,104.67	-2,931.20	3,271.77	3,188.33	83.44	39.211		
13,200.00	9,906.00	11,793.08	8,618.00	64.82	62.75	-67.69	3,204.67	-2,932.19	3,271.81	3,186.50	85.31	38.352		
13,300.00	9,906.00	11,893.08	8,618.00	66.22	64.17	-67.69	3,304.66	-2,933.18	3,271.85	3,184.66	87.20	37.523		
13,400.00	9,906.00	11,993.08	8,618.00	67.63	65.59	-67.69	3,404.66	-2,934.18	3,271.89	3,182.80	89.10	36.723		
13,500.00	9,906.00	12,093.08	8,618.00	69.06	67.03	-67.69	3,504.65	-2,935.17	3,271.93	3,180.92	91.01	35.951		
13,600.00	9,906.00	12,193.08	8,618.00	70.49	68.48	-67.69	3,604.65	-2,936.17	3,271.97	3,179.04	92.94	35.207		
13,700.00	9,906.00	12,293.08	8,618.00	71.94	69.93	-67.69	3,704.64	-2,937.16	3,272.02	3,177.14	94.87	34.489		
13,800.00	9,906.00	12,393.08	8,618.00	73.39	71.40	-67.69	3,804.64	-2,938.16	3,272.06	3,175.24	96.82	33.796		
13,900.00	9,906.00	12,493.08	8,618.00	74.85	72.87	-67.69	3,904.63	-2,939.15	3,272.10	3,173.32	98.78	33.126		
14,000.00	9,906.00	12,593.08	8,618.00	76.32	74.35	-67.69	4,004.63	-2,940.15	3,272.14	3,171.39	100.74	32.480		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
14,100.00	9,906.00	12,693.08	8,618.00	77.80	75.84	-67.69	4,104.62	-2,941.14	3,272.18	3,169.46	102.72	31.855		
14,200.00	9,906.00	12,793.08	8,618.00	79.28	77.33	-67.69	4,204.62	-2,942.14	3,272.22	3,167.51	104.71	31.251		
14,300.00	9,906.00	12,893.08	8,618.00	80.77	78.83	-67.69	4,304.61	-2,943.13	3,272.26	3,165.55	106.70	30.667		
14,400.00	9,906.00	12,993.08	8,618.00	82.27	80.33	-67.69	4,404.61	-2,944.13	3,272.30	3,163.59	108.71	30.102		
14,500.00	9,906.00	13,093.08	8,618.00	83.77	81.85	-67.69	4,504.60	-2,945.12	3,272.34	3,161.62	110.72	29.556		
14,600.00	9,906.00	13,193.08	8,618.00	85.28	83.36	-67.69	4,604.60	-2,946.12	3,272.38	3,159.65	112.73	29.028		
14,700.00	9,906.00	13,293.08	8,618.00	86.79	84.88	-67.69	4,704.59	-2,947.11	3,272.42	3,157.67	114.75	28.517		
14,800.00	9,906.00	13,393.08	8,618.00	88.31	86.41	-67.69	4,804.59	-2,948.10	3,272.46	3,155.68	116.78	28.022		
14,900.00	9,906.00	13,493.08	8,618.00	89.83	87.94	-67.69	4,904.58	-2,949.10	3,272.50	3,153.69	118.82	27.542		
15,000.00	9,906.00	13,593.08	8,618.00	91.36	89.48	-67.69	5,004.58	-2,950.09	3,272.54	3,151.69	120.86	27.078		
15,100.00	9,906.00	13,693.08	8,618.00	92.89	91.02	-67.69	5,104.57	-2,951.09	3,272.58	3,149.68	122.90	26.628		
15,200.00	9,906.00	13,793.08	8,618.00	94.43	92.56	-67.69	5,204.57	-2,952.08	3,272.62	3,147.67	124.95	26.191		
15,300.00	9,906.00	13,893.08	8,618.00	95.97	94.11	-67.69	5,304.56	-2,953.08	3,272.67	3,145.66	127.01	25.768		
15,400.00	9,906.00	13,993.08	8,618.00	97.51	95.66	-67.69	5,404.56	-2,954.07	3,272.71	3,143.64	129.07	25.357		
15,500.00	9,906.00	14,093.08	8,618.00	99.06	97.21	-67.69	5,504.55	-2,955.07	3,272.75	3,141.62	131.13	24.958		
15,600.00	9,906.00	14,193.08	8,618.00	100.61	98.77	-67.69	5,604.55	-2,956.06	3,272.79	3,139.59	133.20	24.571		
15,700.00	9,906.00	14,293.08	8,618.00	102.16	100.33	-67.69	5,704.54	-2,957.06	3,272.83	3,137.56	135.27	24.195		
15,800.00	9,906.00	14,393.08	8,618.00	103.72	101.89	-67.69	5,804.54	-2,958.05	3,272.87	3,135.52	137.35	23.829		
15,900.00	9,906.00	14,493.08	8,618.00	105.28	103.46	-67.69	5,904.53	-2,959.05	3,272.91	3,133.49	139.42	23.475		
16,000.00	9,906.00	14,593.08	8,618.00	106.84	105.03	-67.69	6,004.53	-2,960.04	3,272.95	3,131.44	141.50	23.130		
16,100.00	9,906.00	14,693.08	8,618.00	108.40	106.60	-67.69	6,104.52	-2,961.04	3,272.99	3,129.40	143.59	22.794		
16,200.00	9,906.00	14,793.08	8,618.00	109.97	108.17	-67.69	6,204.52	-2,962.03	3,273.03	3,127.35	145.68	22.468		
16,300.00	9,906.00	14,893.08	8,618.00	111.54	109.75	-67.69	6,304.51	-2,963.02	3,273.07	3,125.30	147.77	22.150		
16,400.00	9,906.00	14,993.08	8,618.00	113.11	111.32	-67.69	6,404.51	-2,964.02	3,273.11	3,123.25	149.86	21.840		
16,500.00	9,906.00	15,093.08	8,618.00	114.69	112.90	-67.69	6,504.50	-2,965.01	3,273.15	3,121.19	151.96	21.539		
16,600.00	9,906.00	15,193.08	8,618.00	116.26	114.49	-67.69	6,604.50	-2,966.01	3,273.19	3,119.13	154.06	21.246		
16,700.00	9,906.00	15,293.08	8,618.00	117.84	116.07	-67.70	6,704.49	-2,967.00	3,273.23	3,117.07	156.16	20.960		
16,800.00	9,906.00	15,393.08	8,618.00	119.42	117.66	-67.70	6,804.49	-2,968.00	3,273.27	3,115.01	158.27	20.682		
16,900.00	9,906.00	15,493.08	8,618.00	121.01	119.24	-67.70	6,904.48	-2,968.99	3,273.32	3,112.94	160.37	20.411		
17,000.00	9,906.00	15,593.08	8,618.00	122.59	120.83	-67.70	7,004.48	-2,969.99	3,273.36	3,110.88	162.48	20.146		
17,100.00	9,906.00	15,693.08	8,618.00	124.18	122.42	-67.70	7,104.47	-2,970.98	3,273.40	3,108.81	164.59	19.888		
17,200.00	9,906.00	15,793.08	8,618.00	125.76	124.02	-67.70	7,204.47	-2,971.98	3,273.44	3,106.73	166.70	19.636		
17,300.00	9,906.00	15,893.08	8,618.00	127.35	125.61	-67.70	7,304.46	-2,972.97	3,273.48	3,104.66	168.82	19.391		
17,400.00	9,906.00	15,993.08	8,618.00	128.95	127.21	-67.70	7,404.46	-2,973.97	3,273.52	3,102.58	170.93	19.151		
17,500.00	9,906.00	16,093.08	8,618.00	130.54	128.80	-67.70	7,504.45	-2,974.96	3,273.56	3,100.51	173.05	18.917		
17,600.00	9,906.00	16,193.08	8,618.00	132.13	130.40	-67.70	7,604.45	-2,975.96	3,273.60	3,098.43	175.17	18.688		
17,700.00	9,906.00	16,293.08	8,618.00	133.73	132.00	-67.70	7,704.44	-2,976.95	3,273.64	3,096.35	177.29	18.464		
17,800.00	9,906.00	16,393.08	8,618.00	135.32	133.60	-67.70	7,804.44	-2,977.94	3,273.68	3,094.26	179.42	18.246		
17,900.00	9,906.00	16,493.08	8,618.00	136.92	135.21	-67.70	7,904.43	-2,978.94	3,273.72	3,092.18	181.54	18.033		
18,000.00	9,906.00	16,593.08	8,618.00	138.52	136.81	-67.70	8,004.43	-2,979.93	3,273.76	3,090.10	183.67	17.825		
18,100.00	9,906.00	16,693.08	8,618.00	140.12	138.41	-67.70	8,104.42	-2,980.93	3,273.80	3,088.01	185.79	17.621		
18,200.00	9,906.00	16,793.08	8,618.00	141.72	140.02	-67.70	8,204.42	-2,981.92	3,273.84	3,085.92	187.92	17.421		
18,300.00	9,906.00	16,893.08	8,618.00	143.33	141.63	-67.70	8,304.41	-2,982.92	3,273.88	3,083.83	190.05	17.226		
18,400.00	9,906.00	16,993.08	8,618.00	144.93	143.23	-67.70	8,404.41	-2,983.91	3,273.92	3,081.74	192.18	17.036		
18,500.00	9,906.00	17,093.08	8,618.00	146.54	144.84	-67.70	8,504.40	-2,984.91	3,273.97	3,079.65	194.32	16.849		
18,600.00	9,906.00	17,193.08	8,618.00	148.14	146.45	-67.70	8,604.40	-2,985.90	3,274.01	3,077.56	196.45	16.666		
18,700.00	9,906.00	17,293.08	8,618.00	149.75	148.06	-67.70	8,704.39	-2,986.90	3,274.05	3,075.46	198.58	16.487		
18,800.00	9,906.00	17,393.08	8,618.00	151.36	149.68	-67.70	8,804.39	-2,987.89	3,274.09	3,073.37	200.72	16.312		
18,900.00	9,906.00	17,493.08	8,618.00	152.97	151.29	-67.70	8,904.38	-2,988.89	3,274.13	3,071.28	202.85	16.140		
19,000.00	9,906.00	17,593.08	8,618.00	154.58	152.90	-67.70	9,004.38	-2,989.88	3,274.17	3,069.18	204.99	15.972		
19,100.00	9,906.00	17,693.08	8,618.00	156.19	154.52	-67.70	9,104.37	-2,990.88	3,274.21	3,067.08	207.13	15.808		
19,200.00	9,906.00	17,793.08	8,618.00	157.80	156.13	-67.70	9,204.37	-2,991.87	3,274.25	3,064.98	209.27	15.646		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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	
19,300.00	9,906.00	17,893.08	8,618.00	159.41	157.75	-67.70	9,304.36	-2,992.87	3,274.29	3,062.88	211.41	15.488		
19,400.00	9,906.00	17,993.08	8,618.00	161.03	159.36	-67.70	9,404.36	-2,993.86	3,274.33	3,060.78	213.55	15.333		
19,500.00	9,906.00	18,093.08	8,618.00	162.64	160.98	-67.70	9,504.35	-2,994.85	3,274.37	3,058.68	215.69	15.181		
19,600.00	9,906.00	18,193.08	8,618.00	164.26	162.60	-67.70	9,604.35	-2,995.85	3,274.41	3,056.58	217.83	15.032		
19,700.00	9,906.00	18,293.08	8,618.00	165.87	164.22	-67.70	9,704.34	-2,996.84	3,274.45	3,054.48	219.98	14.885		
19,800.00	9,906.00	18,393.08	8,618.00	167.49	165.84	-67.70	9,804.34	-2,997.84	3,274.49	3,052.37	222.12	14.742		
19,900.00	9,906.00	18,493.08	8,618.00	169.11	167.46	-67.70	9,904.33	-2,998.83	3,274.53	3,050.27	224.27	14.601		
20,000.00	9,906.00	18,593.08	8,618.00	170.72	169.08	-67.70	10,004.33	-2,999.83	3,274.57	3,048.16	226.41	14.463		
20,034.35	9,906.00	18,627.43	8,618.00	171.28	169.63	-67.70	10,038.67	-3,000.17	3,274.59	3,047.44	227.15	14.416	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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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					
0.00	0.00	0.00	0.00	0.00	0.00	-90.53	-18.17	-1,961.11	1,961.69									
100.00	100.00	56.20	56.20	0.13	0.07	-90.53	-18.17	-1,961.11	1,961.20	1,961.05	0.14	N/A						
200.00	200.00	156.20	156.20	0.48	0.33	-90.53	-18.17	-1,961.11	1,961.20	1,960.61	0.58	3,358.118						
300.00	300.00	256.20	256.20	0.84	0.69	-90.53	-18.17	-1,961.11	1,961.20	1,960.11	1.09	1,805.871						
400.00	400.00	356.20	356.20	1.20	1.04	-90.53	-18.17	-1,961.11	1,961.20	1,959.61	1.59	1,232.562						
500.00	500.00	456.20	456.20	1.56	1.40	-90.53	-18.17	-1,961.11	1,961.20	1,959.10	2.10	935.162						
600.00	600.00	556.20	556.20	1.92	1.76	-90.53	-18.17	-1,961.11	1,961.20	1,958.59	2.60	753.276						
700.00	700.00	656.20	656.20	2.28	2.12	-90.53	-18.17	-1,961.11	1,961.20	1,958.09	3.11	630.585						
800.00	800.00	756.20	756.20	2.63	2.48	-90.53	-18.17	-1,961.11	1,961.20	1,957.58	3.62	542.246						
900.00	900.00	856.20	856.20	2.99	2.84	-90.53	-18.17	-1,961.11	1,961.20	1,957.07	4.12	475.609						
1,000.00	1,000.00	956.20	956.20	3.35	3.19	-90.53	-18.17	-1,961.11	1,961.20	1,956.57	4.63	423.554						
1,100.00	1,100.00	1,056.20	1,056.20	3.71	3.55	-90.53	-18.17	-1,961.11	1,961.20	1,956.06	5.14	381.766						
1,200.00	1,200.00	1,156.20	1,156.20	4.07	3.91	-90.53	-18.17	-1,961.11	1,961.20	1,955.55	5.64	347.483						
1,300.00	1,300.00	1,256.20	1,256.20	4.43	4.27	-90.53	-18.17	-1,961.11	1,961.20	1,955.05	6.15	318.848						
1,400.00	1,400.00	1,356.20	1,356.20	4.79	4.63	-90.53	-18.17	-1,961.11	1,961.20	1,954.54	6.66	294.573						
1,500.00	1,500.00	1,456.20	1,456.20	5.14	4.99	-90.53	-18.17	-1,961.11	1,961.20	1,954.03	7.16	273.733						
1,600.00	1,600.00	1,556.20	1,556.20	5.50	5.35	-90.53	-18.17	-1,961.11	1,961.20	1,953.53	7.67	255.646						
1,700.00	1,700.00	1,656.20	1,656.20	5.86	5.70	-90.53	-18.17	-1,961.11	1,961.20	1,953.02	8.18	239.801						
1,800.00	1,800.00	1,756.20	1,756.20	6.22	6.06	-90.53	-18.17	-1,961.11	1,961.20	1,952.51	8.69	225.805						
1,900.00	1,899.99	1,856.19	1,856.19	6.56	6.42	113.02	-18.17	-1,961.11	1,961.71	1,952.53	9.18	213.703						
2,000.00	1,999.91	1,956.11	1,956.11	6.89	6.78	113.11	-18.17	-1,961.11	1,963.25	1,953.59	9.66	203.170						
2,066.81	2,066.60	2,043.96	2,043.96	7.11	7.09	113.23	-18.26	-1,960.88	1,964.73	1,954.70	10.04	195.759						
2,100.00	2,099.70	2,107.86	2,107.85	7.22	7.31	113.34	-18.70	-1,959.69	1,965.03	1,954.76	10.27	191.369						
2,200.00	2,199.46	2,300.53	2,300.22	7.55	7.96	113.59	-22.28	-1,950.03	1,962.80	1,951.86	10.95	179.331						
2,300.00	2,299.21	2,480.16	2,478.90	7.89	8.59	113.74	-28.64	-1,932.88	1,955.91	1,944.32	11.59	168.799						
2,400.00	2,398.97	2,579.76	2,577.76	8.23	8.94	113.81	-32.86	-1,921.49	1,947.26	1,935.19	12.07	161.345						
2,500.00	2,498.73	2,679.37	2,676.62	8.58	9.30	113.87	-37.08	-1,910.11	1,938.62	1,926.06	12.55	154.417						
2,600.00	2,598.48	2,778.97	2,775.48	8.92	9.66	113.94	-41.30	-1,898.73	1,929.98	1,916.93	13.04	147.968						
2,700.00	2,698.24	2,878.57	2,874.34	9.27	10.02	114.00	-45.52	-1,887.35	1,921.34	1,907.80	13.53	141.955						
2,800.00	2,798.00	2,978.17	2,973.20	9.62	10.39	114.07	-49.74	-1,875.97	1,912.70	1,898.67	14.03	136.337						
2,900.00	2,897.75	3,077.77	3,072.06	9.98	10.76	114.14	-53.96	-1,864.58	1,904.07	1,889.54	14.53	131.081						
3,000.00	2,997.51	3,177.38	3,170.92	10.33	11.14	114.20	-58.18	-1,853.20	1,895.43	1,880.41	15.02	126.155						
3,100.00	3,097.26	3,276.98	3,269.78	10.69	11.51	114.27	-62.40	-1,841.82	1,886.81	1,871.28	15.53	121.530						
3,200.00	3,197.02	3,376.58	3,368.64	11.05	11.89	114.34	-66.62	-1,830.44	1,878.18	1,862.15	16.03	117.183						
3,300.00	3,296.78	3,476.18	3,467.50	11.41	12.27	114.41	-70.84	-1,819.06	1,869.56	1,853.02	16.53	113.089						
3,400.00	3,396.53	3,575.78	3,566.36	11.77	12.65	114.48	-75.06	-1,807.68	1,860.94	1,843.90	17.04	109.228						
3,500.00	3,496.29	3,675.39	3,665.22	12.13	13.04	114.55	-79.28	-1,796.29	1,852.32	1,834.77	17.54	105.582						
3,600.00	3,596.04	3,774.99	3,764.08	12.49	13.42	114.62	-83.50	-1,784.91	1,843.70	1,825.65	18.05	102.135						
3,700.00	3,695.80	3,874.59	3,862.94	12.85	13.81	114.69	-87.72	-1,773.53	1,835.09	1,816.53	18.56	98.870						
3,800.00	3,795.56	3,974.19	3,961.80	13.22	14.20	114.76	-91.94	-1,762.15	1,826.48	1,807.41	19.07	95.776						
3,900.00	3,895.31	4,073.80	4,060.65	13.58	14.58	114.84	-96.16	-1,750.77	1,817.87	1,798.29	19.58	92.838						
4,000.00	3,995.07	4,173.40	4,159.51	13.95	14.97	114.91	-100.38	-1,739.39	1,809.27	1,789.18	20.09	90.046						
4,100.00	4,094.83	4,273.00	4,258.37	14.31	15.36	114.99	-104.60	-1,728.00	1,800.67	1,780.07	20.61	87.389						
4,200.00	4,194.58	4,372.60	4,357.23	14.68	15.75	115.06	-108.82	-1,716.62	1,792.07	1,770.95	21.12	84.859						
4,300.00	4,294.34	4,472.20	4,456.09	15.05	16.15	115.14	-113.04	-1,705.24	1,783.48	1,761.85	21.63	82.447						
4,400.00	4,394.09	4,571.81	4,554.95	15.41	16.54	115.21	-117.26	-1,693.86	1,774.89	1,752.74	22.15	80.145						
4,500.00	4,493.85	4,671.41	4,653.81	15.78	16.93	115.29	-121.48	-1,682.48	1,766.30	1,743.64	22.66	77.945						
4,600.00	4,593.61	4,771.01	4,752.67	16.15	17.33	115.37	-125.70	-1,671.10	1,757.71	1,734.54	23.18	75.842						
4,700.00	4,693.36	4,870.61	4,851.53	16.52	17.72	115.45	-129.92	-1,659.71	1,749.13	1,725.44	23.69	73.828						
4,800.00	4,793.12	4,970.21	4,950.39	16.89	18.12	115.53	-134.14	-1,648.33	1,740.55	1,716.35	24.21	71.900						
4,900.00	4,892.87	5,069.82	5,049.25	17.26	18.51	115.61	-138.36	-1,636.95	1,731.98	1,707.26	24.72	70.051						
5,000.00	4,992.63	5,169.42	5,148.11	17.63	18.91	115.69	-142.58	-1,625.57	1,723.41	1,698.17	25.24	68.277						

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
5,100.00	5,092.39	5,269.02	5,246.97	18.00	19.30	115.77	-146.80	-1,614.19	1,714.84	1,689.08	25.76	66.573		
5,200.00	5,192.14	5,368.62	5,345.83	18.37	19.70	115.85	-151.02	-1,602.80	1,706.28	1,680.00	26.28	64.936		
5,300.00	5,291.90	5,468.22	5,444.69	18.74	20.10	115.94	-155.24	-1,591.42	1,697.72	1,670.92	26.79	63.361		
5,400.00	5,391.65	5,567.83	5,543.55	19.11	20.50	116.02	-159.46	-1,580.04	1,689.16	1,661.85	27.31	61.846		
5,500.00	5,491.41	5,667.43	5,642.41	19.48	20.90	116.11	-163.68	-1,568.66	1,680.60	1,652.77	27.83	60.387		
5,600.00	5,591.17	5,767.03	5,741.27	19.85	21.29	116.19	-167.90	-1,557.28	1,672.06	1,643.71	28.35	58.980		
5,700.00	5,690.92	5,866.63	5,840.13	20.22	21.69	116.28	-172.12	-1,545.90	1,663.51	1,634.64	28.87	57.624		
5,800.00	5,790.68	5,966.23	5,938.99	20.59	22.09	116.37	-176.34	-1,534.51	1,654.97	1,625.58	29.39	56.316		
5,900.00	5,890.44	6,065.84	6,037.85	20.97	22.49	116.46	-180.56	-1,523.13	1,646.43	1,616.52	29.91	55.053		
6,000.00	5,990.19	6,165.44	6,136.71	21.34	22.89	116.55	-184.78	-1,511.75	1,637.90	1,607.47	30.43	53.833		
6,100.00	6,089.95	6,265.04	6,235.56	21.71	23.29	116.64	-189.00	-1,500.37	1,629.37	1,598.42	30.95	52.653		
6,200.00	6,189.70	6,364.64	6,334.42	22.08	23.69	116.73	-193.22	-1,488.99	1,620.84	1,589.37	31.46	51.513		
6,300.00	6,289.46	6,464.24	6,433.28	22.45	24.09	116.82	-197.44	-1,477.61	1,612.32	1,580.33	31.98	50.409		
6,394.17	6,383.40	6,558.04	6,526.38	22.81	24.47	116.91	-201.42	-1,466.89	1,604.30	1,571.82	32.47	49.402		
6,400.00	6,389.22	6,563.85	6,532.14	22.83	24.49	116.91	-201.66	-1,466.22	1,603.80	1,571.29	32.50	49.341		
6,500.00	6,489.06	6,663.41	6,630.97	23.19	24.89	116.84	-205.88	-1,454.85	1,594.63	1,561.60	33.02	48.290		
6,600.00	6,589.02	6,762.87	6,729.68	23.55	25.29	116.66	-210.09	-1,443.48	1,584.28	1,550.74	33.53	47.243		
6,660.99	6,650.00	6,823.44	6,789.80	23.76	25.54	-87.02	-212.66	-1,436.56	1,577.39	1,543.55	33.84	46.611		
6,700.00	6,689.01	6,862.16	6,828.23	23.89	25.69	-87.08	-214.30	-1,432.13	1,572.85	1,538.82	34.03	46.213		
6,800.00	6,789.01	6,946.64	6,912.10	24.22	26.03	-87.19	-217.82	-1,422.66	1,561.47	1,526.96	34.51	45.252		
6,900.00	6,889.01	7,018.27	6,983.36	24.55	26.31	-87.27	-220.37	-1,415.76	1,551.67	1,516.72	34.95	44.396		
7,000.00	6,989.01	7,100.00	7,064.81	24.88	26.63	-87.35	-222.72	-1,409.42	1,543.71	1,508.30	35.41	43.598		
7,100.00	7,089.01	7,162.24	7,126.92	25.22	26.85	-87.39	-224.11	-1,405.69	1,537.45	1,501.64	35.81	42.931		
7,200.00	7,189.01	7,234.48	7,199.08	25.55	27.11	-87.43	-225.27	-1,402.55	1,533.04	1,496.81	36.23	42.317		
7,300.00	7,289.01	7,300.00	7,264.57	25.88	27.34	-87.45	-225.92	-1,400.81	1,530.45	1,493.84	36.61	41.801		
7,400.00	7,389.01	7,380.65	7,345.21	26.22	27.61	-87.46	-226.17	-1,400.11	1,529.62	1,492.59	37.03	41.308		
7,500.00	7,489.01	7,480.65	7,445.21	26.55	27.94	-87.46	-226.17	-1,400.11	1,529.62	1,492.11	37.51	40.783		
7,600.00	7,589.01	7,580.65	7,545.21	26.89	28.26	-87.46	-226.17	-1,400.11	1,529.62	1,491.63	37.98	40.271		
7,700.00	7,689.01	7,680.65	7,645.21	27.23	28.59	-87.46	-226.17	-1,400.11	1,529.62	1,491.16	38.46	39.771		
7,800.00	7,789.01	7,780.65	7,745.21	27.56	28.91	-87.46	-226.17	-1,400.11	1,529.62	1,490.68	38.94	39.283		
7,900.00	7,889.01	7,880.65	7,845.21	27.90	29.24	-87.46	-226.17	-1,400.11	1,529.62	1,490.20	39.42	38.805		
7,900.65	7,889.66	7,881.30	7,845.86	27.90	29.24	-87.46	-226.17	-1,400.11	1,529.62	1,490.20	39.42	38.802 CC		
8,000.00	7,989.01	7,974.99	7,939.53	28.24	29.55	-87.41	-224.88	-1,400.13	1,529.70	1,489.82	39.88	38.362 ES		
8,100.00	8,089.01	8,060.41	8,024.01	28.58	29.81	-86.96	-212.82	-1,400.25	1,530.55	1,490.27	40.28	37.995		
8,200.00	8,189.01	8,140.60	8,100.88	28.92	30.03	-86.11	-190.20	-1,400.47	1,532.64	1,491.99	40.65	37.707		
8,300.00	8,289.01	8,213.27	8,167.20	29.25	30.20	-85.01	-160.61	-1,400.77	1,536.56	1,495.61	40.95	37.519		
8,400.00	8,389.01	8,277.45	8,222.24	29.59	30.33	-83.79	-127.68	-1,401.10	1,543.03	1,501.83	41.20	37.455		
8,500.00	8,489.01	8,333.19	8,266.81	29.93	30.43	-82.56	-94.23	-1,401.44	1,552.71	1,511.35	41.36	37.539		
8,600.00	8,589.01	8,381.21	8,302.45	30.28	30.50	-81.38	-62.07	-1,401.76	1,566.17	1,524.73	41.44	37.791		
8,700.00	8,689.01	8,422.46	8,330.81	30.62	30.55	-80.29	-32.14	-1,402.06	1,583.82	1,542.39	41.43	38.226		
8,800.00	8,789.01	8,450.00	8,348.52	30.96	30.58	-79.52	-11.05	-1,402.27	1,605.97	1,564.68	41.29	38.896		
8,900.00	8,889.01	8,500.00	8,378.01	31.30	30.62	-78.07	29.31	-1,402.68	1,632.72	1,591.51	41.21	39.622		
9,000.00	8,989.01	8,515.04	8,386.18	31.64	30.63	-77.62	41.93	-1,402.80	1,663.95	1,623.08	40.87	40.712		
9,100.00	9,089.01	8,550.00	8,403.86	31.99	30.66	-76.55	72.08	-1,403.11	1,699.89	1,659.29	40.60	41.867		
9,200.00	9,189.01	8,550.00	8,403.86	32.33	30.66	-76.55	72.08	-1,403.11	1,740.09	1,700.00	40.08	43.412		
9,300.00	9,289.01	8,576.30	8,415.93	32.67	30.67	-75.73	95.44	-1,403.34	1,784.48	1,744.78	39.70	44.949		
9,344.03	9,333.04	8,583.50	8,419.05	32.82	30.68	-75.50	101.94	-1,403.40	1,805.32	1,765.83	39.50	45.707		
9,350.00	9,339.01	8,600.00	8,425.89	32.84	30.69	-74.12	116.95	-1,403.56	1,808.38	1,768.82	39.56	45.709		
9,400.00	9,388.92	8,600.00	8,425.89	33.01	30.69	-71.52	116.95	-1,403.56	1,832.27	1,793.00	39.27	46.654		
9,450.00	9,438.41	8,600.00	8,425.89	33.17	30.69	-68.99	116.95	-1,403.56	1,856.00	1,817.03	38.98	47.620		
9,500.00	9,487.09	8,600.00	8,425.89	33.32	30.69	-66.54	116.95	-1,403.56	1,879.40	1,840.73	38.67	48.598		
9,550.00	9,534.61	8,623.58	8,434.90	33.46	30.71	-63.67	138.74	-1,403.77	1,901.87	1,863.36	38.51	49.392		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
9,600.00	9,580.58	8,650.00	8,443.92	33.59	30.73	-60.99	163.57	-1,404.02	1,923.77	1,885.40	38.36	50.148		
9,650.00	9,624.68	8,650.00	8,443.92	33.71	30.73	-59.04	163.57	-1,404.02	1,944.27	1,906.20	38.06	51.080		
9,700.00	9,666.55	8,650.00	8,443.92	33.83	30.73	-57.24	163.57	-1,404.02	1,963.79	1,926.01	37.78	51.985		
9,750.00	9,705.89	8,672.50	8,450.70	33.93	30.75	-55.29	185.02	-1,404.24	1,981.81	1,944.19	37.62	52.676		
9,800.00	9,742.38	8,700.00	8,457.82	34.04	30.78	-53.51	211.58	-1,404.50	1,998.57	1,961.07	37.50	53.289		
9,850.00	9,775.77	8,700.00	8,457.82	34.14	30.78	-52.27	211.58	-1,404.50	2,013.39	1,976.12	37.27	54.026		
9,900.00	9,805.78	8,700.00	8,457.82	34.24	30.78	-51.18	211.58	-1,404.50	2,026.79	1,989.73	37.06	54.693		
9,950.00	9,832.20	8,727.18	8,463.61	34.34	30.82	-50.06	238.13	-1,404.77	2,038.08	2,001.09	37.00	55.089		
10,000.00	9,854.81	8,750.00	8,467.48	34.45	30.86	-49.18	260.61	-1,405.00	2,047.69	2,010.76	36.94	55.439		
10,050.00	9,873.46	8,750.00	8,467.48	34.57	30.86	-48.60	260.61	-1,405.00	2,055.25	2,018.43	36.82	55.816		
10,100.00	9,887.99	8,770.23	8,470.17	34.69	30.91	-48.11	280.66	-1,405.20	2,060.80	2,023.98	36.82	55.976		
10,150.00	9,898.30	8,800.00	8,472.84	34.81	30.99	-47.79	310.31	-1,405.49	2,064.52	2,027.66	36.87	55.999		
10,200.00	9,904.31	8,800.00	8,472.84	34.95	30.99	-47.69	310.31	-1,405.49	2,065.80	2,028.92	36.87	56.024		
10,244.03	9,906.00	8,800.00	8,472.84	35.07	30.99	-47.71	310.31	-1,405.49	2,065.49	2,028.57	36.92	55.948		
10,300.00	9,906.00	8,836.47	8,474.00	35.24	31.11	-47.74	346.75	-1,405.86	2,064.38	2,027.30	37.08	55.675		
10,326.37	9,906.00	8,836.47	8,474.00	35.33	31.11	-47.74	346.75	-1,405.86	2,064.21	2,027.08	37.13	55.588		
10,400.00	9,906.00	8,909.30	8,474.00	35.60	31.39	-47.74	419.57	-1,406.59	2,064.24	2,026.82	37.42	55.166		
10,500.00	9,906.00	9,009.30	8,474.00	36.03	31.85	-47.74	519.57	-1,407.59	2,064.28	2,026.39	37.89	54.484		
10,600.00	9,906.00	9,109.30	8,474.00	36.54	32.40	-47.74	619.56	-1,408.60	2,064.32	2,025.87	38.44	53.698		
10,700.00	9,906.00	9,209.30	8,474.00	37.11	33.02	-47.74	719.56	-1,409.60	2,064.35	2,025.28	39.08	52.824		
10,800.00	9,906.00	9,309.30	8,474.00	37.74	33.71	-47.74	819.55	-1,410.60	2,064.39	2,024.60	39.79	51.877		
10,900.00	9,906.00	9,409.30	8,474.00	38.44	34.46	-47.74	919.55	-1,411.61	2,064.43	2,023.85	40.58	50.871		
11,000.00	9,906.00	9,509.30	8,474.00	39.19	35.28	-47.75	1,019.54	-1,412.61	2,064.47	2,023.03	41.44	49.819		
11,100.00	9,906.00	9,609.30	8,474.00	40.00	36.14	-47.75	1,119.54	-1,413.61	2,064.51	2,022.15	42.36	48.734		
11,200.00	9,906.00	9,709.30	8,474.00	40.85	37.06	-47.75	1,219.53	-1,414.62	2,064.55	2,021.20	43.35	47.629		
11,300.00	9,906.00	9,809.30	8,474.00	41.76	38.03	-47.75	1,319.53	-1,415.62	2,064.59	2,020.20	44.39	46.512		
11,400.00	9,906.00	9,909.30	8,474.00	42.71	39.05	-47.75	1,419.52	-1,416.62	2,064.63	2,019.14	45.48	45.394		
11,500.00	9,906.00	10,009.30	8,474.00	43.70	40.10	-47.75	1,519.52	-1,417.63	2,064.66	2,018.04	46.63	44.281		
11,600.00	9,906.00	10,109.30	8,474.00	44.73	41.19	-47.75	1,619.51	-1,418.63	2,064.70	2,016.89	47.82	43.180		
11,700.00	9,906.00	10,209.30	8,474.00	45.80	42.32	-47.75	1,719.51	-1,419.63	2,064.74	2,015.69	49.05	42.096		
11,800.00	9,906.00	10,309.30	8,474.00	46.90	43.49	-47.75	1,819.50	-1,420.63	2,064.78	2,014.46	50.32	41.032		
11,900.00	9,906.00	10,409.30	8,474.00	48.03	44.68	-47.75	1,919.50	-1,421.64	2,064.82	2,013.19	51.63	39.994		
12,000.00	9,906.00	10,509.30	8,474.00	49.19	45.90	-47.76	2,019.49	-1,422.64	2,064.86	2,011.89	52.97	38.984		
12,100.00	9,906.00	10,609.30	8,474.00	50.38	47.15	-47.76	2,119.49	-1,423.64	2,064.90	2,010.56	54.34	38.001		
12,200.00	9,906.00	10,709.30	8,474.00	51.60	48.42	-47.76	2,219.48	-1,424.65	2,064.94	2,009.20	55.74	37.047		
12,300.00	9,906.00	10,809.30	8,474.00	52.83	49.71	-47.76	2,319.48	-1,425.65	2,064.97	2,007.81	57.17	36.123		
12,400.00	9,906.00	10,909.30	8,474.00	54.09	51.03	-47.76	2,419.47	-1,426.65	2,065.01	2,006.40	58.62	35.230		
12,500.00	9,906.00	11,009.30	8,474.00	55.38	52.36	-47.76	2,519.47	-1,427.66	2,065.05	2,004.96	60.09	34.367		
12,600.00	9,906.00	11,109.30	8,474.00	56.68	53.71	-47.76	2,619.46	-1,428.66	2,065.09	2,003.51	61.58	33.533		
12,700.00	9,906.00	11,209.30	8,474.00	57.99	55.08	-47.76	2,719.46	-1,429.66	2,065.13	2,002.03	63.10	32.730		
12,800.00	9,906.00	11,309.30	8,474.00	59.33	56.46	-47.76	2,819.45	-1,430.67	2,065.17	2,000.54	64.63	31.955		
12,900.00	9,906.00	11,409.30	8,474.00	60.68	57.85	-47.76	2,919.45	-1,431.67	2,065.21	1,999.03	66.18	31.208		
13,000.00	9,906.00	11,509.30	8,474.00	62.04	59.26	-47.77	3,019.44	-1,432.67	2,065.25	1,997.51	67.74	30.488		
13,100.00	9,906.00	11,609.30	8,474.00	63.42	60.68	-47.77	3,119.44	-1,433.68	2,065.29	1,995.97	69.32	29.794		
13,200.00	9,906.00	11,709.30	8,474.00	64.82	62.12	-47.77	3,219.43	-1,434.68	2,065.32	1,994.41	70.91	29.126		
13,300.00	9,906.00	11,809.30	8,474.00	66.22	63.56	-47.77	3,319.43	-1,435.68	2,065.36	1,992.85	72.51	28.483		
13,400.00	9,906.00	11,909.30	8,474.00	67.63	65.01	-47.77	3,419.42	-1,436.68	2,065.40	1,991.27	74.13	27.862		
13,500.00	9,906.00	12,009.30	8,474.00	69.06	66.48	-47.77	3,519.42	-1,437.69	2,065.44	1,989.68	75.76	27.265		
13,600.00	9,906.00	12,109.30	8,474.00	70.49	67.95	-47.77	3,619.41	-1,438.69	2,065.48	1,988.09	77.39	26.688		
13,700.00	9,906.00	12,209.30	8,474.00	71.94	69.43	-47.77	3,719.41	-1,439.69	2,065.52	1,986.48	79.04	26.133		
13,800.00	9,906.00	12,309.30	8,474.00	73.39	70.91	-47.77	3,819.40	-1,440.70	2,065.56	1,984.86	80.69	25.598		
13,900.00	9,906.00	12,409.30	8,474.00	74.85	72.41	-47.77	3,919.40	-1,441.70	2,065.60	1,983.24	82.36	25.081		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
14,000.00	9,906.00	12,509.30	8,474.00	76.32	73.91	-47.77	4,019.39	-1,442.70	2,065.63	1,981.61	84.03	24.583		
14,100.00	9,906.00	12,609.30	8,474.00	77.80	75.42	-47.78	4,119.39	-1,443.71	2,065.67	1,979.97	85.71	24.102		
14,200.00	9,906.00	12,709.30	8,474.00	79.28	76.93	-47.78	4,219.38	-1,444.71	2,065.71	1,978.32	87.39	23.638		
14,300.00	9,906.00	12,809.30	8,474.00	80.77	78.45	-47.78	4,319.38	-1,445.71	2,065.75	1,976.67	89.08	23.190		
14,400.00	9,906.00	12,909.30	8,474.00	82.27	79.97	-47.78	4,419.37	-1,446.72	2,065.79	1,975.01	90.78	22.756		
14,500.00	9,906.00	13,009.30	8,474.00	83.77	81.50	-47.78	4,519.37	-1,447.72	2,065.83	1,973.35	92.48	22.338		
14,600.00	9,906.00	13,109.30	8,474.00	85.28	83.03	-47.78	4,619.36	-1,448.72	2,065.87	1,971.68	94.19	21.933		
14,700.00	9,906.00	13,209.30	8,474.00	86.79	84.57	-47.78	4,719.36	-1,449.73	2,065.91	1,970.00	95.90	21.542		
14,800.00	9,906.00	13,309.30	8,474.00	88.31	86.11	-47.78	4,819.35	-1,450.73	2,065.94	1,968.32	97.62	21.163		
14,900.00	9,906.00	13,409.30	8,474.00	89.83	87.66	-47.78	4,919.35	-1,451.73	2,065.98	1,966.64	99.34	20.797		
15,000.00	9,906.00	13,509.30	8,474.00	91.36	89.21	-47.78	5,019.34	-1,452.73	2,066.02	1,964.95	101.07	20.442		
15,100.00	9,906.00	13,609.30	8,474.00	92.89	90.76	-47.79	5,119.34	-1,453.74	2,066.06	1,963.26	102.80	20.099		
15,200.00	9,906.00	13,709.30	8,474.00	94.43	92.32	-47.79	5,219.33	-1,454.74	2,066.10	1,961.57	104.53	19.766		
15,300.00	9,906.00	13,809.30	8,474.00	95.97	93.88	-47.79	5,319.33	-1,455.74	2,066.14	1,959.87	106.27	19.443		
15,400.00	9,906.00	13,909.30	8,474.00	97.51	95.45	-47.79	5,419.32	-1,456.75	2,066.18	1,958.17	108.01	19.130		
15,500.00	9,906.00	14,009.30	8,474.00	99.06	97.01	-47.79	5,519.32	-1,457.75	2,066.22	1,956.47	109.75	18.826		
15,600.00	9,906.00	14,109.30	8,474.00	100.61	98.58	-47.79	5,619.31	-1,458.75	2,066.25	1,954.76	111.50	18.532		
15,700.00	9,906.00	14,209.30	8,474.00	102.16	100.15	-47.79	5,719.31	-1,459.76	2,066.29	1,953.05	113.25	18.246		
15,800.00	9,906.00	14,309.30	8,474.00	103.72	101.73	-47.79	5,819.30	-1,460.76	2,066.33	1,951.33	115.00	17.969		
15,900.00	9,906.00	14,409.30	8,474.00	105.28	103.30	-47.79	5,919.30	-1,461.76	2,066.37	1,949.62	116.75	17.699		
16,000.00	9,906.00	14,509.30	8,474.00	106.84	104.88	-47.79	6,019.29	-1,462.77	2,066.41	1,947.90	118.51	17.437		
16,100.00	9,906.00	14,609.30	8,474.00	108.40	106.46	-47.80	6,119.29	-1,463.77	2,066.45	1,946.18	120.27	17.182		
16,200.00	9,906.00	14,709.30	8,474.00	109.97	108.05	-47.80	6,219.28	-1,464.77	2,066.49	1,944.46	122.03	16.935		
16,300.00	9,906.00	14,809.30	8,474.00	111.54	109.63	-47.80	6,319.28	-1,465.77	2,066.53	1,942.74	123.79	16.694		
16,400.00	9,906.00	14,909.30	8,474.00	113.11	111.22	-47.80	6,419.27	-1,466.78	2,066.56	1,941.01	125.55	16.460		
16,500.00	9,906.00	15,009.30	8,474.00	114.69	112.81	-47.80	6,519.27	-1,467.78	2,066.60	1,939.28	127.32	16.232		
16,600.00	9,906.00	15,109.30	8,474.00	116.26	114.40	-47.80	6,619.26	-1,468.78	2,066.64	1,937.56	129.09	16.010		
16,700.00	9,906.00	15,209.30	8,474.00	117.84	115.99	-47.80	6,719.26	-1,469.79	2,066.68	1,935.83	130.85	15.794		
16,800.00	9,906.00	15,309.30	8,474.00	119.42	117.59	-47.80	6,819.25	-1,470.79	2,066.72	1,934.10	132.62	15.583		
16,900.00	9,906.00	15,409.30	8,474.00	121.01	119.18	-47.80	6,919.25	-1,471.79	2,066.76	1,932.36	134.40	15.378		
17,000.00	9,906.00	15,509.30	8,474.00	122.59	120.78	-47.80	7,019.24	-1,472.80	2,066.80	1,930.63	136.17	15.178		
17,100.00	9,906.00	15,609.30	8,474.00	124.18	122.38	-47.81	7,119.24	-1,473.80	2,066.84	1,928.89	137.94	14.983		
17,200.00	9,906.00	15,709.30	8,474.00	125.76	123.98	-47.81	7,219.23	-1,474.80	2,066.88	1,927.16	139.72	14.793		
17,300.00	9,906.00	15,809.30	8,474.00	127.35	125.58	-47.81	7,319.23	-1,475.81	2,066.91	1,925.42	141.50	14.608		
17,400.00	9,906.00	15,909.30	8,474.00	128.95	127.19	-47.81	7,419.22	-1,476.81	2,066.95	1,923.68	143.27	14.427		
17,500.00	9,906.00	16,009.30	8,474.00	130.54	128.79	-47.81	7,519.22	-1,477.81	2,066.99	1,921.94	145.05	14.250		
17,600.00	9,906.00	16,109.30	8,474.00	132.13	130.40	-47.81	7,619.21	-1,478.82	2,067.03	1,920.20	146.83	14.078		
17,700.00	9,906.00	16,209.30	8,474.00	133.73	132.00	-47.81	7,719.21	-1,479.82	2,067.07	1,918.46	148.61	13.909		
17,800.00	9,906.00	16,309.30	8,474.00	135.32	133.61	-47.81	7,819.20	-1,480.82	2,067.11	1,916.72	150.39	13.745		
17,900.00	9,906.00	16,409.30	8,474.00	136.92	135.22	-47.81	7,919.20	-1,481.82	2,067.15	1,914.97	152.17	13.584		
18,000.00	9,906.00	16,509.30	8,474.00	138.52	136.83	-47.81	8,019.19	-1,482.83	2,067.19	1,913.23	153.95	13.427		
18,100.00	9,906.00	16,609.30	8,474.00	140.12	138.44	-47.81	8,119.19	-1,483.83	2,067.22	1,911.49	155.74	13.274		
18,200.00	9,906.00	16,709.30	8,474.00	141.72	140.05	-47.82	8,219.18	-1,484.84	2,067.26	1,909.74	157.52	13.124		
18,300.00	9,906.00	16,809.30	8,474.00	143.33	141.67	-47.82	8,319.18	-1,485.84	2,067.30	1,908.00	159.30	12.977		
18,400.00	9,906.00	16,909.30	8,474.00	144.93	143.28	-47.82	8,419.17	-1,486.84	2,067.34	1,906.25	161.09	12.834		
18,500.00	9,906.00	17,009.30	8,474.00	146.54	144.89	-47.82	8,519.17	-1,487.84	2,067.38	1,904.50	162.88	12.693		
18,600.00	9,906.00	17,109.30	8,474.00	148.14	146.51	-47.82	8,619.16	-1,488.85	2,067.42	1,902.76	164.66	12.556		
18,700.00	9,906.00	17,209.30	8,474.00	149.75	148.12	-47.82	8,719.16	-1,489.85	2,067.46	1,901.01	166.44	12.421		
18,800.00	9,906.00	17,309.30	8,474.00	151.36	149.74	-47.82	8,819.15	-1,490.85	2,067.50	1,899.26	168.23	12.290		
18,900.00	9,906.00	17,409.30	8,474.00	152.97	151.36	-47.82	8,919.14	-1,491.86	2,067.53	1,897.52	170.02	12.161		
19,000.00	9,906.00	17,509.30	8,474.00	154.58	152.98	-47.82	9,019.14	-1,492.86	2,067.57	1,895.77	171.80	12.034		
19,100.00	9,906.00	17,609.30	8,474.00	156.19	154.60	-47.82	9,119.13	-1,493.86	2,067.61	1,894.02	173.59	11.911		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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
19,200.00	9,906.00	17,709.29	8,474.00	157.80	156.22	-47.83	9,219.13	-1,494.87	2,067.65	1,892.27	175.38	11.790	
19,300.00	9,906.00	17,809.29	8,474.00	159.41	157.84	-47.83	9,319.12	-1,495.87	2,067.69	1,890.52	177.17	11.671	
19,400.00	9,906.00	17,909.29	8,474.00	161.03	159.46	-47.83	9,419.12	-1,496.87	2,067.73	1,888.78	178.95	11.555	
19,500.00	9,906.00	18,009.29	8,474.00	162.64	161.08	-47.83	9,519.11	-1,497.87	2,067.77	1,887.03	180.74	11.441	
19,600.00	9,906.00	18,109.29	8,474.00	164.26	162.70	-47.83	9,619.11	-1,498.88	2,067.81	1,885.28	182.53	11.329	
19,700.00	9,906.00	18,209.29	8,474.00	165.87	164.33	-47.83	9,719.10	-1,499.88	2,067.85	1,883.53	184.32	11.219	
19,800.00	9,906.00	18,309.29	8,474.00	167.49	165.95	-47.83	9,819.10	-1,500.88	2,067.88	1,881.78	186.10	11.111	
19,900.00	9,906.00	18,409.29	8,474.00	169.11	167.57	-47.83	9,919.09	-1,501.89	2,067.92	1,880.03	187.89	11.006	
20,000.00	9,906.00	18,509.29	8,474.00	170.72	169.20	-47.83	10,019.09	-1,502.89	2,067.96	1,878.28	189.68	10.902	
20,034.35	9,906.00	18,543.64	8,474.00	171.28	169.76	-47.83	10,053.43	-1,503.23	2,067.97	1,877.68	190.30	10.867 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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 103H - 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	
0.00	0.00	0.00	0.00	0.00	0.00	-90.46	-0.20	-25.00	25.00				
100.00	100.00	99.80	99.80	0.13	0.13	-90.46	-0.20	-25.00	25.00	24.82	0.18	141.042	
200.00	200.00	199.80	199.80	0.48	0.48	-90.46	-0.20	-25.00	25.00	24.32	0.68	36.557	
300.00	300.00	299.80	299.80	0.84	0.84	-90.46	-0.20	-25.00	25.00	23.81	1.19	20.994	
400.00	400.00	399.80	399.80	1.20	1.20	-90.46	-0.20	-25.00	25.00	23.30	1.70	14.725	
500.00	500.00	499.80	499.80	1.56	1.56	-90.46	-0.20	-25.00	25.00	22.80	2.20	11.340	
600.00	600.00	599.80	599.80	1.92	1.92	-90.46	-0.20	-25.00	25.00	22.29	2.71	9.220	
700.00	700.00	699.80	699.80	2.28	2.28	-90.46	-0.20	-25.00	25.00	21.78	3.22	7.767	
800.00	800.00	799.80	799.80	2.63	2.63	-90.46	-0.20	-25.00	25.00	21.28	3.73	6.711	
900.00	900.00	899.80	899.80	2.99	2.99	-90.46	-0.20	-25.00	25.00	20.77	4.23	5.907	
1,000.00	1,000.00	999.80	999.80	3.35	3.35	-90.46	-0.20	-25.00	25.00	20.26	4.74	5.275	
1,100.00	1,100.00	1,099.80	1,099.80	3.71	3.71	-90.46	-0.20	-25.00	25.00	19.75	5.25	4.765	
1,200.00	1,200.00	1,199.80	1,199.80	4.07	4.07	-90.46	-0.20	-25.00	25.00	19.25	5.75	4.345	
1,300.00	1,300.00	1,299.80	1,299.80	4.43	4.43	-90.46	-0.20	-25.00	25.00	18.74	6.26	3.993	
1,400.00	1,400.00	1,399.80	1,399.80	4.79	4.78	-90.46	-0.20	-25.00	25.00	18.23	6.77	3.694	
1,500.00	1,500.00	1,499.80	1,499.80	5.14	5.14	-90.46	-0.20	-25.00	25.00	17.73	7.27	3.437	
1,600.00	1,600.00	1,599.80	1,599.80	5.50	5.50	-90.46	-0.20	-25.00	25.00	17.22	7.78	3.213	
1,700.00	1,700.00	1,699.80	1,699.80	5.86	5.86	-90.46	-0.20	-25.00	25.00	16.71	8.29	3.016	
1,800.00	1,800.00	1,799.80	1,799.80	6.22	6.22	-90.46	-0.20	-25.00	25.00	16.21	8.80	2.843 CC, ES	
1,900.00	1,899.99	1,899.79	1,899.79	6.56	6.58	115.76	-0.20	-25.00	25.54	16.25	9.29	2.750	
2,000.00	1,999.91	2,000.09	2,000.09	6.89	6.92	121.87	-0.90	-24.53	26.91	17.14	9.76	2.756	
2,066.81	2,066.60	2,067.21	2,067.17	7.11	7.14	126.00	-2.55	-23.41	27.79	17.72	10.07	2.760	
2,100.00	2,099.70	2,100.56	2,100.50	7.22	7.25	127.83	-3.74	-22.61	28.14	17.92	10.22	2.753	
2,200.00	2,199.46	2,200.65	2,200.45	7.55	7.58	131.98	-8.04	-19.71	28.62	17.93	10.69	2.678	
2,300.00	2,299.21	2,300.63	2,300.29	7.89	7.92	135.91	-12.37	-16.78	29.21	18.05	11.16	2.617	
2,400.00	2,398.97	2,400.61	2,400.13	8.23	8.26	139.68	-16.71	-13.85	29.93	18.29	11.63	2.572	
2,500.00	2,498.73	2,500.58	2,499.97	8.58	8.60	143.24	-21.05	-10.92	30.77	18.66	12.11	2.540	
2,600.00	2,598.48	2,600.56	2,599.81	8.92	8.94	146.61	-25.38	-7.99	31.72	19.13	12.59	2.519	
2,700.00	2,698.24	2,700.54	2,699.65	9.27	9.28	149.77	-29.72	-5.06	32.78	19.70	13.08	2.507	
2,800.00	2,798.00	2,800.52	2,799.50	9.62	9.63	152.73	-34.06	-2.13	33.93	20.37	13.56	2.502	
2,900.00	2,897.75	2,900.50	2,899.34	9.98	9.97	155.48	-38.39	0.80	35.16	21.12	14.05	2.503	
3,000.00	2,997.51	3,000.48	2,999.18	10.33	10.32	158.05	-42.73	3.73	36.47	21.94	14.54	2.509	
3,100.00	3,097.26	3,100.46	3,099.02	10.69	10.67	160.43	-47.07	6.66	37.85	22.83	15.03	2.519	
3,200.00	3,197.02	3,200.43	3,198.86	11.05	11.03	162.63	-51.40	9.59	39.29	23.77	15.52	2.532	
3,300.00	3,296.78	3,300.41	3,298.70	11.41	11.38	164.69	-55.74	12.52	40.78	24.78	16.01	2.548	
3,400.00	3,396.53	3,400.39	3,398.54	11.77	11.73	166.59	-60.08	15.45	42.33	25.82	16.50	2.565	
3,500.00	3,496.29	3,500.37	3,498.39	12.13	12.09	168.36	-64.41	18.38	43.91	26.91	17.00	2.583	
3,600.00	3,596.04	3,600.35	3,598.23	12.49	12.44	170.00	-68.75	21.31	45.53	28.04	17.49	2.603	
3,700.00	3,695.80	3,700.33	3,698.07	12.85	12.80	171.53	-73.09	24.24	47.19	29.21	17.99	2.624	
3,800.00	3,795.56	3,800.31	3,797.91	13.22	13.16	172.95	-77.43	27.17	48.88	30.40	18.49	2.644	
3,900.00	3,895.31	3,900.28	3,897.75	13.58	13.51	174.28	-81.76	30.10	50.60	31.62	18.98	2.666	
4,000.00	3,995.07	4,000.26	3,997.59	13.95	13.87	175.52	-86.10	33.03	52.35	32.86	19.48	2.687	
4,100.00	4,094.83	4,100.24	4,097.44	14.31	14.23	176.68	-90.44	35.96	54.11	34.13	19.98	2.708	
4,200.00	4,194.58	4,200.22	4,197.28	14.68	14.59	177.77	-94.77	38.89	55.90	35.42	20.48	2.729	
4,300.00	4,294.34	4,300.20	4,297.12	15.05	14.95	178.79	-99.11	41.82	57.71	36.72	20.98	2.750	
4,400.00	4,394.09	4,400.18	4,396.96	15.41	15.31	179.74	-103.45	44.75	59.53	38.04	21.48	2.771	
4,500.00	4,493.85	4,500.16	4,496.80	15.78	15.67	-179.36	-107.78	47.68	61.37	39.38	21.99	2.791	
4,600.00	4,593.61	4,600.13	4,596.64	16.15	16.03	-178.51	-112.12	50.61	63.22	40.73	22.49	2.811	
4,700.00	4,693.36	4,700.11	4,696.48	16.52	16.39	-177.71	-116.46	53.54	65.09	42.10	22.99	2.831	
4,800.00	4,793.12	4,800.09	4,796.33	16.89	16.76	-176.96	-120.79	56.47	66.96	43.47	23.49	2.850	
4,900.00	4,892.87	4,900.07	4,896.17	17.26	17.12	-176.24	-125.13	59.40	68.85	44.86	24.00	2.869	
5,000.00	4,992.63	5,000.05	4,996.01	17.63	17.48	-175.57	-129.47	62.33	70.75	46.25	24.50	2.888	

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 103H - 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				
5,100.00	5,092.39	5,100.03	5,095.85	18.00	17.84	-174.93	-133.80	65.26	72.66	47.65	25.01	2.906				
5,200.00	5,192.14	5,200.01	5,195.69	18.37	18.21	-174.32	-138.14	68.19	74.58	49.07	25.51	2.923				
5,300.00	5,291.90	5,299.99	5,295.53	18.74	18.57	-173.75	-142.48	71.12	76.50	50.49	26.02	2.940				
5,400.00	5,391.65	5,399.96	5,395.38	19.11	18.93	-173.20	-146.81	74.05	78.44	51.91	26.52	2.957				
5,500.00	5,491.41	5,499.94	5,495.22	19.48	19.30	-172.68	-151.15	76.98	80.37	53.35	27.03	2.974				
5,600.00	5,591.17	5,599.92	5,595.06	19.85	19.66	-172.18	-155.49	79.91	82.32	54.78	27.54	2.990				
5,700.00	5,690.92	5,699.90	5,694.90	20.22	20.02	-171.71	-159.82	82.84	84.27	56.23	28.04	3.005				
5,800.00	5,790.68	5,799.88	5,794.74	20.59	20.39	-171.26	-164.16	85.77	86.23	57.68	28.55	3.020				
5,900.00	5,890.44	5,899.86	5,894.58	20.97	20.75	-170.82	-168.50	88.69	88.19	59.13	29.06	3.035				
6,000.00	5,990.19	5,999.84	5,994.42	21.34	21.12	-170.41	-172.84	91.62	90.16	60.59	29.56	3.050				
6,100.00	6,089.95	6,099.81	6,094.27	21.71	21.48	-170.02	-177.17	94.55	92.13	62.06	30.07	3.064				
6,200.00	6,189.70	6,199.79	6,194.11	22.08	21.85	-169.64	-181.51	97.48	94.10	63.52	30.58	3.077				
6,300.00	6,289.46	6,299.77	6,293.95	22.45	22.21	-169.27	-185.85	100.41	96.08	64.99	31.09	3.091				
6,394.17	6,383.40	6,393.93	6,387.97	22.81	22.55	-168.94	-189.93	103.17	97.95	66.38	31.57	3.103				
6,400.00	6,389.22	6,399.75	6,393.79	22.83	22.58	-168.92	-190.18	103.34	98.06	66.47	31.60	3.104				
6,500.00	6,489.06	6,499.74	6,493.65	23.19	22.94	-168.42	-194.52	106.27	98.62	66.51	32.10	3.072				
6,600.00	6,589.02	6,599.71	6,593.48	23.55	23.31	-167.59	-198.86	109.20	96.62	64.01	32.61	2.963				
6,660.99	6,650.00	6,660.63	6,654.32	23.76	23.53	-10.42	-201.50	110.99	94.16	61.24	32.92	2.860				
6,700.00	6,689.01	6,699.59	6,693.22	23.89	23.67	-9.91	-203.19	112.13	92.29	59.18	33.12	2.787				
6,800.00	6,789.01	6,799.46	6,792.95	24.22	24.04	-8.51	-207.52	115.06	87.54	53.93	33.61	2.604				
6,900.00	6,889.01	6,899.32	6,892.68	24.55	24.40	-6.95	-211.85	117.98	82.85	48.73	34.12	2.428				
7,000.00	6,989.01	6,999.18	6,992.40	24.88	24.77	-5.21	-216.18	120.91	78.22	43.60	34.62	2.259				
7,100.00	7,089.01	7,099.05	7,092.13	25.22	25.13	-3.24	-220.52	123.84	73.68	38.55	35.13	2.097				
7,200.00	7,189.01	7,197.51	7,190.51	25.55	25.49	-1.54	-223.90	126.12	70.15	34.52	35.63	1.969				
7,300.00	7,289.01	7,296.00	7,288.98	25.88	25.83	-0.84	-225.19	126.99	68.82	32.73	36.09	1.907				
7,337.53	7,326.55	7,333.37	7,326.35	26.01	25.96	-0.83	-225.20	127.00	68.81	32.54	36.27	1.897				
7,400.00	7,389.01	7,395.83	7,388.81	26.22	26.17	-0.83	-225.20	127.00	68.81	32.24	36.57	1.882				
7,500.00	7,489.01	7,495.83	7,488.81	26.55	26.50	-0.83	-225.20	127.00	68.81	31.76	37.05	1.857				
7,600.00	7,589.01	7,595.83	7,588.81	26.89	26.84	-0.83	-225.20	127.00	68.81	31.28	37.53	1.833				
7,700.00	7,689.01	7,695.83	7,688.81	27.23	27.17	-0.83	-225.20	127.00	68.81	30.80	38.01	1.810				
7,800.00	7,789.01	7,795.83	7,788.81	27.56	27.51	-0.83	-225.20	127.00	68.81	30.31	38.49	1.787 SF				
7,900.00	7,889.01	7,888.34	7,881.21	27.90	27.82	-0.82	-222.03	126.97	72.38	33.88	38.50	1.880				
8,000.00	7,989.01	7,974.57	7,965.96	28.24	28.08	-0.77	-206.57	126.82	90.37	52.78	37.60	2.404				
8,100.00	8,089.01	8,054.54	8,041.67	28.58	28.31	-0.72	-181.02	126.58	122.43	86.09	36.35	3.369				
8,200.00	8,189.01	8,126.22	8,105.92	28.92	28.49	-0.68	-149.36	126.28	166.72	131.78	34.94	4.771				
8,300.00	8,289.01	8,188.94	8,158.53	29.25	28.63	-0.65	-115.26	125.96	221.19	187.68	33.52	6.600				
8,400.00	8,389.01	8,250.00	8,205.86	29.59	28.77	-0.63	-76.74	125.59	284.04	251.38	32.66	8.697				
8,500.00	8,489.01	8,289.44	8,234.15	29.93	28.85	-0.62	-49.27	125.33	353.21	322.27	30.93	11.418				
8,600.00	8,589.01	8,329.15	8,260.65	30.28	28.94	-0.62	-19.71	125.05	427.71	397.84	29.87	14.321				
8,700.00	8,689.01	8,363.21	8,281.71	30.62	29.02	-0.61	7.06	124.80	506.34	477.39	28.96	17.486				
8,800.00	8,789.01	8,400.00	8,302.62	30.96	29.11	-0.60	37.32	124.51	588.36	559.89	28.47	20.665				
8,900.00	8,889.01	8,417.99	8,312.12	31.30	29.15	-0.60	52.59	124.37	672.84	645.26	27.58	24.398				
9,000.00	8,989.01	8,450.00	8,327.84	31.64	29.24	-0.60	80.47	124.10	759.69	732.35	27.35	27.781				
9,100.00	9,089.01	8,450.00	8,327.84	31.99	29.24	-0.60	80.47	124.10	848.13	821.68	26.45	32.070				
9,200.00	9,189.01	8,476.70	8,339.74	32.33	29.31	-0.59	104.37	123.88	937.89	911.53	26.36	35.576				
9,300.00	9,289.01	8,500.00	8,349.21	32.67	29.38	-0.59	125.66	123.68	1,029.07	1,002.79	26.28	39.159				
9,344.03	9,333.04	8,500.00	8,349.21	32.82	29.38	-0.59	125.66	123.68	1,069.42	1,043.35	26.08	41.007				
9,350.00	9,339.01	8,500.00	8,349.21	32.84	29.38	-0.04	125.66	123.68	1,074.91	1,048.86	26.05	41.259				
9,400.00	9,388.92	8,500.00	8,349.21	33.01	29.38	-0.04	125.66	123.68	1,120.02	1,094.20	25.82	43.375				
9,450.00	9,438.41	8,500.00	8,349.21	33.17	29.38	-0.03	125.66	123.68	1,163.60	1,138.03	25.57	45.507				
9,500.00	9,487.09	8,523.72	8,357.94	33.32	29.45	-0.03	147.70	123.47	1,204.76	1,179.11	25.65	46.969				
9,550.00	9,534.61	8,550.00	8,366.55	33.46	29.52	-0.02	172.53	123.23	1,244.48	1,218.76	25.72	48.382				

