

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. 30-025-49814
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)



Approval Date: 02/11/2022

KZ
03/04/2022

*(Instructions on page 2)

INSTRUCTIONS

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

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

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

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

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

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

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

NOTICES

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

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

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

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

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

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

The BLM connects this information to 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 / 1952 FEL / TWSP: 24S / RANGE: 35E / SECTION: 36 / LAT: 32.167667 / LONG: -103.319028 (TVD: 0 feet, MD: 0 feet)

PPP: SESE / 0 FSL / 380 FEL / TWSP: 24S / RANGE: 35E / SECTION: 25 / LAT: 32.181229 / LONG: -103.31395 (TVD: 9817 feet, MD: 14900 feet)

PPP: SESE / 723 FSL / 381 FEL / TWSP: 24S / RANGE: 35E / SECTION: 36 / LAT: 32.168701 / LONG: -103.313951 (TVD: 9817 feet, MD: 10344 feet)

BHL: TR A / 150 FNL / 380 FEL / TWSP: 24S / RANGE: 35E / SECTION: 25 / LAT: 32.19533 / LONG: -103.313949 (TVD: 9817 feet, MD: 20032 feet)

BLM Point of Contact

Name: TENILLE ORTIZ

Title: Legal Instruments Examiner

Phone: (575) 234-2224

Email: tortiz@blm.gov

CONFIDENTIAL

Review and Appeal Rights

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

CONFIDENTIAL

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-49814		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 304H
⁷ OGRID No. 373910		⁸ Operator Name FRANKLIN MOUNTAIN ENERGY LLC			⁹ Elevation 3333.5'

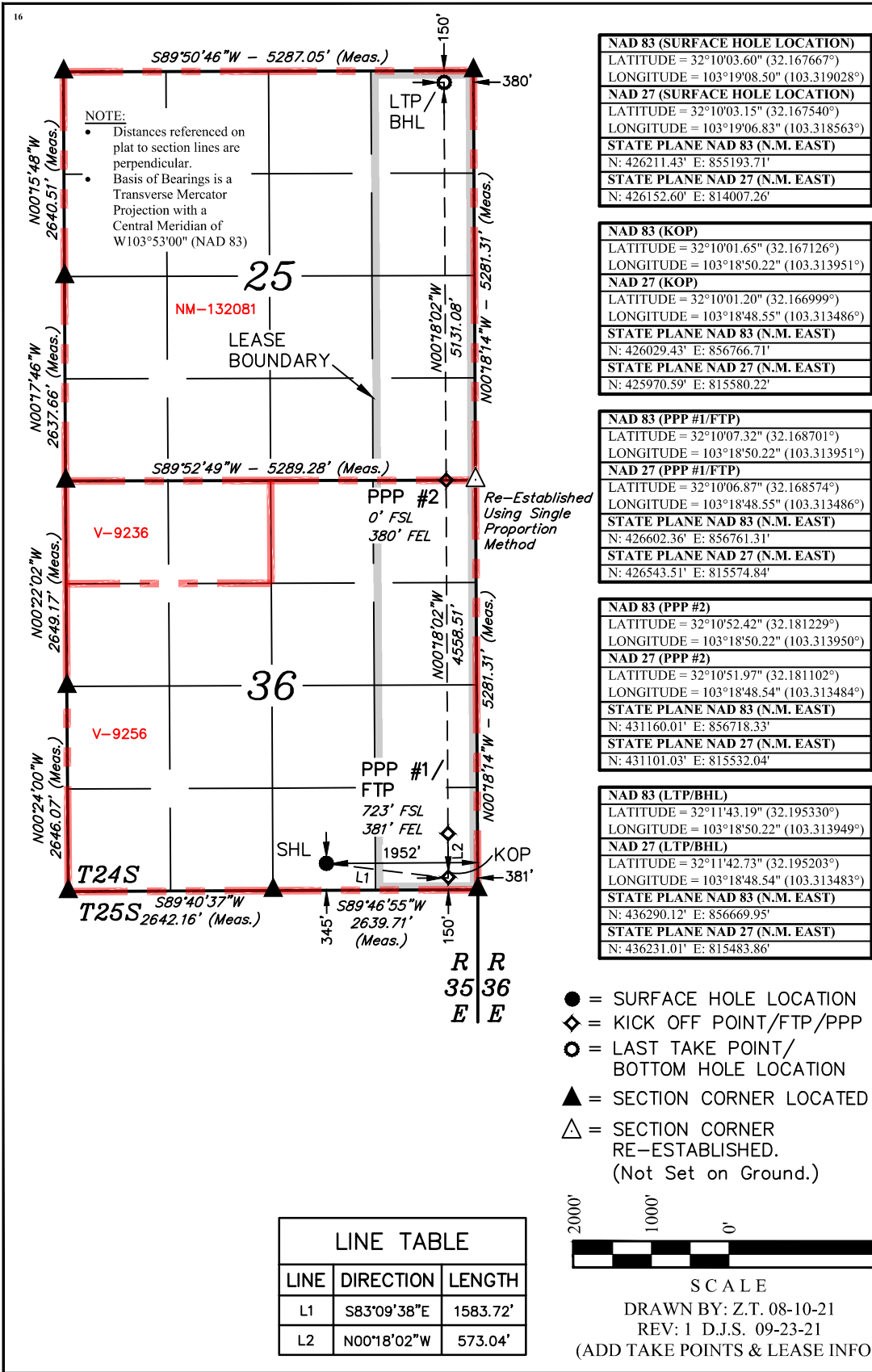
¹⁰ Surface Location

UL or lot no. O	Section 36	Township 24S	Range 35E	Lot Idn	Feet from the 345	North/South line SOUTH	Feet from the 1952	East/West line EAST	County LEA
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no. A	Section 25	Township 24S	Range 35E	Lot Idn	Feet from the 150	North/South line NORTH	Feet from the 380	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: *Shelly Albrecht* Date: 9/24/2021

Printed Name: Shelly Albrecht

salbrecht@fmc.com

E-mail Address

¹⁸ SURVEYOR CERTIFICATION

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

JULY 31, 2021

Date of Survey

Signature and Seal of Professional Surveyor:

PAUL BUCHELE
NEW MEXICO
23782
09-23-21
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

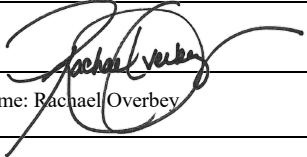
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(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 304H

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	2,058'	1,305'			Carbonates
Salado	1,799'	1,564'			Salt, Carbonate & Clastics
Base Salt	47'	3,316'			Shaley Carbonate & Shale
Capitan	-767'	4,130'			Carbonates
Lamar	-1,929'	5,292'			Carbonate & Clastics
Bell Canyon	-2,024'	5,387'			Sandstone - oil/gas/water
Cherry Canyon	-2,646'	6,009'			Sandstone - oil/gas/water
Brushy Canyon	-3,943'	7,306'			Sand/carb/shales - oil/gas/water
Bone Spring Lime	-5,030'	8,393'			Shale/Carbonates - oil/gas
Avalon	-5,093'	8,456'			Shale/Carbonates - oil/gas
Chert Zone	-5,368'	8,731'			Carbonate/Chert
First Bone Spring Sand	-6,391'	9,754'			Sandstone - oil/gas/water
HZ Target	-6,454'	9,817'			Sandstone - oil/gas/water
Second Bone Spring Carbonates	-6,528'	9,891'			Shale/Carbonates - oil/gas
Second Bone Spring Sand	-6,964'	10,327'			Sandstone - oil/gas/water

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

Upper Permian Sands	0- 400'	Fresh Water
Delaware Sands	5,387'	Oil
Avalon	8,456'	Oil
First Bone Sand	9,754'	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	5330	1.74	1.70	2.92	3.33
Intermediate 7 5/8"	29.7	HCP-110	8280	7150	827	Stinger 564	10344	1.28	1.48	2.03	1.39
Long string 5 1/2"	23	P-110	14520	14520	729	Eagle 606 TVD	20032 9817	1.32	1.55	1.30	1.08 1.86

7 5/8" casing will be set at 10,344' MD/9,817' TVD at 90° Inc. Stress calculations on 5 1/2" casing performed assuming 20,032' depth. Actual max vertical depth is 9,817'.



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	5330	1568	Lead, 12.8 ppg, Class C 5% Salt,	1.79	9.74	0	154	Tail, 14.8 ppg, Class C,	1.33	6.37	5030	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	10344	268	Lite Fill, 9.5 ppg, Class C 3lb/sk	2.13	5.97	4330	94	NeoCem 14.8 ppg, Class C	1.33	6.29	9344	50%
					Bridgemaker Gel, 5% Salt, 5pps LCM, 0.25pps Cello-Flake					0.25 pps Cello-Flake, 2% CaCl ₂				
Prod	6.75	5.5	20032	797	Tail, 14.5 ppg, Gas Migration Control	1.34	6.22	9344						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 2000 psi 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' – 10,344'	Brine	8.8-10.2	28-34	N/c
10,344' – 20,032' Lateral	Oil Base	10.0-12.0	58-68	3 - 6

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

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

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

7. Auxiliary well control and monitoring equipment:

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

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

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

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

8. Logging, testing and coring program:

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

Open-hole logs are not planned for this well.

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

The estimated bottom-hole temperature at 9,817' TVD (deepest point of the well) is 160F with an estimated maximum bottom-hole pressure (BHP) at the same point of 6,125 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 304H
 Wellbore: OH
 Design: Plan #2



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



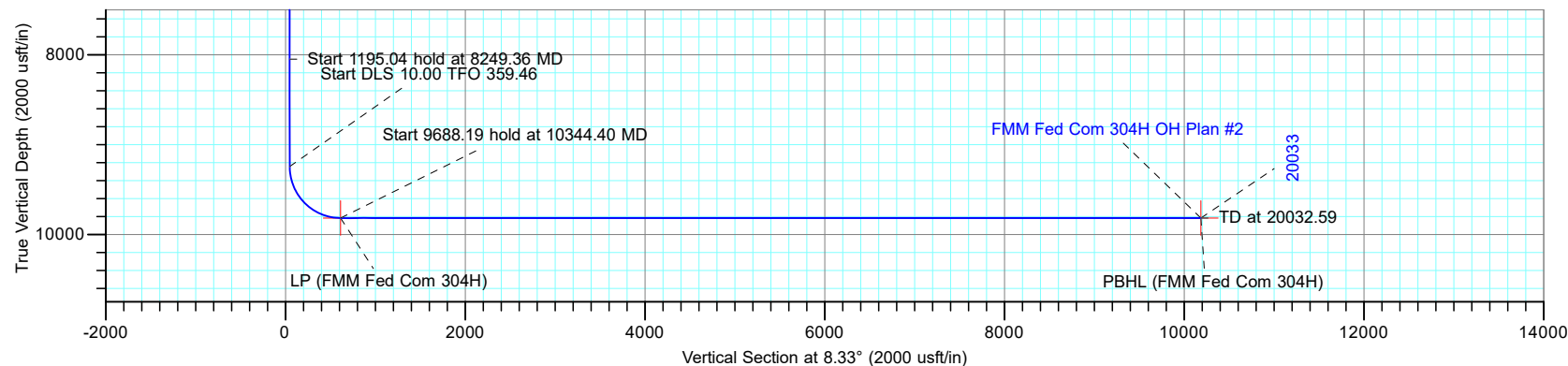
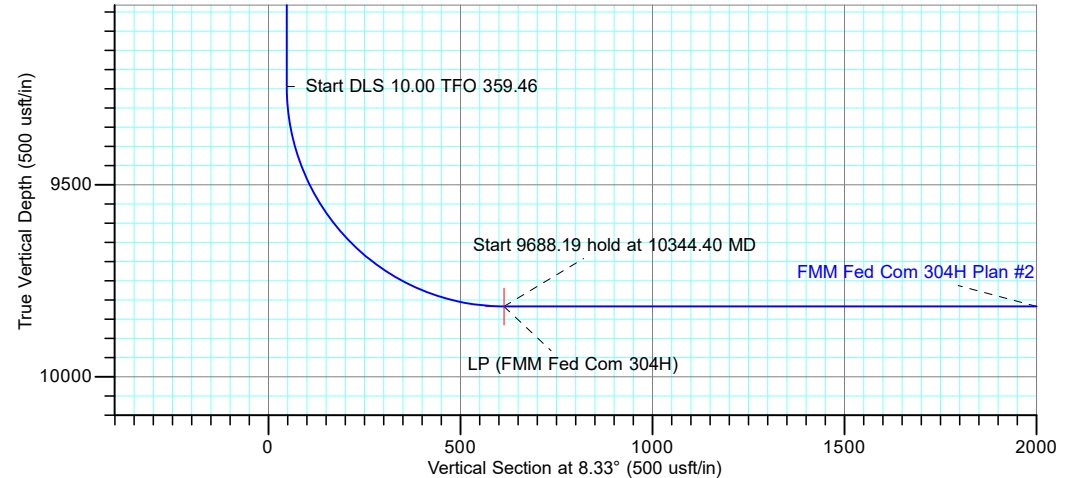
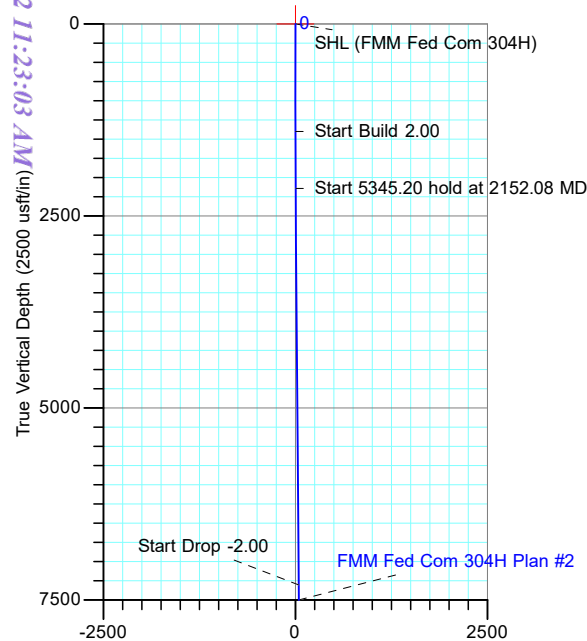
3333.5' GE + 30' KB @ 3363.50usft

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	
1400.00	0.00	0.00	1400.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
2152.08	15.04	96.60	2143.47	-11.28	97.50	2.00	96.60	2.97	Start 5345.20 hold at 2152.08 MD
7497.28	15.04	96.60	7305.53	-170.72	1475.50	0.00	0.00	44.92	Start Drop -2.00
8249.36	0.00	0.00	8049.00	-182.00	1573.00	2.00	180.00	47.89	Start 1195.04 hold at 8249.36 MD
9444.40	0.00	0.00	9244.04	-182.00	1573.00	0.00	0.00	47.89	Start DLS 10.00 TFO 359.46
10344.40	90.00	359.46	9817.00	390.93	1567.60	10.00	359.46	613.99	Start 9688.19 hold at 10344.40 MD
20032.59	90.00	359.46	9817.00	10078.69	1476.24	0.00	0.00	10186.23	TD at 20032.59

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
LP (FMM Fed Com 304H)	9817.00	390.93	1567.60	32.168701	-103.313951
PBHL (FMM Fed Com 304H)	9817.00	10078.69	1476.24	32.195330	-103.313949
SHL (FMM Fed Com 304H)	0.00	0.00	0.00	32.167667	-103.319028



TOTAL DIRECTIONAL SERVICES LLC

Plan: Plan #2 (FMM Fed Com 304H/OH)
 Created By: Dustin Ault
 Date: 14:52, September 09 2021
 Approved: _____ Date: _____

Franklin Mountain Energy

Project: Lea County, NM (NAD83)
Site: FMM Fed Com
Well: FMM Fed Com 304H
Wellbore: OH
Design: Plan #2



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**



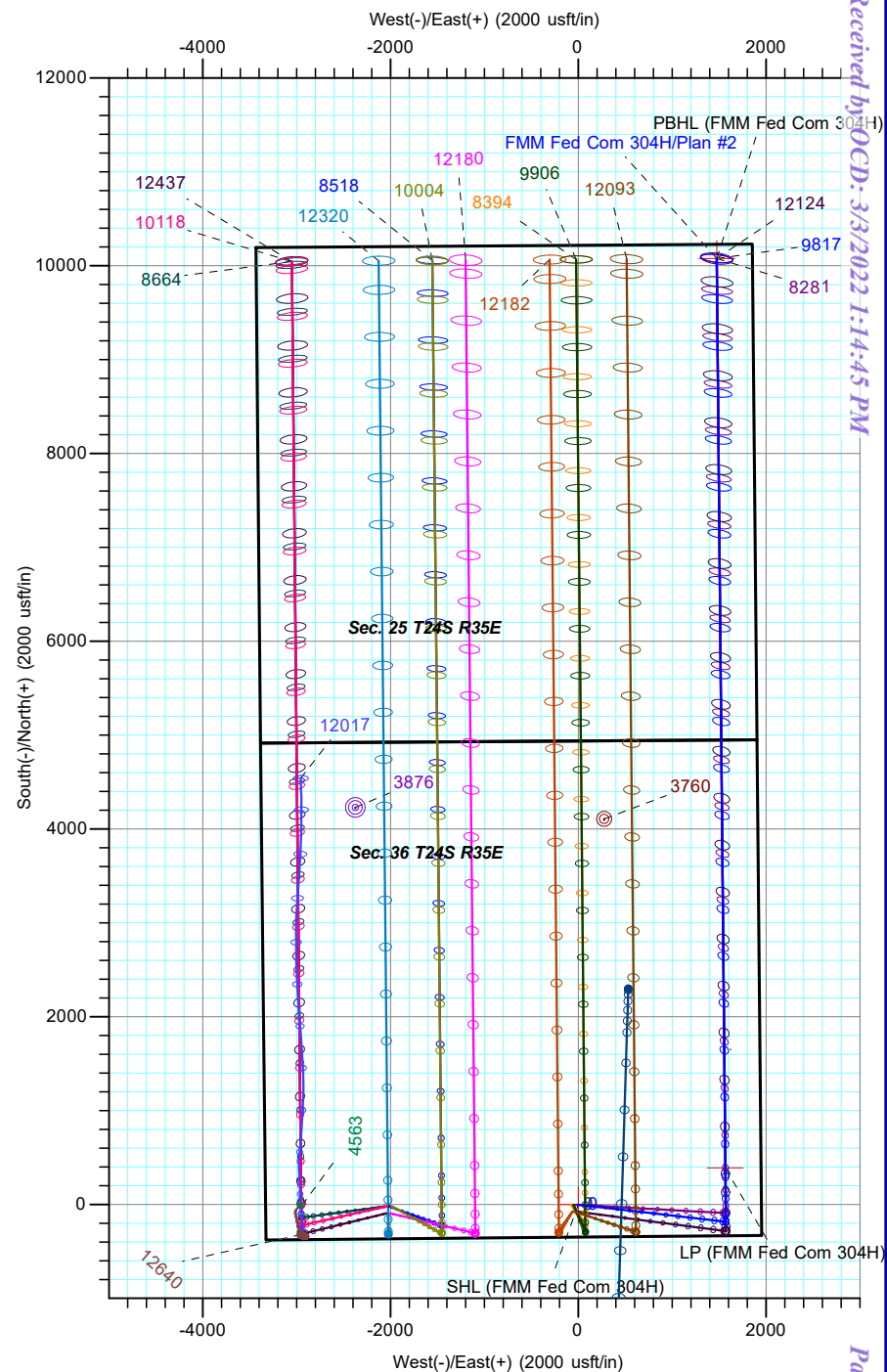
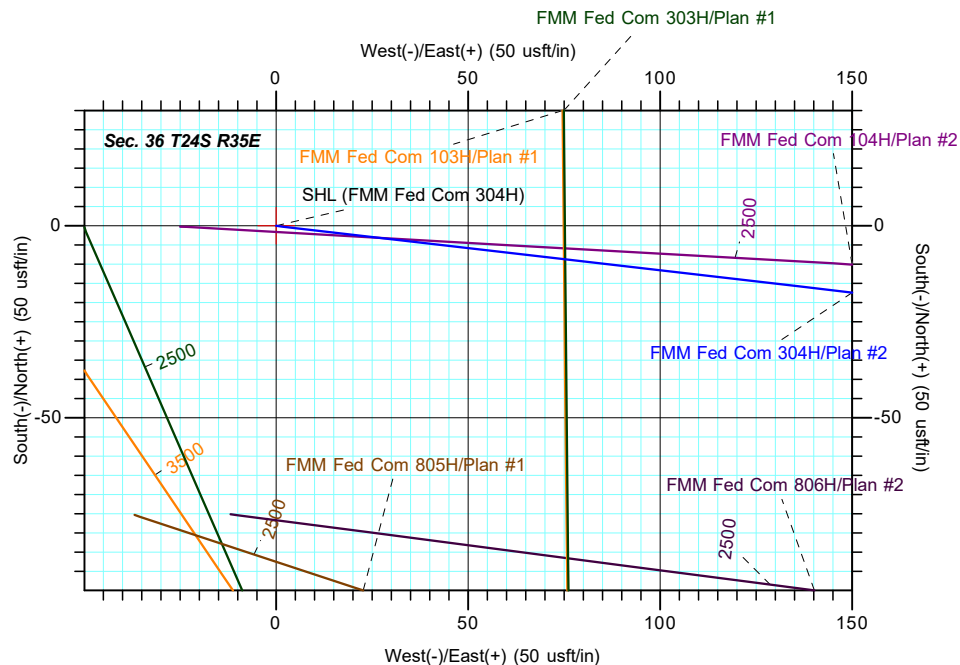
PROJECT DETAILS: Lea County, NM (NAD83)
Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP (FMM Fed Com 304H)	9817.00	390.93	1567.60	426602.36	856761.31	32.168701	-103.313951
PHLH (FMM Fed Com 304H)	9817.00	10078.69	1476.24	436290.12	855669.95	32.195330	-103.313949
SHL (FMM Fed Com 304H)	0.00	0.00	0.00	426211.43	855193.71	32.167667	-103.319028

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	
1400.00	0.00	0.00	1400.00	0.00	0.00	0.00	0.00	0.00	Start Build 2.00
2152.08	15.04	96.60	2143.47	-11.28	97.50	2.00	96.60	2.97	Start 5345.20 hold at 2152.08 MD
7497.28	15.04	96.60	7305.53	-170.72	1475.50	0.00	0.00	44.92	Start Drop -2.00
8249.36	0.00	0.00	8049.00	-182.00	1573.00	2.00	180.00	47.89	Start 1195.04 hold at 8249.36 MD
9444.40	0.00	0.00	9244.04	-182.00	1573.00	0.00	0.00	47.89	Start DLS 10.00 TFO 359.46
10344.40	90.00	359.46	9817.00	390.93	1567.60	10.00	359.46	613.99	Start 9688.19 hold at 10344.40 MD
20032.59	90.00	359.46	9817.00	10078.69	1476.24	0.00	0.00	10186.23	TD at 20032.59

**TOTAL DIRECTIONAL SERVICES LLC**

Plan: Plan #2 (FMM Fed Com 304H/OH)

Created By: Dustin Ault

Date:

Approved: _____

Date: 15:00, September 09 2021.

Date: 10/09/2016, September 2016

Date: _____



Franklin Mountain Energy

Lea County, NM (NAD83)

FMM Fed Com

FMM Fed Com 304H

OH

Plan: Plan #2

Standard Planning Report

09 September, 2021





Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well FMM Fed Com 304H
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 304H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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 304H			
Well Position	+N/-S	19.04 usft	Northing:	426,211.43 usft
	+E/-W	2,060.92 usft	Easting:	855,193.71 usft
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	47,462.33492598

Design	Plan #2			
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	8.33

Plan Survey Tool Program	Date	9/9/2021		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	20,032.55 Plan #2 (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	
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,152.08	15.04	96.60	2,143.47	-11.28	97.50	2.00	2.00	0.00	96.60	
7,497.28	15.04	96.60	7,305.53	-170.72	1,475.50	0.00	0.00	0.00	0.00	
8,249.36	0.00	0.00	8,049.00	-182.00	1,573.00	2.00	-2.00	0.00	180.00	
9,444.40	0.00	0.00	9,244.04	-182.00	1,573.00	0.00	0.00	0.00	0.00	
10,344.40	90.00	359.46	9,817.00	390.93	1,567.60	10.00	10.00	-0.06	359.46	
20,032.59	90.00	359.46	9,817.00	10,078.69	1,476.24	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 304H
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 304H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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 304H)									
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
Start Build 2.00									
1,500.00	2.00	96.60	1,499.98	-0.20	1.73	0.05	2.00	2.00	0.00
1,600.00	4.00	96.60	1,599.84	-0.80	6.93	0.21	2.00	2.00	0.00
1,700.00	6.00	96.60	1,699.45	-1.80	15.59	0.47	2.00	2.00	0.00
1,800.00	8.00	96.60	1,798.70	-3.20	27.70	0.84	2.00	2.00	0.00
1,900.00	10.00	96.60	1,897.47	-5.00	43.23	1.32	2.00	2.00	0.00
2,000.00	12.00	96.60	1,995.62	-7.20	62.19	1.89	2.00	2.00	0.00
2,100.00	14.00	96.60	2,093.06	-9.78	84.53	2.57	2.00	2.00	0.00
2,152.08	15.04	96.60	2,143.47	-11.28	97.50	2.97	2.00	2.00	0.00
Start 5345.20 hold at 2152.08 MD									
2,200.00	15.04	96.60	2,189.75	-12.71	109.86	3.34	0.00	0.00	0.00
2,300.00	15.04	96.60	2,286.32	-15.69	135.64	4.13	0.00	0.00	0.00
2,400.00	15.04	96.60	2,382.90	-18.68	161.42	4.91	0.00	0.00	0.00
2,500.00	15.04	96.60	2,479.47	-21.66	187.20	5.70	0.00	0.00	0.00
2,600.00	15.04	96.60	2,576.04	-24.64	212.98	6.48	0.00	0.00	0.00
2,700.00	15.04	96.60	2,672.62	-27.62	238.76	7.27	0.00	0.00	0.00
2,800.00	15.04	96.60	2,769.19	-30.61	264.54	8.05	0.00	0.00	0.00
2,900.00	15.04	96.60	2,865.77	-33.59	290.32	8.84	0.00	0.00	0.00
3,000.00	15.04	96.60	2,962.34	-36.57	316.10	9.62	0.00	0.00	0.00
3,100.00	15.04	96.60	3,058.91	-39.56	341.88	10.41	0.00	0.00	0.00
3,200.00	15.04	96.60	3,155.49	-42.54	367.66	11.19	0.00	0.00	0.00
3,300.00	15.04	96.60	3,252.06	-45.52	393.44	11.98	0.00	0.00	0.00
3,400.00	15.04	96.60	3,348.63	-48.50	419.22	12.76	0.00	0.00	0.00
3,500.00	15.04	96.60	3,445.21	-51.49	445.00	13.55	0.00	0.00	0.00
3,600.00	15.04	96.60	3,541.78	-54.47	470.78	14.33	0.00	0.00	0.00
3,700.00	15.04	96.60	3,638.36	-57.45	496.56	15.12	0.00	0.00	0.00
3,800.00	15.04	96.60	3,734.93	-60.44	522.34	15.90	0.00	0.00	0.00
3,900.00	15.04	96.60	3,831.50	-63.42	548.12	16.69	0.00	0.00	0.00
4,000.00	15.04	96.60	3,928.08	-66.40	573.90	17.47	0.00	0.00	0.00
4,100.00	15.04	96.60	4,024.65	-69.38	599.68	18.26	0.00	0.00	0.00
4,200.00	15.04	96.60	4,121.22	-72.37	625.46	19.04	0.00	0.00	0.00
4,300.00	15.04	96.60	4,217.80	-75.35	651.24	19.83	0.00	0.00	0.00
4,400.00	15.04	96.60	4,314.37	-78.33	677.02	20.61	0.00	0.00	0.00
4,500.00	15.04	96.60	4,410.95	-81.32	702.80	21.40	0.00	0.00	0.00
4,600.00	15.04	96.60	4,507.52	-84.30	728.58	22.18	0.00	0.00	0.00
4,700.00	15.04	96.60	4,604.09	-87.28	754.36	22.97	0.00	0.00	0.00
4,800.00	15.04	96.60	4,700.67	-90.26	780.14	23.75	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 304H
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 304H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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	15.04	96.60	4,797.24	-93.25	805.92	24.54	0.00	0.00	0.00
5,000.00	15.04	96.60	4,893.81	-96.23	831.70	25.32	0.00	0.00	0.00
5,100.00	15.04	96.60	4,990.39	-99.21	857.48	26.11	0.00	0.00	0.00
5,200.00	15.04	96.60	5,086.96	-102.20	883.26	26.89	0.00	0.00	0.00
5,300.00	15.04	96.60	5,183.54	-105.18	909.04	27.67	0.00	0.00	0.00
5,400.00	15.04	96.60	5,280.11	-108.16	934.82	28.46	0.00	0.00	0.00
5,500.00	15.04	96.60	5,376.68	-111.14	960.60	29.24	0.00	0.00	0.00
5,600.00	15.04	96.60	5,473.26	-114.13	986.38	30.03	0.00	0.00	0.00
5,700.00	15.04	96.60	5,569.83	-117.11	1,012.16	30.81	0.00	0.00	0.00
5,800.00	15.04	96.60	5,666.41	-120.09	1,037.94	31.60	0.00	0.00	0.00
5,900.00	15.04	96.60	5,762.98	-123.07	1,063.72	32.38	0.00	0.00	0.00
6,000.00	15.04	96.60	5,859.55	-126.06	1,089.50	33.17	0.00	0.00	0.00
6,100.00	15.04	96.60	5,956.13	-129.04	1,115.28	33.95	0.00	0.00	0.00
6,200.00	15.04	96.60	6,052.70	-132.02	1,141.06	34.74	0.00	0.00	0.00
6,300.00	15.04	96.60	6,149.27	-135.01	1,166.84	35.52	0.00	0.00	0.00
6,400.00	15.04	96.60	6,245.85	-137.99	1,192.62	36.31	0.00	0.00	0.00
6,500.00	15.04	96.60	6,342.42	-140.97	1,218.40	37.09	0.00	0.00	0.00
6,600.00	15.04	96.60	6,439.00	-143.95	1,244.18	37.88	0.00	0.00	0.00
6,700.00	15.04	96.60	6,535.57	-146.94	1,269.96	38.66	0.00	0.00	0.00
6,800.00	15.04	96.60	6,632.14	-149.92	1,295.74	39.45	0.00	0.00	0.00
6,900.00	15.04	96.60	6,728.72	-152.90	1,321.52	40.23	0.00	0.00	0.00
7,000.00	15.04	96.60	6,825.29	-155.89	1,347.30	41.02	0.00	0.00	0.00
7,100.00	15.04	96.60	6,921.86	-158.87	1,373.08	41.80	0.00	0.00	0.00
7,200.00	15.04	96.60	7,018.44	-161.85	1,398.86	42.59	0.00	0.00	0.00
7,300.00	15.04	96.60	7,115.01	-164.83	1,424.64	43.37	0.00	0.00	0.00
7,400.00	15.04	96.60	7,211.59	-167.82	1,450.42	44.16	0.00	0.00	0.00
7,497.28	15.04	96.60	7,305.53	-170.72	1,475.50	44.92	0.00	0.00	0.00
Start Drop -2.00									
7,500.00	14.99	96.60	7,308.16	-170.80	1,476.20	44.94	2.00	-2.00	0.00
7,600.00	12.99	96.60	7,405.19	-173.58	1,500.21	45.67	2.00	-2.00	0.00
7,700.00	10.99	96.60	7,503.00	-175.96	1,520.84	46.30	2.00	-2.00	0.00
7,800.00	8.99	96.60	7,601.48	-177.96	1,538.06	46.82	2.00	-2.00	0.00
7,900.00	6.99	96.60	7,700.51	-179.55	1,551.87	47.25	2.00	-2.00	0.00
8,000.00	4.99	96.60	7,799.96	-180.75	1,562.23	47.56	2.00	-2.00	0.00
8,100.00	2.99	96.60	7,899.71	-181.55	1,569.13	47.77	2.00	-2.00	0.00
8,200.00	0.99	96.60	7,999.65	-181.95	1,572.58	47.88	2.00	-2.00	0.00
8,249.36	0.00	0.00	8,049.00	-182.00	1,573.00	47.89	2.00	-2.00	0.00
Start 1195.04 hold at 8249.36 MD									
8,300.00	0.00	0.00	8,099.64	-182.00	1,573.00	47.89	0.00	0.00	0.00
8,400.00	0.00	0.00	8,199.64	-182.00	1,573.00	47.89	0.00	0.00	0.00
8,500.00	0.00	0.00	8,299.64	-182.00	1,573.00	47.89	0.00	0.00	0.00
8,600.00	0.00	0.00	8,399.64	-182.00	1,573.00	47.89	0.00	0.00	0.00
8,700.00	0.00	0.00	8,499.64	-182.00	1,573.00	47.89	0.00	0.00	0.00
8,800.00	0.00	0.00	8,599.64	-182.00	1,573.00	47.89	0.00	0.00	0.00
8,900.00	0.00	0.00	8,699.64	-182.00	1,573.00	47.89	0.00	0.00	0.00
9,000.00	0.00	0.00	8,799.64	-182.00	1,573.00	47.89	0.00	0.00	0.00
9,100.00	0.00	0.00	8,899.64	-182.00	1,573.00	47.89	0.00	0.00	0.00
9,200.00	0.00	0.00	8,999.64	-182.00	1,573.00	47.89	0.00	0.00	0.00
9,300.00	0.00	0.00	9,099.64	-182.00	1,573.00	47.89	0.00	0.00	0.00
9,400.00	0.00	0.00	9,199.64	-182.00	1,573.00	47.89	0.00	0.00	0.00
9,444.40	0.00	0.00	9,244.04	-182.00	1,573.00	47.89	0.00	0.00	0.00
Start DLS 10.00 TFO 359.46									
9,450.00	0.56	359.46	9,249.64	-181.97	1,573.00	47.92	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 304H
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 304H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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)
9,500.00	5.56	359.46	9,299.56	-179.30	1,572.97	50.55	10.00	10.00	0.00
9,550.00	10.56	359.46	9,349.05	-172.30	1,572.91	57.48	10.00	10.00	0.00
9,600.00	15.56	359.46	9,397.74	-161.00	1,572.80	68.64	10.00	10.00	0.00
9,650.00	20.56	359.46	9,445.26	-145.51	1,572.66	83.95	10.00	10.00	0.00
9,700.00	25.56	359.46	9,491.25	-125.93	1,572.47	103.29	10.00	10.00	0.00
9,750.00	30.56	359.46	9,535.36	-102.42	1,572.25	126.52	10.00	10.00	0.00
9,800.00	35.56	359.46	9,577.25	-75.15	1,571.99	153.46	10.00	10.00	0.00
9,850.00	40.56	359.46	9,616.61	-44.34	1,571.70	183.91	10.00	10.00	0.00
9,900.00	45.56	359.46	9,653.13	-10.21	1,571.38	217.63	10.00	10.00	0.00
9,950.00	50.56	359.46	9,686.53	26.97	1,571.03	254.37	10.00	10.00	0.00
10,000.00	55.56	359.46	9,716.57	66.92	1,570.65	293.84	10.00	10.00	0.00
10,050.00	60.56	359.46	9,743.01	109.33	1,570.25	335.75	10.00	10.00	0.00
10,100.00	65.56	359.46	9,765.66	153.89	1,569.83	379.77	10.00	10.00	0.00
10,150.00	70.56	359.46	9,784.34	200.25	1,569.40	425.58	10.00	10.00	0.00
10,200.00	75.56	359.46	9,798.90	248.07	1,568.94	472.83	10.00	10.00	0.00
10,250.00	80.56	359.46	9,809.24	296.97	1,568.48	521.14	10.00	10.00	0.00
10,300.00	85.56	359.46	9,815.28	346.58	1,568.02	570.17	10.00	10.00	0.00
10,344.39	90.00	359.46	9,817.00	390.93	1,567.60	613.99	10.00	10.00	0.00
Start 9688.19 hold at 10344.40 MD - LP (FMM Fed Com 304H)									
10,400.00	90.00	359.46	9,817.00	446.53	1,567.07	668.93	0.00	0.00	0.00
10,500.00	90.00	359.46	9,817.00	546.53	1,566.13	767.73	0.00	0.00	0.00
10,600.00	90.00	359.46	9,817.00	646.52	1,565.19	866.53	0.00	0.00	0.00
10,700.00	90.00	359.46	9,817.00	746.52	1,564.24	965.34	0.00	0.00	0.00
10,800.00	90.00	359.46	9,817.00	846.52	1,563.30	1,064.14	0.00	0.00	0.00
10,900.00	90.00	359.46	9,817.00	946.51	1,562.36	1,162.94	0.00	0.00	0.00
11,000.00	90.00	359.46	9,817.00	1,046.51	1,561.42	1,261.75	0.00	0.00	0.00
11,100.00	90.00	359.46	9,817.00	1,146.50	1,560.47	1,360.55	0.00	0.00	0.00
11,200.00	90.00	359.46	9,817.00	1,246.50	1,559.53	1,459.35	0.00	0.00	0.00
11,300.00	90.00	359.46	9,817.00	1,346.49	1,558.59	1,558.16	0.00	0.00	0.00
11,400.00	90.00	359.46	9,817.00	1,446.49	1,557.64	1,656.96	0.00	0.00	0.00
11,500.00	90.00	359.46	9,817.00	1,546.48	1,556.70	1,755.76	0.00	0.00	0.00
11,600.00	90.00	359.46	9,817.00	1,646.48	1,555.76	1,854.57	0.00	0.00	0.00
11,700.00	90.00	359.46	9,817.00	1,746.48	1,554.81	1,953.37	0.00	0.00	0.00
11,800.00	90.00	359.46	9,817.00	1,846.47	1,553.87	2,052.17	0.00	0.00	0.00
11,900.00	90.00	359.46	9,817.00	1,946.47	1,552.93	2,150.98	0.00	0.00	0.00
12,000.00	90.00	359.46	9,817.00	2,046.46	1,551.99	2,249.78	0.00	0.00	0.00
12,100.00	90.00	359.46	9,817.00	2,146.46	1,551.04	2,348.58	0.00	0.00	0.00
12,200.00	90.00	359.46	9,817.00	2,246.45	1,550.10	2,447.38	0.00	0.00	0.00
12,300.00	90.00	359.46	9,817.00	2,346.45	1,549.16	2,546.19	0.00	0.00	0.00
12,400.00	90.00	359.46	9,817.00	2,446.44	1,548.21	2,644.99	0.00	0.00	0.00
12,500.00	90.00	359.46	9,817.00	2,546.44	1,547.27	2,743.79	0.00	0.00	0.00
12,600.00	90.00	359.46	9,817.00	2,646.44	1,546.33	2,842.60	0.00	0.00	0.00
12,700.00	90.00	359.46	9,817.00	2,746.43	1,545.38	2,941.40	0.00	0.00	0.00
12,800.00	90.00	359.46	9,817.00	2,846.43	1,544.44	3,040.20	0.00	0.00	0.00
12,900.00	90.00	359.46	9,817.00	2,946.42	1,543.50	3,139.01	0.00	0.00	0.00
13,000.00	90.00	359.46	9,817.00	3,046.42	1,542.56	3,237.81	0.00	0.00	0.00
13,100.00	90.00	359.46	9,817.00	3,146.41	1,541.61	3,336.61	0.00	0.00	0.00
13,200.00	90.00	359.46	9,817.00	3,246.41	1,540.67	3,435.42	0.00	0.00	0.00
13,300.00	90.00	359.46	9,817.00	3,346.40	1,539.73	3,534.22	0.00	0.00	0.00
13,400.00	90.00	359.46	9,817.00	3,446.40	1,538.78	3,633.02	0.00	0.00	0.00
13,500.00	90.00	359.46	9,817.00	3,546.40	1,537.84	3,731.83	0.00	0.00	0.00
13,600.00	90.00	359.46	9,817.00	3,646.39	1,536.90	3,830.63	0.00	0.00	0.00
13,700.00	90.00	359.46	9,817.00	3,746.39	1,535.95	3,929.43	0.00	0.00	0.00
13,800.00	90.00	359.46	9,817.00	3,846.38	1,535.01	4,028.24	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 304H
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 304H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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	9,817.00	3,946.38	1,534.07	4,127.04	0.00	0.00	0.00
14,000.00	90.00	359.46	9,817.00	4,046.37	1,533.13	4,225.84	0.00	0.00	0.00
14,100.00	90.00	359.46	9,817.00	4,146.37	1,532.18	4,324.65	0.00	0.00	0.00
14,200.00	90.00	359.46	9,817.00	4,246.36	1,531.24	4,423.45	0.00	0.00	0.00
14,300.00	90.00	359.46	9,817.00	4,346.36	1,530.30	4,522.25	0.00	0.00	0.00
14,400.00	90.00	359.46	9,817.00	4,446.36	1,529.35	4,621.06	0.00	0.00	0.00
14,500.00	90.00	359.46	9,817.00	4,546.35	1,528.41	4,719.86	0.00	0.00	0.00
14,600.00	90.00	359.46	9,817.00	4,646.35	1,527.47	4,818.66	0.00	0.00	0.00
14,700.00	90.00	359.46	9,817.00	4,746.34	1,526.52	4,917.46	0.00	0.00	0.00
14,800.00	90.00	359.46	9,817.00	4,846.34	1,525.58	5,016.27	0.00	0.00	0.00
14,900.00	90.00	359.46	9,817.00	4,946.33	1,524.64	5,115.07	0.00	0.00	0.00
15,000.00	90.00	359.46	9,817.00	5,046.33	1,523.70	5,213.87	0.00	0.00	0.00
15,100.00	90.00	359.46	9,817.00	5,146.32	1,522.75	5,312.68	0.00	0.00	0.00
15,200.00	90.00	359.46	9,817.00	5,246.32	1,521.81	5,411.48	0.00	0.00	0.00
15,300.00	90.00	359.46	9,817.00	5,346.32	1,520.87	5,510.28	0.00	0.00	0.00
15,400.00	90.00	359.46	9,817.00	5,446.31	1,519.92	5,609.09	0.00	0.00	0.00
15,500.00	90.00	359.46	9,817.00	5,546.31	1,518.98	5,707.89	0.00	0.00	0.00
15,600.00	90.00	359.46	9,817.00	5,646.30	1,518.04	5,806.69	0.00	0.00	0.00
15,700.00	90.00	359.46	9,817.00	5,746.30	1,517.10	5,905.50	0.00	0.00	0.00
15,800.00	90.00	359.46	9,817.00	5,846.29	1,516.15	6,004.30	0.00	0.00	0.00
15,900.00	90.00	359.46	9,817.00	5,946.29	1,515.21	6,103.10	0.00	0.00	0.00
16,000.00	90.00	359.46	9,817.00	6,046.28	1,514.27	6,201.91	0.00	0.00	0.00
16,100.00	90.00	359.46	9,817.00	6,146.28	1,513.32	6,300.71	0.00	0.00	0.00
16,200.00	90.00	359.46	9,817.00	6,246.28	1,512.38	6,399.51	0.00	0.00	0.00
16,300.00	90.00	359.46	9,817.00	6,346.27	1,511.44	6,498.32	0.00	0.00	0.00
16,400.00	90.00	359.46	9,817.00	6,446.27	1,510.49	6,597.12	0.00	0.00	0.00
16,500.00	90.00	359.46	9,817.00	6,546.26	1,509.55	6,695.92	0.00	0.00	0.00
16,600.00	90.00	359.46	9,817.00	6,646.26	1,508.61	6,794.73	0.00	0.00	0.00
16,700.00	90.00	359.46	9,817.00	6,746.25	1,507.67	6,893.53	0.00	0.00	0.00
16,800.00	90.00	359.46	9,817.00	6,846.25	1,506.72	6,992.33	0.00	0.00	0.00
16,900.00	90.00	359.46	9,817.00	6,946.24	1,505.78	7,091.14	0.00	0.00	0.00
17,000.00	90.00	359.46	9,817.00	7,046.24	1,504.84	7,189.94	0.00	0.00	0.00
17,100.00	90.00	359.46	9,817.00	7,146.24	1,503.89	7,288.74	0.00	0.00	0.00
17,200.00	90.00	359.46	9,817.00	7,246.23	1,502.95	7,387.55	0.00	0.00	0.00
17,300.00	90.00	359.46	9,817.00	7,346.23	1,502.01	7,486.35	0.00	0.00	0.00
17,400.00	90.00	359.46	9,817.00	7,446.22	1,501.06	7,585.15	0.00	0.00	0.00
17,500.00	90.00	359.46	9,817.00	7,546.22	1,500.12	7,683.95	0.00	0.00	0.00
17,600.00	90.00	359.46	9,817.00	7,646.21	1,499.18	7,782.76	0.00	0.00	0.00
17,700.00	90.00	359.46	9,817.00	7,746.21	1,498.24	7,881.56	0.00	0.00	0.00
17,800.00	90.00	359.46	9,817.00	7,846.20	1,497.29	7,980.36	0.00	0.00	0.00
17,900.00	90.00	359.46	9,817.00	7,946.20	1,496.35	8,079.17	0.00	0.00	0.00
18,000.00	90.00	359.46	9,817.00	8,046.20	1,495.41	8,177.97	0.00	0.00	0.00
18,100.00	90.00	359.46	9,817.00	8,146.19	1,494.46	8,276.77	0.00	0.00	0.00
18,200.00	90.00	359.46	9,817.00	8,246.19	1,493.52	8,375.58	0.00	0.00	0.00
18,300.00	90.00	359.46	9,817.00	8,346.18	1,492.58	8,474.38	0.00	0.00	0.00
18,400.00	90.00	359.46	9,817.00	8,446.18	1,491.63	8,573.18	0.00	0.00	0.00
18,500.00	90.00	359.46	9,817.00	8,546.17	1,490.69	8,671.99	0.00	0.00	0.00
18,600.00	90.00	359.46	9,817.00	8,646.17	1,489.75	8,770.79	0.00	0.00	0.00
18,700.00	90.00	359.46	9,817.00	8,746.16	1,488.81	8,869.59	0.00	0.00	0.00
18,800.00	90.00	359.46	9,817.00	8,846.16	1,487.86	8,968.40	0.00	0.00	0.00
18,900.00	90.00	359.46	9,817.00	8,946.16	1,486.92	9,067.20	0.00	0.00	0.00
19,000.00	90.00	359.46	9,817.00	9,046.15	1,485.98	9,166.00	0.00	0.00	0.00
19,100.00	90.00	359.46	9,817.00	9,146.15	1,485.03	9,264.81	0.00	0.00	0.00
19,200.00	90.00	359.46	9,817.00	9,246.14	1,484.09	9,363.61	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 304H
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 304H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #2		