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 103H - 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				
9,600.00	9,580.58	8,550.00	8,366.55	33.59	29.52	-0.02	172.53	123.23	1,281.31	1,255.91	25.40	50.449				
9,650.00	9,624.68	8,550.00	8,366.55	33.71	29.52	-0.02	172.53	123.23	1,316.05	1,290.96	25.08	52.472				
9,700.00	9,666.55	8,550.00	8,366.55	33.83	29.52	-0.02	172.53	123.23	1,348.59	1,323.82	24.78	54.433				
9,750.00	9,705.89	8,578.38	8,374.56	33.93	29.62	-0.02	199.76	122.97	1,377.88	1,353.10	24.78	55.604				
9,800.00	9,742.38	8,600.00	8,379.75	34.04	29.68	-0.02	220.74	122.77	1,404.88	1,380.18	24.70	56.889				
9,850.00	9,775.77	8,600.00	8,379.75	34.14	29.68	-0.01	220.74	122.77	1,428.86	1,404.46	24.41	58.545				
9,900.00	9,805.78	8,600.00	8,379.75	34.24	29.68	-0.01	220.74	122.77	1,450.35	1,426.19	24.16	60.042				
9,950.00	9,832.20	8,629.30	8,385.51	34.34	29.78	-0.01	249.47	122.50	1,468.25	1,444.10	24.14	60.814				
10,000.00	9,854.81	8,650.00	8,388.69	34.45	29.85	-0.01	269.92	122.31	1,483.50	1,459.43	24.07	61.629				
10,050.00	9,873.46	8,650.00	8,388.69	34.57	29.85	-0.01	269.92	122.31	1,495.60	1,471.70	23.90	62.573				
10,100.00	9,887.99	8,669.68	8,391.03	34.69	29.92	-0.01	289.45	122.12	1,504.57	1,480.70	23.87	63.033				
10,150.00	9,898.30	8,700.00	8,393.31	34.81	30.03	-0.01	319.68	121.84	1,510.78	1,486.88	23.90	63.216				
10,200.00	9,904.31	8,700.00	8,393.31	34.95	30.03	-0.01	319.68	121.84	1,513.17	1,489.33	23.84	63.460				
10,244.03	9,906.00	8,700.00	8,393.31	35.07	30.03	-0.01	319.68	121.84	1,513.04	1,489.19	23.85	63.440				
10,300.00	9,906.00	8,728.06	8,394.00	35.24	30.14	-0.01	347.73	121.57	1,511.85	1,487.90	23.95	63.121				
10,338.24	9,906.00	8,753.47	8,394.00	35.38	30.24	-0.01	373.14	121.33	1,511.80	1,487.75	24.05	62.869				
10,400.00	9,906.00	8,815.23	8,394.00	35.60	30.50	-0.01	434.90	120.75	1,511.80	1,487.58	24.22	62.418				
10,500.00	9,906.00	8,915.23	8,394.00	36.03	30.99	-0.01	534.89	119.80	1,511.80	1,487.26	24.54	61.597				
10,600.00	9,906.00	9,015.23	8,394.00	36.54	31.56	-0.01	634.89	118.85	1,511.80	1,486.89	24.91	60.686				
10,700.00	9,906.00	9,115.23	8,394.00	37.11	32.21	-0.01	734.88	117.90	1,511.80	1,486.48	25.32	59.699				
10,800.00	9,906.00	9,215.23	8,394.00	37.74	32.92	-0.01	834.88	116.96	1,511.80	1,486.02	25.78	58.651				
10,900.00	9,906.00	9,315.23	8,394.00	38.44	33.70	-0.01	934.87	116.01	1,511.80	1,485.53	26.27	57.554				
11,000.00	9,906.00	9,415.23	8,394.00	39.19	34.55	-0.01	1,034.87	115.06	1,511.80	1,485.00	26.80	56.419				
11,100.00	9,906.00	9,515.23	8,394.00	40.00	35.44	-0.01	1,134.86	114.11	1,511.80	1,484.44	27.36	55.257				
11,200.00	9,906.00	9,615.23	8,394.00	40.85	36.40	-0.01	1,234.86	113.17	1,511.80	1,483.84	27.96	54.079				
11,300.00	9,906.00	9,715.23	8,394.00	41.76	37.40	-0.01	1,334.86	112.22	1,511.80	1,483.22	28.58	52.893				
11,400.00	9,906.00	9,815.23	8,394.00	42.71	38.44	-0.01	1,434.85	111.27	1,511.80	1,482.56	29.24	51.707				
11,500.00	9,906.00	9,915.23	8,394.00	43.70	39.53	-0.01	1,534.85	110.32	1,511.80	1,481.88	29.92	50.527				
11,600.00	9,906.00	10,015.23	8,394.00	44.73	40.65	-0.01	1,634.84	109.38	1,511.80	1,481.17	30.63	49.360				
11,700.00	9,906.00	10,115.23	8,394.00	45.80	41.81	-0.01	1,734.84	108.43	1,511.80	1,480.44	31.36	48.210				
11,800.00	9,906.00	10,215.23	8,394.00	46.90	43.00	-0.01	1,834.83	107.48	1,511.80	1,479.69	32.11	47.080				
11,900.00	9,906.00	10,315.23	8,394.00	48.03	44.22	-0.01	1,934.83	106.53	1,511.80	1,478.92	32.88	45.973				
12,000.00	9,906.00	10,415.23	8,394.00	49.19	45.47	-0.01	2,034.82	105.59	1,511.80	1,478.12	33.68	44.892				
12,100.00	9,906.00	10,515.23	8,394.00	50.38	46.75	-0.01	2,134.82	104.64	1,511.80	1,477.31	34.49	43.839				
12,200.00	9,906.00	10,615.23	8,394.00	51.60	48.04	-0.01	2,234.81	103.69	1,511.80	1,476.49	35.31	42.814				
12,300.00	9,906.00	10,715.23	8,394.00	52.83	49.36	-0.01	2,334.81	102.75	1,511.80	1,475.65	36.15	41.818				
12,400.00	9,906.00	10,815.23	8,394.00	54.09	50.70	-0.01	2,434.81	101.80	1,511.80	1,474.79	37.01	40.852				
12,500.00	9,906.00	10,915.23	8,394.00	55.38	52.05	-0.01	2,534.80	100.85	1,511.80	1,473.92	37.88	39.915				
12,600.00	9,906.00	11,015.23	8,394.00	56.68	53.43	-0.01	2,634.80	99.90	1,511.80	1,473.04	38.76	39.008				
12,700.00	9,906.00	11,115.23	8,394.00	57.99	54.81	-0.01	2,734.79	98.96	1,511.80	1,472.15	39.65	38.131				
12,800.00	9,906.00	11,215.23	8,394.00	59.33	56.22	-0.01	2,834.79	98.01	1,511.80	1,471.25	40.55	37.282				
12,900.00	9,906.00	11,315.23	8,394.00	60.68	57.63	-0.01	2,934.78	97.06	1,511.80	1,470.34	41.46	36.461				
13,000.00	9,906.00	11,415.23	8,394.00	62.04	59.06	-0.01	3,034.78	96.11	1,511.80	1,469.41	42.39	35.668				
13,100.00	9,906.00	11,515.23	8,394.00	63.42	60.50	-0.01	3,134.77	95.17	1,511.80	1,468.48	43.32	34.901				
13,200.00	9,906.00	11,615.23	8,394.00	64.82	61.95	-0.01	3,234.77	94.22	1,511.80	1,467.54	44.26	34.161				
13,300.00	9,906.00	11,715.23	8,394.00	66.22	63.41	-0.01	3,334.77	93.27	1,511.80	1,466.60	45.20	33.445				
13,400.00	9,906.00	11,815.23	8,394.00	67.63	64.88	-0.01	3,434.76	92.32	1,511.80	1,465.64	46.16	32.754				
13,500.00	9,906.00	11,915.23	8,394.00	69.06	66.35	-0.01	3,534.76	91.38	1,511.80	1,464.68	47.12	32.085				
13,600.00	9,906.00	12,015.23	8,394.00	70.49	67.84	-0.01	3,634.75	90.43	1,511.80	1,463.71	48.09	31.440				
13,700.00	9,906.00	12,115.23	8,394.00	71.94	69.33	-0.01	3,734.75	89.48	1,511.80	1,462.74	49.06	30.816				
13,800.00	9,906.00	12,215.23	8,394.00	73.39	70.83	-0.01	3,834.74	88.53	1,511.80	1,461.76	50.04	30.213				
13,900.00	9,906.00	12,315.23	8,394.00	74.85	72.34	-0.01	3,934.74	87.59	1,511.80	1,460.78	51.02	29.630				

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)						
14,000.00	9,906.00	12,415.23	8,394.00	76.32	73.85	-0.01	4,034.73	86.64	1,511.80	1,459.79	52.01	29.066		
14,100.00	9,906.00	12,515.23	8,394.00	77.80	75.37	-0.01	4,134.73	85.69	1,511.80	1,458.79	53.01	28.521		
14,200.00	9,906.00	12,615.23	8,394.00	79.28	76.89	-0.01	4,234.73	84.74	1,511.80	1,457.79	54.01	27.994		
14,300.00	9,906.00	12,715.23	8,394.00	80.77	78.42	-0.01	4,334.72	83.80	1,511.80	1,456.79	55.01	27.483		
14,400.00	9,906.00	12,815.23	8,394.00	82.27	79.96	-0.01	4,434.72	82.85	1,511.80	1,455.78	56.02	26.989		
14,500.00	9,906.00	12,915.23	8,394.00	83.77	81.50	-0.01	4,534.71	81.90	1,511.80	1,454.77	57.03	26.511		
14,600.00	9,906.00	13,015.23	8,394.00	85.28	83.04	-0.01	4,634.71	80.96	1,511.80	1,453.76	58.04	26.047		
14,700.00	9,906.00	13,115.23	8,394.00	86.79	84.59	-0.01	4,734.70	80.01	1,511.80	1,452.74	59.06	25.598		
14,800.00	9,906.00	13,215.23	8,394.00	88.31	86.14	-0.01	4,834.70	79.06	1,511.80	1,451.72	60.08	25.163		
14,900.00	9,906.00	13,315.23	8,394.00	89.83	87.69	-0.01	4,934.69	78.11	1,511.80	1,450.70	61.10	24.741		
15,000.00	9,906.00	13,415.23	8,394.00	91.36	89.25	-0.01	5,034.69	77.17	1,511.80	1,449.67	62.13	24.332		
15,100.00	9,906.00	13,515.23	8,394.00	92.89	90.81	-0.01	5,134.68	76.22	1,511.80	1,448.64	63.16	23.935		
15,200.00	9,906.00	13,615.23	8,394.00	94.43	92.38	-0.01	5,234.68	75.27	1,511.80	1,447.61	64.19	23.550		
15,300.00	9,906.00	13,715.23	8,394.00	95.97	93.95	-0.01	5,334.68	74.32	1,511.80	1,446.57	65.23	23.177		
15,400.00	9,906.00	13,815.23	8,394.00	97.51	95.52	-0.01	5,434.67	73.38	1,511.80	1,445.53	66.27	22.814		
15,500.00	9,906.00	13,915.23	8,394.00	99.06	97.09	-0.01	5,534.67	72.43	1,511.80	1,444.49	67.31	22.461		
15,600.00	9,906.00	14,015.23	8,394.00	100.61	98.67	-0.01	5,634.66	71.48	1,511.80	1,443.45	68.35	22.119		
15,700.00	9,906.00	14,115.23	8,394.00	102.16	100.25	-0.01	5,734.66	70.53	1,511.80	1,442.41	69.39	21.786		
15,800.00	9,906.00	14,215.23	8,394.00	103.72	101.83	-0.01	5,834.65	69.59	1,511.80	1,441.36	70.44	21.462		
15,900.00	9,906.00	14,315.23	8,394.00	105.28	103.41	-0.01	5,934.65	68.64	1,511.80	1,440.31	71.49	21.148		
16,000.00	9,906.00	14,415.23	8,394.00	106.84	105.00	-0.01	6,034.64	67.69	1,511.80	1,439.26	72.54	20.841		
16,100.00	9,906.00	14,515.23	8,394.00	108.40	106.58	-0.01	6,134.64	66.74	1,511.80	1,438.21	73.59	20.544		
16,200.00	9,906.00	14,615.23	8,394.00	109.97	108.17	0.00	6,234.64	65.80	1,511.80	1,437.16	74.64	20.254		
16,300.00	9,906.00	14,715.23	8,394.00	111.54	109.76	0.00	6,334.63	64.85	1,511.80	1,436.10	75.70	19.971		
16,400.00	9,906.00	14,815.23	8,394.00	113.11	111.36	0.00	6,434.63	63.90	1,511.80	1,435.04	76.76	19.696		
16,500.00	9,906.00	14,915.23	8,394.00	114.69	112.95	0.00	6,534.62	62.95	1,511.80	1,433.99	77.81	19.429		
16,600.00	9,906.00	15,015.23	8,394.00	116.26	114.55	0.00	6,634.62	62.01	1,511.80	1,432.93	78.87	19.168		
16,700.00	9,906.00	15,115.23	8,394.00	117.84	116.15	0.00	6,734.61	61.06	1,511.80	1,431.87	79.93	18.913		
16,800.00	9,906.00	15,215.23	8,394.00	119.42	117.75	0.00	6,834.61	60.11	1,511.80	1,430.80	81.00	18.665		
16,900.00	9,906.00	15,315.23	8,394.00	121.01	119.35	0.00	6,934.60	59.16	1,511.80	1,429.74	82.06	18.423		
17,000.00	9,906.00	15,415.23	8,394.00	122.59	120.95	0.00	7,034.60	58.22	1,511.80	1,428.68	83.12	18.187		
17,100.00	9,906.00	15,515.23	8,394.00	124.18	122.55	0.00	7,134.60	57.27	1,511.80	1,427.61	84.19	17.957		
17,200.00	9,906.00	15,615.23	8,394.00	125.76	124.16	0.00	7,234.59	56.32	1,511.80	1,426.54	85.26	17.732		
17,300.00	9,906.00	15,715.23	8,394.00	127.35	125.76	0.00	7,334.59	55.38	1,511.80	1,425.48	86.32	17.513		
17,400.00	9,906.00	15,815.23	8,394.00	128.95	127.37	0.00	7,434.58	54.43	1,511.80	1,424.41	87.39	17.299		
17,500.00	9,906.00	15,915.23	8,394.00	130.54	128.98	0.00	7,534.58	53.48	1,511.80	1,423.34	88.46	17.089		
17,600.00	9,906.00	16,015.23	8,394.00	132.13	130.59	0.00	7,634.57	52.53	1,511.80	1,422.26	89.54	16.885		
17,700.00	9,906.00	16,115.23	8,394.00	133.73	132.20	0.00	7,734.57	51.59	1,511.80	1,421.19	90.61	16.685		
17,800.00	9,906.00	16,215.23	8,394.00	135.32	133.81	0.00	7,834.56	50.64	1,511.80	1,420.12	91.68	16.490		
17,900.00	9,906.00	16,315.23	8,394.00	136.92	135.42	0.00	7,934.56	49.69	1,511.80	1,419.05	92.75	16.299		
18,000.00	9,906.00	16,415.23	8,394.00	138.52	137.04	0.00	8,034.55	48.74	1,511.80	1,417.97	93.83	16.112		
18,100.00	9,906.00	16,515.23	8,394.00	140.12	138.65	0.00	8,134.55	47.80	1,511.80	1,416.90	94.90	15.930		
18,200.00	9,906.00	16,615.23	8,394.00	141.72	140.27	0.00	8,234.55	46.85	1,511.80	1,415.82	95.98	15.751		
18,300.00	9,906.00	16,715.23	8,394.00	143.33	141.88	0.00	8,334.54	45.90	1,511.80	1,414.74	97.06	15.576		
18,400.00	9,906.00	16,815.23	8,394.00	144.93	143.50	0.00	8,434.54	44.95	1,511.80	1,413.67	98.13	15.405		
18,500.00	9,906.00	16,915.23	8,394.00	146.54	145.12	0.00	8,534.53	44.01	1,511.80	1,412.59	99.21	15.238		
18,600.00	9,906.00	17,015.23	8,394.00	148.14	146.73	0.00	8,634.53	43.06	1,511.80	1,411.51	100.29	15.074		
18,700.00	9,906.00	17,115.23	8,394.00	149.75	148.35	0.00	8,734.52	42.11	1,511.80	1,410.43	101.37	14.913		
18,800.00	9,906.00	17,215.23	8,394.00	151.36	149.97	0.00	8,834.52	41.16	1,511.80	1,409.35	102.45	14.756		
18,900.00	9,906.00	17,315.23	8,394.00	152.97	151.59	0.00	8,934.51	40.22	1,511.80	1,408.27	103.53	14.602		
19,000.00	9,906.00	17,415.23	8,394.00	154.58	153.22	0.00	9,034.51	39.27	1,511.80	1,407.19	104.62	14.451		
19,100.00	9,906.00	17,515.23	8,394.00	156.19	154.84	0.00	9,134.51	38.32	1,511.80	1,406.10	105.70	14.303		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 103H - 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
19,200.00	9,906.00	17,615.23	8,394.00	157.80	156.46	0.00	9,234.50	37.37	1,511.80	1,405.02	106.78	14.158	
19,300.00	9,906.00	17,715.23	8,394.00	159.41	158.08	0.00	9,334.50	36.43	1,511.80	1,403.94	107.86	14.016	
19,400.00	9,906.00	17,815.23	8,394.00	161.03	159.71	0.00	9,434.49	35.48	1,511.80	1,402.85	108.95	13.876	
19,500.00	9,906.00	17,915.23	8,394.00	162.64	161.33	0.00	9,534.49	34.53	1,511.80	1,401.77	110.03	13.740	
19,600.00	9,906.00	18,015.23	8,394.00	164.26	162.96	0.00	9,634.48	33.59	1,511.80	1,400.68	111.12	13.606	
19,700.00	9,906.00	18,115.23	8,394.00	165.87	164.58	0.00	9,734.48	32.64	1,511.80	1,399.60	112.20	13.474	
19,800.00	9,906.00	18,215.23	8,394.00	167.49	166.21	0.00	9,834.47	31.69	1,511.80	1,398.51	113.29	13.345	
19,900.00	9,906.00	18,315.23	8,394.00	169.11	167.84	0.00	9,934.47	30.74	1,511.80	1,397.43	114.37	13.218	
20,000.00	9,906.00	18,415.23	8,394.00	170.72	169.46	0.00	10,034.46	29.80	1,511.80	1,396.34	115.46	13.094	
20,034.35	9,906.00	18,449.58	8,394.00	171.28	170.02	0.00	10,068.81	29.47	1,511.80	1,395.97	115.83	13.051	

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 104H - 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				
0.00	0.00	0.00	0.00	0.00	0.00	89.54	0.20	25.00	25.01							
100.00	100.00	99.50	99.50	0.13	0.12	89.54	0.20	25.00	25.00	24.82	0.18	141.254				
200.00	200.00	199.50	199.50	0.48	0.48	89.54	0.20	25.00	25.00	24.32	0.68	36.598				
300.00	300.00	299.50	299.50	0.84	0.84	89.54	0.20	25.00	25.00	23.81	1.19	21.008				
400.00	400.00	399.50	399.50	1.20	1.20	89.54	0.20	25.00	25.00	23.30	1.70	14.732				
500.00	500.00	499.50	499.50	1.56	1.56	89.54	0.20	25.00	25.00	22.80	2.20	11.343				
600.00	600.00	599.50	599.50	1.92	1.92	89.54	0.20	25.00	25.00	22.29	2.71	9.222				
700.00	700.00	699.50	699.50	2.28	2.27	89.54	0.20	25.00	25.00	21.78	3.22	7.769				
800.00	800.00	799.50	799.50	2.63	2.63	89.54	0.20	25.00	25.00	21.28	3.72	6.712				
900.00	900.00	899.50	899.50	2.99	2.99	89.54	0.20	25.00	25.00	20.77	4.23	5.908				
1,000.00	1,000.00	999.50	999.50	3.35	3.35	89.54	0.20	25.00	25.00	20.26	4.74	5.276				
1,100.00	1,100.00	1,099.50	1,099.50	3.71	3.71	89.54	0.20	25.00	25.00	19.76	5.25	4.766				
1,200.00	1,200.00	1,199.50	1,199.50	4.07	4.07	89.54	0.20	25.00	25.00	19.25	5.75	4.346				
1,300.00	1,300.00	1,299.50	1,299.50	4.43	4.43	89.54	0.20	25.00	25.00	18.74	6.26	3.994				
1,400.00	1,400.00	1,399.50	1,399.50	4.79	4.78	89.54	0.20	25.00	25.00	18.23	6.77	3.695				
1,500.00	1,500.00	1,499.50	1,499.50	5.14	5.14	89.54	0.20	25.00	25.00	17.73	7.27	3.437				
1,600.00	1,600.00	1,599.50	1,599.50	5.50	5.50	89.54	0.20	25.00	25.00	17.22	7.78	3.213 CC, ES, SF				
1,700.00	1,700.00	1,698.60	1,698.58	5.86	5.85	89.78	0.10	26.69	26.71	18.44	8.27	3.228				
1,800.00	1,800.00	1,797.46	1,797.31	6.22	6.19	90.33	-0.18	31.79	31.87	23.12	8.75	3.642				
1,900.00	1,899.99	1,895.91	1,895.38	6.56	6.53	-67.12	-0.66	40.24	39.94	30.73	9.20	4.339				
2,000.00	1,999.91	1,993.78	1,992.55	6.89	6.88	-70.10	-1.32	51.98	50.48	40.84	9.64	5.238				
2,066.81	2,066.60	2,058.78	2,056.82	7.11	7.11	-72.49	-1.86	61.60	59.00	49.08	9.92	5.946				
2,100.00	2,099.70	2,090.93	2,088.53	7.22	7.23	-73.64	-2.16	66.89	63.73	53.67	10.06	6.332				
2,200.00	2,199.46	2,187.15	2,183.05	7.55	7.59	-75.89	-3.17	84.86	80.26	69.78	10.49	7.653				
2,300.00	2,299.21	2,282.26	2,275.83	7.89	7.97	-76.90	-4.35	105.73	100.06	89.16	10.90	9.178				
2,400.00	2,398.97	2,376.06	2,366.60	8.23	8.36	-77.20	-5.67	129.31	123.00	111.69	11.31	10.877				
2,500.00	2,498.73	2,468.38	2,455.14	8.58	8.77	-77.10	-7.14	155.40	148.98	137.28	11.70	12.732				
2,600.00	2,598.48	2,560.99	2,543.13	8.92	9.21	-76.80	-8.77	184.24	177.77	165.65	12.12	14.663				
2,700.00	2,698.24	2,656.56	2,633.74	9.27	9.68	-76.53	-10.48	214.59	207.18	194.56	12.62	16.422				
2,800.00	2,798.00	2,752.14	2,724.35	9.62	10.17	-76.33	-12.19	244.94	236.59	223.47	13.11	18.043				
2,900.00	2,897.75	2,847.71	2,814.96	9.98	10.67	-76.17	-13.90	275.29	266.00	252.39	13.61	19.540				
3,000.00	2,997.51	2,943.28	2,905.57	10.33	11.18	-76.04	-15.61	305.65	295.41	281.30	14.12	20.924				
3,100.00	3,097.26	3,038.86	2,996.18	10.69	11.70	-75.94	-17.32	336.00	324.83	310.20	14.63	22.209				
3,200.00	3,197.02	3,134.43	3,086.79	11.05	12.24	-75.85	-19.02	366.35	354.24	339.11	15.14	23.401				
3,300.00	3,296.78	3,230.01	3,177.40	11.41	12.78	-75.78	-20.73	396.70	383.66	368.01	15.65	24.512				
3,400.00	3,396.53	3,325.58	3,268.01	11.77	13.32	-75.72	-22.44	427.06	413.08	396.91	16.17	25.548				
3,500.00	3,496.29	3,421.16	3,358.62	12.13	13.88	-75.66	-24.15	457.41	442.50	425.81	16.69	26.516				
3,600.00	3,596.04	3,516.73	3,449.23	12.49	14.44	-75.61	-25.86	487.76	471.91	454.70	17.21	27.422				
3,700.00	3,695.80	3,612.30	3,539.84	12.85	15.00	-75.57	-27.57	518.11	501.33	483.60	17.73	28.271				
3,800.00	3,795.56	3,707.88	3,630.45	13.22	15.57	-75.53	-29.28	548.47	530.75	512.49	18.26	29.070				
3,900.00	3,895.31	3,803.45	3,721.07	13.58	16.14	-75.50	-30.99	578.82	560.17	541.38	18.78	29.820				
4,000.00	3,995.07	3,899.03	3,811.68	13.95	16.72	-75.47	-32.70	609.17	589.59	570.27	19.31	30.528				
4,100.00	4,094.83	3,994.60	3,902.29	14.31	17.29	-75.44	-34.41	639.52	619.01	599.16	19.84	31.195				
4,200.00	4,194.58	4,090.18	3,992.90	14.68	17.88	-75.42	-36.12	669.88	648.43	628.05	20.37	31.826				
4,300.00	4,294.34	4,185.75	4,083.51	15.05	18.46	-75.40	-37.83	700.23	677.84	656.94	20.91	32.422				
4,400.00	4,394.09	4,281.33	4,174.12	15.41	19.05	-75.38	-39.54	730.58	707.26	685.82	21.44	32.987				
4,500.00	4,493.85	4,376.90	4,264.73	15.78	19.63	-75.36	-41.25	760.93	736.68	714.71	21.98	33.523				
4,600.00	4,593.61	4,472.47	4,355.34	16.15	20.22	-75.34	-42.96	791.29	766.10	743.59	22.51	34.033				
4,700.00	4,693.36	4,568.05	4,445.95	16.52	20.82	-75.32	-44.67	821.64	795.52	772.47	23.05	34.517				
4,800.00	4,793.12	4,663.62	4,536.56	16.89	21.41	-75.31	-46.38	851.99	824.94	801.36	23.58	34.978				
4,900.00	4,892.87	4,759.20	4,627.17	17.26	22.00	-75.29	-48.09	882.34	854.36	830.24	24.12	35.417				
5,000.00	4,992.63	4,854.77	4,717.78	17.63	22.60	-75.28	-49.80	912.70	883.78	859.12	24.66	35.836				

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
5,100.00	5,092.39	4,950.35	4,808.39	18.00	23.20	-75.27	-51.50	943.05	913.20	888.00	25.20	36.236		
5,200.00	5,192.14	5,045.92	4,899.00	18.37	23.80	-75.26	-53.21	973.40	942.62	916.88	25.74	36.618		
5,300.00	5,291.90	5,141.49	4,989.61	18.74	24.40	-75.25	-54.92	1,003.75	972.04	945.76	26.28	36.984		
5,400.00	5,391.65	5,237.07	5,080.22	19.11	25.00	-75.24	-56.63	1,034.11	1,001.46	974.63	26.82	37.334		
5,500.00	5,491.41	5,332.64	5,170.83	19.48	25.60	-75.23	-58.34	1,064.46	1,030.88	1,003.51	27.37	37.670		
5,600.00	5,591.17	5,428.22	5,261.44	19.85	26.20	-75.22	-60.05	1,094.81	1,060.30	1,032.39	27.91	37.991		
5,700.00	5,690.92	5,523.79	5,352.05	20.22	26.81	-75.21	-61.76	1,125.16	1,089.72	1,061.27	28.45	38.300		
5,800.00	5,790.68	5,619.37	5,442.66	20.59	27.41	-75.20	-63.47	1,155.52	1,119.14	1,090.14	29.00	38.596		
5,900.00	5,890.44	5,714.94	5,533.27	20.97	28.02	-75.19	-65.18	1,185.87	1,148.56	1,119.02	29.54	38.881		
6,000.00	5,990.19	5,810.51	5,623.89	21.34	28.62	-75.18	-66.89	1,216.22	1,177.98	1,147.89	30.08	39.155		
6,100.00	6,089.95	5,906.09	5,714.50	21.71	29.23	-75.18	-68.60	1,246.57	1,207.40	1,176.77	30.63	39.419		
6,200.00	6,189.70	6,001.66	5,805.11	22.08	29.83	-75.17	-70.31	1,276.93	1,236.82	1,205.64	31.18	39.673		
6,300.00	6,289.46	6,097.24	5,895.72	22.45	30.44	-75.16	-72.02	1,307.28	1,266.24	1,234.52	31.72	39.917		
6,394.17	6,383.40	6,187.24	5,981.05	22.81	31.01	-75.16	-73.63	1,335.86	1,293.94	1,261.71	32.24	40.140		
6,400.00	6,389.22	6,192.81	5,986.33	22.83	31.05	-75.18	-73.73	1,337.63	1,295.66	1,263.39	32.27	40.153		
6,500.00	6,489.06	6,288.26	6,076.82	23.19	31.66	-75.57	-75.44	1,367.94	1,325.43	1,292.63	32.81	40.400		
6,600.00	6,589.02	6,383.44	6,167.05	23.55	32.26	-75.85	-77.14	1,398.17	1,355.84	1,322.50	33.33	40.674		
6,660.99	6,650.00	6,441.33	6,221.93	23.76	32.63	80.49	-78.17	1,416.55	1,374.69	1,341.04	33.65	40.858		
6,700.00	6,689.01	6,478.31	6,257.00	23.89	32.87	80.60	-78.83	1,428.30	1,386.82	1,352.98	33.84	40.981		
6,800.00	6,789.01	6,573.12	6,346.88	24.22	33.47	80.88	-80.53	1,458.41	1,417.95	1,383.61	34.34	41.289		
6,900.00	6,889.01	6,711.46	6,478.45	24.55	34.34	81.26	-82.93	1,501.06	1,448.45	1,413.32	35.13	41.235		
7,000.00	6,989.01	6,904.81	6,665.30	24.88	35.41	81.67	-85.72	1,550.55	1,473.60	1,437.45	36.15	40.766		
7,100.00	7,089.01	7,104.32	6,861.16	25.22	36.34	81.96	-87.85	1,588.31	1,492.21	1,455.17	37.03	40.293		
7,200.00	7,189.01	7,308.30	7,063.62	25.55	37.12	82.15	-89.22	1,612.74	1,503.99	1,466.23	37.76	39.831		
7,300.00	7,289.01	7,514.77	7,269.80	25.88	37.73	82.22	-89.79	1,622.77	1,508.77	1,470.47	38.30	39.392		
7,400.00	7,389.01	7,633.48	7,388.51	26.22	38.02	82.22	-89.80	1,623.00	1,508.88	1,470.13	38.75	38.940		
7,500.00	7,489.01	7,733.48	7,488.51	26.55	38.26	82.22	-89.80	1,623.00	1,508.88	1,469.68	39.20	38.490		
7,600.00	7,589.01	7,833.48	7,588.51	26.89	38.51	82.22	-89.80	1,623.00	1,508.88	1,469.23	39.66	38.050		
7,700.00	7,689.01	7,933.48	7,688.51	27.23	38.75	82.22	-89.80	1,623.00	1,508.88	1,468.77	40.11	37.618		
7,800.00	7,789.01	8,012.97	7,767.88	27.56	38.95	82.10	-86.56	1,622.97	1,509.43	1,468.86	40.58	37.201		
7,900.00	7,889.01	8,085.81	7,839.63	27.90	39.12	81.64	-74.25	1,622.85	1,511.71	1,470.67	41.04	36.834		
8,000.00	7,989.01	8,150.00	7,901.11	28.24	39.26	80.95	-55.93	1,622.68	1,516.04	1,474.54	41.50	36.535		
8,100.00	8,089.01	8,217.67	7,963.28	28.58	39.39	79.96	-29.31	1,622.42	1,522.84	1,480.90	41.94	36.311		
8,200.00	8,189.01	8,274.57	8,012.83	28.92	39.50	78.92	-1.38	1,622.16	1,532.65	1,490.31	42.34	36.200		
8,300.00	8,289.01	8,325.15	8,054.35	29.25	39.58	77.86	27.46	1,621.88	1,545.92	1,503.23	42.69	36.217		
8,400.00	8,389.01	8,369.74	8,088.73	29.59	39.65	76.82	55.84	1,621.61	1,563.06	1,520.10	42.96	36.385		
8,500.00	8,489.01	8,400.00	8,110.76	29.93	39.69	76.06	76.59	1,621.42	1,584.40	1,541.29	43.11	36.751		
8,600.00	8,589.01	8,450.00	8,144.66	30.28	39.76	74.74	113.32	1,621.07	1,610.02	1,566.73	43.29	37.191		
8,700.00	8,689.01	8,473.42	8,159.41	30.62	39.79	74.09	131.51	1,620.89	1,640.05	1,596.77	43.28	37.897		
8,800.00	8,789.01	8,500.00	8,175.22	30.96	39.82	73.33	152.87	1,620.69	1,674.50	1,631.30	43.20	38.762		
8,900.00	8,889.01	8,523.49	8,188.37	31.30	39.84	72.65	172.33	1,620.51	1,713.26	1,670.20	43.05	39.793		
9,000.00	8,989.01	8,550.00	8,202.23	31.64	39.87	71.86	194.93	1,620.29	1,756.20	1,713.32	42.87	40.963		
9,100.00	9,089.01	8,550.00	8,202.23	31.99	39.87	71.86	194.93	1,620.29	1,803.19	1,760.71	42.48	42.449		
9,200.00	9,189.01	8,579.54	8,216.42	32.33	39.90	70.96	220.82	1,620.04	1,853.70	1,811.44	42.26	43.868		
9,300.00	9,289.01	8,600.00	8,225.46	32.67	39.92	70.33	239.18	1,619.87	1,907.89	1,865.94	41.95	45.483		
9,344.03	9,333.04	8,600.00	8,225.46	32.82	39.92	70.33	239.18	1,619.87	1,932.76	1,891.02	41.75	46.299		
9,350.00	9,339.01	8,600.00	8,225.46	32.84	39.92	70.48	239.18	1,619.87	1,936.18	1,894.46	41.72	46.411		
9,400.00	9,388.92	8,600.00	8,225.46	33.01	39.92	67.27	239.18	1,619.87	1,964.59	1,923.11	41.48	47.366		
9,450.00	9,438.41	8,600.00	8,225.46	33.17	39.92	64.20	239.18	1,619.87	1,992.47	1,951.25	41.22	48.337		
9,500.00	9,487.09	8,625.72	8,235.89	33.32	39.95	60.74	262.69	1,619.65	2,019.09	1,977.96	41.14	49.084		
9,550.00	9,534.61	8,650.00	8,244.75	33.46	39.97	57.65	285.29	1,619.43	2,045.07	2,004.05	41.03	49.848		
9,600.00	9,580.58	8,650.00	8,244.75	33.59	39.97	55.32	285.29	1,619.43	2,069.46	2,028.71	40.75	50.782		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 104H - 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		
9,650.00	9,624.68	8,650.00	8,244.75	33.71	39.97	53.20	285.29	1,619.43	2,092.60	2,052.12	40.48	51.697		
9,700.00	9,666.55	8,650.00	8,244.75	33.83	39.97	51.29	285.29	1,619.43	2,114.35	2,074.14	40.21	52.582		
9,750.00	9,705.89	8,678.33	8,253.88	33.93	40.00	49.26	312.11	1,619.18	2,133.92	2,093.78	40.14	53.166		
9,800.00	9,742.38	8,700.00	8,259.95	34.04	40.02	47.60	332.90	1,618.98	2,151.96	2,111.93	40.02	53.766		
9,850.00	9,775.77	8,700.00	8,259.95	34.14	40.02	46.37	332.90	1,618.98	2,167.85	2,128.05	39.80	54.470		
9,900.00	9,805.78	8,700.00	8,259.95	34.24	40.02	45.32	332.90	1,618.98	2,181.92	2,142.32	39.60	55.104		
9,950.00	9,832.20	8,726.95	8,266.40	34.34	40.05	44.30	359.07	1,618.73	2,193.47	2,153.89	39.57	55.427		
10,000.00	9,854.81	8,750.00	8,270.94	34.45	40.08	43.52	381.66	1,618.51	2,203.06	2,163.51	39.55	55.703		
10,050.00	9,873.46	8,750.00	8,270.94	34.57	40.08	43.03	381.66	1,618.51	2,210.17	2,170.73	39.44	56.041		
10,100.00	9,887.99	8,750.00	8,270.94	34.69	40.08	42.68	381.66	1,618.51	2,215.23	2,175.86	39.37	56.272		
10,150.00	9,898.30	8,778.26	8,275.26	34.81	40.11	42.47	409.59	1,618.25	2,217.52	2,178.05	39.46	56.193		
10,200.00	9,904.31	8,800.00	8,277.64	34.95	40.14	42.47	431.19	1,618.04	2,217.70	2,178.14	39.56	56.060		
10,244.03	9,906.00	8,800.00	8,277.64	35.07	40.14	42.60	431.19	1,618.04	2,215.76	2,176.16	39.60	55.951		
10,300.00	9,906.00	8,800.00	8,277.64	35.24	40.14	42.60	431.19	1,618.04	2,212.98	2,173.28	39.70	55.749		
10,400.00	9,906.00	8,852.01	8,280.00	35.60	40.22	42.64	483.13	1,617.55	2,209.98	2,169.88	40.10	55.113		
10,500.00	9,906.00	8,918.02	8,280.00	36.03	40.33	42.64	549.14	1,616.92	2,209.72	2,169.12	40.60	54.429		
10,501.04	9,906.00	8,919.06	8,280.00	36.04	40.34	42.64	550.17	1,616.91	2,209.72	2,169.12	40.60	54.420		
10,600.00	9,906.00	9,018.02	8,280.00	36.54	40.56	42.64	649.13	1,615.97	2,209.72	2,168.47	41.25	53.566		
10,700.00	9,906.00	9,118.02	8,280.00	37.11	40.84	42.64	749.13	1,615.02	2,209.72	2,167.75	41.97	52.650		
10,800.00	9,906.00	9,218.02	8,280.00	37.74	41.18	42.64	849.12	1,614.06	2,209.72	2,166.97	42.75	51.689		
10,900.00	9,906.00	9,318.02	8,280.00	38.44	41.60	42.64	949.12	1,613.11	2,209.72	2,166.13	43.59	50.698		
11,000.00	9,906.00	9,418.02	8,280.00	39.19	42.08	42.64	1,049.12	1,612.16	2,209.72	2,165.24	44.48	49.683		
11,100.00	9,906.00	9,518.02	8,280.00	40.00	42.62	42.64	1,149.11	1,611.21	2,209.72	2,164.30	45.42	48.652		
11,200.00	9,906.00	9,618.02	8,280.00	40.85	43.24	42.64	1,249.11	1,610.26	2,209.72	2,163.31	46.41	47.614		
11,300.00	9,906.00	9,718.02	8,280.00	41.76	43.92	42.64	1,349.10	1,609.31	2,209.72	2,162.27	47.45	46.574		
11,400.00	9,906.00	9,818.02	8,280.00	42.71	44.67	42.64	1,449.10	1,608.36	2,209.72	2,161.19	48.52	45.539		
11,500.00	9,906.00	9,918.02	8,280.00	43.70	45.48	42.64	1,549.09	1,607.40	2,209.72	2,160.07	49.64	44.513		
11,600.00	9,906.00	10,018.02	8,280.00	44.73	46.34	42.64	1,649.09	1,606.45	2,209.71	2,158.92	50.80	43.501		
11,700.00	9,906.00	10,118.02	8,280.00	45.80	47.25	42.64	1,749.08	1,605.50	2,209.71	2,157.73	51.99	42.505		
11,800.00	9,906.00	10,218.02	8,280.00	46.90	48.22	42.64	1,849.08	1,604.55	2,209.71	2,156.50	53.21	41.528		
11,900.00	9,906.00	10,318.02	8,280.00	48.03	49.22	42.64	1,949.07	1,603.60	2,209.71	2,155.25	54.46	40.574		
12,000.00	9,906.00	10,418.02	8,280.00	49.19	50.27	42.64	2,049.07	1,602.65	2,209.71	2,153.97	55.74	39.644		
12,100.00	9,906.00	10,518.02	8,280.00	50.38	51.36	42.64	2,149.07	1,601.69	2,209.71	2,152.67	57.04	38.739		
12,200.00	9,906.00	10,618.02	8,280.00	51.60	52.48	42.64	2,249.06	1,600.74	2,209.71	2,151.34	58.37	37.858		
12,300.00	9,906.00	10,718.02	8,280.00	52.83	53.63	42.64	2,349.06	1,599.79	2,209.71	2,149.99	59.72	37.002		
12,400.00	9,906.00	10,818.02	8,280.00	54.09	54.81	42.64	2,449.05	1,598.84	2,209.71	2,148.62	61.09	36.172		
12,500.00	9,906.00	10,918.02	8,280.00	55.38	56.02	42.64	2,549.05	1,597.89	2,209.71	2,147.23	62.48	35.366		
12,600.00	9,906.00	11,018.02	8,280.00	56.68	57.25	42.64	2,649.04	1,596.94	2,209.71	2,145.82	63.89	34.586		
12,700.00	9,906.00	11,118.02	8,280.00	57.99	58.50	42.64	2,749.04	1,595.98	2,209.71	2,144.39	65.32	33.831		
12,800.00	9,906.00	11,218.02	8,280.00	59.33	59.78	42.64	2,849.03	1,595.03	2,209.71	2,142.95	66.76	33.100		
12,900.00	9,906.00	11,318.02	8,280.00	60.68	61.07	42.64	2,949.03	1,594.08	2,209.71	2,141.49	68.21	32.394		
13,000.00	9,906.00	11,418.02	8,280.00	62.04	62.39	42.64	3,049.02	1,593.13	2,209.71	2,140.02	69.68	31.710		
13,100.00	9,906.00	11,518.02	8,280.00	63.42	63.72	42.64	3,149.02	1,592.18	2,209.71	2,138.54	71.17	31.049		
13,200.00	9,906.00	11,618.02	8,280.00	64.82	65.06	42.64	3,249.02	1,591.23	2,209.71	2,137.04	72.66	30.411		
13,300.00	9,906.00	11,718.02	8,280.00	66.22	66.43	42.64	3,349.01	1,590.28	2,209.71	2,135.54	74.17	29.794		
13,400.00	9,906.00	11,818.02	8,280.00	67.63	67.80	42.64	3,449.01	1,589.32	2,209.70	2,134.02	75.68	29.197		
13,500.00	9,906.00	11,918.02	8,280.00	69.06	69.19	42.64	3,549.00	1,588.37	2,209.70	2,132.49	77.21	28.619		
13,600.00	9,906.00	12,018.02	8,280.00	70.49	70.59	42.64	3,649.00	1,587.42	2,209.70	2,130.96	78.75	28.061		
13,700.00	9,906.00	12,118.02	8,280.00	71.94	72.00	42.64	3,748.99	1,586.47	2,209.70	2,129.41	80.29	27.522		
13,800.00	9,906.00	12,218.02	8,280.00	73.39	73.42	42.64	3,848.99	1,585.52	2,209.70	2,127.86	81.84	27.000		
13,900.00	9,906.00	12,318.02	8,280.00	74.85	74.85	42.64	3,948.98	1,584.57	2,209.70	2,126.30	83.40	26.495		
14,000.00	9,906.00	12,418.02	8,280.00	76.32	76.29	42.64	4,048.98	1,583.61	2,209.70	2,124.73	84.97	26.006		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
14,100.00	9,906.00	12,518.02	8,280.00	77.80	77.74	42.64	4,148.98	1,582.66	2,209.70	2,123.16	86.54	25.533		
14,200.00	9,906.00	12,618.02	8,280.00	79.28	79.19	42.64	4,248.97	1,581.71	2,209.70	2,121.58	88.12	25.075		
14,300.00	9,906.00	12,718.02	8,280.00	80.77	80.66	42.64	4,348.97	1,580.76	2,209.70	2,119.99	89.71	24.632		
14,400.00	9,906.00	12,818.02	8,280.00	82.27	82.13	42.64	4,448.96	1,579.81	2,209.70	2,118.40	91.30	24.203		
14,500.00	9,906.00	12,918.02	8,280.00	83.77	83.61	42.64	4,548.96	1,578.86	2,209.70	2,116.80	92.90	23.786		
14,600.00	9,906.00	13,018.02	8,280.00	85.28	85.10	42.64	4,648.95	1,577.90	2,209.70	2,115.20	94.50	23.383		
14,700.00	9,906.00	13,118.02	8,280.00	86.79	86.59	42.64	4,748.95	1,576.95	2,209.70	2,113.59	96.10	22.993		
14,800.00	9,906.00	13,218.02	8,280.00	88.31	88.08	42.64	4,848.94	1,576.00	2,209.70	2,111.98	97.72	22.614		
14,900.00	9,906.00	13,318.02	8,280.00	89.83	89.59	42.64	4,948.94	1,575.05	2,209.70	2,110.36	99.33	22.246		
15,000.00	9,906.00	13,418.02	8,280.00	91.36	91.10	42.64	5,048.93	1,574.10	2,209.70	2,108.74	100.95	21.889		
15,100.00	9,906.00	13,518.02	8,280.00	92.89	92.61	42.64	5,148.93	1,573.15	2,209.70	2,107.12	102.57	21.543		
15,200.00	9,906.00	13,618.02	8,280.00	94.43	94.13	42.64	5,248.93	1,572.20	2,209.69	2,105.50	104.20	21.206		
15,300.00	9,906.00	13,718.02	8,280.00	95.97	95.65	42.64	5,348.92	1,571.24	2,209.69	2,103.86	105.83	20.880		
15,400.00	9,906.00	13,818.02	8,280.00	97.51	97.18	42.64	5,448.92	1,570.29	2,209.69	2,102.23	107.46	20.562		
15,500.00	9,906.00	13,918.02	8,280.00	99.06	98.71	42.64	5,548.91	1,569.34	2,209.69	2,100.60	109.10	20.254		
15,600.00	9,906.00	14,018.02	8,280.00	100.61	100.24	42.64	5,648.91	1,568.39	2,209.69	2,098.96	110.74	19.955		
15,700.00	9,906.00	14,118.02	8,280.00	102.16	101.78	42.64	5,748.90	1,567.44	2,209.69	2,097.31	112.38	19.663		
15,800.00	9,906.00	14,218.02	8,280.00	103.72	103.32	42.64	5,848.90	1,566.49	2,209.69	2,095.67	114.02	19.380		
15,900.00	9,906.00	14,318.02	8,280.00	105.28	104.87	42.64	5,948.89	1,565.53	2,209.69	2,094.02	115.67	19.104		
16,000.00	9,906.00	14,418.02	8,280.00	106.84	106.42	42.64	6,048.89	1,564.58	2,209.69	2,092.37	117.32	18.835		
16,100.00	9,906.00	14,518.02	8,280.00	108.40	107.97	42.64	6,148.88	1,563.63	2,209.69	2,090.72	118.97	18.574		
16,200.00	9,906.00	14,618.02	8,280.00	109.97	109.52	42.64	6,248.88	1,562.68	2,209.69	2,089.07	120.62	18.320		
16,300.00	9,906.00	14,718.02	8,280.00	111.54	111.08	42.64	6,348.88	1,561.73	2,209.69	2,087.42	122.27	18.072		
16,400.00	9,906.00	14,818.02	8,280.00	113.11	112.64	42.64	6,448.87	1,560.78	2,209.69	2,085.76	123.93	17.830		
16,500.00	9,906.00	14,918.02	8,280.00	114.69	114.20	42.64	6,548.87	1,559.82	2,209.69	2,084.10	125.59	17.595		
16,600.00	9,906.00	15,018.02	8,280.00	116.26	115.77	42.64	6,648.86	1,558.87	2,209.69	2,082.44	127.25	17.365		
16,700.00	9,906.00	15,118.02	8,280.00	117.84	117.34	42.64	6,748.86	1,557.92	2,209.69	2,080.78	128.91	17.141		
16,800.00	9,906.00	15,218.02	8,280.00	119.42	118.91	42.64	6,848.85	1,556.97	2,209.69	2,079.12	130.57	16.923		
16,900.00	9,906.00	15,318.02	8,280.00	121.01	120.48	42.64	6,948.85	1,556.02	2,209.69	2,077.45	132.23	16.710		
17,000.00	9,906.00	15,418.02	8,280.00	122.59	122.05	42.64	7,048.84	1,555.07	2,209.68	2,075.78	133.90	16.503		
17,100.00	9,906.00	15,518.02	8,280.00	124.18	123.63	42.64	7,148.84	1,554.12	2,209.68	2,074.12	135.57	16.300		
17,200.00	9,906.00	15,618.02	8,280.00	125.76	125.21	42.64	7,248.83	1,553.16	2,209.68	2,072.45	137.23	16.102		
17,300.00	9,906.00	15,718.02	8,280.00	127.35	126.79	42.64	7,348.83	1,552.21	2,209.68	2,070.78	138.90	15.908		
17,400.00	9,906.00	15,818.02	8,280.00	128.95	128.37	42.64	7,448.83	1,551.26	2,209.68	2,069.11	140.57	15.719		
17,500.00	9,906.00	15,918.02	8,280.00	130.54	129.96	42.64	7,548.82	1,550.31	2,209.68	2,067.44	142.24	15.535		
17,600.00	9,906.00	16,018.02	8,280.00	132.13	131.54	42.64	7,648.82	1,549.36	2,209.68	2,065.77	143.91	15.354		
17,700.00	9,906.00	16,118.02	8,280.00	133.73	133.13	42.64	7,748.81	1,548.41	2,209.68	2,064.09	145.59	15.178		
17,800.00	9,906.00	16,218.02	8,280.00	135.32	134.72	42.64	7,848.81	1,547.45	2,209.68	2,062.42	147.26	15.006		
17,900.00	9,906.00	16,318.02	8,280.00	136.92	136.31	42.64	7,948.80	1,546.50	2,209.68	2,060.75	148.93	14.837		
18,000.00	9,906.00	16,418.02	8,280.00	138.52	137.90	42.64	8,048.80	1,545.55	2,209.68	2,059.08	150.60	14.672		
18,100.00	9,906.00	16,518.02	8,280.00	140.12	139.49	42.64	8,148.79	1,544.60	2,209.68	2,057.40	152.28	14.511		
18,200.00	9,906.00	16,618.02	8,280.00	141.72	141.09	42.64	8,248.79	1,543.65	2,209.68	2,055.72	153.96	14.353		
18,300.00	9,906.00	16,718.02	8,280.00	143.33	142.68	42.64	8,348.79	1,542.70	2,209.68	2,054.04	155.63	14.198		
18,400.00	9,906.00	16,818.02	8,280.00	144.93	144.28	42.64	8,448.78	1,541.74	2,209.68	2,052.37	157.31	14.047		
18,500.00	9,906.00	16,918.02	8,280.00	146.54	145.88	42.64	8,548.78	1,540.79	2,209.68	2,050.69	158.98	13.899		
18,600.00	9,906.00	17,018.02	8,280.00	148.14	147.48	42.64	8,648.77	1,539.84	2,209.68	2,049.01	160.66	13.754		
18,700.00	9,906.00	17,118.02	8,280.00	149.75	149.08	42.64	8,748.77	1,538.89	2,209.68	2,047.33	162.34	13.611		
18,800.00	9,906.00	17,218.02	8,280.00	151.36	150.68	42.64	8,848.76	1,537.94	2,209.67	2,045.66	164.02	13.472		
18,900.00	9,906.00	17,318.02	8,280.00	152.97	152.28	42.64	8,948.76	1,536.99	2,209.67	2,043.98	165.70	13.336		
19,000.00	9,906.00	17,418.02	8,280.00	154.58	153.89	42.64	9,048.75	1,536.04	2,209.67	2,042.30	167.38	13.202		
19,100.00	9,906.00	17,518.02	8,280.00	156.19	155.49	42.64	9,148.75	1,535.08	2,209.67	2,040.62	169.05	13.071		
19,200.00	9,906.00	17,618.02	8,280.00	157.80	157.10	42.64	9,248.74	1,534.13	2,209.67	2,038.94	170.73	12.942		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 104H - 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	
19,300.00	9,906.00	17,718.02	8,280.00	159.41	158.70	42.64	9,348.74	1,533.18	2,209.67	2,037.26	172.41	12.816	
19,400.00	9,906.00	17,818.02	8,280.00	161.03	160.31	42.64	9,448.74	1,532.23	2,209.67	2,035.58	174.09	12.693	
19,500.00	9,906.00	17,918.02	8,280.00	162.64	161.92	42.64	9,548.73	1,531.28	2,209.67	2,033.90	175.77	12.571	
19,600.00	9,906.00	18,018.02	8,280.00	164.26	163.53	42.64	9,648.73	1,530.33	2,209.67	2,032.22	177.45	12.452	
19,700.00	9,906.00	18,118.02	8,280.00	165.87	165.14	42.64	9,748.72	1,529.37	2,209.67	2,030.54	179.13	12.335	
19,800.00	9,906.00	18,218.02	8,280.00	167.49	166.75	42.64	9,848.72	1,528.42	2,209.67	2,028.86	180.81	12.221	
19,900.00	9,906.00	18,318.02	8,280.00	169.11	168.36	42.64	9,948.71	1,527.47	2,209.67	2,027.17	182.49	12.108	
20,000.00	9,906.00	18,418.02	8,280.00	170.72	169.98	42.64	10,048.71	1,526.52	2,209.67	2,025.49	184.17	11.998	
20,029.71	9,906.00	18,447.73	8,280.00	171.20	170.46	42.64	10,078.42	1,526.24	2,209.67	2,024.99	184.67	11.965	
20,034.35	9,906.00	18,448.40	8,280.00	171.28	170.47	42.64	10,079.09	1,526.23	2,209.67	2,024.93	184.74	11.961	

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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									
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			
0.00	0.00	0.00	0.00	0.00	0.00	-90.53	-18.41	-1,986.18	1,986.77							
100.00	100.00	55.10	55.10	0.13	0.07	-90.53	-18.41	-1,986.18	1,986.26	1,986.12	0.14	N/A				
200.00	200.00	155.10	155.10	0.48	0.32	-90.53	-18.41	-1,986.18	1,986.26	1,985.68	0.58	3,413.888				
300.00	300.00	255.10	255.10	0.84	0.68	-90.53	-18.41	-1,986.18	1,986.26	1,985.18	1.08	1,833.145				
400.00	400.00	355.10	355.10	1.20	1.04	-90.53	-18.41	-1,986.18	1,986.26	1,984.67	1.59	1,250.346				
500.00	500.00	455.10	455.10	1.56	1.40	-90.53	-18.41	-1,986.18	1,986.26	1,984.17	2.09	948.306				
600.00	600.00	555.10	555.10	1.92	1.76	-90.53	-18.41	-1,986.18	1,986.26	1,983.66	2.60	763.686				
700.00	700.00	655.10	655.10	2.28	2.12	-90.53	-18.41	-1,986.18	1,986.26	1,983.16	3.11	639.196				
800.00	800.00	755.10	755.10	2.63	2.47	-90.53	-18.41	-1,986.18	1,986.26	1,982.65	3.61	549.587				
900.00	900.00	855.10	855.10	2.99	2.83	-90.53	-18.41	-1,986.18	1,986.26	1,982.14	4.12	482.005				
1,000.00	1,000.00	955.10	955.10	3.35	3.19	-90.53	-18.41	-1,986.18	1,986.26	1,981.64	4.63	429.219				
1,100.00	1,100.00	1,055.10	1,055.10	3.71	3.55	-90.53	-18.41	-1,986.18	1,986.26	1,981.13	5.13	386.851				
1,200.00	1,200.00	1,155.10	1,155.10	4.07	3.91	-90.53	-18.41	-1,986.18	1,986.26	1,980.62	5.64	352.094				
1,300.00	1,300.00	1,255.10	1,255.10	4.43	4.27	-90.53	-18.41	-1,986.18	1,986.26	1,980.12	6.15	323.067				
1,400.00	1,400.00	1,355.10	1,355.10	4.79	4.62	-90.53	-18.41	-1,986.18	1,986.26	1,979.61	6.66	298.461				
1,500.00	1,500.00	1,455.10	1,455.10	5.14	4.98	-90.53	-18.41	-1,986.18	1,986.26	1,979.10	7.16	277.337				
1,600.00	1,600.00	1,555.10	1,555.10	5.50	5.34	-90.53	-18.41	-1,986.18	1,986.26	1,978.59	7.67	259.006				
1,700.00	1,700.00	1,655.10	1,655.10	5.86	5.70	-90.53	-18.41	-1,986.18	1,986.26	1,978.09	8.18	242.947				
1,800.00	1,800.00	1,755.10	1,755.10	6.22	6.06	-90.53	-18.41	-1,986.18	1,986.26	1,977.58	8.68	228.763	CC, ES			
1,900.00	1,899.99	1,855.09	1,855.09	6.56	6.42	113.02	-18.41	-1,986.18	1,986.77	1,977.60	9.18	216.498				
2,000.00	1,999.91	1,955.01	1,955.01	6.89	6.78	113.11	-18.41	-1,986.18	1,988.31	1,978.65	9.66	205.823				
2,066.81	2,066.60	2,000.00	2,000.00	7.11	6.94	113.15	-18.41	-1,986.18	1,990.04	1,980.11	9.93	200.413				
2,100.00	2,099.70	2,036.31	2,036.31	7.22	7.06	113.22	-18.45	-1,986.35	1,991.09	1,980.99	10.10	197.206				
2,200.00	2,199.46	2,100.00	2,099.99	7.55	7.28	113.33	-18.69	-1,987.46	1,995.63	1,985.14	10.49	190.298				
2,300.00	2,299.21	2,168.32	2,168.27	7.89	7.52	113.44	-19.21	-1,989.80	2,001.87	1,990.98	10.88	183.916				
2,400.00	2,398.97	2,234.15	2,234.01	8.23	7.74	113.54	-19.97	-1,993.18	2,009.80	1,998.52	11.28	178.230				
2,500.00	2,498.73	2,300.00	2,299.69	8.58	7.97	113.63	-20.97	-1,997.67	2,019.41	2,007.74	11.67	173.076				
2,600.00	2,598.48	2,365.27	2,364.71	8.92	8.19	113.71	-22.20	-2,003.21	2,030.69	2,018.63	12.06	168.422				
2,700.00	2,698.24	2,430.48	2,429.57	9.27	8.42	113.79	-23.67	-2,009.83	2,043.64	2,031.19	12.45	164.213				
2,800.00	2,798.00	2,500.00	2,498.57	9.62	8.67	113.86	-25.51	-2,018.08	2,058.24	2,045.39	12.84	160.244				
2,900.00	2,897.75	2,560.02	2,558.02	9.98	8.88	113.91	-27.31	-2,026.18	2,074.46	2,061.25	13.21	156.986				
3,000.00	2,997.51	2,624.28	2,621.51	10.33	9.12	113.96	-29.47	-2,035.86	2,092.31	2,078.71	13.59	153.906				
3,100.00	3,097.26	2,700.00	2,696.09	10.69	9.40	114.01	-32.31	-2,048.61	2,111.82	2,097.81	14.01	150.733				
3,200.00	3,197.02	2,760.81	2,755.79	11.05	9.63	114.05	-34.82	-2,059.89	2,132.84	2,118.46	14.38	148.355				
3,300.00	3,296.78	2,844.16	2,837.49	11.41	9.95	114.09	-38.40	-2,075.99	2,154.85	2,140.04	14.82	145.424				
3,400.00	3,396.53	2,941.68	2,933.08	11.77	10.33	114.13	-42.59	-2,094.82	2,176.92	2,161.61	15.31	142.197				
3,500.00	3,496.29	3,039.20	3,028.67	12.13	10.73	114.18	-46.78	-2,113.66	2,198.98	2,183.18	15.80	139.149				
3,600.00	3,596.04	3,136.72	3,124.27	12.49	11.12	114.22	-50.98	-2,132.49	2,221.05	2,204.75	16.30	136.266				
3,700.00	3,695.80	3,234.24	3,219.86	12.85	11.53	114.27	-55.17	-2,151.33	2,243.12	2,226.32	16.80	133.536				
3,800.00	3,795.56	3,331.76	3,315.45	13.22	11.93	114.31	-59.36	-2,170.16	2,265.18	2,247.89	17.30	130.950				
3,900.00	3,895.31	3,429.28	3,411.04	13.58	12.35	114.35	-63.55	-2,189.00	2,287.25	2,269.45	17.80	128.495				
4,000.00	3,995.07	3,526.80	3,506.64	13.95	12.76	114.39	-67.75	-2,207.83	2,309.32	2,291.02	18.30	126.164				
4,100.00	4,094.83	3,624.32	3,602.23	14.31	13.18	114.43	-71.94	-2,226.67	2,331.40	2,312.59	18.81	123.948				
4,200.00	4,194.58	3,721.84	3,697.82	14.68	13.61	114.47	-76.13	-2,245.50	2,353.47	2,334.15	19.32	121.839				
4,300.00	4,294.34	3,819.36	3,793.42	15.05	14.03	114.51	-80.32	-2,264.34	2,375.54	2,355.72	19.82	119.830				
4,400.00	4,394.09	3,916.89	3,889.01	15.41	14.46	114.55	-84.52	-2,283.17	2,397.62	2,377.28	20.33	117.914				
4,500.00	4,493.85	4,014.41	3,984.60	15.78	14.90	114.58	-88.71	-2,302.01	2,419.69	2,398.85	20.84	116.086				
4,600.00	4,593.61	4,111.93	4,080.19	16.15	15.33	114.62	-92.90	-2,320.84	2,441.77	2,420.41	21.36	114.340				
4,700.00	4,693.36	4,209.45	4,175.79	16.52	15.77	114.66	-97.09	-2,339.68	2,463.85	2,441.98	21.87	112.670				
4,800.00	4,793.12	4,306.97	4,271.38	16.89	16.21	114.69	-101.29	-2,358.51	2,485.93	2,463.54	22.38	111.072				
4,900.00	4,892.87	4,404.49	4,366.97	17.26	16.65	114.73	-105.48	-2,377.35	2,508.00	2,485.11	22.90	109.541				
5,000.00	4,992.63	4,502.01	4,462.57	17.63	17.09	114.76	-109.67	-2,396.18	2,530.09	2,506.67	23.41	108.075				