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	9,817.00	9,346.14	1,483.15	9,462.41	0.00	0.00	0.00	
19,400.00	90.00	359.46	9,817.00	9,446.13	1,482.21	9,561.22	0.00	0.00	0.00	
19,500.00	90.00	359.46	9,817.00	9,546.13	1,481.26	9,660.02	0.00	0.00	0.00	
19,600.00	90.00	359.46	9,817.00	9,646.12	1,480.32	9,758.82	0.00	0.00	0.00	
19,700.00	90.00	359.46	9,817.00	9,746.12	1,479.38	9,857.63	0.00	0.00	0.00	
19,800.00	90.00	359.46	9,817.00	9,846.12	1,478.43	9,956.43	0.00	0.00	0.00	
19,900.00	90.00	359.46	9,817.00	9,946.11	1,477.49	10,055.23	0.00	0.00	0.00	
20,000.00	90.00	359.46	9,817.00	10,046.11	1,476.55	10,154.03	0.00	0.00	0.00	
20,032.59	90.00	359.46	9,817.00	10,078.69	1,476.24	10,186.23	0.00	0.00	0.00	
TD at 20032.59 - PBHL (FMM Fed Com 304H)										

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 304H) - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	426,211.43	855,193.71	32.167667	-103.319028	
LP (FMM Fed Com 304H) - plan hits target center - Point	0.00	0.00	9,817.00	390.93	1,567.60	426,602.36	856,761.31	32.168701	-103.313951	
PBHL (FMM Fed Com 304H) - plan hits target center - Point	0.00	0.00	9,817.00	10,078.69	1,476.24	436,290.12	856,669.95	32.195330	-103.313949	

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
1,400.00	1,400.00	0.00	0.00	Start Build 2.00	
2,152.08	2,143.47	-11.28	97.50	Start 5345.20 hold at 2152.08 MD	
7,497.28	7,305.53	-170.72	1,475.50	Start Drop -2.00	
8,249.36	8,049.00	-182.00	1,573.00	Start 1195.04 hold at 8249.36 MD	
9,444.40	9,244.04	-182.00	1,573.00	Start DLS 10.00 TFO 359.46	
10,344.40	9,817.00	390.93	1,567.60	Start 9688.19 hold at 10344.40 MD	
20,032.59	9,817.00	10,078.69	1,476.24	TD at 20032.59	



Franklin Mountain Energy

Lea County, NM (NAD83)

FMM Fed Com

FMM Fed Com 304H

OH

Plan #2

Anticollision Report

09 September, 2021





Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 304H
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 304H	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 #2	Offset TVD Reference:	Offset Datum

Reference	Plan #2
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	9/9/2021
From (usft)	To (usft)	Survey (Wellbore)
0.00	20,032.55	Plan #2 (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	1,159.94	1,287.96	4,117.84	4,083.71	120.660	CC
Amoco State #001 (Offset) - OH - OH	2,000.00	2,009.89	4,122.36	4,080.16	97.693	ES
Amoco State #001 (Offset) - OH - OH	3,900.00	3,775.00	4,182.42	4,101.25	51.525	SF
Blue Bay WCA State Com #001C (Offset Plan) - OH - PI	12,262.47	9,826.50	1,015.48	952.30	16.072	CC, ES, SF
FMM Fed Com 101H - OH - Plan #1	1,400.00	1,354.30	2,061.01	2,054.36	309.786	CC, ES
FMM Fed Com 101H - OH - Plan #1	20,032.59	18,622.82	4,671.19	4,437.35	19.976	SF
FMM Fed Com 102H - OH - Plan #1	1,400.00	1,356.20	2,011.19	2,004.53	302.082	CC, ES
FMM Fed Com 102H - OH - Plan #1	20,032.59	18,538.91	3,296.39	3,073.98	14.821	SF
FMM Fed Com 103H - OH - Plan #1	1,400.00	1,399.80	74.99	68.23	11.082	CC, ES
FMM Fed Com 103H - OH - Plan #1	1,600.00	1,599.64	81.92	74.16	10.555	SF
FMM Fed Com 104H - OH - Plan #2	1,400.00	1,399.50	24.99	18.22	3.693	CC
FMM Fed Com 104H - OH - Plan #2	3,900.00	3,914.45	31.31	8.22	1.356	Level 3, ES
FMM Fed Com 104H - OH - Plan #2	4,000.00	4,014.33	32.42	8.36	1.347	Level 3, SF
FMM Fed Com 301H - OH - Plan #1	1,400.00	1,355.10	2,036.25	2,029.60	305.973	CC, ES
FMM Fed Com 301H - OH - Plan #1	20,032.59	20,171.40	4,536.57	4,295.77	18.840	SF
FMM Fed Com 302H - OH - Plan #1	1,400.00	1,356.80	1,986.12	1,979.46	298.250	CC, ES
FMM Fed Com 302H - OH - Plan #1	20,032.59	20,109.26	3,035.35	2,793.91	12.572	SF
FMM Fed Com 303H - OH - Plan #1	1,400.00	1,400.00	49.99	43.22	7.387	CC, ES
FMM Fed Com 303H - OH - Plan #1	20,032.59	20,030.40	1,499.43	1,257.84	6.206	SF
FMM Fed Com 801H - OH - Plan #1	1,400.00	1,355.40	2,049.99	2,043.34	308.003	CC, ES
FMM Fed Com 801H - OH - Plan #1	10,300.00	9,858.39	4,563.90	4,513.45	90.464	SF
FMM Fed Com 802H - OH - Plan #1	1,400.00	1,355.70	2,024.94	2,018.29	304.205	CC, ES
FMM Fed Com 802H - OH - Plan #1	20,032.59	22,399.29	4,385.34	4,172.71	20.624	SF
FMM Fed Com 803H - OH - Plan #1	1,400.00	1,356.30	1,999.90	1,993.24	300.375	CC, ES
FMM Fed Com 803H - OH - Plan #1	20,032.59	22,335.03	3,568.83	3,367.13	17.694	SF
FMM Fed Com 804H - OH - Plan #1	1,400.00	1,398.60	97.62	90.85	14.431	CC, ES
FMM Fed Com 804H - OH - Plan #1	1,700.00	1,698.05	106.92	98.67	12.950	SF
FMM Fed Com 805H - OH - Plan #1	1,400.00	1,399.40	83.84	77.08	12.391	CC, ES
FMM Fed Com 805H - OH - Plan #1	1,700.00	1,698.85	90.30	82.04	10.933	SF
FMM Fed Com 806H - OH - Plan #2	1,400.00	1,399.30	76.03	69.26	11.237	CC
FMM Fed Com 806H - OH - Plan #2	9,444.40	9,453.93	100.10	40.44	1.678	ES
FMM Fed Com 806H - OH - Plan #2	9,450.00	9,459.53	100.12	40.44	1.678	SF
Pre-Ongard Well #001 (Offset) - OH - OH	1,138.17	1,189.87	4,851.59	4,826.11	190.452	CC
Pre-Ongard Well #001 (Offset) - OH - OH	1,600.00	1,597.13	4,855.90	4,815.91	121.414	ES
Pre-Ongard Well #001 (Offset) - OH - OH	2,700.00	2,681.62	4,997.47	4,928.36	72.312	SF
Proxy WCA State Com #001H (Offset) - OH - OH	100.00	33.22	2,950.31	2,950.17	10,000.000	CC
Proxy WCA State Com #001H (Offset) - OH - OH	200.00	124.25	2,950.57	2,950.05	5,636.976	ES

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 304H
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 304H	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 #2	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	4,900.00	4,501.00	3,755.75	3,732.55	161.902	SF
Proxy WCA State Com #001H (Offset) - ST01 - ST01	100.00	33.22	2,950.31	2,950.17	10,000.000	CC
Proxy WCA State Com #001H (Offset) - ST01 - ST01	200.00	124.25	2,950.57	2,950.05	5,636.976	ES
Proxy WCA State Com #001H (Offset) - ST01 - ST01	11,600.00	9,839.61	4,909.87	4,860.63	99.703	SF
Proxy WCA State Com #001H (Offset) - ST02 - ST02	100.00	33.22	2,950.31	2,950.17	10,000.000	CC
Proxy WCA State Com #001H (Offset) - ST02 - ST02	200.00	124.25	2,950.57	2,950.05	5,636.976	ES
Proxy WCA State Com #001H (Offset) - ST02 - ST02	14,700.00	16,762.00	4,996.48	4,884.65	44.678	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		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	13.50	13.50	0.00	0.22	3.85	4,109.58	276.73	4,118.88					
100.00	100.00	113.50	113.50	0.13	1.81	3.85	4,109.58	276.73	4,118.88	4,117.07	1.82	2,264.329		
200.00	200.00	213.50	213.50	0.48	3.41	3.85	4,109.58	276.73	4,118.88	4,115.44	3.45	1,194.681		
300.00	300.00	313.50	313.50	0.84	5.01	3.85	4,109.58	276.73	4,118.88	4,113.80	5.08	810.373		
400.00	400.00	413.50	413.50	1.20	6.61	3.85	4,109.58	276.73	4,118.88	4,112.16	6.72	612.980		
500.00	500.00	513.50	513.50	1.56	8.21	3.85	4,109.58	276.73	4,118.88	4,110.53	8.36	492.873		
600.00	600.00	613.50	613.50	1.92	9.81	3.85	4,109.58	276.73	4,118.88	4,108.89	9.99	412.107		
700.00	700.00	713.66	713.50	2.28	13.02	3.85	4,109.58	276.73	4,118.88	4,105.67	13.21	311.735		
800.00	800.00	813.66	813.50	2.63	16.65	3.85	4,109.58	276.73	4,118.88	4,102.02	16.86	244.281		
900.00	900.00	917.05	916.83	2.99	20.42	3.85	4,112.23	276.73	4,121.53	4,100.90	20.63	199.740		
1,000.00	1,000.00	1,059.69	1,059.44	3.35	25.61	3.85	4,111.38	276.73	4,120.93	4,095.11	25.82	159.577		
1,100.00	1,100.00	1,202.40	1,202.08	3.71	30.80	3.85	4,109.05	276.73	4,119.31	4,088.29	31.02	132.812		
1,159.94	1,159.94	1,287.96	1,287.58	3.93	33.91	3.85	4,106.94	276.73	4,117.84	4,083.71	34.13	120.660	CC	
1,200.00	1,200.00	1,214.25	1,213.50	4.07	30.79	3.85	4,109.58	276.73	4,118.88	4,087.83	31.06	132.617		
1,300.00	1,300.00	1,314.26	1,313.50	4.43	32.11	3.85	4,109.58	276.73	4,118.88	4,086.47	32.42	127.062		
1,400.00	1,400.00	1,414.26	1,413.50	4.79	33.06	3.85	4,109.58	276.73	4,118.88	4,085.48	33.41	123.299		
1,500.00	1,499.98	1,514.24	1,513.48	5.13	34.50	-92.77	4,109.58	276.73	4,118.97	4,084.09	34.88	118.105		
1,600.00	1,599.84	1,614.10	1,613.34	5.48	35.93	-92.84	4,109.58	276.73	4,119.22	4,082.88	36.35	113.331		
1,700.00	1,699.45	1,713.72	1,712.95	5.83	37.36	-92.95	4,109.58	276.73	4,119.67	4,081.85	37.82	108.941		
1,800.00	1,798.70	1,812.97	1,812.20	6.18	38.79	-93.10	4,109.58	276.73	4,120.31	4,081.03	39.28	104.893		
1,900.00	1,897.47	1,911.73	1,910.97	6.55	40.21	-93.30	4,109.58	276.73	4,121.20	4,080.46	40.74	101.154		
2,000.00	1,995.62	2,009.89	2,009.12	6.93	41.62	-93.54	4,109.58	276.73	4,122.36	4,080.16	42.20	97.693	ES	
2,100.00	2,093.06	2,107.32	2,106.56	7.34	43.03	-93.81	4,109.58	276.73	4,123.84	4,080.19	43.65	94.484		
2,152.08	2,143.47	2,157.73	2,156.97	7.56	43.75	-93.97	4,109.58	276.73	4,124.75	4,080.36	44.40	92.905		
2,200.00	2,189.75	2,204.01	2,203.25	7.76	44.42	-94.14	4,109.58	276.73	4,125.66	4,080.58	45.09	91.500		
2,300.00	2,286.32	2,300.59	2,299.82	8.21	45.80	-94.48	4,109.58	276.73	4,127.68	4,081.15	46.53	88.702		
2,400.00	2,382.90	2,397.16	2,396.40	8.67	47.19	-94.83	4,109.58	276.73	4,129.86	4,081.88	47.98	86.071		
2,500.00	2,479.47	2,493.73	2,492.97	9.14	48.58	-95.18	4,109.58	276.73	4,132.21	4,082.77	49.43	83.591		
2,600.00	2,576.04	2,590.32	2,589.54	9.62	50.18	-95.52	4,109.58	276.73	4,134.71	4,083.62	51.09	80.934		
2,700.00	2,672.62	2,686.90	2,686.12	10.11	52.05	-95.87	4,109.58	276.73	4,137.38	4,084.36	53.02	78.032		
2,800.00	2,769.19	2,783.47	2,782.69	10.60	53.93	-96.21	4,109.58	276.73	4,140.20	4,085.25	54.96	75.335		
2,900.00	2,865.77	2,883.92	2,883.14	11.10	55.88	-96.57	4,110.15	276.73	4,143.76	4,086.80	56.97	72.738		
3,000.00	2,962.34	2,987.31	2,986.52	11.61	57.89	-96.94	4,109.97	276.73	4,146.74	4,087.71	59.04	70.240		
3,100.00	3,058.91	3,090.70	3,089.92	12.12	59.90	-97.31	4,109.62	276.73	4,149.72	4,088.62	61.11	67.910		
3,200.00	3,155.49	3,169.81	3,168.99	12.64	62.09	-97.59	4,109.58	276.73	4,153.11	4,089.75	63.36	65.550		
3,300.00	3,252.06	3,266.39	3,265.56	13.16	64.88	-97.93	4,109.58	276.73	4,156.74	4,090.55	66.19	62.801		

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 304H
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 304H	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 #2	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		
3,400.00	3,348.63	3,362.96	3,362.13	13.68	67.66	-98.27	4,109.58	276.73	4,160.52	4,091.50	69.02	60.279		
3,500.00	3,445.21	3,459.54	3,458.71	14.21	70.45	-98.61	4,109.58	276.73	4,164.47	4,092.61	71.85	57.957		
3,600.00	3,541.78	3,556.11	3,555.28	14.74	73.23	-98.96	4,109.58	276.73	4,168.57	4,093.88	74.69	55.814		
3,700.00	3,638.36	3,652.68	3,651.86	15.27	76.02	-99.30	4,109.58	276.73	4,172.82	4,095.30	77.52	53.829		
3,800.00	3,734.93	3,749.26	3,748.43	15.80	78.80	-99.64	4,109.58	276.73	4,177.24	4,096.89	80.35	51.986		
3,900.00	3,831.50	3,775.00	3,773.73	16.33	79.54	-99.72	4,109.58	276.73	4,182.42	4,101.25	81.17	51.525 SF		
4,000.00	3,928.08	3,775.00	3,773.73	16.87	79.54	-99.72	4,109.58	276.73	4,189.90	4,108.68	81.22	51.584		
4,100.00	4,024.65	3,775.00	3,773.73	17.41	79.54	-99.72	4,109.58	276.73	4,199.75	4,118.52	81.24	51.697		
4,200.00	4,121.22	3,775.00	3,773.73	17.95	79.54	-99.72	4,109.58	276.73	4,211.96	4,130.74	81.21	51.862		
4,300.00	4,217.80	3,775.00	3,773.73	18.49	79.54	-99.72	4,109.58	276.73	4,226.49	4,145.34	81.15	52.080		
4,400.00	4,314.37	3,775.00	3,773.73	19.03	79.54	-99.72	4,109.58	276.73	4,243.34	4,162.29	81.05	52.355		
4,500.00	4,410.95	3,775.00	3,773.73	19.58	79.54	-99.72	4,109.58	276.73	4,262.46	4,181.55	80.91	52.682		
4,600.00	4,507.52	3,775.00	3,773.73	20.12	79.54	-99.72	4,109.58	276.73	4,283.83	4,203.10	80.74	53.060		
4,700.00	4,604.09	3,775.00	3,773.73	20.66	79.54	-99.72	4,109.58	276.73	4,307.42	4,226.89	80.53	53.489		
4,800.00	4,700.67	3,775.00	3,773.73	21.21	79.54	-99.72	4,109.58	276.73	4,333.19	4,252.90	80.29	53.968		
4,900.00	4,797.24	3,775.00	3,773.73	21.76	79.54	-99.72	4,109.58	276.73	4,361.10	4,281.07	80.03	54.497		
5,000.00	4,893.81	3,775.00	3,773.73	22.30	79.54	-99.72	4,109.58	276.73	4,391.11	4,311.38	79.73	55.074		
5,100.00	4,990.39	3,775.00	3,773.73	22.85	79.54	-99.72	4,109.58	276.73	4,423.17	4,343.76	79.41	55.700		
5,200.00	5,086.96	3,775.00	3,773.73	23.40	79.54	-99.72	4,109.58	276.73	4,457.26	4,378.19	79.07	56.374		
5,300.00	5,183.54	3,775.00	3,773.73	23.95	79.54	-99.72	4,109.58	276.73	4,493.30	4,414.60	78.70	57.094		
5,400.00	5,280.11	3,775.00	3,773.73	24.50	79.54	-99.72	4,109.58	276.73	4,531.27	4,452.96	78.31	57.861		
5,500.00	5,376.68	3,775.00	3,773.73	25.05	79.54	-99.72	4,109.58	276.73	4,571.12	4,493.21	77.91	58.674		
5,600.00	5,473.26	3,775.00	3,773.73	25.60	79.54	-99.72	4,109.58	276.73	4,612.78	4,535.30	77.48	59.534		
5,700.00	5,569.83	3,775.00	3,773.73	26.15	79.54	-99.72	4,109.58	276.73	4,656.22	4,579.18	77.04	60.439		
5,800.00	5,666.41	3,775.00	3,773.73	26.70	79.54	-99.72	4,109.58	276.73	4,701.39	4,624.80	76.59	61.388		
5,900.00	5,762.98	3,775.00	3,773.73	27.26	79.54	-99.72	4,109.58	276.73	4,748.23	4,672.11	76.12	62.379		
6,000.00	5,859.55	3,775.00	3,773.73	27.81	79.54	-99.72	4,109.58	276.73	4,796.70	4,721.06	75.64	63.412		
6,100.00	5,956.13	3,775.00	3,773.73	28.36	79.54	-99.72	4,109.58	276.73	4,846.75	4,771.59	75.16	64.487		
6,200.00	6,052.70	3,775.00	3,773.73	28.92	79.54	-99.72	4,109.58	276.73	4,898.33	4,823.67	74.67	65.602		
6,300.00	6,149.27	3,775.00	3,773.73	29.47	79.54	-99.72	4,109.58	276.73	4,951.40	4,877.23	74.17	66.756		

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 304H
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 304H	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 #2	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	13.08	2,299.34	534.07	2,360.55					
100.00	100.00	109.50	109.50	0.13	0.17	13.08	2,299.34	534.07	2,360.55	2,360.34	0.21	N/A		
200.00	200.00	209.50	209.50	0.48	0.53	13.08	2,299.34	534.07	2,360.55	2,359.84	0.72	3,299.375		
300.00	300.00	309.50	309.50	0.84	0.89	13.08	2,299.34	534.07	2,360.55	2,359.33	1.22	1,931.489		
400.00	400.00	409.50	409.50	1.20	1.24	13.08	2,299.34	534.07	2,360.55	2,358.82	1.73	1,365.281		
500.00	500.00	509.50	509.50	1.56	1.60	13.08	2,299.34	534.07	2,360.55	2,358.32	2.24	1,055.760		
600.00	600.00	609.50	609.50	1.92	1.96	13.08	2,299.34	534.07	2,360.55	2,357.81	2.74	860.637		
700.00	700.00	709.50	709.50	2.28	2.32	13.08	2,299.34	534.07	2,360.55	2,357.30	3.25	726.385		
800.00	800.00	809.50	809.50	2.63	2.68	13.08	2,299.34	534.07	2,360.55	2,356.80	3.76	628.364		
900.00	900.00	909.50	909.50	2.99	3.04	13.08	2,299.34	534.07	2,360.55	2,356.29	4.26	553.652		
1,000.00	1,000.00	1,009.50	1,009.50	3.35	3.39	13.08	2,299.34	534.07	2,360.55	2,355.78	4.77	494.818		
1,100.00	1,100.00	1,109.50	1,109.50	3.71	3.75	13.08	2,299.34	534.07	2,360.55	2,355.27	5.28	447.287		
1,200.00	1,200.00	1,209.50	1,209.50	4.07	4.11	13.08	2,299.34	534.07	2,360.55	2,354.77	5.78	408.086		
1,300.00	1,300.00	1,309.50	1,309.50	4.43	4.47	13.08	2,299.34	534.07	2,360.55	2,354.26	6.29	375.204		
1,400.00	1,400.00	1,409.50	1,409.50	4.79	4.83	13.08	2,299.34	534.07	2,360.55	2,353.75	6.80	347.225		
1,500.00	1,499.98	1,509.48	1,509.48	5.13	5.19	-83.57	2,299.34	534.07	2,360.36	2,353.06	7.30	323.400		
1,600.00	1,599.84	1,609.34	1,609.34	5.48	5.54	-83.71	2,299.34	534.07	2,359.77	2,351.98	7.79	302.772		
1,700.00	1,699.45	1,708.95	1,708.95	5.83	5.90	-83.94	2,299.34	534.07	2,358.83	2,350.54	8.29	284.452		
1,800.00	1,798.70	1,808.20	1,808.20	6.18	6.26	-84.25	2,299.34	534.07	2,357.57	2,348.77	8.80	268.030		
1,900.00	1,897.47	1,906.97	1,906.97	6.55	6.61	-84.66	2,299.34	534.07	2,356.04	2,346.73	9.31	253.171		
2,000.00	1,995.62	2,005.12	2,005.12	6.93	6.96	-85.15	2,299.34	534.07	2,354.31	2,344.49	9.83	239.604		
2,100.00	2,093.06	2,102.56	2,102.56	7.34	7.31	-85.71	2,299.34	534.07	2,352.47	2,342.12	10.36	227.112		
2,152.08	2,143.47	2,152.97	2,152.97	7.56	7.49	-86.04	2,299.34	534.07	2,351.50	2,340.86	10.64	220.976		
2,200.00	2,189.75	2,199.25	2,199.25	7.76	7.66	-86.33	2,299.34	534.07	2,350.65	2,339.74	10.91	215.545		
2,300.00	2,286.32	2,295.82	2,295.82	8.21	8.01	-86.94	2,299.34	534.07	2,349.07	2,337.61	11.47	204.877		
2,400.00	2,382.90	2,392.40	2,392.40	8.67	8.35	-87.55	2,299.34	534.07	2,347.78	2,335.75	12.04	195.061		
2,500.00	2,479.47	2,488.97	2,488.97	9.14	8.70	-88.17	2,299.34	534.07	2,346.78	2,334.16	12.62	186.028		
2,600.00	2,576.04	2,585.54	2,585.54	9.62	9.04	-88.78	2,299.34	534.07	2,346.06	2,332.86	13.20	177.709		
2,700.00	2,672.62	2,682.12	2,682.12	10.11	9.39	-89.39	2,299.34	534.07	2,345.63	2,331.84	13.79	170.038		
2,799.82	2,769.02	2,778.52	2,778.52	10.60	9.74	-90.00	2,299.34	534.07	2,345.49	2,331.10	14.39	162.968		
2,800.00	2,769.19	2,778.69	2,778.69	10.60	9.74	-90.00	2,299.34	534.07	2,345.49	2,331.09	14.39	162.955		
2,900.00	2,865.77	2,875.27	2,875.27	11.10	10.08	-90.61	2,299.34	534.07	2,345.63	2,330.63	15.00	156.408		
3,000.00	2,962.34	2,971.84	2,971.84	11.61	10.43	-91.23	2,299.34	534.07	2,346.06	2,330.46	15.60	150.344		
3,100.00	3,058.91	3,068.41	3,068.41	12.12	10.78	-91.84	2,299.34	534.07	2,346.78	2,330.57	16.22	144.721		
3,200.00	3,155.49	3,164.99	3,164.99	12.64	11.12	-92.45	2,299.34	534.07	2,347.79	2,330.96	16.83	139.498		
3,300.00	3,252.06	3,261.56	3,261.56	13.16	11.47	-93.06	2,299.34	534.07	2,349.08	2,331.63	17.45	134.639		
3,400.00	3,348.63	3,358.13	3,358.13	13.68	11.81	-93.67	2,299.34	534.07	2,350.65	2,332.59	18.07	130.112		
3,500.00	3,445.21	3,454.71	3,454.71	14.21	12.16	-94.28	2,299.34	534.07	2,352.52	2,333.83	18.69	125.888		
3,600.00	3,541.78	3,551.28	3,551.28	14.74	12.51	-94.89	2,299.34	534.07	2,354.66	2,335.35	19.31	121.940		
3,700.00	3,638.36	3,647.86	3,647.86	15.27	12.85	-95.49	2,299.34	534.07	2,357.09	2,337.16	19.93	118.246		
3,800.00	3,734.93	3,744.43	3,744.43	15.80	13.20	-96.10	2,299.34	534.07	2,359.81	2,339.25	20.56	114.785		
3,900.00	3,831.50	3,841.00	3,841.00	16.33	13.54	-96.70	2,299.34	534.07	2,362.80	2,341.62	21.18	111.537		
4,000.00	3,928.08	3,937.58	3,937.58	16.87	13.89	-97.31	2,299.34	534.07	2,366.08	2,344.27	21.81	108.487		
4,100.00	4,024.65	4,034.15	4,034.15	17.41	14.24	-97.91	2,299.34	534.07	2,369.63	2,347.20	22.44	105.617		
4,200.00	4,121.22	4,130.72	4,130.72	17.95	14.58	-98.51	2,299.34	534.07	2,373.47	2,350.41	23.06	102.915		
4,300.00	4,217.80	4,227.30	4,227.30	18.49	14.93	-99.11	2,299.34	534.07	2,377.58	2,353.89	23.69	100.368		
4,400.00	4,314.37	4,323.87	4,323.87	19.03	15.28	-99.70	2,299.34	534.07	2,381.97	2,357.65	24.31	97.965		
4,500.00	4,410.95	4,420.45	4,420.45	19.58	15.62	-100.30	2,299.34	534.07	2,386.63	2,361.69	24.94	95.695		
4,600.00	4,507.52	4,517.02	4,517.02	20.12	15.97	-100.89	2,299.34	534.07	2,391.56	2,366.00	25.57	93.548		
4,700.00	4,604.09	4,613.59	4,613.59	20.66	16.31	-101.48	2,299.34	534.07	2,396.77	2,370.58	26.19	91.517		
4,800.00	4,700.67	4,710.17	4,710.17	21.21	16.66	-102.06	2,299.34	534.07	2,402.24	2,375.43	26.81	89.593		
4,900.00	4,797.24	4,806.74	4,806.74	21.76	17.01	-102.65	2,299.34	534.07	2,407.98	2,380.55	27.44	87.769		

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 304H
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 304H	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 #2	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	4,893.81	4,903.31	4,903.31	22.30	17.35	-103.23	2,299.34	534.07	2,413.99	2,385.93	28.06	86.038		
5,100.00	4,990.39	4,999.89	4,999.89	22.85	17.70	-103.81	2,299.34	534.07	2,420.26	2,391.58	28.68	84.395		
5,200.00	5,086.96	5,096.46	5,096.46	23.40	18.05	-104.38	2,299.34	534.07	2,426.79	2,397.49	29.30	82.834		
5,300.00	5,183.54	5,193.04	5,193.04	23.95	18.39	-104.96	2,299.34	534.07	2,433.58	2,403.67	29.92	81.349		
5,400.00	5,280.11	5,289.61	5,289.61	24.50	18.74	-105.53	2,299.34	534.07	2,440.63	2,410.10	30.53	79.937		
5,500.00	5,376.68	5,386.18	5,386.18	25.05	19.08	-106.09	2,299.34	534.07	2,447.93	2,416.78	31.15	78.592		
5,600.00	5,473.26	5,482.76	5,482.76	25.60	19.43	-106.66	2,299.34	534.07	2,455.49	2,423.72	31.76	77.310		
5,700.00	5,569.83	5,579.33	5,579.33	26.15	19.78	-107.22	2,299.34	534.07	2,463.29	2,430.92	32.37	76.089		
5,800.00	5,666.41	5,675.91	5,675.91	26.70	20.12	-107.78	2,299.34	534.07	2,471.34	2,438.36	32.98	74.924		
5,900.00	5,762.98	5,772.48	5,772.48	27.26	20.47	-108.33	2,299.34	534.07	2,479.64	2,446.05	33.59	73.812		
6,000.00	5,859.55	5,869.05	5,869.05	27.81	20.81	-108.88	2,299.34	534.07	2,488.18	2,453.98	34.20	72.751		
6,100.00	5,956.13	5,965.63	5,965.63	28.36	21.16	-109.42	2,299.34	534.07	2,496.97	2,462.16	34.81	71.737		
6,200.00	6,052.70	6,062.20	6,062.20	28.92	21.51	-109.97	2,299.34	534.07	2,505.99	2,470.58	35.41	70.767		
6,300.00	6,149.27	6,158.77	6,158.77	29.47	21.85	-110.51	2,299.34	534.07	2,515.24	2,479.23	36.01	69.841		
6,400.00	6,245.85	6,255.35	6,255.35	30.02	22.20	-111.04	2,299.34	534.07	2,524.73	2,488.12	36.61	68.954		
6,500.00	6,342.42	6,351.92	6,351.92	30.58	22.55	-111.57	2,299.34	534.07	2,534.45	2,497.24	37.21	68.106		
6,600.00	6,439.00	6,448.50	6,448.50	31.13	22.89	-112.10	2,299.34	534.07	2,544.40	2,506.59	37.81	67.293		
6,700.00	6,535.57	6,545.07	6,545.07	31.69	23.24	-112.62	2,299.34	534.07	2,554.57	2,516.16	38.41	66.515		
6,800.00	6,632.14	6,641.64	6,641.64	32.24	23.58	-113.14	2,299.34	534.07	2,564.96	2,525.96	39.00	65.770		
6,900.00	6,728.72	6,738.22	6,738.22	32.80	23.93	-113.66	2,299.34	534.07	2,575.57	2,535.98	39.59	65.055		
7,000.00	6,825.29	6,834.79	6,834.79	33.35	24.28	-114.17	2,299.34	534.07	2,586.40	2,546.22	40.18	64.370		
7,100.00	6,921.86	6,931.36	6,931.36	33.91	24.62	-114.68	2,299.34	534.07	2,597.45	2,556.68	40.77	63.712		
7,200.00	7,018.44	7,027.94	7,027.94	34.46	24.97	-115.18	2,299.34	534.07	2,608.70	2,567.35	41.35	63.082		
7,300.00	7,115.01	7,124.51	7,124.51	35.02	25.32	-115.68	2,299.34	534.07	2,620.17	2,578.23	41.94	62.476		
7,400.00	7,211.59	7,221.09	7,221.09	35.57	25.66	-116.18	2,299.34	534.07	2,631.84	2,589.32	42.52	61.896		
7,497.28	7,305.53	7,315.03	7,315.03	36.11	26.00	-116.65	2,299.34	534.07	2,643.38	2,600.30	43.08	61.353		
7,500.00	7,308.16	7,317.66	7,317.66	36.13	26.01	-116.67	2,299.34	534.07	2,643.71	2,600.61	43.10	61.338		
7,600.00	7,405.19	7,414.69	7,414.69	36.66	26.36	-117.33	2,299.34	534.07	2,654.95	2,611.28	43.67	60.798		
7,700.00	7,503.00	7,512.50	7,512.50	37.16	26.71	-117.89	2,299.34	534.07	2,664.74	2,620.53	44.21	60.268		
7,800.00	7,601.48	7,610.98	7,610.98	37.61	27.06	-118.36	2,299.34	534.07	2,673.02	2,628.27	44.74	59.744		
7,900.00	7,700.51	7,710.01	7,710.01	38.02	27.41	-118.74	2,299.34	534.07	2,679.71	2,634.46	45.25	59.223		
8,000.00	7,799.96	7,809.46	7,809.46	38.39	27.77	-119.02	2,299.34	534.07	2,684.77	2,639.03	45.73	58.703		
8,100.00	7,899.71	7,909.21	7,909.21	38.73	28.13	-119.21	2,299.34	534.07	2,688.16	2,641.95	46.20	58.181		
8,200.00	7,999.65	8,009.15	8,009.15	39.02	28.49	-119.31	2,299.34	534.07	2,689.85	2,643.20	46.65	57.656		
8,249.36	8,049.00	8,058.50	8,058.50	39.15	28.66	-22.72	2,299.34	534.07	2,690.06	2,643.19	46.87	57.396		
8,300.00	8,099.64	8,109.14	8,109.14	39.28	28.84	-22.72	2,299.34	534.07	2,690.06	2,642.97	47.09	57.130		
8,400.00	8,199.64	8,209.14	8,209.14	39.54	29.20	-22.72	2,299.34	534.07	2,690.06	2,642.54	47.52	56.611		
8,500.00	8,299.64	8,309.14	8,309.14	39.79	29.56	-22.72	2,299.34	534.07	2,690.06	2,642.11	47.95	56.100		
8,600.00	8,399.64	8,409.14	8,409.14	40.05	29.92	-22.72	2,299.34	534.07	2,690.06	2,641.68	48.39	55.597		
8,700.00	8,499.64	8,509.14	8,509.14	40.31	30.28	-22.72	2,299.34	534.07	2,690.06	2,641.24	48.82	55.101		
8,800.00	8,599.64	8,609.14	8,609.14	40.57	30.64	-22.72	2,299.34	534.07	2,690.06	2,640.80	49.26	54.612		
8,900.00	8,699.64	8,709.14	8,709.14	40.84	31.00	-22.72	2,299.34	534.07	2,690.06	2,640.37	49.70	54.130		
9,000.00	8,799.64	8,809.14	8,809.14	41.10	31.35	-22.72	2,299.34	534.07	2,690.06	2,639.93	50.14	53.655		
9,100.00	8,899.64	8,909.14	8,909.14	41.37	31.71	-22.72	2,299.34	534.07	2,690.06	2,639.48	50.58	53.188		
9,200.00	8,999.64	9,009.14	9,009.14	41.64	32.07	-22.72	2,299.34	534.07	2,690.06	2,639.04	51.02	52.727		
9,300.00	9,099.64	9,109.14	9,109.14	41.91	32.43	-22.72	2,299.34	534.07	2,690.06	2,638.60	51.46	52.273		
9,400.00	9,199.64	9,209.14	9,209.14	42.18	32.79	-22.72	2,299.34	534.07	2,690.06	2,638.15	51.91	51.825		
9,444.40	9,244.04	9,253.54	9,253.54	42.30	32.95	-22.72	2,299.34	534.07	2,690.06	2,637.96	52.10	51.628		
9,450.00	9,249.64	9,259.14	9,259.14	42.31	32.97	-22.18	2,299.34	534.07	2,690.04	2,637.91	52.13	51.603		
9,500.00	9,299.56	9,309.06	9,309.06	42.44	33.15	-22.29	2,299.34	534.07	2,687.57	2,635.21	52.35	51.335		
9,550.00	9,349.05	9,358.55	9,358.55	42.57	33.32	-22.60	2,299.34	534.07	2,681.08	2,628.50	52.58	50.993		
9,600.00	9,397.74	9,407.24	9,407.24	42.69	33.50	-23.11	2,299.34	534.07	2,670.63	2,617.83	52.80	50.580		