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
5,100.00	5,092.39	4,599.53	4,558.16	18.00	17.53	114.79	-113.86	-2,415.02	2,552.17	2,528.24	23.93	106.667		
5,200.00	5,192.14	4,697.05	4,653.75	18.37	17.98	114.83	-118.06	-2,433.85	2,574.25	2,549.81	24.44	105.317		
5,300.00	5,291.90	4,794.57	4,749.34	18.74	18.42	114.86	-122.25	-2,452.69	2,596.33	2,571.37	24.96	104.019		
5,400.00	5,391.65	4,892.09	4,844.94	19.11	18.87	114.89	-126.44	-2,471.52	2,618.41	2,592.94	25.48	102.771		
5,500.00	5,491.41	4,989.62	4,940.53	19.48	19.32	114.92	-130.63	-2,490.36	2,640.50	2,614.50	26.00	101.571		
5,600.00	5,591.17	5,087.14	5,036.12	19.85	19.77	114.95	-134.83	-2,509.19	2,662.58	2,636.07	26.52	100.415		
5,700.00	5,690.92	5,184.66	5,131.72	20.22	20.22	114.98	-139.02	-2,528.03	2,684.67	2,657.63	27.04	99.302		
5,800.00	5,790.68	5,282.18	5,227.31	20.59	20.67	115.01	-143.21	-2,546.86	2,706.76	2,679.20	27.56	98.229		
5,900.00	5,890.44	5,379.70	5,322.90	20.97	21.12	115.04	-147.40	-2,565.70	2,728.84	2,700.77	28.08	97.194		
6,000.00	5,990.19	5,477.22	5,418.49	21.34	21.58	115.07	-151.60	-2,584.53	2,750.93	2,722.33	28.60	96.196		
6,100.00	6,089.95	5,574.74	5,514.09	21.71	22.03	115.10	-155.79	-2,603.37	2,773.02	2,743.90	29.12	95.231		
6,200.00	6,189.70	5,672.26	5,609.68	22.08	22.48	115.13	-159.98	-2,622.20	2,795.11	2,765.47	29.64	94.299		
6,300.00	6,289.46	5,769.78	5,705.27	22.45	22.94	115.15	-164.17	-2,641.04	2,817.20	2,787.03	30.16	93.398		
6,394.17	6,383.40	5,861.62	5,795.30	22.81	23.37	115.18	-168.12	-2,658.78	2,838.00	2,807.35	30.66	92.577		
6,400.00	6,389.22	5,867.30	5,800.87	22.83	23.40	115.20	-168.37	-2,659.87	2,839.29	2,808.60	30.69	92.527		
6,500.00	6,489.06	5,964.97	5,896.60	23.19	23.85	115.50	-172.56	-2,678.74	2,860.77	2,829.56	31.21	91.673		
6,600.00	6,589.02	6,062.84	5,992.53	23.55	24.31	115.73	-176.77	-2,697.64	2,881.15	2,849.43	31.72	90.828		
6,660.99	6,650.00	6,122.60	6,051.11	23.76	24.59	-87.69	-179.34	-2,709.18	2,893.03	2,861.00	32.03	90.327		
6,700.00	6,689.01	6,160.84	6,088.60	23.89	24.77	-87.72	-180.98	-2,716.57	2,900.50	2,868.28	32.22	90.017		
6,800.00	6,789.01	6,258.86	6,184.68	24.22	25.23	-87.82	-185.20	-2,735.50	2,919.66	2,886.94	32.72	89.236		
6,900.00	6,889.01	6,356.88	6,280.77	24.55	25.69	-87.92	-189.41	-2,754.43	2,938.83	2,905.61	33.22	88.476		
7,000.00	6,989.01	6,454.91	6,376.85	24.88	26.16	-88.02	-193.63	-2,773.36	2,958.00	2,924.28	33.71	87.738		
7,100.00	7,089.01	6,552.93	6,472.94	25.22	26.62	-88.11	-197.84	-2,792.29	2,977.18	2,942.97	34.21	87.020		
7,200.00	7,189.01	6,650.95	6,569.02	25.55	27.08	-88.21	-202.05	-2,811.22	2,996.37	2,961.66	34.71	86.321		
7,300.00	7,289.01	6,845.47	6,760.08	25.88	27.98	-88.38	-209.97	-2,846.80	3,015.09	2,979.51	35.58	84.739		
7,400.00	7,389.01	7,273.03	7,184.83	26.22	29.67	-88.60	-220.19	-2,892.69	3,025.79	2,988.70	37.09	81.589		
7,500.00	7,489.01	7,532.42	7,444.11	26.55	30.51	-88.63	-221.41	-2,898.18	3,027.05	2,989.14	37.91	79.853		
7,600.00	7,589.01	7,632.42	7,544.11	26.89	30.81	-88.63	-221.41	-2,898.18	3,027.05	2,988.67	38.38	78.873		
7,700.00	7,689.01	7,732.42	7,644.11	27.23	31.11	-88.63	-221.41	-2,898.18	3,027.05	2,988.20	38.85	77.915		
7,800.00	7,789.01	7,832.42	7,744.11	27.56	31.41	-88.63	-221.41	-2,898.18	3,027.05	2,987.72	39.32	76.977		
7,900.00	7,889.01	7,932.42	7,844.11	27.90	31.72	-88.63	-221.41	-2,898.18	3,027.05	2,987.25	39.80	76.061		
8,000.00	7,989.01	8,032.42	7,944.11	28.24	32.02	-88.63	-221.41	-2,898.18	3,027.05	2,986.78	40.27	75.165		
8,100.00	8,089.01	8,132.42	8,044.11	28.58	32.33	-88.63	-221.41	-2,898.18	3,027.05	2,986.30	40.75	74.288		
8,200.00	8,189.01	8,232.42	8,144.11	28.92	32.64	-88.63	-221.41	-2,898.18	3,027.05	2,985.82	41.22	73.430		
8,300.00	8,289.01	8,332.42	8,244.11	29.25	32.94	-88.63	-221.41	-2,898.18	3,027.05	2,985.35	41.70	72.590		
8,400.00	8,389.01	8,432.42	8,344.11	29.59	33.25	-88.63	-221.41	-2,898.18	3,027.05	2,984.87	42.18	71.768		
8,500.00	8,489.01	8,532.42	8,444.11	29.93	33.56	-88.63	-221.41	-2,898.18	3,027.05	2,984.39	42.66	70.963		
8,600.00	8,589.01	8,632.42	8,544.11	30.28	33.87	-88.63	-221.41	-2,898.18	3,027.05	2,983.91	43.14	70.175		
8,700.00	8,689.01	8,732.42	8,644.11	30.62	34.19	-88.63	-221.41	-2,898.18	3,027.05	2,983.43	43.62	69.404		
8,800.00	8,789.01	8,832.42	8,744.11	30.96	34.50	-88.63	-221.41	-2,898.18	3,027.05	2,982.95	44.10	68.648		
8,900.00	8,889.01	8,932.42	8,844.11	31.30	34.81	-88.63	-221.41	-2,898.18	3,027.05	2,982.47	44.58	67.908		
9,000.00	8,989.01	9,032.42	8,944.11	31.64	35.13	-88.63	-221.41	-2,898.18	3,027.05	2,981.99	45.06	67.182		
9,100.00	9,089.01	9,132.42	9,044.11	31.99	35.44	-88.63	-221.41	-2,898.18	3,027.05	2,981.51	45.54	66.471		
9,200.00	9,189.01	9,232.42	9,144.11	32.33	35.76	-88.63	-221.41	-2,898.18	3,027.05	2,981.03	46.02	65.774		
9,300.00	9,289.01	9,332.42	9,244.11	32.67	36.08	-88.63	-221.41	-2,898.18	3,027.05	2,980.54	46.50	65.091		
9,344.03	9,333.04	9,376.45	9,288.14	32.82	36.22	-88.63	-221.41	-2,898.18	3,027.05	2,980.33	46.72	64.795		
9,350.00	9,339.01	9,382.42	9,294.11	32.84	36.24	-88.08	-221.41	-2,898.18	3,027.05	2,980.30	46.75	64.755		
9,400.00	9,388.92	9,432.33	9,344.02	33.01	36.39	-88.14	-221.41	-2,898.18	3,026.96	2,979.97	46.98	64.426		
9,450.00	9,438.41	9,481.82	9,393.51	33.17	36.55	-88.30	-221.41	-2,898.18	3,026.74	2,979.52	47.21	64.109		
9,500.00	9,487.09	9,530.50	9,442.19	33.32	36.71	-88.54	-221.41	-2,898.18	3,026.42	2,978.98	47.43	63.805		
9,550.00	9,534.61	9,578.01	9,489.71	33.46	36.86	-88.85	-221.41	-2,898.18	3,026.04	2,978.40	47.64	63.516		
9,600.00	9,580.58	9,621.28	9,532.96	33.59	37.00	-89.19	-220.46	-2,898.19	3,025.70	2,977.87	47.83	63.253		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
9,650.00	9,624.68	9,664.57	9,576.04	33.71	37.13	-89.53	-216.35	-2,898.23	3,025.47	2,977.45	48.02	63.006		
9,700.00	9,666.55	9,709.08	9,619.88	33.83	37.26	-89.87	-208.74	-2,898.30	3,025.37	2,977.17	48.20	62.772		
9,716.20	9,679.59	9,723.79	9,634.22	33.86	37.30	-89.99	-205.48	-2,898.34	3,025.36	2,977.11	48.25	62.700		
9,750.00	9,705.89	9,754.98	9,664.33	33.93	37.39	-90.22	-197.35	-2,898.42	3,025.39	2,977.02	48.37	62.550		
9,800.00	9,742.38	9,802.44	9,709.19	34.04	37.51	-90.57	-181.87	-2,898.57	3,025.55	2,977.02	48.53	62.339		
9,850.00	9,775.77	9,851.68	9,754.20	34.14	37.63	-90.92	-161.96	-2,898.77	3,025.85	2,977.16	48.70	62.137		
9,900.00	9,805.78	9,902.90	9,799.03	34.24	37.74	-91.28	-137.21	-2,899.01	3,026.30	2,977.44	48.86	61.942		
9,950.00	9,832.20	9,956.36	9,843.27	34.34	37.84	-91.63	-107.23	-2,899.31	3,026.88	2,977.86	49.02	61.752		
10,000.00	9,854.81	10,012.32	9,886.37	34.45	37.94	-91.98	-71.58	-2,899.67	3,027.58	2,978.40	49.18	61.564		
10,050.00	9,873.46	10,071.05	9,927.63	34.57	38.02	-92.33	-29.83	-2,900.08	3,028.38	2,979.04	49.34	61.376		
10,100.00	9,887.99	10,132.81	9,966.18	34.69	38.09	-92.68	18.38	-2,900.56	3,029.27	2,979.76	49.51	61.185		
10,150.00	9,898.30	10,197.85	10,000.92	34.81	38.15	-93.01	73.32	-2,901.11	3,030.22	2,980.53	49.69	60.987		
10,200.00	9,904.31	10,266.35	10,030.53	34.95	38.21	-93.33	135.05	-2,901.72	3,031.18	2,981.30	49.87	60.778		
10,244.03	9,906.00	10,329.61	10,051.15	35.07	38.26	-93.59	194.82	-2,902.32	3,032.00	2,981.95	50.05	60.581		
10,300.00	9,906.00	10,414.66	10,068.27	35.24	38.35	-93.92	278.04	-2,903.14	3,032.78	2,982.48	50.30	60.291		
10,400.00	9,906.00	10,541.65	10,073.00	35.60	38.56	-94.01	404.82	-2,904.40	3,033.03	2,982.22	50.81	59.693		
10,500.00	9,906.00	10,641.65	10,073.00	36.03	38.82	-94.01	504.82	-2,905.40	3,033.08	2,981.70	51.37	59.042		
10,600.00	9,906.00	10,741.65	10,073.00	36.54	39.17	-94.01	604.81	-2,906.39	3,033.12	2,981.09	52.03	58.294		
10,700.00	9,906.00	10,841.65	10,073.00	37.11	39.60	-94.01	704.81	-2,907.39	3,033.16	2,980.38	52.79	57.462		
10,800.00	9,906.00	10,941.65	10,073.00	37.74	40.11	-94.01	804.80	-2,908.38	3,033.21	2,979.58	53.63	56.557		
10,900.00	9,906.00	11,041.65	10,073.00	38.44	40.69	-94.01	904.80	-2,909.37	3,033.25	2,978.69	54.56	55.592		
11,000.00	9,906.00	11,141.65	10,073.00	39.19	41.34	-94.01	1,004.79	-2,910.37	3,033.29	2,977.72	55.58	54.579		
11,100.00	9,906.00	11,241.65	10,073.00	40.00	42.05	-94.01	1,104.79	-2,911.36	3,033.34	2,976.67	56.67	53.528		
11,200.00	9,906.00	11,341.65	10,073.00	40.85	42.82	-94.01	1,204.78	-2,912.36	3,033.38	2,975.55	57.83	52.451		
11,300.00	9,906.00	11,441.65	10,073.00	41.76	43.64	-94.01	1,304.78	-2,913.35	3,033.42	2,974.35	59.07	51.356		
11,400.00	9,906.00	11,541.65	10,073.00	42.71	44.50	-94.01	1,404.77	-2,914.34	3,033.46	2,973.10	60.37	50.251		
11,500.00	9,906.00	11,641.65	10,073.00	43.70	45.41	-94.01	1,504.77	-2,915.34	3,033.51	2,971.78	61.73	49.145		
11,600.00	9,906.00	11,741.65	10,073.00	44.73	46.37	-94.01	1,604.76	-2,916.33	3,033.55	2,970.41	63.14	48.043		
11,700.00	9,906.00	11,841.65	10,073.00	45.80	47.36	-94.01	1,704.76	-2,917.33	3,033.59	2,968.98	64.61	46.951		
11,800.00	9,906.00	11,941.65	10,073.00	46.90	48.39	-94.01	1,804.75	-2,918.32	3,033.64	2,967.51	66.13	45.873		
11,900.00	9,906.00	12,041.65	10,073.00	48.03	49.45	-94.01	1,904.75	-2,919.31	3,033.68	2,965.98	67.70	44.812		
12,000.00	9,906.00	12,141.65	10,073.00	49.19	50.54	-94.01	2,004.74	-2,920.31	3,033.72	2,964.42	69.31	43.772		
12,100.00	9,906.00	12,241.65	10,073.00	50.38	51.67	-94.01	2,104.74	-2,921.30	3,033.77	2,962.81	70.96	42.755		
12,200.00	9,906.00	12,341.65	10,073.00	51.60	52.82	-94.01	2,204.73	-2,922.30	3,033.81	2,961.17	72.64	41.763		
12,300.00	9,906.00	12,441.65	10,073.00	52.83	53.99	-94.01	2,304.73	-2,923.29	3,033.85	2,959.49	74.37	40.797		
12,400.00	9,906.00	12,541.65	10,073.00	54.09	55.20	-94.01	2,404.72	-2,924.28	3,033.90	2,957.78	76.12	39.857		
12,500.00	9,906.00	12,641.65	10,073.00	55.38	56.42	-94.00	2,504.72	-2,925.28	3,033.94	2,956.04	77.90	38.945		
12,600.00	9,906.00	12,741.65	10,073.00	56.68	57.67	-94.00	2,604.71	-2,926.27	3,033.98	2,954.27	79.72	38.059		
12,700.00	9,906.00	12,841.65	10,073.00	57.99	58.93	-94.00	2,704.71	-2,927.27	3,034.03	2,952.47	81.56	37.202		
12,800.00	9,906.00	12,941.65	10,073.00	59.33	60.22	-94.00	2,804.70	-2,928.26	3,034.07	2,950.65	83.42	36.371		
12,900.00	9,906.00	13,041.65	10,073.00	60.68	61.52	-94.00	2,904.70	-2,929.25	3,034.11	2,948.80	85.31	35.567		
13,000.00	9,906.00	13,141.65	10,073.00	62.04	62.84	-94.00	3,004.69	-2,930.25	3,034.16	2,946.94	87.22	34.789		
13,100.00	9,906.00	13,241.65	10,073.00	63.42	64.17	-94.00	3,104.69	-2,931.24	3,034.20	2,945.05	89.14	34.037		
13,200.00	9,906.00	13,341.65	10,073.00	64.82	65.52	-94.00	3,204.68	-2,932.24	3,034.24	2,943.15	91.09	33.310		
13,300.00	9,906.00	13,441.65	10,073.00	66.22	66.88	-94.00	3,304.68	-2,933.23	3,034.28	2,941.23	93.06	32.607		
13,400.00	9,906.00	13,541.65	10,073.00	67.63	68.25	-94.00	3,404.67	-2,934.22	3,034.33	2,939.29	95.04	31.927		
13,500.00	9,906.00	13,641.65	10,073.00	69.06	69.64	-94.00	3,504.67	-2,935.22	3,034.37	2,937.34	97.04	31.271		
13,600.00	9,906.00	13,741.65	10,073.00	70.49	71.04	-94.00	3,604.66	-2,936.21	3,034.41	2,935.37	99.05	30.636		
13,700.00	9,906.00	13,841.65	10,073.00	71.94	72.45	-94.00	3,704.66	-2,937.21	3,034.46	2,933.38	101.07	30.022		
13,800.00	9,906.00	13,941.65	10,073.00	73.39	73.87	-94.00	3,804.65	-2,938.20	3,034.50	2,931.39	103.11	29.429		
13,900.00	9,906.00	14,041.65	10,073.00	74.85	75.29	-94.00	3,904.65	-2,939.19	3,034.54	2,929.38	105.16	28.856		
14,000.00	9,906.00	14,141.65	10,073.00	76.32	76.73	-94.00	4,004.65	-2,940.19	3,034.59	2,927.36	107.23	28.301		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
14,100.00	9,906.00	14,241.65	10,073.00	77.80	78.18	-94.00	4,104.64	-2,941.18	3,034.63	2,925.33	109.30	27.765		
14,200.00	9,906.00	14,341.65	10,073.00	79.28	79.63	-94.00	4,204.64	-2,942.18	3,034.67	2,923.29	111.38	27.246		
14,300.00	9,906.00	14,441.65	10,073.00	80.77	81.09	-94.00	4,304.63	-2,943.17	3,034.72	2,921.24	113.48	26.743		
14,400.00	9,906.00	14,541.65	10,073.00	82.27	82.56	-94.00	4,404.63	-2,944.16	3,034.76	2,919.18	115.58	26.257		
14,500.00	9,906.00	14,641.65	10,073.00	83.77	84.04	-94.00	4,504.62	-2,945.16	3,034.80	2,917.11	117.69	25.787		
14,600.00	9,906.00	14,741.65	10,073.00	85.28	85.52	-94.00	4,604.62	-2,946.15	3,034.85	2,915.04	119.81	25.331		
14,700.00	9,906.00	14,841.65	10,073.00	86.79	87.00	-94.00	4,704.61	-2,947.15	3,034.89	2,912.95	121.93	24.889		
14,800.00	9,906.00	14,941.65	10,073.00	88.31	88.50	-94.00	4,804.61	-2,948.14	3,034.93	2,910.86	124.07	24.462		
14,900.00	9,906.00	15,041.65	10,073.00	89.83	90.00	-94.00	4,904.60	-2,949.13	3,034.97	2,908.76	126.21	24.047		
15,000.00	9,906.00	15,141.65	10,073.00	91.36	91.50	-94.00	5,004.60	-2,950.13	3,035.02	2,906.66	128.36	23.645		
15,100.00	9,906.00	15,241.65	10,073.00	92.89	93.01	-94.00	5,104.59	-2,951.12	3,035.06	2,904.55	130.51	23.255		
15,200.00	9,906.00	15,341.65	10,073.00	94.43	94.52	-94.00	5,204.59	-2,952.12	3,035.10	2,902.43	132.67	22.877		
15,300.00	9,906.00	15,441.65	10,073.00	95.97	96.04	-94.00	5,304.58	-2,953.11	3,035.15	2,900.31	134.84	22.509		
15,400.00	9,906.00	15,541.65	10,073.00	97.51	97.57	-94.00	5,404.58	-2,954.10	3,035.19	2,898.18	137.01	22.153		
15,500.00	9,906.00	15,641.65	10,073.00	99.06	99.09	-94.00	5,504.57	-2,955.10	3,035.23	2,896.05	139.19	21.807		
15,600.00	9,906.00	15,741.65	10,073.00	100.61	100.62	-94.00	5,604.57	-2,956.09	3,035.28	2,893.91	141.37	21.471		
15,700.00	9,906.00	15,841.65	10,073.00	102.16	102.16	-94.00	5,704.56	-2,957.09	3,035.32	2,891.76	143.56	21.144		
15,800.00	9,906.00	15,941.65	10,073.00	103.72	103.70	-94.00	5,804.56	-2,958.08	3,035.36	2,889.62	145.75	20.826		
15,900.00	9,906.00	16,041.65	10,073.00	105.28	105.24	-94.00	5,904.55	-2,959.07	3,035.41	2,887.46	147.94	20.518		
16,000.00	9,906.00	16,141.65	10,073.00	106.84	106.79	-94.00	6,004.55	-2,960.07	3,035.45	2,885.31	150.14	20.217		
16,100.00	9,906.00	16,241.65	10,073.00	108.40	108.33	-94.00	6,104.54	-2,961.06	3,035.49	2,883.15	152.34	19.925		
16,200.00	9,906.00	16,341.65	10,073.00	109.97	109.89	-94.00	6,204.54	-2,962.06	3,035.54	2,880.99	154.55	19.641		
16,300.00	9,906.00	16,441.65	10,073.00	111.54	111.44	-94.00	6,304.53	-2,963.05	3,035.58	2,878.82	156.76	19.364		
16,400.00	9,906.00	16,541.65	10,073.00	113.11	113.00	-94.00	6,404.53	-2,964.04	3,035.62	2,876.65	158.98	19.095		
16,500.00	9,906.00	16,641.65	10,073.00	114.69	114.56	-94.00	6,504.52	-2,965.04	3,035.67	2,874.47	161.19	18.833		
16,600.00	9,906.00	16,741.65	10,073.00	116.26	116.12	-94.00	6,604.52	-2,966.03	3,035.71	2,872.30	163.41	18.577		
16,700.00	9,906.00	16,841.65	10,073.00	117.84	117.68	-94.00	6,704.51	-2,967.03	3,035.75	2,870.12	165.64	18.328		
16,800.00	9,906.00	16,941.65	10,073.00	119.42	119.25	-94.00	6,804.51	-2,968.02	3,035.79	2,867.93	167.86	18.085		
16,900.00	9,906.00	17,041.65	10,073.00	121.01	120.82	-94.00	6,904.50	-2,969.01	3,035.84	2,865.75	170.09	17.848		
17,000.00	9,906.00	17,141.65	10,073.00	122.59	122.39	-94.00	7,004.50	-2,970.01	3,035.88	2,863.56	172.32	17.617		
17,100.00	9,906.00	17,241.65	10,073.00	124.18	123.96	-94.00	7,104.49	-2,971.00	3,035.92	2,861.37	174.56	17.392		
17,200.00	9,906.00	17,341.65	10,073.00	125.76	125.54	-94.00	7,204.49	-2,972.00	3,035.97	2,859.17	176.80	17.172		
17,300.00	9,906.00	17,441.65	10,073.00	127.35	127.12	-94.00	7,304.48	-2,972.99	3,036.01	2,856.98	179.03	16.958		
17,400.00	9,906.00	17,541.65	10,073.00	128.95	128.70	-94.00	7,404.48	-2,973.98	3,036.05	2,854.78	181.28	16.748		
17,500.00	9,906.00	17,641.65	10,073.00	130.54	130.28	-94.00	7,504.47	-2,974.98	3,036.10	2,852.58	183.52	16.544		
17,600.00	9,906.00	17,741.65	10,073.00	132.13	131.86	-94.00	7,604.47	-2,975.97	3,036.14	2,850.37	185.77	16.344		
17,700.00	9,906.00	17,841.65	10,073.00	133.73	133.45	-94.00	7,704.46	-2,976.97	3,036.18	2,848.17	188.02	16.149		
17,800.00	9,906.00	17,941.65	10,073.00	135.32	135.03	-94.00	7,804.46	-2,977.96	3,036.23	2,845.96	190.27	15.958		
17,900.00	9,906.00	18,041.65	10,073.00	136.92	136.62	-94.00	7,904.45	-2,978.95	3,036.27	2,843.75	192.52	15.771		
18,000.00	9,906.00	18,141.65	10,073.00	138.52	138.21	-94.00	8,004.45	-2,979.95	3,036.31	2,841.54	194.77	15.589		
18,100.00	9,906.00	18,241.65	10,073.00	140.12	139.80	-94.00	8,104.44	-2,980.94	3,036.36	2,839.33	197.03	15.411		
18,200.00	9,906.00	18,341.65	10,073.00	141.72	141.39	-94.00	8,204.44	-2,981.94	3,036.40	2,837.11	199.29	15.236		
18,300.00	9,906.00	18,441.65	10,073.00	143.33	142.99	-94.00	8,304.43	-2,982.93	3,036.44	2,834.90	201.55	15.066		
18,400.00	9,906.00	18,541.65	10,073.00	144.93	144.58	-94.00	8,404.43	-2,983.92	3,036.49	2,832.68	203.81	14.899		
18,500.00	9,906.00	18,641.65	10,073.00	146.54	146.18	-94.00	8,504.42	-2,984.92	3,036.53	2,830.46	206.07	14.735		
18,600.00	9,906.00	18,741.65	10,073.00	148.14	147.78	-94.00	8,604.42	-2,985.91	3,036.57	2,828.24	208.33	14.575		
18,700.00	9,906.00	18,841.65	10,073.00	149.75	149.37	-94.00	8,704.41	-2,986.91	3,036.61	2,826.01	210.60	14.419		
18,800.00	9,906.00	18,941.65	10,073.00	151.36	150.97	-94.00	8,804.41	-2,987.90	3,036.66	2,823.79	212.87	14.265		
18,900.00	9,906.00	19,041.65	10,073.00	152.97	152.57	-94.00	8,904.40	-2,988.89	3,036.70	2,821.56	215.14	14.115		
19,000.00	9,906.00	19,141.65	10,073.00	154.58	154.18	-94.00	9,004.40	-2,989.89	3,036.74	2,819.34	217.41	13.968		
19,100.00	9,906.00	19,241.65	10,073.00	156.19	155.78	-94.00	9,104.39	-2,990.88	3,036.79	2,817.11	219.68	13.824		
19,200.00	9,906.00	19,341.65	10,073.00	157.80	157.38	-94.00	9,204.39	-2,991.88	3,036.83	2,814.88	221.95	13.682		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
19,300.00	9,906.00	19,441.65	10,073.00	159.41	158.99	-94.00	9,304.38	-2,992.87	3,036.87	2,812.65	224.22	13.544		
19,400.00	9,906.00	19,541.65	10,073.00	161.03	160.59	-94.00	9,404.38	-2,993.86	3,036.92	2,810.42	226.50	13.408		
19,500.00	9,906.00	19,641.65	10,073.00	162.64	162.20	-94.00	9,504.37	-2,994.86	3,036.96	2,808.18	228.78	13.275		
19,600.00	9,906.00	19,741.65	10,073.00	164.26	163.81	-94.00	9,604.37	-2,995.85	3,037.00	2,805.95	231.05	13.144		
19,700.00	9,906.00	19,841.65	10,073.00	165.87	165.42	-94.00	9,704.36	-2,996.85	3,037.05	2,803.71	233.33	13.016		
19,800.00	9,906.00	19,941.65	10,073.00	167.49	167.03	-94.00	9,804.36	-2,997.84	3,037.09	2,801.48	235.61	12.890		
19,900.00	9,906.00	20,041.65	10,073.00	169.11	168.64	-94.00	9,904.35	-2,998.83	3,037.13	2,799.24	237.89	12.767		
20,000.00	9,906.00	20,141.65	10,073.00	170.72	170.25	-94.00	10,004.35	-2,999.83	3,037.18	2,797.00	240.17	12.646		
20,034.35	9,906.00	20,176.00	10,073.00	171.28	170.80	-94.00	10,038.69	-3,000.17	3,037.19	2,796.24	240.95	12.605 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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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			
0.00	0.00	0.00	0.00	0.00	0.00	-90.53	-17.94	-1,936.05	1,936.61							
100.00	100.00	56.80	56.80	0.13	0.07	-90.53	-17.94	-1,936.05	1,936.13	1,935.99	0.14	N/A				
200.00	200.00	156.80	156.80	0.48	0.33	-90.53	-17.94	-1,936.05	1,936.13	1,935.55	0.59	3,308.362				
300.00	300.00	256.80	256.80	0.84	0.69	-90.53	-17.94	-1,936.05	1,936.13	1,935.04	1.09	1,780.562				
400.00	400.00	356.80	356.80	1.20	1.05	-90.53	-17.94	-1,936.05	1,936.13	1,934.54	1.59	1,215.730				
500.00	500.00	456.80	456.80	1.56	1.40	-90.53	-17.94	-1,936.05	1,936.13	1,934.03	2.10	922.577				
600.00	600.00	556.80	556.80	1.92	1.76	-90.53	-17.94	-1,936.05	1,936.13	1,933.53	2.61	743.233				
700.00	700.00	656.80	656.80	2.28	2.12	-90.53	-17.94	-1,936.05	1,936.13	1,933.02	3.11	622.232				
800.00	800.00	756.80	756.80	2.63	2.48	-90.53	-17.94	-1,936.05	1,936.13	1,932.51	3.62	535.098				
900.00	900.00	856.80	856.80	2.99	2.84	-90.53	-17.94	-1,936.05	1,936.13	1,932.01	4.13	469.362				
1,000.00	1,000.00	956.80	956.80	3.35	3.20	-90.53	-17.94	-1,936.05	1,936.13	1,931.50	4.63	418.006				
1,100.00	1,100.00	1,056.80	1,056.80	3.71	3.56	-90.53	-17.94	-1,936.05	1,936.13	1,930.99	5.14	376.778				
1,200.00	1,200.00	1,156.80	1,156.80	4.07	3.91	-90.53	-17.94	-1,936.05	1,936.13	1,930.49	5.65	342.951				
1,300.00	1,300.00	1,256.80	1,256.80	4.43	4.27	-90.53	-17.94	-1,936.05	1,936.13	1,929.98	6.15	314.697				
1,400.00	1,400.00	1,356.80	1,356.80	4.79	4.63	-90.53	-17.94	-1,936.05	1,936.13	1,929.47	6.66	290.743				
1,500.00	1,500.00	1,456.80	1,456.80	5.14	4.99	-90.53	-17.94	-1,936.05	1,936.13	1,928.97	7.17	270.178				
1,600.00	1,600.00	1,556.80	1,556.80	5.50	5.35	-90.53	-17.94	-1,936.05	1,936.13	1,928.46	7.67	252.329				
1,700.00	1,700.00	1,656.80	1,656.80	5.86	5.71	-90.53	-17.94	-1,936.05	1,936.13	1,927.95	8.18	236.692				
1,800.00	1,800.00	1,756.80	1,756.80	6.22	6.06	-90.53	-17.94	-1,936.05	1,936.13	1,927.44	8.69	222.880				
1,900.00	1,899.99	1,856.79	1,856.79	6.56	6.42	113.02	-17.94	-1,936.05	1,936.64	1,927.46	9.18	210.937				
2,000.00	1,999.91	1,956.71	1,956.71	6.89	6.78	113.11	-17.94	-1,936.05	1,938.18	1,928.52	9.66	200.545				
2,066.81	2,066.60	2,042.19	2,042.19	7.11	7.08	113.23	-18.05	-1,935.84	1,939.68	1,929.64	10.03	193.351				
2,100.00	2,099.70	2,101.96	2,101.94	7.22	7.29	113.33	-18.59	-1,934.85	1,940.04	1,929.79	10.25	189.208				
2,200.00	2,199.46	2,282.25	2,281.99	7.55	7.89	113.54	-22.90	-1,926.88	1,938.40	1,927.50	10.90	177.800				
2,300.00	2,299.21	2,462.22	2,461.10	7.89	8.51	113.64	-31.23	-1,911.48	1,932.62	1,921.08	11.54	167.403				
2,400.00	2,398.97	2,568.10	2,566.15	8.23	8.89	113.65	-37.48	-1,899.92	1,924.47	1,912.44	12.04	159.860				
2,500.00	2,498.73	2,667.76	2,665.04	8.58	9.24	113.67	-43.38	-1,889.03	1,916.31	1,903.79	12.52	153.011				
2,600.00	2,598.48	2,767.43	2,763.93	8.92	9.60	113.68	-49.28	-1,878.13	1,908.15	1,895.14	13.01	146.631				
2,700.00	2,698.24	2,867.09	2,862.83	9.27	9.97	113.69	-55.17	-1,867.23	1,899.99	1,886.49	13.51	140.680				
2,800.00	2,798.00	2,966.76	2,961.72	9.62	10.34	113.71	-61.07	-1,856.33	1,891.83	1,877.83	14.00	135.120				
2,900.00	2,897.75	3,066.42	3,060.61	9.98	10.71	113.72	-66.97	-1,845.43	1,883.67	1,869.17	14.50	129.915				
3,000.00	2,997.51	3,166.09	3,159.50	10.33	11.08	113.74	-72.87	-1,834.53	1,875.51	1,860.51	15.00	125.037				
3,100.00	3,097.26	3,265.75	3,258.39	10.69	11.46	113.75	-78.76	-1,823.63	1,867.35	1,851.85	15.50	120.457				
3,200.00	3,197.02	3,365.42	3,357.29	11.05	11.84	113.77	-84.66	-1,812.73	1,859.19	1,843.18	16.01	116.151				
3,300.00	3,296.78	3,465.08	3,456.18	11.41	12.22	113.78	-90.56	-1,801.83	1,851.03	1,834.52	16.51	112.096				
3,400.00	3,396.53	3,564.75	3,555.07	11.77	12.60	113.80	-96.45	-1,790.93	1,842.87	1,825.85	17.02	108.272				
3,500.00	3,496.29	3,664.41	3,653.96	12.13	12.98	113.81	-102.35	-1,780.03	1,834.71	1,817.18	17.53	104.661				
3,600.00	3,596.04	3,764.08	3,752.85	12.49	13.37	113.83	-108.25	-1,769.13	1,826.55	1,808.51	18.04	101.246				
3,700.00	3,695.80	3,863.74	3,851.74	12.85	13.75	113.84	-114.15	-1,758.23	1,818.39	1,799.84	18.55	98.013				
3,800.00	3,795.56	3,963.41	3,950.64	13.22	14.14	113.86	-120.04	-1,747.33	1,810.23	1,791.17	19.07	94.948				
3,900.00	3,895.31	4,063.08	4,049.53	13.58	14.53	113.88	-125.94	-1,736.43	1,802.07	1,782.49	19.58	92.039				
4,000.00	3,995.07	4,162.74	4,148.42	13.95	14.92	113.89	-131.84	-1,725.53	1,793.91	1,773.82	20.09	89.274				
4,100.00	4,094.83	4,262.41	4,247.31	14.31	15.31	113.91	-137.73	-1,714.63	1,785.75	1,765.14	20.61	86.644				
4,200.00	4,194.58	4,362.07	4,346.20	14.68	15.71	113.93	-143.63	-1,703.74	1,777.59	1,756.47	21.13	84.139				
4,300.00	4,294.34	4,461.74	4,445.10	15.05	16.10	113.94	-149.53	-1,692.84	1,769.44	1,747.79	21.64	81.751				
4,400.00	4,394.09	4,561.40	4,543.99	15.41	16.49	113.96	-155.43	-1,681.94	1,761.28	1,739.12	22.16	79.471				
4,500.00	4,493.85	4,661.07	4,642.88	15.78	16.89	113.98	-161.32	-1,671.04	1,753.12	1,730.44	22.68	77.294				
4,600.00	4,593.61	4,760.73	4,741.77	16.15	17.28	113.99	-167.22	-1,660.14	1,744.96	1,721.76	23.20	75.212				
4,700.00	4,693.36	4,860.40	4,840.66	16.52	17.68	114.01	-173.12	-1,649.24	1,736.80	1,713.08	23.72	73.220				
4,800.00	4,793.12	4,960.06	4,939.55	16.89	18.08	114.03	-179.01	-1,638.34	1,728.64	1,704.40	24.24	71.311				
4,900.00	4,892.87	5,059.73	5,038.45	17.26	18.47	114.04	-184.91	-1,627.44	1,720.49	1,695.73	24.76	69.481				
5,000.00	4,992.63	5,159.39	5,137.34	17.63	18.87	114.06	-190.81	-1,616.54	1,712.33	1,687.05	25.28	67.726				

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
5,100.00	5,092.39	5,259.06	5,236.23	18.00	19.27	114.08	-196.70	-1,605.64	1,704.17	1,678.37	25.81	66.040		
5,200.00	5,192.14	5,358.72	5,335.12	18.37	19.67	114.10	-202.60	-1,594.74	1,696.01	1,669.69	26.33	64.420		
5,300.00	5,291.90	5,458.39	5,434.01	18.74	20.07	114.12	-208.50	-1,583.84	1,687.86	1,661.01	26.85	62.863		
5,400.00	5,391.65	5,558.06	5,532.91	19.11	20.47	114.13	-214.40	-1,572.94	1,679.70	1,652.33	27.37	61.364		
5,500.00	5,491.41	5,657.72	5,631.80	19.48	20.87	114.15	-220.29	-1,562.04	1,671.54	1,643.65	27.90	59.920		
5,600.00	5,591.17	5,757.39	5,730.69	19.85	21.27	114.17	-226.19	-1,551.14	1,663.39	1,634.97	28.42	58.529		
5,700.00	5,690.92	5,857.05	5,829.58	20.22	21.67	114.19	-232.09	-1,540.24	1,655.23	1,626.29	28.94	57.188		
5,800.00	5,790.68	5,956.72	5,928.47	20.59	22.07	114.21	-237.98	-1,529.34	1,647.07	1,617.61	29.47	55.894		
5,900.00	5,890.44	6,056.38	6,027.37	20.97	22.47	114.23	-243.88	-1,518.45	1,638.92	1,608.93	29.99	54.645		
6,000.00	5,990.19	6,156.05	6,126.26	21.34	22.88	114.25	-249.78	-1,507.55	1,630.76	1,600.25	30.52	53.438		
6,100.00	6,089.95	6,255.71	6,225.15	21.71	23.28	114.27	-255.68	-1,496.65	1,622.61	1,591.57	31.04	52.272		
6,200.00	6,189.70	6,355.38	6,324.04	22.08	23.68	114.29	-261.57	-1,485.75	1,614.45	1,582.88	31.57	51.144		
6,300.00	6,289.46	6,455.04	6,422.93	22.45	24.08	114.31	-267.47	-1,474.85	1,606.30	1,574.20	32.09	50.052		
6,394.17	6,383.40	6,548.90	6,516.06	22.81	24.46	114.33	-273.02	-1,464.58	1,598.62	1,566.03	32.59	49.056		
6,400.00	6,389.22	6,554.71	6,521.82	22.83	24.49	114.32	-273.37	-1,463.95	1,598.14	1,565.52	32.62	48.996		
6,500.00	6,489.06	6,654.32	6,620.66	23.19	24.89	114.17	-279.26	-1,453.06	1,589.39	1,556.24	33.14	47.958		
6,600.00	6,589.02	6,753.78	6,719.35	23.55	25.29	113.92	-285.15	-1,442.18	1,579.57	1,545.91	33.66	46.926		
6,660.99	6,650.00	6,814.34	6,779.44	23.76	25.54	-89.81	-288.73	-1,435.56	1,573.07	1,539.10	33.97	46.306		
6,700.00	6,689.01	6,853.05	6,817.85	23.89	25.69	-89.89	-291.02	-1,431.32	1,568.79	1,534.62	34.17	45.916		
6,800.00	6,789.01	6,938.63	6,902.79	24.22	26.04	-90.07	-295.99	-1,422.13	1,558.06	1,523.41	34.64	44.972		
6,900.00	6,889.01	7,000.00	6,963.81	24.55	26.28	-90.19	-299.10	-1,416.38	1,548.89	1,513.82	35.07	44.164		
7,000.00	6,989.01	7,085.40	7,048.88	24.88	26.61	-90.32	-302.65	-1,409.82	1,541.29	1,505.76	35.54	43.372		
7,100.00	7,089.01	7,159.14	7,122.46	25.22	26.88	-90.41	-304.99	-1,405.50	1,535.45	1,499.49	35.97	42.689		
7,200.00	7,189.01	7,233.04	7,196.27	25.55	27.15	-90.47	-306.65	-1,402.43	1,531.31	1,494.92	36.39	42.081		
7,300.00	7,289.01	7,300.00	7,263.21	25.88	27.38	-90.51	-307.57	-1,400.73	1,528.89	1,492.11	36.78	41.569		
7,400.00	7,389.01	7,382.61	7,345.81	26.22	27.66	-90.52	-307.94	-1,400.05	1,528.11	1,490.91	37.20	41.075		
7,500.00	7,489.01	7,482.61	7,445.81	26.55	27.98	-90.52	-307.94	-1,400.05	1,528.11	1,490.44	37.68	40.560		
7,600.00	7,589.01	7,582.61	7,545.81	26.89	28.30	-90.52	-307.94	-1,400.05	1,528.11	1,489.96	38.15	40.057		
7,700.00	7,689.01	7,682.61	7,645.81	27.23	28.62	-90.52	-307.94	-1,400.05	1,528.11	1,489.49	38.62	39.565		
7,800.00	7,789.01	7,782.61	7,745.81	27.56	28.95	-90.52	-307.94	-1,400.05	1,528.11	1,489.01	39.10	39.084		
7,900.00	7,889.01	7,882.61	7,845.81	27.90	29.27	-90.52	-307.94	-1,400.05	1,528.11	1,488.54	39.57	38.614		
8,000.00	7,989.01	7,982.61	7,945.81	28.24	29.60	-90.52	-307.94	-1,400.05	1,528.11	1,488.06	40.05	38.154		
8,100.00	8,089.01	8,082.61	8,045.81	28.58	29.92	-90.52	-307.94	-1,400.05	1,528.11	1,487.58	40.53	37.705		
8,200.00	8,189.01	8,182.61	8,145.81	28.92	30.25	-90.52	-307.94	-1,400.05	1,528.11	1,487.11	41.01	37.265		
8,300.00	8,289.01	8,282.61	8,245.81	29.25	30.58	-90.52	-307.94	-1,400.05	1,528.11	1,486.63	41.49	36.835		
8,400.00	8,389.01	8,382.61	8,345.81	29.59	30.91	-90.52	-307.94	-1,400.05	1,528.11	1,486.15	41.96	36.414		
8,500.00	8,489.01	8,482.61	8,445.81	29.93	31.24	-90.52	-307.94	-1,400.05	1,528.11	1,485.67	42.44	36.002		
8,600.00	8,589.01	8,582.61	8,545.81	30.28	31.57	-90.52	-307.94	-1,400.05	1,528.11	1,485.19	42.93	35.599		
8,700.00	8,689.01	8,682.61	8,645.81	30.62	31.90	-90.52	-307.94	-1,400.05	1,528.11	1,484.70	43.41	35.204		
8,800.00	8,789.01	8,782.61	8,745.81	30.96	32.23	-90.52	-307.94	-1,400.05	1,528.11	1,484.22	43.89	34.818		
8,900.00	8,889.01	8,882.61	8,845.81	31.30	32.56	-90.52	-307.94	-1,400.05	1,528.11	1,483.74	44.37	34.439		
9,000.00	8,989.01	8,982.61	8,945.81	31.64	32.89	-90.52	-307.94	-1,400.05	1,528.11	1,483.26	44.85	34.068		
9,100.00	9,089.01	9,082.61	9,045.81	31.99	33.23	-90.52	-307.94	-1,400.05	1,528.11	1,482.77	45.34	33.705		
9,200.00	9,189.01	9,182.61	9,145.81	32.33	33.56	-90.52	-307.94	-1,400.05	1,528.11	1,482.29	45.82	33.349		
9,300.00	9,289.01	9,282.61	9,245.81	32.67	33.89	-90.52	-307.94	-1,400.05	1,528.11	1,481.81	46.31	33.000		
9,344.03	9,333.04	9,326.64	9,289.84	32.82	34.04	-90.52	-307.94	-1,400.05	1,528.11	1,481.59	46.52	32.849		
9,350.00	9,339.01	9,332.61	9,295.81	32.84	34.06	-89.98	-307.94	-1,400.05	1,528.11	1,481.56	46.55	32.828		
9,370.02	9,359.03	9,352.63	9,315.83	32.91	34.13	-90.00	-307.94	-1,400.05	1,528.11	1,481.47	46.64	32.761 CC		
9,400.00	9,388.92	9,382.52	9,345.72	33.01	34.23	-90.08	-307.94	-1,400.05	1,528.11	1,481.32	46.79	32.659		
9,450.00	9,438.41	9,432.12	9,395.32	33.17	34.39	-90.34	-307.89	-1,400.05	1,528.14	1,481.11	47.03	32.496		
9,500.00	9,487.09	9,482.50	9,445.60	33.32	34.56	-90.65	-305.04	-1,400.08	1,528.22	1,480.96	47.26	32.339		
9,550.00	9,534.61	9,533.67	9,496.22	33.46	34.71	-90.97	-297.63	-1,400.15	1,528.34	1,480.86	47.48	32.191		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
9,600.00	9,580.58	9,585.67	9,546.76	33.59	34.86	-91.28	-285.52	-1,400.27	1,528.51	1,480.83	47.69	32.054		
9,650.00	9,624.68	9,638.50	9,596.78	33.71	35.00	-91.58	-268.56	-1,400.44	1,528.72	1,480.84	47.88	31.925		
9,700.00	9,666.55	9,692.18	9,645.79	33.83	35.13	-91.87	-246.69	-1,400.66	1,528.97	1,480.90	48.07	31.806		
9,750.00	9,705.89	9,746.72	9,693.26	33.93	35.24	-92.15	-219.88	-1,400.93	1,529.25	1,481.00	48.25	31.694		
9,800.00	9,742.38	9,802.12	9,738.64	34.04	35.33	-92.41	-188.16	-1,401.24	1,529.55	1,481.13	48.42	31.589		
9,850.00	9,775.77	9,858.33	9,781.34	34.14	35.41	-92.66	-151.63	-1,401.60	1,529.86	1,481.27	48.58	31.490		
9,900.00	9,805.78	9,915.35	9,820.79	34.24	35.48	-92.88	-110.50	-1,402.01	1,530.17	1,481.42	48.74	31.393		
9,950.00	9,832.20	9,973.10	9,856.38	34.34	35.52	-93.08	-65.05	-1,402.47	1,530.46	1,481.56	48.90	31.298		
10,000.00	9,854.81	10,031.54	9,887.55	34.45	35.55	-93.26	-15.66	-1,402.96	1,530.74	1,481.68	49.06	31.200		
10,050.00	9,873.46	10,090.56	9,913.77	34.57	35.57	-93.41	37.20	-1,403.49	1,530.99	1,481.76	49.23	31.100		
10,100.00	9,887.99	10,150.09	9,934.56	34.69	35.57	-93.53	92.95	-1,404.04	1,531.20	1,481.80	49.40	30.994		
10,150.00	9,898.30	10,210.01	9,949.53	34.81	35.57	-93.61	150.93	-1,404.62	1,531.36	1,481.77	49.59	30.881		
10,200.00	9,904.31	10,270.19	9,958.39	34.95	35.59	-93.66	210.42	-1,405.21	1,531.47	1,481.68	49.79	30.761		
10,244.03	9,906.00	10,323.30	9,961.00	35.07	35.70	-93.68	263.45	-1,405.74	1,531.52	1,481.55	49.97	30.650		
10,300.00	9,906.00	10,379.54	9,961.00	35.24	35.87	-93.68	319.68	-1,406.30	1,531.55	1,481.34	50.20	30.508		
10,400.00	9,906.00	10,479.54	9,961.00	35.60	36.24	-93.68	419.68	-1,407.29	1,531.59	1,480.89	50.70	30.210		
10,500.00	9,906.00	10,579.54	9,961.00	36.03	36.68	-93.68	519.67	-1,408.29	1,531.64	1,480.34	51.29	29.860		
10,600.00	9,906.00	10,679.54	9,961.00	36.54	37.18	-93.68	619.67	-1,409.29	1,531.68	1,479.69	51.99	29.462		
10,700.00	9,906.00	10,779.54	9,961.00	37.11	37.75	-93.68	719.66	-1,410.28	1,531.73	1,478.95	52.78	29.023		
10,800.00	9,906.00	10,879.54	9,961.00	37.74	38.37	-93.68	819.66	-1,411.28	1,531.77	1,478.12	53.65	28.549		
10,900.00	9,906.00	10,979.54	9,961.00	38.44	39.05	-93.68	919.65	-1,412.27	1,531.82	1,477.20	54.62	28.046		
11,000.00	9,906.00	11,079.54	9,961.00	39.19	39.78	-93.68	1,019.65	-1,413.27	1,531.86	1,476.20	55.66	27.520		
11,100.00	9,906.00	11,179.54	9,961.00	40.00	40.57	-93.68	1,119.64	-1,414.27	1,531.91	1,475.12	56.79	26.977		
11,200.00	9,906.00	11,279.54	9,961.00	40.85	41.41	-93.68	1,219.64	-1,415.26	1,531.95	1,473.97	57.98	26.422		
11,300.00	9,906.00	11,379.54	9,961.00	41.76	42.29	-93.68	1,319.63	-1,416.26	1,532.00	1,472.75	59.24	25.860		
11,400.00	9,906.00	11,479.54	9,961.00	42.71	43.22	-93.68	1,419.63	-1,417.25	1,532.04	1,471.47	60.57	25.295		
11,500.00	9,906.00	11,579.54	9,961.00	43.70	44.19	-93.67	1,519.62	-1,418.25	1,532.09	1,470.13	61.95	24.730		
11,600.00	9,906.00	11,679.54	9,961.00	44.73	45.19	-93.67	1,619.62	-1,419.24	1,532.13	1,468.74	63.39	24.169		
11,700.00	9,906.00	11,779.54	9,961.00	45.80	46.24	-93.67	1,719.61	-1,420.24	1,532.18	1,467.29	64.88	23.614		
11,800.00	9,906.00	11,879.54	9,961.00	46.90	47.32	-93.67	1,819.61	-1,421.24	1,532.22	1,465.80	66.42	23.067		
11,900.00	9,906.00	11,979.54	9,961.00	48.03	48.43	-93.67	1,919.60	-1,422.23	1,532.27	1,464.26	68.01	22.530		
12,000.00	9,906.00	12,079.54	9,961.00	49.19	49.57	-93.67	2,019.60	-1,423.23	1,532.31	1,462.67	69.64	22.004		
12,100.00	9,906.00	12,179.54	9,961.00	50.38	50.74	-93.67	2,119.59	-1,424.22	1,532.36	1,461.05	71.31	21.490		
12,200.00	9,906.00	12,279.54	9,961.00	51.60	51.93	-93.67	2,219.59	-1,425.22	1,532.40	1,459.39	73.01	20.989		
12,300.00	9,906.00	12,379.54	9,961.00	52.83	53.15	-93.67	2,319.58	-1,426.22	1,532.45	1,457.70	74.75	20.502		
12,400.00	9,906.00	12,479.54	9,961.00	54.09	54.39	-93.67	2,419.58	-1,427.21	1,532.49	1,455.97	76.52	20.028		
12,500.00	9,906.00	12,579.54	9,961.00	55.38	55.65	-93.67	2,519.57	-1,428.21	1,532.54	1,454.22	78.31	19.569		
12,600.00	9,906.00	12,679.54	9,961.00	56.68	56.94	-93.67	2,619.57	-1,429.20	1,532.58	1,452.44	80.14	19.124		
12,700.00	9,906.00	12,779.54	9,961.00	57.99	58.24	-93.67	2,719.56	-1,430.20	1,532.63	1,450.63	81.99	18.692		
12,800.00	9,906.00	12,879.54	9,961.00	59.33	59.56	-93.67	2,819.56	-1,431.19	1,532.67	1,448.80	83.87	18.275		
12,900.00	9,906.00	12,979.54	9,961.00	60.68	60.89	-93.67	2,919.55	-1,432.19	1,532.72	1,446.95	85.77	17.871		
13,000.00	9,906.00	13,079.54	9,961.00	62.04	62.24	-93.67	3,019.55	-1,433.19	1,532.76	1,445.07	87.69	17.480		
13,100.00	9,906.00	13,179.54	9,961.00	63.42	63.60	-93.67	3,119.54	-1,434.18	1,532.81	1,443.18	89.63	17.102		
13,200.00	9,906.00	13,279.54	9,961.00	64.82	64.98	-93.67	3,219.54	-1,435.18	1,532.85	1,441.27	91.58	16.737		
13,300.00	9,906.00	13,379.54	9,961.00	66.22	66.37	-93.67	3,319.53	-1,436.17	1,532.90	1,439.34	93.56	16.385		
13,400.00	9,906.00	13,479.54	9,961.00	67.63	67.77	-93.67	3,419.53	-1,437.17	1,532.94	1,437.39	95.55	16.044		
13,500.00	9,906.00	13,579.54	9,961.00	69.06	69.19	-93.67	3,519.52	-1,438.17	1,532.99	1,435.43	97.55	15.714		
13,600.00	9,906.00	13,679.54	9,961.00	70.49	70.61	-93.67	3,619.52	-1,439.16	1,533.03	1,433.46	99.57	15.396		
13,700.00	9,906.00	13,779.54	9,961.00	71.94	72.04	-93.67	3,719.51	-1,440.16	1,533.08	1,431.47	101.61	15.088		
13,800.00	9,906.00	13,879.54	9,961.00	73.39	73.48	-93.67	3,819.51	-1,441.15	1,533.12	1,429.47	103.65	14.791		
13,900.00	9,906.00	13,979.54	9,961.00	74.85	74.93	-93.67	3,919.50	-1,442.15	1,533.17	1,427.45	105.71	14.503		
14,000.00	9,906.00	14,079.54	9,961.00	76.32	76.39	-93.67	4,019.50	-1,443.14	1,533.21	1,425.43	107.78	14.225		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
14,100.00	9,906.00	14,179.54	9,961.00	77.80	77.86	-93.67	4,119.49	-1,444.14	1,533.26	1,423.39	109.86	13.956		
14,200.00	9,906.00	14,279.54	9,961.00	79.28	79.33	-93.67	4,219.49	-1,445.14	1,533.30	1,421.35	111.95	13.696		
14,300.00	9,906.00	14,379.54	9,961.00	80.77	80.81	-93.67	4,319.48	-1,446.13	1,533.35	1,419.30	114.05	13.445		
14,400.00	9,906.00	14,479.54	9,961.00	82.27	82.30	-93.67	4,419.48	-1,447.13	1,533.39	1,417.23	116.16	13.201		
14,500.00	9,906.00	14,579.54	9,961.00	83.77	83.79	-93.67	4,519.47	-1,448.12	1,533.44	1,415.16	118.27	12.965		
14,600.00	9,906.00	14,679.54	9,961.00	85.28	85.29	-93.67	4,619.47	-1,449.12	1,533.48	1,413.08	120.40	12.737		
14,700.00	9,906.00	14,779.54	9,961.00	86.79	86.80	-93.67	4,719.46	-1,450.12	1,533.53	1,410.99	122.53	12.515		
14,800.00	9,906.00	14,879.54	9,961.00	88.31	88.31	-93.67	4,819.46	-1,451.11	1,533.57	1,408.90	124.67	12.301		
14,900.00	9,906.00	14,979.54	9,961.00	89.83	89.82	-93.67	4,919.45	-1,452.11	1,533.62	1,406.80	126.82	12.093		
15,000.00	9,906.00	15,079.54	9,961.00	91.36	91.34	-93.67	5,019.45	-1,453.10	1,533.66	1,404.69	128.97	11.892		
15,100.00	9,906.00	15,179.54	9,961.00	92.89	92.86	-93.67	5,119.44	-1,454.10	1,533.71	1,402.58	131.13	11.696		
15,200.00	9,906.00	15,279.54	9,961.00	94.43	94.39	-93.67	5,219.44	-1,455.09	1,533.75	1,400.46	133.29	11.507		
15,300.00	9,906.00	15,379.54	9,961.00	95.97	95.93	-93.67	5,319.43	-1,456.09	1,533.80	1,398.33	135.46	11.323		
15,400.00	9,906.00	15,479.54	9,961.00	97.51	97.46	-93.67	5,419.43	-1,457.09	1,533.84	1,396.20	137.64	11.144		
15,500.00	9,906.00	15,579.54	9,961.00	99.06	99.00	-93.67	5,519.42	-1,458.08	1,533.89	1,394.07	139.82	10.970		
15,600.00	9,906.00	15,679.54	9,961.00	100.61	100.55	-93.67	5,619.42	-1,459.08	1,533.93	1,391.92	142.01	10.802		
15,700.00	9,906.00	15,779.54	9,961.00	102.16	102.09	-93.67	5,719.41	-1,460.07	1,533.98	1,389.78	144.20	10.638		
15,800.00	9,906.00	15,879.54	9,961.00	103.72	103.64	-93.67	5,819.41	-1,461.07	1,534.02	1,387.63	146.39	10.479		
15,900.00	9,906.00	15,979.54	9,961.00	105.28	105.20	-93.67	5,919.40	-1,462.07	1,534.07	1,385.48	148.59	10.324		
16,000.00	9,906.00	16,079.54	9,961.00	106.84	106.75	-93.67	6,019.40	-1,463.06	1,534.11	1,383.32	150.79	10.174		
16,100.00	9,906.00	16,179.54	9,961.00	108.40	108.31	-93.67	6,119.39	-1,464.06	1,534.16	1,381.16	153.00	10.027		
16,200.00	9,906.00	16,279.54	9,961.00	109.97	109.87	-93.67	6,219.39	-1,465.05	1,534.20	1,378.99	155.21	9.885		
16,300.00	9,906.00	16,379.54	9,961.00	111.54	111.44	-93.67	6,319.38	-1,466.05	1,534.24	1,376.82	157.42	9.746		
16,400.00	9,906.00	16,479.54	9,961.00	113.11	113.01	-93.67	6,419.38	-1,467.04	1,534.29	1,374.65	159.64	9.611		
16,500.00	9,906.00	16,579.54	9,961.00	114.69	114.58	-93.67	6,519.37	-1,468.04	1,534.33	1,372.47	161.86	9.479		
16,600.00	9,906.00	16,679.54	9,961.00	116.26	116.15	-93.67	6,619.37	-1,469.04	1,534.38	1,370.30	164.08	9.351		
16,700.00	9,906.00	16,779.54	9,961.00	117.84	117.72	-93.67	6,719.36	-1,470.03	1,534.42	1,368.11	166.31	9.226		
16,800.00	9,906.00	16,879.54	9,961.00	119.42	119.30	-93.67	6,819.36	-1,471.03	1,534.47	1,365.93	168.54	9.104		
16,900.00	9,906.00	16,979.54	9,961.00	121.01	120.88	-93.67	6,919.35	-1,472.02	1,534.51	1,363.74	170.77	8.986		
17,000.00	9,906.00	17,079.54	9,961.00	122.59	122.46	-93.67	7,019.35	-1,473.02	1,534.56	1,361.55	173.01	8.870		
17,100.00	9,906.00	17,179.54	9,961.00	124.18	124.04	-93.67	7,119.34	-1,474.02	1,534.60	1,359.36	175.24	8.757		
17,200.00	9,906.00	17,279.54	9,961.00	125.76	125.62	-93.67	7,219.34	-1,475.01	1,534.65	1,357.17	177.48	8.647		
17,300.00	9,906.00	17,379.54	9,961.00	127.35	127.21	-93.67	7,319.33	-1,476.01	1,534.69	1,354.97	179.73	8.539		
17,400.00	9,906.00	17,479.54	9,961.00	128.95	128.79	-93.67	7,419.33	-1,477.00	1,534.74	1,352.77	181.97	8.434		
17,500.00	9,906.00	17,579.54	9,961.00	130.54	130.38	-93.67	7,519.32	-1,478.00	1,534.78	1,350.57	184.22	8.331		
17,600.00	9,906.00	17,679.54	9,961.00	132.13	131.97	-93.67	7,619.32	-1,478.99	1,534.83	1,348.37	186.46	8.231		
17,700.00	9,906.00	17,779.54	9,961.00	133.73	133.57	-93.67	7,719.31	-1,479.99	1,534.87	1,346.16	188.71	8.133		
17,800.00	9,906.00	17,879.54	9,961.00	135.32	135.16	-93.67	7,819.31	-1,480.99	1,534.92	1,343.95	190.97	8.038		
17,900.00	9,906.00	17,979.54	9,961.00	136.92	136.75	-93.67	7,919.31	-1,481.98	1,534.96	1,341.74	193.22	7.944		
18,000.00	9,906.00	18,079.54	9,961.00	138.52	138.35	-93.67	8,019.30	-1,482.98	1,535.01	1,339.53	195.48	7.853		
18,100.00	9,906.00	18,179.54	9,961.00	140.12	139.95	-93.67	8,119.30	-1,483.97	1,535.05	1,337.32	197.74	7.763		
18,200.00	9,906.00	18,279.54	9,961.00	141.72	141.55	-93.67	8,219.29	-1,484.97	1,535.10	1,335.10	200.00	7.676		
18,300.00	9,906.00	18,379.54	9,961.00	143.33	143.15	-93.67	8,319.29	-1,485.97	1,535.14	1,332.89	202.26	7.590		
18,400.00	9,906.00	18,479.54	9,961.00	144.93	144.75	-93.67	8,419.28	-1,486.96	1,535.19	1,330.67	204.52	7.506		
18,500.00	9,906.00	18,579.54	9,961.00	146.54	146.35	-93.67	8,519.28	-1,487.96	1,535.23	1,328.45	206.78	7.424		
18,600.00	9,906.00	18,679.54	9,961.00	148.14	147.95	-93.67	8,619.27	-1,488.95	1,535.28	1,326.23	209.05	7.344		
18,700.00	9,906.00	18,779.54	9,961.00	149.75	149.56	-93.67	8,719.27	-1,489.95	1,535.32	1,324.01	211.32	7.265		
18,800.00	9,906.00	18,879.54	9,961.00	151.36	151.16	-93.67	8,819.26	-1,490.94	1,535.37	1,321.78	213.59	7.189		
18,900.00	9,906.00	18,979.54	9,961.00	152.97	152.77	-93.67	8,919.26	-1,491.94	1,535.41	1,319.56	215.86	7.113		
19,000.00	9,906.00	19,079.54	9,961.00	154.58	154.38	-93.67	9,019.25	-1,492.94	1,535.46	1,317.33	218.13	7.039		
19,100.00	9,906.00	19,179.54	9,961.00	156.19	155.98	-93.67	9,119.25	-1,493.93	1,535.50	1,315.10	220.40	6.967		
19,200.00	9,906.00	19,279.54	9,961.00	157.80	157.59	-93.67	9,219.24	-1,494.93	1,535.55	1,312.87	222.67	6.896		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 302H - 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
19,300.00	9,906.00	19,379.54	9,961.00	159.41	159.20	-93.67	9,319.24	-1,495.92	1,535.59	1,310.64	224.95	6.826	
19,400.00	9,906.00	19,479.54	9,961.00	161.03	160.81	-93.67	9,419.23	-1,496.92	1,535.64	1,308.41	227.23	6.758	
19,500.00	9,906.00	19,579.54	9,961.00	162.64	162.43	-93.67	9,519.23	-1,497.92	1,535.68	1,306.18	229.50	6.691	
19,600.00	9,906.00	19,679.54	9,961.00	164.26	164.04	-93.67	9,619.22	-1,498.91	1,535.73	1,303.95	231.78	6.626	
19,700.00	9,906.00	19,779.54	9,961.00	165.87	165.65	-93.67	9,719.22	-1,499.91	1,535.77	1,301.71	234.06	6.561	
19,800.00	9,906.00	19,879.54	9,961.00	167.49	167.27	-93.67	9,819.21	-1,500.90	1,535.82	1,299.48	236.34	6.498	
19,900.00	9,906.00	19,979.54	9,961.00	169.11	168.88	-93.67	9,919.21	-1,501.90	1,535.86	1,297.24	238.62	6.436	
20,000.00	9,906.00	20,079.54	9,961.00	170.72	170.50	-93.67	10,019.20	-1,502.89	1,535.91	1,295.00	240.91	6.376	
20,034.35	9,906.00	20,113.88	9,961.00	171.28	171.05	-93.67	10,053.55	-1,503.24	1,535.92	1,294.23	241.69	6.355 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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 304H - 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				
0.00	0.00	0.00	0.00	0.00	0.00	89.54	0.40	49.99	49.99							
100.00	100.00	100.00	100.00	0.13	0.13	89.54	0.40	49.99	49.99	49.81	0.18	281.747				
200.00	200.00	200.00	200.00	0.48	0.48	89.54	0.40	49.99	49.99	49.31	0.68	73.045				
300.00	300.00	300.00	300.00	0.84	0.84	89.54	0.40	49.99	49.99	48.80	1.19	41.962				
400.00	400.00	400.00	400.00	1.20	1.20	89.54	0.40	49.99	49.99	48.29	1.70	29.436				
500.00	500.00	500.00	500.00	1.56	1.56	89.54	0.40	49.99	49.99	47.79	2.21	22.669				
600.00	600.00	600.00	600.00	1.92	1.92	89.54	0.40	49.99	49.99	47.28	2.71	18.432				
700.00	700.00	700.00	700.00	2.28	2.28	89.54	0.40	49.99	49.99	46.77	3.22	15.529				
800.00	800.00	800.00	800.00	2.63	2.63	89.54	0.40	49.99	49.99	46.27	3.73	13.417				
900.00	900.00	900.00	900.00	2.99	2.99	89.54	0.40	49.99	49.99	45.76	4.23	11.810				
1,000.00	1,000.00	1,000.00	1,000.00	3.35	3.35	89.54	0.40	49.99	49.99	45.25	4.74	10.547				
1,100.00	1,100.00	1,100.00	1,100.00	3.71	3.71	89.54	0.40	49.99	49.99	44.74	5.25	9.528				
1,200.00	1,200.00	1,200.00	1,200.00	4.07	4.07	89.54	0.40	49.99	49.99	44.24	5.75	8.688				
1,300.00	1,300.00	1,300.00	1,300.00	4.43	4.43	89.54	0.40	49.99	49.99	43.73	6.26	7.985				
1,400.00	1,400.00	1,400.00	1,400.00	4.79	4.79	89.54	0.40	49.99	49.99	43.22	6.77	7.387 CC, ES				
1,500.00	1,500.00	1,498.26	1,498.24	5.14	5.13	89.77	0.21	51.66	51.69	44.43	7.26	7.120				
1,600.00	1,600.00	1,596.29	1,596.13	5.50	5.46	90.38	-0.37	56.67	56.80	49.06	7.74	7.340				
1,700.00	1,700.00	1,693.86	1,693.34	5.86	5.80	91.17	-1.33	64.95	65.30	57.09	8.21	7.957				
1,800.00	1,800.00	1,790.75	1,789.54	6.22	6.15	91.99	-2.66	76.42	77.18	68.51	8.67	8.906				
1,900.00	1,899.99	1,886.85	1,884.51	6.56	6.50	-64.26	-4.34	90.98	91.83	82.73	9.10	10.089				
2,000.00	1,999.91	1,982.08	1,978.09	6.89	6.86	-65.10	-6.37	108.53	108.67	99.15	9.52	11.418				
2,066.81	2,066.60	2,045.17	2,039.73	7.11	7.11	-66.00	-7.91	121.85	121.15	111.36	9.79	12.373				
2,100.00	2,099.70	2,076.32	2,070.06	7.22	7.24	-66.54	-8.73	128.93	127.78	117.86	9.93	12.873				
2,200.00	2,199.46	2,169.33	2,160.12	7.55	7.63	-67.76	-11.40	151.99	149.93	139.60	10.33	14.514				
2,300.00	2,299.21	2,260.93	2,248.03	7.89	8.04	-68.50	-14.36	177.53	175.21	164.48	10.72	16.337				
2,400.00	2,398.97	2,356.27	2,338.97	8.23	8.50	-68.98	-17.65	205.98	202.46	191.26	11.20	18.082				
2,500.00	2,498.73	2,452.46	2,430.71	8.58	8.97	-69.35	-20.97	234.71	229.76	218.07	11.69	19.657				
2,600.00	2,598.48	2,548.66	2,522.45	8.92	9.46	-69.64	-24.30	263.45	257.06	244.88	12.19	21.096				
2,700.00	2,698.24	2,644.85	2,614.19	9.27	9.96	-69.88	-27.62	292.18	284.38	271.69	12.69	22.416				
2,800.00	2,798.00	2,741.04	2,705.93	9.62	10.47	-70.07	-30.95	320.92	311.69	298.50	13.19	23.628				
2,900.00	2,897.75	2,837.23	2,797.67	9.98	10.98	-70.24	-34.27	349.65	339.01	325.31	13.70	24.745				
3,000.00	2,997.51	2,933.43	2,889.41	10.33	11.51	-70.38	-37.60	378.39	366.33	352.11	14.21	25.777				
3,100.00	3,097.26	3,029.62	2,981.15	10.69	12.04	-70.50	-40.92	407.12	393.65	378.92	14.73	26.732				
3,200.00	3,197.02	3,125.81	3,072.89	11.05	12.58	-70.60	-44.25	435.85	420.97	405.73	15.24	27.618				
3,300.00	3,296.78	3,222.00	3,164.63	11.41	13.13	-70.69	-47.57	464.59	448.29	432.53	15.76	28.441				
3,400.00	3,396.53	3,318.20	3,256.37	11.77	13.68	-70.77	-50.89	493.32	475.62	459.33	16.28	29.208				
3,500.00	3,496.29	3,414.39	3,348.11	12.13	14.23	-70.85	-54.22	522.06	502.94	486.14	16.81	29.924				
3,600.00	3,596.04	3,510.58	3,439.85	12.49	14.79	-70.91	-57.54	550.79	530.27	512.94	17.33	30.594				
3,700.00	3,695.80	3,606.77	3,531.59	12.85	15.35	-70.97	-60.87	579.53	557.60	539.74	17.86	31.221				
3,800.00	3,795.56	3,702.97	3,623.33	13.22	15.91	-71.02	-64.19	608.26	584.92	566.53	18.39	31.810				
3,900.00	3,895.31	3,799.16	3,715.07	13.58	16.47	-71.07	-67.52	637.00	612.25	593.33	18.92	32.363				
4,000.00	3,995.07	3,895.35	3,806.81	13.95	17.04	-71.11	-70.84	665.73	639.58	620.13	19.45	32.885				
4,100.00	4,094.83	3,991.54	3,898.55	14.31	17.61	-71.15	-74.17	694.46	666.91	646.92	19.98	33.377				
4,200.00	4,194.58	4,087.74	3,990.29	14.68	18.18	-71.19	-77.49	723.20	694.23	673.72	20.51	33.841				
4,300.00	4,294.34	4,183.93	4,082.03	15.05	18.75	-71.23	-80.82	751.93	721.56	700.51	21.05	34.281				
4,400.00	4,394.09	4,280.12	4,173.77	15.41	19.33	-71.26	-84.14	780.67	748.89	727.31	21.58	34.697				
4,500.00	4,493.85	4,376.31	4,265.51	15.78	19.90	-71.29	-87.47	809.40	776.22	754.10	22.12	35.092				
4,600.00	4,593.61	4,472.51	4,357.25	16.15	20.48	-71.32	-90.79	838.14	803.55	780.89	22.66	35.466				
4,700.00	4,693.36	4,568.70	4,448.99	16.52	21.06	-71.34	-94.12	866.87	830.88	807.68	23.19	35.822				
4,800.00	4,793.12	4,664.89	4,540.73	16.89	21.64	-71.37	-97.44	895.60	858.21	834.48	23.73	36.161				
4,900.00	4,892.87	4,761.08	4,632.47	17.26	22.22	-71.39	-100.76	924.34	885.54	861.27	24.27	36.484				
5,000.00	4,992.63	4,857.28	4,724.21	17.63	22.80	-71.41	-104.09	953.07	912.87	888.06	24.81	36.792				