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 304H
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 304H	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 #2	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	9,445.26	9,454.76	9,454.76	42.80	33.67	-23.84	2,299.34	534.07	2,656.30	2,603.28	53.02	50.101		
9,700.00	9,491.25	9,500.75	9,500.75	42.91	33.83	-24.81	2,299.34	534.07	2,638.22	2,584.99	53.23	49.560		
9,750.00	9,535.36	9,544.86	9,544.86	43.00	33.99	-26.06	2,299.34	534.07	2,616.54	2,563.10	53.44	48.962		
9,800.00	9,577.25	14,051.40	11,915.00	43.08	56.76	-139.89	-40.87	461.81	2,579.62	2,534.79	44.83	57.545		
9,850.00	9,616.61	14,020.61	11,915.00	43.15	56.42	-142.68	-10.10	462.76	2,543.62	2,498.68	44.93	56.608		
9,900.00	9,653.13	13,986.51	11,915.00	43.21	56.05	-144.93	23.99	463.81	2,510.20	2,465.18	45.02	55.762		
9,950.00	9,686.53	13,949.36	11,915.00	43.27	55.66	-146.73	61.12	464.96	2,479.60	2,434.52	45.08	55.008		
10,000.00	9,716.57	13,909.45	11,915.00	43.31	55.23	-148.19	101.02	466.19	2,452.02	2,406.91	45.11	54.353		
10,050.00	9,743.01	9,752.51	9,752.51	43.35	34.74	-43.21	2,299.34	534.07	2,422.77	2,368.27	54.50	44.457		
10,100.00	9,765.66	9,775.16	9,775.16	43.38	34.82	-48.72	2,299.34	534.07	2,382.39	2,327.75	54.64	43.601		
10,150.00	9,784.34	9,793.84	9,793.84	43.41	34.88	-55.35	2,299.34	534.07	2,340.53	2,285.75	54.78	42.728		
10,200.00	9,798.90	9,808.40	9,808.40	43.43	34.94	-63.16	2,299.34	534.07	2,297.54	2,242.64	54.91	41.846		
10,250.00	9,809.24	9,818.74	9,818.74	43.47	34.97	-72.00	2,299.34	534.07	2,253.78	2,198.75	55.03	40.958		
10,300.00	9,815.28	9,824.78	9,824.78	43.50	34.99	-81.49	2,299.34	534.07	2,209.60	2,154.45	55.14	40.070		
10,344.40	9,817.00	9,826.50	9,826.50	43.54	35.00	-90.00	2,299.34	534.07	2,170.30	2,115.06	55.24	39.287		
10,400.00	9,817.00	9,826.50	9,826.50	43.61	35.00	-90.00	2,299.34	534.07	2,121.32	2,065.95	55.37	38.313		
10,500.00	9,817.00	9,826.50	9,826.50	43.77	35.00	-90.00	2,299.34	534.07	2,034.08	1,978.47	55.61	36.576		
10,600.00	9,817.00	9,826.50	9,826.50	43.98	35.00	-90.00	2,299.34	534.07	1,948.08	1,892.19	55.88	34.860		
10,700.00	9,817.00	9,826.50	9,826.50	44.25	35.00	-90.00	2,299.34	534.07	1,863.47	1,807.28	56.18	33.167		
10,800.00	9,817.00	9,826.50	9,826.50	44.59	35.00	-90.00	2,299.34	534.07	1,780.45	1,723.94	56.52	31.502		
10,900.00	9,817.00	9,826.50	9,826.50	44.99	35.00	-90.00	2,299.34	534.07	1,699.27	1,642.38	56.89	29.871		
11,000.00	9,817.00	9,826.50	9,826.50	45.47	35.00	-90.00	2,299.34	534.07	1,620.20	1,562.90	57.30	28.278		
11,100.00	9,817.00	9,826.50	9,826.50	46.01	35.00	-90.00	2,299.34	534.07	1,543.55	1,485.80	57.75	26.730		
11,200.00	9,817.00	9,826.50	9,826.50	46.61	35.00	-90.00	2,299.34	534.07	1,469.71	1,411.47	58.24	25.235		
11,300.00	9,817.00	9,826.50	9,826.50	47.28	35.00	-90.00	2,299.34	534.07	1,399.13	1,340.35	58.78	23.804		
11,400.00	9,817.00	9,826.50	9,826.50	48.01	35.00	-90.00	2,299.34	534.07	1,332.31	1,272.96	59.35	22.447		
11,500.00	9,817.00	9,826.50	9,826.50	48.79	35.00	-90.00	2,299.34	534.07	1,269.87	1,209.91	59.96	21.178		
11,600.00	9,817.00	9,826.50	9,826.50	49.63	35.00	-90.00	2,299.34	534.07	1,212.46	1,151.87	60.59	20.010		
11,700.00	9,817.00	9,826.50	9,826.50	50.51	35.00	-90.00	2,299.34	534.07	1,160.85	1,099.63	61.22	18.961		
11,800.00	9,817.00	9,826.50	9,826.50	51.44	35.00	-90.00	2,299.34	534.07	1,115.83	1,054.01	61.83	18.048		
11,900.00	9,817.00	9,826.50	9,826.50	52.41	35.00	-90.00	2,299.34	534.07	1,078.24	1,015.87	62.36	17.289		
12,000.00	9,817.00	9,826.50	9,826.50	53.42	35.00	-90.00	2,299.34	534.07	1,048.86	986.06	62.80	16.702		
12,100.00	9,817.00	9,826.50	9,826.50	54.47	35.00	-90.00	2,299.34	534.07	1,028.40	965.31	63.09	16.300		
12,200.00	9,817.00	9,826.50	9,826.50	55.54	35.00	-90.00	2,299.34	534.07	1,017.40	954.20	63.21	16.097		
12,262.47	9,817.00	9,826.50	9,826.50	56.23	35.00	-90.00	2,299.34	534.07	1,015.48	952.30	63.18	16.072 CC, ES, SF		
12,300.00	9,817.00	9,826.50	9,826.50	56.65	35.00	-90.00	2,299.34	534.07	1,016.18	953.05	63.13	16.097		
12,400.00	9,817.00	9,826.50	9,826.50	57.79	35.00	-90.00	2,299.34	534.07	1,024.76	961.89	62.86	16.301		
12,500.00	9,817.00	9,826.50	9,826.50	58.95	35.00	-90.00	2,299.34	534.07	1,042.90	980.46	62.43	16.704		
12,600.00	9,817.00	9,826.50	9,826.50	60.14	35.00	-90.00	2,299.34	534.07	1,070.11	1,008.24	61.88	17.295		
12,700.00	9,817.00	9,826.50	9,826.50	61.35	35.00	-90.00	2,299.34	534.07	1,105.73	1,044.50	61.23	18.057		
12,800.00	9,817.00	9,826.50	9,826.50	62.58	35.00	-90.00	2,299.34	534.07	1,148.98	1,088.42	60.55	18.975		
12,900.00	9,817.00	9,826.50	9,826.50	63.83	35.00	-90.00	2,299.34	534.07	1,199.02	1,139.16	59.87	20.028		
13,000.00	9,817.00	9,826.50	9,826.50	65.10	35.00	-90.00	2,299.34	534.07	1,255.05	1,195.85	59.20	21.199		
13,100.00	9,817.00	9,826.50	9,826.50	66.39	35.00	-90.00	2,299.34	534.07	1,316.31	1,257.73	58.58	22.471		
13,200.00	9,817.00	9,826.50	9,826.50	67.69	35.00	-90.00	2,299.34	534.07	1,382.09	1,324.09	58.00	23.827		
13,300.00	9,817.00	9,826.50	9,826.50	69.01	35.00	-90.00	2,299.34	534.07	1,451.79	1,394.30	57.49	25.255		
13,400.00	9,817.00	9,826.50	9,826.50	70.35	35.00	-90.00	2,299.34	534.07	1,524.86	1,467.84	57.02	26.742		
13,500.00	9,817.00	9,826.50	9,826.50	71.70	35.00	-90.00	2,299.34	534.07	1,600.84	1,544.24	56.61	28.280		
13,600.00	9,817.00	9,826.50	9,826.50	73.06	35.00	-90.00	2,299.34	534.07	1,679.35	1,623.10	56.24	29.860		
13,700.00	9,817.00	9,826.50	9,826.50	74.43	35.00	-90.00	2,299.34	534.07	1,760.03	1,704.11	55.92	31.474		
13,800.00	9,817.00	9,826.50	9,826.50	75.81	35.00	-90.00	2,299.34	534.07	1,842.61	1,786.97	55.64	33.117		
13,900.00	9,817.00	9,826.50	9,826.50	77.21	35.00	-90.00	2,299.34	534.07	1,926.84	1,871.45	55.40	34.783		

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 304H
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 304H	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 #2	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	9,817.00	9,826.50	9,826.50	78.61	35.00	-90.00	2,299.34	534.07	2,012.52	1,957.34	55.18	36.471		
14,100.00	9,817.00	9,826.50	9,826.50	80.03	35.00	-90.00	2,299.34	534.07	2,099.46	2,044.47	55.00	38.175		
14,200.00	9,817.00	9,826.50	9,826.50	81.45	35.00	-90.00	2,299.34	534.07	2,187.52	2,132.69	54.83	39.895		
14,300.00	9,817.00	9,826.50	9,826.50	82.88	35.00	-90.00	2,299.34	534.07	2,276.57	2,221.88	54.69	41.627		
14,400.00	9,817.00	9,826.50	9,826.50	84.32	35.00	-90.00	2,299.34	534.07	2,366.49	2,311.92	54.57	43.369		
14,500.00	9,817.00	9,826.50	9,826.50	85.77	35.00	-90.00	2,299.34	534.07	2,457.19	2,402.72	54.46	45.118		
14,600.00	9,817.00	9,826.50	9,826.50	87.22	35.00	-90.00	2,299.34	534.07	2,548.58	2,494.21	54.37	46.874		
14,700.00	9,817.00	9,826.50	9,826.50	88.69	35.00	-90.00	2,299.34	534.07	2,640.60	2,586.31	54.29	48.636		
14,800.00	9,817.00	9,826.50	9,826.50	90.16	35.00	-90.00	2,299.34	534.07	2,733.18	2,678.95	54.23	50.402		
14,900.00	9,817.00	9,826.50	9,826.50	91.63	35.00	-90.00	2,299.34	534.07	2,826.27	2,772.10	54.17	52.173		
15,000.00	9,817.00	9,826.50	9,826.50	93.11	35.00	-90.00	2,299.34	534.07	2,919.81	2,865.69	54.12	53.947		
15,100.00	9,817.00	9,826.50	9,826.50	94.60	35.00	-90.00	2,299.34	534.07	3,013.77	2,959.68	54.08	55.723		
15,200.00	9,817.00	9,826.50	9,826.50	96.09	35.00	-90.00	2,299.34	534.07	3,108.10	3,054.05	54.05	57.501		
15,300.00	9,817.00	9,826.50	9,826.50	97.59	35.00	-90.00	2,299.34	534.07	3,202.78	3,148.75	54.03	59.281		
15,400.00	9,817.00	9,826.50	9,826.50	99.09	35.00	-90.00	2,299.34	534.07	3,297.78	3,243.77	54.01	61.061		
15,500.00	9,817.00	9,826.50	9,826.50	100.60	35.00	-90.00	2,299.34	534.07	3,393.06	3,339.06	53.99	62.841		
15,600.00	9,817.00	9,826.50	9,826.50	102.11	35.00	-90.00	2,299.34	534.07	3,488.60	3,434.61	53.99	64.621		
15,700.00	9,817.00	9,826.50	9,826.50	103.62	35.00	-90.00	2,299.34	534.07	3,584.39	3,530.41	53.98	66.400		
15,800.00	9,817.00	9,826.50	9,826.50	105.14	35.00	-90.00	2,299.34	534.07	3,680.40	3,626.42	53.98	68.179		
15,900.00	9,817.00	9,826.50	9,826.50	106.67	35.00	-90.00	2,299.34	534.07	3,776.62	3,722.63	53.99	69.956		
16,000.00	9,817.00	9,826.50	9,826.50	108.20	35.00	-90.00	2,299.34	534.07	3,873.03	3,819.04	53.99	71.734		
16,100.00	9,817.00	9,826.50	9,826.50	109.73	35.00	-90.00	2,299.34	534.07	3,969.62	3,915.62	54.00	73.511		
16,200.00	9,817.00	9,826.50	9,826.50	111.26	35.00	-90.00	2,299.34	534.07	4,066.37	4,012.36	54.01	75.285		
16,300.00	9,817.00	9,826.50	9,826.50	112.80	35.00	-90.00	2,299.34	534.07	4,163.28	4,109.25	54.03	77.058		
16,400.00	9,817.00	9,826.50	9,826.50	114.34	35.00	-90.00	2,299.34	534.07	4,260.33	4,206.28	54.05	78.829		
16,500.00	9,817.00	9,826.50	9,826.50	115.89	35.00	-90.00	2,299.34	534.07	4,357.51	4,303.44	54.07	80.597		
16,600.00	9,817.00	9,826.50	9,826.50	117.43	35.00	-90.00	2,299.34	534.07	4,454.82	4,400.73	54.09	82.363		
16,700.00	9,817.00	9,826.50	9,826.50	118.98	35.00	-90.00	2,299.34	534.07	4,552.24	4,498.13	54.11	84.125		
16,800.00	9,817.00	9,826.50	9,826.50	120.54	35.00	-90.00	2,299.34	534.07	4,649.78	4,595.64	54.14	85.883		
16,900.00	9,817.00	9,826.50	9,826.50	122.09	35.00	-90.00	2,299.34	534.07	4,747.41	4,693.24	54.17	87.639		
17,000.00	9,817.00	9,826.50	9,826.50	123.65	35.00	-90.00	2,299.34	534.07	4,845.14	4,790.94	54.20	89.392		
17,100.00	9,817.00	9,826.50	9,826.50	125.21	35.00	-90.00	2,299.34	534.07	4,942.97	4,888.73	54.23	91.142		

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 304H
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 304H	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 #2	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	-19.04	-2,060.92	2,061.52					
100.00	100.00	54.30	54.30	0.13	0.07	-90.53	-19.04	-2,060.92	2,061.01	2,060.87	0.14	N/A		
200.00	200.00	154.30	154.30	0.48	0.32	-90.53	-19.04	-2,060.92	2,061.01	2,060.43	0.58	3,552.050		
300.00	300.00	254.30	254.30	0.84	0.68	-90.53	-19.04	-2,060.92	2,061.01	2,059.93	1.08	1,905.298		
400.00	400.00	354.30	354.30	1.20	1.04	-90.53	-19.04	-2,060.92	2,061.01	2,059.42	1.59	1,298.933		
500.00	500.00	454.30	454.30	1.56	1.40	-90.53	-19.04	-2,060.92	2,061.01	2,058.92	2.09	984.893		
600.00	600.00	554.30	554.30	1.92	1.75	-90.53	-19.04	-2,060.92	2,061.01	2,058.41	2.60	793.015		
700.00	700.00	654.30	654.30	2.28	2.11	-90.53	-19.04	-2,060.92	2,061.01	2,057.91	3.11	663.667		
800.00	800.00	754.30	754.30	2.63	2.47	-90.53	-19.04	-2,060.92	2,061.01	2,057.40	3.61	570.579		
900.00	900.00	854.30	854.30	2.99	2.83	-90.53	-19.04	-2,060.92	2,061.01	2,056.89	4.12	500.383		
1,000.00	1,000.00	954.30	954.30	3.35	3.19	-90.53	-19.04	-2,060.92	2,061.01	2,056.39	4.63	445.562		
1,100.00	1,100.00	1,054.30	1,054.30	3.71	3.55	-90.53	-19.04	-2,060.92	2,061.01	2,055.88	5.13	401.564		
1,200.00	1,200.00	1,154.30	1,154.30	4.07	3.90	-90.53	-19.04	-2,060.92	2,061.01	2,055.37	5.64	365.473		
1,300.00	1,300.00	1,254.30	1,254.30	4.43	4.26	-90.53	-19.04	-2,060.92	2,061.01	2,054.87	6.15	335.334		
1,400.00	1,400.00	1,354.30	1,354.30	4.79	4.62	-90.53	-19.04	-2,060.92	2,061.01	2,054.36	6.65	309.786 CC, ES		
1,500.00	1,499.98	1,454.28	1,454.28	5.13	4.98	172.87	-19.04	-2,060.92	2,062.74	2,055.59	7.15	288.384		
1,600.00	1,599.84	1,554.14	1,554.14	5.48	5.34	172.88	-19.04	-2,060.92	2,067.94	2,060.29	7.65	270.423		
1,700.00	1,699.45	1,653.75	1,653.75	5.83	5.70	172.89	-19.04	-2,060.92	2,076.58	2,068.44	8.14	255.033		
1,800.00	1,798.70	1,753.00	1,753.00	6.18	6.05	172.90	-19.04	-2,060.92	2,088.68	2,080.04	8.64	241.798		
1,900.00	1,897.47	1,833.47	1,833.47	6.55	6.34	172.90	-19.06	-2,061.07	2,104.43	2,095.34	9.09	231.634		
2,000.00	1,995.62	1,900.00	1,899.99	6.93	6.57	172.89	-19.22	-2,062.22	2,125.03	2,115.53	9.49	223.827		
2,100.00	2,093.06	1,958.78	1,958.74	7.34	6.77	172.86	-19.48	-2,064.19	2,150.57	2,140.70	9.88	217.705		
2,152.08	2,143.47	2,000.00	1,999.91	7.56	6.91	172.85	-19.74	-2,066.11	2,165.84	2,155.74	10.11	214.318		
2,200.00	2,189.75	2,019.82	2,019.70	7.76	6.98	172.86	-19.89	-2,067.19	2,180.61	2,170.34	10.27	212.397		
2,300.00	2,286.32	2,080.15	2,079.90	8.21	7.18	172.90	-20.42	-2,071.10	2,212.59	2,201.94	10.65	207.804		
2,400.00	2,382.90	2,139.84	2,139.39	8.67	7.39	172.94	-21.06	-2,075.89	2,246.04	2,235.02	11.03	203.700		
2,500.00	2,479.47	2,200.00	2,199.27	9.14	7.60	172.97	-21.84	-2,081.66	2,280.94	2,269.54	11.40	200.000		
2,600.00	2,576.04	2,257.21	2,256.12	9.62	7.81	172.99	-22.70	-2,088.01	2,317.27	2,305.50	11.77	196.818		
2,700.00	2,672.62	2,300.00	2,298.57	10.11	7.96	173.01	-23.42	-2,093.31	2,355.07	2,342.97	12.10	194.675		
2,800.00	2,769.19	2,371.82	2,369.69	10.60	8.22	173.04	-24.76	-2,103.26	2,394.09	2,381.59	12.51	191.417		
2,900.00	2,865.77	2,428.06	2,425.23	11.10	8.43	173.05	-25.94	-2,111.98	2,434.54	2,421.67	12.87	189.198		
3,000.00	2,962.34	2,491.33	2,487.56	11.61	8.66	173.06	-27.40	-2,122.75	2,476.32	2,463.08	13.25	186.903		
3,100.00	3,058.91	2,569.04	2,564.01	12.12	8.96	173.08	-29.27	-2,136.62	2,518.89	2,505.21	13.68	184.150		
3,200.00	3,155.49	2,659.51	2,653.00	12.64	9.31	173.09	-31.45	-2,152.75	2,561.49	2,547.34	14.15	180.993		
3,300.00	3,252.06	2,749.98	2,741.99	13.16	9.67	173.11	-33.63	-2,168.89	2,604.10	2,589.47	14.63	178.012		
3,400.00	3,348.63	2,840.45	2,830.98	13.68	10.03	173.12	-35.81	-2,185.03	2,646.70	2,631.59	15.11	175.194		
3,500.00	3,445.21	2,930.92	2,919.97	14.21	10.39	173.14	-37.99	-2,201.17	2,689.30	2,673.71	15.59	172.527		
3,600.00	3,541.78	3,021.39	3,008.97	14.74	10.76	173.15	-40.17	-2,217.31	2,731.90	2,715.83	16.07	170.000		
3,700.00	3,638.36	3,111.86	3,097.96	15.27	11.13	173.16	-42.35	-2,233.44	2,774.50	2,757.95	16.55	167.603		
3,800.00	3,734.93	3,202.33	3,186.95	15.80	11.51	173.18	-44.54	-2,249.58	2,817.10	2,800.07	17.04	165.328		
3,900.00	3,831.50	3,292.80	3,275.94	16.33	11.89	173.19	-46.72	-2,265.72	2,859.71	2,842.18	17.53	163.164		
4,000.00	3,928.08	3,383.27	3,364.93	16.87	12.27	173.20	-48.90	-2,281.86	2,902.31	2,884.29	18.01	161.106		
4,100.00	4,024.65	3,473.74	3,453.92	17.41	12.66	173.21	-51.08	-2,298.00	2,944.91	2,926.41	18.50	159.146		
4,200.00	4,121.22	3,564.21	3,542.92	17.95	13.04	173.22	-53.26	-2,314.13	2,987.51	2,968.52	19.00	157.278		
4,300.00	4,217.80	3,654.68	3,631.91	18.49	13.43	173.24	-55.44	-2,330.27	3,030.12	3,010.63	19.49	155.495		
4,400.00	4,314.37	3,745.15	3,720.90	19.03	13.82	173.25	-57.62	-2,346.41	3,072.72	3,052.74	19.98	153.792		
4,500.00	4,410.95	3,835.62	3,809.89	19.58	14.21	173.26	-59.80	-2,362.55	3,115.32	3,094.85	20.47	152.164		
4,600.00	4,507.52	3,926.09	3,898.88	20.12	14.60	173.27	-61.98	-2,378.69	3,157.93	3,136.96	20.97	150.607		
4,700.00	4,604.09	4,016.56	3,987.88	20.66	15.00	173.28	-64.16	-2,394.83	3,200.53	3,179.06	21.46	149.115		
4,800.00	4,700.67	4,107.03	4,076.87	21.21	15.39	173.29	-66.34	-2,410.96	3,243.13	3,221.17	21.96	147.686		
4,900.00	4,797.24	4,197.50	4,165.86	21.76	15.79	173.30	-68.52	-2,427.10	3,285.73	3,263.28	22.46	146.315		
5,000.00	4,893.81	4,287.97	4,254.85	22.30	16.19	173.31	-70.71	-2,443.24	3,328.34	3,305.38	22.95	144.999		

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 304H
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 304H	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 #2	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	4,990.39	4,378.43	4,343.84	22.85	16.59	173.31	-72.89	-2,459.38	3,370.94	3,347.49	23.45	143.734		
5,200.00	5,086.96	4,468.90	4,432.83	23.40	16.99	173.32	-75.07	-2,475.52	3,413.54	3,389.59	23.95	142.518		
5,300.00	5,183.54	4,559.37	4,521.83	23.95	17.39	173.33	-77.25	-2,491.65	3,456.15	3,431.70	24.45	141.349		
5,400.00	5,280.11	4,649.84	4,610.82	24.50	17.79	173.34	-79.43	-2,507.79	3,498.75	3,473.80	24.95	140.223		
5,500.00	5,376.68	4,740.31	4,699.81	25.05	18.19	173.35	-81.61	-2,523.93	3,541.35	3,515.90	25.45	139.138		
5,600.00	5,473.26	4,830.78	4,788.80	25.60	18.60	173.36	-83.79	-2,540.07	3,583.96	3,558.00	25.95	138.092		
5,700.00	5,569.83	4,921.25	4,877.79	26.15	19.00	173.36	-85.97	-2,556.21	3,626.56	3,600.11	26.46	137.084		
5,800.00	5,666.41	5,011.72	4,966.79	26.70	19.41	173.37	-88.15	-2,572.34	3,669.16	3,642.21	26.96	136.110		
5,900.00	5,762.98	5,102.19	5,055.78	27.26	19.81	173.38	-90.33	-2,588.48	3,711.77	3,684.31	27.46	135.170		
6,000.00	5,859.55	5,192.66	5,144.77	27.81	20.22	173.39	-92.51	-2,604.62	3,754.37	3,726.41	27.96	134.261		
6,100.00	5,956.13	5,283.13	5,233.76	28.36	20.62	173.39	-94.69	-2,620.76	3,796.98	3,768.51	28.47	133.382		
6,200.00	6,052.70	5,373.60	5,322.75	28.92	21.03	173.40	-96.88	-2,636.90	3,839.58	3,810.61	28.97	132.532		
6,300.00	6,149.27	5,464.07	5,411.74	29.47	21.44	173.41	-99.06	-2,653.03	3,882.18	3,852.71	29.48	131.708		
6,400.00	6,245.85	5,554.54	5,500.74	30.02	21.85	173.41	-101.24	-2,669.17	3,924.79	3,894.81	29.98	130.911		
6,500.00	6,342.42	5,645.01	5,589.73	30.58	22.25	173.42	-103.42	-2,685.31	3,967.39	3,936.91	30.49	130.139		
6,600.00	6,439.00	5,735.48	5,678.72	31.13	22.66	173.43	-105.60	-2,701.45	4,010.00	3,979.00	30.99	129.390		
6,700.00	6,535.57	5,825.95	5,767.71	31.69	23.07	173.43	-107.78	-2,717.59	4,052.60	4,021.10	31.50	128.663		
6,800.00	6,632.14	5,916.42	5,856.70	32.24	23.48	173.44	-109.96	-2,733.73	4,095.20	4,063.20	32.00	127.959		
6,900.00	6,728.72	6,006.89	5,945.70	32.80	23.89	173.44	-112.14	-2,749.86	4,137.81	4,105.30	32.51	127.274		
7,000.00	6,825.29	6,097.36	6,034.69	33.35	24.30	173.45	-114.32	-2,766.00	4,180.41	4,147.39	33.02	126.609		
7,100.00	6,921.86	6,187.83	6,123.68	33.91	24.71	173.45	-116.50	-2,782.14	4,223.02	4,189.49	33.53	125.963		
7,200.00	7,018.44	6,278.30	6,212.67	34.46	25.12	173.46	-118.68	-2,798.28	4,265.62	4,231.59	34.03	125.335		
7,300.00	7,115.01	6,368.77	6,301.66	35.02	25.53	173.47	-120.86	-2,814.42	4,308.22	4,273.68	34.54	124.725		
7,400.00	7,211.59	6,459.23	6,390.66	35.57	25.94	173.47	-123.04	-2,830.55	4,350.83	4,315.78	35.05	124.130		
7,497.28	7,305.53	6,547.22	6,477.22	36.11	26.34	173.48	-125.17	-2,846.69	4,392.27	4,356.73	35.55	123.568		
7,500.00	7,308.16	6,549.70	6,479.65	36.13	26.36	173.48	-125.23	-2,846.69	4,393.43	4,357.87	35.56	123.552		
7,600.00	7,405.19	6,640.93	6,569.39	36.66	26.77	173.58	-127.42	-2,862.97	4,434.37	4,398.30	36.07	122.945		
7,700.00	7,503.00	6,734.83	6,661.30	37.16	27.18	173.76	-129.60	-2,879.30	4,475.31	4,439.24	36.58	122.338		
7,800.00	7,601.48	6,833.31	6,755.78	37.61	27.59	173.82	-131.78	-2,895.63	4,516.25	4,480.18	37.09	121.731		
7,900.00	7,700.51	6,932.33	6,854.81	38.02	28.00	173.87	-133.96	-2,911.96	4,557.19	4,521.12	37.60	121.124		
8,000.00	7,799.96	7,031.78	6,954.26	38.39	28.41	173.91	-136.14	-2,928.29	4,598.13	4,563.06	38.11	120.517		
8,100.00	7,899.71	7,131.54	7,054.01	38.73	28.82	173.93	-138.32	-2,944.62	4,639.07	4,604.00	38.62	119.910		
8,200.00	7,999.65	7,231.30	7,153.76	39.02	29.23	173.94	-140.50	-2,960.95	4,679.91	4,644.84	39.13	119.303		
8,249.36	8,049.00	8,080.83	8,003.30	39.15	31.90	-89.46	-139.04	-2,948.92	4,522.13	4,480.12	42.00	107.658		
8,254.20	8,053.84	8,085.67	8,008.14	39.16	31.92	-89.46	-139.04	-2,948.92	4,522.13	4,480.10	42.03	107.601		
8,300.00	8,099.64	8,130.28	8,052.76	39.28	32.06	-89.46	-138.99	-2,948.92	4,522.13	4,479.90	42.23	107.075		
8,400.00	8,199.64	8,216.14	8,138.20	39.54	32.31	-89.36	-131.42	-2,949.00	4,522.31	4,479.66	42.65	106.045		
8,500.00	8,299.64	8,300.00	8,219.65	39.79	32.55	-89.11	-111.79	-2,949.19	4,522.87	4,479.83	43.04	105.090		
8,600.00	8,399.64	8,373.08	8,287.65	40.05	32.74	-88.77	-85.14	-2,949.46	4,523.98	4,480.59	43.39	104.261		
8,700.00	8,499.64	8,440.02	8,346.50	40.31	32.89	-88.37	-53.33	-2,949.78	4,525.88	4,482.16	43.72	103.522		
8,800.00	8,599.64	8,500.00	8,395.76	40.57	33.02	-87.94	-19.16	-2,950.12	4,528.81	4,484.79	44.02	102.876		
8,900.00	8,699.64	8,550.00	8,433.92	40.84	33.11	-87.53	13.13	-2,950.44	4,532.99	4,488.69	44.30	102.336		
9,000.00	8,799.64	8,600.00	8,469.11	41.10	33.19	-87.08	48.62	-2,950.79	4,538.61	4,494.05	44.56	101.854		
9,100.00	8,899.64	8,630.07	8,488.74	41.37	33.24	-86.79	71.40	-2,951.02	4,545.80	4,501.03	44.77	101.531		
9,200.00	8,999.64	8,662.34	8,508.44	41.64	33.29	-86.47	96.95	-2,951.27	4,554.70	4,509.72	44.98	101.261		
9,300.00	9,099.64	8,700.00	8,529.57	41.91	33.34	-86.08	128.11	-2,951.58	4,565.41	4,520.22	45.19	101.028		
9,400.00	9,199.64	8,714.62	8,537.22	42.18	33.36	-85.92	140.57	-2,951.70	4,577.92	4,532.59	45.34	100.979		
9,444.40	9,244.04	8,724.42	8,542.16	42.30	33.38	-85.82	149.03	-2,951.79	4,584.09	4,538.68	45.40	100.961		
9,450.00	9,249.64	8,725.63	8,542.76	42.31	33.38	-85.18	150.08	-2,951.80	4,584.89	4,539.48	45.41	100.960		
9,500.00	9,299.56	8,750.00	8,554.38	42.44	33.41	-84.20	171.50	-2,952.01	4,592.15	4,546.63	45.52	100.885		
9,550.00	9,349.05	8,750.00	8,554.38	42.57	33.41	-83.47	171.50	-2,952.01	4,599.35	4,553.79	45.56	100.951		
9,600.00	9,397.74	8,750.00	8,554.38	42.69	33.41	-82.75	171.50	-2,952.01	4,606.60	4,561.00	45.60	101.031		

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 304H
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 304H	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 #2	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	9,445.26	8,775.08	8,565.37	42.80	33.45	-81.81	194.04	-2,952.24	4,613.65	4,567.96	45.69	100.971		
9,700.00	9,491.25	8,800.00	8,575.31	42.91	33.49	-80.91	216.89	-2,952.46	4,620.59	4,574.81	45.78	100.920		
9,750.00	9,535.36	8,800.00	8,575.31	43.00	33.49	-80.25	216.89	-2,952.46	4,627.20	4,581.39	45.81	101.009		
9,800.00	9,577.25	8,818.16	8,581.92	43.08	33.51	-79.50	233.80	-2,952.63	4,633.52	4,587.63	45.88	100.989		
9,850.00	9,616.61	8,833.30	8,587.02	43.15	33.54	-78.81	248.05	-2,952.77	4,639.44	4,593.50	45.94	100.980		
9,900.00	9,653.13	8,850.00	8,592.21	43.21	33.56	-78.17	263.93	-2,952.93	4,644.91	4,598.90	46.01	100.951		
9,950.00	9,686.53	8,850.00	8,592.21	43.27	33.56	-77.68	263.93	-2,952.93	4,649.95	4,603.91	46.04	101.007		
10,000.00	9,716.57	8,880.38	8,600.45	43.31	33.62	-77.11	293.16	-2,953.22	4,654.29	4,608.14	46.15	100.853		
10,050.00	9,743.01	8,900.00	8,604.94	43.35	33.65	-76.66	312.26	-2,953.41	4,658.11	4,611.88	46.24	100.745		
10,100.00	9,765.66	8,900.00	8,604.94	43.38	33.65	-76.35	312.26	-2,953.41	4,661.34	4,615.06	46.28	100.729		
10,150.00	9,784.34	8,929.14	8,610.40	43.41	33.71	-76.03	340.88	-2,953.70	4,663.80	4,617.40	46.41	100.498		
10,200.00	9,798.90	8,950.00	8,613.41	43.43	33.76	-75.82	361.52	-2,953.90	4,665.63	4,619.11	46.52	100.291		
10,250.00	9,809.24	8,950.00	8,613.41	43.47	33.76	-75.70	361.52	-2,953.90	4,666.79	4,620.21	46.58	100.178		
10,300.00	9,815.28	8,978.70	8,616.32	43.50	33.82	-75.65	390.07	-2,954.19	4,667.14	4,620.40	46.74	99.846		
10,344.40	9,817.00	9,000.00	8,617.55	43.54	33.88	-75.69	411.33	-2,954.40	4,666.90	4,620.02	46.88	99.551		
10,400.00	9,817.00	9,011.84	8,617.90	43.61	33.91	-75.69	423.16	-2,954.52	4,666.44	4,619.42	47.02	99.248		
10,430.00	9,817.00	9,022.57	8,618.00	43.65	33.94	-75.69	433.89	-2,954.62	4,666.38	4,619.26	47.12	99.039		
10,500.00	9,817.00	9,090.23	8,618.00	43.77	34.16	-75.69	501.55	-2,955.30	4,666.41	4,618.93	47.49	98.268		
10,600.00	9,817.00	9,190.23	8,618.00	43.98	34.55	-75.69	601.55	-2,956.29	4,666.46	4,618.34	48.12	96.978		
10,700.00	9,817.00	9,290.23	8,618.00	44.25	35.04	-75.69	701.54	-2,957.28	4,666.51	4,617.66	48.85	95.529		
10,800.00	9,817.00	9,390.23	8,618.00	44.59	35.61	-75.69	801.54	-2,958.28	4,666.56	4,616.89	49.67	93.945		
10,900.00	9,817.00	9,490.23	8,618.00	44.99	36.26	-75.69	901.53	-2,959.27	4,666.61	4,616.03	50.59	92.250		
11,000.00	9,817.00	9,590.23	8,618.00	45.47	36.98	-75.69	1,001.53	-2,960.27	4,666.66	4,615.08	51.58	90.466		
11,100.00	9,817.00	9,690.23	8,618.00	46.01	37.76	-75.69	1,101.52	-2,961.26	4,666.71	4,614.05	52.66	88.615		
11,200.00	9,817.00	9,790.23	8,618.00	46.61	38.60	-75.69	1,201.52	-2,962.26	4,666.76	4,612.95	53.82	86.717		
11,300.00	9,817.00	9,890.23	8,618.00	47.28	39.50	-75.69	1,301.51	-2,963.25	4,666.81	4,611.77	55.04	84.791		
11,400.00	9,817.00	9,990.23	8,618.00	48.01	40.44	-75.69	1,401.51	-2,964.25	4,666.86	4,610.54	56.33	82.852		
11,500.00	9,817.00	10,090.23	8,618.00	48.79	41.43	-75.69	1,501.50	-2,965.24	4,666.91	4,609.24	57.68	80.913		
11,600.00	9,817.00	10,190.23	8,618.00	49.63	42.47	-75.69	1,601.50	-2,966.24	4,666.96	4,607.88	59.09	78.987		
11,700.00	9,817.00	10,290.23	8,618.00	50.51	43.54	-75.69	1,701.49	-2,967.23	4,667.01	4,606.47	60.55	77.082		
11,800.00	9,817.00	10,390.23	8,618.00	51.44	44.64	-75.69	1,801.49	-2,968.23	4,667.06	4,605.01	62.06	75.208		
11,900.00	9,817.00	10,490.23	8,618.00	52.41	45.78	-75.69	1,901.48	-2,969.22	4,667.11	4,603.50	63.61	73.369		
12,000.00	9,817.00	10,590.23	8,618.00	53.42	46.95	-75.69	2,001.48	-2,970.22	4,667.16	4,601.95	65.21	71.572		
12,100.00	9,817.00	10,690.23	8,618.00	54.47	48.15	-75.69	2,101.47	-2,971.21	4,667.21	4,600.37	66.85	69.819		
12,200.00	9,817.00	10,790.23	8,618.00	55.54	49.38	-75.69	2,201.47	-2,972.21	4,667.26	4,598.74	68.52	68.113		
12,300.00	9,817.00	10,890.23	8,618.00	56.65	50.63	-75.69	2,301.46	-2,973.20	4,667.31	4,597.08	70.23	66.457		
12,400.00	9,817.00	10,990.23	8,618.00	57.79	51.90	-75.69	2,401.46	-2,974.19	4,667.37	4,595.39	71.97	64.851		
12,500.00	9,817.00	11,090.23	8,618.00	58.95	53.19	-75.69	2,501.45	-2,975.19	4,667.42	4,593.68	73.74	63.296		
12,600.00	9,817.00	11,190.23	8,618.00	60.14	54.50	-75.69	2,601.45	-2,976.18	4,667.47	4,591.93	75.54	61.791		
12,700.00	9,817.00	11,290.23	8,618.00	61.35	55.83	-75.69	2,701.44	-2,977.18	4,667.52	4,590.16	77.36	60.336		
12,800.00	9,817.00	11,390.23	8,618.00	62.58	57.18	-75.69	2,801.44	-2,978.17	4,667.57	4,588.36	79.20	58.930		
12,900.00	9,817.00	11,490.23	8,618.00	63.83	58.54	-75.69	2,901.43	-2,979.17	4,667.62	4,586.54	81.07	57.573		
13,000.00	9,817.00	11,590.23	8,618.00	65.10	59.92	-75.70	3,001.43	-2,980.16	4,667.67	4,584.70	82.96	56.263		
13,100.00	9,817.00	11,690.23	8,618.00	66.39	61.31	-75.70	3,101.42	-2,981.16	4,667.72	4,582.85	84.87	54.999		
13,200.00	9,817.00	11,790.23	8,618.00	67.69	62.71	-75.70	3,201.42	-2,982.15	4,667.77	4,580.97	86.79	53.780		
13,300.00	9,817.00	11,890.23	8,618.00	69.01	64.13	-75.70	3,301.41	-2,983.15	4,667.82	4,579.08	88.74	52.603		
13,400.00	9,817.00	11,990.23	8,618.00	70.35	65.55	-75.70	3,401.41	-2,984.14	4,667.87	4,577.17	90.69	51.468		
13,500.00	9,817.00	12,090.23	8,618.00	71.70	66.99	-75.70	3,501.40	-2,985.14	4,667.92	4,575.25	92.67	50.373		
13,600.00	9,817.00	12,190.23	8,618.00	73.06	68.44	-75.70	3,601.40	-2,986.13	4,667.97	4,573.31	94.65	49.316		
13,700.00	9,817.00	12,290.23	8,618.00	74.43	69.89	-75.70	3,701.39	-2,987.13	4,668.02	4,571.36	96.65	48.297		
13,800.00	9,817.00	12,390.23	8,618.00	75.81	71.36	-75.70	3,801.39	-2,988.12	4,668.07	4,569.40	98.66	47.313		
13,900.00	9,817.00	12,490.23	8,618.00	77.21	72.83	-75.70	3,901.38	-2,989.11	4,668.12	4,567.43	100.69	46.363		

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 304H
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 304H	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 #2	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	9,817.00	12,590.23	8,618.00	78.61	74.31	-75.70	4,001.38	-2,990.11	4,668.17	4,565.45	102.72	45.445		
14,100.00	9,817.00	12,690.23	8,618.00	80.03	75.79	-75.70	4,101.37	-2,991.10	4,668.22	4,563.45	104.76	44.559		
14,200.00	9,817.00	12,790.23	8,618.00	81.45	77.29	-75.70	4,201.37	-2,992.10	4,668.27	4,561.45	106.82	43.703		
14,300.00	9,817.00	12,890.23	8,618.00	82.88	78.79	-75.70	4,301.36	-2,993.09	4,668.32	4,559.44	108.88	42.876		
14,400.00	9,817.00	12,990.23	8,618.00	84.32	80.29	-75.70	4,401.36	-2,994.09	4,668.37	4,557.42	110.95	42.076		
14,500.00	9,817.00	13,090.23	8,618.00	85.77	81.80	-75.70	4,501.35	-2,995.08	4,668.42	4,555.39	113.03	41.303		
14,600.00	9,817.00	13,190.23	8,618.00	87.22	83.32	-75.70	4,601.35	-2,996.08	4,668.47	4,553.35	115.12	40.555		
14,700.00	9,817.00	13,290.23	8,618.00	88.69	84.84	-75.70	4,701.35	-2,997.07	4,668.52	4,551.31	117.21	39.831		
14,800.00	9,817.00	13,390.23	8,618.00	90.16	86.37	-75.70	4,801.34	-2,998.07	4,668.57	4,549.26	119.31	39.130		
14,900.00	9,817.00	13,490.23	8,618.00	91.63	87.90	-75.70	4,901.34	-2,999.06	4,668.62	4,547.20	121.42	38.452		
15,000.00	9,817.00	13,590.23	8,618.00	93.11	89.43	-75.70	5,001.33	-3,000.06	4,668.67	4,545.14	123.53	37.794		
15,100.00	9,817.00	13,690.23	8,618.00	94.60	90.97	-75.70	5,101.33	-3,001.05	4,668.72	4,543.07	125.65	37.157		
15,200.00	9,817.00	13,790.23	8,618.00	96.09	92.52	-75.70	5,201.32	-3,002.05	4,668.77	4,541.00	127.77	36.540		
15,300.00	9,817.00	13,890.23	8,618.00	97.59	94.06	-75.70	5,301.32	-3,003.04	4,668.82	4,538.92	129.90	35.941		
15,400.00	9,817.00	13,990.23	8,618.00	99.09	95.61	-75.70	5,401.31	-3,004.03	4,668.87	4,536.83	132.03	35.361		
15,500.00	9,817.00	14,090.23	8,618.00	100.60	97.17	-75.70	5,501.31	-3,005.03	4,668.92	4,534.75	134.17	34.798		
15,600.00	9,817.00	14,190.23	8,618.00	102.11	98.72	-75.70	5,601.30	-3,006.02	4,668.97	4,532.65	136.32	34.251		
15,700.00	9,817.00	14,290.23	8,618.00	103.62	100.28	-75.70	5,701.30	-3,007.02	4,669.02	4,530.56	138.46	33.721		
15,800.00	9,817.00	14,390.23	8,618.00	105.14	101.85	-75.70	5,801.29	-3,008.01	4,669.07	4,528.46	140.61	33.205		
15,900.00	9,817.00	14,490.23	8,618.00	106.67	103.41	-75.70	5,901.29	-3,009.01	4,669.12	4,526.35	142.77	32.705		
16,000.00	9,817.00	14,590.23	8,618.00	108.20	104.98	-75.70	6,001.28	-3,010.00	4,669.17	4,524.24	144.93	32.218		
16,100.00	9,817.00	14,690.23	8,618.00	109.73	106.55	-75.70	6,101.28	-3,011.00	4,669.22	4,522.13	147.09	31.745		
16,200.00	9,817.00	14,790.23	8,618.00	111.26	108.13	-75.70	6,201.27	-3,011.99	4,669.27	4,520.02	149.25	31.284		
16,300.00	9,817.00	14,890.23	8,618.00	112.80	109.70	-75.70	6,301.27	-3,012.99	4,669.32	4,517.90	151.42	30.837		
16,400.00	9,817.00	14,990.23	8,618.00	114.34	111.28	-75.70	6,401.26	-3,013.98	4,669.37	4,515.78	153.59	30.401		
16,500.00	9,817.00	15,090.23	8,618.00	115.89	112.86	-75.70	6,501.26	-3,014.98	4,669.42	4,513.65	155.77	29.977		
16,600.00	9,817.00	15,190.23	8,618.00	117.43	114.44	-75.70	6,601.25	-3,015.97	4,669.47	4,511.52	157.95	29.564		
16,700.00	9,817.00	15,290.23	8,618.00	118.98	116.02	-75.70	6,701.25	-3,016.97	4,669.52	4,509.39	160.13	29.161		
16,800.00	9,817.00	15,390.23	8,618.00	120.54	117.61	-75.70	6,801.24	-3,017.96	4,669.57	4,507.26	162.31	28.769		
16,900.00	9,817.00	15,490.23	8,618.00	122.09	119.20	-75.70	6,901.24	-3,018.95	4,669.62	4,505.12	164.50	28.387		
17,000.00	9,817.00	15,590.23	8,618.00	123.65	120.79	-75.70	7,001.23	-3,019.95	4,669.67	4,502.98	166.69	28.015		
17,100.00	9,817.00	15,690.23	8,618.00	125.21	122.38	-75.70	7,101.23	-3,020.94	4,669.72	4,500.84	168.88	27.652		
17,200.00	9,817.00	15,790.23	8,618.00	126.77	123.97	-75.70	7,201.22	-3,021.94	4,669.77	4,498.70	171.07	27.297		
17,300.00	9,817.00	15,890.23	8,618.00	128.34	125.57	-75.70	7,301.22	-3,022.93	4,669.82	4,496.55	173.27	26.952		
17,400.00	9,817.00	15,990.23	8,618.00	129.90	127.16	-75.70	7,401.21	-3,023.93	4,669.87	4,494.41	175.46	26.614		
17,500.00	9,817.00	16,090.23	8,618.00	131.47	128.76	-75.70	7,501.21	-3,024.92	4,669.92	4,492.26	177.66	26.285		
17,600.00	9,817.00	16,190.23	8,618.00	133.04	130.36	-75.70	7,601.20	-3,025.92	4,669.97	4,490.11	179.86	25.964		
17,700.00	9,817.00	16,290.23	8,618.00	134.62	131.96	-75.70	7,701.20	-3,026.91	4,670.02	4,487.95	182.07	25.650		
17,800.00	9,817.00	16,390.23	8,618.00	136.19	133.56	-75.70	7,801.19	-3,027.91	4,670.07	4,485.80	184.27	25.343		
17,900.00	9,817.00	16,490.23	8,618.00	137.77	135.16	-75.70	7,901.19	-3,028.90	4,670.12	4,483.64	186.48	25.044		
18,000.00	9,817.00	16,590.23	8,618.00	139.35	136.76	-75.70	8,001.18	-3,029.90	4,670.17	4,481.49	188.68	24.751		
18,100.00	9,817.00	16,690.23	8,618.00	140.93	138.37	-75.70	8,101.18	-3,030.89	4,670.22	4,479.33	190.89	24.465		
18,200.00	9,817.00	16,790.23	8,618.00	142.51	139.97	-75.70	8,201.17	-3,031.89	4,670.27	4,477.17	193.10	24.185		
18,300.00	9,817.00	16,890.23	8,618.00	144.09	141.58	-75.70	8,301.17	-3,032.88	4,670.32	4,475.00	195.32	23.912		
18,400.00	9,817.00	16,990.23	8,618.00	145.68	143.19	-75.70	8,401.16	-3,033.87	4,670.37	4,472.84	197.53	23.644		
18,500.00	9,817.00	17,090.23	8,618.00	147.26	144.80	-75.70	8,501.16	-3,034.87	4,670.42	4,470.67	199.75	23.382		
18,600.00	9,817.00	17,190.23	8,618.00	148.85	146.41	-75.70	8,601.15	-3,035.86	4,670.47	4,468.51	201.96	23.125		
18,700.00	9,817.00	17,290.23	8,618.00	150.44	148.02	-75.70	8,701.15	-3,036.86	4,670.52	4,466.34	204.18	22.874		
18,800.00	9,817.00	17,390.23	8,618.00	152.03	149.63	-75.70	8,801.14	-3,037.85	4,670.57	4,464.17	206.40	22.629		
18,900.00	9,817.00	17,490.23	8,618.00	153.62	151.24	-75.70	8,901.14	-3,038.85	4,670.62	4,462.00	208.62	22.388		
19,000.00	9,817.00	17,590.23	8,618.00	155.22	152.86	-75.70	9,001.13	-3,039.84	4,670.67	4,459.83	210.84	22.152		
19,100.00	9,817.00	17,690.23	8,618.00	156.81	154.47	-75.70	9,101.13	-3,040.84	4,670.72	4,457.65	213.07	21.921		