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
5,100.00	5,092.39	4,953.47	4,815.95	18.00	23.38	-71.43	-107.41	981.81	940.20	914.85	25.35	37.086		
5,200.00	5,192.14	5,049.66	4,907.69	18.37	23.97	-71.45	-110.74	1,010.54	967.53	941.64	25.89	37.367		
5,300.00	5,291.90	5,145.85	4,999.44	18.74	24.55	-71.47	-114.06	1,039.28	994.86	968.42	26.43	37.636		
5,400.00	5,391.65	5,242.04	5,091.18	19.11	25.13	-71.48	-117.39	1,068.01	1,022.19	995.21	26.98	37.893		
5,500.00	5,491.41	5,338.24	5,182.92	19.48	25.72	-71.50	-120.71	1,096.74	1,049.52	1,022.00	27.52	38.139		
5,600.00	5,591.17	5,434.43	5,274.66	19.85	26.31	-71.51	-124.04	1,125.48	1,076.85	1,048.79	28.06	38.375		
5,700.00	5,690.92	5,530.62	5,366.40	20.22	26.89	-71.53	-127.36	1,154.21	1,104.18	1,075.57	28.60	38.602		
5,800.00	5,790.68	5,626.81	5,458.14	20.59	27.48	-71.54	-130.69	1,182.95	1,131.51	1,102.36	29.15	38.820		
5,900.00	5,890.44	5,723.01	5,549.88	20.97	28.07	-71.56	-134.01	1,211.68	1,158.84	1,129.15	29.69	39.029		
6,000.00	5,990.19	5,819.20	5,641.62	21.34	28.65	-71.57	-137.34	1,240.42	1,186.17	1,155.93	30.24	39.230		
6,100.00	6,089.95	5,915.39	5,733.36	21.71	29.24	-71.58	-140.66	1,269.15	1,213.50	1,182.72	30.78	39.423		
6,200.00	6,189.70	6,011.58	5,825.10	22.08	29.83	-71.59	-143.98	1,297.89	1,240.83	1,209.51	31.33	39.610		
6,300.00	6,289.46	6,107.78	5,916.84	22.45	30.42	-71.60	-147.31	1,326.62	1,268.16	1,236.29	31.87	39.789		
6,394.17	6,383.40	6,198.36	6,003.23	22.81	30.97	-71.61	-150.44	1,353.68	1,293.90	1,261.52	32.39	39.953		
6,400.00	6,389.22	6,203.97	6,008.58	22.83	31.01	-71.64	-150.63	1,355.35	1,295.49	1,263.08	32.42	39.963		
6,500.00	6,489.06	6,300.02	6,100.19	23.19	31.60	-72.00	-153.95	1,384.05	1,323.27	1,290.31	32.96	40.151		
6,600.00	6,589.02	6,395.79	6,191.52	23.55	32.18	-72.26	-157.26	1,412.65	1,351.82	1,318.34	33.48	40.373		
6,660.99	6,650.00	6,454.03	6,247.06	23.76	32.54	84.09	-159.28	1,430.05	1,369.62	1,335.82	33.79	40.527		
6,700.00	6,689.01	6,491.23	6,282.55	23.89	32.77	84.20	-160.56	1,441.17	1,381.09	1,347.10	33.99	40.632		
6,800.00	6,789.01	6,586.61	6,373.50	24.22	33.36	84.46	-163.86	1,469.65	1,410.54	1,376.05	34.49	40.896		
6,900.00	6,889.01	6,704.32	6,485.88	24.55	34.07	84.77	-167.89	1,504.48	1,439.83	1,404.70	35.13	40.982		
7,000.00	6,989.01	6,896.75	6,672.00	24.88	35.13	85.17	-173.49	1,552.88	1,464.68	1,428.53	36.15	40.520		
7,100.00	7,089.01	7,095.21	6,866.93	25.22	36.06	85.45	-177.75	1,589.67	1,483.01	1,445.99	37.03	40.053		
7,200.00	7,189.01	7,297.99	7,068.26	25.55	36.82	85.63	-180.48	1,613.34	1,494.56	1,456.81	37.75	39.595		
7,300.00	7,289.01	7,503.17	7,273.17	25.88	37.43	85.70	-181.58	1,622.83	1,499.13	1,460.85	38.29	39.157		
7,400.00	7,389.01	7,619.01	7,389.01	26.22	37.71	85.70	-181.60	1,622.99	1,499.21	1,460.48	38.73	38.707		
7,500.00	7,489.01	7,719.01	7,489.01	26.55	37.96	85.70	-181.60	1,622.99	1,499.21	1,460.02	39.18	38.260		
7,600.00	7,589.01	7,819.01	7,589.01	26.89	38.20	85.70	-181.60	1,622.99	1,499.21	1,459.57	39.64	37.822		
7,700.00	7,689.01	7,919.01	7,689.01	27.23	38.45	85.70	-181.60	1,622.99	1,499.21	1,459.12	40.09	37.393		
7,800.00	7,789.01	8,019.01	7,789.01	27.56	38.70	85.70	-181.60	1,622.99	1,499.21	1,458.66	40.55	36.972		
7,900.00	7,889.01	8,119.01	7,889.01	27.90	38.95	85.70	-181.60	1,622.99	1,499.21	1,458.20	41.01	36.560		
8,000.00	7,989.01	8,219.01	7,989.01	28.24	39.20	85.70	-181.60	1,622.99	1,499.21	1,457.74	41.47	36.155		
8,100.00	8,089.01	8,319.01	8,089.01	28.58	39.46	85.70	-181.60	1,622.99	1,499.21	1,457.28	41.93	35.759		
8,200.00	8,189.01	8,419.01	8,189.01	28.92	39.71	85.70	-181.60	1,622.99	1,499.21	1,456.82	42.39	35.370		
8,300.00	8,289.01	8,519.01	8,289.01	29.25	39.97	85.70	-181.60	1,622.99	1,499.21	1,456.36	42.85	34.989		
8,400.00	8,389.01	8,619.01	8,389.01	29.59	40.23	85.70	-181.60	1,622.99	1,499.21	1,455.90	43.31	34.615		
8,500.00	8,489.01	8,719.01	8,489.01	29.93	40.49	85.70	-181.60	1,622.99	1,499.21	1,455.43	43.77	34.248		
8,600.00	8,589.01	8,819.01	8,589.01	30.28	40.75	85.70	-181.60	1,622.99	1,499.21	1,454.97	44.24	33.888		
8,700.00	8,689.01	8,919.01	8,689.01	30.62	41.01	85.70	-181.60	1,622.99	1,499.21	1,454.50	44.71	33.535		
8,800.00	8,789.01	9,019.01	8,789.01	30.96	41.28	85.70	-181.60	1,622.99	1,499.21	1,454.04	45.17	33.189		
8,900.00	8,889.01	9,119.01	8,889.01	31.30	41.54	85.70	-181.60	1,622.99	1,499.21	1,453.57	45.64	32.849		
9,000.00	8,989.01	9,219.01	8,989.01	31.64	41.81	85.70	-181.60	1,622.99	1,499.21	1,453.10	46.11	32.516		
9,100.00	9,089.01	9,319.01	9,089.01	31.99	42.08	85.70	-181.60	1,622.99	1,499.21	1,452.63	46.58	32.188		
9,200.00	9,189.01	9,419.01	9,189.01	32.33	42.35	85.70	-181.60	1,622.99	1,499.21	1,452.16	47.05	31.867		
9,209.74	9,198.75	9,428.75	9,198.75	32.36	42.38	85.70	-181.60	1,622.99	1,499.21	1,452.12	47.09	31.836		
9,300.00	9,289.01	9,512.36	9,282.34	32.67	42.60	85.65	-180.32	1,622.98	1,499.31	1,451.79	47.52	31.552		
9,344.03	9,333.04	9,550.00	9,319.78	32.82	42.70	85.51	-176.57	1,622.94	1,499.61	1,451.88	47.73	31.419		
9,350.00	9,339.01	9,554.57	9,324.31	32.84	42.71	86.03	-175.95	1,622.94	1,499.66	1,451.90	47.76	31.402		
9,400.00	9,388.92	9,600.00	9,368.99	33.01	42.82	85.77	-167.81	1,622.86	1,500.11	1,452.12	47.99	31.259		
9,450.00	9,438.41	9,637.78	9,405.57	33.17	42.91	85.57	-158.36	1,622.77	1,500.51	1,452.31	48.20	31.128		
9,500.00	9,487.09	9,679.01	9,444.67	33.32	43.00	85.39	-145.33	1,622.65	1,500.88	1,452.48	48.41	31.006		
9,550.00	9,534.61	9,720.04	9,482.56	33.46	43.09	85.24	-129.60	1,622.50	1,501.20	1,452.61	48.59	30.893		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 304H - 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				
9,600.00	9,580.58	9,760.91	9,519.08	33.59	43.17	85.12	-111.27	1,622.33	1,501.46	1,452.70	48.77	30.788				
9,650.00	9,624.68	9,800.00	9,552.70	33.71	43.24	85.03	-91.35	1,622.14	1,501.66	1,452.74	48.93	30.692				
9,700.00	9,666.55	9,842.32	9,587.49	33.83	43.30	84.97	-67.26	1,621.91	1,501.80	1,452.71	49.08	30.599				
9,750.00	9,705.89	9,882.94	9,619.11	33.93	43.36	84.94	-41.78	1,621.67	1,501.86	1,452.63	49.22	30.511				
9,800.00	9,742.38	9,923.55	9,648.84	34.04	43.41	84.95	-14.14	1,621.41	1,501.85	1,452.49	49.36	30.427				
9,850.00	9,775.77	9,964.18	9,676.55	34.14	43.45	84.98	15.56	1,621.13	1,501.76	1,452.27	49.49	30.343				
9,900.00	9,805.78	10,004.87	9,702.13	34.24	43.49	85.05	47.20	1,620.83	1,501.61	1,451.98	49.63	30.258				
9,950.00	9,832.20	10,050.00	9,727.79	34.34	43.53	85.17	84.31	1,620.48	1,501.40	1,451.63	49.77	30.167				
10,000.00	9,854.81	10,086.58	9,746.39	34.45	43.55	85.29	115.80	1,620.19	1,501.11	1,451.21	49.90	30.081				
10,050.00	9,873.46	10,127.68	9,764.85	34.57	43.58	85.45	152.51	1,619.84	1,500.78	1,450.73	50.05	29.986				
10,100.00	9,887.99	10,169.00	9,780.70	34.69	43.60	85.65	190.65	1,619.48	1,500.40	1,450.19	50.20	29.886				
10,150.00	9,898.30	10,210.56	9,793.84	34.81	43.62	85.87	230.08	1,619.11	1,499.98	1,449.61	50.36	29.782				
10,200.00	9,904.31	10,250.00	9,803.63	34.95	43.65	86.11	268.27	1,618.75	1,499.53	1,449.00	50.53	29.676				
10,244.03	9,906.00	10,289.57	9,810.78	35.07	43.67	86.36	307.18	1,618.38	1,499.12	1,448.43	50.69	29.575				
10,300.00	9,906.00	10,337.45	9,815.83	35.24	43.70	86.55	354.77	1,617.93	1,498.76	1,447.85	50.91	29.442				
10,342.21	9,906.00	10,374.03	9,817.00	35.39	43.74	86.60	391.33	1,617.59	1,498.68	1,447.59	51.09	29.332				
10,400.00	9,906.00	10,431.71	9,817.00	35.60	43.80	86.60	449.01	1,617.04	1,498.69	1,447.31	51.38	29.169				
10,500.00	9,906.00	10,531.71	9,817.00	36.03	43.94	86.60	549.00	1,616.10	1,498.69	1,446.74	51.96	28.845				
10,600.00	9,906.00	10,631.71	9,817.00	36.54	44.14	86.60	649.00	1,615.16	1,498.70	1,446.07	52.63	28.475				
10,700.00	9,906.00	10,731.71	9,817.00	37.11	44.39	86.60	748.99	1,614.21	1,498.71	1,445.31	53.40	28.066				
10,800.00	9,906.00	10,831.71	9,817.00	37.74	44.71	86.60	848.99	1,613.27	1,498.72	1,444.46	54.26	27.623				
10,900.00	9,906.00	10,931.71	9,817.00	38.44	45.09	86.60	948.98	1,612.33	1,498.72	1,443.53	55.20	27.152				
11,000.00	9,906.00	11,031.71	9,817.00	39.19	45.54	86.60	1,048.98	1,611.39	1,498.73	1,442.51	56.22	26.658				
11,100.00	9,906.00	11,131.71	9,817.00	40.00	46.06	86.60	1,148.97	1,610.44	1,498.74	1,441.42	57.32	26.146				
11,200.00	9,906.00	11,231.71	9,817.00	40.85	46.64	86.60	1,248.97	1,609.50	1,498.75	1,440.25	58.49	25.622				
11,300.00	9,906.00	11,331.71	9,817.00	41.76	47.29	86.60	1,348.97	1,608.56	1,498.76	1,439.02	59.73	25.090				
11,400.00	9,906.00	11,431.71	9,817.00	42.71	48.00	86.60	1,448.96	1,607.61	1,498.76	1,437.72	61.04	24.554				
11,500.00	9,906.00	11,531.71	9,817.00	43.70	48.77	86.60	1,548.96	1,606.67	1,498.77	1,436.37	62.40	24.017				
11,600.00	9,906.00	11,631.71	9,817.00	44.73	49.59	86.60	1,648.95	1,605.73	1,498.78	1,434.95	63.83	23.483				
11,700.00	9,906.00	11,731.71	9,817.00	45.80	50.46	86.60	1,748.95	1,604.78	1,498.79	1,433.49	65.30	22.953				
11,800.00	9,906.00	11,831.71	9,817.00	46.90	51.38	86.60	1,848.94	1,603.84	1,498.79	1,431.97	66.82	22.430				
11,900.00	9,906.00	11,931.71	9,817.00	48.03	52.34	86.60	1,948.94	1,602.90	1,498.80	1,430.41	68.39	21.916				
12,000.00	9,906.00	12,031.71	9,817.00	49.19	53.35	86.60	2,048.93	1,601.96	1,498.81	1,428.81	70.00	21.412				
12,100.00	9,906.00	12,131.71	9,817.00	50.38	54.39	86.60	2,148.93	1,601.01	1,498.82	1,427.17	71.65	20.919				
12,200.00	9,906.00	12,231.71	9,817.00	51.60	55.46	86.60	2,248.93	1,600.07	1,498.83	1,425.49	73.34	20.438				
12,300.00	9,906.00	12,331.71	9,817.00	52.83	56.56	86.60	2,348.92	1,599.13	1,498.83	1,423.77	75.06	19.969				
12,400.00	9,906.00	12,431.71	9,817.00	54.09	57.70	86.60	2,448.92	1,598.18	1,498.84	1,422.03	76.81	19.513				
12,500.00	9,906.00	12,531.71	9,817.00	55.38	58.86	86.60	2,548.91	1,597.24	1,498.85	1,420.25	78.60	19.070				
12,600.00	9,906.00	12,631.71	9,817.00	56.68	60.04	86.60	2,648.91	1,596.30	1,498.86	1,418.45	80.41	18.641				
12,700.00	9,906.00	12,731.71	9,817.00	57.99	61.25	86.60	2,748.90	1,595.35	1,498.86	1,416.62	82.25	18.224				
12,800.00	9,906.00	12,831.71	9,817.00	59.33	62.48	86.60	2,848.90	1,594.41	1,498.87	1,414.76	84.11	17.820				
12,900.00	9,906.00	12,931.71	9,817.00	60.68	63.73	86.60	2,948.89	1,593.47	1,498.88	1,412.88	86.00	17.430				
13,000.00	9,906.00	13,031.71	9,817.00	62.04	65.00	86.60	3,048.89	1,592.53	1,498.89	1,410.98	87.90	17.051				
13,100.00	9,906.00	13,131.71	9,817.00	63.42	66.29	86.60	3,148.89	1,591.58	1,498.90	1,409.06	89.83	16.686				
13,200.00	9,906.00	13,231.71	9,817.00	64.82	67.59	86.60	3,248.88	1,590.64	1,498.90	1,407.12	91.78	16.332				
13,300.00	9,906.00	13,331.71	9,817.00	66.22	68.91	86.60	3,348.88	1,589.70	1,498.91	1,405.17	93.74	15.990				
13,400.00	9,906.00	13,431.71	9,817.00	67.63	70.25	86.60	3,448.87	1,588.75	1,498.92	1,403.20	95.72	15.659				
13,500.00	9,906.00	13,531.71	9,817.00	69.06	71.60	86.60	3,548.87	1,587.81	1,498.93	1,401.21	97.72	15.339				
13,600.00	9,906.00	13,631.71	9,817.00	70.49	72.96	86.60	3,648.86	1,586.87	1,498.93	1,399.20	99.73	15.030				
13,700.00	9,906.00	13,731.71	9,817.00	71.94	74.33	86.60	3,748.86	1,585.93	1,498.94	1,397.19	101.76	14.731				
13,800.00	9,906.00	13,831.71	9,817.00	73.39	75.72	86.60	3,848.85	1,584.98	1,498.95	1,395.16	103.79	14.442				
13,900.00	9,906.00	13,931.71	9,817.00	74.85	77.11	86.60	3,948.85	1,584.04	1,498.96	1,393.11	105.84	14.162				

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
14,000.00	9,906.00	14,031.71	9,817.00	76.32	78.52	86.60	4,048.85	1,583.10	1,498.97	1,391.06	107.90	13.892		
14,100.00	9,906.00	14,131.71	9,817.00	77.80	79.93	86.60	4,148.84	1,582.15	1,498.97	1,389.00	109.98	13.630		
14,200.00	9,906.00	14,231.71	9,817.00	79.28	81.36	86.60	4,248.84	1,581.21	1,498.98	1,386.92	112.06	13.377		
14,300.00	9,906.00	14,331.71	9,817.00	80.77	82.79	86.60	4,348.83	1,580.27	1,498.99	1,384.84	114.15	13.131		
14,400.00	9,906.00	14,431.71	9,817.00	82.27	84.23	86.60	4,448.83	1,579.32	1,499.00	1,382.74	116.25	12.894		
14,500.00	9,906.00	14,531.71	9,817.00	83.77	85.68	86.60	4,548.82	1,578.38	1,499.00	1,380.64	118.36	12.664		
14,600.00	9,906.00	14,631.71	9,817.00	85.28	87.14	86.60	4,648.82	1,577.44	1,499.01	1,378.53	120.48	12.442		
14,700.00	9,906.00	14,731.71	9,817.00	86.79	88.60	86.60	4,748.81	1,576.50	1,499.02	1,376.41	122.61	12.226		
14,800.00	9,906.00	14,831.71	9,817.00	88.31	90.07	86.60	4,848.81	1,575.55	1,499.03	1,374.28	124.74	12.017		
14,900.00	9,906.00	14,931.71	9,817.00	89.83	91.54	86.60	4,948.81	1,574.61	1,499.03	1,372.15	126.88	11.814		
15,000.00	9,906.00	15,031.71	9,817.00	91.36	93.03	86.60	5,048.80	1,573.67	1,499.04	1,370.01	129.03	11.618		
15,100.00	9,906.00	15,131.71	9,817.00	92.89	94.51	86.60	5,148.80	1,572.72	1,499.05	1,367.87	131.19	11.427		
15,200.00	9,906.00	15,231.71	9,817.00	94.43	96.01	86.60	5,248.79	1,571.78	1,499.06	1,365.71	133.34	11.242		
15,300.00	9,906.00	15,331.71	9,817.00	95.97	97.51	86.60	5,348.79	1,570.84	1,499.07	1,363.56	135.51	11.062		
15,400.00	9,906.00	15,431.71	9,817.00	97.51	99.01	86.60	5,448.78	1,569.89	1,499.07	1,361.39	137.68	10.888		
15,500.00	9,906.00	15,531.71	9,817.00	99.06	100.52	86.60	5,548.78	1,568.95	1,499.08	1,359.22	139.86	10.719		
15,600.00	9,906.00	15,631.71	9,817.00	100.61	102.03	86.60	5,648.77	1,568.01	1,499.09	1,357.05	142.04	10.554		
15,700.00	9,906.00	15,731.71	9,817.00	102.16	103.55	86.60	5,748.77	1,567.07	1,499.10	1,354.87	144.22	10.394		
15,800.00	9,906.00	15,831.71	9,817.00	103.72	105.07	86.60	5,848.77	1,566.12	1,499.10	1,352.69	146.42	10.239		
15,900.00	9,906.00	15,931.71	9,817.00	105.28	106.59	86.60	5,948.76	1,565.18	1,499.11	1,350.50	148.61	10.088		
16,000.00	9,906.00	16,031.71	9,817.00	106.84	108.12	86.60	6,048.76	1,564.24	1,499.12	1,348.31	150.81	9.941		
16,100.00	9,906.00	16,131.71	9,817.00	108.40	109.65	86.60	6,148.75	1,563.29	1,499.13	1,346.12	153.01	9.797		
16,200.00	9,906.00	16,231.71	9,817.00	109.97	111.19	86.60	6,248.75	1,562.35	1,499.14	1,343.92	155.22	9.658		
16,300.00	9,906.00	16,331.71	9,817.00	111.54	112.73	86.60	6,348.74	1,561.41	1,499.14	1,341.72	157.43	9.523		
16,400.00	9,906.00	16,431.71	9,817.00	113.11	114.27	86.60	6,448.74	1,560.46	1,499.15	1,339.51	159.64	9.391		
16,500.00	9,906.00	16,531.71	9,817.00	114.69	115.81	86.60	6,548.73	1,559.52	1,499.16	1,337.30	161.86	9.262		
16,600.00	9,906.00	16,631.71	9,817.00	116.26	117.36	86.60	6,648.73	1,558.58	1,499.17	1,335.09	164.08	9.137		
16,700.00	9,906.00	16,731.71	9,817.00	117.84	118.91	86.60	6,748.73	1,557.64	1,499.17	1,332.87	166.30	9.015		
16,800.00	9,906.00	16,831.71	9,817.00	119.42	120.47	86.60	6,848.72	1,556.69	1,499.18	1,330.65	168.53	8.896		
16,900.00	9,906.00	16,931.71	9,817.00	121.01	122.02	86.60	6,948.72	1,555.75	1,499.19	1,328.43	170.76	8.780		
17,000.00	9,906.00	17,031.71	9,817.00	122.59	123.58	86.60	7,048.71	1,554.81	1,499.20	1,326.21	172.99	8.666		
17,100.00	9,906.00	17,131.71	9,817.00	124.18	125.14	86.60	7,148.71	1,553.86	1,499.21	1,323.98	175.23	8.556		
17,200.00	9,906.00	17,231.71	9,817.00	125.76	126.70	86.60	7,248.70	1,552.92	1,499.21	1,321.75	177.46	8.448		
17,300.00	9,906.00	17,331.71	9,817.00	127.35	128.27	86.60	7,348.70	1,551.98	1,499.22	1,319.52	179.70	8.343		
17,400.00	9,906.00	17,431.71	9,817.00	128.95	129.84	86.60	7,448.69	1,551.04	1,499.23	1,317.29	181.94	8.240		
17,500.00	9,906.00	17,531.71	9,817.00	130.54	131.41	86.60	7,548.69	1,550.09	1,499.24	1,315.05	184.19	8.140		
17,600.00	9,906.00	17,631.71	9,817.00	132.13	132.98	86.60	7,648.69	1,549.15	1,499.24	1,312.81	186.43	8.042		
17,700.00	9,906.00	17,731.71	9,817.00	133.73	134.55	86.60	7,748.68	1,548.21	1,499.25	1,310.57	188.68	7.946		
17,800.00	9,906.00	17,831.71	9,817.00	135.32	136.13	86.60	7,848.68	1,547.26	1,499.26	1,308.33	190.93	7.852		
17,900.00	9,906.00	17,931.71	9,817.00	136.92	137.71	86.60	7,948.67	1,546.32	1,499.27	1,306.08	193.19	7.761		
18,000.00	9,906.00	18,031.71	9,817.00	138.52	139.28	86.60	8,048.67	1,545.38	1,499.28	1,303.84	195.44	7.671		
18,100.00	9,906.00	18,131.71	9,817.00	140.12	140.87	86.60	8,148.66	1,544.43	1,499.28	1,301.59	197.70	7.584		
18,200.00	9,906.00	18,231.71	9,817.00	141.72	142.45	86.60	8,248.66	1,543.49	1,499.29	1,299.34	199.95	7.498		
18,300.00	9,906.00	18,331.71	9,817.00	143.33	144.03	86.60	8,348.65	1,542.55	1,499.30	1,297.08	202.21	7.414		
18,400.00	9,906.00	18,431.71	9,817.00	144.93	145.62	86.60	8,448.65	1,541.61	1,499.31	1,294.83	204.48	7.332		
18,500.00	9,906.00	18,531.71	9,817.00	146.54	147.20	86.60	8,548.65	1,540.66	1,499.31	1,292.58	206.74	7.252		
18,600.00	9,906.00	18,631.71	9,817.00	148.14	148.79	86.60	8,648.64	1,539.72	1,499.32	1,290.32	209.00	7.174		
18,700.00	9,906.00	18,731.71	9,817.00	149.75	150.38	86.60	8,748.64	1,538.78	1,499.33	1,288.06	211.27	7.097		
18,800.00	9,906.00	18,831.71	9,817.00	151.36	151.97	86.60	8,848.63	1,537.83	1,499.34	1,285.80	213.54	7.021		
18,900.00	9,906.00	18,931.71	9,817.00	152.97	153.57	86.60	8,948.63	1,536.89	1,499.35	1,283.54	215.81	6.948		
19,000.00	9,906.00	19,031.71	9,817.00	154.58	155.16	86.60	9,048.62	1,535.95	1,499.35	1,281.28	218.08	6.875		
19,100.00	9,906.00	19,131.71	9,817.00	156.19	156.75	86.60	9,148.62	1,535.00	1,499.36	1,279.01	220.35	6.805		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 304H - 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
19,200.00	9,906.00	19,231.71	9,817.00	157.80	158.35	86.60	9,248.61	1,534.06	1,499.37	1,276.75	222.62	6.735	
19,300.00	9,906.00	19,331.71	9,817.00	159.41	159.95	86.60	9,348.61	1,533.12	1,499.38	1,274.48	224.89	6.667	
19,400.00	9,906.00	19,431.71	9,817.00	161.03	161.55	86.60	9,448.61	1,532.18	1,499.38	1,272.21	227.17	6.600	
19,500.00	9,906.00	19,531.71	9,817.00	162.64	163.14	86.60	9,548.60	1,531.23	1,499.39	1,269.95	229.45	6.535	
19,600.00	9,906.00	19,631.71	9,817.00	164.26	164.75	86.60	9,648.60	1,530.29	1,499.40	1,267.68	231.72	6.471	
19,700.00	9,906.00	19,731.71	9,817.00	165.87	166.35	86.60	9,748.59	1,529.35	1,499.41	1,265.41	234.00	6.408	
19,800.00	9,906.00	19,831.71	9,817.00	167.49	167.95	86.60	9,848.59	1,528.40	1,499.42	1,263.13	236.28	6.346	
19,900.00	9,906.00	19,931.71	9,817.00	169.11	169.55	86.60	9,948.58	1,527.46	1,499.42	1,260.86	238.56	6.285	
20,000.00	9,906.00	20,031.71	9,817.00	170.72	171.16	86.60	10,048.58	1,526.52	1,499.43	1,258.59	240.84	6.226	
20,001.75	9,906.00	20,033.46	9,817.00	170.75	171.18	86.60	10,050.33	1,526.50	1,499.43	1,258.55	240.88	6.225	
20,034.35	9,906.00	20,062.22	9,817.00	171.28	171.65	86.60	10,079.09	1,526.23	1,499.44	1,257.81	241.63	6.206 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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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									
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			
0.00	0.00	0.00	0.00	0.00	0.00	-92.68	-93.47	-1,997.85	2,000.54							
100.00	100.00	55.40	55.40	0.13	0.07	-92.68	-93.47	-1,997.85	2,000.04	1,999.90	0.14	N/A				
200.00	200.00	155.40	155.40	0.48	0.32	-92.68	-93.47	-1,997.85	2,000.04	1,999.46	0.58	3,434.037				
300.00	300.00	255.40	255.40	0.84	0.68	-92.68	-93.47	-1,997.85	2,000.04	1,998.95	1.08	1,844.707				
400.00	400.00	355.40	355.40	1.20	1.04	-92.68	-93.47	-1,997.85	2,000.04	1,998.45	1.59	1,258.460				
500.00	500.00	455.40	455.40	1.56	1.40	-92.68	-93.47	-1,997.85	2,000.04	1,997.94	2.10	954.556				
600.00	600.00	555.40	555.40	1.92	1.76	-92.68	-93.47	-1,997.85	2,000.04	1,997.44	2.60	768.768				
700.00	700.00	655.40	655.40	2.28	2.12	-92.68	-93.47	-1,997.85	2,000.04	1,996.93	3.11	643.478				
800.00	800.00	755.40	755.40	2.63	2.47	-92.68	-93.47	-1,997.85	2,000.04	1,996.42	3.61	553.286				
900.00	900.00	855.40	855.40	2.99	2.83	-92.68	-93.47	-1,997.85	2,000.04	1,995.92	4.12	485.261				
1,000.00	1,000.00	955.40	955.40	3.35	3.19	-92.68	-93.47	-1,997.85	2,000.04	1,995.41	4.63	432.127				
1,100.00	1,100.00	1,055.40	1,055.40	3.71	3.55	-92.68	-93.47	-1,997.85	2,000.04	1,994.90	5.14	389.478				
1,200.00	1,200.00	1,155.40	1,155.40	4.07	3.91	-92.68	-93.47	-1,997.85	2,000.04	1,994.40	5.64	354.490				
1,300.00	1,300.00	1,255.40	1,255.40	4.43	4.27	-92.68	-93.47	-1,997.85	2,000.04	1,993.89	6.15	325.268				
1,400.00	1,400.00	1,355.40	1,355.40	4.79	4.63	-92.68	-93.47	-1,997.85	2,000.04	1,993.38	6.66	300.497				
1,500.00	1,500.00	1,455.40	1,455.40	5.14	4.98	-92.68	-93.47	-1,997.85	2,000.04	1,992.88	7.16	279.232				
1,600.00	1,600.00	1,555.40	1,555.40	5.50	5.34	-92.68	-93.47	-1,997.85	2,000.04	1,992.37	7.67	260.777				
1,700.00	1,700.00	1,655.40	1,655.40	5.86	5.70	-92.68	-93.47	-1,997.85	2,000.04	1,991.86	8.18	244.610				
1,800.00	1,800.00	1,755.40	1,755.40	6.22	6.06	-92.68	-93.47	-1,997.85	2,000.04	1,991.36	8.68	230.330	CC			
1,900.00	1,899.99	1,855.39	1,855.39	6.56	6.42	110.88	-93.47	-1,997.85	2,000.51	1,991.33	9.18	217.977	ES			
2,000.00	1,999.91	1,955.31	1,955.31	6.89	6.78	110.96	-93.47	-1,997.85	2,001.91	1,992.25	9.66	207.214				
2,066.81	2,066.60	2,000.00	2,000.00	7.11	6.94	111.01	-93.47	-1,997.85	2,003.49	1,993.56	9.93	201.768				
2,100.00	2,099.70	2,036.38	2,036.38	7.22	7.06	111.08	-93.51	-1,998.02	2,004.47	1,994.37	10.10	198.528				
2,200.00	2,199.46	2,100.00	2,099.99	7.55	7.28	111.19	-93.78	-1,999.13	2,008.77	1,998.28	10.49	191.551				
2,300.00	2,299.21	2,167.95	2,167.90	7.89	7.51	111.30	-94.34	-2,001.44	2,014.77	2,003.89	10.88	185.118				
2,400.00	2,398.97	2,233.56	2,233.42	8.23	7.74	111.40	-95.16	-2,004.79	2,022.47	2,011.19	11.27	179.377				
2,500.00	2,498.73	2,300.00	2,299.69	8.58	7.97	111.50	-96.26	-2,009.29	2,031.85	2,020.18	11.67	174.138				
2,600.00	2,598.48	2,364.26	2,363.71	8.92	8.19	111.58	-97.59	-2,014.71	2,042.90	2,030.84	12.05	169.467				
2,700.00	2,698.24	2,429.27	2,428.36	9.27	8.41	111.66	-99.19	-2,021.26	2,055.62	2,043.17	12.44	165.211				
2,800.00	2,798.00	2,500.00	2,498.57	9.62	8.66	111.74	-101.23	-2,029.60	2,070.00	2,057.15	12.85	161.145				
2,900.00	2,897.75	2,558.42	2,556.43	9.98	8.87	111.80	-103.14	-2,037.43	2,085.99	2,072.78	13.21	157.898				
3,000.00	2,997.51	2,622.50	2,619.75	10.33	9.11	111.86	-105.49	-2,047.02	2,103.62	2,090.03	13.59	154.779				
3,100.00	3,097.26	2,700.00	2,696.09	10.69	9.39	111.91	-108.66	-2,059.99	2,122.93	2,108.91	14.01	151.500				
3,200.00	3,197.02	2,749.49	2,744.69	11.05	9.58	111.95	-110.87	-2,069.05	2,143.69	2,129.34	14.34	149.471				
3,300.00	3,296.78	2,839.85	2,833.26	11.41	9.93	112.00	-115.12	-2,086.44	2,165.60	2,150.79	14.81	146.263				
3,400.00	3,396.53	2,937.39	2,928.86	11.77	10.31	112.06	-119.72	-2,105.23	2,187.55	2,172.25	15.30	143.000				
3,500.00	3,496.29	3,034.93	3,024.47	12.13	10.71	112.11	-124.31	-2,124.02	2,209.50	2,193.71	15.79	139.918				
3,600.00	3,596.04	3,132.47	3,120.07	12.49	11.10	112.16	-128.90	-2,142.81	2,231.45	2,215.17	16.29	137.004				
3,700.00	3,695.80	3,230.01	3,215.67	12.85	11.51	112.22	-133.50	-2,161.60	2,253.41	2,236.62	16.79	134.245				
3,800.00	3,795.56	3,327.55	3,311.27	13.22	11.91	112.27	-138.09	-2,180.40	2,275.37	2,258.08	17.29	131.630				
3,900.00	3,895.31	3,425.09	3,406.87	13.58	12.33	112.32	-142.68	-2,199.19	2,297.32	2,279.54	17.79	129.150				
4,000.00	3,995.07	3,522.63	3,502.47	13.95	12.74	112.37	-147.28	-2,217.98	2,319.28	2,300.99	18.29	126.794				
4,100.00	4,094.83	3,620.17	3,598.08	14.31	13.16	112.42	-151.87	-2,236.77	2,341.25	2,322.45	18.80	124.554				
4,200.00	4,194.58	3,717.71	3,693.68	14.68	13.59	112.47	-156.46	-2,255.56	2,363.21	2,343.91	19.30	122.423				
4,300.00	4,294.34	3,815.24	3,789.28	15.05	14.02	112.51	-161.06	-2,274.35	2,385.17	2,365.36	19.81	120.393				
4,400.00	4,394.09	3,912.78	3,884.88	15.41	14.45	112.56	-165.65	-2,293.14	2,407.14	2,386.82	20.32	118.457				
4,500.00	4,493.85	4,010.32	3,980.48	15.78	14.88	112.61	-170.24	-2,311.93	2,429.11	2,408.28	20.83	116.610				
4,600.00	4,593.61	4,107.86	4,076.09	16.15	15.31	112.65	-174.84	-2,330.72	2,451.08	2,429.74	21.34	114.845				
4,700.00	4,693.36	4,205.40	4,171.69	16.52	15.75	112.69	-179.43	-2,349.51	2,473.05	2,451.19	21.85	113.158				
4,800.00	4,793.12	4,302.94	4,267.29	16.89	16.19	112.74	-184.02	-2,368.31	2,495.02	2,472.65	22.37	111.543				
4,900.00	4,892.87	4,400.48	4,362.89	17.26	16.63	112.78	-188.62	-2,387.10	2,516.99	2,494.11	22.88	109.997				
5,000.00	4,992.63	4,498.02	4,458.49	17.63	17.07	112.82	-193.21	-2,405.89	2,538.97	2,515.57	23.40	108.515				

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
5,100.00	5,092.39	4,595.56	4,554.09	18.00	17.51	112.86	-197.80	-2,424.68	2,560.95	2,537.03	23.91	107.094		
5,200.00	5,192.14	4,693.10	4,649.70	18.37	17.96	112.90	-202.40	-2,443.47	2,582.92	2,558.49	24.43	105.729		
5,300.00	5,291.90	4,790.64	4,745.30	18.74	18.41	112.94	-206.99	-2,462.26	2,604.90	2,579.95	24.95	104.418		
5,400.00	5,391.65	4,888.18	4,840.90	19.11	18.85	112.98	-211.58	-2,481.05	2,626.88	2,601.42	25.46	103.158		
5,500.00	5,491.41	4,985.72	4,936.50	19.48	19.30	113.02	-216.18	-2,499.84	2,648.86	2,622.88	25.98	101.945		
5,600.00	5,591.17	5,083.26	5,032.10	19.85	19.75	113.06	-220.77	-2,518.63	2,670.84	2,644.34	26.50	100.778		
5,700.00	5,690.92	5,180.79	5,127.70	20.22	20.20	113.09	-225.36	-2,537.43	2,692.83	2,665.80	27.02	99.654		
5,800.00	5,790.68	5,278.33	5,223.31	20.59	20.66	113.13	-229.96	-2,556.22	2,714.81	2,687.27	27.54	98.570		
5,900.00	5,890.44	5,375.87	5,318.91	20.97	21.11	113.17	-234.55	-2,575.01	2,736.79	2,708.73	28.06	97.525		
6,000.00	5,990.19	5,473.41	5,414.51	21.34	21.56	113.20	-239.14	-2,593.80	2,758.78	2,730.20	28.58	96.516		
6,100.00	6,089.95	5,570.95	5,510.11	21.71	22.02	113.23	-243.74	-2,612.59	2,780.77	2,751.66	29.11	95.542		
6,200.00	6,189.70	5,668.49	5,605.71	22.08	22.47	113.27	-248.33	-2,631.38	2,802.76	2,773.13	29.63	94.600		
6,300.00	6,289.46	5,766.03	5,701.32	22.45	22.93	113.30	-252.92	-2,650.17	2,824.74	2,794.59	30.15	93.690		
6,394.17	6,383.40	5,857.89	5,791.35	22.81	23.36	113.33	-257.25	-2,667.87	2,845.45	2,814.81	30.64	92.861		
6,400.00	6,389.22	5,863.57	5,796.92	22.83	23.39	113.35	-257.52	-2,668.96	2,846.73	2,816.06	30.67	92.810		
6,500.00	6,489.06	5,961.24	5,892.65	23.19	23.84	113.66	-262.12	-2,687.78	2,868.15	2,836.96	31.19	91.950		
6,600.00	6,589.02	6,059.12	5,988.58	23.55	24.30	113.90	-266.73	-2,706.63	2,888.55	2,856.84	31.71	91.101		
6,660.99	6,650.00	6,118.87	6,047.15	23.76	24.58	-89.51	-269.54	-2,718.15	2,900.48	2,868.47	32.01	90.600		
6,700.00	6,689.01	6,157.11	6,084.63	23.89	24.76	-89.55	-271.34	-2,725.51	2,907.99	2,875.78	32.21	90.289		
6,800.00	6,789.01	6,255.12	6,180.70	24.22	25.22	-89.64	-275.96	-2,744.40	2,927.24	2,894.54	32.70	89.508		
6,900.00	6,889.01	6,353.14	6,276.76	24.55	25.69	-89.73	-280.57	-2,763.28	2,946.51	2,913.31	33.20	88.748		
7,000.00	6,989.01	6,451.15	6,372.83	24.88	26.15	-89.83	-285.19	-2,782.16	2,965.78	2,932.08	33.70	88.009		
7,100.00	7,089.01	6,549.17	6,468.90	25.22	26.61	-89.92	-289.80	-2,801.04	2,985.05	2,950.85	34.20	87.290		
7,200.00	7,189.01	6,647.18	6,564.96	25.55	27.07	-90.01	-294.42	-2,819.93	3,004.34	2,969.64	34.70	86.591		
7,300.00	7,289.01	6,999.22	6,912.44	25.88	28.61	-90.26	-307.66	-2,874.10	3,020.43	2,984.33	36.09	83.682		
7,400.00	7,389.01	7,433.51	7,345.80	26.22	30.14	-90.37	-313.47	-2,897.85	3,025.92	2,988.50	37.41	80.876		
7,401.10	7,390.11	7,421.00	7,333.29	26.22	30.10	-90.37	-313.46	-2,897.81	3,025.90	2,988.50	37.39	80.919		
7,500.00	7,489.01	7,532.12	7,444.41	26.55	30.44	-90.37	-313.47	-2,897.85	3,025.92	2,988.03	37.88	79.877		
7,600.00	7,589.01	7,632.12	7,544.41	26.89	30.74	-90.37	-313.47	-2,897.85	3,025.92	2,987.56	38.35	78.895		
7,700.00	7,689.01	7,732.12	7,644.41	27.23	31.04	-90.37	-313.47	-2,897.85	3,025.92	2,987.09	38.83	77.936		
7,800.00	7,789.01	7,832.12	7,744.41	27.56	31.34	-90.37	-313.47	-2,897.85	3,025.92	2,986.62	39.30	76.997		
7,900.00	7,889.01	7,932.12	7,844.41	27.90	31.65	-90.37	-313.47	-2,897.85	3,025.92	2,986.14	39.77	76.080		
8,000.00	7,989.01	8,032.12	7,944.41	28.24	31.95	-90.37	-313.47	-2,897.85	3,025.92	2,985.67	40.25	75.182		
8,100.00	8,089.01	8,132.12	8,044.41	28.58	32.26	-90.37	-313.47	-2,897.85	3,025.92	2,985.19	40.72	74.304		
8,200.00	8,189.01	8,232.12	8,144.41	28.92	32.57	-90.37	-313.47	-2,897.85	3,025.92	2,984.72	41.20	73.445		
8,300.00	8,289.01	8,332.12	8,244.41	29.25	32.87	-90.37	-313.47	-2,897.85	3,025.92	2,984.24	41.68	72.605		
8,400.00	8,389.01	8,432.12	8,344.41	29.59	33.18	-90.37	-313.47	-2,897.85	3,025.92	2,983.76	42.15	71.782		
8,500.00	8,489.01	8,532.12	8,444.41	29.93	33.49	-90.37	-313.47	-2,897.85	3,025.92	2,983.28	42.63	70.976		
8,600.00	8,589.01	8,632.12	8,544.41	30.28	33.81	-90.37	-313.47	-2,897.85	3,025.92	2,982.80	43.11	70.187		
8,700.00	8,689.01	8,732.12	8,644.41	30.62	34.12	-90.37	-313.47	-2,897.85	3,025.92	2,982.32	43.59	69.415		
8,800.00	8,789.01	8,832.12	8,744.41	30.96	34.43	-90.37	-313.47	-2,897.85	3,025.92	2,981.84	44.07	68.659		
8,900.00	8,889.01	8,932.12	8,844.41	31.30	34.75	-90.37	-313.47	-2,897.85	3,025.92	2,981.36	44.55	67.917		
9,000.00	8,989.01	9,032.12	8,944.41	31.64	35.06	-90.37	-313.47	-2,897.85	3,025.92	2,980.88	45.03	67.191		
9,100.00	9,089.01	9,132.12	9,044.41	31.99	35.38	-90.37	-313.47	-2,897.85	3,025.92	2,980.40	45.52	66.480		
9,200.00	9,189.01	9,232.12	9,144.41	32.33	35.69	-90.37	-313.47	-2,897.85	3,025.92	2,979.92	46.00	65.782		
9,300.00	9,289.01	9,332.12	9,244.41	32.67	36.01	-90.37	-313.47	-2,897.85	3,025.92	2,979.43	46.48	65.099		
9,344.03	9,333.04	9,376.15	9,288.44	32.82	36.15	-90.37	-313.47	-2,897.85	3,025.92	2,979.22	46.69	64.802		
9,350.00	9,339.01	9,382.12	9,294.41	32.84	36.17	-89.82	-313.47	-2,897.85	3,025.92	2,979.19	46.72	64.762		
9,400.00	9,388.92	9,432.03	9,344.32	33.01	36.33	-89.88	-313.47	-2,897.85	3,025.91	2,978.95	46.96	64.435		
9,447.43	9,435.88	9,478.99	9,391.28	33.16	36.48	-90.00	-313.47	-2,897.85	3,025.90	2,978.72	47.18	64.137		
9,450.00	9,438.41	9,481.52	9,393.81	33.17	36.49	-90.01	-313.47	-2,897.85	3,025.90	2,978.71	47.19	64.121		
9,500.00	9,487.09	9,530.20	9,442.49	33.32	36.64	-90.22	-313.47	-2,897.85	3,025.93	2,978.52	47.41	63.824		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
9,550.00	9,534.61	9,577.71	9,490.01	33.46	36.79	-90.48	-313.47	-2,897.85	3,026.03	2,978.41	47.62	63.545		
9,600.00	9,580.58	9,623.69	9,535.98	33.59	36.94	-90.80	-313.47	-2,897.85	3,026.27	2,978.45	47.82	63.285		
9,650.00	9,624.68	9,667.79	9,580.08	33.71	37.08	-91.15	-313.47	-2,897.85	3,026.72	2,978.71	48.01	63.046		
9,700.00	9,666.55	9,709.66	9,621.95	33.83	37.22	-91.50	-313.47	-2,897.85	3,027.48	2,979.29	48.19	62.828		
9,750.00	9,705.89	9,748.99	9,661.29	33.93	37.34	-91.85	-313.47	-2,897.85	3,028.63	2,980.28	48.35	62.634		
9,800.00	9,742.38	9,785.49	9,697.78	34.04	37.46	-92.16	-313.47	-2,897.85	3,030.28	2,981.76	48.51	62.463		
9,850.00	9,775.77	9,818.88	9,731.17	34.14	37.57	-92.40	-313.47	-2,897.85	3,032.50	2,983.84	48.66	62.318		
9,900.00	9,805.78	9,848.89	9,761.18	34.24	37.66	-92.57	-313.47	-2,897.85	3,035.40	2,986.60	48.80	62.198		
9,950.00	9,832.20	9,875.30	9,787.60	34.34	37.75	-92.62	-313.47	-2,897.85	3,039.05	2,990.11	48.93	62.104		
10,000.00	9,854.81	9,897.92	9,810.21	34.45	37.82	-92.56	-313.47	-2,897.85	3,043.51	2,994.45	49.06	62.038		
10,050.00	9,873.46	9,916.57	9,828.86	34.57	37.88	-92.35	-313.47	-2,897.85	3,048.84	2,999.67	49.18	61.999		
10,100.00	9,887.99	9,931.10	9,843.39	34.69	37.93	-91.98	-313.47	-2,897.85	3,055.07	3,005.78	49.29	61.987		
10,150.00	9,898.30	9,941.41	9,853.70	34.81	37.96	-91.45	-313.47	-2,897.85	3,062.19	3,012.81	49.39	62.003		
10,200.00	9,904.31	9,947.42	9,859.71	34.95	37.98	-90.76	-313.47	-2,897.85	3,070.20	3,020.72	49.48	62.046		
10,244.03	9,906.00	9,949.11	9,861.40	35.07	37.99	-90.00	-313.47	-2,897.85	3,077.95	3,028.39	49.56	62.106		
10,300.00	9,906.00	9,949.11	9,861.40	35.24	37.99	-90.00	-313.47	-2,897.85	3,088.69	3,039.03	49.66	62.196		
10,400.00	9,906.00	9,949.11	9,861.40	35.60	37.99	-90.00	-313.47	-2,897.85	3,110.30	3,060.42	49.88	62.357		
10,500.00	9,906.00	9,949.11	9,861.40	36.03	37.99	-90.00	-313.47	-2,897.85	3,134.94	3,084.80	50.14	62.523		
10,600.00	9,906.00	9,949.11	9,861.40	36.54	37.99	-90.00	-313.47	-2,897.85	3,162.56	3,112.12	50.44	62.697		
10,700.00	9,906.00	9,949.11	9,861.40	37.11	37.99	-90.00	-313.47	-2,897.85	3,193.08	3,142.30	50.78	62.884		
10,800.00	9,906.00	9,949.11	9,861.40	37.74	37.99	-90.00	-313.47	-2,897.85	3,226.40	3,175.26	51.14	63.087		
10,900.00	9,906.00	9,949.11	9,861.40	38.44	37.99	-90.00	-313.47	-2,897.85	3,262.45	3,210.92	51.53	63.308		
11,000.00	9,906.00	9,949.11	9,861.40	39.19	37.99	-90.00	-313.47	-2,897.85	3,301.14	3,249.19	51.94	63.551		
11,100.00	9,906.00	9,949.11	9,861.40	40.00	37.99	-90.00	-313.47	-2,897.85	3,342.37	3,290.00	52.37	63.818		
11,200.00	9,906.00	9,949.11	9,861.40	40.85	37.99	-90.00	-313.47	-2,897.85	3,386.05	3,333.24	52.82	64.111		
11,300.00	9,906.00	9,949.11	9,861.40	41.76	37.99	-90.00	-313.47	-2,897.85	3,432.10	3,378.83	53.27	64.433		
11,400.00	9,906.00	9,949.11	9,861.40	42.71	37.99	-90.00	-313.47	-2,897.85	3,480.40	3,426.68	53.72	64.784		
11,500.00	9,906.00	9,949.11	9,861.40	43.70	37.99	-90.00	-313.47	-2,897.85	3,530.88	3,476.70	54.18	65.166		
11,600.00	9,906.00	9,949.11	9,861.40	44.73	37.99	-90.00	-313.47	-2,897.85	3,583.44	3,528.80	54.64	65.579		
11,700.00	9,906.00	9,949.11	9,861.40	45.80	37.99	-90.00	-313.47	-2,897.85	3,637.99	3,582.89	55.10	66.024		
11,800.00	9,906.00	9,949.11	9,861.40	46.90	37.99	-90.00	-313.47	-2,897.85	3,694.44	3,638.89	55.55	66.503		
11,900.00	9,906.00	9,949.11	9,861.40	48.03	37.99	-90.00	-313.47	-2,897.85	3,752.71	3,696.71	56.00	67.015		
12,000.00	9,906.00	9,949.11	9,861.40	49.19	37.99	-90.00	-313.47	-2,897.85	3,812.71	3,756.27	56.44	67.556		
12,100.00	9,906.00	9,949.11	9,861.40	50.38	37.99	-90.00	-313.47	-2,897.85	3,874.36	3,817.49	56.87	68.128		
12,200.00	9,906.00	9,949.11	9,861.40	51.60	37.99	-90.00	-313.47	-2,897.85	3,937.59	3,880.30	57.29	68.729		
12,300.00	9,906.00	14,852.28	12,392.00	52.83	60.33	-129.90	2,304.90	-2,923.73	3,945.37	3,879.95	65.42	60.304		
12,400.00	9,906.00	14,952.28	12,392.00	54.09	61.44	-129.90	2,404.89	-2,924.72	3,945.40	3,878.62	66.78	59.079		
12,500.00	9,906.00	15,052.28	12,392.00	55.38	62.57	-129.90	2,504.89	-2,925.71	3,945.43	3,877.26	68.17	57.878		
12,600.00	9,906.00	15,152.28	12,392.00	56.68	63.73	-129.90	2,604.88	-2,926.70	3,945.46	3,875.88	69.58	56.704		
12,700.00	9,906.00	15,252.28	12,392.00	57.99	64.91	-129.90	2,704.88	-2,927.69	3,945.49	3,874.48	71.01	55.559		
12,800.00	9,906.00	15,352.28	12,392.00	59.33	66.10	-129.90	2,804.87	-2,928.67	3,945.52	3,873.05	72.47	54.444		
12,900.00	9,906.00	15,452.28	12,392.00	60.68	67.32	-129.89	2,904.87	-2,929.66	3,945.55	3,871.60	73.95	53.357		
13,000.00	9,906.00	15,552.28	12,392.00	62.04	68.55	-129.89	3,004.86	-2,930.65	3,945.58	3,870.13	75.44	52.298		
13,100.00	9,906.00	15,652.28	12,392.00	63.42	69.81	-129.89	3,104.86	-2,931.64	3,945.60	3,868.64	76.96	51.268		
13,200.00	9,906.00	15,752.28	12,392.00	64.82	71.07	-129.89	3,204.85	-2,932.63	3,945.63	3,867.14	78.50	50.266		
13,300.00	9,906.00	15,852.28	12,392.00	66.22	72.36	-129.89	3,304.85	-2,933.62	3,945.66	3,865.62	80.05	49.292		
13,400.00	9,906.00	15,952.28	12,392.00	67.63	73.65	-129.89	3,404.84	-2,934.60	3,945.69	3,864.08	81.61	48.347		
13,500.00	9,906.00	16,052.28	12,392.00	69.06	74.97	-129.89	3,504.84	-2,935.59	3,945.72	3,862.53	83.19	47.428		
13,600.00	9,906.00	16,152.28	12,392.00	70.49	76.29	-129.89	3,604.83	-2,936.58	3,945.75	3,860.96	84.79	46.536		
13,700.00	9,906.00	16,252.28	12,392.00	71.94	77.63	-129.89	3,704.83	-2,937.57	3,945.78	3,859.38	86.39	45.672		
13,800.00	9,906.00	16,352.28	12,392.00	73.39	78.98	-129.89	3,804.82	-2,938.56	3,945.81	3,857.79	88.01	44.832		
13,900.00	9,906.00	16,452.28	12,392.00	74.85	80.34	-129.89	3,904.82	-2,939.55	3,945.83	3,856.19	89.64	44.018		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
14,000.00	9,906.00	16,552.28	12,392.00	76.32	81.71	-129.89	4,004.81	-2,940.53	3,945.86	3,854.58	91.28	43.227		
14,100.00	9,906.00	16,652.28	12,392.00	77.80	83.09	-129.89	4,104.81	-2,941.52	3,945.89	3,852.96	92.93	42.459		
14,200.00	9,906.00	16,752.28	12,392.00	79.28	84.48	-129.89	4,204.80	-2,942.51	3,945.92	3,851.32	94.60	41.713		
14,300.00	9,906.00	16,852.28	12,392.00	80.77	85.88	-129.89	4,304.80	-2,943.50	3,945.95	3,849.68	96.27	40.989		
14,400.00	9,906.00	16,952.28	12,392.00	82.27	87.29	-129.89	4,404.79	-2,944.49	3,945.98	3,848.03	97.95	40.287		
14,500.00	9,906.00	17,052.28	12,392.00	83.77	88.71	-129.89	4,504.79	-2,945.48	3,946.01	3,846.37	99.64	39.604		
14,600.00	9,906.00	17,152.28	12,392.00	85.28	90.14	-129.89	4,604.78	-2,946.46	3,946.04	3,844.70	101.33	38.941		
14,700.00	9,906.00	17,252.28	12,392.00	86.79	91.57	-129.89	4,704.78	-2,947.45	3,946.07	3,843.03	103.04	38.297		
14,800.00	9,906.00	17,352.28	12,392.00	88.31	93.01	-129.89	4,804.77	-2,948.44	3,946.09	3,841.34	104.75	37.672		
14,900.00	9,906.00	17,452.28	12,392.00	89.83	94.46	-129.89	4,904.77	-2,949.43	3,946.12	3,839.65	106.47	37.064		
15,000.00	9,906.00	17,552.28	12,392.00	91.36	95.91	-129.89	5,004.76	-2,950.42	3,946.15	3,837.96	108.19	36.474		
15,100.00	9,906.00	17,652.28	12,392.00	92.89	97.37	-129.89	5,104.76	-2,951.41	3,946.18	3,836.26	109.92	35.901		
15,200.00	9,906.00	17,752.28	12,392.00	94.43	98.84	-129.89	5,204.76	-2,952.39	3,946.21	3,834.55	111.66	35.343		
15,300.00	9,906.00	17,852.28	12,392.00	95.97	100.31	-129.89	5,304.75	-2,953.38	3,946.24	3,832.84	113.40	34.800		
15,400.00	9,906.00	17,952.28	12,392.00	97.51	101.79	-129.89	5,404.75	-2,954.37	3,946.27	3,831.12	115.14	34.273		
15,500.00	9,906.00	18,052.28	12,392.00	99.06	103.27	-129.89	5,504.74	-2,955.36	3,946.30	3,829.40	116.89	33.760		
15,600.00	9,906.00	18,152.28	12,392.00	100.61	104.76	-129.89	5,604.74	-2,956.35	3,946.32	3,827.68	118.65	33.261		
15,700.00	9,906.00	18,252.28	12,392.00	102.16	106.25	-129.89	5,704.73	-2,957.34	3,946.35	3,825.95	120.41	32.775		
15,800.00	9,906.00	18,352.28	12,392.00	103.72	107.75	-129.88	5,804.73	-2,958.32	3,946.38	3,824.21	122.17	32.302		
15,900.00	9,906.00	18,452.28	12,392.00	105.28	109.25	-129.88	5,904.72	-2,959.31	3,946.41	3,822.47	123.94	31.841		
16,000.00	9,906.00	18,552.28	12,392.00	106.84	110.76	-129.88	6,004.72	-2,960.30	3,946.44	3,820.73	125.71	31.392		
16,100.00	9,906.00	18,652.28	12,392.00	108.40	112.27	-129.88	6,104.71	-2,961.29	3,946.47	3,818.98	127.49	30.955		
16,200.00	9,906.00	18,752.28	12,392.00	109.97	113.79	-129.88	6,204.71	-2,962.28	3,946.50	3,817.23	129.27	30.529		
16,300.00	9,906.00	18,852.28	12,392.00	111.54	115.30	-129.88	6,304.70	-2,963.27	3,946.53	3,815.47	131.06	30.113		
16,400.00	9,906.00	18,952.28	12,392.00	113.11	116.83	-129.88	6,404.70	-2,964.25	3,946.55	3,813.71	132.84	29.708		
16,500.00	9,906.00	19,052.28	12,392.00	114.69	118.35	-129.88	6,504.69	-2,965.24	3,946.58	3,811.95	134.63	29.313		
16,600.00	9,906.00	19,152.28	12,392.00	116.26	119.88	-129.88	6,604.69	-2,966.23	3,946.61	3,810.18	136.43	28.928		
16,700.00	9,906.00	19,252.28	12,392.00	117.84	121.41	-129.88	6,704.68	-2,967.22	3,946.64	3,808.42	138.22	28.553		
16,800.00	9,906.00	19,352.28	12,392.00	119.42	122.95	-129.88	6,804.68	-2,968.21	3,946.67	3,806.65	140.02	28.186		
16,900.00	9,906.00	19,452.28	12,392.00	121.01	124.48	-129.88	6,904.67	-2,969.19	3,946.70	3,804.87	141.82	27.828		
17,000.00	9,906.00	19,552.28	12,392.00	122.59	126.02	-129.88	7,004.67	-2,970.18	3,946.73	3,803.10	143.63	27.479		
17,100.00	9,906.00	19,652.28	12,392.00	124.18	127.57	-129.88	7,104.66	-2,971.17	3,946.76	3,801.32	145.43	27.138		
17,200.00	9,906.00	19,752.28	12,392.00	125.76	129.11	-129.88	7,204.66	-2,972.16	3,946.79	3,799.55	147.24	26.805		
17,300.00	9,906.00	19,852.28	12,392.00	127.35	130.66	-129.88	7,304.65	-2,973.15	3,946.81	3,797.77	149.05	26.480		
17,400.00	9,906.00	19,952.28	12,392.00	128.95	132.22	-129.88	7,404.65	-2,974.14	3,946.84	3,795.98	150.86	26.162		
17,500.00	9,906.00	20,052.28	12,392.00	130.54	133.77	-129.88	7,504.64	-2,975.12	3,946.87	3,794.20	152.68	25.851		
17,600.00	9,906.00	20,152.28	12,392.00	132.13	135.33	-129.88	7,604.64	-2,976.11	3,946.90	3,792.41	154.49	25.547		
17,700.00	9,906.00	20,252.28	12,392.00	133.73	136.88	-129.88	7,704.63	-2,977.10	3,946.93	3,790.62	156.31	25.250		
17,800.00	9,906.00	20,352.28	12,392.00	135.32	138.44	-129.88	7,804.63	-2,978.09	3,946.96	3,788.83	158.13	24.960		
17,900.00	9,906.00	20,452.28	12,392.00	136.92	140.01	-129.88	7,904.62	-2,979.08	3,946.99	3,787.03	159.96	24.675		
18,000.00	9,906.00	20,552.28	12,392.00	138.52	141.57	-129.88	8,004.62	-2,980.07	3,947.02	3,785.24	161.78	24.397		
18,100.00	9,906.00	20,652.28	12,392.00	140.12	143.14	-129.88	8,104.61	-2,981.05	3,947.04	3,783.44	163.61	24.125		
18,200.00	9,906.00	20,752.28	12,392.00	141.72	144.71	-129.88	8,204.61	-2,982.04	3,947.07	3,781.64	165.44	23.859		
18,300.00	9,906.00	20,852.28	12,392.00	143.33	146.28	-129.88	8,304.60	-2,983.03	3,947.10	3,779.84	167.26	23.598		
18,400.00	9,906.00	20,952.28	12,392.00	144.93	147.85	-129.88	8,404.60	-2,984.02	3,947.13	3,778.04	169.09	23.343		
18,500.00	9,906.00	21,052.28	12,392.00	146.54	149.42	-129.88	8,504.59	-2,985.01	3,947.16	3,776.24	170.92	23.093		
18,600.00	9,906.00	21,152.28	12,392.00	148.14	151.00	-129.87	8,604.59	-2,986.00	3,947.19	3,774.44	172.75	22.849		
18,700.00	9,906.00	21,252.28	12,392.00	149.75	152.58	-129.87	8,704.58	-2,986.98	3,947.22	3,772.63	174.59	22.609		
18,800.00	9,906.00	21,352.28	12,392.00	151.36	154.16	-129.87	8,804.58	-2,987.97	3,947.25	3,770.82	176.42	22.374		
18,900.00	9,906.00	21,452.28	12,392.00	152.97	155.74	-129.87	8,904.57	-2,988.96	3,947.28	3,769.01	178.26	22.143		
19,000.00	9,906.00	21,552.28	12,392.00	154.58	157.32	-129.87	9,004.57	-2,989.95	3,947.30	3,767.21	180.10	21.917		
19,100.00	9,906.00	21,652.28	12,392.00	156.19	158.90	-129.87	9,104.56	-2,990.94	3,947.33	3,765.40	181.94	21.696		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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
19,200.00	9,906.00	21,752.28	12,392.00	157.80	160.49	-129.87	9,204.56	-2,991.93	3,947.36	3,763.59	183.78	21.479	
19,300.00	9,906.00	21,852.28	12,392.00	159.41	162.07	-129.87	9,304.55	-2,992.91	3,947.39	3,761.77	185.62	21.266	
19,400.00	9,906.00	21,952.28	12,392.00	161.03	163.66	-129.87	9,404.55	-2,993.90	3,947.42	3,759.96	187.46	21.058	
19,500.00	9,906.00	22,052.28	12,392.00	162.64	165.25	-129.87	9,504.54	-2,994.89	3,947.45	3,758.15	189.30	20.853	
19,600.00	9,906.00	22,152.28	12,392.00	164.26	166.84	-129.87	9,604.54	-2,995.88	3,947.48	3,756.34	191.14	20.652	
19,700.00	9,906.00	22,252.28	12,392.00	165.87	168.43	-129.87	9,704.54	-2,996.87	3,947.51	3,754.52	192.98	20.455	
19,800.00	9,906.00	22,352.28	12,392.00	167.49	170.02	-129.87	9,804.53	-2,997.86	3,947.53	3,752.71	194.83	20.262	
19,900.00	9,906.00	22,452.28	12,392.00	169.11	171.61	-129.87	9,904.53	-2,998.84	3,947.56	3,750.89	196.67	20.072	
20,000.00	9,906.00	22,552.28	12,392.00	170.72	173.21	-129.87	10,004.52	-2,999.83	3,947.59	3,749.07	198.52	19.885	
20,034.35	9,906.00	22,586.63	12,392.00	171.28	173.76	-129.87	10,038.87	-3,000.17	3,947.60	3,748.45	199.16	19.822 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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 802H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
0.00	0.00	0.00	0.00	0.00	0.00	-92.71	-93.23	-1,972.79	1,975.49							
100.00	100.00	55.70	55.70	0.13	0.07	-92.71	-93.23	-1,972.79	1,974.99	1,974.85	0.14	N/A				
200.00	200.00	155.70	155.70	0.48	0.33	-92.71	-93.23	-1,972.79	1,974.99	1,974.41	0.58	3,387.545				
300.00	300.00	255.70	255.70	0.84	0.68	-92.71	-93.23	-1,972.79	1,974.99	1,973.91	1.08	1,820.467				
400.00	400.00	355.70	355.70	1.20	1.04	-92.71	-93.23	-1,972.79	1,974.99	1,973.40	1.59	1,242.148				
500.00	500.00	455.70	455.70	1.56	1.40	-92.71	-93.23	-1,972.79	1,974.99	1,972.89	2.10	942.278				
600.00	600.00	555.70	555.70	1.92	1.76	-92.71	-93.23	-1,972.79	1,974.99	1,972.39	2.60	758.928				
700.00	700.00	655.70	655.70	2.28	2.12	-92.71	-93.23	-1,972.79	1,974.99	1,971.88	3.11	635.269				
800.00	800.00	755.70	755.70	2.63	2.48	-92.71	-93.23	-1,972.79	1,974.99	1,971.38	3.62	546.245				
900.00	900.00	855.70	855.70	2.99	2.83	-92.71	-93.23	-1,972.79	1,974.99	1,970.87	4.12	479.097				
1,000.00	1,000.00	955.70	955.70	3.35	3.19	-92.71	-93.23	-1,972.79	1,974.99	1,970.36	4.63	426.646				
1,100.00	1,100.00	1,055.70	1,055.70	3.71	3.55	-92.71	-93.23	-1,972.79	1,974.99	1,969.85	5.14	384.544				
1,200.00	1,200.00	1,155.70	1,155.70	4.07	3.91	-92.71	-93.23	-1,972.79	1,974.99	1,969.35	5.64	350.004				
1,300.00	1,300.00	1,255.70	1,255.70	4.43	4.27	-92.71	-93.23	-1,972.79	1,974.99	1,968.84	6.15	321.156				
1,400.00	1,400.00	1,355.70	1,355.70	4.79	4.63	-92.71	-93.23	-1,972.79	1,974.99	1,968.33	6.66	296.701				
1,500.00	1,500.00	1,455.70	1,455.70	5.14	4.99	-92.71	-93.23	-1,972.79	1,974.99	1,967.83	7.16	275.706				
1,600.00	1,600.00	1,555.70	1,555.70	5.50	5.34	-92.71	-93.23	-1,972.79	1,974.99	1,967.32	7.67	257.486				
1,700.00	1,700.00	1,655.70	1,655.70	5.86	5.70	-92.71	-93.23	-1,972.79	1,974.99	1,966.81	8.18	241.524				
1,800.00	1,800.00	1,755.70	1,755.70	6.22	6.06	-92.71	-93.23	-1,972.79	1,974.99	1,966.31	8.68	227.426 CC				
1,900.00	1,899.99	1,855.69	1,855.69	6.56	6.42	110.85	-93.23	-1,972.79	1,975.46	1,966.28	9.18	215.230 ES				
2,000.00	1,999.91	1,955.61	1,955.61	6.89	6.78	110.94	-93.23	-1,972.79	1,976.86	1,967.20	9.66	204.605				
2,066.81	2,066.60	2,022.30	2,022.30	7.11	7.02	111.03	-93.23	-1,972.79	1,978.32	1,968.33	9.99	198.107				
2,100.00	2,099.70	2,055.40	2,055.40	7.22	7.14	111.09	-93.23	-1,972.79	1,979.15	1,969.01	10.15	195.036				
2,200.00	2,199.46	2,155.16	2,155.16	7.55	7.49	111.28	-93.23	-1,972.79	1,981.68	1,971.05	10.64	186.314				
2,300.00	2,299.21	2,254.05	2,254.05	7.89	7.84	111.45	-93.62	-1,972.79	1,984.24	1,973.12	11.12	178.467				
2,400.00	2,398.97	2,352.42	2,352.38	8.23	8.16	111.56	-96.27	-1,972.78	1,986.89	1,975.30	11.59	171.439				
2,500.00	2,498.73	2,450.91	2,450.73	8.58	8.48	111.59	-101.47	-1,972.75	1,989.61	1,977.55	12.06	164.994				
2,600.00	2,598.48	2,549.40	2,548.91	8.92	8.81	111.56	-109.20	-1,972.72	1,992.41	1,979.88	12.53	158.982				
2,700.00	2,698.24	2,647.74	2,646.72	9.27	9.13	111.44	-119.45	-1,972.67	1,995.28	1,982.27	13.01	153.367				
2,800.00	2,798.00	2,747.47	2,745.75	9.62	9.47	111.29	-131.24	-1,972.62	1,998.21	1,984.72	13.50	148.050				
2,900.00	2,897.75	2,847.29	2,844.86	9.98	9.82	111.14	-143.05	-1,972.56	2,001.16	1,987.17	13.99	143.055				
3,000.00	2,997.51	2,947.10	2,943.97	10.33	10.16	110.99	-154.86	-1,972.51	2,004.12	1,989.63	14.49	138.358				
3,100.00	3,097.26	3,046.91	3,043.09	10.69	10.52	110.83	-166.67	-1,972.46	2,007.09	1,992.11	14.99	133.936				
3,200.00	3,197.02	3,146.73	3,142.20	11.05	10.87	110.68	-178.48	-1,972.40	2,010.08	1,994.59	15.49	129.771				
3,300.00	3,296.78	3,246.54	3,241.31	11.41	11.23	110.53	-190.28	-1,972.35	2,013.08	1,997.09	16.00	125.843				
3,400.00	3,396.53	3,346.36	3,340.43	11.77	11.59	110.38	-202.09	-1,972.29	2,016.10	1,999.59	16.51	122.135				
3,500.00	3,496.29	3,446.17	3,439.54	12.13	11.96	110.23	-213.90	-1,972.24	2,019.13	2,002.11	17.02	118.632				
3,600.00	3,596.04	3,545.99	3,538.65	12.49	12.33	110.08	-225.71	-1,972.19	2,022.17	2,004.64	17.54	115.317				
3,700.00	3,695.80	3,645.80	3,637.77	12.85	12.70	109.93	-237.52	-1,972.13	2,025.23	2,007.17	18.05	112.179				
3,800.00	3,795.56	3,745.61	3,736.88	13.22	13.07	109.78	-249.33	-1,972.08	2,028.30	2,009.73	18.57	109.204				
3,900.00	3,895.31	3,845.43	3,835.99	13.58	13.45	109.64	-261.14	-1,972.03	2,031.38	2,012.29	19.10	106.381				
4,000.00	3,995.07	3,945.24	3,935.11	13.95	13.82	109.49	-272.95	-1,971.97	2,034.48	2,014.86	19.62	103.700				
4,100.00	4,094.83	4,045.06	4,034.22	14.31	14.20	109.34	-284.75	-1,971.92	2,037.59	2,017.45	20.14	101.151				
4,200.00	4,194.58	4,148.20	4,136.75	14.68	14.59	109.22	-295.92	-1,971.87	2,040.65	2,019.97	20.68	98.692				
4,300.00	4,294.34	4,252.04	4,240.24	15.05	14.97	109.17	-304.39	-1,971.83	2,043.52	2,022.31	21.21	96.361				
4,400.00	4,394.09	4,355.90	4,343.95	15.41	15.35	109.21	-310.04	-1,971.80	2,046.20	2,024.47	21.73	94.162				
4,500.00	4,493.85	4,459.63	4,447.64	15.78	15.71	109.32	-312.87	-1,971.79	2,048.70	2,026.45	22.25	92.086				
4,600.00	4,593.61	4,561.30	4,549.31	16.15	16.06	109.50	-313.23	-1,971.79	2,051.05	2,028.29	22.75	90.144				
4,700.00	4,693.36	4,661.06	4,649.06	16.52	16.40	109.68	-313.23	-1,971.79	2,053.39	2,030.14	23.25	88.311				
4,800.00	4,793.12	4,760.81	4,748.82	16.89	16.74	109.86	-313.23	-1,971.79	2,055.76	2,032.01	23.75	86.553				
4,900.00	4,892.87	4,860.57	4,848.57	17.26	17.08	110.04	-313.23	-1,971.79	2,058.14	2,033.89	24.25	84.866				
5,000.00	4,992.63	4,960.33	4,948.33	17.63	17.42	110.23	-313.23	-1,971.79	2,060.55	2,035.80	24.75	83.246				