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 304H
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 304H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 usft
FMM Fed Com - FMM Fed Com 101H - OH - Plan #1												Offset Well Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													
Reference		Offset		Semi Major Axis			Distance						
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	9,817.00	17,790.23	8,618.00	158.41	156.08	-75.70	9,201.12	-3,041.83	4,670.77	4,455.48	215.29	21.695	
19,300.00	9,817.00	17,890.23	8,618.00	160.00	157.70	-75.70	9,301.12	-3,042.83	4,670.82	4,453.31	217.51	21.474	
19,400.00	9,817.00	17,990.23	8,618.00	161.60	159.32	-75.71	9,401.11	-3,043.82	4,670.87	4,451.13	219.74	21.256	
19,500.00	9,817.00	18,090.23	8,618.00	163.20	160.93	-75.71	9,501.11	-3,044.82	4,670.92	4,448.96	221.97	21.043	
19,600.00	9,817.00	18,190.23	8,618.00	164.80	162.55	-75.71	9,601.10	-3,045.81	4,670.97	4,446.78	224.19	20.835	
19,700.00	9,817.00	18,290.23	8,618.00	166.40	164.17	-75.71	9,701.10	-3,046.81	4,671.02	4,444.60	226.42	20.630	
19,800.00	9,817.00	18,390.23	8,618.00	168.00	165.79	-75.71	9,801.09	-3,047.80	4,671.07	4,442.42	228.65	20.429	
19,900.00	9,817.00	18,490.23	8,618.00	169.60	167.41	-75.71	9,901.09	-3,048.79	4,671.12	4,440.24	230.88	20.232	
20,000.00	9,817.00	18,590.23	8,618.00	171.21	169.03	-75.71	10,001.08	-3,049.79	4,671.17	4,438.06	233.11	20.038	
20,032.59	9,817.00	18,622.82	8,618.00	171.73	169.56	-75.71	10,033.67	-3,050.11	4,671.19	4,437.35	233.84	19.976 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 304H
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 304H	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 #2	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	-18.57	-2,011.10	2,011.67					
100.00	100.00	56.20	56.20	0.13	0.07	-90.53	-18.57	-2,011.10	2,011.19	2,011.04	0.14	N/A		
200.00	200.00	156.20	156.20	0.48	0.33	-90.53	-18.57	-2,011.10	2,011.19	2,010.60	0.58	3,443.718		
300.00	300.00	256.20	256.20	0.84	0.69	-90.53	-18.57	-2,011.10	2,011.19	2,010.10	1.09	1,851.903		
400.00	400.00	356.20	356.20	1.20	1.04	-90.53	-18.57	-2,011.10	2,011.19	2,009.60	1.59	1,263.980		
500.00	500.00	456.20	456.20	1.56	1.40	-90.53	-18.57	-2,011.10	2,011.19	2,009.09	2.10	959.000		
600.00	600.00	556.20	556.20	1.92	1.76	-90.53	-18.57	-2,011.10	2,011.19	2,008.59	2.60	772.478		
700.00	700.00	656.20	656.20	2.28	2.12	-90.53	-18.57	-2,011.10	2,011.19	2,008.08	3.11	646.658		
800.00	800.00	756.20	756.20	2.63	2.48	-90.53	-18.57	-2,011.10	2,011.19	2,007.57	3.62	556.068		
900.00	900.00	856.20	856.20	2.99	2.84	-90.53	-18.57	-2,011.10	2,011.19	2,007.07	4.12	487.733		
1,000.00	1,000.00	956.20	956.20	3.35	3.19	-90.53	-18.57	-2,011.10	2,011.19	2,006.56	4.63	434.350		
1,100.00	1,100.00	1,056.20	1,056.20	3.71	3.55	-90.53	-18.57	-2,011.10	2,011.19	2,006.05	5.14	391.498		
1,200.00	1,200.00	1,156.20	1,156.20	4.07	3.91	-90.53	-18.57	-2,011.10	2,011.19	2,005.54	5.64	356.340		
1,300.00	1,300.00	1,256.20	1,256.20	4.43	4.27	-90.53	-18.57	-2,011.10	2,011.19	2,005.04	6.15	326.976		
1,400.00	1,400.00	1,356.20	1,356.20	4.79	4.63	-90.53	-18.57	-2,011.10	2,011.19	2,004.53	6.66	302.082 CC, ES		
1,500.00	1,499.98	1,456.18	1,456.18	5.13	4.99	172.87	-18.57	-2,011.10	2,012.92	2,005.76	7.16	281.232		
1,600.00	1,599.84	1,556.04	1,556.04	5.48	5.34	172.88	-18.57	-2,011.10	2,018.11	2,010.46	7.65	263.743		
1,700.00	1,699.45	1,655.65	1,655.65	5.83	5.70	172.89	-18.57	-2,011.10	2,026.76	2,018.61	8.15	248.769		
1,800.00	1,798.70	1,754.90	1,754.90	6.18	6.06	172.90	-18.57	-2,011.10	2,038.86	2,030.21	8.64	235.900		
1,900.00	1,897.47	1,853.67	1,853.67	6.55	6.41	172.92	-18.57	-2,011.10	2,054.38	2,045.24	9.14	224.805		
2,000.00	1,995.62	1,951.82	1,951.82	6.93	6.76	172.93	-18.57	-2,011.10	2,073.32	2,063.69	9.63	215.217		
2,100.00	2,093.06	2,101.24	2,101.23	7.34	7.29	172.98	-19.04	-2,009.85	2,095.04	2,084.79	10.25	204.392		
2,152.08	2,143.47	2,206.13	2,206.03	7.56	7.64	173.00	-20.51	-2,005.89	2,106.10	2,095.48	10.63	198.218		
2,200.00	2,189.75	2,303.48	2,303.16	7.76	7.97	173.02	-22.76	-1,999.80	2,115.54	2,104.57	10.97	192.858		
2,300.00	2,286.32	2,487.07	2,485.75	8.21	8.61	173.00	-29.34	-1,982.08	2,131.68	2,120.04	11.64	183.108		
2,400.00	2,382.90	2,585.99	2,583.94	8.67	8.96	172.97	-33.53	-1,970.77	2,146.25	2,134.12	12.14	176.825		
2,500.00	2,479.47	2,684.92	2,682.13	9.14	9.32	172.94	-37.72	-1,959.47	2,160.83	2,148.19	12.64	170.977		
2,600.00	2,576.04	2,783.84	2,780.32	9.62	9.68	172.91	-41.91	-1,948.16	2,175.40	2,162.26	13.14	165.526		
2,700.00	2,672.62	2,882.77	2,878.51	10.11	10.04	172.88	-46.10	-1,936.86	2,189.98	2,176.33	13.65	160.438		
2,800.00	2,769.19	2,981.70	2,976.70	10.60	10.41	172.86	-50.29	-1,925.55	2,204.55	2,190.39	14.16	155.682		
2,900.00	2,865.77	3,080.62	3,074.89	11.10	10.78	172.83	-54.48	-1,914.25	2,219.13	2,204.45	14.67	151.228		
3,000.00	2,962.34	3,179.55	3,173.08	11.61	11.15	172.80	-58.68	-1,902.94	2,233.70	2,218.51	15.19	147.052		
3,100.00	3,058.91	3,278.48	3,271.26	12.12	11.52	172.77	-62.87	-1,891.64	2,248.28	2,232.57	15.71	143.129		
3,200.00	3,155.49	3,377.40	3,369.45	12.64	11.90	172.74	-67.06	-1,880.34	2,262.86	2,246.63	16.23	139.440		
3,300.00	3,252.06	3,476.33	3,467.64	13.16	12.27	172.72	-71.25	-1,869.03	2,277.43	2,260.68	16.75	135.965		
3,400.00	3,348.63	3,575.25	3,565.83	13.68	12.65	172.69	-75.44	-1,857.73	2,292.01	2,274.74	17.27	132.687		
3,500.00	3,445.21	3,674.18	3,664.02	14.21	13.03	172.67	-79.63	-1,846.42	2,306.59	2,288.79	17.80	129.591		
3,600.00	3,541.78	3,773.11	3,762.21	14.74	13.41	172.64	-83.82	-1,835.12	2,321.17	2,302.84	18.33	126.663		
3,700.00	3,638.36	3,872.03	3,860.40	15.27	13.80	172.61	-88.02	-1,823.81	2,335.75	2,316.90	18.85	123.889		
3,800.00	3,734.93	3,970.96	3,958.59	15.80	14.18	172.59	-92.21	-1,812.51	2,350.33	2,330.95	19.38	121.260		
3,900.00	3,831.50	4,069.88	4,056.77	16.33	14.57	172.56	-96.40	-1,801.20	2,364.91	2,345.00	19.91	118.763		
4,000.00	3,928.08	4,168.81	4,154.96	16.87	14.96	172.54	-100.59	-1,789.90	2,379.49	2,359.05	20.44	116.390		
4,100.00	4,024.65	4,267.74	4,253.15	17.41	15.34	172.52	-104.78	-1,778.59	2,394.07	2,373.10	20.98	114.133		
4,200.00	4,121.22	4,366.66	4,351.34	17.95	15.73	172.49	-108.97	-1,767.29	2,408.65	2,387.14	21.51	111.982		
4,300.00	4,217.80	4,465.59	4,449.53	18.49	16.12	172.47	-113.16	-1,755.99	2,423.24	2,401.19	22.04	109.931		
4,400.00	4,314.37	4,564.52	4,547.72	19.03	16.51	172.44	-117.35	-1,744.68	2,437.82	2,415.24	22.58	107.974		
4,500.00	4,410.95	4,663.44	4,645.91	19.58	16.90	172.42	-121.55	-1,733.38	2,452.40	2,429.29	23.11	106.104		
4,600.00	4,507.52	4,762.37	4,744.10	20.12	17.29	172.40	-125.74	-1,722.07	2,466.98	2,443.34	23.65	104.315		
4,700.00	4,604.09	4,861.29	4,842.28	20.66	17.68	172.38	-129.93	-1,710.77	2,481.57	2,457.38	24.19	102.604		
4,800.00	4,700.67	4,960.22	4,940.47	21.21	18.08	172.35	-134.12	-1,699.46	2,496.15	2,471.43	24.72	100.964		
4,900.00	4,797.24	5,059.15	5,038.66	21.76	18.47	172.33	-138.31	-1,688.16	2,510.74	2,485.48	25.26	99.391		
5,000.00	4,893.81	5,158.07	5,136.85	22.30	18.86	172.31	-142.50	-1,676.85	2,525.32	2,499.52	25.80	97.883		

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 304H
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 304H	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 #2	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	4,990.39	5,257.00	5,235.04	22.85	19.26	172.29	-146.69	-1,665.55	2,539.91	2,513.57	26.34	96.434		
5,200.00	5,086.96	5,355.93	5,333.23	23.40	19.65	172.27	-150.89	-1,654.25	2,554.49	2,527.61	26.88	95.041		
5,300.00	5,183.54	5,454.85	5,431.42	23.95	20.05	172.25	-155.08	-1,642.94	2,569.08	2,541.66	27.42	93.702		
5,400.00	5,280.11	5,553.78	5,529.61	24.50	20.44	172.23	-159.27	-1,631.64	2,583.66	2,555.71	27.96	92.413		
5,500.00	5,376.68	5,652.70	5,627.79	25.05	20.84	172.21	-163.46	-1,620.33	2,598.25	2,569.75	28.50	91.172		
5,600.00	5,473.26	5,751.63	5,725.98	25.60	21.23	172.19	-167.65	-1,609.03	2,612.84	2,583.80	29.04	89.976		
5,700.00	5,569.83	5,850.56	5,824.17	26.15	21.63	172.17	-171.84	-1,597.72	2,627.42	2,597.84	29.58	88.822		
5,800.00	5,666.41	5,949.48	5,922.36	26.70	22.02	172.15	-176.03	-1,586.42	2,642.01	2,611.89	30.12	87.709		
5,900.00	5,762.98	6,048.41	6,020.55	27.26	22.42	172.13	-180.22	-1,575.11	2,656.60	2,625.94	30.66	86.634		
6,000.00	5,859.55	6,147.34	6,118.74	27.81	22.82	172.11	-184.42	-1,563.81	2,671.19	2,639.98	31.21	85.596		
6,100.00	5,956.13	6,246.26	6,216.93	28.36	23.22	172.09	-188.61	-1,552.50	2,685.78	2,654.03	31.75	84.593		
6,200.00	6,052.70	6,345.19	6,315.12	28.92	23.61	172.07	-192.80	-1,541.20	2,700.36	2,668.07	32.29	83.622		
6,300.00	6,149.27	6,444.11	6,413.30	29.47	24.01	172.05	-196.99	-1,529.90	2,714.95	2,682.12	32.84	82.683		
6,400.00	6,245.85	6,543.04	6,511.49	30.02	24.41	172.03	-201.18	-1,518.59	2,729.54	2,696.16	33.38	81.774		
6,500.00	6,342.42	6,641.97	6,609.68	30.58	24.81	172.01	-205.37	-1,507.29	2,744.13	2,710.21	33.92	80.893		
6,600.00	6,439.00	6,740.89	6,707.87	31.13	25.21	171.99	-209.56	-1,495.98	2,758.72	2,724.26	34.47	80.039		
6,700.00	6,535.57	6,839.82	6,806.06	31.69	25.60	171.98	-213.76	-1,484.68	2,773.31	2,738.30	35.01	79.212		
6,800.00	6,632.14	6,938.75	6,874.48	32.24	25.88	171.96	-216.68	-1,476.80	2,788.06	2,752.60	35.47	78.610		
6,900.00	6,728.72	7,037.68	6,965.17	32.80	26.24	171.96	-220.17	-1,467.39	2,803.76	2,767.77	35.99	77.912		
7,000.00	6,825.29	7,136.61	7,063.85	33.35	26.41	171.96	-221.57	-1,463.59	2,820.83	2,784.48	36.35	77.593		
7,100.00	6,921.86	7,235.54	7,161.81	33.91	26.63	171.97	-223.12	-1,459.41	2,839.36	2,802.61	36.75	77.258		
7,200.00	7,018.44	7,334.47	7,262.89	34.46	26.85	171.98	-224.46	-1,455.80	2,859.28	2,822.13	37.15	76.959		
7,300.00	7,115.01	7,433.40	7,363.42	35.02	26.99	172.00	-225.17	-1,453.88	2,880.67	2,843.19	37.48	76.865		
7,400.00	7,211.59	7,532.33	7,463.95	35.57	27.25	172.03	-226.11	-1,451.35	2,903.23	2,865.32	37.92	76.569		
7,497.28	7,308.16	7,631.26	7,561.82	36.11	27.44	172.06	-226.48	-1,450.36	2,926.57	2,888.29	38.27	76.465		
7,500.00	7,308.16	7,631.26	7,561.82	36.13	27.45	172.07	-226.49	-1,450.34	2,927.24	2,888.96	38.28	76.463		
7,600.00	7,405.19	7,730.19	7,661.39	36.66	27.67	172.17	-226.57	-1,450.10	2,950.78	2,912.11	38.67	76.303		
7,700.00	7,503.00	7,829.12	7,759.20	37.16	27.98	172.28	-226.57	-1,450.10	2,971.37	2,932.20	39.17	75.851		
7,800.00	7,601.48	7,928.05	7,857.68	37.61	28.30	172.38	-226.57	-1,450.10	2,988.56	2,948.89	39.67	75.331		
7,900.00	7,700.51	8,026.98	7,956.71	38.02	28.63	172.45	-226.57	-1,450.10	3,002.34	2,962.17	40.17	74.747		
8,000.00	7,799.96	8,125.91	8,055.16	38.39	28.95	172.50	-226.57	-1,450.10	3,012.68	2,972.02	40.66	74.102		
8,100.00	7,899.71	8,224.84	8,154.91	38.73	29.28	172.54	-226.57	-1,450.10	3,019.57	2,978.43	41.14	73.399		
8,200.00	7,999.65	8,323.77	8,253.84	39.02	29.60	172.61	-223.84	-1,450.13	3,023.00	2,981.38	41.61	72.644		
8,249.36	8,049.00	8,373.70	8,303.05	39.15	29.75	-90.66	-216.87	-1,450.20	3,023.40	2,981.57	41.83	72.281		
8,272.15	8,071.80	8,396.49	8,326.00	39.21	29.82	-90.57	-212.33	-1,450.25	3,023.40	2,981.48	41.92	72.121		
8,300.00	8,099.64	8,425.42	8,354.93	39.28	29.90	-90.45	-205.77	-1,450.31	3,023.41	2,981.38	42.03	71.934		
8,400.00	8,199.64	8,524.35	8,454.93	39.54	30.13	-89.87	-174.92	-1,450.62	3,023.68	2,981.30	42.38	71.348		
8,500.00	8,299.64	8,623.28	8,553.84	39.79	30.30	-89.15	-137.29	-1,451.00	3,024.70	2,982.04	42.67	70.889		
8,600.00	8,399.64	8,722.21	8,651.75	40.05	30.42	-88.41	-97.97	-1,451.39	3,026.99	2,984.09	42.90	70.555		
8,700.00	8,499.64	8,821.14	8,749.66	40.31	30.50	-87.69	-60.19	-1,451.77	3,030.99	2,987.90	43.09	70.342		
8,800.00	8,599.64	8,920.07	8,848.59	40.57	30.56	-87.04	-25.52	-1,452.12	3,037.07	2,993.83	43.23	70.248		
8,900.00	8,699.64	9,018.99	8,948.56	40.84	30.60	-86.45	5.49	-1,452.43	3,045.49	3,002.15	43.33	70.280		
9,000.00	8,799.64	9,117.92	9,048.53	41.10	30.62	-86.01	28.91	-1,452.67	3,056.45	3,013.07	43.38	70.462		
9,100.00	8,899.64	9,216.85	9,148.50	41.37	30.65	-85.48	57.00	-1,452.95	3,070.07	3,026.66	43.41	70.715		
9,200.00	8,999.64	9,315.78	9,248.47	41.64	30.66	-85.21	71.68	-1,453.10	3,086.47	3,043.09	43.37	71.158		
9,300.00	9,099.64	9,414.71	9,346.40	41.91	30.68	-84.74	96.83	-1,453.35	3,105.62	3,062.27	43.35	71.637		
9,400.00	9,199.64	9,513.64	9,445.33	42.18	30.69	-84.37	116.55	-1,453.55	3,127.61	3,084.33	43.28	72.259		
9,444.40	9,244.04	9,563.57	9,495.26	42.30	30.69	-84.37	116.55	-1,453.55	3,138.27	3,095.05	43.21	72.621		
9,450.00	9,249.64	9,568.50	9,500.00	42.31	30.69	-83.68	116.55	-1,453.55	3,139.65	3,096.45	43.20	72.669		
9,500.00	9,299.56	9,617.43	9,550.00	42.44	30.69	-82.40	116.55	-1,453.55	3,152.15	3,109.03	43.12	73.102		
9,550.00	9,349.05	9,666.36	9,600.00	42.57	30.71	-80.75	137.73	-1,453.76	3,164.61	3,121.50	43.11	73.415		
9,600.00	9,397.74	9,715.29	9,650.00	42.69	30.71	-79.32	147.50	-1,453.86	3,177.12	3,134.07	43.05	73.808		