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 802H - OH - Plan #1		Offset Site Error:		0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:		0.00 usft		
Reference		Offset		Semi Major Axis			Distance										
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				
5,100.00	5,092.39	5,060.08	5,048.09	18.00	17.76	110.41	-313.23	-1,971.79	2,062.98	2,037.73	25.25	81.688					
5,200.00	5,192.14	5,159.84	5,147.84	18.37	18.10	110.59	-313.23	-1,971.79	2,065.43	2,039.67	25.76	80.190					
5,300.00	5,291.90	5,259.60	5,247.60	18.74	18.44	110.77	-313.23	-1,971.79	2,067.90	2,041.64	26.26	78.749					
5,400.00	5,391.65	5,359.35	5,347.35	19.11	18.78	110.95	-313.23	-1,971.79	2,070.39	2,043.63	26.76	77.361					
5,500.00	5,491.41	5,459.11	5,447.11	19.48	19.13	111.13	-313.23	-1,971.79	2,072.90	2,045.63	27.27	76.024					
5,600.00	5,591.17	5,558.86	5,546.87	19.85	19.47	111.31	-313.23	-1,971.79	2,075.43	2,047.66	27.77	74.734					
5,700.00	5,690.92	5,658.62	5,646.62	20.22	19.82	111.49	-313.23	-1,971.79	2,077.98	2,049.71	28.28	73.491					
5,800.00	5,790.68	5,758.38	5,746.38	20.59	20.16	111.67	-313.23	-1,971.79	2,080.56	2,051.78	28.78	72.290					
5,900.00	5,890.44	5,858.13	5,846.14	20.97	20.51	111.84	-313.23	-1,971.79	2,083.15	2,053.86	29.29	71.131					
6,000.00	5,990.19	5,957.89	5,945.89	21.34	20.85	112.02	-313.23	-1,971.79	2,085.76	2,055.97	29.79	70.010					
6,100.00	6,089.95	6,057.64	6,045.65	21.71	21.20	112.20	-313.23	-1,971.79	2,088.39	2,058.10	30.30	68.927					
6,200.00	6,189.70	6,157.40	6,145.40	22.08	21.55	112.38	-313.23	-1,971.79	2,091.05	2,060.24	30.81	67.880					
6,300.00	6,289.46	6,257.16	6,245.16	22.45	21.89	112.55	-313.23	-1,971.79	2,093.72	2,062.41	31.31	66.866					
6,394.17	6,383.40	6,351.10	6,339.10	22.81	22.22	112.72	-313.23	-1,971.79	2,096.25	2,064.47	31.79	65.942					
6,400.00	6,389.22	6,356.91	6,344.92	22.83	22.24	112.73	-313.23	-1,971.79	2,096.41	2,064.59	31.82	65.885					
6,500.00	6,489.06	6,456.76	6,444.76	23.19	22.59	112.90	-313.23	-1,971.79	2,098.55	2,066.23	32.32	64.923					
6,600.00	6,589.02	6,556.71	6,544.72	23.55	22.94	112.99	-313.23	-1,971.79	2,099.69	2,066.86	32.82	63.970					
6,660.99	6,650.00	6,617.70	6,605.70	23.76	23.15	-90.52	-313.23	-1,971.79	2,099.88	2,066.76	33.12	63.400					
6,700.00	6,689.01	6,656.71	6,644.71	23.89	23.29	-90.52	-313.23	-1,971.79	2,099.88	2,066.57	33.31	63.043					
6,800.00	6,789.01	6,756.71	6,744.71	24.22	23.64	-90.52	-313.23	-1,971.79	2,099.88	2,066.09	33.79	62.146					
6,900.00	6,889.01	6,856.71	6,844.71	24.55	23.98	-90.52	-313.23	-1,971.79	2,099.88	2,065.61	34.27	61.273					
7,000.00	6,989.01	6,956.71	6,944.71	24.88	24.33	-90.52	-313.23	-1,971.79	2,099.88	2,065.12	34.75	60.423					
7,100.00	7,089.01	7,056.71	7,044.71	25.22	24.68	-90.52	-313.23	-1,971.79	2,099.88	2,064.64	35.24	59.594					
7,200.00	7,189.01	7,156.71	7,144.71	25.55	25.04	-90.52	-313.23	-1,971.79	2,099.88	2,064.16	35.72	58.787					
7,300.00	7,289.01	7,256.71	7,244.71	25.88	25.39	-90.52	-313.23	-1,971.79	2,099.88	2,063.67	36.20	58.001					
7,400.00	7,389.01	7,356.71	7,344.71	26.22	25.74	-90.52	-313.23	-1,971.79	2,099.88	2,063.19	36.69	57.234					
7,500.00	7,489.01	7,456.71	7,444.71	26.55	26.09	-90.52	-313.23	-1,971.79	2,099.88	2,062.70	37.17	56.487					
7,600.00	7,589.01	7,556.71	7,544.71	26.89	26.44	-90.52	-313.23	-1,971.79	2,099.88	2,062.22	37.66	55.758					
7,700.00	7,689.01	7,656.71	7,644.71	27.23	26.79	-90.52	-313.23	-1,971.79	2,099.88	2,061.73	38.15	55.047					
7,800.00	7,789.01	7,756.71	7,744.71	27.56	27.14	-90.52	-313.23	-1,971.79	2,099.88	2,061.24	38.63	54.352					
7,900.00	7,889.01	7,856.71	7,844.71	27.90	27.49	-90.52	-313.23	-1,971.79	2,099.88	2,060.75	39.12	53.675					
8,000.00	7,989.01	7,956.71	7,944.71	28.24	27.85	-90.52	-313.23	-1,971.79	2,099.88	2,060.27	39.61	53.014					
8,100.00	8,089.01	8,056.71	8,044.71	28.58	28.20	-90.52	-313.23	-1,971.79	2,099.88	2,059.78	40.10	52.368					
8,200.00	8,189.01	8,156.71	8,144.71	28.92	28.55	-90.52	-313.23	-1,971.79	2,099.88	2,059.29	40.59	51.737					
8,300.00	8,289.01	8,256.71	8,244.71	29.25	28.90	-90.52	-313.23	-1,971.79	2,099.88	2,058.80	41.08	51.120					
8,400.00	8,389.01	8,356.71	8,344.71	29.59	29.25	-90.52	-313.23	-1,971.79	2,099.88	2,058.31	41.57	50.518					
8,500.00	8,489.01	8,456.71	8,444.71	29.93	29.61	-90.52	-313.23	-1,971.79	2,099.88	2,057.82	42.06	49.929					
8,600.00	8,589.01	8,556.71	8,544.71	30.28	29.96	-90.52	-313.23	-1,971.79	2,099.88	2,057.33	42.55	49.353					
8,700.00	8,689.01	8,656.71	8,644.71	30.62	30.31	-90.52	-313.23	-1,971.79	2,099.88	2,056.84	43.04	48.790					
8,800.00	8,789.01	8,756.71	8,744.71	30.96	30.67	-90.52	-313.23	-1,971.79	2,099.88	2,056.35	43.53	48.239					
8,900.00	8,889.01	8,856.71	8,844.71	31.30	31.02	-90.52	-313.23	-1,971.79	2,099.88	2,055.85	44.02	47.700					
9,000.00	8,989.01	8,956.71	8,944.71	31.64	31.37	-90.52	-313.23	-1,971.79	2,099.88	2,055.36	44.51	47.173					
9,100.00	9,089.01	9,056.71	9,044.71	31.99	31.73	-90.52	-313.23	-1,971.79	2,099.88	2,054.87	45.01	46.657					
9,200.00	9,189.01	9,156.71	9,144.71	32.33	32.08	-90.52	-313.23	-1,971.79	2,099.88	2,054.38	45.50	46.151					
9,300.00	9,289.01	9,256.71	9,244.71	32.67	32.43	-90.52	-313.23	-1,971.79	2,099.88	2,053.88	45.99	45.656					
9,344.03	9,333.04	9,300.74	9,288.74	32.82	32.59	-90.52	-313.23	-1,971.79	2,099.88	2,053.67	46.21	45.442					
9,350.00	9,339.01	9,306.71	9,294.71	32.84	32.61	-89.98	-313.23	-1,971.79	2,099.88	2,053.64	46.24	45.413					
9,372.96	9,361.96	9,329.66	9,317.66	32.92	32.69	-90.00	-313.23	-1,971.79	2,099.88	2,053.53	46.35	45.303					
9,400.00	9,388.92	9,356.62	9,344.62	33.01	32.79	-90.05	-313.23	-1,971.79	2,099.88	2,053.39	46.48	45.175					
9,450.00	9,438.41	9,406.11	9,394.11	33.17	32.96	-90.24	-313.23	-1,971.79	2,099.90	2,053.18	46.72	44.947					
9,500.00	9,487.09	9,454.79	9,442.79	33.32	33.13	-90.54	-313.23	-1,971.79	2,099.98	2,053.03	46.95	44.730					
9,550.00	9,534.61	9,502.30	9,490.31	33.46	33.30	-90.92	-313.23	-1,971.79	2,100.18	2,053.02	47.17	44.526					

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
9,600.00	9,580.58	9,548.28	9,536.28	33.59	33.47	-91.37	-313.23	-1,971.79	2,100.61	2,053.23	47.38	44.337		
9,650.00	9,624.68	9,592.37	9,580.38	33.71	33.62	-91.86	-313.23	-1,971.79	2,101.36	2,053.78	47.58	44.166		
9,700.00	9,666.55	9,634.25	9,622.25	33.83	33.77	-92.36	-313.23	-1,971.79	2,102.57	2,054.80	47.77	44.015		
9,750.00	9,705.89	9,673.58	9,661.59	33.93	33.91	-92.84	-313.23	-1,971.79	2,104.35	2,056.40	47.95	43.886		
9,800.00	9,742.38	9,710.08	9,698.08	34.04	34.04	-93.27	-313.23	-1,971.79	2,106.85	2,058.73	48.12	43.782		
9,850.00	9,775.77	9,743.46	9,731.47	34.14	34.16	-93.61	-313.23	-1,971.79	2,110.21	2,061.92	48.28	43.706		
9,900.00	9,805.78	9,773.48	9,761.48	34.24	34.26	-93.83	-313.23	-1,971.79	2,114.53	2,066.10	48.43	43.658		
9,950.00	9,832.20	9,799.89	9,787.90	34.34	34.36	-93.89	-313.23	-1,971.79	2,119.94	2,071.36	48.58	43.641		
10,000.00	9,854.81	9,822.51	9,810.51	34.45	34.44	-93.78	-313.23	-1,971.79	2,126.51	2,077.80	48.71	43.657		
10,050.00	9,873.46	9,841.16	9,829.16	34.57	34.50	-93.46	-313.23	-1,971.79	2,134.32	2,085.49	48.83	43.706		
10,100.00	9,887.99	9,855.69	9,843.69	34.69	34.55	-92.91	-313.23	-1,971.79	2,143.39	2,094.45	48.95	43.790		
10,150.00	9,898.30	9,866.00	9,854.00	34.81	34.59	-92.13	-313.23	-1,971.79	2,153.73	2,104.68	49.05	43.908		
10,200.00	9,904.31	9,872.00	9,860.01	34.95	34.61	-91.11	-313.23	-1,971.79	2,165.30	2,116.15	49.15	44.059		
10,244.03	9,906.00	9,873.69	9,861.70	35.07	34.62	-90.00	-313.23	-1,971.79	2,176.45	2,127.23	49.22	44.220		
10,300.00	9,906.00	9,873.69	9,861.70	35.24	34.62	-90.00	-313.23	-1,971.79	2,191.83	2,142.52	49.31	44.448		
10,400.00	9,906.00	9,873.69	9,861.70	35.60	34.62	-90.00	-313.23	-1,971.79	2,222.56	2,173.05	49.51	44.895		
10,500.00	9,906.00	9,873.69	9,861.70	36.03	34.62	-90.00	-313.23	-1,971.79	2,257.30	2,207.57	49.73	45.392		
10,600.00	9,906.00	9,873.69	9,861.70	36.54	34.62	-90.00	-313.23	-1,971.79	2,295.87	2,245.90	49.98	45.940		
10,700.00	9,906.00	9,873.69	9,861.70	37.11	34.62	-90.00	-313.23	-1,971.79	2,338.09	2,287.85	50.24	46.539		
10,800.00	9,906.00	9,873.69	9,861.70	37.74	34.62	-90.00	-313.23	-1,971.79	2,383.76	2,333.24	50.52	47.188		
10,900.00	9,906.00	9,873.70	9,861.70	38.44	34.62	-90.00	-313.23	-1,971.79	2,432.69	2,381.88	50.80	47.885		
11,000.00	9,906.00	9,873.70	9,861.70	39.19	34.62	-90.00	-313.23	-1,971.79	2,484.67	2,433.58	51.09	48.630		
11,100.00	9,906.00	9,873.70	9,861.70	40.00	34.62	-90.00	-313.23	-1,971.79	2,539.53	2,488.15	51.39	49.421		
11,200.00	9,906.00	9,873.70	9,861.70	40.85	34.62	-90.00	-313.23	-1,971.79	2,597.09	2,545.41	51.68	50.256		
11,300.00	9,906.00	9,873.70	9,861.70	41.76	34.62	-90.00	-313.23	-1,971.79	2,657.16	2,605.20	51.96	51.136		
11,400.00	9,906.00	9,873.70	9,861.70	42.71	34.62	-90.00	-313.23	-1,971.79	2,719.59	2,667.35	52.24	52.057		
11,500.00	9,906.00	9,873.70	9,861.70	43.70	34.62	-90.00	-313.23	-1,971.79	2,784.20	2,731.69	52.52	53.017		
11,600.00	9,906.00	9,873.70	9,861.70	44.73	34.62	-90.00	-313.23	-1,971.79	2,850.87	2,798.08	52.78	54.013		
11,700.00	9,906.00	9,873.70	9,861.70	45.80	34.62	-90.00	-313.23	-1,971.79	2,919.43	2,866.39	53.04	55.044		
11,800.00	9,906.00	9,873.70	9,861.70	46.90	34.62	-90.00	-313.23	-1,971.79	2,989.77	2,936.48	53.29	56.108		
11,900.00	9,906.00	9,873.70	9,861.70	48.03	34.62	-90.00	-313.23	-1,971.79	3,061.76	3,008.23	53.52	57.204		
12,000.00	9,906.00	9,873.70	9,861.70	49.19	34.62	-90.00	-313.23	-1,971.79	3,135.28	3,081.53	53.75	58.329		
12,100.00	9,906.00	14,469.47	12,276.00	50.38	56.83	-138.97	2,114.04	-1,995.80	3,200.35	3,141.43	58.92	54.316		
12,200.00	9,906.00	14,569.47	12,276.00	51.60	57.92	-138.97	2,214.03	-1,996.79	3,200.38	3,140.28	60.10	53.253		
12,300.00	9,906.00	14,669.47	12,276.00	52.83	59.04	-138.97	2,314.03	-1,997.78	3,200.40	3,139.10	61.30	52.208		
12,400.00	9,906.00	14,769.47	12,276.00	54.09	60.18	-138.97	2,414.02	-1,998.77	3,200.43	3,137.90	62.53	51.182		
12,500.00	9,906.00	14,869.47	12,276.00	55.38	61.35	-138.97	2,514.02	-1,999.76	3,200.45	3,136.67	63.78	50.179		
12,600.00	9,906.00	14,969.47	12,276.00	56.68	62.54	-138.97	2,614.01	-2,000.75	3,200.48	3,135.43	65.05	49.198		
12,700.00	9,906.00	15,069.47	12,276.00	57.99	63.74	-138.97	2,714.01	-2,001.74	3,200.50	3,134.16	66.35	48.240		
12,800.00	9,906.00	15,169.47	12,276.00	59.33	64.97	-138.97	2,814.00	-2,002.73	3,200.53	3,132.87	67.66	47.305		
12,900.00	9,906.00	15,269.47	12,276.00	60.68	66.22	-138.97	2,914.00	-2,003.72	3,200.55	3,131.57	68.99	46.393		
13,000.00	9,906.00	15,369.47	12,276.00	62.04	67.48	-138.97	3,013.99	-2,004.71	3,200.58	3,130.24	70.34	45.503		
13,100.00	9,906.00	15,469.47	12,276.00	63.42	68.76	-138.97	3,113.99	-2,005.69	3,200.61	3,128.90	71.70	44.637		
13,200.00	9,906.00	15,569.47	12,276.00	64.82	70.06	-138.97	3,213.98	-2,006.68	3,200.63	3,127.55	73.08	43.794		
13,300.00	9,906.00	15,669.47	12,276.00	66.22	71.37	-138.97	3,313.98	-2,007.67	3,200.66	3,126.18	74.48	42.974		
13,400.00	9,906.00	15,769.47	12,276.00	67.63	72.69	-138.96	3,413.97	-2,008.66	3,200.68	3,124.79	75.89	42.176		
13,500.00	9,906.00	15,869.47	12,276.00	69.06	74.03	-138.96	3,513.97	-2,009.65	3,200.71	3,123.40	77.31	41.402		
13,600.00	9,906.00	15,969.47	12,276.00	70.49	75.38	-138.96	3,613.96	-2,010.64	3,200.73	3,121.99	78.74	40.649		
13,700.00	9,906.00	16,069.47	12,276.00	71.94	76.74	-138.96	3,713.96	-2,011.63	3,200.76	3,120.57	80.19	39.917		
13,800.00	9,906.00	16,169.47	12,276.00	73.39	78.11	-138.96	3,813.96	-2,012.62	3,200.78	3,119.14	81.64	39.205		
13,900.00	9,906.00	16,269.47	12,276.00	74.85	79.50	-138.96	3,913.95	-2,013.61	3,200.81	3,117.70	83.11	38.514		
14,000.00	9,906.00	16,369.47	12,276.00	76.32	80.89	-138.96	4,013.95	-2,014.60	3,200.83	3,116.25	84.58	37.843		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
14,100.00	9,906.00	16,469.47	12,276.00	77.80	82.29	-138.96	4,113.94	-2,015.59	3,200.86	3,114.79	86.07	37.190		
14,200.00	9,906.00	16,569.47	12,276.00	79.28	83.71	-138.96	4,213.94	-2,016.58	3,200.88	3,113.32	87.56	36.557		
14,300.00	9,906.00	16,669.47	12,276.00	80.77	85.13	-138.96	4,313.93	-2,017.57	3,200.91	3,111.85	89.06	35.941		
14,400.00	9,906.00	16,769.47	12,276.00	82.27	86.56	-138.96	4,413.93	-2,018.56	3,200.93	3,110.36	90.57	35.342		
14,500.00	9,906.00	16,869.47	12,276.00	83.77	87.99	-138.96	4,513.92	-2,019.54	3,200.96	3,108.87	92.09	34.760		
14,600.00	9,906.00	16,969.47	12,276.00	85.28	89.44	-138.96	4,613.92	-2,020.53	3,200.98	3,107.37	93.61	34.194		
14,700.00	9,906.00	17,069.47	12,276.00	86.79	90.89	-138.96	4,713.91	-2,021.52	3,201.01	3,105.87	95.14	33.644		
14,800.00	9,906.00	17,169.47	12,276.00	88.31	92.35	-138.96	4,813.91	-2,022.51	3,201.03	3,104.36	96.68	33.111		
14,900.00	9,906.00	17,269.47	12,276.00	89.83	93.81	-138.96	4,913.90	-2,023.50	3,201.06	3,102.84	98.22	32.591		
15,000.00	9,906.00	17,369.47	12,276.00	91.36	95.29	-138.96	5,013.90	-2,024.49	3,201.09	3,101.32	99.77	32.085		
15,100.00	9,906.00	17,469.47	12,276.00	92.89	96.76	-138.96	5,113.89	-2,025.48	3,201.11	3,099.79	101.32	31.593		
15,200.00	9,906.00	17,569.47	12,276.00	94.43	98.24	-138.96	5,213.89	-2,026.47	3,201.14	3,098.26	102.88	31.115		
15,300.00	9,906.00	17,669.47	12,276.00	95.97	99.73	-138.96	5,313.88	-2,027.46	3,201.16	3,096.72	104.44	30.650		
15,400.00	9,906.00	17,769.47	12,276.00	97.51	101.23	-138.95	5,413.88	-2,028.45	3,201.19	3,095.18	106.01	30.197		
15,500.00	9,906.00	17,869.47	12,276.00	99.06	102.72	-138.95	5,513.87	-2,029.44	3,201.21	3,093.63	107.58	29.756		
15,600.00	9,906.00	17,969.47	12,276.00	100.61	104.23	-138.95	5,613.87	-2,030.43	3,201.24	3,092.08	109.16	29.326		
15,700.00	9,906.00	18,069.47	12,276.00	102.16	105.73	-138.95	5,713.86	-2,031.42	3,201.26	3,090.52	110.74	28.908		
15,800.00	9,906.00	18,169.47	12,276.00	103.72	107.24	-138.95	5,813.86	-2,032.41	3,201.29	3,088.96	112.33	28.500		
15,900.00	9,906.00	18,269.47	12,276.00	105.28	108.76	-138.95	5,913.85	-2,033.39	3,201.31	3,087.40	113.91	28.103		
16,000.00	9,906.00	18,369.47	12,276.00	106.84	110.28	-138.95	6,013.85	-2,034.38	3,201.34	3,085.83	115.50	27.716		
16,100.00	9,906.00	18,469.47	12,276.00	108.40	111.80	-138.95	6,113.84	-2,035.37	3,201.36	3,084.27	117.10	27.339		
16,200.00	9,906.00	18,569.47	12,276.00	109.97	113.33	-138.95	6,213.84	-2,036.36	3,201.39	3,082.69	118.70	26.971		
16,300.00	9,906.00	18,669.47	12,276.00	111.54	114.86	-138.95	6,313.83	-2,037.35	3,201.41	3,081.12	120.30	26.613		
16,400.00	9,906.00	18,769.47	12,276.00	113.11	116.39	-138.95	6,413.83	-2,038.34	3,201.44	3,079.54	121.90	26.262		
16,500.00	9,906.00	18,869.47	12,276.00	114.69	117.93	-138.95	6,513.82	-2,039.33	3,201.46	3,077.96	123.51	25.921		
16,600.00	9,906.00	18,969.47	12,276.00	116.26	119.47	-138.95	6,613.82	-2,040.32	3,201.49	3,076.37	125.12	25.588		
16,700.00	9,906.00	19,069.47	12,276.00	117.84	121.01	-138.95	6,713.81	-2,041.31	3,201.52	3,074.79	126.73	25.263		
16,800.00	9,906.00	19,169.47	12,276.00	119.42	122.56	-138.95	6,813.81	-2,042.30	3,201.54	3,073.20	128.34	24.946		
16,900.00	9,906.00	19,269.47	12,276.00	121.01	124.10	-138.95	6,913.80	-2,043.29	3,201.57	3,071.61	129.96	24.635		
17,000.00	9,906.00	19,369.47	12,276.00	122.59	125.66	-138.95	7,013.80	-2,044.28	3,201.59	3,070.01	131.58	24.332		
17,100.00	9,906.00	19,469.47	12,276.00	124.18	127.21	-138.95	7,113.79	-2,045.27	3,201.62	3,068.42	133.20	24.037		
17,200.00	9,906.00	19,569.47	12,276.00	125.76	128.77	-138.95	7,213.79	-2,046.25	3,201.64	3,066.82	134.82	23.748		
17,300.00	9,906.00	19,669.47	12,276.00	127.35	130.32	-138.94	7,313.78	-2,047.24	3,201.67	3,065.22	136.44	23.465		
17,400.00	9,906.00	19,769.47	12,276.00	128.95	131.88	-138.94	7,413.78	-2,048.23	3,201.69	3,063.62	138.07	23.189		
17,500.00	9,906.00	19,869.47	12,276.00	130.54	133.45	-138.94	7,513.77	-2,049.22	3,201.72	3,062.02	139.70	22.919		
17,600.00	9,906.00	19,969.47	12,276.00	132.13	135.01	-138.94	7,613.77	-2,050.21	3,201.74	3,060.42	141.33	22.655		
17,700.00	9,906.00	20,069.47	12,276.00	133.73	136.58	-138.94	7,713.76	-2,051.20	3,201.77	3,058.81	142.96	22.397		
17,800.00	9,906.00	20,169.47	12,276.00	135.32	138.15	-138.94	7,813.76	-2,052.19	3,201.79	3,057.20	144.59	22.144		
17,900.00	9,906.00	20,269.47	12,276.00	136.92	139.72	-138.94	7,913.75	-2,053.18	3,201.82	3,055.59	146.22	21.897		
18,000.00	9,906.00	20,369.47	12,276.00	138.52	141.29	-138.94	8,013.75	-2,054.17	3,201.84	3,053.98	147.86	21.655		
18,100.00	9,906.00	20,469.47	12,276.00	140.12	142.87	-138.94	8,113.74	-2,055.16	3,201.87	3,052.37	149.50	21.418		
18,200.00	9,906.00	20,569.47	12,276.00	141.72	144.44	-138.94	8,213.74	-2,056.15	3,201.89	3,050.76	151.14	21.186		
18,300.00	9,906.00	20,669.47	12,276.00	143.33	146.02	-138.94	8,313.73	-2,057.14	3,201.92	3,049.14	152.77	20.958		
18,400.00	9,906.00	20,769.47	12,276.00	144.93	147.60	-138.94	8,413.73	-2,058.13	3,201.95	3,047.53	154.41	20.736		
18,500.00	9,906.00	20,869.47	12,276.00	146.54	149.18	-138.94	8,513.72	-2,059.12	3,201.97	3,045.92	156.06	20.518		
18,600.00	9,906.00	20,969.47	12,276.00	148.14	150.77	-138.94	8,613.72	-2,060.10	3,202.00	3,044.30	157.70	20.305		
18,700.00	9,906.00	21,069.47	12,276.00	149.75	152.35	-138.94	8,713.72	-2,061.09	3,202.02	3,042.68	159.34	20.095		
18,800.00	9,906.00	21,169.47	12,276.00	151.36	153.94	-138.94	8,813.71	-2,062.08	3,202.05	3,041.06	160.99	19.890		
18,900.00	9,906.00	21,269.47	12,276.00	152.97	155.52	-138.94	8,913.71	-2,063.07	3,202.07	3,039.44	162.63	19.689		
19,000.00	9,906.00	21,369.47	12,276.00	154.58	157.11	-138.94	9,013.70	-2,064.06	3,202.10	3,037.82	164.28	19.492		
19,100.00	9,906.00	21,469.47	12,276.00	156.19	158.70	-138.94	9,113.70	-2,065.05	3,202.12	3,036.20	165.92	19.299		
19,200.00	9,906.00	21,569.47	12,276.00	157.80	160.29	-138.93	9,213.69	-2,066.04	3,202.15	3,034.57	167.57	19.109		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 802H - 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	
19,300.00	9,906.00	21,669.47	12,276.00	159.41	161.88	-138.93	9,313.69	-2,067.03	3,202.17	3,032.95	169.22	18.923		
19,400.00	9,906.00	21,769.47	12,276.00	161.03	163.48	-138.93	9,413.68	-2,068.02	3,202.20	3,031.33	170.87	18.740		
19,500.00	9,906.00	21,869.47	12,276.00	162.64	165.07	-138.93	9,513.68	-2,069.01	3,202.22	3,029.70	172.52	18.561		
19,600.00	9,906.00	21,969.47	12,276.00	164.26	166.67	-138.93	9,613.67	-2,070.00	3,202.25	3,028.08	174.17	18.386		
19,700.00	9,906.00	22,069.47	12,276.00	165.87	168.27	-138.93	9,713.67	-2,070.99	3,202.27	3,026.45	175.82	18.213		
19,800.00	9,906.00	22,169.47	12,276.00	167.49	169.86	-138.93	9,813.66	-2,071.98	3,202.30	3,024.82	177.48	18.043		
19,900.00	9,906.00	22,269.47	12,276.00	169.11	171.46	-138.93	9,913.66	-2,072.96	3,202.32	3,023.19	179.13	17.877		
20,000.00	9,906.00	22,369.47	12,276.00	170.72	173.06	-138.93	10,013.65	-2,073.95	3,202.35	3,021.57	180.78	17.714		
20,034.35	9,906.00	22,403.82	12,276.00	171.28	173.61	-138.93	10,048.00	-2,074.29	3,202.36	3,021.01	181.35	17.658 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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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	
0.00	0.00	0.00	0.00	0.00	0.00	-92.73	-93.00	-1,947.72	1,950.43					
100.00	100.00	56.30	56.30	0.13	0.07	-92.73	-93.00	-1,947.72	1,949.94	1,949.80	0.14	N/A		
200.00	200.00	156.30	156.30	0.48	0.33	-92.73	-93.00	-1,947.72	1,949.94	1,949.36	0.58	3,337.700		
300.00	300.00	256.30	256.30	0.84	0.69	-92.73	-93.00	-1,947.72	1,949.94	1,948.86	1.09	1,795.134		
400.00	400.00	356.30	356.30	1.20	1.04	-92.73	-93.00	-1,947.72	1,949.94	1,948.35	1.59	1,225.308		
500.00	500.00	456.30	456.30	1.56	1.40	-92.73	-93.00	-1,947.72	1,949.94	1,947.85	2.10	929.689		
600.00	600.00	556.30	556.30	1.92	1.76	-92.73	-93.00	-1,947.72	1,949.94	1,947.34	2.60	748.884		
700.00	700.00	656.30	656.30	2.28	2.12	-92.73	-93.00	-1,947.72	1,949.94	1,946.83	3.11	626.917		
800.00	800.00	756.30	756.30	2.63	2.48	-92.73	-93.00	-1,947.72	1,949.94	1,946.33	3.62	539.098		
900.00	900.00	856.30	856.30	2.99	2.84	-92.73	-93.00	-1,947.72	1,949.94	1,945.82	4.12	472.852		
1,000.00	1,000.00	956.30	956.30	3.35	3.20	-92.73	-93.00	-1,947.72	1,949.94	1,945.31	4.63	421.101		
1,100.00	1,100.00	1,056.30	1,056.30	3.71	3.55	-92.73	-93.00	-1,947.72	1,949.94	1,944.81	5.14	379.557		
1,200.00	1,200.00	1,156.30	1,156.30	4.07	3.91	-92.73	-93.00	-1,947.72	1,949.94	1,944.30	5.64	345.474		
1,300.00	1,300.00	1,256.30	1,256.30	4.43	4.27	-92.73	-93.00	-1,947.72	1,949.94	1,943.79	6.15	317.006		
1,400.00	1,400.00	1,356.30	1,356.30	4.79	4.63	-92.73	-93.00	-1,947.72	1,949.94	1,943.28	6.66	292.872		
1,500.00	1,500.00	1,456.30	1,456.30	5.14	4.99	-92.73	-93.00	-1,947.72	1,949.94	1,942.78	7.16	272.152		
1,600.00	1,600.00	1,556.30	1,556.30	5.50	5.35	-92.73	-93.00	-1,947.72	1,949.94	1,942.27	7.67	254.170		
1,700.00	1,700.00	1,656.30	1,656.30	5.86	5.70	-92.73	-93.00	-1,947.72	1,949.94	1,941.76	8.18	238.417		
1,800.00	1,800.00	1,756.30	1,756.30	6.22	6.06	-92.73	-93.00	-1,947.72	1,949.94	1,941.26	8.69	224.503		
1,900.00	1,899.99	1,856.29	1,856.29	6.56	6.42	110.82	-93.00	-1,947.72	1,950.41	1,941.23	9.18	212.466		
2,000.00	1,999.91	1,956.21	1,956.21	6.89	6.78	110.91	-93.00	-1,947.72	1,951.81	1,942.14	9.66	201.981		
2,066.81	2,066.60	2,045.10	2,045.10	7.11	7.09	111.04	-93.06	-1,947.46	1,953.14	1,943.10	10.04	194.543		
2,100.00	2,099.70	2,110.38	2,110.36	7.22	7.32	111.16	-93.36	-1,946.17	1,953.32	1,943.05	10.27	190.116		
2,200.00	2,199.46	2,307.08	2,306.75	7.55	7.99	111.45	-95.81	-1,935.71	1,950.59	1,939.63	10.96	177.930		
2,300.00	2,299.21	2,503.01	2,501.56	7.89	8.68	111.66	-100.53	-1,915.52	1,942.92	1,931.28	11.64	166.959		
2,400.00	2,398.97	2,697.14	2,693.27	8.23	9.38	111.80	-107.45	-1,885.95	1,930.36	1,918.06	12.29	157.020		
2,500.00	2,498.73	2,828.43	2,822.06	8.58	9.89	111.86	-113.26	-1,861.11	1,913.99	1,901.16	12.83	149.139		
2,600.00	2,598.48	2,927.03	2,918.69	8.92	10.28	111.90	-117.72	-1,842.03	1,897.34	1,884.02	13.32	142.425		
2,700.00	2,698.24	3,025.62	3,015.32	9.27	10.67	111.93	-122.19	-1,822.95	1,880.69	1,866.87	13.81	136.151		
2,800.00	2,798.00	3,124.22	3,111.95	9.62	11.07	111.97	-126.65	-1,803.87	1,864.03	1,849.72	14.31	130.278		
2,900.00	2,897.75	3,222.81	3,208.58	9.98	11.48	112.02	-131.11	-1,784.79	1,847.38	1,832.57	14.81	124.774		
3,000.00	2,997.51	3,321.41	3,305.21	10.33	11.89	112.06	-135.58	-1,765.71	1,830.73	1,815.42	15.31	119.607		
3,100.00	3,097.26	3,420.00	3,401.83	10.69	12.31	112.10	-140.04	-1,746.63	1,814.08	1,798.27	15.81	114.750		
3,200.00	3,197.02	3,518.60	3,498.46	11.05	12.73	112.14	-144.50	-1,727.55	1,797.43	1,781.12	16.31	110.178		
3,300.00	3,296.78	3,617.19	3,595.09	11.41	13.15	112.19	-148.97	-1,708.47	1,780.78	1,763.96	16.82	105.868		
3,400.00	3,396.53	3,715.79	3,691.72	11.77	13.58	112.23	-153.43	-1,689.39	1,764.14	1,746.81	17.33	101.800		
3,500.00	3,496.29	3,814.38	3,788.35	12.13	14.01	112.28	-157.89	-1,670.31	1,747.49	1,729.65	17.84	97.956		
3,600.00	3,596.04	3,912.98	3,884.98	12.49	14.45	112.32	-162.36	-1,651.23	1,730.84	1,712.49	18.35	94.317		
3,700.00	3,695.80	4,011.57	3,981.60	12.85	14.89	112.37	-166.82	-1,632.15	1,714.20	1,695.34	18.86	90.870		
3,800.00	3,795.56	4,110.17	4,078.23	13.22	15.33	112.42	-171.28	-1,613.07	1,697.56	1,678.18	19.38	87.600		
3,900.00	3,895.31	4,208.76	4,174.86	13.58	15.77	112.47	-175.74	-1,594.00	1,680.92	1,661.02	19.89	84.494		
4,000.00	3,995.07	4,307.36	4,271.49	13.95	16.21	112.52	-180.21	-1,574.92	1,664.28	1,643.87	20.41	81.541		
4,100.00	4,094.83	4,405.95	4,368.12	14.31	16.66	112.57	-184.67	-1,555.84	1,647.64	1,626.71	20.93	78.730		
4,200.00	4,194.58	4,504.55	4,464.75	14.68	17.10	112.62	-189.13	-1,536.76	1,631.00	1,609.55	21.45	76.052		
4,300.00	4,294.34	4,603.14	4,561.38	15.05	17.55	112.68	-193.60	-1,517.68	1,614.36	1,592.40	21.96	73.497		
4,400.00	4,394.09	4,701.74	4,658.00	15.41	18.00	112.73	-198.06	-1,498.60	1,597.73	1,575.24	22.48	71.058		
4,500.00	4,493.85	4,800.34	4,754.63	15.78	18.45	112.79	-202.52	-1,479.52	1,581.10	1,558.09	23.01	68.728		
4,600.00	4,593.61	4,898.93	4,851.26	16.15	18.91	112.85	-206.99	-1,460.44	1,564.46	1,540.94	23.53	66.499		
4,700.00	4,693.36	4,997.53	4,947.89	16.52	19.36	112.90	-211.45	-1,441.36	1,547.83	1,523.79	24.05	64.364		
4,800.00	4,793.12	5,096.12	5,044.52	16.89	19.82	112.96	-215.91	-1,422.28	1,531.20	1,506.63	24.57	62.320		
4,900.00	4,892.87	5,194.72	5,141.15	17.26	20.27	113.02	-220.38	-1,403.20	1,514.58	1,489.48	25.09	60.359		
5,000.00	4,992.63	5,293.31	5,237.77	17.63	20.73	113.09	-224.84	-1,384.12	1,497.95	1,472.34	25.62	58.477		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
5,100.00	5,092.39	5,391.91	5,334.40	18.00	21.19	113.15	-229.30	-1,365.04	1,481.33	1,455.19	26.14	56.670		
5,200.00	5,192.14	5,490.50	5,431.03	18.37	21.65	113.21	-233.77	-1,345.96	1,464.71	1,438.04	26.66	54.934		
5,300.00	5,291.90	5,589.10	5,527.66	18.74	22.11	113.28	-238.23	-1,326.88	1,448.09	1,420.90	27.19	53.264		
5,400.00	5,391.65	5,687.69	5,624.29	19.11	22.57	113.35	-242.69	-1,307.81	1,431.47	1,403.76	27.71	51.656		
5,500.00	5,491.41	5,786.29	5,720.92	19.48	23.03	113.42	-247.15	-1,288.73	1,414.85	1,386.62	28.24	50.108		
5,600.00	5,591.17	5,884.88	5,817.55	19.85	23.49	113.49	-251.62	-1,269.65	1,398.24	1,369.48	28.76	48.616		
5,700.00	5,690.92	5,983.48	5,914.17	20.22	23.95	113.56	-256.08	-1,250.57	1,381.63	1,352.34	29.29	47.177		
5,800.00	5,790.68	6,082.07	6,010.80	20.59	24.41	113.64	-260.54	-1,231.49	1,365.02	1,335.21	29.81	45.788		
5,900.00	5,890.44	6,180.67	6,107.43	20.97	24.88	113.71	-265.01	-1,212.41	1,348.41	1,318.07	30.34	44.448		
6,000.00	5,990.19	6,279.26	6,204.06	21.34	25.34	113.79	-269.47	-1,193.33	1,331.81	1,300.94	30.86	43.152		
6,100.00	6,089.95	6,377.86	6,300.69	21.71	25.81	113.87	-273.93	-1,174.25	1,315.20	1,283.81	31.39	41.900		
6,200.00	6,189.70	6,476.45	6,397.32	22.08	26.27	113.96	-278.40	-1,155.17	1,298.60	1,266.69	31.92	40.689		
6,300.00	6,289.46	6,575.05	6,493.94	22.45	26.74	114.04	-282.86	-1,136.09	1,282.01	1,249.57	32.44	39.518		
6,394.17	6,383.40	6,665.64	6,582.73	22.81	27.16	114.12	-286.96	-1,118.57	1,266.39	1,233.45	32.94	38.450		
6,400.00	6,389.22	6,669.98	6,586.99	22.83	27.18	114.11	-287.15	-1,117.74	1,265.43	1,232.47	32.97	38.385		
6,500.00	6,489.06	6,744.72	6,660.42	23.19	27.53	113.92	-290.32	-1,104.18	1,249.48	1,216.00	33.48	37.324		
6,600.00	6,589.02	6,819.78	6,734.43	23.55	27.86	113.67	-293.18	-1,091.98	1,234.36	1,200.39	33.98	36.331		
6,660.99	6,650.00	6,865.70	6,779.82	23.76	28.06	-90.04	-294.76	-1,085.22	1,225.57	1,191.30	34.27	35.763		
6,700.00	6,689.01	6,900.00	6,813.77	23.89	28.21	-90.09	-295.86	-1,080.51	1,220.20	1,185.74	34.46	35.411		
6,800.00	6,789.01	6,970.89	6,884.08	24.22	28.49	-90.19	-297.92	-1,071.73	1,207.74	1,172.82	34.91	34.595		
6,900.00	6,889.01	7,046.99	6,959.74	24.55	28.79	-90.28	-299.79	-1,063.72	1,197.21	1,161.85	35.36	33.858		
7,000.00	6,989.01	7,123.39	7,035.84	24.88	29.08	-90.35	-301.33	-1,057.15	1,188.62	1,152.83	35.80	33.205		
7,100.00	7,089.01	7,200.00	7,112.27	25.22	29.36	-90.41	-302.52	-1,052.05	1,181.98	1,145.76	36.22	32.632		
7,200.00	7,189.01	7,276.86	7,189.04	25.55	29.62	-90.46	-303.36	-1,048.44	1,177.29	1,140.66	36.63	32.137		
7,300.00	7,289.01	7,353.80	7,265.95	25.88	29.88	-90.48	-303.86	-1,046.33	1,174.55	1,137.52	37.03	31.718		
7,400.00	7,389.01	7,433.17	7,345.31	26.22	30.12	-90.49	-304.00	-1,045.72	1,173.77	1,136.34	37.42	31.364		
7,500.00	7,489.01	7,533.17	7,445.31	26.55	30.42	-90.49	-304.00	-1,045.72	1,173.77	1,135.87	37.89	30.975		
7,600.00	7,589.01	7,633.17	7,545.31	26.89	30.73	-90.49	-304.00	-1,045.72	1,173.77	1,135.40	38.37	30.594		
7,700.00	7,689.01	7,733.17	7,645.31	27.23	31.03	-90.49	-304.00	-1,045.72	1,173.77	1,134.93	38.84	30.222		
7,800.00	7,789.01	7,833.17	7,745.31	27.56	31.33	-90.49	-304.00	-1,045.72	1,173.77	1,134.46	39.31	29.858		
7,900.00	7,889.01	7,933.17	7,845.31	27.90	31.64	-90.49	-304.00	-1,045.72	1,173.77	1,133.98	39.79	29.502		
8,000.00	7,989.01	8,033.17	7,945.31	28.24	31.94	-90.49	-304.00	-1,045.72	1,173.77	1,133.51	40.26	29.154		
8,100.00	8,089.01	8,133.17	8,045.31	28.58	32.25	-90.49	-304.00	-1,045.72	1,173.77	1,133.03	40.74	28.814		
8,200.00	8,189.01	8,233.17	8,145.31	28.92	32.56	-90.49	-304.00	-1,045.72	1,173.77	1,132.55	41.21	28.481		
8,300.00	8,289.01	8,333.17	8,245.31	29.25	32.87	-90.49	-304.00	-1,045.72	1,173.77	1,132.08	41.69	28.155		
8,400.00	8,389.01	8,433.17	8,345.31	29.59	33.18	-90.49	-304.00	-1,045.72	1,173.77	1,131.60	42.17	27.836		
8,500.00	8,489.01	8,533.17	8,445.31	29.93	33.49	-90.49	-304.00	-1,045.72	1,173.77	1,131.12	42.65	27.523		
8,600.00	8,589.01	8,633.17	8,545.31	30.28	33.80	-90.49	-304.00	-1,045.72	1,173.77	1,130.64	43.13	27.217		
8,700.00	8,689.01	8,733.17	8,645.31	30.62	34.11	-90.49	-304.00	-1,045.72	1,173.77	1,130.16	43.61	26.918		
8,800.00	8,789.01	8,833.17	8,745.31	30.96	34.43	-90.49	-304.00	-1,045.72	1,173.77	1,129.68	44.09	26.625		
8,900.00	8,889.01	8,933.17	8,845.31	31.30	34.74	-90.49	-304.00	-1,045.72	1,173.77	1,129.20	44.57	26.337		
9,000.00	8,989.01	9,033.17	8,945.31	31.64	35.06	-90.49	-304.00	-1,045.72	1,173.77	1,128.72	45.05	26.056		
9,100.00	9,089.01	9,133.17	9,045.31	31.99	35.37	-90.49	-304.00	-1,045.72	1,173.77	1,128.24	45.53	25.780		
9,200.00	9,189.01	9,233.17	9,145.31	32.33	35.69	-90.49	-304.00	-1,045.72	1,173.77	1,127.75	46.01	25.509		
9,300.00	9,289.01	9,333.17	9,245.31	32.67	36.01	-90.49	-304.00	-1,045.72	1,173.77	1,127.27	46.50	25.244		
9,344.03	9,333.04	9,377.20	9,289.34	32.82	36.15	-90.49	-304.00	-1,045.72	1,173.77	1,127.06	46.71	25.129		
9,350.00	9,339.01	9,383.17	9,295.31	32.84	36.17	-89.94	-304.00	-1,045.72	1,173.77	1,127.03	46.74	25.114		
9,380.50	9,369.49	9,413.65	9,325.79	32.95	36.27	-90.00	-304.00	-1,045.72	1,173.77	1,126.88	46.88	25.035 CC		
9,400.00	9,388.92	9,433.08	9,345.22	33.01	36.33	-90.08	-304.00	-1,045.72	1,173.77	1,126.79	46.98	24.985		
9,450.00	9,438.41	9,482.57	9,394.71	33.17	36.49	-90.41	-304.00	-1,045.72	1,173.80	1,126.58	47.22	24.859		
9,500.00	9,487.09	9,531.25	9,443.39	33.32	36.64	-90.94	-304.00	-1,045.72	1,173.94	1,126.48	47.45	24.738 ES		
9,550.00	9,534.61	9,578.76	9,490.91	33.46	36.79	-91.62	-304.00	-1,045.72	1,174.30	1,126.61	47.69	24.625		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
9,600.00	9,580.58	9,624.74	9,536.88	33.59	36.94	-92.42	-304.00	-1,045.72	1,175.06	1,127.14	47.91	24.524		
9,650.00	9,624.68	9,668.83	9,580.98	33.71	37.08	-93.30	-304.00	-1,045.72	1,176.40	1,128.26	48.14	24.438		
9,700.00	9,666.55	9,710.71	9,622.85	33.83	37.22	-94.20	-304.00	-1,045.72	1,178.53	1,130.18	48.36	24.371		
9,750.00	9,705.89	9,750.04	9,662.19	33.93	37.34	-95.06	-304.00	-1,045.72	1,181.70	1,133.13	48.57	24.328		
9,800.00	9,742.38	9,786.54	9,698.68	34.04	37.46	-95.82	-304.00	-1,045.72	1,186.14	1,137.36	48.79	24.314		
9,850.00	9,775.77	9,819.93	9,732.07	34.14	37.57	-96.42	-304.00	-1,045.72	1,192.07	1,143.08	48.99	24.332		
9,900.00	9,805.78	9,849.94	9,762.08	34.24	37.66	-96.81	-304.00	-1,045.72	1,199.69	1,150.50	49.20	24.386		
9,950.00	9,832.20	9,876.35	9,788.50	34.34	37.75	-96.93	-304.00	-1,045.72	1,209.18	1,159.79	49.39	24.481		
10,000.00	9,854.81	9,898.97	9,811.11	34.45	37.82	-96.73	-304.00	-1,045.72	1,220.66	1,171.07	49.58	24.619		
10,050.00	9,873.46	9,917.62	9,829.76	34.57	37.88	-96.16	-304.00	-1,045.72	1,234.19	1,184.43	49.77	24.800		
10,100.00	9,887.99	9,932.15	9,844.29	34.69	37.93	-95.20	-304.00	-1,045.72	1,249.80	1,199.87	49.94	25.027		
10,150.00	9,898.30	9,942.46	9,854.60	34.81	37.96	-93.81	-304.00	-1,045.72	1,267.44	1,217.34	50.10	25.299		
10,200.00	9,904.31	9,948.47	9,860.61	34.95	37.98	-91.98	-304.00	-1,045.72	1,286.98	1,236.73	50.24	25.614		
10,244.03	9,906.00	9,950.16	9,862.30	35.07	37.99	-90.00	-304.00	-1,045.72	1,305.63	1,255.27	50.36	25.925		
10,300.00	9,906.00	9,950.16	9,862.30	35.24	37.99	-90.00	-304.00	-1,045.72	1,331.10	1,280.60	50.50	26.357		
10,400.00	9,906.00	9,950.16	9,862.30	35.60	37.99	-90.00	-304.00	-1,045.72	1,381.08	1,330.32	50.76	27.209		
10,500.00	9,906.00	9,950.16	9,862.30	36.03	37.99	-90.00	-304.00	-1,045.72	1,436.29	1,385.28	51.01	28.157		
10,600.00	9,906.00	9,950.16	9,862.30	36.54	37.99	-90.00	-304.00	-1,045.72	1,496.16	1,444.90	51.25	29.192		
10,700.00	9,906.00	9,950.16	9,862.30	37.11	37.99	-90.00	-304.00	-1,045.72	1,560.14	1,508.66	51.48	30.305		
10,800.00	9,906.00	9,950.16	9,862.30	37.74	37.99	-90.00	-304.00	-1,045.72	1,627.76	1,576.06	51.70	31.488		
10,900.00	9,906.00	9,950.16	9,862.30	38.44	37.99	-90.00	-304.00	-1,045.72	1,698.57	1,646.68	51.89	32.732		
11,000.00	9,906.00	9,950.16	9,862.30	39.19	37.99	-90.00	-304.00	-1,045.72	1,772.20	1,720.13	52.07	34.032		
11,100.00	9,906.00	9,950.16	9,862.30	40.00	37.99	-90.00	-304.00	-1,045.72	1,848.31	1,796.07	52.24	35.380		
11,200.00	9,906.00	9,950.16	9,862.30	40.85	37.99	-90.00	-304.00	-1,045.72	1,926.61	1,874.21	52.39	36.772		
11,300.00	9,906.00	9,950.16	9,862.30	41.76	37.99	-90.00	-304.00	-1,045.72	2,006.83	1,954.30	52.53	38.202		
11,400.00	9,906.00	9,950.16	9,862.30	42.71	37.99	-90.00	-304.00	-1,045.72	2,088.76	2,036.10	52.66	39.666		
11,500.00	9,906.00	9,950.16	9,862.30	43.70	37.99	-90.00	-304.00	-1,045.72	2,172.20	2,119.43	52.77	41.161		
11,600.00	9,906.00	9,950.16	9,862.30	44.73	37.99	-90.00	-304.00	-1,045.72	2,256.99	2,204.12	52.88	42.683		
11,700.00	9,906.00	9,950.16	9,862.30	45.80	37.99	-90.00	-304.00	-1,045.72	2,342.98	2,290.01	52.98	44.227		
11,800.00	9,906.00	9,950.16	9,862.30	46.90	37.99	-90.00	-304.00	-1,045.72	2,430.05	2,376.98	53.07	45.792		
11,900.00	9,906.00	9,950.16	9,862.30	48.03	37.99	-90.00	-304.00	-1,045.72	2,518.07	2,464.92	53.15	47.377		
12,000.00	9,906.00	14,305.24	12,136.00	49.19	56.50	-152.68	2,023.18	-1,068.79	2,559.23	2,507.51	51.71	49.487		
12,100.00	9,906.00	14,405.24	12,136.00	50.38	57.54	-152.68	2,123.18	-1,069.78	2,559.25	2,506.58	52.67	48.595		
12,200.00	9,906.00	14,505.24	12,136.00	51.60	58.62	-152.68	2,223.17	-1,070.77	2,559.26	2,505.63	53.64	47.714		
12,300.00	9,906.00	14,605.24	12,136.00	52.83	59.72	-152.67	2,323.17	-1,071.76	2,559.28	2,504.65	54.63	46.845		
12,400.00	9,906.00	14,705.24	12,136.00	54.09	60.84	-152.67	2,423.16	-1,072.75	2,559.30	2,503.65	55.65	45.992		
12,500.00	9,906.00	14,805.24	12,136.00	55.38	61.99	-152.67	2,523.16	-1,073.74	2,559.32	2,502.64	56.68	45.157		
12,600.00	9,906.00	14,905.24	12,136.00	56.68	63.16	-152.67	2,623.15	-1,074.74	2,559.34	2,501.61	57.72	44.337		
12,700.00	9,906.00	15,005.24	12,136.00	57.99	64.35	-152.67	2,723.15	-1,075.73	2,559.36	2,500.57	58.79	43.534		
12,800.00	9,906.00	15,105.24	12,136.00	59.33	65.56	-152.67	2,823.14	-1,076.72	2,559.37	2,499.51	59.87	42.749		
12,900.00	9,906.00	15,205.24	12,136.00	60.68	66.79	-152.67	2,923.14	-1,077.71	2,559.39	2,498.43	60.97	41.981		
13,000.00	9,906.00	15,305.24	12,136.00	62.04	68.04	-152.67	3,023.13	-1,078.70	2,559.41	2,497.34	62.08	41.231		
13,100.00	9,906.00	15,405.24	12,136.00	63.42	69.31	-152.67	3,123.13	-1,079.69	2,559.43	2,496.23	63.20	40.499		
13,200.00	9,906.00	15,505.24	12,136.00	64.82	70.59	-152.67	3,223.12	-1,080.68	2,559.45	2,495.11	64.33	39.784		
13,300.00	9,906.00	15,605.24	12,136.00	66.22	71.88	-152.67	3,323.12	-1,081.67	2,559.47	2,493.99	65.48	39.087		
13,400.00	9,906.00	15,705.24	12,136.00	67.63	73.19	-152.67	3,423.11	-1,082.66	2,559.49	2,492.85	66.64	38.408		
13,500.00	9,906.00	15,805.24	12,136.00	69.06	74.52	-152.66	3,523.11	-1,083.66	2,559.50	2,491.70	67.81	37.748		
13,600.00	9,906.00	15,905.24	12,136.00	70.49	75.86	-152.66	3,623.10	-1,084.65	2,559.52	2,490.54	68.98	37.104		
13,700.00	9,906.00	16,005.24	12,136.00	71.94	77.20	-152.66	3,723.10	-1,085.64	2,559.54	2,489.37	70.17	36.478		
13,800.00	9,906.00	16,105.24	12,136.00	73.39	78.56	-152.66	3,823.09	-1,086.63	2,559.56	2,488.20	71.36	35.867		
13,900.00	9,906.00	16,205.24	12,136.00	74.85	79.94	-152.66	3,923.09	-1,087.62	2,559.58	2,487.01	72.57	35.272		
14,000.00	9,906.00	16,305.24	12,136.00	76.32	81.32	-152.66	4,023.08	-1,088.61	2,559.60	2,485.82	73.78	34.693		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
14,100.00	9,906.00	16,405.24	12,136.00	77.80	82.71	-152.66	4,123.08	-1,089.60	2,559.62	2,484.62	75.00	34.129		
14,200.00	9,906.00	16,505.24	12,136.00	79.28	84.11	-152.66	4,223.08	-1,090.59	2,559.63	2,483.41	76.23	33.580		
14,300.00	9,906.00	16,605.24	12,136.00	80.77	85.52	-152.66	4,323.07	-1,091.58	2,559.65	2,482.19	77.46	33.045		
14,400.00	9,906.00	16,705.24	12,136.00	82.27	86.94	-152.66	4,423.07	-1,092.57	2,559.67	2,480.97	78.70	32.524		
14,500.00	9,906.00	16,805.24	12,136.00	83.77	88.37	-152.66	4,523.06	-1,093.57	2,559.69	2,479.74	79.95	32.017		
14,600.00	9,906.00	16,905.24	12,136.00	85.28	89.80	-152.66	4,623.06	-1,094.56	2,559.71	2,478.51	81.20	31.524		
14,700.00	9,906.00	17,005.24	12,136.00	86.79	91.24	-152.66	4,723.05	-1,095.55	2,559.73	2,477.27	82.45	31.044		
14,800.00	9,906.00	17,105.24	12,136.00	88.31	92.69	-152.65	4,823.05	-1,096.54	2,559.75	2,476.03	83.72	30.577		
14,900.00	9,906.00	17,205.24	12,136.00	89.83	94.15	-152.65	4,923.04	-1,097.53	2,559.76	2,474.78	84.98	30.121		
15,000.00	9,906.00	17,305.24	12,136.00	91.36	95.61	-152.65	5,023.04	-1,098.52	2,559.78	2,473.53	86.25	29.677		
15,100.00	9,906.00	17,405.24	12,136.00	92.89	97.08	-152.65	5,123.03	-1,099.51	2,559.80	2,472.27	87.53	29.244		
15,200.00	9,906.00	17,505.24	12,136.00	94.43	98.55	-152.65	5,223.03	-1,100.50	2,559.82	2,471.01	88.81	28.823		
15,300.00	9,906.00	17,605.24	12,136.00	95.97	100.03	-152.65	5,323.02	-1,101.49	2,559.84	2,469.74	90.10	28.411		
15,400.00	9,906.00	17,705.24	12,136.00	97.51	101.51	-152.65	5,423.02	-1,102.49	2,559.86	2,468.47	91.39	28.010		
15,500.00	9,906.00	17,805.24	12,136.00	99.06	103.00	-152.65	5,523.01	-1,103.48	2,559.87	2,467.19	92.68	27.620		
15,600.00	9,906.00	17,905.24	12,136.00	100.61	104.50	-152.65	5,623.01	-1,104.47	2,559.89	2,465.91	93.98	27.239		
15,700.00	9,906.00	18,005.24	12,136.00	102.16	106.00	-152.65	5,723.00	-1,105.46	2,559.91	2,464.63	95.28	26.868		
15,800.00	9,906.00	18,105.24	12,136.00	103.72	107.50	-152.65	5,823.00	-1,106.45	2,559.93	2,463.35	96.58	26.506		
15,900.00	9,906.00	18,205.24	12,136.00	105.28	109.01	-152.65	5,922.99	-1,107.44	2,559.95	2,462.07	97.88	26.153		
16,000.00	9,906.00	18,305.24	12,136.00	106.84	110.52	-152.64	6,022.99	-1,108.43	2,559.97	2,460.78	99.19	25.808		
16,100.00	9,906.00	18,405.24	12,136.00	108.40	112.04	-152.64	6,122.98	-1,109.42	2,559.99	2,459.48	100.50	25.472		
16,200.00	9,906.00	18,505.24	12,136.00	109.97	113.56	-152.64	6,222.98	-1,110.41	2,560.00	2,458.19	101.82	25.143		
16,300.00	9,906.00	18,605.24	12,136.00	111.54	115.08	-152.64	6,322.97	-1,111.41	2,560.02	2,456.89	103.14	24.822		
16,400.00	9,906.00	18,705.24	12,136.00	113.11	116.61	-152.64	6,422.97	-1,112.40	2,560.04	2,455.58	104.46	24.508		
16,500.00	9,906.00	18,805.24	12,136.00	114.69	118.14	-152.64	6,522.96	-1,113.39	2,560.06	2,454.28	105.78	24.202		
16,600.00	9,906.00	18,905.24	12,136.00	116.26	119.67	-152.64	6,622.96	-1,114.38	2,560.08	2,452.98	107.10	23.903		
16,700.00	9,906.00	19,005.24	12,136.00	117.84	121.21	-152.64	6,722.95	-1,115.37	2,560.10	2,451.67	108.43	23.611		
16,800.00	9,906.00	19,105.24	12,136.00	119.42	122.75	-152.64	6,822.95	-1,116.36	2,560.12	2,450.36	109.75	23.326		
16,900.00	9,906.00	19,205.24	12,136.00	121.01	124.29	-152.64	6,922.94	-1,117.35	2,560.13	2,449.05	111.08	23.047		
17,000.00	9,906.00	19,305.24	12,136.00	122.59	125.84	-152.64	7,022.94	-1,118.34	2,560.15	2,447.74	112.41	22.774		
17,100.00	9,906.00	19,405.24	12,136.00	124.18	127.38	-152.64	7,122.93	-1,119.33	2,560.17	2,446.42	113.75	22.508		
17,200.00	9,906.00	19,505.24	12,136.00	125.76	128.93	-152.64	7,222.93	-1,120.32	2,560.19	2,445.11	115.08	22.247		
17,300.00	9,906.00	19,605.24	12,136.00	127.35	130.49	-152.63	7,322.92	-1,121.32	2,560.21	2,443.79	116.42	21.991		
17,400.00	9,906.00	19,705.24	12,136.00	128.95	132.04	-152.63	7,422.92	-1,122.31	2,560.23	2,442.47	117.76	21.741		
17,500.00	9,906.00	19,805.24	12,136.00	130.54	133.60	-152.63	7,522.91	-1,123.30	2,560.25	2,441.15	119.10	21.497		
17,600.00	9,906.00	19,905.24	12,136.00	132.13	135.16	-152.63	7,622.91	-1,124.29	2,560.26	2,439.82	120.44	21.258		
17,700.00	9,906.00	20,005.24	12,136.00	133.73	136.72	-152.63	7,722.90	-1,125.28	2,560.28	2,438.50	121.78	21.023		
17,800.00	9,906.00	20,105.24	12,136.00	135.32	138.29	-152.63	7,822.90	-1,126.27	2,560.30	2,437.18	123.12	20.794		
17,900.00	9,906.00	20,205.24	12,136.00	136.92	139.85	-152.63	7,922.89	-1,127.26	2,560.32	2,435.85	124.47	20.570		
18,000.00	9,906.00	20,305.24	12,136.00	138.52	141.42	-152.63	8,022.89	-1,128.25	2,560.34	2,434.52	125.81	20.350		
18,100.00	9,906.00	20,405.24	12,136.00	140.12	142.99	-152.63	8,122.88	-1,129.24	2,560.36	2,433.20	127.16	20.135		
18,200.00	9,906.00	20,505.24	12,136.00	141.72	144.56	-152.63	8,222.88	-1,130.24	2,560.37	2,431.87	128.51	19.924		
18,300.00	9,906.00	20,605.24	12,136.00	143.33	146.14	-152.63	8,322.87	-1,131.23	2,560.39	2,430.53	129.86	19.717		
18,400.00	9,906.00	20,705.24	12,136.00	144.93	147.71	-152.63	8,422.87	-1,132.22	2,560.41	2,429.20	131.21	19.514		
18,500.00	9,906.00	20,805.24	12,136.00	146.54	149.29	-152.62	8,522.86	-1,133.21	2,560.43	2,427.87	132.56	19.315		
18,600.00	9,906.00	20,905.24	12,136.00	148.14	150.87	-152.62	8,622.86	-1,134.20	2,560.45	2,426.54	133.91	19.120		
18,700.00	9,906.00	21,005.24	12,136.00	149.75	152.45	-152.62	8,722.85	-1,135.19	2,560.47	2,425.20	135.27	18.929		
18,800.00	9,906.00	21,105.24	12,136.00	151.36	154.03	-152.62	8,822.85	-1,136.18	2,560.49	2,423.87	136.62	18.742		
18,900.00	9,906.00	21,205.24	12,136.00	152.97	155.62	-152.62	8,922.84	-1,137.17	2,560.50	2,422.53	137.97	18.558		
19,000.00	9,906.00	21,305.24	12,136.00	154.58	157.20	-152.62	9,022.84	-1,138.16	2,560.52	2,421.20	139.33	18.378		
19,100.00	9,906.00	21,405.24	12,136.00	156.19	158.79	-152.62	9,122.83	-1,139.16	2,560.54	2,419.86	140.68	18.201		
19,200.00	9,906.00	21,505.24	12,136.00	157.80	160.37	-152.62	9,222.83	-1,140.15	2,560.56	2,418.52	142.04	18.027		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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	
19,300.00	9,906.00	21,605.24	12,136.00	159.41	161.96	-152.62	9,322.82	-1,141.14	2,560.58	2,417.18	143.40	17.857		
19,400.00	9,906.00	21,705.24	12,136.00	161.03	163.55	-152.62	9,422.82	-1,142.13	2,560.60	2,415.84	144.75	17.689		
19,500.00	9,906.00	21,805.24	12,136.00	162.64	165.14	-152.62	9,522.81	-1,143.12	2,560.62	2,414.50	146.11	17.525		
19,600.00	9,906.00	21,905.24	12,136.00	164.26	166.74	-152.62	9,622.81	-1,144.11	2,560.63	2,413.16	147.47	17.364		
19,700.00	9,906.00	22,005.24	12,136.00	165.87	168.33	-152.62	9,722.80	-1,145.10	2,560.65	2,411.82	148.83	17.205		
19,800.00	9,906.00	22,105.24	12,136.00	167.49	169.92	-152.61	9,822.80	-1,146.09	2,560.67	2,410.48	150.19	17.049		
19,900.00	9,906.00	22,205.24	12,136.00	169.11	171.52	-152.61	9,922.79	-1,147.08	2,560.69	2,409.14	151.55	16.897		
20,000.00	9,906.00	22,305.24	12,136.00	170.72	173.12	-152.61	10,022.79	-1,148.07	2,560.71	2,407.80	152.91	16.747		
20,034.35	9,906.00	22,339.58	12,136.00	171.28	173.67	-152.61	10,057.14	-1,148.42	2,560.72	2,407.34	153.38	16.696	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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 804H - 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			
0.00	0.00	0.00	0.00	0.00	0.00	-170.99	-75.09	-11.90	76.04							
100.00	100.00	98.60	98.60	0.13	0.12	-170.99	-75.09	-11.90	76.03	75.85		0.18	431.489			
200.00	200.00	198.60	198.60	0.48	0.48	-170.99	-75.09	-11.90	76.03	75.35		0.68	111.665			
300.00	300.00	298.60	298.60	0.84	0.84	-170.99	-75.09	-11.90	76.03	74.84		1.19	64.007			
400.00	400.00	398.60	398.60	1.20	1.20	-170.99	-75.09	-11.90	76.03	74.33		1.69	44.860			
500.00	500.00	498.60	498.60	1.56	1.55	-170.99	-75.09	-11.90	76.03	73.83		2.20	34.531			
600.00	600.00	598.60	598.60	1.92	1.91	-170.99	-75.09	-11.90	76.03	73.32		2.71	28.068			
700.00	700.00	698.60	698.60	2.28	2.27	-170.99	-75.09	-11.90	76.03	72.81		3.22	23.643			
800.00	800.00	798.60	798.60	2.63	2.63	-170.99	-75.09	-11.90	76.03	72.30		3.72	20.423			
900.00	900.00	898.60	898.60	2.99	2.99	-170.99	-75.09	-11.90	76.03	71.80		4.23	17.975			
1,000.00	1,000.00	998.60	998.60	3.35	3.35	-170.99	-75.09	-11.90	76.03	71.29		4.74	16.051			
1,100.00	1,100.00	1,098.60	1,098.60	3.71	3.71	-170.99	-75.09	-11.90	76.03	70.78		5.24	14.499			
1,200.00	1,200.00	1,198.60	1,198.60	4.07	4.06	-170.99	-75.09	-11.90	76.03	70.28		5.75	13.221			
1,300.00	1,300.00	1,298.60	1,298.60	4.43	4.42	-170.99	-75.09	-11.90	76.03	69.77		6.26	12.150			
1,400.00	1,400.00	1,398.60	1,398.60	4.79	4.78	-170.99	-75.09	-11.90	76.03	69.26		6.76	11.239			
1,500.00	1,500.00	1,498.60	1,498.60	5.14	5.14	-170.99	-75.09	-11.90	76.03	68.76		7.27	10.456			
1,600.00	1,600.00	1,598.60	1,598.60	5.50	5.50	-170.99	-75.09	-11.90	76.03	68.25		7.78	9.774			
1,700.00	1,700.00	1,698.60	1,698.60	5.86	5.86	-170.99	-75.09	-11.90	76.03	67.74		8.29	9.176			
1,800.00	1,800.00	1,798.60	1,798.60	6.22	6.21	-170.99	-75.09	-11.90	76.03	67.23		8.79	8.647			
1,900.00	1,899.99	1,898.59	1,898.59	6.56	6.57	33.08	-75.09	-11.90	74.93	65.64		9.29	8.068			
2,000.00	1,999.91	1,998.51	1,998.51	6.89	6.93	34.82	-75.09	-11.90	71.67	61.90		9.77	7.335			
2,066.81	2,066.60	2,065.20	2,065.20	7.11	7.17	36.80	-75.09	-11.90	68.36	58.26		10.10	6.771			
2,100.00	2,099.70	2,098.30	2,098.30	7.22	7.29	38.00	-75.09	-11.90	66.52	56.26		10.26	6.484			
2,200.00	2,199.46	2,198.06	2,198.06	7.55	7.65	42.02	-75.09	-11.90	61.16	50.41		10.75	5.691			
2,300.00	2,299.21	2,297.81	2,297.81	7.89	8.00	46.79	-75.09	-11.90	56.16	44.93		11.24	4.998			
2,400.00	2,398.97	2,397.57	2,397.57	8.23	8.36	52.43	-75.09	-11.90	51.63	39.90		11.73	4.401			
2,500.00	2,498.73	2,496.11	2,496.10	8.58	8.70	58.93	-76.10	-12.56	48.91	36.70		12.21	4.006			
2,533.27	2,531.91	2,528.90	2,528.87	8.69	8.81	61.19	-76.91	-13.09	48.73	36.37		12.36	3.941 CC, ES			
2,600.00	2,598.48	2,594.68	2,594.60	8.92	9.02	65.60	-79.25	-14.61	49.45	36.78		12.67	3.903 SF			
2,700.00	2,698.24	2,693.99	2,693.73	9.27	9.35	71.48	-84.16	-17.81	52.69	39.55		13.14	4.009			
2,800.00	2,798.00	2,793.79	2,793.35	9.62	9.68	76.59	-89.27	-21.14	56.61	42.98		13.63	4.154			
2,900.00	2,897.75	2,893.60	2,892.97	9.98	10.02	81.01	-94.37	-24.47	60.91	46.80		14.11	4.316			
3,000.00	2,997.51	2,993.40	2,992.59	10.33	10.35	84.83	-99.48	-27.79	65.53	50.93		14.60	4.488			
3,100.00	3,097.26	3,093.21	3,092.20	10.69	10.69	88.13	-104.59	-31.12	70.41	55.32		15.09	4.665			
3,200.00	3,197.02	3,193.01	3,191.82	11.05	11.03	91.00	-109.69	-34.45	75.48	59.90		15.58	4.843			
3,300.00	3,296.78	3,292.82	3,291.44	11.41	11.38	93.50	-114.80	-37.77	80.72	64.64		16.08	5.020			
3,400.00	3,396.53	3,392.62	3,391.06	11.77	11.72	95.69	-119.91	-41.10	86.10	69.52		16.58	5.194			
3,500.00	3,496.29	3,492.43	3,490.68	12.13	12.07	97.63	-125.01	-44.43	91.59	74.51		17.08	5.364			
3,600.00	3,596.04	3,592.23	3,590.30	12.49	12.42	99.34	-130.12	-47.76	97.17	79.59		17.57	5.529			
3,700.00	3,695.80	3,692.03	3,689.91	12.85	12.77	100.86	-135.22	-51.08	102.82	84.75		18.08	5.688			
3,800.00	3,795.56	3,791.84	3,789.53	13.22	13.12	102.23	-140.33	-54.41	108.54	89.96		18.58	5.842			
3,900.00	3,895.31	3,891.64	3,889.15	13.58	13.47	103.46	-145.44	-57.74	114.32	95.24		19.08	5.991			
4,000.00	3,995.07	3,991.45	3,988.77	13.95	13.82	104.57	-150.54	-61.06	120.14	100.56		19.59	6.134			
4,100.00	4,094.83	4,091.25	4,088.39	14.31	14.18	105.58	-155.65	-64.39	126.01	105.92		20.09	6.271			
4,200.00	4,194.58	4,191.06	4,188.01	14.68	14.53	106.49	-160.76	-67.72	131.91	111.31		20.60	6.403			
4,300.00	4,294.34	4,290.86	4,287.62	15.05	14.89	107.33	-165.86	-71.05	137.84	116.73		21.11	6.530			
4,400.00	4,394.09	4,390.67	4,387.24	15.41	15.24	108.10	-170.97	-74.37	143.80	122.18		21.62	6.652			
4,500.00	4,493.85	4,490.47	4,486.86	15.78	15.60	108.81	-176.07	-77.70	149.78	127.65		22.13	6.769			
4,600.00	4,593.61	4,590.28	4,586.48	16.15	15.96	109.46	-181.18	-81.03	155.78	133.15		22.64	6.882			
4,700.00	4,693.36	4,690.08	4,686.10	16.52	16.32	110.07	-186.29	-84.35	161.81	138.66		23.15	6.990			
4,800.00	4,793.12	4,789.88	4,785.71	16.89	16.68	110.63	-191.39	-87.68	167.84	144.19		23.66	7.094			
4,900.00	4,892.87	4,889.69	4,885.33	17.26	17.04	111.15	-196.50	-91.01	173.90	149.73		24.17	7.195			

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 804H - 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		
5,000.00	4,992.63	4,989.49	4,984.95	17.63	17.40	111.64	-201.61	-94.34	179.96	155.28	24.68	7.291		
5,100.00	5,092.39	5,089.30	5,084.57	18.00	17.76	112.10	-206.71	-97.66	186.04	160.85	25.20	7.384		
5,200.00	5,192.14	5,189.10	5,184.19	18.37	18.12	112.52	-211.82	-100.99	192.13	166.42	25.71	7.473		
5,300.00	5,291.90	5,288.91	5,283.81	18.74	18.48	112.92	-216.92	-104.32	198.23	172.01	26.22	7.559		
5,400.00	5,391.65	5,388.71	5,383.42	19.11	18.84	113.30	-222.03	-107.64	204.34	177.60	26.74	7.642		
5,500.00	5,491.41	5,488.52	5,483.04	19.48	19.21	113.65	-227.14	-110.97	210.46	183.21	27.25	7.722		
5,600.00	5,591.17	5,588.32	5,582.66	19.85	19.57	113.99	-232.24	-114.30	216.58	188.81	27.77	7.799		
5,700.00	5,690.92	5,688.12	5,682.28	20.22	19.93	114.31	-237.35	-117.63	222.72	194.43	28.28	7.874		
5,800.00	5,790.68	5,787.93	5,781.90	20.59	20.30	114.60	-242.46	-120.95	228.85	200.05	28.80	7.946		
5,900.00	5,890.44	5,887.73	5,881.52	20.97	20.66	114.89	-247.56	-124.28	235.00	205.68	29.32	8.016		
6,000.00	5,990.19	5,987.54	5,981.13	21.34	21.02	115.16	-252.67	-127.61	241.15	211.31	29.83	8.083		
6,100.00	6,089.95	6,087.34	6,080.75	21.71	21.39	115.41	-257.77	-130.93	247.30	216.95	30.35	8.148		
6,200.00	6,189.70	6,187.15	6,180.37	22.08	21.75	115.66	-262.88	-134.26	253.46	222.59	30.87	8.211		
6,300.00	6,289.46	6,286.95	6,279.99	22.45	22.12	115.89	-267.99	-137.59	259.62	228.24	31.39	8.272		
6,394.17	6,383.40	6,380.94	6,373.80	22.81	22.46	116.10	-272.80	-140.72	265.43	233.56	31.87	8.328		
6,400.00	6,389.22	6,386.76	6,379.61	22.83	22.48	116.11	-273.09	-140.92	265.79	233.89	31.90	8.331		
6,500.00	6,489.06	6,486.60	6,479.26	23.19	22.85	116.12	-278.20	-144.24	271.32	238.90	32.42	8.369		
6,600.00	6,589.02	6,586.47	6,578.94	23.55	23.21	116.63	-283.31	-147.57	275.71	242.78	32.93	8.373		
6,660.99	6,650.00	6,647.35	6,639.72	23.76	23.44	-88.44	-286.43	-149.60	277.85	244.61	33.23	8.360		
6,700.00	6,689.01	6,686.29	6,678.58	23.89	23.58	-88.85	-288.42	-150.90	279.10	245.68	33.43	8.350		
6,800.00	6,789.01	6,786.90	6,781.03	24.22	23.96	-89.83	-293.14	-153.98	282.06	248.12	33.93	8.312		
6,900.00	6,889.01	6,893.08	6,885.17	24.55	24.33	-90.34	-295.70	-155.64	283.66	249.22	34.44	8.237		
7,000.00	6,989.01	6,995.53	6,987.61	24.88	24.68	-90.42	-296.09	-155.90	283.91	248.99	34.92	8.130		
7,100.00	7,089.01	7,095.53	7,087.61	25.22	25.02	-90.42	-296.09	-155.90	283.91	248.51	35.40	8.021		
7,200.00	7,189.01	7,195.53	7,187.61	25.55	25.36	-90.42	-296.09	-155.90	283.91	248.03	35.87	7.914		
7,300.00	7,289.01	7,295.53	7,287.61	25.88	25.69	-90.42	-296.09	-155.90	283.91	247.56	36.35	7.810		
7,400.00	7,389.01	7,395.53	7,387.61	26.22	26.03	-90.42	-296.09	-155.90	283.91	247.08	36.83	7.709		
7,500.00	7,489.01	7,495.53	7,487.61	26.55	26.37	-90.42	-296.09	-155.90	283.91	246.60	37.31	7.610		
7,600.00	7,589.01	7,595.53	7,587.61	26.89	26.72	-90.42	-296.09	-155.90	283.91	246.12	37.79	7.514		
7,700.00	7,689.01	7,695.53	7,687.61	27.23	27.06	-90.42	-296.09	-155.90	283.91	245.64	38.27	7.419		
7,800.00	7,789.01	7,795.53	7,787.61	27.56	27.40	-90.42	-296.09	-155.90	283.91	245.16	38.75	7.327		
7,900.00	7,889.01	7,895.53	7,887.61	27.90	27.74	-90.42	-296.09	-155.90	283.91	244.68	39.23	7.238		
8,000.00	7,989.01	7,995.53	7,987.61	28.24	28.08	-90.42	-296.09	-155.90	283.91	244.20	39.71	7.150		
8,100.00	8,089.01	8,095.53	8,087.61	28.58	28.42	-90.42	-296.09	-155.90	283.91	243.72	40.19	7.064		
8,200.00	8,189.01	8,195.53	8,187.61	28.92	28.77	-90.42	-296.09	-155.90	283.91	243.23	40.68	6.980		
8,300.00	8,289.01	8,295.53	8,287.61	29.25	29.11	-90.42	-296.09	-155.90	283.91	242.75	41.16	6.898		
8,400.00	8,389.01	8,395.53	8,387.61	29.59	29.46	-90.42	-296.09	-155.90	283.91	242.26	41.64	6.818		
8,500.00	8,489.01	8,495.53	8,487.61	29.93	29.80	-90.42	-296.09	-155.90	283.91	241.78	42.13	6.739		
8,600.00	8,589.01	8,595.53	8,587.61	30.28	30.14	-90.42	-296.09	-155.90	283.91	241.29	42.61	6.662		
8,700.00	8,689.01	8,695.53	8,687.61	30.62	30.49	-90.42	-296.09	-155.90	283.91	240.81	43.10	6.587		
8,800.00	8,789.01	8,795.53	8,787.61	30.96	30.83	-90.42	-296.09	-155.90	283.91	240.32	43.59	6.514		
8,900.00	8,889.01	8,895.53	8,887.61	31.30	31.18	-90.42	-296.09	-155.90	283.91	239.84	44.07	6.442		
9,000.00	8,989.01	8,995.53	8,987.61	31.64	31.53	-90.42	-296.09	-155.90	283.91	239.35	44.56	6.371		
9,100.00	9,089.01	9,095.53	9,087.61	31.99	31.87	-90.42	-296.09	-155.90	283.91	238.86	45.05	6.302		
9,200.00	9,189.01	9,195.53	9,187.61	32.33	32.22	-90.42	-296.09	-155.90	283.91	238.37	45.54	6.235		
9,300.00	9,289.01	9,295.53	9,287.61	32.67	32.56	-90.42	-296.09	-155.90	283.91	237.88	46.02	6.169		
9,344.03	9,333.04	9,339.56	9,331.64	32.82	32.72	-90.42	-296.09	-155.90	283.91	237.67	46.24	6.140		
9,350.00	9,339.01	9,345.53	9,337.61	32.84	32.74	-89.88	-296.09	-155.90	283.91	237.64	46.27	6.136		
9,370.46	9,359.47	9,365.98	9,358.07	32.91	32.81	-90.00	-296.09	-155.90	283.91	237.54	46.37	6.123		
9,400.00	9,388.92	9,395.44	9,387.52	33.01	32.91	-90.43	-296.09	-155.90	283.91	237.41	46.51	6.105		
9,450.00	9,438.41	9,444.93	9,437.01	33.17	33.08	-91.82	-296.09	-155.90	284.05	237.31	46.74	6.077		
9,500.00	9,487.09	9,493.61	9,485.69	33.32	33.25	-93.98	-296.09	-155.90	284.65	237.68	46.97	6.060		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
9,550.00	9,534.61	9,541.12	9,533.21	33.46	33.42	-96.77	-296.09	-155.90	286.18	239.00	47.18	6.065		
9,600.00	9,580.58	9,587.10	9,579.18	33.59	33.58	-100.02	-296.09	-155.90	289.30	241.92	47.39	6.105		
9,650.00	9,624.68	9,631.19	9,623.28	33.71	33.73	-103.50	-296.09	-155.90	294.74	247.16	47.58	6.195		
9,700.00	9,666.55	9,673.07	9,665.15	33.83	33.88	-106.96	-296.09	-155.90	303.21	255.46	47.75	6.350		
9,750.00	9,705.89	9,712.40	9,704.49	33.93	34.01	-110.16	-296.09	-155.90	315.36	267.45	47.91	6.582		
9,800.00	9,742.38	9,748.90	9,740.98	34.04	34.14	-112.91	-296.09	-155.90	331.66	283.61	48.05	6.902		
9,850.00	9,775.77	9,782.28	9,774.37	34.14	34.25	-115.01	-296.09	-155.90	352.33	304.15	48.18	7.312		
9,900.00	9,805.78	9,812.30	9,804.38	34.24	34.36	-116.33	-296.09	-155.90	377.38	329.09	48.29	7.814		
9,950.00	9,832.20	9,838.71	9,830.80	34.34	34.45	-116.72	-296.09	-155.90	406.59	358.20	48.39	8.403		
10,000.00	9,854.81	9,861.33	9,853.41	34.45	34.53	-116.03	-296.09	-155.90	439.61	391.14	48.47	9.070		
10,050.00	9,873.46	9,879.97	9,872.06	34.57	34.59	-114.08	-296.09	-155.90	475.96	427.43	48.53	9.808		
10,100.00	9,887.99	9,894.51	9,886.59	34.69	34.65	-110.64	-296.09	-155.90	515.13	466.56	48.57	10.605		
10,150.00	9,898.30	9,904.82	9,896.90	34.81	34.68	-105.40	-296.09	-155.90	556.60	507.99	48.60	11.452		
10,200.00	9,904.31	9,910.82	9,902.91	34.95	34.70	-98.13	-296.09	-155.90	599.81	551.20	48.62	12.338		
10,244.03	9,906.00	9,912.51	9,904.60	35.07	34.71	-90.00	-296.09	-155.90	638.89	590.28	48.62	13.141		
10,300.00	9,906.00	9,912.51	9,904.60	35.24	34.71	-90.00	-296.09	-155.90	689.49	640.87	48.61	14.183		
10,400.00	9,906.00	9,912.51	9,904.60	35.60	34.71	-90.00	-296.09	-155.90	781.70	733.09	48.61	16.080		
10,500.00	9,906.00	9,912.51	9,904.60	36.03	34.71	-90.00	-296.09	-155.90	875.63	827.01	48.62	18.011		
10,600.00	9,906.00	9,912.51	9,904.60	36.54	34.71	-90.00	-296.09	-155.90	970.77	922.14	48.62	19.966		
10,700.00	9,906.00	9,912.51	9,904.60	37.11	34.71	-90.00	-296.09	-155.90	1,066.79	1,018.17	48.63	21.938		
10,800.00	9,906.00	9,912.51	9,904.60	37.74	34.71	-90.00	-296.09	-155.90	1,163.49	1,114.86	48.64	23.923		
10,900.00	9,906.00	9,912.51	9,904.60	38.44	34.71	-90.00	-296.09	-155.90	1,260.71	1,212.06	48.64	25.917		
11,000.00	9,906.00	9,912.51	9,904.60	39.19	34.71	-90.00	-296.09	-155.90	1,358.32	1,309.67	48.65	27.918		
11,100.00	9,906.00	9,912.51	9,904.60	40.00	34.71	-90.00	-296.09	-155.90	1,456.26	1,407.60	48.66	29.925		
11,200.00	9,906.00	9,912.51	9,904.60	40.85	34.71	-90.00	-296.09	-155.90	1,554.47	1,505.79	48.68	31.935		
11,300.00	9,906.00	9,912.51	9,904.60	41.76	34.71	-90.00	-296.09	-155.90	1,652.89	1,604.20	48.69	33.949		
11,400.00	9,906.00	9,912.51	9,904.60	42.71	34.71	-90.00	-296.09	-155.90	1,751.49	1,702.78	48.70	35.964		
11,500.00	9,906.00	9,912.51	9,904.60	43.70	34.71	-90.00	-296.09	-155.90	1,850.23	1,801.52	48.71	37.982		
11,600.00	9,906.00	9,912.51	9,904.60	44.73	34.71	-90.00	-296.09	-155.90	1,949.11	1,900.38	48.73	40.000		
11,700.00	9,906.00	9,912.51	9,904.60	45.80	34.71	-90.00	-296.09	-155.90	2,048.10	1,999.35	48.74	42.019		
11,800.00	9,906.00	9,912.51	9,904.60	46.90	34.71	-90.00	-296.09	-155.90	2,147.17	2,098.42	48.76	44.037		
11,900.00	9,906.00	9,912.51	9,904.60	48.03	34.71	-90.00	-296.09	-155.90	2,246.34	2,197.56	48.77	46.056		
12,000.00	9,906.00	14,271.35	12,181.00	49.19	55.45	-172.90	2,032.15	-177.82	2,294.01	2,252.83	41.18	55.713		
12,100.00	9,906.00	14,371.35	12,181.00	50.38	56.53	-172.90	2,132.15	-178.76	2,294.01	2,252.13	41.88	54.774		
12,200.00	9,906.00	14,471.35	12,181.00	51.60	57.63	-172.90	2,232.15	-179.71	2,294.01	2,251.40	42.61	53.843		
12,300.00	9,906.00	14,571.35	12,181.00	52.83	58.76	-172.90	2,332.14	-180.65	2,294.01	2,250.66	43.35	52.922		
12,400.00	9,906.00	14,671.35	12,181.00	54.09	59.91	-172.90	2,432.14	-181.59	2,294.00	2,249.90	44.11	52.011		
12,500.00	9,906.00	14,771.35	12,181.00	55.38	61.09	-172.90	2,532.13	-182.53	2,294.00	2,249.12	44.88	51.113		
12,600.00	9,906.00	14,871.35	12,181.00	56.68	62.28	-172.90	2,632.13	-183.47	2,294.00	2,248.33	45.67	50.229		
12,700.00	9,906.00	14,971.35	12,181.00	57.99	63.50	-172.90	2,732.12	-184.41	2,294.00	2,247.53	46.47	49.360		
12,800.00	9,906.00	15,071.35	12,181.00	59.33	64.74	-172.90	2,832.12	-185.36	2,294.00	2,246.71	47.29	48.507		
12,900.00	9,906.00	15,171.35	12,181.00	60.68	65.99	-172.90	2,932.11	-186.30	2,294.00	2,245.88	48.12	47.669		
13,000.00	9,906.00	15,271.35	12,181.00	62.04	67.26	-172.90	3,032.11	-187.24	2,294.00	2,245.03	48.97	46.848		
13,100.00	9,906.00	15,371.35	12,181.00	63.42	68.55	-172.90	3,132.11	-188.18	2,294.00	2,244.18	49.82	46.045		
13,200.00	9,906.00	15,471.35	12,181.00	64.82	69.86	-172.90	3,232.10	-189.12	2,294.00	2,243.31	50.69	45.258		
13,300.00	9,906.00	15,571.35	12,181.00	66.22	71.17	-172.90	3,332.10	-190.06	2,293.99	2,242.43	51.56	44.489		
13,400.00	9,906.00	15,671.35	12,181.00	67.63	72.51	-172.90	3,432.09	-191.01	2,293.99	2,241.54	52.45	43.737		
13,500.00	9,906.00	15,771.35	12,181.00	69.06	73.85	-172.90	3,532.09	-191.95	2,293.99	2,240.65	53.35	43.003		
13,600.00	9,906.00	15,871.35	12,181.00	70.49	75.21	-172.90	3,632.08	-192.89	2,293.99	2,239.74	54.25	42.285		
13,700.00	9,906.00	15,971.35	12,181.00	71.94	76.58	-172.90	3,732.08	-193.83	2,293.99	2,238.83	55.16	41.586		
13,800.00	9,906.00	16,071.35	12,181.00	73.39	77.96	-172.90	3,832.07	-194.77	2,293.99	2,237.91	56.08	40.904		
13,900.00	9,906.00	16,171.35	12,181.00	74.85	79.35	-172.90	3,932.07	-195.71	2,293.99	2,236.98	57.01	40.238		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
14,000.00	9,906.00	16,271.35	12,181.00	76.32	80.75	-172.90	4,032.07	-196.65	2,293.99	2,236.04	57.95	39.589		
14,100.00	9,906.00	16,371.35	12,181.00	77.80	82.16	-172.90	4,132.06	-197.60	2,293.99	2,235.10	58.89	38.955		
14,200.00	9,906.00	16,471.35	12,181.00	79.28	83.57	-172.90	4,232.06	-198.54	2,293.98	2,234.15	59.84	38.337		
14,300.00	9,906.00	16,571.35	12,181.00	80.77	85.00	-172.90	4,332.05	-199.48	2,293.98	2,233.19	60.79	37.735		
14,400.00	9,906.00	16,671.35	12,181.00	82.27	86.44	-172.90	4,432.05	-200.42	2,293.98	2,232.23	61.75	37.147		
14,500.00	9,906.00	16,771.35	12,181.00	83.77	87.88	-172.90	4,532.04	-201.36	2,293.98	2,231.26	62.72	36.575		
14,600.00	9,906.00	16,871.35	12,181.00	85.28	89.33	-172.90	4,632.04	-202.30	2,293.98	2,230.29	63.69	36.016		
14,700.00	9,906.00	16,971.35	12,181.00	86.79	90.78	-172.90	4,732.03	-203.25	2,293.98	2,229.31	64.67	35.471		
14,800.00	9,906.00	17,071.35	12,181.00	88.31	92.25	-172.90	4,832.03	-204.19	2,293.98	2,228.32	65.65	34.940		
14,900.00	9,906.00	17,171.35	12,181.00	89.83	93.72	-172.90	4,932.03	-205.13	2,293.98	2,227.33	66.64	34.422		
15,000.00	9,906.00	17,271.35	12,181.00	91.36	95.19	-172.90	5,032.02	-206.07	2,293.98	2,226.34	67.63	33.917		
15,100.00	9,906.00	17,371.35	12,181.00	92.89	96.67	-172.90	5,132.02	-207.01	2,293.97	2,225.34	68.63	33.424		
15,200.00	9,906.00	17,471.35	12,181.00	94.43	98.16	-172.90	5,232.01	-207.95	2,293.97	2,224.34	69.63	32.944		
15,300.00	9,906.00	17,571.35	12,181.00	95.97	99.65	-172.90	5,332.01	-208.90	2,293.97	2,223.33	70.64	32.475		
15,400.00	9,906.00	17,671.35	12,181.00	97.51	101.15	-172.90	5,432.00	-209.84	2,293.97	2,222.32	71.65	32.018		
15,500.00	9,906.00	17,771.35	12,181.00	99.06	102.65	-172.90	5,532.00	-210.78	2,293.97	2,221.31	72.66	31.571		
15,600.00	9,906.00	17,871.35	12,181.00	100.61	104.16	-172.90	5,631.99	-211.72	2,293.97	2,220.29	73.68	31.136		
15,700.00	9,906.00	17,971.35	12,181.00	102.16	105.67	-172.90	5,731.99	-212.66	2,293.97	2,219.27	74.70	30.711		
15,800.00	9,906.00	18,071.35	12,181.00	103.72	107.18	-172.90	5,831.99	-213.60	2,293.97	2,218.25	75.72	30.296		
15,900.00	9,906.00	18,171.35	12,181.00	105.28	108.70	-172.91	5,931.98	-214.54	2,293.97	2,217.22	76.74	29.891		
16,000.00	9,906.00	18,271.35	12,181.00	106.84	110.22	-172.91	6,031.98	-215.49	2,293.96	2,216.19	77.77	29.496		
16,100.00	9,906.00	18,371.35	12,181.00	108.40	111.75	-172.91	6,131.97	-216.43	2,293.96	2,215.16	78.80	29.110		
16,200.00	9,906.00	18,471.35	12,181.00	109.97	113.28	-172.91	6,231.97	-217.37	2,293.96	2,214.12	79.84	28.733		
16,300.00	9,906.00	18,571.35	12,181.00	111.54	114.81	-172.91	6,331.96	-218.31	2,293.96	2,213.09	80.87	28.365		
16,400.00	9,906.00	18,671.35	12,181.00	113.11	116.35	-172.91	6,431.96	-219.25	2,293.96	2,212.05	81.91	28.005		
16,500.00	9,906.00	18,771.35	12,181.00	114.69	117.89	-172.91	6,531.95	-220.19	2,293.96	2,211.00	82.95	27.654		
16,600.00	9,906.00	18,871.35	12,181.00	116.26	119.43	-172.91	6,631.95	-221.14	2,293.96	2,209.96	84.00	27.310		
16,700.00	9,906.00	18,971.35	12,181.00	117.84	120.98	-172.91	6,731.95	-222.08	2,293.96	2,208.91	85.04	26.974		
16,800.00	9,906.00	19,071.35	12,181.00	119.42	122.53	-172.91	6,831.94	-223.02	2,293.95	2,207.86	86.09	26.646		
16,900.00	9,906.00	19,171.35	12,181.00	121.01	124.08	-172.91	6,931.94	-223.96	2,293.95	2,206.81	87.14	26.324		
17,000.00	9,906.00	19,271.35	12,181.00	122.59	125.63	-172.91	7,031.93	-224.90	2,293.95	2,205.76	88.19	26.010		
17,100.00	9,906.00	19,371.35	12,181.00	124.18	127.19	-172.91	7,131.93	-225.84	2,293.95	2,204.70	89.25	25.703		
17,200.00	9,906.00	19,471.35	12,181.00	125.76	128.74	-172.91	7,231.92	-226.79	2,293.95	2,203.65	90.30	25.402		
17,300.00	9,906.00	19,571.35	12,181.00	127.35	130.31	-172.91	7,331.92	-227.73	2,293.95	2,202.59	91.36	25.108		
17,400.00	9,906.00	19,671.35	12,181.00	128.95	131.87	-172.91	7,431.91	-228.67	2,293.95	2,201.53	92.42	24.821		
17,500.00	9,906.00	19,771.35	12,181.00	130.54	133.43	-172.91	7,531.91	-229.61	2,293.95	2,200.46	93.48	24.539		
17,600.00	9,906.00	19,871.35	12,181.00	132.13	135.00	-172.91	7,631.91	-230.55	2,293.95	2,199.40	94.54	24.263		
17,700.00	9,906.00	19,971.35	12,181.00	133.73	136.57	-172.91	7,731.90	-231.49	2,293.94	2,198.34	95.61	23.993		
17,800.00	9,906.00	20,071.35	12,181.00	135.32	138.14	-172.91	7,831.90	-232.43	2,293.94	2,197.27	96.67	23.729		
17,900.00	9,906.00	20,171.35	12,181.00	136.92	139.71	-172.91	7,931.89	-233.38	2,293.94	2,196.20	97.74	23.469		
18,000.00	9,906.00	20,271.35	12,181.00	138.52	141.29	-172.91	8,031.89	-234.32	2,293.94	2,195.13	98.81	23.216		
18,100.00	9,906.00	20,371.35	12,181.00	140.12	142.87	-172.91	8,131.88	-235.26	2,293.94	2,194.06	99.88	22.967		
18,200.00	9,906.00	20,471.35	12,181.00	141.72	144.44	-172.91	8,231.88	-236.20	2,293.94	2,192.99	100.95	22.723		
18,300.00	9,906.00	20,571.35	12,181.00	143.33	146.02	-172.91	8,331.88	-237.14	2,293.94	2,191.91	102.03	22.484		
18,400.00	9,906.00	20,671.35	12,181.00	144.93	147.61	-172.91	8,431.87	-238.08	2,293.94	2,190.84	103.10	22.250		
18,500.00	9,906.00	20,771.35	12,181.00	146.54	149.19	-172.91	8,531.87	-239.03	2,293.94	2,189.76	104.17	22.020		
18,600.00	9,906.00	20,871.35	12,181.00	148.14	150.77	-172.91	8,631.86	-239.97	2,293.93	2,188.68	105.25	21.795		
18,700.00	9,906.00	20,971.35	12,181.00	149.75	152.36	-172.91	8,731.86	-240.91	2,293.93	2,187.61	106.33	21.574		
18,800.00	9,906.00	21,071.35	12,181.00	151.36	153.95	-172.91	8,831.85	-241.85	2,293.93	2,186.53	107.40	21.358		
18,900.00	9,906.00	21,171.35	12,181.00	152.97	155.54	-172.91	8,931.85	-242.79	2,293.93	2,185.45	108.48	21.145		
19,000.00	9,906.00	21,271.35	12,181.00	154.58	157.13	-172.91	9,031.84	-243.73	2,293.93	2,184.37	109.56	20.937		
19,100.00	9,906.00	21,371.35	12,181.00	156.19	158.72	-172.91	9,131.84	-244.68	2,293.93	2,183.28	110.65	20.732		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 804H - 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
19,200.00	9,906.00	21,471.35	12,181.00	157.80	160.31	-172.91	9,231.84	-245.62	2,293.93	2,182.20	111.73	20.531	
19,300.00	9,906.00	21,571.35	12,181.00	159.41	161.90	-172.91	9,331.83	-246.56	2,293.93	2,181.12	112.81	20.334	
19,400.00	9,906.00	21,671.35	12,181.00	161.03	163.50	-172.91	9,431.83	-247.50	2,293.93	2,180.03	113.89	20.141	
19,500.00	9,906.00	21,771.35	12,181.00	162.64	165.09	-172.91	9,531.82	-248.44	2,293.92	2,178.95	114.98	19.951	
19,600.00	9,906.00	21,871.35	12,181.00	164.26	166.69	-172.91	9,631.82	-249.38	2,293.92	2,177.86	116.06	19.764	
19,700.00	9,906.00	21,971.35	12,181.00	165.87	168.29	-172.91	9,731.81	-250.33	2,293.92	2,176.77	117.15	19.581	
19,800.00	9,906.00	22,071.35	12,181.00	167.49	169.89	-172.91	9,831.81	-251.27	2,293.92	2,175.68	118.24	19.401	
19,900.00	9,906.00	22,171.35	12,181.00	169.11	171.49	-172.91	9,931.80	-252.21	2,293.92	2,174.59	119.33	19.224	
20,000.00	9,906.00	22,271.35	12,181.00	170.72	173.09	-172.91	10,031.80	-253.15	2,293.92	2,173.50	120.41	19.050	
20,034.35	9,906.00	22,305.69	12,181.00	171.28	173.64	-172.91	10,066.15	-253.47	2,293.92	2,173.13	120.79	18.991	

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 805H - 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		
0.00	0.00	0.00	0.00	0.00	0.00	170.08	-74.89	13.10	76.03					
100.00	100.00	99.40	99.40	0.13	0.12	170.08	-74.89	13.10	76.03	75.85	0.18	429.767		
200.00	200.00	199.40	199.40	0.48	0.48	170.08	-74.89	13.10	76.03	75.34	0.68	111.335		
300.00	300.00	299.40	299.40	0.84	0.84	170.08	-74.89	13.10	76.03	74.84	1.19	63.898		
400.00	400.00	399.40	399.40	1.20	1.20	170.08	-74.89	13.10	76.03	74.33	1.70	44.807		
500.00	500.00	499.40	499.40	1.56	1.56	170.08	-74.89	13.10	76.03	73.82	2.20	34.499		
600.00	600.00	599.40	599.40	1.92	1.92	170.08	-74.89	13.10	76.03	73.32	2.71	28.047		
700.00	700.00	699.40	699.40	2.28	2.27	170.08	-74.89	13.10	76.03	72.81	3.22	23.628		
800.00	800.00	799.40	799.40	2.63	2.63	170.08	-74.89	13.10	76.03	72.30	3.72	20.412		
900.00	900.00	899.40	899.40	2.99	2.99	170.08	-74.89	13.10	76.03	71.80	4.23	17.967		
1,000.00	1,000.00	999.40	999.40	3.35	3.35	170.08	-74.89	13.10	76.03	71.29	4.74	16.045		
1,100.00	1,100.00	1,099.40	1,099.40	3.71	3.71	170.08	-74.89	13.10	76.03	70.78	5.25	14.494		
1,200.00	1,200.00	1,199.40	1,199.40	4.07	4.07	170.08	-74.89	13.10	76.03	70.27	5.75	13.217		
1,300.00	1,300.00	1,299.40	1,299.40	4.43	4.42	170.08	-74.89	13.10	76.03	69.77	6.26	12.146		
1,400.00	1,400.00	1,399.40	1,399.40	4.79	4.78	170.08	-74.89	13.10	76.03	69.26	6.77	11.236		
1,500.00	1,500.00	1,499.40	1,499.40	5.14	5.14	170.08	-74.89	13.10	76.03	68.75	7.27	10.453		
1,600.00	1,600.00	1,599.40	1,599.40	5.50	5.50	170.08	-74.89	13.10	76.03	68.25	7.78	9.772		
1,700.00	1,700.00	1,699.40	1,699.40	5.86	5.86	170.08	-74.89	13.10	76.03	67.74	8.29	9.174		
1,800.00	1,800.00	1,799.40	1,799.40	6.22	6.22	170.08	-74.89	13.10	76.03	67.23	8.79	8.645		
1,900.00	1,899.99	1,899.39	1,899.39	6.56	6.58	13.85	-74.89	13.10	74.76	65.47	9.29	8.048		
2,000.00	1,999.91	1,999.31	1,999.31	6.89	6.93	14.62	-74.89	13.10	70.95	61.18	9.77	7.260		
2,066.81	2,066.60	2,065.48	2,065.48	7.11	7.16	15.08	-75.07	13.63	67.26	57.17	10.09	6.665		
2,100.00	2,099.70	2,098.35	2,098.34	7.22	7.28	15.05	-75.29	14.30	65.35	55.10	10.25	6.376		
2,200.00	2,199.46	2,197.47	2,197.38	7.55	7.61	13.50	-76.49	17.95	60.37	49.65	10.72	5.632		
2,300.00	2,299.21	2,296.55	2,296.25	7.89	7.95	9.44	-78.50	24.03	56.79	45.60	11.19	5.076		
2,400.00	2,398.97	2,395.47	2,394.77	8.23	8.29	2.74	-81.30	32.52	55.14	43.49	11.65	4.732		
2,415.85	2,414.78	2,411.13	2,410.34	8.29	8.35	1.46	-81.82	34.09	55.10	43.38	11.72	4.700 CC, ES		
2,500.00	2,498.73	2,494.11	2,492.73	8.58	8.64	-6.04	-84.90	43.40	56.19	44.09	12.10	4.642 SF		
2,600.00	2,598.48	2,592.98	2,590.65	8.92	8.99	-15.50	-89.19	56.41	60.41	47.85	12.56	4.811		
2,700.00	2,698.24	2,692.39	2,689.06	9.27	9.35	-23.70	-93.61	69.79	66.36	53.33	13.03	5.093		
2,800.00	2,798.00	2,791.80	2,787.46	9.62	9.72	-30.45	-98.03	83.16	73.44	59.93	13.51	5.436		
2,900.00	2,897.75	2,891.21	2,885.87	9.98	10.09	-35.96	-102.44	96.53	81.36	67.36	14.00	5.813		
3,000.00	2,997.51	2,990.62	2,984.28	10.33	10.47	-40.47	-106.86	109.91	89.89	75.40	14.49	6.205		
3,100.00	3,097.26	3,090.03	3,082.68	10.69	10.85	-44.17	-111.28	123.28	98.88	83.90	14.98	6.600		
3,200.00	3,197.02	3,189.44	3,181.09	11.05	11.23	-47.26	-115.70	136.66	108.21	92.73	15.48	6.990		
3,300.00	3,296.78	3,288.85	3,279.49	11.41	11.61	-49.84	-120.11	150.03	117.81	101.82	15.98	7.371		
3,400.00	3,396.53	3,388.25	3,377.90	11.77	12.00	-52.04	-124.53	163.40	127.60	111.12	16.49	7.739		
3,500.00	3,496.29	3,487.66	3,476.31	12.13	12.39	-53.92	-128.95	176.78	137.56	120.56	16.99	8.094		
3,600.00	3,596.04	3,587.07	3,574.71	12.49	12.78	-55.54	-133.36	190.15	147.64	130.14	17.50	8.435		
3,700.00	3,695.80	3,686.48	3,673.12	12.85	13.17	-56.96	-137.78	203.53	157.83	139.81	18.01	8.761		
3,800.00	3,795.56	3,785.89	3,771.53	13.22	13.57	-58.20	-142.20	216.90	168.10	149.57	18.53	9.073		
3,900.00	3,895.31	3,885.30	3,869.93	13.58	13.97	-59.30	-146.61	230.27	178.43	159.39	19.04	9.371		
4,000.00	3,995.07	3,984.71	3,968.34	13.95	14.36	-60.28	-151.03	243.65	188.83	169.28	19.56	9.656		
4,100.00	4,094.83	4,084.12	4,066.74	14.31	14.76	-61.16	-155.45	257.02	199.28	179.21	20.07	9.928		
4,200.00	4,194.58	4,183.53	4,165.15	14.68	15.17	-61.95	-159.86	270.40	209.76	189.18	20.59	10.188		
4,300.00	4,294.34	4,282.94	4,263.56	15.05	15.57	-62.67	-164.28	283.77	220.29	199.18	21.11	10.437		
4,400.00	4,394.09	4,382.34	4,361.96	15.41	15.97	-63.32	-168.70	297.14	230.84	209.22	21.63	10.674		
4,500.00	4,493.85	4,481.75	4,460.37	15.78	16.37	-63.91	-173.12	310.52	241.42	219.28	22.15	10.901		
4,600.00	4,593.61	4,581.16	4,558.77	16.15	16.78	-64.45	-177.53	323.89	252.03	229.36	22.67	11.118		
4,700.00	4,693.36	4,680.57	4,657.18	16.52	17.19	-64.95	-181.95	337.27	262.65	239.46	23.19	11.326		
4,800.00	4,793.12	4,779.98	4,755.59	16.89	17.59	-65.41	-186.37	350.64	273.30	249.58	23.71	11.526		
4,900.00	4,892.87	4,879.39	4,853.99	17.26	18.00	-65.84	-190.78	364.01	283.95	259.72	24.23	11.717		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
5,000.00	4,992.63	4,978.80	4,952.40	17.63	18.41	-66.23	-195.20	377.39	294.63	269.87	24.76	11.900		
5,100.00	5,092.39	5,078.21	5,050.81	18.00	18.82	-66.60	-199.62	390.76	305.31	280.03	25.28	12.076		
5,200.00	5,192.14	5,177.62	5,149.21	18.37	19.23	-66.94	-204.03	404.14	316.01	290.21	25.81	12.245		
5,300.00	5,291.90	5,277.03	5,247.62	18.74	19.64	-67.26	-208.45	417.51	326.72	300.39	26.33	12.408		
5,400.00	5,391.65	5,376.43	5,346.02	19.11	20.05	-67.56	-212.87	430.88	337.44	310.58	26.86	12.564		
5,500.00	5,491.41	5,475.84	5,444.43	19.48	20.46	-67.84	-217.28	444.26	348.17	320.78	27.38	12.714		
5,600.00	5,591.17	5,575.25	5,542.84	19.85	20.87	-68.11	-221.70	457.63	358.90	330.99	27.91	12.859		
5,700.00	5,690.92	5,674.66	5,641.24	20.22	21.28	-68.36	-226.12	471.01	369.64	341.20	28.44	12.998		
5,800.00	5,790.68	5,774.07	5,739.65	20.59	21.70	-68.59	-230.54	484.38	380.39	351.42	28.96	13.133		
5,900.00	5,890.44	5,873.48	5,838.05	20.97	22.11	-68.81	-234.95	497.75	391.14	361.65	29.49	13.262		
6,000.00	5,990.19	5,972.89	5,936.46	21.34	22.52	-69.02	-239.37	511.13	401.90	371.88	30.02	13.388		
6,100.00	6,089.95	6,072.30	6,034.87	21.71	22.94	-69.22	-243.79	524.50	412.67	382.12	30.55	13.508		
6,200.00	6,189.70	6,171.71	6,133.27	22.08	23.35	-69.41	-248.20	537.88	423.44	392.36	31.08	13.625		
6,300.00	6,289.46	6,271.12	6,231.68	22.45	23.76	-69.59	-252.62	551.25	434.21	402.60	31.61	13.738		
6,394.17	6,383.40	6,364.73	6,324.35	22.81	24.15	-69.75	-256.78	563.84	444.36	412.25	32.10	13.841		
6,400.00	6,389.22	6,370.52	6,330.09	22.83	24.18	-69.77	-257.04	564.62	444.99	412.85	32.14	13.847		
6,500.00	6,489.06	6,469.88	6,428.44	23.19	24.59	-69.92	-261.45	577.99	456.27	423.61	32.66	13.971		
6,600.00	6,589.02	6,569.10	6,526.66	23.55	25.01	-69.78	-265.86	591.34	468.45	435.28	33.17	14.123		
6,660.99	6,650.00	6,629.52	6,586.47	23.76	25.26	86.91	-268.54	599.47	476.33	442.86	33.47	14.232		
6,700.00	6,689.01	6,668.14	6,624.70	23.89	25.42	87.15	-270.26	604.66	481.49	447.83	33.66	14.305		
6,800.00	6,789.01	6,767.13	6,722.69	24.22	25.84	87.74	-274.66	617.98	494.75	460.61	34.14	14.491		
6,900.00	6,889.01	6,870.15	6,824.69	24.55	26.26	88.32	-279.19	631.71	507.94	473.29	34.66	14.657		
7,000.00	6,989.01	6,983.85	6,937.58	24.88	26.72	88.83	-283.42	644.51	519.12	483.89	35.23	14.736		
7,100.00	7,089.01	7,098.26	7,051.54	25.22	27.16	89.20	-286.61	654.17	527.51	491.74	35.78	14.745		
7,200.00	7,189.01	7,213.18	7,166.26	25.55	27.58	89.43	-288.73	660.60	533.09	496.79	36.30	14.686		
7,300.00	7,289.01	7,328.41	7,281.43	25.88	27.98	89.55	-289.78	663.76	535.82	499.02	36.80	14.562		
7,400.00	7,389.01	7,435.39	7,388.41	26.22	28.32	89.56	-289.89	664.10	536.12	498.85	37.27	14.384		
7,500.00	7,489.01	7,535.39	7,488.41	26.55	28.64	89.56	-289.89	664.10	536.12	498.37	37.75	14.204		
7,600.00	7,589.01	7,635.39	7,588.41	26.89	28.96	89.56	-289.89	664.10	536.12	497.90	38.22	14.027		
7,700.00	7,689.01	7,735.39	7,688.41	27.23	29.28	89.56	-289.89	664.10	536.12	497.42	38.70	13.854		
7,800.00	7,789.01	7,835.39	7,788.41	27.56	29.60	89.56	-289.89	664.10	536.12	496.94	39.17	13.686		
7,900.00	7,889.01	7,935.39	7,888.41	27.90	29.93	89.56	-289.89	664.10	536.12	496.46	39.65	13.521		
8,000.00	7,989.01	8,035.39	7,988.41	28.24	30.25	89.56	-289.89	664.10	536.12	495.99	40.13	13.360		
8,100.00	8,089.01	8,135.39	8,088.41	28.58	30.57	89.56	-289.89	664.10	536.12	495.51	40.61	13.202		
8,200.00	8,189.01	8,235.39	8,188.41	28.92	30.90	89.56	-289.89	664.10	536.12	495.03	41.09	13.048		
8,300.00	8,289.01	8,335.39	8,288.41	29.25	31.22	89.56	-289.89	664.10	536.12	494.55	41.57	12.897		
8,400.00	8,389.01	8,435.39	8,388.41	29.59	31.55	89.56	-289.89	664.10	536.12	494.07	42.05	12.750		
8,500.00	8,489.01	8,535.39	8,488.41	29.93	31.88	89.56	-289.89	664.10	536.12	493.58	42.53	12.605		
8,600.00	8,589.01	8,635.39	8,588.41	30.28	32.20	89.56	-289.89	664.10	536.12	493.10	43.01	12.464		
8,700.00	8,689.01	8,735.39	8,688.41	30.62	32.53	89.56	-289.89	664.10	536.12	492.62	43.50	12.326		
8,800.00	8,789.01	8,835.39	8,788.41	30.96	32.86	89.56	-289.89	664.10	536.12	492.14	43.98	12.190		
8,900.00	8,889.01	8,935.39	8,888.41	31.30	33.19	89.56	-289.89	664.10	536.12	491.65	44.46	12.057		
9,000.00	8,989.01	9,035.39	8,988.41	31.64	33.52	89.56	-289.89	664.10	536.12	491.17	44.95	11.928		
9,100.00	9,089.01	9,135.39	9,088.41	31.99	33.85	89.56	-289.89	664.10	536.12	490.68	45.43	11.800		
9,200.00	9,189.01	9,235.39	9,188.41	32.33	34.18	89.56	-289.89	664.10	536.12	490.20	45.92	11.676		
9,300.00	9,289.01	9,335.39	9,288.41	32.67	34.51	89.56	-289.89	664.10	536.12	489.71	46.40	11.553		
9,344.03	9,333.04	9,379.42	9,332.44	32.82	34.66	89.56	-289.89	664.10	536.12	489.50	46.62	11.500		
9,350.00	9,339.01	9,385.39	9,338.41	32.84	34.68	90.11	-289.89	664.10	536.12	489.47	46.65	11.493		
9,400.00	9,388.92	9,435.31	9,388.32	33.01	34.85	90.40	-289.89	664.10	536.13	489.25	46.88	11.436		
9,450.00	9,438.41	9,484.79	9,437.81	33.17	35.01	91.13	-289.89	664.10	536.22	489.12	47.10	11.385		
9,500.00	9,487.09	9,533.48	9,486.49	33.32	35.17	92.27	-289.89	664.10	536.57	489.26	47.31	11.343		
9,550.00	9,534.61	9,580.99	9,534.01	33.46	35.33	93.76	-289.89	664.10	537.43	489.94	47.50	11.315		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 805H - 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			
9,600.00	9,580.58	9,626.96	9,579.98	33.59	35.48	95.50	-289.89	664.10	539.16	491.49	47.67	11.309				
9,650.00	9,624.68	9,671.06	9,624.08	33.71	35.63	97.39	-289.89	664.10	542.16	494.32	47.84	11.333				
9,700.00	9,666.55	9,712.93	9,665.95	33.83	35.77	99.31	-289.89	664.10	546.90	498.90	48.00	11.394				
9,750.00	9,705.89	9,752.27	9,705.29	33.93	35.90	101.13	-289.89	664.10	553.82	505.66	48.15	11.501				
9,800.00	9,742.38	9,788.77	9,741.78	34.04	36.02	102.73	-289.89	664.10	563.35	515.05	48.30	11.663				
9,850.00	9,775.77	9,822.15	9,775.17	34.14	36.14	103.98	-289.89	664.10	575.87	527.42	48.45	11.886				
9,900.00	9,805.78	9,852.16	9,805.18	34.24	36.24	104.77	-289.89	664.10	591.63	543.04	48.60	12.175				
9,950.00	9,832.20	9,878.58	9,831.60	34.34	36.33	105.00	-289.89	664.10	610.79	562.05	48.74	12.532				
10,000.00	9,854.81	9,901.19	9,854.21	34.45	36.40	104.57	-289.89	664.10	633.36	584.48	48.88	12.958				
10,050.00	9,873.46	9,919.84	9,872.86	34.57	36.46	103.37	-289.89	664.10	659.22	610.21	49.01	13.451				
10,100.00	9,887.99	9,934.37	9,887.39	34.69	36.51	101.32	-289.89	664.10	688.15	639.02	49.13	14.007				
10,150.00	9,898.30	9,944.68	9,897.70	34.81	36.55	98.33	-289.89	664.10	719.82	670.59	49.24	14.619				
10,200.00	9,904.31	9,950.69	9,903.71	34.95	36.57	94.34	-289.89	664.10	753.84	704.51	49.33	15.282				
10,244.03	9,906.00	9,952.38	9,905.40	35.07	36.57	90.00	-289.89	664.10	785.39	735.99	49.40	15.899				
10,300.00	9,906.00	9,952.38	9,905.40	35.24	36.57	90.00	-289.89	664.10	827.17	777.70	49.48	16.719				
10,400.00	9,906.00	9,952.38	9,905.40	35.60	36.57	90.00	-289.89	664.10	905.65	856.04	49.61	18.256				
10,500.00	9,906.00	9,952.38	9,905.40	36.03	36.57	90.00	-289.89	664.10	988.02	938.29	49.73	19.869				
10,600.00	9,906.00	9,952.38	9,905.40	36.54	36.57	90.00	-289.89	664.10	1,073.39	1,023.56	49.83	21.539				
10,700.00	9,906.00	9,952.38	9,905.40	37.11	36.57	90.00	-289.89	664.10	1,161.10	1,111.17	49.93	23.254				
10,800.00	9,906.00	9,952.38	9,905.40	37.74	36.57	90.00	-289.89	664.10	1,250.65	1,200.64	50.02	25.005				
10,900.00	9,906.00	9,952.38	9,905.40	38.44	36.57	90.00	-289.89	664.10	1,341.68	1,291.59	50.09	26.785				
11,000.00	9,906.00	9,952.38	9,905.40	39.19	36.57	90.00	-289.89	664.10	1,433.91	1,383.75	50.16	28.588				
11,100.00	9,906.00	9,952.38	9,905.40	40.00	36.57	90.00	-289.89	664.10	1,527.12	1,476.90	50.22	30.409				
11,200.00	9,906.00	9,952.38	9,905.40	40.85	36.57	90.00	-289.89	664.10	1,621.13	1,570.86	50.28	32.245				
11,300.00	9,906.00	9,952.38	9,905.40	41.76	36.57	90.00	-289.89	664.10	1,715.82	1,665.50	50.33	34.093				
11,400.00	9,906.00	9,952.38	9,905.40	42.71	36.57	90.00	-289.89	664.10	1,811.09	1,760.71	50.37	35.952				
11,500.00	9,906.00	9,952.38	9,905.40	43.70	36.57	90.00	-289.89	664.10	1,906.84	1,856.42	50.42	37.820				
11,600.00	9,906.00	9,952.38	9,905.40	44.73	36.57	90.00	-289.89	664.10	2,003.00	1,952.54	50.46	39.694				
11,700.00	9,906.00	9,952.38	9,905.40	45.80	36.57	90.00	-289.89	664.10	2,099.52	2,049.02	50.50	41.574				
11,800.00	9,906.00	9,952.38	9,905.40	46.90	36.57	90.00	-289.89	664.10	2,196.35	2,145.82	50.54	43.459				
11,900.00	9,906.00	14,122.94	12,092.00	48.03	54.73	166.22	1,939.89	643.07	2,251.41	2,210.01	41.40	54.387				
12,000.00	9,906.00	14,222.94	12,092.00	49.19	55.77	166.22	2,039.88	642.13	2,251.41	2,209.27	42.13	53.434				
12,100.00	9,906.00	14,322.94	12,092.00	50.38	56.83	166.22	2,139.88	641.19	2,251.41	2,208.52	42.89	52.488				
12,200.00	9,906.00	14,422.94	12,092.00	51.60	57.92	166.22	2,239.87	640.25	2,251.41	2,207.74	43.67	51.551				
12,300.00	9,906.00	14,522.94	12,092.00	52.83	59.03	166.22	2,339.87	639.30	2,251.41	2,206.94	44.47	50.625				
12,400.00	9,906.00	14,622.94	12,092.00	54.09	60.17	166.22	2,439.86	638.36	2,251.41	2,206.13	45.29	49.712				
12,500.00	9,906.00	14,722.94	12,092.00	55.38	61.33	166.22	2,539.86	637.42	2,251.42	2,205.29	46.12	48.814				
12,600.00	9,906.00	14,822.94	12,092.00	56.68	62.52	166.22	2,639.86	636.47	2,251.42	2,204.45	46.97	47.933				
12,700.00	9,906.00	14,922.94	12,092.00	57.99	63.72	166.22	2,739.85	635.53	2,251.42	2,203.59	47.83	47.067				
12,800.00	9,906.00	15,022.94	12,092.00	59.33	64.94	166.22	2,839.85	634.59	2,251.42	2,202.71	48.71	46.218				
12,900.00	9,906.00	15,122.94	12,092.00	60.68	66.19	166.22	2,939.84	633.65	2,251.42	2,201.82	49.61	45.386				
13,000.00	9,906.00	15,222.94	12,092.00	62.04	67.45	166.22	3,039.84	632.70	2,251.43	2,200.91	50.51	44.572				
13,100.00	9,906.00	15,322.94	12,092.00	63.42	68.72	166.22	3,139.83	631.76	2,251.43	2,200.00	51.43	43.777				
13,200.00	9,906.00	15,422.94	12,092.00	64.82	70.02	166.22	3,239.83	630.82	2,251.43	2,199.07	52.36	43.001				
13,300.00	9,906.00	15,522.94	12,092.00	66.22	71.32	166.22	3,339.82	629.87	2,251.43	2,198.13	53.30	42.243				
13,400.00	9,906.00	15,622.94	12,092.00	67.63	72.65	166.22	3,439.82	628.93	2,251.43	2,197.19	54.25	41.504				
13,500.00	9,906.00	15,722.94	12,092.00	69.06	73.98	166.22	3,539.82	627.99	2,251.44	2,196.23	55.21	40.782				
13,600.00	9,906.00	15,822.94	12,092.00	70.49	75.33	166.22	3,639.81	627.05	2,251.44	2,195.26	56.18	40.079				
13,700.00	9,906.00	15,922.94	12,092.00	71.94	76.69	166.22	3,739.81	626.10	2,251.44	2,194.29	57.15	39.393				
13,800.00	9,906.00	16,022.94	12,092.00	73.39	78.06	166.22	3,839.80	625.16	2,251.44	2,193.30	58.14	38.724				
13,900.00	9,906.00	16,122.94	12,092.00	74.85	79.44	166.22	3,939.80	624.22	2,251.44	2,192.31	59.13	38.073				
14,000.00	9,906.00	16,222.94	12,092.00	76.32	80.83	166.22	4,039.79	623.27	2,251.45	2,191.31	60.14	37.440				

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 805H - 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		
14,100.00	9,906.00	16,322.94	12,092.00	77.80	82.23	166.22	4,139.79	622.33	2,251.45	2,190.30	61.14	36.822		
14,200.00	9,906.00	16,422.94	12,092.00	79.28	83.64	166.22	4,239.78	621.39	2,251.45	2,189.29	62.16	36.221		
14,300.00	9,906.00	16,522.94	12,092.00	80.77	85.06	166.21	4,339.78	620.45	2,251.45	2,188.27	63.18	35.636		
14,400.00	9,906.00	16,622.94	12,092.00	82.27	86.49	166.21	4,439.78	619.50	2,251.45	2,187.25	64.21	35.065		
14,500.00	9,906.00	16,722.94	12,092.00	83.77	87.92	166.21	4,539.77	618.56	2,251.45	2,186.21	65.24	34.510		
14,600.00	9,906.00	16,822.94	12,092.00	85.28	89.36	166.21	4,639.77	617.62	2,251.46	2,185.18	66.28	33.968		
14,700.00	9,906.00	16,922.94	12,092.00	86.79	90.81	166.21	4,739.76	616.67	2,251.46	2,184.13	67.32	33.442		
14,800.00	9,906.00	17,022.94	12,092.00	88.31	92.27	166.21	4,839.76	615.73	2,251.46	2,183.09	68.37	32.929		
14,900.00	9,906.00	17,122.94	12,092.00	89.83	93.73	166.21	4,939.75	614.79	2,251.46	2,182.04	69.43	32.429		
15,000.00	9,906.00	17,222.94	12,092.00	91.36	95.20	166.21	5,039.75	613.85	2,251.46	2,180.98	70.48	31.943		
15,100.00	9,906.00	17,322.94	12,092.00	92.89	96.67	166.21	5,139.74	612.90	2,251.47	2,179.92	71.55	31.468		
15,200.00	9,906.00	17,422.94	12,092.00	94.43	98.15	166.21	5,239.74	611.96	2,251.47	2,178.85	72.61	31.006		
15,300.00	9,906.00	17,522.94	12,092.00	95.97	99.64	166.21	5,339.74	611.02	2,251.47	2,177.78	73.69	30.555		
15,400.00	9,906.00	17,622.94	12,092.00	97.51	101.13	166.21	5,439.73	610.07	2,251.47	2,176.71	74.76	30.116		
15,500.00	9,906.00	17,722.94	12,092.00	99.06	102.63	166.21	5,539.73	609.13	2,251.47	2,175.64	75.84	29.688		
15,600.00	9,906.00	17,822.94	12,092.00	100.61	104.13	166.21	5,639.72	608.19	2,251.48	2,174.56	76.92	29.271		
15,700.00	9,906.00	17,922.94	12,092.00	102.16	105.63	166.21	5,739.72	607.25	2,251.48	2,173.47	78.00	28.864		
15,800.00	9,906.00	18,022.94	12,092.00	103.72	107.14	166.21	5,839.71	606.30	2,251.48	2,172.39	79.09	28.467		
15,900.00	9,906.00	18,122.94	12,092.00	105.28	108.66	166.21	5,939.71	605.36	2,251.48	2,171.30	80.18	28.080		
16,000.00	9,906.00	18,222.94	12,092.00	106.84	110.17	166.21	6,039.70	604.42	2,251.48	2,170.21	81.27	27.702		
16,100.00	9,906.00	18,322.94	12,092.00	108.40	111.70	166.21	6,139.70	603.47	2,251.48	2,169.11	82.37	27.333		
16,200.00	9,906.00	18,422.94	12,092.00	109.97	113.22	166.21	6,239.70	602.53	2,251.49	2,168.02	83.47	26.974		
16,300.00	9,906.00	18,522.94	12,092.00	111.54	114.75	166.21	6,339.69	601.59	2,251.49	2,166.92	84.57	26.623		
16,400.00	9,906.00	18,622.94	12,092.00	113.11	116.28	166.21	6,439.69	600.64	2,251.49	2,165.82	85.67	26.280		
16,500.00	9,906.00	18,722.94	12,092.00	114.69	117.82	166.21	6,539.68	599.70	2,251.49	2,164.71	86.78	25.945		
16,600.00	9,906.00	18,822.94	12,092.00	116.26	119.35	166.21	6,639.68	598.76	2,251.49	2,163.61	87.89	25.618		
16,700.00	9,906.00	18,922.94	12,092.00	117.84	120.90	166.21	6,739.67	597.82	2,251.50	2,162.50	89.00	25.298		
16,800.00	9,906.00	19,022.94	12,092.00	119.42	122.44	166.21	6,839.67	596.87	2,251.50	2,161.39	90.11	24.986		
16,900.00	9,906.00	19,122.94	12,092.00	121.01	123.99	166.21	6,939.66	595.93	2,251.50	2,160.27	91.22	24.681		
17,000.00	9,906.00	19,222.94	12,092.00	122.59	125.54	166.21	7,039.66	594.99	2,251.50	2,159.16	92.34	24.383		
17,100.00	9,906.00	19,322.94	12,092.00	124.18	127.09	166.21	7,139.66	594.04	2,251.50	2,158.05	93.46	24.091		
17,200.00	9,906.00	19,422.94	12,092.00	125.76	128.64	166.21	7,239.65	593.10	2,251.51	2,156.93	94.58	23.806		
17,300.00	9,906.00	19,522.94	12,092.00	127.35	130.20	166.21	7,339.65	592.16	2,251.51	2,155.81	95.70	23.527		
17,400.00	9,906.00	19,622.94	12,092.00	128.95	131.76	166.21	7,439.64	591.22	2,251.51	2,154.69	96.82	23.255		
17,500.00	9,906.00	19,722.94	12,092.00	130.54	133.32	166.21	7,539.64	590.27	2,251.51	2,153.57	97.94	22.988		
17,600.00	9,906.00	19,822.94	12,092.00	132.13	134.89	166.21	7,639.63	589.33	2,251.51	2,152.44	99.07	22.726		
17,700.00	9,906.00	19,922.94	12,092.00	133.73	136.45	166.21	7,739.63	588.39	2,251.51	2,151.32	100.20	22.471		
17,800.00	9,906.00	20,022.94	12,092.00	135.32	138.02	166.21	7,839.62	587.44	2,251.52	2,150.19	101.33	22.221		
17,900.00	9,906.00	20,122.94	12,092.00	136.92	139.59	166.21	7,939.62	586.50	2,251.52	2,149.06	102.45	21.976		
18,000.00	9,906.00	20,222.94	12,092.00	138.52	141.16	166.21	8,039.62	585.56	2,251.52	2,147.93	103.59	21.736		
18,100.00	9,906.00	20,322.94	12,092.00	140.12	142.74	166.21	8,139.61	584.62	2,251.52	2,146.80	104.72	21.501		
18,200.00	9,906.00	20,422.94	12,092.00	141.72	144.31	166.21	8,239.61	583.67	2,251.52	2,145.67	105.85	21.271		
18,300.00	9,906.00	20,522.94	12,092.00	143.33	145.89	166.21	8,339.60	582.73	2,251.53	2,144.54	106.99	21.045		
18,400.00	9,906.00	20,622.94	12,092.00	144.93	147.47	166.21	8,439.60	581.79	2,251.53	2,143.41	108.12	20.824		
18,500.00	9,906.00	20,722.94	12,092.00	146.54	149.05	166.21	8,539.59	580.84	2,251.53	2,142.27	109.26	20.608		
18,600.00	9,906.00	20,822.94	12,092.00	148.14	150.63	166.21	8,639.59	579.90	2,251.53	2,141.14	110.39	20.395		
18,700.00	9,906.00	20,922.94	12,092.00	149.75	152.21	166.21	8,739.58	578.96	2,251.53	2,140.00	111.53	20.187		
18,800.00	9,906.00	21,022.94	12,092.00	151.36	153.80	166.21	8,839.58	578.02	2,251.54	2,138.86	112.67	19.983		
18,900.00	9,906.00	21,122.94	12,092.00	152.97	155.38	166.21	8,939.58	577.07	2,251.54	2,137.72	113.81	19.783		
19,000.00	9,906.00	21,222.94	12,092.00	154.58	156.97	166.21	9,039.57	576.13	2,251.54	2,136.58	114.95	19.586		
19,100.00	9,906.00	21,322.94	12,092.00	156.19	158.56	166.21	9,139.57	575.19	2,251.54	2,135.44	116.10	19.394		
19,200.00	9,906.00	21,422.94	12,092.00	157.80	160.15	166.21	9,239.56	574.24	2,251.54	2,134.30	117.24	19.205		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 805H - 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
19,300.00	9,906.00	21,522.94	12,092.00	159.41	161.74	166.21	9,339.56	573.30	2,251.54	2,133.16	118.38	19.019	
19,400.00	9,906.00	21,622.94	12,092.00	161.03	163.33	166.20	9,439.55	572.36	2,251.55	2,132.02	119.53	18.837	
19,500.00	9,906.00	21,722.94	12,092.00	162.64	164.93	166.20	9,539.55	571.42	2,251.55	2,130.88	120.67	18.659	
19,600.00	9,906.00	21,822.94	12,092.00	164.26	166.52	166.20	9,639.54	570.47	2,251.55	2,129.73	121.82	18.483	
19,700.00	9,906.00	21,922.94	12,092.00	165.87	168.12	166.20	9,739.54	569.53	2,251.55	2,128.59	122.96	18.311	
19,800.00	9,906.00	22,022.94	12,092.00	167.49	169.72	166.20	9,839.54	568.59	2,251.55	2,127.44	124.11	18.142	
19,900.00	9,906.00	22,122.94	12,092.00	169.11	171.31	166.20	9,939.53	567.64	2,251.56	2,126.30	125.26	17.975	
20,000.00	9,906.00	22,222.94	12,092.00	170.72	172.91	166.20	10,039.53	566.70	2,251.56	2,125.15	126.41	17.812	
20,002.78	9,906.00	22,225.72	12,092.00	170.77	172.96	166.20	10,042.31	566.67	2,251.56	2,125.12	126.44	17.808	
20,034.35	9,906.00	22,255.91	12,092.00	171.28	173.44	166.20	10,072.50	566.39	2,251.56	2,124.77	126.79	17.758	

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 806H - 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		
0.00	0.00	0.00	0.00	0.00	0.00	152.98	-74.69	38.09	83.84					
100.00	100.00	99.30	99.30	0.13	0.12	152.98	-74.69	38.09	83.84	83.66	0.18	474.179		
200.00	200.00	199.30	199.30	0.48	0.48	152.98	-74.69	38.09	83.84	83.16	0.68	122.824		
300.00	300.00	299.30	299.30	0.84	0.84	152.98	-74.69	38.09	83.84	82.65	1.19	70.481		
400.00	400.00	399.30	399.30	1.20	1.20	152.98	-74.69	38.09	83.84	82.15	1.70	49.420		
500.00	500.00	499.30	499.30	1.56	1.56	152.98	-74.69	38.09	83.84	81.64	2.20	38.050		
600.00	600.00	599.30	599.30	1.92	1.92	152.98	-74.69	38.09	83.84	81.13	2.71	30.933		
700.00	700.00	699.30	699.30	2.28	2.27	152.98	-74.69	38.09	83.84	80.62	3.22	26.059		
800.00	800.00	799.30	799.30	2.63	2.63	152.98	-74.69	38.09	83.84	80.12	3.72	22.512		
900.00	900.00	899.30	899.30	2.99	2.99	152.98	-74.69	38.09	83.84	79.61	4.23	19.815		
1,000.00	1,000.00	999.30	999.30	3.35	3.35	152.98	-74.69	38.09	83.84	79.10	4.74	17.695		
1,100.00	1,100.00	1,099.30	1,099.30	3.71	3.71	152.98	-74.69	38.09	83.84	78.60	5.25	15.984		
1,200.00	1,200.00	1,199.30	1,199.30	4.07	4.07	152.98	-74.69	38.09	83.84	78.09	5.75	14.576		
1,300.00	1,300.00	1,299.30	1,299.30	4.43	4.42	152.98	-74.69	38.09	83.84	77.58	6.26	13.395		
1,400.00	1,400.00	1,399.30	1,399.30	4.79	4.78	152.98	-74.69	38.09	83.84	77.08	6.77	12.391		
1,500.00	1,500.00	1,499.30	1,499.30	5.14	5.14	152.98	-74.69	38.09	83.84	76.57	7.27	11.528		
1,600.00	1,600.00	1,599.30	1,599.30	5.50	5.50	152.98	-74.69	38.09	83.84	76.06	7.78	10.777 CC, ES		
1,700.00	1,700.00	1,697.64	1,697.63	5.86	5.84	152.05	-74.91	39.74	84.81	76.54	8.27	10.249		
1,800.00	1,800.00	1,795.75	1,795.60	6.22	6.18	149.38	-75.56	44.72	87.88	79.12	8.76	10.032		
1,900.00	1,899.99	1,893.45	1,892.94	6.56	6.52	-11.27	-76.63	52.98	92.10	82.87	9.23	9.982 SF		
2,000.00	1,999.91	1,990.63	1,989.42	6.89	6.86	-16.79	-78.13	64.46	96.76	87.09	9.67	10.005		
2,066.81	2,066.60	2,055.19	2,053.28	7.11	7.10	-21.07	-79.36	73.87	100.48	90.52	9.96	10.087		
2,100.00	2,099.70	2,087.13	2,084.79	7.22	7.21	-23.31	-80.04	79.06	102.72	92.62	10.10	10.169		
2,200.00	2,199.46	2,182.77	2,178.76	7.55	7.57	-29.99	-82.34	96.66	112.35	101.84	10.52	10.683		
2,300.00	2,299.21	2,277.35	2,271.05	7.89	7.95	-36.09	-85.01	117.12	126.38	115.46	10.92	11.577		
2,400.00	2,398.97	2,370.67	2,361.41	8.23	8.33	-41.28	-88.02	140.26	144.70	133.39	11.30	12.803		
2,500.00	2,498.73	2,462.57	2,449.59	8.58	8.74	-45.52	-91.37	165.88	167.07	155.39	11.68	14.309		
2,600.00	2,598.48	2,554.65	2,537.12	8.92	9.17	-48.93	-95.07	194.23	193.09	181.01	12.07	15.993		
2,700.00	2,698.24	2,650.37	2,627.88	9.27	9.64	-51.67	-99.01	224.40	220.39	207.84	12.55	17.558		
2,800.00	2,798.00	2,746.09	2,718.64	9.62	10.13	-53.81	-102.94	254.57	248.07	235.03	13.04	19.027		
2,900.00	2,897.75	2,841.82	2,809.40	9.98	10.63	-55.53	-106.88	284.74	276.00	262.47	13.53	20.399		
3,000.00	2,997.51	2,937.54	2,900.16	10.33	11.14	-56.92	-110.82	314.91	304.12	290.09	14.03	21.680		
3,100.00	3,097.26	3,033.27	2,990.92	10.69	11.67	-58.09	-114.76	345.08	332.37	317.84	14.53	22.877		
3,200.00	3,197.02	3,128.99	3,081.68	11.05	12.20	-59.07	-118.69	375.25	360.74	345.70	15.03	23.995		
3,300.00	3,296.78	3,224.72	3,172.44	11.41	12.74	-59.90	-122.63	405.42	389.18	373.64	15.54	25.041		
3,400.00	3,396.53	3,320.44	3,263.20	11.77	13.29	-60.63	-126.57	435.59	417.70	401.64	16.05	26.019		
3,500.00	3,496.29	3,416.16	3,353.96	12.13	13.84	-61.26	-130.51	465.76	446.26	429.69	16.57	26.936		
3,600.00	3,596.04	3,511.89	3,444.72	12.49	14.40	-61.81	-134.45	495.93	474.87	457.79	17.08	27.796		
3,700.00	3,695.80	3,607.61	3,535.48	12.85	14.96	-62.30	-138.38	526.10	503.52	485.92	17.60	28.604		
3,800.00	3,795.56	3,703.34	3,626.24	13.22	15.53	-62.74	-142.32	556.27	532.20	514.07	18.12	29.364		
3,900.00	3,895.31	3,799.06	3,717.00	13.58	16.11	-63.14	-146.26	586.44	560.90	542.25	18.65	30.080		
4,000.00	3,995.07	3,894.79	3,807.76	13.95	16.68	-63.49	-150.20	616.61	589.62	570.45	19.17	30.755		
4,100.00	4,094.83	3,990.51	3,898.52	14.31	17.26	-63.82	-154.13	646.78	618.37	598.67	19.70	31.392		
4,200.00	4,194.58	4,086.23	3,989.28	14.68	17.84	-64.11	-158.07	676.95	647.13	626.90	20.23	31.995		
4,300.00	4,294.34	4,181.96	4,080.04	15.05	18.43	-64.38	-162.01	707.12	675.90	655.15	20.76	32.565		
4,400.00	4,394.09	4,277.68	4,170.80	15.41	19.02	-64.63	-165.95	737.29	704.69	683.40	21.29	33.106		
4,500.00	4,493.85	4,373.41	4,261.56	15.78	19.61	-64.86	-169.88	767.45	733.49	711.67	21.82	33.619		
4,600.00	4,593.61	4,469.13	4,352.33	16.15	20.20	-65.07	-173.82	797.62	762.30	739.95	22.35	34.107		
4,700.00	4,693.36	4,564.86	4,443.09	16.52	20.79	-65.26	-177.76	827.79	791.11	768.23	22.88	34.570		
4,800.00	4,793.12	4,660.58	4,533.85	16.89	21.38	-65.44	-181.70	857.96	819.94	796.52	23.42	35.012		
4,900.00	4,892.87	4,756.31	4,624.61	17.26	21.98	-65.61	-185.64	888.13	848.77	824.81	23.95	35.432		
5,000.00	4,992.63	4,852.03	4,715.37	17.63	22.58	-65.77	-189.57	918.30	877.61	853.12	24.49	35.833		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
5,100.00	5,092.39	4,947.75	4,806.13	18.00	23.18	-65.92	-193.51	948.47	906.45	881.42	25.03	36.216		
5,200.00	5,192.14	5,043.48	4,896.89	18.37	23.78	-66.06	-197.45	978.64	935.30	909.73	25.57	36.582		
5,300.00	5,291.90	5,139.20	4,987.65	18.74	24.38	-66.19	-201.39	1,008.81	964.15	938.05	26.11	36.932		
5,400.00	5,391.65	5,234.93	5,078.41	19.11	24.98	-66.31	-205.32	1,038.98	993.01	966.37	26.65	37.267		
5,500.00	5,491.41	5,330.65	5,169.17	19.48	25.58	-66.43	-209.26	1,069.15	1,021.88	994.69	27.19	37.588		
5,600.00	5,591.17	5,426.38	5,259.93	19.85	26.19	-66.54	-213.20	1,099.32	1,050.74	1,023.01	27.73	37.896		
5,700.00	5,690.92	5,522.10	5,350.69	20.22	26.79	-66.64	-217.14	1,129.49	1,079.61	1,051.34	28.27	38.191		
5,800.00	5,790.68	5,617.82	5,441.45	20.59	27.40	-66.74	-221.07	1,159.66	1,108.48	1,079.67	28.81	38.475		
5,900.00	5,890.44	5,713.55	5,532.21	20.97	28.00	-66.83	-225.01	1,189.83	1,137.36	1,108.00	29.35	38.747		
6,000.00	5,990.19	5,809.27	5,622.97	21.34	28.61	-66.92	-228.95	1,220.00	1,166.24	1,136.34	29.90	39.009		
6,100.00	6,089.95	5,905.00	5,713.73	21.71	29.22	-67.01	-232.89	1,250.17	1,195.12	1,164.68	30.44	39.261		
6,200.00	6,189.70	6,000.72	5,804.49	22.08	29.82	-67.09	-236.82	1,280.34	1,224.00	1,193.01	30.98	39.504		
6,300.00	6,289.46	6,096.45	5,895.25	22.45	30.43	-67.16	-240.76	1,310.51	1,252.88	1,221.35	31.53	39.737		
6,394.17	6,383.40	6,186.59	5,980.72	22.81	31.01	-67.23	-244.47	1,338.92	1,280.09	1,248.04	32.04	39.950		
6,400.00	6,389.22	6,192.17	5,986.01	22.83	31.04	-67.26	-244.70	1,340.68	1,281.77	1,249.70	32.07	39.963		
6,500.00	6,489.06	6,287.74	6,076.62	23.19	31.65	-67.70	-248.63	1,370.80	1,311.20	1,278.58	32.61	40.204		
6,600.00	6,589.02	6,382.99	6,166.93	23.55	32.26	-68.04	-252.55	1,400.82	1,341.57	1,308.43	33.14	40.480		
6,660.99	6,650.00	6,440.89	6,221.83	23.76	32.63	88.27	-254.93	1,419.07	1,360.56	1,327.10	33.45	40.669		
6,700.00	6,689.01	6,477.88	6,256.90	23.89	32.86	88.35	-256.45	1,430.73	1,372.82	1,339.17	33.65	40.796		
6,800.00	6,789.01	6,572.69	6,346.80	24.22	33.47	88.55	-260.35	1,460.61	1,404.25	1,370.09	34.15	41.115		
6,900.00	6,889.01	6,710.30	6,477.67	24.55	34.33	88.83	-265.85	1,502.75	1,435.05	1,400.11	34.94	41.077		
7,000.00	6,989.01	6,903.73	6,664.58	24.88	35.40	89.13	-272.28	1,551.97	1,460.47	1,424.51	35.96	40.617		
7,100.00	7,089.01	7,103.33	6,860.52	25.22	36.34	89.34	-277.18	1,589.53	1,479.28	1,442.43	36.84	40.151		
7,200.00	7,189.01	7,307.41	7,063.08	25.55	37.11	89.47	-280.35	1,613.86	1,491.19	1,453.63	37.56	39.698		
7,300.00	7,289.01	7,513.99	7,269.36	25.88	37.72	89.53	-281.66	1,623.86	1,496.03	1,457.93	38.10	39.266		
7,400.00	7,389.01	7,632.94	7,388.31	26.22	38.01	89.53	-281.69	1,624.09	1,496.14	1,457.59	38.55	38.814		
7,500.00	7,489.01	7,732.94	7,488.31	26.55	38.26	89.53	-281.69	1,624.09	1,496.14	1,457.14	39.00	38.362		
7,600.00	7,589.01	7,832.94	7,588.31	26.89	38.50	89.53	-281.69	1,624.09	1,496.14	1,456.68	39.46	37.919		
7,700.00	7,689.01	7,932.94	7,688.31	27.23	38.74	89.53	-281.69	1,624.09	1,496.14	1,456.23	39.91	37.485		
7,800.00	7,789.01	8,032.94	7,788.31	27.56	38.99	89.53	-281.69	1,624.09	1,496.14	1,455.77	40.37	37.060		
7,900.00	7,889.01	8,132.94	7,888.31	27.90	39.24	89.53	-281.69	1,624.09	1,496.14	1,455.31	40.83	36.643		
8,000.00	7,989.01	8,232.94	7,988.31	28.24	39.49	89.53	-281.69	1,624.09	1,496.14	1,454.85	41.29	36.235		
8,100.00	8,089.01	8,332.94	8,088.31	28.58	39.74	89.53	-281.69	1,624.09	1,496.14	1,454.39	41.75	35.835		
8,200.00	8,189.01	8,432.94	8,188.31	28.92	40.00	89.53	-281.69	1,624.09	1,496.14	1,453.93	42.21	35.442		
8,300.00	8,289.01	8,532.94	8,288.31	29.25	40.25	89.53	-281.69	1,624.09	1,496.14	1,453.46	42.68	35.058		
8,400.00	8,389.01	8,632.94	8,388.31	29.59	40.51	89.53	-281.69	1,624.09	1,496.14	1,453.00	43.14	34.680		
8,500.00	8,489.01	8,732.94	8,488.31	29.93	40.77	89.53	-281.69	1,624.09	1,496.14	1,452.53	43.61	34.310		
8,600.00	8,589.01	8,832.94	8,588.31	30.28	41.03	89.53	-281.69	1,624.09	1,496.14	1,452.07	44.07	33.947		
8,700.00	8,689.01	8,932.94	8,688.31	30.62	41.29	89.53	-281.69	1,624.09	1,496.14	1,451.60	44.54	33.592		
8,800.00	8,789.01	9,032.94	8,788.31	30.96	41.55	89.53	-281.69	1,624.09	1,496.14	1,451.13	45.01	33.242		
8,900.00	8,889.01	9,132.94	8,888.31	31.30	41.82	89.53	-281.69	1,624.09	1,496.14	1,450.66	45.48	32.900		
9,000.00	8,989.01	9,232.94	8,988.31	31.64	42.08	89.53	-281.69	1,624.09	1,496.14	1,450.20	45.95	32.563		
9,100.00	9,089.01	9,332.94	9,088.31	31.99	42.35	89.53	-281.69	1,624.09	1,496.14	1,449.73	46.42	32.234		
9,200.00	9,189.01	9,432.94	9,188.31	32.33	42.62	89.53	-281.69	1,624.09	1,496.14	1,449.25	46.89	31.910		
9,300.00	9,289.01	9,532.94	9,288.31	32.67	42.89	89.53	-281.69	1,624.09	1,496.14	1,448.78	47.36	31.592		
9,344.03	9,333.04	9,576.97	9,332.34	32.82	43.01	89.53	-281.69	1,624.09	1,496.14	1,448.57	47.57	31.454		
9,350.00	9,339.01	9,582.94	9,338.31	32.84	43.02	90.07	-281.69	1,624.09	1,496.14	1,448.55	47.59	31.435		
9,400.00	9,388.92	9,632.85	9,388.22	33.01	43.16	90.18	-281.69	1,624.09	1,496.15	1,448.32	47.82	31.285		
9,450.00	9,438.41	9,682.34	9,437.71	33.17	43.29	90.44	-281.69	1,624.09	1,496.19	1,448.15	48.04	31.145		
9,500.00	9,487.09	9,731.02	9,486.39	33.32	43.43	90.85	-281.69	1,624.09	1,496.32	1,448.08	48.24	31.018		
9,550.00	9,534.61	9,778.53	9,533.91	33.46	43.56	91.38	-281.69	1,624.09	1,496.64	1,448.21	48.43	30.903		
9,600.00	9,580.58	9,824.51	9,579.88	33.59	43.68	92.01	-281.69	1,624.09	1,497.27	1,448.66	48.61	30.804		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 806H - 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)								
9,650.00	9,624.68	9,868.60	9,623.98	33.71	43.80	92.69	-281.69	1,624.09	1,498.37	1,449.60	48.77	30.722				
9,700.00	9,666.55	9,910.48	9,665.85	33.83	43.92	93.39	-281.69	1,624.09	1,500.10	1,451.18	48.93	30.659				
9,750.00	9,705.89	9,949.81	9,705.19	33.93	44.03	94.06	-281.69	1,624.09	1,502.66	1,453.58	49.08	30.618				
9,800.00	9,742.38	9,986.31	9,741.68	34.04	44.13	94.65	-281.69	1,624.09	1,506.22	1,457.00	49.22	30.600				
9,850.00	9,775.77	10,019.69	9,775.07	34.14	44.22	95.12	-281.69	1,624.09	1,510.97	1,461.60	49.37	30.607				
9,900.00	9,805.78	10,049.71	9,805.08	34.24	44.30	95.42	-281.69	1,624.09	1,517.07	1,467.56	49.51	30.641				
9,950.00	9,832.20	10,076.12	9,831.50	34.34	44.38	95.50	-281.69	1,624.09	1,524.67	1,475.02	49.66	30.704				
10,000.00	9,854.81	10,098.74	9,854.11	34.45	44.44	95.33	-281.69	1,624.09	1,533.88	1,484.07	49.81	30.797				
10,050.00	9,873.46	10,117.39	9,872.76	34.57	44.49	94.88	-281.69	1,624.09	1,544.77	1,494.81	49.96	30.921				
10,100.00	9,887.99	10,131.92	9,887.29	34.69	44.53	94.11	-281.69	1,624.09	1,557.36	1,507.24	50.12	31.076				
10,150.00	9,898.30	10,142.23	9,897.60	34.81	44.56	93.01	-281.69	1,624.09	1,571.64	1,521.37	50.27	31.261				
10,200.00	9,904.31	10,148.23	9,903.61	34.95	44.58	91.56	-281.69	1,624.09	1,587.54	1,537.10	50.44	31.477				
10,244.03	9,906.00	10,149.93	9,905.30	35.07	44.58	90.00	-281.69	1,624.09	1,602.78	1,552.21	50.58	31.691				
10,300.00	9,906.00	10,149.93	9,905.30	35.24	44.58	90.00	-281.69	1,624.09	1,623.70	1,572.93	50.76	31.985				
10,400.00	9,906.00	10,149.93	9,905.30	35.60	44.58	90.00	-281.69	1,624.09	1,665.10	1,613.96	51.15	32.556				
10,500.00	9,906.00	10,149.93	9,905.30	36.03	44.58	90.00	-281.69	1,624.09	1,711.36	1,659.79	51.56	33.189				
10,600.00	9,906.00	10,149.93	9,905.30	36.54	44.58	90.00	-281.69	1,624.09	1,762.07	1,710.07	52.01	33.881				
10,700.00	9,906.00	10,149.93	9,905.30	37.11	44.58	90.00	-281.69	1,624.09	1,816.89	1,764.42	52.46	34.632				
10,800.00	9,906.00	10,149.93	9,905.30	37.74	44.58	90.00	-281.69	1,624.09	1,875.43	1,822.51	52.92	35.439				
10,900.00	9,906.00	10,149.93	9,905.30	38.44	44.58	90.00	-281.69	1,624.09	1,937.37	1,884.00	53.37	36.302				
11,000.00	9,906.00	10,149.93	9,905.30	39.19	44.58	90.00	-281.69	1,624.09	2,002.39	1,948.59	53.81	37.214				
11,100.00	9,906.00	10,149.93	9,905.30	40.00	44.58	90.00	-281.69	1,624.09	2,070.21	2,015.98	54.23	38.175				
11,200.00	9,906.00	10,149.93	9,905.30	40.85	44.58	90.00	-281.69	1,624.09	2,140.54	2,085.91	54.63	39.182				
11,300.00	9,906.00	10,149.93	9,905.30	41.76	44.58	90.00	-281.69	1,624.09	2,213.16	2,158.15	55.01	40.231				
11,400.00	9,906.00	10,149.93	9,905.30	42.71	44.58	90.00	-281.69	1,624.09	2,287.85	2,232.48	55.37	41.318				
11,500.00	9,906.00	10,149.93	9,905.30	43.70	44.58	90.00	-281.69	1,624.09	2,364.41	2,308.70	55.71	42.440				
11,600.00	9,906.00	10,149.93	9,905.30	44.73	44.58	90.00	-281.69	1,624.09	2,442.66	2,386.63	56.03	43.595				
11,700.00	9,906.00	10,149.93	9,905.30	45.80	44.58	90.00	-281.69	1,624.09	2,522.45	2,466.12	56.33	44.780				
11,800.00	9,906.00	10,149.93	9,905.30	46.90	44.58	90.00	-281.69	1,624.09	2,603.64	2,547.03	56.61	45.991				
11,900.00	9,906.00	14,352.46	12,123.00	48.03	58.61	145.99	1,948.96	1,603.02	2,675.27	2,625.69	49.57	53.968				
12,000.00	9,906.00	14,452.46	12,123.00	49.19	59.54	145.99	2,048.96	1,602.08	2,675.27	2,624.69	50.58	52.894				
12,100.00	9,906.00	14,552.46	12,123.00	50.38	60.50	145.99	2,148.95	1,601.13	2,675.27	2,623.66	51.61	51.832				
12,200.00	9,906.00	14,652.46	12,123.00	51.60	61.50	145.99	2,248.95	1,600.19	2,675.28	2,622.60	52.68	50.786				
12,300.00	9,906.00	14,752.46	12,123.00	52.83	62.52	145.99	2,348.94	1,599.24	2,675.28	2,621.52	53.76	49.759				
12,400.00	9,906.00	14,852.46	12,123.00	54.09	63.58	145.99	2,448.94	1,598.30	2,675.28	2,620.41	54.88	48.752				
12,500.00	9,906.00	14,952.46	12,123.00	55.38	64.66	145.99	2,548.94	1,597.35	2,675.29	2,619.28	56.01	47.765				
12,600.00	9,906.00	15,052.46	12,123.00	56.68	65.77	145.99	2,648.93	1,596.41	2,675.29	2,618.13	57.16	46.799				
12,700.00	9,906.00	15,152.46	12,123.00	57.99	66.90	145.99	2,748.93	1,595.47	2,675.29	2,616.95	58.34	45.857				
12,800.00	9,906.00	15,252.46	12,123.00	59.33	68.06	145.99	2,848.92	1,594.52	2,675.30	2,615.76	59.53	44.937				
12,900.00	9,906.00	15,352.46	12,123.00	60.68	69.24	145.99	2,948.92	1,593.58	2,675.30	2,614.56	60.74	44.042				
13,000.00	9,906.00	15,452.46	12,123.00	62.04	70.43	145.99	3,048.91	1,592.63	2,675.30	2,613.33	61.97	43.171				
13,100.00	9,906.00	15,552.46	12,123.00	63.42	71.65	145.99	3,148.91	1,591.69	2,675.31	2,612.10	63.21	42.323				
13,200.00	9,906.00	15,652.46	12,123.00	64.82	72.88	145.99	3,248.90	1,590.74	2,675.31	2,610.84	64.47	41.498				
13,300.00	9,906.00	15,752.46	12,123.00	66.22	74.13	145.99	3,348.90	1,589.80	2,675.31	2,609.58	65.74	40.696				
13,400.00	9,906.00	15,852.46	12,123.00	67.63	75.40	145.99	3,448.90	1,588.85	2,675.32	2,608.30	67.02	39.916				
13,500.00	9,906.00	15,952.46	12,123.00	69.06	76.68	145.99	3,548.89	1,587.91	2,675.32	2,607.00	68.32	39.160				
13,600.00	9,906.00	16,052.46	12,123.00	70.49	77.98	145.99	3,648.89	1,586.96	2,675.33	2,605.70	69.62	38.426				
13,700.00	9,906.00	16,152.46	12,123.00	71.94	79.29	145.99	3,748.88	1,586.02	2,675.33	2,604.39	70.94	37.713				
13,800.00	9,906.00	16,252.46	12,123.00	73.39	80.61	145.99	3,848.88	1,585.08	2,675.33	2,603.07	72.27	37.020				
13,900.00	9,906.00	16,352.46	12,123.00	74.85	81.95	145.99	3,948.87	1,584.13	2,675.34	2,601.73	73.60	36.348				
14,000.00	9,906.00	16,452.46	12,123.00	76.32	83.30	145.99	4,048.87	1,583.19	2,675.34	2,600.39	74.95	35.696				
14,100.00	9,906.00	16,552.46	12,123.00	77.80	84.65	145.99	4,148.86	1,582.24	2,675.34	2,599.04	76.30	35.063				

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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		
14,200.00	9,906.00	16,652.46	12,123.00	79.28	86.02	145.99	4,248.86	1,581.30	2,675.35	2,597.68	77.66	34.449		
14,300.00	9,906.00	16,752.46	12,123.00	80.77	87.40	145.99	4,348.86	1,580.35	2,675.35	2,596.32	79.03	33.852		
14,400.00	9,906.00	16,852.46	12,123.00	82.27	88.79	145.99	4,448.85	1,579.41	2,675.35	2,594.95	80.41	33.272		
14,500.00	9,906.00	16,952.46	12,123.00	83.77	90.19	145.99	4,548.85	1,578.46	2,675.36	2,593.57	81.79	32.709		
14,600.00	9,906.00	17,052.46	12,123.00	85.28	91.59	145.99	4,648.84	1,577.52	2,675.36	2,592.18	83.18	32.163		
14,700.00	9,906.00	17,152.46	12,123.00	86.79	93.01	145.99	4,748.84	1,576.58	2,675.36	2,590.79	84.57	31.634		
14,800.00	9,906.00	17,252.46	12,123.00	88.31	94.43	145.99	4,848.83	1,575.63	2,675.37	2,589.39	85.97	31.118		
14,900.00	9,906.00	17,352.46	12,123.00	89.83	95.86	145.99	4,948.83	1,574.69	2,675.37	2,587.99	87.38	30.617		
15,000.00	9,906.00	17,452.46	12,123.00	91.36	97.29	145.99	5,048.82	1,573.74	2,675.37	2,586.58	88.79	30.131		
15,100.00	9,906.00	17,552.46	12,123.00	92.89	98.73	145.99	5,148.82	1,572.80	2,675.38	2,585.17	90.21	29.658		
15,200.00	9,906.00	17,652.46	12,123.00	94.43	100.18	145.99	5,248.81	1,571.85	2,675.38	2,583.75	91.63	29.199		
15,300.00	9,906.00	17,752.46	12,123.00	95.97	101.64	145.99	5,348.81	1,570.91	2,675.39	2,582.33	93.05	28.752		
15,400.00	9,906.00	17,852.46	12,123.00	97.51	103.10	145.99	5,448.81	1,569.96	2,675.39	2,580.91	94.48	28.317		
15,500.00	9,906.00	17,952.46	12,123.00	99.06	104.57	145.99	5,548.80	1,569.02	2,675.39	2,579.48	95.91	27.893		
15,600.00	9,906.00	18,052.46	12,123.00	100.61	106.04	145.99	5,648.80	1,568.08	2,675.40	2,578.04	97.35	27.482		
15,700.00	9,906.00	18,152.46	12,123.00	102.16	107.52	145.99	5,748.79	1,567.13	2,675.40	2,576.61	98.79	27.082		
15,800.00	9,906.00	18,252.46	12,123.00	103.72	109.00	145.99	5,848.79	1,566.19	2,675.40	2,575.17	100.23	26.692		
15,900.00	9,906.00	18,352.46	12,123.00	105.28	110.49	145.99	5,948.78	1,565.24	2,675.41	2,573.73	101.68	26.312		
16,000.00	9,906.00	18,452.46	12,123.00	106.84	111.98	145.99	6,048.78	1,564.30	2,675.41	2,572.28	103.13	25.942		
16,100.00	9,906.00	18,552.46	12,123.00	108.40	113.48	145.99	6,148.77	1,563.35	2,675.41	2,570.83	104.58	25.582		
16,200.00	9,906.00	18,652.46	12,123.00	109.97	114.98	145.99	6,248.77	1,562.41	2,675.42	2,569.38	106.04	25.231		
16,300.00	9,906.00	18,752.46	12,123.00	111.54	116.49	145.99	6,348.77	1,561.46	2,675.42	2,567.93	107.49	24.889		
16,400.00	9,906.00	18,852.46	12,123.00	113.11	118.00	145.99	6,448.76	1,560.52	2,675.42	2,566.47	108.95	24.556		
16,500.00	9,906.00	18,952.46	12,123.00	114.69	119.51	145.99	6,548.76	1,559.57	2,675.43	2,565.01	110.42	24.230		
16,600.00	9,906.00	19,052.46	12,123.00	116.26	121.03	145.99	6,648.75	1,558.63	2,675.43	2,563.55	111.88	23.913		
16,700.00	9,906.00	19,152.46	12,123.00	117.84	122.55	145.99	6,748.75	1,557.69	2,675.43	2,562.09	113.35	23.604		
16,800.00	9,906.00	19,252.46	12,123.00	119.42	124.07	145.99	6,848.74	1,556.74	2,675.44	2,560.62	114.81	23.302		
16,900.00	9,906.00	19,352.46	12,123.00	121.01	125.60	145.99	6,948.74	1,555.80	2,675.44	2,559.15	116.29	23.007		
17,000.00	9,906.00	19,452.46	12,123.00	122.59	127.13	145.99	7,048.73	1,554.85	2,675.44	2,557.69	117.76	22.720		
17,100.00	9,906.00	19,552.46	12,123.00	124.18	128.66	145.99	7,148.73	1,553.91	2,675.45	2,556.22	119.23	22.439		
17,200.00	9,906.00	19,652.46	12,123.00	125.76	130.20	145.99	7,248.73	1,552.96	2,675.45	2,554.75	120.71	22.165		
17,300.00	9,906.00	19,752.46	12,123.00	127.35	131.73	145.99	7,348.72	1,552.02	2,675.46	2,553.27	122.18	21.897		
17,400.00	9,906.00	19,852.46	12,123.00	128.95	133.28	145.99	7,448.72	1,551.07	2,675.46	2,551.80	123.66	21.635		
17,500.00	9,906.00	19,952.46	12,123.00	130.54	134.82	145.99	7,548.71	1,550.13	2,675.46	2,550.32	125.14	21.379		
17,600.00	9,906.00	20,052.46	12,123.00	132.13	136.37	145.99	7,648.71	1,549.19	2,675.47	2,548.84	126.63	21.129		
17,700.00	9,906.00	20,152.46	12,123.00	133.73	137.92	145.99	7,748.70	1,548.24	2,675.47	2,547.36	128.11	20.885		
17,800.00	9,906.00	20,252.46	12,123.00	135.32	139.47	145.99	7,848.70	1,547.30	2,675.47	2,545.88	129.59	20.646		
17,900.00	9,906.00	20,352.46	12,123.00	136.92	141.02	145.99	7,948.69	1,546.35	2,675.48	2,544.40	131.08	20.411		
18,000.00	9,906.00	20,452.46	12,123.00	138.52	142.58	145.99	8,048.69	1,545.41	2,675.48	2,542.92	132.56	20.183		
18,100.00	9,906.00	20,552.46	12,123.00	140.12	144.13	145.99	8,148.69	1,544.46	2,675.48	2,541.43	134.05	19.959		
18,200.00	9,906.00	20,652.46	12,123.00	141.72	145.70	145.99	8,248.68	1,543.52	2,675.49	2,539.95	135.54	19.740		
18,300.00	9,906.00	20,752.46	12,123.00	143.33	147.26	145.99	8,348.68	1,542.57	2,675.49	2,538.47	137.02	19.526		
18,400.00	9,906.00	20,852.46	12,123.00	144.93	148.82	145.99	8,448.67	1,541.63	2,675.49	2,536.98	138.52	19.316		
18,500.00	9,906.00	20,952.46	12,123.00	146.54	150.39	145.99	8,548.67	1,540.69	2,675.50	2,535.49	140.01	19.110		
18,600.00	9,906.00	21,052.46	12,123.00	148.14	151.96	145.99	8,648.66	1,539.74	2,675.50	2,534.00	141.50	18.908		
18,700.00	9,906.00	21,152.46	12,123.00	149.75	153.52	145.98	8,748.66	1,538.80	2,675.50	2,532.51	142.99	18.711		
18,800.00	9,906.00	21,252.46	12,123.00	151.36	155.10	145.98	8,848.65	1,537.85	2,675.51	2,531.02	144.48	18.518		
18,900.00	9,906.00	21,352.46	12,123.00	152.97	156.67	145.98	8,948.65	1,536.91	2,675.51	2,529.53	145.98	18.328		
19,000.00	9,906.00	21,452.46	12,123.00	154.58	158.24	145.98	9,048.65	1,535.96	2,675.51	2,528.04	147.47	18.142		
19,100.00	9,906.00	21,552.46	12,123.00	156.19	159.82	145.98	9,148.64	1,535.02	2,675.52	2,526.55	148.97	17.961		
19,200.00	9,906.00	21,652.46	12,123.00	157.80	161.40	145.98	9,248.64	1,534.07	2,675.52	2,525.06	150.46	17.782		
19,300.00	9,906.00	21,752.46	12,123.00	159.41	162.98	145.98	9,348.63	1,533.13	2,675.53	2,523.57	151.96	17.607		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 806H - 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	
19,400.00	9,906.00	21,852.46	12,123.00	161.03	164.56	145.98	9,448.63	1,532.18	2,675.53	2,522.08	153.45	17.435	
19,500.00	9,906.00	21,952.46	12,123.00	162.64	166.14	145.98	9,548.62	1,531.24	2,675.53	2,520.58	154.95	17.267	
19,600.00	9,906.00	22,052.46	12,123.00	164.26	167.72	145.98	9,648.62	1,530.30	2,675.54	2,519.09	156.45	17.101	
19,700.00	9,906.00	22,152.46	12,123.00	165.87	169.31	145.98	9,748.61	1,529.35	2,675.54	2,517.59	157.95	16.939	
19,800.00	9,906.00	22,252.46	12,123.00	167.49	170.89	145.98	9,848.61	1,528.41	2,675.54	2,516.10	159.44	16.780	
19,900.00	9,906.00	22,352.46	12,123.00	169.11	172.48	145.98	9,948.61	1,527.46	2,675.55	2,514.60	160.95	16.624	
20,000.00	9,906.00	22,452.46	12,123.00	170.72	174.07	145.98	10,048.60	1,526.52	2,675.55	2,513.11	162.44	16.471	
20,001.87	9,906.00	22,454.33	12,123.00	170.75	174.10	145.98	10,050.47	1,526.50	2,675.55	2,513.08	162.47	16.468	
20,034.35	9,906.00	22,482.95	12,123.00	171.28	174.55	145.98	10,079.09	1,526.23	2,675.55	2,512.61	162.94	16.421	

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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: 220-INC-ONLY													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		
0.00	0.00	0.00	0.00	0.00	0.00	-28.76	4,232.17	-2,323.23	4,827.91					
100.00	100.00	96.50	96.50	0.13	0.82	-28.76	4,232.17	-2,323.23	4,827.90	4,827.08	0.83	5,847.848		
200.00	200.00	196.50	196.50	0.48	1.66	-28.76	4,232.17	-2,323.23	4,827.90	4,826.17	1.73	2,789.682		
300.00	300.00	296.50	296.50	0.84	3.22	-28.76	4,232.17	-2,323.23	4,827.90	4,824.58	3.32	1,452.363		
400.00	400.00	405.93	405.93	1.20	5.15	-28.76	4,232.17	-2,323.23	4,827.91	4,822.62	5.29	912.228		
407.41	407.41	414.17	414.17	1.23	5.30	-28.76	4,232.15	-2,323.23	4,827.89	4,822.45	5.44	887.373		
500.00	500.00	496.50	496.50	1.56	6.89	-28.76	4,232.17	-2,323.23	4,827.90	4,820.84	7.07	683.087		
600.00	600.00	605.51	605.51	1.92	8.98	-28.76	4,232.18	-2,323.23	4,827.92	4,818.73	9.19	525.577		
611.26	611.26	617.90	617.89	1.96	9.22	-28.76	4,232.15	-2,323.23	4,827.90	4,818.47	9.43	512.160		
700.00	700.00	696.52	696.50	2.28	11.49	-28.76	4,232.17	-2,323.23	4,827.90	4,816.19	11.71	412.226		
800.00	800.00	796.52	796.50	2.63	14.26	-28.76	4,232.17	-2,323.23	4,827.90	4,813.40	14.51	332.829		
900.00	900.00	901.42	901.38	2.99	17.18	-28.76	4,233.60	-2,323.23	4,829.16	4,811.73	17.43	276.982		
1,000.00	1,000.00	1,022.53	1,022.48	3.35	20.54	-28.76	4,233.16	-2,323.23	4,828.84	4,808.03	20.81	232.051		
1,100.00	1,100.00	1,143.65	1,143.58	3.71	23.90	-28.76	4,232.12	-2,323.23	4,828.09	4,803.90	24.19	199.627		
1,138.16	1,138.16	1,189.87	1,189.80	3.85	25.18	-28.77	4,231.56	-2,323.23	4,827.68	4,802.21	25.47	189.513 CC		
1,200.00	1,200.00	1,196.86	1,196.50	4.07	25.79	-28.76	4,232.17	-2,323.23	4,827.90	4,801.80	26.11	184.929		
1,300.00	1,300.00	1,342.89	1,342.46	4.43	30.88	-28.76	4,233.51	-2,323.23	4,829.30	4,798.10	31.19	154.825		
1,400.00	1,400.00	1,396.96	1,396.50	4.79	32.76	-28.76	4,232.17	-2,323.23	4,827.90	4,794.79	33.11	145.815		
1,500.00	1,500.00	1,497.18	1,496.50	5.14	36.30	-28.76	4,232.17	-2,323.23	4,827.90	4,791.24	36.66	131.684		
1,600.00	1,600.00	1,597.30	1,596.50	5.50	39.62	-28.76	4,232.17	-2,323.23	4,827.90	4,787.90	40.00	120.688		
1,700.00	1,700.00	1,697.37	1,696.50	5.86	42.64	-28.76	4,232.17	-2,323.23	4,827.90	4,784.87	43.04	112.182		
1,800.00	1,800.00	1,797.37	1,796.50	6.22	45.39	-28.76	4,232.17	-2,323.23	4,827.90	4,782.09	45.81	105.381		
1,900.00	1,899.99	1,958.75	1,957.83	6.56	49.83	174.76	4,232.29	-2,323.23	4,829.70	4,779.44	50.26	96.092 ES		
2,000.00	1,999.91	1,997.42	1,996.41	6.89	50.83	174.76	4,232.17	-2,323.23	4,833.12	4,781.82	51.29	94.224		
2,066.81	2,066.60	2,064.11	2,063.10	7.11	52.51	174.76	4,232.17	-2,323.23	4,837.18	4,784.19	52.99	91.283		
2,100.00	2,099.70	2,097.22	2,096.20	7.22	53.35	174.76	4,232.17	-2,323.23	4,839.49	4,785.65	53.83	89.898		
2,200.00	2,199.46	2,201.64	2,200.59	7.55	55.98	174.78	4,233.83	-2,323.23	4,847.90	4,791.41	56.49	85.822		
2,300.00	2,299.21	2,343.63	2,342.57	7.89	59.56	174.79	4,232.97	-2,323.23	4,854.32	4,794.24	60.08	80.797		
2,400.00	2,398.97	2,485.85	2,484.74	8.23	63.15	174.78	4,230.71	-2,323.23	4,859.88	4,796.20	63.67	76.324		
2,500.00	2,498.73	2,496.39	2,495.23	8.58	63.52	174.79	4,232.17	-2,323.23	4,867.29	4,803.19	64.10	75.936		
2,600.00	2,598.48	2,596.15	2,594.98	8.92	66.16	174.80	4,232.17	-2,323.23	4,874.24	4,807.49	66.75	73.021		
2,700.00	2,698.24	2,714.14	2,712.95	9.27	69.27	174.81	4,233.20	-2,323.23	4,882.13	4,812.25	69.88	69.863		
2,800.00	2,798.00	2,840.55	2,839.35	9.62	72.60	174.82	4,232.27	-2,323.23	4,888.44	4,815.20	73.23	66.753		
2,900.00	2,897.75	2,895.60	2,894.25	9.98	74.21	174.82	4,232.17	-2,323.23	4,895.09	4,820.22	74.88	65.377		
3,000.00	2,997.51	3,000.00	2,998.56	10.33	77.33	174.83	4,232.17	-2,323.23	4,902.05	4,824.04	78.01	62.839		
3,100.00	3,097.26	3,095.20	3,093.76	10.69	80.17	174.84	4,232.17	-2,323.23	4,909.00	4,828.12	80.87	60.699		
3,200.00	3,197.02	3,194.96	3,193.52	11.05	83.15	174.84	4,232.17	-2,323.23	4,915.95	4,832.07	83.87	58.611		
3,300.00	3,296.78	3,309.25	3,307.77	11.41	86.57	174.86	4,234.35	-2,323.23	4,924.83	4,837.53	87.30	56.410		
3,400.00	3,396.53	3,450.17	3,448.65	11.77	90.78	174.87	4,233.21	-2,323.23	4,931.07	4,839.56	91.52	53.881		
3,500.00	3,496.29	3,591.29	3,589.72	12.13	94.99	174.87	4,230.73	-2,323.23	4,936.49	4,840.76	95.73	51.566		
3,600.00	3,596.04	3,594.30	3,592.54	12.49	95.26	174.87	4,232.17	-2,323.23	4,943.75	4,847.69	96.06	51.465		
3,700.00	3,695.80	3,694.06	3,692.30	12.85	98.48	174.88	4,232.17	-2,323.23	4,950.70	4,851.41	99.30	49.858		
3,800.00	3,795.56	3,793.81	3,792.06	13.22	101.70	174.89	4,232.17	-2,323.23	4,957.66	4,855.12	102.53	48.352		
3,900.00	3,895.31	3,875.00	3,872.97	13.58	104.31	174.89	4,232.17	-2,323.23	4,964.64	4,859.47	105.17	47.205 SF		
4,000.00	3,995.07	3,875.00	3,872.97	13.95	104.31	174.89	4,232.17	-2,323.23	4,972.97	4,867.79	105.19	47.277		
4,100.00	4,094.83	3,875.00	3,872.97	14.31	104.31	174.89	4,232.17	-2,323.23	4,983.30	4,878.14	105.16	47.387		
4,200.00	4,194.58	3,875.00	3,872.97	14.68	104.31	174.89	4,232.17	-2,323.23	4,995.60	4,890.51	105.10	47.533		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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: 236-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		
0.00	0.00	0.00	0.00	0.00	0.00	-89.84	7.97	-2,900.29	2,901.00					
100.00	100.00	33.27	33.27	0.13	0.05	-89.84	7.96	-2,900.31	2,900.32	2,900.19	0.14	N/A CC		
200.00	200.00	124.44	124.44	0.48	0.20	-89.84	7.88	-2,900.55	2,900.59	2,900.06	0.52	5,540.245 ES		
300.00	300.00	215.59	215.59	0.84	0.35	-89.85	7.70	-2,901.07	2,901.15	2,900.24	0.91	3,185.641		
400.00	400.00	311.24	311.23	1.20	0.65	-89.85	7.44	-2,901.85	2,901.97	2,900.60	1.36	2,126.363		
500.00	500.00	412.19	412.18	1.56	1.01	-89.86	7.32	-2,902.72	2,902.83	2,900.98	1.86	1,562.628		
600.00	600.00	509.17	509.16	1.92	1.36	-89.85	7.44	-2,903.58	2,903.72	2,901.37	2.35	1,236.174		
700.00	700.00	599.89	599.87	2.28	1.68	-89.85	7.57	-2,904.54	2,904.79	2,901.96	2.83	1,026.535		
800.00	800.00	692.00	691.97	2.63	2.01	-89.85	7.59	-2,905.90	2,906.26	2,902.94	3.31	876.856		
900.00	900.00	784.00	783.96	2.99	2.34	-89.85	7.57	-2,907.57	2,908.05	2,904.25	3.80	765.336		
1,000.00	1,000.00	861.71	861.65	3.35	2.62	-89.85	7.41	-2,909.32	2,910.29	2,906.04	4.25	684.213		
1,100.00	1,100.00	945.94	945.84	3.71	2.93	-89.86	7.22	-2,911.71	2,913.13	2,908.41	4.72	616.975		
1,200.00	1,200.00	1,040.80	1,040.66	4.07	3.27	-89.86	7.18	-2,914.79	2,916.37	2,911.16	5.21	559.356		
1,300.00	1,300.00	1,140.69	1,140.49	4.43	3.63	-89.86	7.28	-2,918.08	2,919.67	2,913.95	5.72	510.631		
1,400.00	1,400.00	1,230.61	1,230.35	4.79	3.96	-89.85	7.47	-2,921.17	2,923.11	2,916.91	6.20	471.543		
1,500.00	1,500.00	1,339.48	1,339.15	5.14	4.35	-89.85	7.78	-2,925.00	2,926.63	2,919.91	6.72	435.203		
1,600.00	1,600.00	1,455.50	1,455.12	5.50	4.77	-89.85	7.69	-2,928.63	2,929.78	2,922.51	7.27	403.098		
1,700.00	1,700.00	1,595.35	1,594.94	5.86	5.27	-89.87	6.55	-2,931.52	2,931.82	2,923.96	7.87	372.609		
1,800.00	1,800.00	1,699.94	1,699.51	6.22	5.64	-89.90	5.37	-2,932.84	2,933.08	2,924.69	8.38	349.864		
1,900.00	1,899.99	1,807.38	1,806.93	6.56	6.02	113.60	3.85	-2,934.08	2,934.76	2,925.86	8.89	330.059		
2,000.00	1,999.91	1,935.89	1,935.42	6.89	6.47	113.63	1.83	-2,935.11	2,937.20	2,927.77	9.44	311.278		
2,066.81	2,066.60	2,067.52	2,067.02	7.11	6.91	113.73	0.33	-2,933.12	2,937.55	2,927.66	9.90	296.841		
2,100.00	2,099.70	2,132.86	2,132.33	7.22	7.12	113.80	-0.07	-2,931.22	2,937.46	2,927.33	10.12	290.218		
2,200.00	2,199.46	2,243.99	2,243.39	7.55	7.49	113.93	-0.40	-2,927.37	2,936.81	2,926.20	10.62	276.664		
2,300.00	2,299.21	2,361.02	2,360.33	7.89	7.88	114.09	-0.04	-2,922.77	2,935.72	2,924.59	11.13	263.868		
2,400.00	2,398.97	2,432.13	2,431.39	8.23	8.11	114.18	0.33	-2,920.08	2,934.81	2,923.27	11.54	254.342		
2,452.76	2,451.61	2,472.95	2,472.19	8.41	8.25	114.24	0.50	-2,918.85	2,934.72	2,922.95	11.77	249.437		
2,500.00	2,498.73	2,514.47	2,513.70	8.58	8.39	114.29	0.64	-2,917.70	2,934.77	2,922.79	11.98	244.980		
2,600.00	2,598.48	2,603.26	2,602.46	8.92	8.69	114.41	0.78	-2,915.49	2,935.16	2,922.73	12.44	235.989		
2,700.00	2,698.24	2,697.06	2,696.24	9.27	9.00	114.52	0.74	-2,913.47	2,935.89	2,922.98	12.91	227.417		
2,800.00	2,798.00	2,793.29	2,792.44	9.62	9.33	114.65	0.90	-2,911.50	2,936.76	2,923.37	13.39	219.331		
2,900.00	2,897.75	2,892.50	2,891.64	9.98	9.67	114.77	0.87	-2,909.58	2,937.74	2,923.86	13.88	211.673		
3,000.00	2,997.51	2,981.98	2,981.10	10.33	9.98	114.88	0.64	-2,907.93	2,938.83	2,924.48	14.35	204.838		
3,100.00	3,097.26	3,068.02	3,067.13	10.69	10.27	114.98	0.43	-2,906.77	2,940.42	2,925.61	14.81	198.551		
3,200.00	3,197.02	3,152.71	3,151.81	11.05	10.57	115.07	-0.32	-2,906.02	2,942.48	2,927.21	15.27	192.686		
3,300.00	3,296.78	3,242.30	3,241.39	11.41	10.88	115.16	-1.38	-2,905.73	2,945.07	2,929.33	15.75	187.035		
3,400.00	3,396.53	3,355.91	3,355.00	11.77	11.28	115.28	-2.25	-2,905.29	2,947.65	2,931.37	16.28	181.054		
3,500.00	3,496.29	3,458.71	3,457.79	12.13	11.64	115.39	-3.20	-2,904.38	2,949.73	2,932.95	16.79	175.693		
3,600.00	3,596.04	3,558.18	3,557.26	12.49	11.99	115.49	-4.23	-2,903.60	2,951.92	2,934.63	17.29	170.724		
3,700.00	3,695.80	3,659.53	3,658.60	12.85	12.34	115.60	-5.17	-2,902.76	2,954.07	2,936.27	17.80	165.983		
3,800.00	3,795.56	3,765.29	3,764.34	13.22	12.71	115.70	-6.33	-2,901.76	2,956.11	2,937.79	18.32	161.396		
3,900.00	3,895.31	3,867.60	3,866.64	13.58	13.07	115.81	-7.34	-2,900.62	2,957.99	2,939.16	18.83	157.120		
4,000.00	3,995.07	3,966.09	3,965.12	13.95	13.42	115.91	-8.25	-2,899.58	2,959.94	2,940.61	19.33	153.143		
4,100.00	4,094.83	4,080.68	4,079.70	14.31	13.82	116.05	-8.71	-2,897.93	2,961.54	2,941.67	19.87	149.063		
4,200.00	4,194.58	4,177.90	4,176.91	14.68	14.16	116.16	-8.96	-2,896.35	2,962.98	2,942.61	20.37	145.488		
4,300.00	4,294.34	4,271.62	4,270.63	15.05	14.49	116.27	-9.07	-2,895.02	2,964.65	2,943.79	20.86	142.151		
4,400.00	4,394.09	4,375.20	4,374.19	15.41	14.85	116.40	-9.01	-2,893.62	2,966.40	2,945.03	21.37	138.815		
4,500.00	4,493.85	4,479.01	4,477.99	15.78	15.21	116.53	-9.04	-2,891.98	2,967.93	2,946.05	21.88	135.618		
4,600.00	4,593.61	4,501.00	4,499.98	16.15	15.29	116.55	-9.05	-2,891.62	2,970.47	2,948.27	22.20	133.816		
4,700.00	4,693.36	4,501.00	4,499.98	16.52	15.29	116.55	-9.05	-2,891.62	2,976.29	2,953.85	22.44	132.626		
4,800.00	4,793.12	4,501.00	4,499.98	16.89	15.29	116.55	-9.05	-2,891.62	2,985.45	2,962.78	22.67	131.719		
4,900.00	4,892.87	4,501.00	4,499.98	17.26	15.29	116.55	-9.05	-2,891.62	2,997.92	2,975.05	22.87	131.085		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 - Proxy WCA State Com #001H (Offset) - OH - OH		Offset Site Error:		0.00 usft	
Survey Program: 236-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				
5,000.00	4,992.63	4,501.00	4,499.98	17.63	15.29	116.55	-9.05	-2,891.62	3,013.66	2,990.60	23.06	130.712					
5,100.00	5,092.39	4,501.00	4,499.98	18.00	15.29	116.55	-9.05	-2,891.62	3,032.61	3,009.39	23.22	130.591	SF				
5,200.00	5,192.14	4,501.00	4,499.98	18.37	15.29	116.55	-9.05	-2,891.62	3,054.72	3,031.35	23.37	130.710					
5,300.00	5,291.90	4,501.00	4,499.98	18.74	15.29	116.55	-9.05	-2,891.62	3,079.93	3,056.43	23.50	131.060					
5,400.00	5,391.65	4,501.00	4,499.98	19.11	15.29	116.55	-9.05	-2,891.62	3,108.14	3,084.53	23.61	131.630					
5,500.00	5,491.41	4,501.00	4,499.98	19.48	15.29	116.55	-9.05	-2,891.62	3,139.29	3,115.58	23.71	132.410					
5,600.00	5,591.17	4,501.00	4,499.98	19.85	15.29	116.55	-9.05	-2,891.62	3,173.29	3,149.50	23.79	133.391					
5,700.00	5,690.92	4,501.00	4,499.98	20.22	15.29	116.55	-9.05	-2,891.62	3,210.04	3,186.19	23.85	134.567					
5,800.00	5,790.68	4,501.00	4,499.98	20.59	15.29	116.55	-9.05	-2,891.62	3,249.46	3,225.55	23.91	135.925					
5,900.00	5,890.44	4,501.00	4,499.98	20.97	15.29	116.55	-9.05	-2,891.62	3,291.44	3,267.49	23.95	137.452					
6,000.00	5,990.19	4,501.00	4,499.98	21.34	15.29	116.55	-9.05	-2,891.62	3,335.89	3,311.92	23.98	139.137					
6,100.00	6,089.95	4,501.00	4,499.98	21.71	15.29	116.55	-9.05	-2,891.62	3,382.72	3,358.72	24.00	140.971					
6,200.00	6,189.70	4,501.00	4,499.98	22.08	15.29	116.55	-9.05	-2,891.62	3,431.82	3,407.81	24.01	142.943					
6,300.00	6,289.46	4,501.00	4,499.98	22.45	15.29	116.55	-9.05	-2,891.62	3,483.10	3,459.09	24.01	145.043					
6,394.17	6,383.40	4,501.00	4,499.98	22.81	15.29	116.55	-9.05	-2,891.62	3,533.30	3,509.29	24.01	147.131					
6,400.00	6,389.22	4,501.00	4,499.98	22.83	15.29	116.60	-9.05	-2,891.62	3,536.47	3,512.45	24.01	147.263					
6,500.00	6,489.06	4,501.00	4,499.98	23.19	15.29	117.48	-9.05	-2,891.62	3,591.28	3,567.27	24.01	149.595					
6,600.00	6,589.02	4,501.00	4,499.98	23.55	15.29	118.37	-9.05	-2,891.62	3,647.01	3,623.03	23.99	152.029					
6,660.99	6,650.00	4,501.00	4,499.98	23.76	15.29	-84.61	-9.05	-2,891.62	3,681.43	3,657.46	23.97	153.585					
6,700.00	6,689.01	4,501.00	4,499.98	23.89	15.29	-84.61	-9.05	-2,891.62	3,703.68	3,679.72	23.95	154.611					
6,800.00	6,789.01	4,501.00	4,499.98	24.22	15.29	-84.61	-9.05	-2,891.62	3,761.96	3,738.04	23.92	157.294					
6,900.00	6,889.01	4,501.00	4,499.98	24.55	15.29	-84.61	-9.05	-2,891.62	3,821.97	3,798.09	23.88	160.055					
7,000.00	6,989.01	4,501.00	4,499.98	24.88	15.29	-84.61	-9.05	-2,891.62	3,883.63	3,859.78	23.84	162.885					
7,100.00	7,089.01	4,501.00	4,499.98	25.22	15.29	-84.61	-9.05	-2,891.62	3,946.86	3,923.05	23.81	165.775					
7,200.00	7,189.01	4,501.00	4,499.98	25.55	15.29	-84.61	-9.05	-2,891.62	4,011.58	3,987.80	23.78	168.718					
7,300.00	7,289.01	4,501.00	4,499.98	25.88	15.29	-84.61	-9.05	-2,891.62	4,077.73	4,053.98	23.75	171.704					
7,400.00	7,389.01	4,501.00	4,499.98	26.22	15.29	-84.61	-9.05	-2,891.62	4,145.24	4,121.51	23.72	174.725					
7,500.00	7,489.01	4,501.00	4,499.98	26.55	15.29	-84.61	-9.05	-2,891.62	4,214.04	4,190.33	23.70	177.775					
7,600.00	7,589.01	4,501.00	4,499.98	26.89	15.29	-84.61	-9.05	-2,891.62	4,284.06	4,260.38	23.69	180.844					
7,700.00	7,689.01	4,501.00	4,499.98	27.23	15.29	-84.61	-9.05	-2,891.62	4,355.26	4,331.58	23.68	183.925					
7,800.00	7,789.01	4,501.00	4,499.98	27.56	15.29	-84.61	-9.05	-2,891.62	4,427.58	4,403.90	23.68	187.012					
7,900.00	7,889.01	4,501.00	4,499.98	27.90	15.29	-84.61	-9.05	-2,891.62	4,500.95	4,477.27	23.68	190.097					
8,000.00	7,989.01	4,501.00	4,499.98	28.24	15.29	-84.61	-9.05	-2,891.62	4,575.33	4,551.64	23.69	193.173					
8,100.00	8,089.01	4,501.00	4,499.98	28.58	15.29	-84.61	-9.05	-2,891.62	4,650.67	4,626.97	23.70	196.234					
8,200.00	8,189.01	4,501.00	4,499.98	28.92	15.29	-84.61	-9.05	-2,891.62	4,726.93	4,703.21	23.72	199.275					
8,300.00	8,289.01	4,501.00	4,499.98	29.25	15.29	-84.61	-9.05	-2,891.62	4,804.06	4,780.31	23.75	202.289					
8,400.00	8,389.01	4,501.00	4,499.98	29.59	15.29	-84.61	-9.05	-2,891.62	4,882.01	4,858.23	23.78	205.271					
8,500.00	8,489.01	4,501.00	4,499.98	29.93	15.29	-84.61	-9.05	-2,891.62	4,960.76	4,936.94	23.83	208.216					

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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: 236-OWSG (Rev2) MWD, 2833-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		
0.00	0.00	0.00	0.00	0.00	0.00	-89.84	7.97	-2,900.29	2,901.00					
100.00	100.00	33.27	33.27	0.13	0.05	-89.84	7.96	-2,900.31	2,900.32	2,900.19	0.14	N/A CC		
200.00	200.00	124.44	124.44	0.48	0.20	-89.84	7.88	-2,900.55	2,900.59	2,900.06	0.52	5,540.245 ES		
300.00	300.00	215.59	215.59	0.84	0.35	-89.85	7.70	-2,901.07	2,901.15	2,900.24	0.91	3,185.641		
400.00	400.00	311.24	311.23	1.20	0.65	-89.85	7.44	-2,901.85	2,901.97	2,900.60	1.36	2,126.363		
500.00	500.00	412.19	412.18	1.56	1.01	-89.86	7.32	-2,902.72	2,902.83	2,900.98	1.86	1,562.628		
600.00	600.00	509.17	509.16	1.92	1.36	-89.85	7.44	-2,903.58	2,903.72	2,901.37	2.35	1,236.174		
700.00	700.00	599.89	599.87	2.28	1.68	-89.85	7.57	-2,904.54	2,904.79	2,901.96	2.83	1,026.535		
800.00	800.00	692.00	691.97	2.63	2.01	-89.85	7.59	-2,905.90	2,906.26	2,902.94	3.31	876.856		
900.00	900.00	784.00	783.96	2.99	2.34	-89.85	7.57	-2,907.57	2,908.05	2,904.25	3.80	765.336		
1,000.00	1,000.00	861.71	861.65	3.35	2.62	-89.85	7.41	-2,909.32	2,910.29	2,906.04	4.25	684.213		
1,100.00	1,100.00	945.94	945.84	3.71	2.93	-89.86	7.22	-2,911.71	2,913.13	2,908.41	4.72	616.975		
1,200.00	1,200.00	1,040.80	1,040.66	4.07	3.27	-89.86	7.18	-2,914.79	2,916.37	2,911.16	5.21	559.356		
1,300.00	1,300.00	1,140.69	1,140.49	4.43	3.63	-89.86	7.28	-2,918.08	2,919.67	2,913.95	5.72	510.631		
1,400.00	1,400.00	1,230.61	1,230.35	4.79	3.96	-89.85	7.47	-2,921.17	2,923.11	2,916.91	6.20	471.543		
1,500.00	1,500.00	1,339.48	1,339.15	5.14	4.35	-89.85	7.78	-2,925.00	2,926.63	2,919.91	6.72	435.203		
1,600.00	1,600.00	1,455.50	1,455.12	5.50	4.77	-89.85	7.69	-2,928.63	2,929.78	2,922.51	7.27	403.098		
1,700.00	1,700.00	1,595.35	1,594.94	5.86	5.27	-89.87	6.55	-2,931.52	2,931.82	2,923.96	7.87	372.609		
1,800.00	1,800.00	1,699.94	1,699.51	6.22	5.64	-89.90	5.37	-2,932.84	2,933.08	2,924.69	8.38	349.864		
1,900.00	1,899.99	1,807.38	1,806.93	6.56	6.02	113.60	3.85	-2,934.08	2,934.76	2,925.86	8.89	330.059		
2,000.00	1,999.91	1,935.89	1,935.42	6.89	6.47	113.63	1.83	-2,935.11	2,937.20	2,927.77	9.44	311.278		
2,066.81	2,066.60	2,067.52	2,067.02	7.11	6.91	113.73	0.33	-2,933.12	2,937.55	2,927.66	9.90	296.841		
2,100.00	2,099.70	2,132.86	2,132.33	7.22	7.12	113.80	-0.07	-2,931.22	2,937.46	2,927.33	10.12	290.218		
2,200.00	2,199.46	2,243.99	2,243.39	7.55	7.49	113.93	-0.40	-2,927.37	2,936.81	2,926.20	10.62	276.664		
2,300.00	2,299.21	2,361.02	2,360.33	7.89	7.88	114.09	-0.04	-2,922.77	2,935.72	2,924.59	11.13	263.868		
2,400.00	2,398.97	2,432.13	2,431.39	8.23	8.11	114.18	0.33	-2,920.08	2,934.81	2,923.27	11.54	254.342		
2,452.76	2,451.61	2,472.95	2,472.19	8.41	8.25	114.24	0.50	-2,918.85	2,934.72	2,922.95	11.77	249.437		
2,500.00	2,498.73	2,514.47	2,513.70	8.58	8.39	114.29	0.64	-2,917.70	2,934.77	2,922.79	11.98	244.980		
2,600.00	2,598.48	2,603.26	2,602.46	8.92	8.69	114.41	0.78	-2,915.49	2,935.16	2,922.73	12.44	235.989		
2,700.00	2,698.24	2,697.06	2,696.24	9.27	9.00	114.52	0.74	-2,913.47	2,935.89	2,922.98	12.91	227.417		
2,800.00	2,798.00	2,769.03	2,768.19	9.62	9.19	114.61	0.57	-2,912.14	2,937.01	2,923.72	13.29	220.931		
2,900.00	2,897.75	2,833.00	2,832.12	9.98	9.30	114.65	-1.55	-2,911.99	2,939.54	2,925.92	13.63	215.731		
3,000.00	2,997.51	2,833.00	2,832.12	10.33	9.30	114.65	-1.55	-2,911.99	2,944.23	2,930.35	13.88	212.137		
3,100.00	3,097.26	2,893.70	2,892.64	10.69	9.31	114.64	-5.79	-2,913.70	2,950.39	2,936.25	14.14	208.602		
3,200.00	3,197.02	2,926.00	2,924.72	11.05	9.32	114.61	-9.03	-2,915.68	2,959.22	2,944.82	14.40	205.511		
3,300.00	3,296.78	2,969.10	2,967.40	11.41	9.33	114.57	-13.88	-2,919.22	2,970.14	2,955.48	14.66	202.573		
3,400.00	3,396.53	3,021.00	3,018.66	11.77	9.35	114.52	-19.96	-2,924.58	2,982.98	2,968.05	14.93	199.794		
3,500.00	3,496.29	3,219.15	3,214.68	12.13	9.48	114.33	-41.93	-2,943.24	2,995.41	2,980.09	15.32	195.476		
3,600.00	3,596.04	3,379.46	3,374.13	12.49	9.63	114.26	-55.25	-2,953.04	3,004.10	2,988.39	15.71	191.246		
3,700.00	3,695.80	3,477.60	3,471.83	12.85	9.73	114.24	-62.80	-2,958.32	3,012.24	2,996.18	16.05	187.626		
3,800.00	3,795.56	3,786.04	3,779.46	13.22	10.12	114.22	-83.33	-2,963.12	3,015.72	2,999.12	16.60	181.701		
3,900.00	3,895.31	3,885.39	3,878.57	13.58	10.27	114.21	-90.21	-2,961.66	3,017.03	3,000.05	16.97	177.738		
4,000.00	3,995.07	3,986.57	3,979.50	13.95	10.42	114.20	-97.15	-2,960.17	3,018.33	3,000.97	17.36	173.850		
4,100.00	4,094.83	4,085.06	4,077.72	14.31	10.59	114.18	-104.21	-2,958.67	3,019.59	3,001.84	17.75	170.078		
4,200.00	4,194.58	4,194.65	4,186.98	14.68	10.79	114.16	-112.57	-2,957.07	3,020.92	3,002.75	18.17	166.295		
4,300.00	4,294.34	4,293.16	4,285.17	15.05	10.97	114.13	-120.24	-2,955.20	3,021.78	3,003.21	18.57	162.694		
4,400.00	4,394.09	4,399.20	4,390.83	15.41	11.19	114.09	-129.04	-2,953.42	3,022.88	3,003.89	19.00	159.127		
4,500.00	4,493.85	4,497.64	4,488.85	15.78	11.40	114.04	-137.92	-2,951.52	3,023.71	3,004.29	19.42	155.712		
4,600.00	4,593.61	4,587.92	4,578.71	16.15	11.60	113.99	-146.56	-2,949.99	3,024.77	3,004.93	19.84	152.484		
4,700.00	4,693.36	4,688.97	4,679.26	16.52	11.84	113.93	-156.43	-2,948.47	3,026.03	3,005.75	20.27	149.256		
4,800.00	4,793.12	4,781.63	4,771.43	16.89	12.07	113.86	-165.79	-2,947.12	3,027.33	3,006.62	20.71	146.207		
4,900.00	4,892.87	4,884.38	4,873.58	17.26	12.33	113.77	-176.92	-2,945.75	3,028.75	3,007.59	21.16	143.150		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 - Proxy WCA State Com #001H (Offset) - ST01 - ST01		Offset Site Error:	0.00 usft
Survey Program: 236-OWSG (Rev2) MWD, 2833-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			
5,000.00	4,992.63	5,041.16	5,029.17	17.63	12.75	113.60	-195.87	-2,942.37	3,029.47	3,007.77	21.70	139.605				
5,100.00	5,092.39	5,150.78	5,137.83	18.00	13.05	113.47	-209.70	-2,938.35	3,028.54	3,006.36	22.18	136.552				
5,200.00	5,192.14	5,262.47	5,248.38	18.37	13.38	113.32	-225.09	-2,934.16	3,027.59	3,004.92	22.67	133.561				
5,300.00	5,291.90	5,364.51	5,349.24	18.74	13.69	113.16	-239.97	-2,930.08	3,026.39	3,003.24	23.15	130.730				
5,400.00	5,391.65	5,462.00	5,445.70	19.11	13.99	113.02	-253.60	-2,926.21	3,025.24	3,001.62	23.63	128.046				
5,500.00	5,491.41	5,588.89	5,571.78	19.48	14.36	112.93	-266.59	-2,920.52	3,023.56	2,999.42	24.14	125.243				
5,600.00	5,591.17	5,670.88	5,653.41	19.85	14.60	112.90	-273.22	-2,916.58	3,021.60	2,997.02	24.58	122.909				
5,700.00	5,690.92	5,727.00	5,709.35	20.22	14.76	112.89	-277.18	-2,914.53	3,020.80	2,995.82	24.98	120.907				
5,718.61	5,709.49	5,745.69	5,727.99	20.29	14.81	112.89	-278.40	-2,913.99	3,020.78	2,995.71	25.07	120.484				
5,800.00	5,790.68	5,803.09	5,785.26	20.59	14.98	112.89	-282.03	-2,912.62	3,021.10	2,995.69	25.41	118.872				
5,900.00	5,890.44	5,888.14	5,870.15	20.97	15.22	112.90	-287.07	-2,911.20	3,022.21	2,996.35	25.86	116.870				
6,000.00	5,990.19	5,984.32	5,966.18	21.34	15.50	112.92	-292.24	-2,909.86	3,023.59	2,997.26	26.32	114.864				
6,100.00	6,089.95	6,079.81	6,061.55	21.71	15.78	112.95	-296.74	-2,908.62	3,025.06	2,998.28	26.79	112.935				
6,200.00	6,189.70	6,179.32	6,160.95	22.08	16.07	112.98	-301.38	-2,907.45	3,026.66	2,999.40	27.26	111.041				
6,300.00	6,289.46	6,283.26	6,264.77	22.45	16.38	113.02	-306.15	-2,906.16	3,028.18	3,000.44	27.74	109.173				
6,394.17	6,383.40	6,368.82	6,350.25	22.81	16.63	113.05	-309.81	-2,905.13	3,029.66	3,001.49	28.17	107.553				
6,400.00	6,389.22	6,374.03	6,355.45	22.83	16.65	113.06	-310.03	-2,905.08	3,029.76	3,001.57	28.20	107.455				
6,500.00	6,489.06	6,474.32	6,455.65	23.19	16.95	113.09	-314.19	-2,904.08	3,030.96	3,002.30	28.67	105.725				
6,600.00	6,589.02	6,591.73	6,572.94	23.55	17.30	113.05	-319.20	-2,902.53	3,030.81	3,001.65	29.17	103.915				
6,660.99	6,650.00	6,658.75	6,639.92	23.76	17.50	-90.51	-321.08	-2,901.40	3,029.99	3,000.54	29.45	102.880				
6,700.00	6,689.01	6,701.42	6,682.59	23.89	17.62	-90.52	-321.66	-2,900.61	3,029.28	2,999.65	29.63	102.247				
6,800.00	6,789.01	6,805.24	6,786.38	24.22	17.91	-90.54	-322.27	-2,898.54	3,027.28	2,997.22	30.07	100.686				
6,900.00	6,889.01	6,900.07	6,881.20	24.55	18.18	-90.55	-322.81	-2,896.68	3,025.33	2,994.84	30.49	99.215				
7,000.00	6,989.01	6,996.99	6,978.10	24.88	18.46	-90.56	-323.47	-2,894.98	3,023.58	2,992.66	30.93	97.770				
7,100.00	7,089.01	7,101.30	7,082.39	25.22	18.76	-90.58	-324.36	-2,893.10	3,021.79	2,990.42	31.37	96.318				
7,200.00	7,189.01	7,205.19	7,186.25	25.55	19.06	-90.59	-325.11	-2,891.06	3,019.83	2,988.01	31.82	94.899				
7,300.00	7,289.01	7,305.03	7,286.07	25.88	19.36	-90.61	-325.88	-2,889.04	3,017.82	2,985.55	32.27	93.531				
7,400.00	7,389.01	7,398.19	7,379.20	26.22	19.64	-90.62	-326.81	-2,887.26	3,015.91	2,983.21	32.70	92.227				
7,500.00	7,489.01	7,459.71	7,440.72	26.55	19.81	-90.63	-327.26	-2,886.49	3,014.71	2,981.63	33.08	91.144				
7,535.72	7,524.73	7,480.22	7,461.23	26.67	19.87	-90.63	-327.27	-2,886.44	3,014.62	2,981.41	33.21	90.784				
7,600.00	7,589.01	7,519.63	7,500.64	26.89	19.98	-90.63	-327.12	-2,886.62	3,014.90	2,981.46	33.44	90.149				
7,700.00	7,689.01	7,598.00	7,579.00	27.23	20.20	-90.63	-326.91	-2,887.76	3,016.29	2,982.45	33.84	89.134				
7,800.00	7,789.01	7,674.94	7,655.92	27.56	20.42	-90.63	-326.97	-2,889.44	3,018.42	2,984.19	34.24	88.163				
7,900.00	7,889.01	7,781.59	7,762.54	27.90	20.73	-90.63	-327.09	-2,891.83	3,020.66	2,985.97	34.69	87.066				
8,000.00	7,989.01	7,887.12	7,868.05	28.24	21.04	-90.63	-327.05	-2,893.93	3,022.66	2,987.51	35.15	85.994				
8,100.00	8,089.01	7,999.31	7,980.23	28.58	21.37	-90.63	-327.01	-2,895.85	3,024.36	2,988.74	35.62	84.904				
8,200.00	8,189.01	8,113.69	8,094.60	28.92	21.71	-90.63	-327.16	-2,897.28	3,025.62	2,989.52	36.10	83.814				
8,300.00	8,289.01	8,219.48	8,200.39	29.25	22.02	-90.63	-327.30	-2,898.20	3,026.49	2,989.93	36.56	82.776				
8,400.00	8,389.01	8,332.94	8,313.84	29.59	22.37	-90.63	-327.47	-2,898.97	3,027.18	2,990.13	37.04	81.719				
8,500.00	8,489.01	8,437.30	8,418.20	29.93	22.69	-90.64	-327.74	-2,899.26	3,027.46	2,989.95	37.51	80.707				
8,600.00	8,589.01	8,541.94	8,522.84	30.28	23.02	-90.65	-328.27	-2,899.46	3,027.66	2,989.67	37.98	79.708				
8,700.00	8,689.01	8,669.40	8,650.29	30.62	23.43	-90.67	-329.29	-2,898.93	3,027.23	2,988.73	38.50	78.621				
8,800.00	8,789.01	8,786.44	8,767.32	30.96	23.80	-90.70	-330.81	-2,897.61	3,026.12	2,987.12	39.00	77.585				
8,900.00	8,889.01	8,890.48	8,871.33	31.30	24.14	-90.73	-332.28	-2,896.04	3,024.63	2,985.15	39.48	76.614				
9,000.00	8,989.01	9,013.73	8,994.55	31.64	24.53	-90.75	-333.67	-2,893.74	3,022.79	2,982.80	39.99	75.590				
9,100.00	9,089.01	9,118.12	9,098.89	31.99	24.87	-90.79	-335.67	-2,891.21	3,020.39	2,979.92	40.47	74.636				
9,200.00	9,189.01	9,185.00	9,165.73	32.33	25.09	-90.83	-337.54	-2,889.64	3,018.22	2,977.34	40.88	73.835				
9,300.00	9,289.01	9,278.00	9,258.69	32.67	25.40	-90.87	-339.57	-2,888.40	3,016.92	2,975.59	41.34	72.982				
9,344.03	9,333.04	9,305.43	9,286.13	32.82	25.49	-90.87	-339.89	-2,888.26	3,016.65	2,975.14	41.51	72.669				
9,350.00	9,339.01	9,312.28	9,292.97	32.84	25.51	-90.33	-339.96	-2,888.22	3,016.62	2,975.08	41.54	72.616				
9,400.00	9,388.92	9,369.47	9,350.15	33.01	25.70	-90.43	-340.49	-2,887.81	3,016.29	2,974.50	41.79	72.179				
9,450.00	9,438.41	9,417.25	9,397.93	33.17	25.86	-90.60	-340.88	-2,887.42	3,015.95	2,973.94	42.01	71.790				

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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: 236-OWSG (Rev2) MWD, 2833-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		
9,500.00	9,487.09	9,464.00	9,444.68	33.32	26.01	-90.83	-341.29	-2,887.07	3,015.72	2,973.50	42.22	71.424		
9,550.00	9,534.61	9,518.67	9,499.35	33.46	26.18	-91.18	-341.55	-2,886.62	3,015.58	2,973.14	42.44	71.052		
9,589.90	9,571.43	9,561.32	9,542.00	33.56	26.32	-91.49	-341.42	-2,886.18	3,015.52	2,972.91	42.61	70.771		
9,600.00	9,580.58	9,566.00	9,536.68	33.59	26.30	-91.45	-341.45	-2,886.24	3,015.55	2,972.93	42.62	70.753		
9,650.00	9,624.68	9,600.51	9,581.18	33.71	26.43	-91.80	-341.10	-2,885.86	3,015.84	2,973.04	42.80	70.458		
9,700.00	9,666.55	9,632.92	9,613.59	33.83	26.53	-92.05	-340.72	-2,885.71	3,016.64	2,973.68	42.96	70.222		
9,750.00	9,705.89	9,668.79	9,649.45	33.93	26.64	-92.33	-340.17	-2,885.66	3,017.98	2,974.86	43.12	69.997		
9,800.00	9,742.38	9,709.30	9,689.96	34.04	26.76	-92.66	-339.46	-2,885.59	3,019.82	2,976.54	43.28	69.776		
9,850.00	9,775.77	9,746.20	9,726.85	34.14	26.87	-92.93	-338.72	-2,885.49	3,022.22	2,978.79	43.43	69.584		
9,900.00	9,805.78	9,778.44	9,759.09	34.24	26.97	-93.10	-338.03	-2,885.38	3,025.30	2,981.73	43.58	69.424		
9,950.00	9,832.20	9,807.07	9,787.71	34.34	27.05	-93.17	-337.38	-2,885.28	3,029.15	2,985.43	43.72	69.292		
10,000.00	9,854.81	9,831.87	9,812.50	34.45	27.12	-93.12	-336.80	-2,885.18	3,033.83	2,989.98	43.85	69.190		
10,050.00	9,873.46	9,852.21	9,832.84	34.57	27.19	-92.91	-336.28	-2,885.10	3,039.40	2,995.42	43.97	69.119		
10,100.00	9,887.99	9,868.56	9,849.17	34.69	27.23	-92.55	-335.80	-2,885.04	3,045.88	3,001.79	44.09	69.078		
10,150.00	9,898.30	9,880.94	9,861.54	34.81	27.27	-92.03	-335.39	-2,885.01	3,053.30	3,009.09	44.21	69.067 SF		
10,200.00	9,904.31	9,889.11	9,869.71	34.95	27.29	-91.34	-335.10	-2,884.98	3,061.63	3,017.31	44.32	69.085		
10,244.03	9,906.00	9,892.64	9,873.25	35.07	27.30	-90.58	-334.97	-2,884.98	3,069.70	3,025.29	44.41	69.127		
10,300.00	9,906.00	9,894.93	9,875.53	35.24	27.31	-90.63	-334.88	-2,884.97	3,080.86	3,036.33	44.53	69.193		
10,400.00	9,906.00	9,899.19	9,879.79	35.60	27.32	-90.71	-334.72	-2,884.96	3,103.21	3,058.43	44.77	69.308		
10,500.00	9,906.00	9,903.69	9,884.29	36.03	27.34	-90.79	-334.54	-2,884.95	3,128.59	3,083.53	45.07	69.422		
10,600.00	9,906.00	9,908.46	9,889.05	36.54	27.35	-90.89	-334.34	-2,884.94	3,156.93	3,111.54	45.40	69.543		
10,700.00	9,906.00	9,913.52	9,894.10	37.11	27.37	-90.98	-334.13	-2,884.93	3,188.16	3,142.40	45.76	69.674		
10,800.00	9,906.00	9,918.89	9,899.47	37.74	27.38	-91.08	-333.90	-2,884.92	3,222.17	3,176.02	46.15	69.821		
10,900.00	9,906.00	9,924.61	9,905.18	38.44	27.40	-91.19	-333.64	-2,884.91	3,258.90	3,212.33	46.56	69.987		
11,000.00	9,906.00	9,930.71	9,911.27	39.19	27.42	-91.31	-333.36	-2,884.90	3,298.24	3,251.24	47.00	70.176		
11,100.00	9,906.00	9,937.23	9,917.79	40.00	27.44	-91.43	-333.05	-2,884.89	3,340.10	3,292.65	47.45	70.393		
11,200.00	9,906.00	9,944.21	9,924.76	40.85	27.46	-91.56	-332.70	-2,884.88	3,384.39	3,336.48	47.91	70.640		
11,300.00	9,906.00	9,951.71	9,932.26	41.76	27.48	-91.71	-332.31	-2,884.88	3,431.01	3,382.63	48.38	70.919		
11,400.00	9,906.00	9,951.36	9,931.91	42.71	27.48	-91.70	-332.42	-2,884.84	3,479.90	3,431.05	48.84	71.249		
11,500.00	9,906.00	9,955.73	9,936.28	43.70	27.49	-91.78	-332.24	-2,884.82	3,530.92	3,481.61	49.31	71.608		
11,600.00	9,906.00	9,959.86	9,940.40	44.73	27.51	-91.86	-332.07	-2,884.79	3,584.00	3,534.23	49.77	72.006		
11,700.00	9,906.00	9,963.77	9,944.31	45.80	27.52	-91.94	-331.91	-2,884.77	3,639.06	3,588.82	50.24	72.439		
11,800.00	9,906.00	9,967.47	9,948.00	46.90	27.53	-92.01	-331.77	-2,884.74	3,695.99	3,645.30	50.69	72.910		
11,900.00	9,906.00	9,970.98	9,951.51	48.03	27.54	-92.07	-331.64	-2,884.71	3,754.73	3,703.58	51.14	73.417		
12,000.00	9,906.00	9,974.31	9,954.84	49.19	27.55	-92.14	-331.52	-2,884.68	3,815.17	3,763.59	51.58	73.963		
12,100.00	9,906.00	9,977.48	9,958.01	50.38	27.56	-92.20	-331.40	-2,884.65	3,877.25	3,825.24	52.01	74.546		
12,200.00	9,906.00	9,980.50	9,961.03	51.60	27.57	-92.25	-331.30	-2,884.62	3,940.89	3,888.46	52.43	75.163		
12,300.00	9,906.00	9,983.38	9,963.90	52.83	27.58	-92.31	-331.20	-2,884.60	4,006.01	3,953.17	52.84	75.815		
12,400.00	9,906.00	9,986.13	9,966.65	54.09	27.58	-92.36	-331.11	-2,884.57	4,072.54	4,019.31	53.24	76.498		
12,500.00	9,906.00	9,988.75	9,969.27	55.38	27.59	-92.41	-331.02	-2,884.54	4,140.42	4,086.80	53.62	77.214		
12,600.00	9,906.00	9,991.26	9,971.78	56.68	27.60	-92.46	-330.94	-2,884.51	4,209.58	4,155.58	54.00	77.959		
12,700.00	9,906.00	9,993.67	9,974.18	57.99	27.61	-92.50	-330.87	-2,884.48	4,279.95	4,225.59	54.36	78.735		
12,800.00	9,906.00	9,995.97	9,976.48	59.33	27.61	-92.55	-330.80	-2,884.45	4,351.48	4,296.77	54.71	79.540		
12,900.00	9,906.00	9,998.18	9,978.69	60.68	27.62	-92.59	-330.73	-2,884.42	4,424.12	4,369.07	55.05	80.371		
13,000.00	9,906.00	10,000.30	9,980.81	62.04	27.63	-92.63	-330.67	-2,884.39	4,497.80	4,442.43	55.37	81.228		
13,100.00	9,906.00	10,002.33	9,982.84	63.42	27.63	-92.67	-330.61	-2,884.36	4,572.48	4,516.79	55.69	82.106		
13,200.00	9,906.00	10,004.29	9,984.80	64.82	27.64	-92.70	-330.56	-2,884.33	4,648.11	4,592.12	56.00	83.008		
13,300.00	9,906.00	10,006.18	9,986.68	66.22	27.64	-92.74	-330.51	-2,884.31	4,724.65	4,668.36	56.29	83.936		
13,400.00	9,906.00	10,007.99	9,988.50	67.63	27.65	-92.77	-330.46	-2,884.28	4,802.05	4,745.48	56.57	84.885		
13,500.00	9,906.00	10,009.74	9,990.25	69.06	27.65	-92.81	-330.41	-2,884.25	4,880.27	4,823.43	56.84	85.854		
13,600.00	9,906.00	10,027.00	10,007.50	70.49	27.71	-93.14	-330.00	-2,883.96	4,959.31	4,902.19	57.12	86.819		

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 - Proxy WCA State Com #001H (Offset) - ST02 - ST02		Offset Site Error:	0.00 usft
Survey Program:													236-OWSG (Rev2) MWD, 2833-OWSG (Rev2) MWD, 10215-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			
0.00	0.00	0.00	0.00	0.00	0.00	-89.84	7.97	-2,900.29	2,901.00							
100.00	100.00	33.27	33.27	0.13	0.05	-89.84	7.96	-2,900.31	2,900.32	2,900.19	0.14	N/A CC				
200.00	200.00	124.44	124.44	0.48	0.20	-89.84	7.88	-2,900.55	2,900.59	2,900.06	0.52	5,540.245 ES				
300.00	300.00	215.59	215.59	0.84	0.35	-89.85	7.70	-2,901.07	2,901.15	2,900.24	0.91	3,185.641				
400.00	400.00	311.24	311.23	1.20	0.65	-89.85	7.44	-2,901.85	2,901.97	2,900.60	1.36	2,126.363				
500.00	500.00	412.19	412.18	1.56	1.01	-89.86	7.32	-2,902.72	2,902.83	2,900.98	1.86	1,562.628				
600.00	600.00	509.17	509.16	1.92	1.36	-89.85	7.44	-2,903.58	2,903.72	2,901.37	2.35	1,236.174				
700.00	700.00	599.89	599.87	2.28	1.68	-89.85	7.57	-2,904.54	2,904.79	2,901.96	2.83	1,026.535				
800.00	800.00	692.00	691.97	2.63	2.01	-89.85	7.59	-2,905.90	2,906.26	2,902.94	3.31	876.856				
900.00	900.00	784.00	783.96	2.99	2.34	-89.85	7.57	-2,907.57	2,908.05	2,904.25	3.80	765.336				
1,000.00	1,000.00	861.71	861.65	3.35	2.62	-89.85	7.41	-2,909.32	2,910.29	2,906.04	4.25	684.213				
1,100.00	1,100.00	945.94	945.84	3.71	2.93	-89.86	7.22	-2,911.71	2,913.13	2,908.41	4.72	616.975				
1,200.00	1,200.00	1,040.80	1,040.66	4.07	3.27	-89.86	7.18	-2,914.79	2,916.37	2,911.16	5.21	559.356				
1,300.00	1,300.00	1,140.69	1,140.49	4.43	3.63	-89.86	7.28	-2,918.08	2,919.67	2,913.95	5.72	510.631				
1,400.00	1,400.00	1,230.61	1,230.35	4.79	3.96	-89.85	7.47	-2,921.17	2,923.11	2,916.91	6.20	471.543				
1,500.00	1,500.00	1,339.48	1,339.15	5.14	4.35	-89.85	7.78	-2,925.00	2,926.63	2,919.91	6.72	435.203				
1,600.00	1,600.00	1,455.50	1,455.12	5.50	4.77	-89.85	7.69	-2,928.63	2,929.78	2,922.51	7.27	403.098				
1,700.00	1,700.00	1,595.35	1,594.94	5.86	5.27	-89.87	6.55	-2,931.52	2,931.82	2,923.96	7.87	372.609				
1,800.00	1,800.00	1,699.94	1,699.51	6.22	5.64	-89.90	5.37	-2,932.84	2,933.08	2,924.69	8.38	349.864				
1,900.00	1,899.99	1,807.38	1,806.93	6.56	6.02	113.60	3.85	-2,934.08	2,934.76	2,925.86	8.89	330.059				
2,000.00	1,999.91	1,935.89	1,935.42	6.89	6.47	113.63	1.83	-2,935.11	2,937.20	2,927.77	9.44	311.278				
2,066.81	2,066.60	2,067.52	2,067.02	7.11	6.91	113.73	0.33	-2,933.12	2,937.55	2,927.66	9.90	296.841				
2,100.00	2,099.70	2,132.86	2,132.33	7.22	7.12	113.80	-0.07	-2,931.22	2,937.46	2,927.33	10.12	290.218				
2,200.00	2,199.46	2,243.99	2,243.39	7.55	7.49	113.93	-0.40	-2,927.37	2,936.81	2,926.20	10.62	276.664				
2,300.00	2,299.21	2,361.02	2,360.33	7.89	7.88	114.09	-0.04	-2,922.77	2,935.72	2,924.59	11.13	263.868				
2,400.00	2,398.97	2,432.13	2,431.39	8.23	8.11	114.18	0.33	-2,920.08	2,934.81	2,923.27	11.54	254.342				
2,452.76	2,451.61	2,472.95	2,472.19	8.41	8.25	114.24	0.50	-2,918.85	2,934.72	2,922.95	11.77	249.437				
2,500.00	2,498.73	2,514.47	2,513.70	8.58	8.39	114.29	0.64	-2,917.70	2,934.77	2,922.79	11.98	244.980				
2,600.00	2,598.48	2,603.26	2,602.46	8.92	8.69	114.41	0.78	-2,915.49	2,935.16	2,922.73	12.44	235.989				
2,700.00	2,698.24	2,697.06	2,696.24	9.27	9.00	114.52	0.74	-2,913.47	2,935.89	2,922.98	12.91	227.417				
2,800.00	2,798.00	2,769.03	2,768.19	9.62	9.19	114.61	0.57	-2,912.14	2,937.01	2,923.72	13.29	220.931				
2,900.00	2,897.75	2,833.00	2,832.12	9.98	9.30	114.65	-1.55	-2,911.99	2,939.54	2,925.92	13.63	215.731				
3,000.00	2,997.51	2,833.00	2,832.12	10.33	9.30	114.65	-1.55	-2,911.99	2,944.23	2,930.35	13.88	212.137				
3,100.00	3,097.26	2,893.70	2,892.64	10.69	9.31	114.64	-5.79	-2,913.70	2,950.39	2,936.25	14.14	208.602				
3,200.00	3,197.02	2,926.00	2,924.72	11.05	9.32	114.61	-9.03	-2,915.68	2,959.22	2,944.82	14.40	205.511				
3,300.00	3,296.78	2,969.10	2,967.40	11.41	9.33	114.57	-13.88	-2,919.22	2,970.14	2,955.48	14.66	202.573				
3,400.00	3,396.53	3,021.00	3,018.66	11.77	9.35	114.52	-19.96	-2,924.58	2,982.98	2,968.05	14.93	199.794				
3,500.00	3,496.29	3,219.15	3,214.68	12.13	9.48	114.33	-41.93	-2,943.24	2,995.41	2,980.09	15.32	195.476				
3,600.00	3,596.04	3,379.46	3,374.13	12.49	9.63	114.26	-55.25	-2,953.04	3,004.10	2,988.39	15.71	191.246				
3,700.00	3,695.80	3,477.60	3,471.83	12.85	9.73	114.24	-62.80	-2,958.32	3,012.24	2,996.18	16.05	187.626				
3,800.00	3,795.56	3,786.04	3,779.46	13.22	10.12	114.22	-83.33	-2,963.12	3,015.72	2,999.12	16.60	181.701				
3,900.00	3,895.31	3,885.39	3,878.57	13.58	10.27	114.21	-90.21	-2,961.66	3,017.03	3,000.05	16.97	177.738				
4,000.00	3,995.07	3,986.57	3,979.50	13.95	10.42	114.20	-97.15	-2,960.17	3,018.33	3,000.97	17.36	173.850				
4,100.00	4,094.83	4,085.06	4,077.72	14.31	10.59	114.18	-104.21	-2,958.67	3,019.59	3,001.84	17.75	170.078				
4,200.00	4,194.58	4,194.65	4,186.98	14.68	10.79	114.16	-112.57	-2,957.07	3,020.92	3,002.75	18.17	166.295				
4,300.00	4,294.34	4,293.16	4,285.17	15.05	10.97	114.13	-120.24	-2,955.20	3,021.78	3,003.21	18.57	162.694				
4,400.00	4,394.09	4,399.20	4,390.83	15.41	11.19	114.09	-129.04	-2,953.42	3,022.88	3,003.89	19.00	159.127				
4,500.00	4,493.85	4,497.64	4,488.85	15.78	11.40	114.04	-137.92	-2,951.52	3,023.71	3,004.29	19.42	155.712				
4,600.00	4,593.61	4,587.92	4,578.71	16.15	11.60	113.99	-146.56	-2,949.99	3,024.77	3,004.93	19.84	152.484				
4,700.00	4,693.36	4,688.97	4,679.26	16.52	11.84	113.93	-156.43	-2,948.47	3,026.03	3,005.75	20.27	149.256				
4,800.00	4,793.12	4,781.63	4,771.43	16.89	12.07	113.86	-165.79	-2,947.12	3,027.33	3,006.62	20.71	146.207				
4,900.00	4,892.87	4,884.38	4,873.58	17.26	12.33	113.77	-176.92	-2,945.75	3,028.75	3,007.59	21.16	143.150				

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 - Proxy WCA State Com #001H (Offset) - ST02 - ST02		Offset Site Error:	0.00 usft
Survey Program:													236-OWSG (Rev2) MWD, 2833-OWSG (Rev2) MWD, 10215-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				
5,000.00	4,992.63	5,041.16	5,029.17	17.63	12.75	113.60	-195.87	-2,942.37	3,029.47	3,007.77	21.70	139.605				
5,100.00	5,092.39	5,150.78	5,137.83	18.00	13.05	113.47	-209.70	-2,938.35	3,028.54	3,006.36	22.18	136.552				
5,200.00	5,192.14	5,262.47	5,248.38	18.37	13.38	113.32	-225.09	-2,934.16	3,027.59	3,004.92	22.67	133.561				
5,300.00	5,291.90	5,364.51	5,349.24	18.74	13.69	113.16	-239.97	-2,930.08	3,026.39	3,003.24	23.15	130.730				
5,400.00	5,391.65	5,462.00	5,445.70	19.11	13.99	113.02	-253.60	-2,926.21	3,025.24	3,001.62	23.63	128.046				
5,500.00	5,491.41	5,588.89	5,571.78	19.48	14.36	112.93	-266.59	-2,920.52	3,023.56	2,999.42	24.14	125.243				
5,600.00	5,591.17	5,670.88	5,653.41	19.85	14.60	112.90	-273.22	-2,916.58	3,021.60	2,997.02	24.58	122.909				
5,700.00	5,690.92	5,727.00	5,709.35	20.22	14.76	112.89	-277.18	-2,914.53	3,020.80	2,995.82	24.98	120.907				
5,718.61	5,709.49	5,745.69	5,727.99	20.29	14.81	112.89	-278.40	-2,913.99	3,020.78	2,995.71	25.07	120.484				
5,800.00	5,790.68	5,803.09	5,785.26	20.59	14.98	112.89	-282.03	-2,912.62	3,021.10	2,995.69	25.41	118.872				
5,900.00	5,890.44	5,888.14	5,870.15	20.97	15.22	112.90	-287.07	-2,911.20	3,022.21	2,996.35	25.86	116.870				
6,000.00	5,990.19	5,984.32	5,966.18	21.34	15.50	112.92	-292.24	-2,909.86	3,023.59	2,997.26	26.32	114.864				
6,100.00	6,089.95	6,079.81	6,061.55	21.71	15.78	112.95	-296.74	-2,908.62	3,025.06	2,998.28	26.79	112.935				
6,200.00	6,189.70	6,179.32	6,160.95	22.08	16.07	112.98	-301.38	-2,907.45	3,026.66	2,999.40	27.26	111.041				
6,300.00	6,289.46	6,283.26	6,264.77	22.45	16.38	113.02	-306.15	-2,906.16	3,028.18	3,000.44	27.74	109.173				
6,394.17	6,383.40	6,368.82	6,350.25	22.81	16.63	113.05	-309.81	-2,905.13	3,029.66	3,001.49	28.17	107.553				
6,400.00	6,389.22	6,374.03	6,355.45	22.83	16.65	113.06	-310.03	-2,905.08	3,029.76	3,001.57	28.20	107.455				
6,500.00	6,489.06	6,474.32	6,455.65	23.19	16.95	113.09	-314.19	-2,904.08	3,030.96	3,002.30	28.67	105.725				
6,600.00	6,589.02	6,591.73	6,572.94	23.55	17.30	113.05	-319.20	-2,902.53	3,030.81	3,001.65	29.17	103.915				
6,660.99	6,650.00	6,658.75	6,639.92	23.76	17.50	-90.51	-321.08	-2,901.40	3,029.99	3,000.54	29.45	102.880				
6,700.00	6,689.01	6,701.42	6,682.59	23.89	17.62	-90.52	-321.66	-2,900.61	3,029.28	2,999.65	29.63	102.247				
6,800.00	6,789.01	6,805.24	6,786.38	24.22	17.91	-90.54	-322.27	-2,898.54	3,027.28	2,997.22	30.07	100.686				
6,900.00	6,889.01	6,900.07	6,881.20	24.55	18.18	-90.55	-322.81	-2,896.68	3,025.33	2,994.84	30.49	99.215				
7,000.00	6,989.01	6,996.99	6,978.10	24.88	18.46	-90.56	-323.47	-2,894.98	3,023.58	2,992.66	30.93	97.770				
7,100.00	7,089.01	7,101.30	7,082.39	25.22	18.76	-90.58	-324.36	-2,893.10	3,021.79	2,990.42	31.37	96.318				
7,200.00	7,189.01	7,205.19	7,186.25	25.55	19.06	-90.59	-325.11	-2,891.06	3,019.83	2,988.01	31.82	94.899				
7,300.00	7,289.01	7,305.03	7,286.07	25.88	19.36	-90.61	-325.88	-2,889.04	3,017.82	2,985.55	32.27	93.531				
7,400.00	7,389.01	7,398.19	7,379.20	26.22	19.64	-90.62	-326.81	-2,887.26	3,015.91	2,983.21	32.70	92.227				
7,500.00	7,489.01	7,459.71	7,440.72	26.55	19.81	-90.63	-327.26	-2,886.49	3,014.71	2,981.63	33.08	91.144				
7,535.72	7,524.73	7,480.22	7,461.23	26.67	19.87	-90.63	-327.27	-2,886.44	3,014.62	2,981.41	33.21	90.784				
7,600.00	7,589.01	7,519.63	7,500.64	26.89	19.98	-90.63	-327.12	-2,886.62	3,014.90	2,981.46	33.44	90.149				
7,700.00	7,689.01	7,598.00	7,579.00	27.23	20.20	-90.63	-326.91	-2,887.76	3,016.29	2,982.45	33.84	89.134				
7,800.00	7,789.01	7,674.94	7,655.92	27.56	20.42	-90.63	-326.97	-2,889.44	3,018.42	2,984.19	34.24	88.163				
7,900.00	7,889.01	7,781.59	7,762.54	27.90	20.73	-90.63	-327.09	-2,891.83	3,020.66	2,985.97	34.69	87.066				
8,000.00	7,989.01	7,887.12	7,868.05	28.24	21.04	-90.63	-327.05	-2,893.93	3,022.66	2,987.51	35.15	85.994				
8,100.00	8,089.01	7,999.31	7,980.23	28.58	21.37	-90.63	-327.01	-2,895.85	3,024.36	2,988.74	35.62	84.904				
8,200.00	8,189.01	8,113.69	8,094.60	28.92	21.71	-90.63	-327.16	-2,897.28	3,025.62	2,989.52	36.10	83.814				
8,300.00	8,289.01	8,219.48	8,200.39	29.25	22.02	-90.63	-327.30	-2,898.20	3,026.49	2,989.93	36.56	82.776				
8,400.00	8,389.01	8,332.94	8,313.84	29.59	22.37	-90.63	-327.47	-2,898.97	3,027.18	2,990.13	37.04	81.719				
8,500.00	8,489.01	8,437.30	8,418.20	29.93	22.69	-90.64	-327.74	-2,899.26	3,027.46	2,989.95	37.51	80.707				
8,600.00	8,589.01	8,541.94	8,522.84	30.28	23.02	-90.65	-328.27	-2,899.46	3,027.66	2,989.67	37.98	79.708				
8,700.00	8,689.01	8,669.40	8,650.29	30.62	23.43	-90.67	-329.29	-2,898.93	3,027.23	2,988.73	38.50	78.621				
8,800.00	8,789.01	8,786.44	8,767.32	30.96	23.80	-90.70	-330.81	-2,897.61	3,026.12	2,987.12	39.00	77.585				
8,900.00	8,889.01	8,890.48	8,871.33	31.30	24.14	-90.73	-332.28	-2,896.04	3,024.63	2,985.15	39.48	76.614				
9,000.00	8,989.01	9,013.73	8,994.55	31.64	24.53	-90.75	-333.67	-2,893.74	3,022.79	2,982.80	39.99	75.590				
9,100.00	9,089.01	9,118.12	9,098.89	31.99	24.87	-90.79	-335.67	-2,891.21	3,020.39	2,979.92	40.47	74.636				
9,200.00	9,189.01	9,185.00	9,165.73	32.33	25.09	-90.83	-337.54	-2,889.64	3,018.22	2,977.34	40.88	73.835				
9,300.00	9,289.01	9,278.00	9,258.69	32.67	25.40	-90.87	-339.57	-2,888.40	3,016.92	2,975.59	41.34	72.982				
9,344.03	9,333.04	9,305.43	9,286.13	32.82	25.49	-90.87	-339.89	-2,888.26	3,016.65	2,975.14	41.51	72.669				
9,350.00	9,339.01	9,312.28	9,292.97	32.84	25.51	-90.33	-339.96	-2,888.22	3,016.62	2,975.08	41.54	72.616				
9,400.00	9,388.92	9,369.47	9,350.15	33.01	25.70	-90.43	-340.49	-2,887.81	3,016.29	2,974.50	41.79	72.179				
9,450.00	9,438.41	9,417.25	9,397.93	33.17	25.86	-90.60	-340.88	-2,887.42	3,015.95	2,973.94	42.01	71.790				

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 - Proxy WCA State Com #001H (Offset) - ST02 - ST02		Offset Site Error:	0.00 usft
Survey Program:													236-OWSG (Rev2) MWD, 2833-OWSG (Rev2) MWD, 10215-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			
9,500.00	9,487.09	9,464.00	9,444.68	33.32	26.01	-90.83	-341.29	-2,887.07	3,015.72	2,973.50	42.22	71.424				
9,550.00	9,534.61	9,518.67	9,499.35	33.46	26.18	-91.18	-341.55	-2,886.62	3,015.58	2,973.14	42.44	71.052				
9,589.90	9,571.43	9,561.32	9,542.00	33.56	26.32	-91.49	-341.42	-2,886.18	3,015.52	2,972.91	42.61	70.771				
9,600.00	9,580.58	9,556.00	9,536.68	33.59	26.30	-91.45	-341.45	-2,886.24	3,015.55	2,972.93	42.62	70.753				
9,650.00	9,624.68	9,600.51	9,581.18	33.71	26.43	-91.80	-341.10	-2,885.86	3,015.84	2,973.04	42.80	70.458				
9,700.00	9,666.55	9,632.92	9,613.59	33.83	26.53	-92.05	-340.72	-2,885.71	3,016.64	2,973.68	42.96	70.222				
9,750.00	9,705.89	9,668.79	9,649.45	33.93	26.64	-92.33	-340.17	-2,885.66	3,017.98	2,974.86	43.12	69.997				
9,800.00	9,742.38	9,709.30	9,689.96	34.04	26.76	-92.66	-339.46	-2,885.59	3,019.82	2,976.54	43.28	69.776				
9,850.00	9,775.77	9,746.20	9,726.85	34.14	26.87	-92.93	-338.72	-2,885.49	3,022.22	2,978.79	43.43	69.584				
9,900.00	9,805.78	9,778.44	9,759.09	34.24	26.97	-93.10	-338.03	-2,885.38	3,025.30	2,981.73	43.58	69.424				
9,950.00	9,832.20	9,807.07	9,787.71	34.34	27.05	-93.17	-337.38	-2,885.28	3,029.15	2,985.43	43.72	69.292				
10,000.00	9,854.81	9,831.87	9,812.50	34.45	27.12	-93.12	-336.80	-2,885.18	3,033.83	2,989.98	43.85	69.190				
10,050.00	9,873.46	9,852.21	9,832.84	34.57	27.19	-92.91	-336.28	-2,885.10	3,039.40	2,995.42	43.97	69.119				
10,100.00	9,887.99	9,868.56	9,849.17	34.69	27.23	-92.55	-335.80	-2,885.04	3,045.88	3,001.79	44.09	69.078				
10,150.00	9,898.30	9,880.94	9,861.54	34.81	27.27	-92.03	-335.39	-2,885.01	3,053.30	3,009.09	44.21	69.067				
10,200.00	9,904.31	9,889.11	9,869.71	34.95	27.29	-91.34	-335.10	-2,884.98	3,061.63	3,017.31	44.32	69.085				
10,244.03	9,906.00	9,892.64	9,873.25	35.07	27.30	-90.58	-334.97	-2,884.98	3,069.70	3,025.29	44.41	69.127				
10,300.00	9,906.00	9,894.93	9,875.53	35.24	27.31	-90.63	-334.88	-2,884.97	3,080.86	3,036.33	44.53	69.193				
10,400.00	9,906.00	9,899.19	9,879.79	35.60	27.32	-90.71	-334.72	-2,884.96	3,103.21	3,058.43	44.77	69.308				
10,500.00	9,906.00	9,903.69	9,884.29	36.03	27.34	-90.79	-334.54	-2,884.95	3,128.59	3,083.53	45.07	69.422				
10,600.00	9,906.00	9,908.46	9,889.05	36.54	27.35	-90.89	-334.34	-2,884.94	3,156.93	3,111.54	45.40	69.543				
10,700.00	9,906.00	9,913.52	9,894.10	37.11	27.37	-90.98	-334.13	-2,884.93	3,188.16	3,142.40	45.76	69.674				
10,800.00	9,906.00	9,918.89	9,899.47	37.74	27.38	-91.08	-333.90	-2,884.92	3,222.17	3,176.02	46.15	69.821				
10,900.00	9,906.00	9,924.61	9,905.18	38.44	27.40	-91.19	-333.64	-2,884.91	3,258.90	3,212.33	46.56	69.987				
11,000.00	9,906.00	9,930.71	9,911.27	39.19	27.42	-91.31	-333.36	-2,884.90	3,298.24	3,251.24	47.00	70.176				
11,100.00	9,906.00	9,937.23	9,917.79	40.00	27.44	-91.43	-333.05	-2,884.89	3,340.10	3,292.65	47.45	70.393				
11,200.00	9,906.00	9,944.21	9,924.76	40.85	27.46	-91.56	-332.70	-2,884.88	3,384.39	3,336.48	47.91	70.640				
11,300.00	9,906.00	9,951.71	9,932.26	41.76	27.48	-91.71	-332.31	-2,884.88	3,431.01	3,382.63	48.38	70.919				
11,400.00	9,906.00	9,951.36	9,931.91	42.71	27.48	-91.70	-332.42	-2,884.84	3,479.90	3,431.05	48.84	71.249				
11,500.00	9,906.00	9,955.73	9,936.28	43.70	27.49	-91.78	-332.24	-2,884.82	3,530.92	3,481.61	49.31	71.608				
11,600.00	9,906.00	9,959.86	9,940.40	44.73	27.51	-91.86	-332.07	-2,884.79	3,584.00	3,534.23	49.77	72.006				
11,700.00	9,906.00	9,963.77	9,944.31	45.80	27.52	-91.94	-331.91	-2,884.77	3,639.06	3,588.82	50.24	72.439				
11,800.00	9,906.00	9,967.47	9,948.00	46.90	27.53	-92.01	-331.77	-2,884.74	3,695.99	3,645.30	50.69	72.910				
11,900.00	9,906.00	14,008.65	12,038.09	48.03	42.00	-126.09	1,793.75	-2,903.72	3,728.78	3,672.22	56.56	65.926				
12,000.00	9,906.00	14,136.28	12,031.55	49.19	43.58	-125.93	1,920.79	-2,913.93	3,731.50	3,673.26	58.24	64.072				
12,100.00	9,906.00	14,241.40	12,027.75	50.38	44.91	-125.83	2,025.64	-2,920.51	3,733.68	3,673.92	59.76	62.476				
12,200.00	9,906.00	14,333.93	12,024.70	51.60	46.11	-125.75	2,117.94	-2,926.11	3,735.90	3,674.69	61.21	61.035				
12,300.00	9,906.00	14,424.59	12,021.51	52.83	47.30	-125.67	2,208.35	-2,932.07	3,738.42	3,675.74	62.67	59.649				
12,400.00	9,906.00	14,585.29	12,013.55	54.09	49.46	-125.48	2,368.44	-2,943.48	3,740.74	3,675.94	64.80	57.726				
12,500.00	9,906.00	14,921.58	11,990.82	55.38	54.10	-125.14	2,703.72	-2,953.38	3,738.14	3,669.62	68.52	54.556				
12,600.00	9,906.00	15,014.00	11,983.21	56.68	55.40	-125.05	2,795.83	-2,953.60	3,732.82	3,662.71	70.11	53.242				
12,700.00	9,906.00	15,077.85	11,978.13	57.99	56.31	-124.98	2,859.47	-2,954.35	3,728.36	3,656.89	71.47	52.166				
12,800.00	9,906.00	15,218.06	11,969.41	59.33	58.31	-124.88	2,999.40	-2,954.24	3,724.05	3,650.54	73.51	50.659				
12,900.00	9,906.00	15,484.00	11,956.40	60.68	62.12	-124.88	3,264.48	-2,938.83	3,714.21	3,637.65	76.56	48.513				
13,000.00	9,906.00	15,552.79	11,952.66	62.04	63.12	-124.87	3,333.04	-2,934.60	3,705.19	3,627.20	77.99	47.507				
13,100.00	9,906.00	15,616.00	11,950.42	63.42	64.04	-124.89	3,396.05	-2,930.22	3,696.75	3,617.37	79.37	46.574				
13,200.00	9,906.00	15,672.00	11,949.73	64.82	64.86	-124.92	3,451.92	-2,926.34	3,689.54	3,608.84	80.69	45.722				
13,300.00	9,906.00	15,766.00	11,948.86	66.22	66.23	-124.98	3,545.67	-2,919.57	3,682.37	3,600.04	82.33	44.728				
13,400.00	9,906.00	15,822.49	11,948.08	67.63	67.06	-125.00	3,602.04	-2,916.09	3,676.05	3,592.39	83.67	43.938				
13,500.00	9,906.00	15,860.00	11,947.77	69.06	67.62	-125.01	3,639.52	-2,914.61	3,671.58	3,586.73	84.84	43.274				
13,600.00	9,906.00	16,004.79	11,948.15	70.49	69.77	-125.10	3,784.09	-2,906.71	3,666.09	3,579.15	86.94	42.168				
13,700.00	9,906.00	16,049.00	11,948.49	71.94	70.43	-125.13	3,828.24	-2,904.59	3,661.92	3,573.74	88.18	41.528				

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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: 236-OWSG (Rev2) MWD, 2833-OWSG (Rev2) MWD, 10215-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		
13,800.00	9,906.00	16,109.14	11,949.22	73.39	71.33	-125.16	3,888.34	-2,902.46	3,659.03	3,569.47	89.56	40.856		
13,900.00	9,906.00	16,175.92	11,950.52	74.85	72.34	-125.20	3,955.09	-2,900.87	3,657.36	3,566.36	91.00	40.192		
14,000.00	9,906.00	16,265.51	11,951.98	76.32	73.69	-125.24	4,044.66	-2,899.37	3,656.16	3,563.50	92.66	39.458		
14,100.00	9,906.00	16,359.24	11,953.18	77.80	75.12	-125.27	4,138.37	-2,898.39	3,655.26	3,560.89	94.37	38.733		
14,200.00	9,906.00	16,457.03	11,953.40	79.28	76.61	-125.29	4,236.16	-2,897.98	3,654.27	3,558.13	96.14	38.010		
14,292.82	9,906.00	16,521.00	11,953.63	80.67	77.59	-125.29	4,300.13	-2,898.05	3,653.84	3,556.31	97.53	37.464		
14,300.00	9,906.00	16,521.00	11,953.63	80.77	77.59	-125.29	4,300.13	-2,898.05	3,653.85	3,556.26	97.59	37.441		
14,400.00	9,906.00	16,574.45	11,953.79	82.27	78.41	-125.29	4,353.57	-2,898.87	3,654.57	3,555.63	98.94	36.938		
14,500.00	9,906.00	16,651.49	11,953.50	83.77	79.60	-125.27	4,430.55	-2,901.88	3,656.67	3,556.12	100.55	36.368		
14,600.00	9,906.00	16,762.00	11,953.52	85.28	81.31	-125.25	4,541.02	-2,904.82	3,658.02	3,555.52	102.50	35.688		
14,700.00	9,906.00	16,762.00	11,953.52	86.79	81.31	-125.25	4,541.02	-2,904.82	3,661.17	3,557.91	103.27	35.454		
14,800.00	9,906.00	16,762.00	11,953.52	88.31	81.31	-125.25	4,541.02	-2,904.82	3,667.05	3,563.07	103.98	35.267		
14,900.00	9,906.00	16,762.00	11,953.52	89.83	81.31	-125.25	4,541.02	-2,904.82	3,675.64	3,571.00	104.63	35.128		
15,000.00	9,906.00	16,762.00	11,953.52	91.36	81.31	-125.25	4,541.02	-2,904.82	3,686.92	3,581.69	105.23	35.037		
15,100.00	9,906.00	16,762.00	11,953.52	92.89	81.31	-125.25	4,541.02	-2,904.82	3,700.87	3,595.10	105.77	34.990		
15,200.00	9,906.00	16,762.00	11,953.52	94.43	81.31	-125.25	4,541.02	-2,904.82	3,717.46	3,611.20	106.25	34.987 SF		
15,300.00	9,906.00	16,762.00	11,953.52	95.97	81.31	-125.25	4,541.02	-2,904.82	3,736.65	3,629.97	106.68	35.028		
15,400.00	9,906.00	16,762.00	11,953.52	97.51	81.31	-125.25	4,541.02	-2,904.82	3,758.41	3,651.36	107.04	35.111		
15,500.00	9,906.00	16,762.00	11,953.52	99.06	81.31	-125.25	4,541.02	-2,904.82	3,782.68	3,675.33	107.36	35.235		
15,600.00	9,906.00	16,762.00	11,953.52	100.61	81.31	-125.25	4,541.02	-2,904.82	3,809.43	3,701.82	107.61	35.402		
15,700.00	9,906.00	16,762.00	11,953.52	102.16	81.31	-125.25	4,541.02	-2,904.82	3,838.59	3,730.79	107.81	35.607		
15,800.00	9,906.00	16,762.00	11,953.52	103.72	81.31	-125.25	4,541.02	-2,904.82	3,870.12	3,762.17	107.96	35.849		
15,900.00	9,906.00	16,762.00	11,953.52	105.28	81.31	-125.25	4,541.02	-2,904.82	3,903.96	3,795.90	108.06	36.128		
16,000.00	9,906.00	16,762.00	11,953.52	106.84	81.31	-125.25	4,541.02	-2,904.82	3,940.05	3,831.93	108.12	36.443		
16,100.00	9,906.00	16,762.00	11,953.52	108.40	81.31	-125.25	4,541.02	-2,904.82	3,978.32	3,870.20	108.12	36.795		
16,200.00	9,906.00	16,762.00	11,953.52	109.97	81.31	-125.25	4,541.02	-2,904.82	4,018.72	3,910.62	108.09	37.179		
16,300.00	9,906.00	16,762.00	11,953.52	111.54	81.31	-125.25	4,541.02	-2,904.82	4,061.17	3,953.15	108.02	37.596		
16,400.00	9,906.00	16,762.00	11,953.52	113.11	81.31	-125.25	4,541.02	-2,904.82	4,105.63	3,997.72	107.91	38.046		
16,500.00	9,906.00	16,762.00	11,953.52	114.69	81.31	-125.25	4,541.02	-2,904.82	4,152.02	4,044.25	107.77	38.526		
16,600.00	9,906.00	16,762.00	11,953.52	116.26	81.31	-125.25	4,541.02	-2,904.82	4,200.28	4,092.68	107.60	39.037		
16,700.00	9,906.00	16,762.00	11,953.52	117.84	81.31	-125.25	4,541.02	-2,904.82	4,250.34	4,142.94	107.40	39.576		
16,800.00	9,906.00	16,762.00	11,953.52	119.42	81.31	-125.25	4,541.02	-2,904.82	4,302.14	4,194.97	107.17	40.142		
16,900.00	9,906.00	16,762.00	11,953.52	121.01	81.31	-125.25	4,541.02	-2,904.82	4,355.63	4,248.71	106.92	40.738		
17,000.00	9,906.00	16,762.00	11,953.52	122.59	81.31	-125.25	4,541.02	-2,904.82	4,410.73	4,304.09	106.64	41.359		
17,100.00	9,906.00	16,762.00	11,953.52	124.18	81.31	-125.25	4,541.02	-2,904.82	4,467.39	4,361.04	106.35	42.005		
17,200.00	9,906.00	16,762.00	11,953.52	125.76	81.31	-125.25	4,541.02	-2,904.82	4,525.56	4,419.51	106.05	42.676		
17,300.00	9,906.00	16,762.00	11,953.52	127.35	81.31	-125.25	4,541.02	-2,904.82	4,585.16	4,479.44	105.72	43.369		
17,400.00	9,906.00	16,762.00	11,953.52	128.95	81.31	-125.25	4,541.02	-2,904.82	4,646.16	4,540.77	105.39	44.085		
17,500.00	9,906.00	16,762.00	11,953.52	130.54	81.31	-125.25	4,541.02	-2,904.82	4,708.49	4,603.44	105.05	44.823		
17,600.00	9,906.00	16,762.00	11,953.52	132.13	81.31	-125.25	4,541.02	-2,904.82	4,772.10	4,667.40	104.69	45.581		
17,700.00	9,906.00	16,762.00	11,953.52	133.73	81.31	-125.25	4,541.02	-2,904.82	4,836.94	4,732.60	104.34	46.359		
17,800.00	9,906.00	16,762.00	11,953.52	135.32	81.31	-125.25	4,541.02	-2,904.82	4,902.96	4,799.00	103.97	47.160		
17,900.00	9,906.00	16,762.00	11,953.52	136.92	81.31	-125.25	4,541.02	-2,904.82	4,970.12	4,866.53	103.59	47.979		

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



Total Directional Services

Anticollision Report

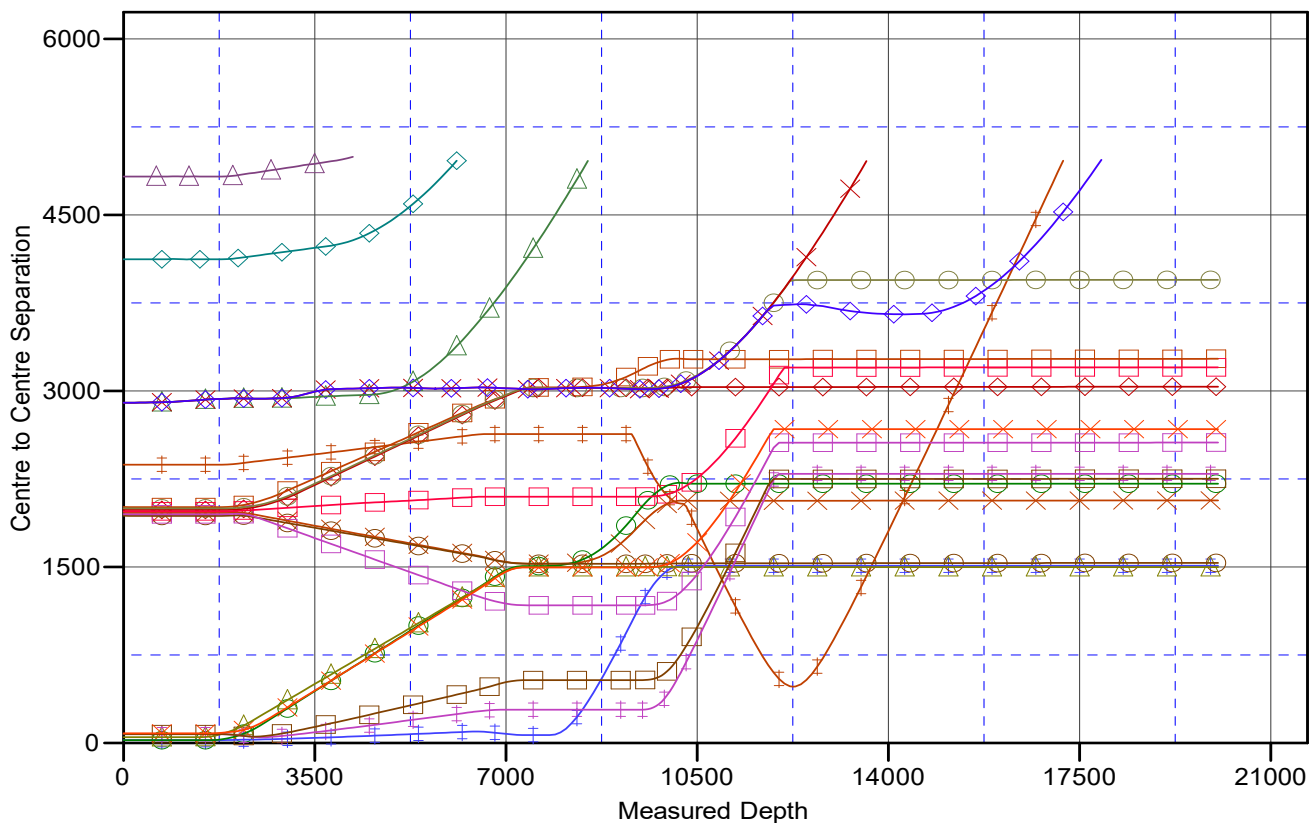


Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 3333.5' GE + 30' KB @ 3363.50usft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.333334

Coordinates are relative to: FMM Fed Com 303H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.54°

Ladder Plot



LEGEND

Amoco State #001 (Offset), OH, OH V0	FMM Fed Com 302H, OH, Plan #1 V0	FMM Fed Com 806H, OH, Plan #1 V0
Blue Bay WCA State Com #001C (Offset Plan), OH, Plan #1 V0	FMM Fed Com 304H, OH, Plan #1 V0	Pre-Ongard Well #001 (Offset), OH, OH V0
FMM Fed Com 101H, OH, Plan #1 V0	FMM Fed Com 801H, OH, Plan #1 V0	Proxy WCA State Com #001H (Offset), OH, OH V0
FMM Fed Com 102H, OH, Plan #1 V0	FMM Fed Com 802H, OH, Plan #1 V0	Proxy WCA State Com #001H (Offset), ST01, ST01 V0
FMM Fed Com 103H, OH, Plan #1 V0	FMM Fed Com 803H, OH, Plan #1 V0	Proxy WCA State Com #001H (Offset), ST02, ST02 V0
FMM Fed Com 104H, OH, Plan #1 V0	FMM Fed Com 804H, OH, Plan #1 V0	
FMM Fed Com 301H, OH, Plan #1 V0	FMM Fed Com 805H, OH, Plan #1 V0	

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 303H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 303H	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 3333.5' GE + 30' KB @ 3363.50usft

Coordinates are relative to: FMM Fed Com 303H

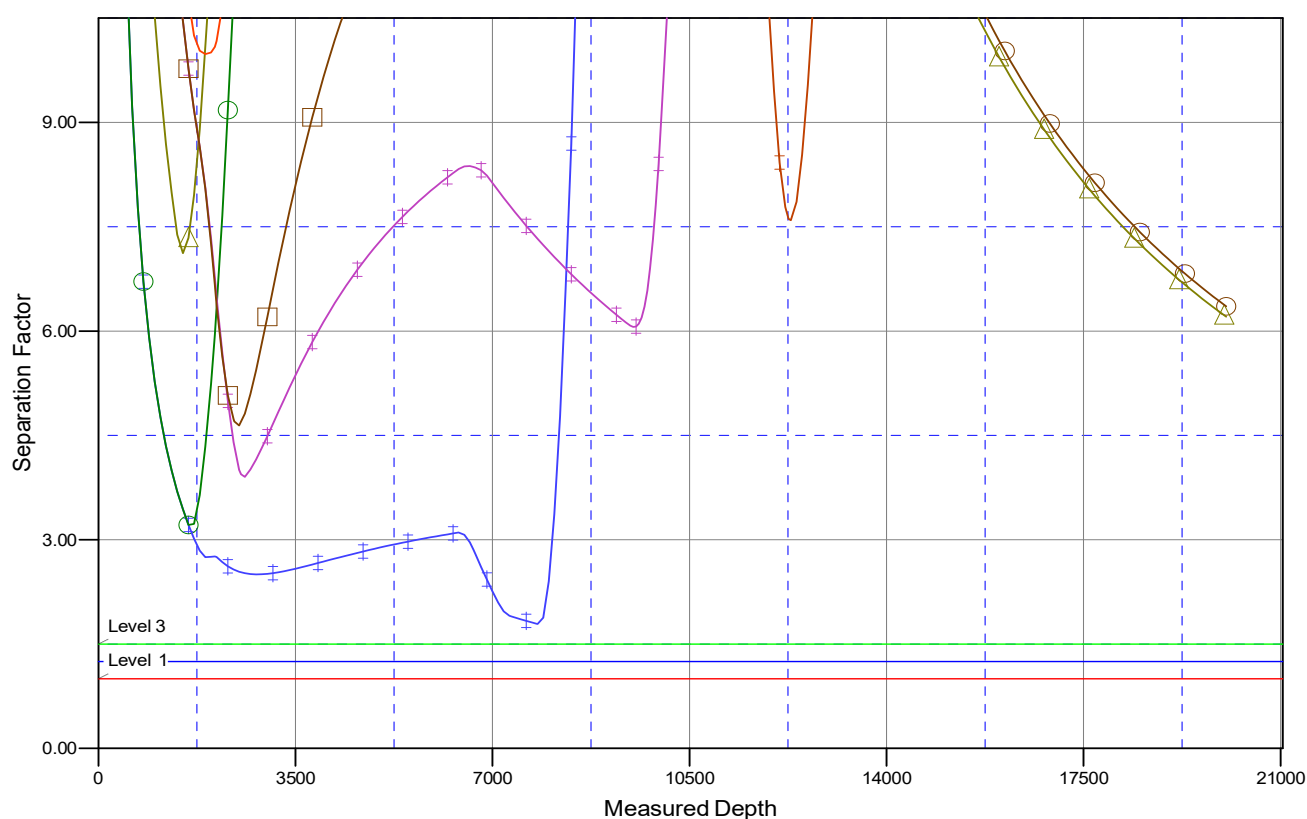
Offset Depths are relative to Offset Datum

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

Central Meridian is -104.333334

Grid Convergence at Surface is: 0.54°

Separation Factor Plot



LEGEND

Amoco State #001 (Offset), OH, OH V0	FMM Fed Com 302H, OH, Plan #1 V0	FMM Fed Com 806H, OH, Plan #1 V0
Blue Bay WCA State Com #001C (Offset Plan), OH, Plan #1 V0	FMM Fed Com 304H, OH, Plan #1 V0	Pre-Ongard Well #001 (Offset), OH, OH V0
FMM Fed Com 101H, OH, Plan #1 V0	FMM Fed Com 801H, OH, Plan #1 V0	Proxy WCA State Com #001H (Offset), OH, OH V0
FMM Fed Com 102H, OH, Plan #1 V0	FMM Fed Com 802H, OH, Plan #1 V0	Proxy WCA State Com #001H (Offset), ST01, ST01 V0
FMM Fed Com 103H, OH, Plan #1 V0	FMM Fed Com 803H, OH, Plan #1 V0	Proxy WCA State Com #001H (Offset), ST02, ST02 V0
FMM Fed Com 104H, OH, Plan #1 V0	FMM Fed Com 804H, OH, Plan #1 V0	
FMM Fed Com 301H, OH, Plan #1 V0	FMM Fed Com 805H, 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 103H
SURFACE HOLE FOOTAGE:	345'/S & 2027'/E
BOTTOM HOLE FOOTAGE:	150'/N & 1877'/E

WELL NAME & NO.:	FMM Fed Com 104H
SURFACE HOLE FOOTAGE:	345'/S & 1977'/E
BOTTOM HOLE FOOTAGE:	150'/N & 380'/E

WELL NAME & NO.:	FMM Fed Com 303H
SURFACE HOLE FOOTAGE:	345'/S & 2002'/E
BOTTOM HOLE FOOTAGE:	150'/N & 1877'/E

WELL NAME & NO.:	FMM Fed Com 304H
SURFACE HOLE FOOTAGE:	345'/S & 1952'/E
BOTTOM HOLE FOOTAGE:	150'/N & 380'/E

WELL NAME & NO.:	FMM Fed Com 804H
SURFACE HOLE FOOTAGE:	270'/S & 2015'/E
BOTTOM HOLE FOOTAGE:	150'/N & 2160'/E

WELL NAME & NO.:	FMM Fed Com 805H
SURFACE HOLE FOOTAGE:	270'/S & 1990'/E
BOTTOM HOLE FOOTAGE:	150'/N & 1340'/E

WELL NAME & NO.:	FMM Fed Com 806H
SURFACE HOLE FOOTAGE:	270'/S & 1965'/E
BOTTOM HOLE FOOTAGE:	150'/N & 380'/E

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 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.
Cement excess is less than 25%, more cement might be required.

C. PRESSURE CONTROL

1.

Option 1:

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

Option 2:

- a. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **13-3/8** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

- i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
- ii. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- iii. Manufacturer representative shall install the test plug for the initial BOP test.
- iv. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- v. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

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

GENERAL REQUIREMENTS

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

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

☒ Eddy County

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

☒ Lea County

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

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

A. CASING

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

B. PRESSURE CONTROL

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

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

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

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

District I

1625 N. French Dr., Hobbs, NM 88240
 Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 85992

CONDITIONS

Operator: Franklin Mountain Energy LLC 44 Cook Street Denver, CO 80206	OGRID: 373910
	Action Number: 85992
	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