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 304H
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 304H	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 #2	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	9,445.26	8,650.00	8,443.92	42.80	30.73	-77.83	163.17	-1,454.01	3,189.50	3,146.49	43.00	74.167		
9,700.00	9,491.25	8,650.00	8,443.92	42.91	30.73	-76.61	163.17	-1,454.01	3,201.60	3,158.70	42.90	74.628		
9,750.00	9,535.36	8,668.83	8,449.65	43.00	30.74	-75.21	181.10	-1,454.19	3,213.30	3,170.44	42.86	74.971		
9,800.00	9,577.25	8,681.75	8,453.23	43.08	30.76	-73.95	193.51	-1,454.32	3,224.53	3,181.73	42.80	75.339		
9,850.00	9,616.61	8,700.00	8,457.82	43.15	30.78	-72.72	211.18	-1,454.49	3,235.17	3,192.41	42.76	75.661		
9,900.00	9,653.13	8,700.00	8,457.82	43.21	30.78	-71.75	211.18	-1,454.49	3,245.13	3,202.47	42.66	76.065		
9,950.00	9,686.53	8,722.93	8,462.78	43.27	30.81	-70.67	233.56	-1,454.72	3,254.24	3,211.60	42.65	76.305		
10,000.00	9,716.57	8,750.00	8,467.48	43.31	30.86	-69.68	260.21	-1,454.99	3,262.60	3,219.95	42.65	76.494		
10,050.00	9,743.01	8,750.00	8,467.48	43.35	30.86	-69.00	260.21	-1,454.99	3,269.86	3,227.28	42.58	76.788		
10,100.00	9,765.66	8,750.00	8,467.48	43.38	30.86	-68.39	260.21	-1,454.99	3,276.32	3,233.79	42.53	77.038		
10,150.00	9,784.34	8,781.68	8,471.38	43.41	30.94	-67.76	291.65	-1,455.30	3,281.45	3,238.86	42.58	77.059		
10,200.00	9,798.90	8,800.00	8,472.84	43.43	30.99	-67.31	309.91	-1,455.48	3,285.60	3,242.99	42.61	77.104		
10,250.00	9,809.24	8,800.00	8,472.84	43.47	30.99	-67.03	309.91	-1,455.48	3,288.67	3,246.06	42.61	77.180		
10,300.00	9,815.28	8,836.47	8,474.00	43.50	31.11	-66.80	346.35	-1,455.85	3,290.47	3,247.75	42.72	77.017		
10,344.40	9,817.00	8,850.72	8,474.00	43.54	31.16	-66.75	360.60	-1,455.99	3,291.04	3,248.24	42.80	76.902		
10,400.00	9,817.00	8,906.32	8,474.00	43.61	31.37	-66.75	416.20	-1,456.55	3,291.07	3,248.06	43.01	76.520		
10,500.00	9,817.00	9,006.32	8,474.00	43.77	31.84	-66.75	516.20	-1,457.55	3,291.13	3,247.64	43.48	75.691		
10,600.00	9,817.00	9,106.32	8,474.00	43.98	32.38	-66.75	616.19	-1,458.56	3,291.18	3,247.13	44.06	74.705		
10,700.00	9,817.00	9,206.32	8,474.00	44.25	33.00	-66.75	716.19	-1,459.56	3,291.24	3,246.51	44.73	73.583		
10,800.00	9,817.00	9,306.32	8,474.00	44.59	33.69	-66.75	816.18	-1,460.56	3,291.29	3,245.79	45.50	72.340		
10,900.00	9,817.00	9,406.32	8,474.00	44.99	34.44	-66.75	916.18	-1,461.57	3,291.35	3,244.99	46.36	71.000		
11,000.00	9,817.00	9,506.32	8,474.00	45.47	35.25	-66.75	1,016.17	-1,462.57	3,291.40	3,244.10	47.30	69.585		
11,100.00	9,817.00	9,606.32	8,474.00	46.01	36.12	-66.75	1,116.17	-1,463.57	3,291.46	3,243.13	48.32	68.112		
11,200.00	9,817.00	9,706.32	8,474.00	46.61	37.03	-66.75	1,216.16	-1,464.58	3,291.51	3,242.09	49.42	66.597		
11,300.00	9,817.00	9,806.32	8,474.00	47.28	38.00	-66.75	1,316.16	-1,465.58	3,291.57	3,240.97	50.59	65.058		
11,400.00	9,817.00	9,906.32	8,474.00	48.01	39.01	-66.75	1,416.15	-1,466.58	3,291.62	3,239.79	51.83	63.507		
11,500.00	9,817.00	10,006.32	8,474.00	48.79	40.07	-66.75	1,516.15	-1,467.59	3,291.68	3,238.55	53.13	61.957		
11,600.00	9,817.00	10,106.32	8,474.00	49.63	41.16	-66.75	1,616.14	-1,468.59	3,291.73	3,237.25	54.48	60.417		
11,700.00	9,817.00	10,206.32	8,474.00	50.51	42.29	-66.75	1,716.14	-1,469.59	3,291.79	3,235.90	55.89	58.896		
11,800.00	9,817.00	10,306.32	8,474.00	51.44	43.45	-66.75	1,816.13	-1,470.59	3,291.84	3,234.50	57.35	57.402		
11,900.00	9,817.00	10,406.32	8,474.00	52.41	44.64	-66.75	1,916.13	-1,471.60	3,291.90	3,233.05	58.85	55.938		
12,000.00	9,817.00	10,506.32	8,474.00	53.42	45.86	-66.76	2,016.12	-1,472.60	3,291.95	3,231.56	60.39	54.509		
12,100.00	9,817.00	10,606.32	8,474.00	54.47	47.11	-66.76	2,116.12	-1,473.60	3,292.01	3,230.03	61.98	53.118		
12,200.00	9,817.00	10,706.32	8,474.00	55.54	48.38	-66.76	2,216.11	-1,474.61	3,292.06	3,228.47	63.59	51.767		
12,300.00	9,817.00	10,806.32	8,474.00	56.65	49.67	-66.76	2,316.11	-1,475.61	3,292.12	3,226.87	65.25	50.457		
12,400.00	9,817.00	10,906.32	8,474.00	57.79	50.99	-66.76	2,416.10	-1,476.61	3,292.18	3,225.25	66.93	49.190		
12,500.00	9,817.00	11,006.32	8,474.00	58.95	52.32	-66.76	2,516.10	-1,477.62	3,292.23	3,223.59	68.64	47.965		
12,600.00	9,817.00	11,106.32	8,474.00	60.14	53.67	-66.76	2,616.09	-1,478.62	3,292.29	3,221.91	70.37	46.783		
12,700.00	9,817.00	11,206.32	8,474.00	61.35	55.03	-66.76	2,716.09	-1,479.62	3,292.34	3,220.21	72.13	45.642		
12,800.00	9,817.00	11,306.32	8,474.00	62.58	56.42	-66.76	2,816.08	-1,480.63	3,292.40	3,218.48	73.92	44.542		
12,900.00	9,817.00	11,406.32	8,474.00	63.83	57.81	-66.76	2,916.08	-1,481.63	3,292.45	3,216.73	75.72	43.482		
13,000.00	9,817.00	11,506.32	8,474.00	65.10	59.22	-66.76	3,016.07	-1,482.63	3,292.51	3,214.96	77.54	42.461		
13,100.00	9,817.00	11,606.32	8,474.00	66.39	60.64	-66.76	3,116.07	-1,483.64	3,292.56	3,213.18	79.38	41.477		
13,200.00	9,817.00	11,706.32	8,474.00	67.69	62.07	-66.76	3,216.06	-1,484.64	3,292.62	3,211.38	81.24	40.529		
13,300.00	9,817.00	11,806.32	8,474.00	69.01	63.52	-66.76	3,316.05	-1,485.64	3,292.67	3,209.56	83.12	39.616		
13,400.00	9,817.00	11,906.32	8,474.00	70.35	64.97	-66.76	3,416.05	-1,486.64	3,292.73	3,207.72	85.00	38.736		
13,500.00	9,817.00	12,006.32	8,474.00	71.70	66.43	-66.76	3,516.04	-1,487.65	3,292.78	3,205.88	86.91	37.889		
13,600.00	9,817.00	12,106.32	8,474.00	73.06	67.90	-66.76	3,616.04	-1,488.65	3,292.84	3,204.02	88.82	37.072		
13,700.00	9,817.00	12,206.32	8,474.00	74.43	69.38	-66.76	3,716.03	-1,489.65	3,292.89	3,202.14	90.75	36.286		
13,800.00	9,817.00	12,306.32	8,474.00	75.81	70.87	-66.76	3,816.03	-1,490.66	3,292.95	3,200.26	92.69	35.527		
13,900.00	9,817.00	12,406.32	8,474.00	77.21	72.36	-66.76	3,916.02	-1,491.66	3,293.00	3,198.37	94.64	34.796		
14,000.00	9,817.00	12,506.32	8,474.00	78.61	73.86	-66.76	4,016.02	-1,492.66	3,293.06	3,196.46	96.60	34.090		

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 304H
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 304H	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 #2	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	9,817.00	12,606.32	8,474.00	80.03	75.37	-66.76	4,116.01	-1,493.67	3,293.11	3,194.55	98.57	33.410		
14,200.00	9,817.00	12,706.32	8,474.00	81.45	76.88	-66.76	4,216.01	-1,494.67	3,293.17	3,192.63	100.55	32.753		
14,300.00	9,817.00	12,806.32	8,474.00	82.88	78.40	-66.76	4,316.00	-1,495.67	3,293.23	3,190.69	102.53	32.119		
14,400.00	9,817.00	12,906.32	8,474.00	84.32	79.93	-66.77	4,416.00	-1,496.68	3,293.28	3,188.75	104.53	31.507		
14,500.00	9,817.00	13,006.32	8,474.00	85.77	81.45	-66.77	4,515.99	-1,497.68	3,293.34	3,186.81	106.53	30.915		
14,600.00	9,817.00	13,106.32	8,474.00	87.22	82.99	-66.77	4,615.99	-1,498.68	3,293.39	3,184.85	108.54	30.344		
14,700.00	9,817.00	13,206.32	8,474.00	88.69	84.53	-66.77	4,715.98	-1,499.69	3,293.45	3,182.90	110.55	29.792		
14,800.00	9,817.00	13,306.32	8,474.00	90.16	86.07	-66.77	4,815.98	-1,500.69	3,293.50	3,180.93	112.57	29.258		
14,900.00	9,817.00	13,406.32	8,474.00	91.63	87.61	-66.77	4,915.97	-1,501.69	3,293.56	3,178.96	114.59	28.741		
15,000.00	9,817.00	13,506.32	8,474.00	93.11	89.16	-66.77	5,015.97	-1,502.69	3,293.61	3,176.99	116.63	28.241		
15,100.00	9,817.00	13,606.32	8,474.00	94.60	90.72	-66.77	5,115.96	-1,503.70	3,293.67	3,175.00	118.66	27.756		
15,200.00	9,817.00	13,706.32	8,474.00	96.09	92.27	-66.77	5,215.96	-1,504.70	3,293.72	3,173.02	120.71	27.287		
15,300.00	9,817.00	13,806.32	8,474.00	97.59	93.84	-66.77	5,315.95	-1,505.70	3,293.78	3,171.02	122.75	26.832		
15,400.00	9,817.00	13,906.32	8,474.00	99.09	95.40	-66.77	5,415.95	-1,506.71	3,293.83	3,169.03	124.81	26.392		
15,500.00	9,817.00	14,006.32	8,474.00	100.60	96.96	-66.77	5,515.94	-1,507.71	3,293.89	3,167.03	126.86	25.965		
15,600.00	9,817.00	14,106.32	8,474.00	102.11	98.53	-66.77	5,615.94	-1,508.71	3,293.94	3,165.03	128.92	25.551		
15,700.00	9,817.00	14,206.32	8,474.00	103.62	100.11	-66.77	5,715.93	-1,509.72	3,294.00	3,163.02	130.98	25.149		
15,800.00	9,817.00	14,306.32	8,474.00	105.14	101.68	-66.77	5,815.93	-1,510.72	3,294.05	3,161.01	133.05	24.758		
15,900.00	9,817.00	14,406.32	8,474.00	106.67	103.26	-66.77	5,915.92	-1,511.72	3,294.11	3,158.99	135.12	24.379		
16,000.00	9,817.00	14,506.32	8,474.00	108.20	104.84	-66.77	6,015.92	-1,512.73	3,294.17	3,156.97	137.19	24.011		
16,100.00	9,817.00	14,606.32	8,474.00	109.73	106.42	-66.77	6,115.91	-1,513.73	3,294.22	3,154.95	139.27	23.654		
16,200.00	9,817.00	14,706.32	8,474.00	111.26	108.00	-66.77	6,215.91	-1,514.73	3,294.28	3,152.93	141.35	23.306		
16,300.00	9,817.00	14,806.32	8,474.00	112.80	109.59	-66.77	6,315.90	-1,515.74	3,294.33	3,150.90	143.43	22.968		
16,400.00	9,817.00	14,906.32	8,474.00	114.34	111.17	-66.77	6,415.90	-1,516.74	3,294.39	3,148.87	145.52	22.639		
16,500.00	9,817.00	15,006.32	8,474.00	115.89	112.76	-66.77	6,515.89	-1,517.74	3,294.44	3,146.83	147.61	22.319		
16,600.00	9,817.00	15,106.32	8,474.00	117.43	114.35	-66.77	6,615.89	-1,518.74	3,294.50	3,144.80	149.70	22.008		
16,700.00	9,817.00	15,206.32	8,474.00	118.98	115.95	-66.77	6,715.88	-1,519.75	3,294.55	3,142.76	151.79	21.705		
16,800.00	9,817.00	15,306.32	8,474.00	120.54	117.54	-66.78	6,815.88	-1,520.75	3,294.61	3,140.72	153.88	21.410		
16,900.00	9,817.00	15,406.32	8,474.00	122.09	119.14	-66.78	6,915.87	-1,521.75	3,294.66	3,138.68	155.98	21.122		
17,000.00	9,817.00	15,506.32	8,474.00	123.65	120.73	-66.78	7,015.87	-1,522.76	3,294.72	3,136.64	158.08	20.842		
17,100.00	9,817.00	15,606.32	8,474.00	125.21	122.33	-66.78	7,115.86	-1,523.76	3,294.77	3,134.59	160.18	20.569		
17,200.00	9,817.00	15,706.32	8,474.00	126.77	123.93	-66.78	7,215.86	-1,524.76	3,294.83	3,132.54	162.29	20.303		
17,300.00	9,817.00	15,806.32	8,474.00	128.34	125.54	-66.78	7,315.85	-1,525.77	3,294.88	3,130.49	164.39	20.043		
17,400.00	9,817.00	15,906.32	8,474.00	129.90	127.14	-66.78	7,415.85	-1,526.77	3,294.94	3,128.44	166.50	19.789		
17,500.00	9,817.00	16,006.32	8,474.00	131.47	128.74	-66.78	7,515.84	-1,527.77	3,294.99	3,126.39	168.61	19.542		
17,600.00	9,817.00	16,106.32	8,474.00	133.04	130.35	-66.78	7,615.84	-1,528.78	3,295.05	3,124.33	170.72	19.301		
17,700.00	9,817.00	16,206.32	8,474.00	134.62	131.96	-66.78	7,715.83	-1,529.78	3,295.10	3,122.28	172.83	19.066		
17,800.00	9,817.00	16,306.32	8,474.00	136.19	133.56	-66.78	7,815.83	-1,530.78	3,295.16	3,120.22	174.94	18.836		
17,900.00	9,817.00	16,406.32	8,474.00	137.77	135.17	-66.78	7,915.82	-1,531.79	3,295.22	3,118.16	177.06	18.611		
18,000.00	9,817.00	16,506.32	8,474.00	139.35	136.78	-66.78	8,015.82	-1,532.79	3,295.27	3,116.10	179.17	18.392		
18,100.00	9,817.00	16,606.32	8,474.00	140.93	138.39	-66.78	8,115.81	-1,533.79	3,295.33	3,114.04	181.29	18.177		
18,200.00	9,817.00	16,706.32	8,474.00	142.51	140.00	-66.78	8,215.81	-1,534.79	3,295.38	3,111.97	183.41	17.967		
18,300.00	9,817.00	16,806.32	8,474.00	144.09	141.62	-66.78	8,315.80	-1,535.80	3,295.44	3,109.91	185.53	17.762		
18,400.00	9,817.00	16,906.32	8,474.00	145.68	143.23	-66.78	8,415.80	-1,536.80	3,295.49	3,107.84	187.65	17.562		
18,500.00	9,817.00	17,006.32	8,474.00	147.26	144.85	-66.78	8,515.79	-1,537.80	3,295.55	3,105.77	189.77	17.366		
18,600.00	9,817.00	17,106.32	8,474.00	148.85	146.46	-66.78	8,615.79	-1,538.81	3,295.60	3,103.70	191.90	17.174		
18,700.00	9,817.00	17,206.32	8,474.00	150.44	148.08	-66.78	8,715.78	-1,539.81	3,295.66	3,101.64	194.02	16.986		
18,800.00	9,817.00	17,306.32	8,474.00	152.03	149.69	-66.78	8,815.78	-1,540.81	3,295.71	3,099.57	196.14	16.802		
18,900.00	9,817.00	17,406.32	8,474.00	153.62	151.31	-66.78	8,915.77	-1,541.82	3,295.77	3,097.50	198.27	16.623		
19,000.00	9,817.00	17,506.32	8,474.00	155.22	152.93	-66.78	9,015.77	-1,542.82	3,295.82	3,095.43	200.40	16.447		
19,100.00	9,817.00	17,606.32	8,474.00	156.81	154.55	-66.78	9,115.76	-1,543.82	3,295.88	3,093.35	202.53	16.274		
19,200.00	9,817.00	17,706.32	8,474.00	158.41	156.17	-66.78	9,215.76	-1,544.83	3,295.93	3,091.28	204.66	16.105		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 304H
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 304H	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 #2	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
19,300.00	9,817.00	17,806.32	8,474.00	160.00	157.79	-66.79	9,315.75	-1,545.83	3,295.99	3,089.20	206.79	15.939	
19,400.00	9,817.00	17,906.32	8,474.00	161.60	159.41	-66.79	9,415.75	-1,546.83	3,296.04	3,087.13	208.92	15.777	
19,500.00	9,817.00	18,006.32	8,474.00	163.20	161.03	-66.79	9,515.74	-1,547.83	3,296.10	3,085.05	211.05	15.618	
19,600.00	9,817.00	18,106.32	8,474.00	164.80	162.66	-66.79	9,615.74	-1,548.84	3,296.15	3,082.97	213.18	15.462	
19,700.00	9,817.00	18,206.32	8,474.00	166.40	164.28	-66.79	9,715.73	-1,549.84	3,296.21	3,080.90	215.31	15.309	
19,800.00	9,817.00	18,306.32	8,474.00	168.00	165.90	-66.79	9,815.73	-1,550.84	3,296.27	3,078.82	217.45	15.159	
19,900.00	9,817.00	18,406.32	8,474.00	169.60	167.53	-66.79	9,915.72	-1,551.85	3,296.32	3,076.74	219.58	15.012	
20,000.00	9,817.00	18,506.32	8,474.00	171.21	169.15	-66.79	10,015.72	-1,552.85	3,296.38	3,074.66	221.72	14.868	
20,032.59	9,817.00	18,538.91	8,474.00	171.73	169.68	-66.79	10,048.30	-1,553.18	3,296.39	3,073.98	222.41	14.821 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 304H
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 304H	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 #2	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	-0.60	-74.99	74.99					
100.00	100.00	99.80	99.80	0.13	0.13	-90.46	-0.60	-74.99	74.99	74.82	0.18	423.071		
200.00	200.00	199.80	199.80	0.48	0.48	-90.46	-0.60	-74.99	74.99	74.31	0.68	109.657		
300.00	300.00	299.80	299.80	0.84	0.84	-90.46	-0.60	-74.99	74.99	73.80	1.19	62.974		
400.00	400.00	399.80	399.80	1.20	1.20	-90.46	-0.60	-74.99	74.99	73.29	1.70	44.171		
500.00	500.00	499.80	499.80	1.56	1.56	-90.46	-0.60	-74.99	74.99	72.79	2.20	34.014		
600.00	600.00	599.80	599.80	1.92	1.92	-90.46	-0.60	-74.99	74.99	72.28	2.71	27.655		
700.00	700.00	699.80	699.80	2.28	2.28	-90.46	-0.60	-74.99	74.99	71.77	3.22	23.299		
800.00	800.00	799.80	799.80	2.63	2.63	-90.46	-0.60	-74.99	74.99	71.27	3.73	20.129		
900.00	900.00	899.80	899.80	2.99	2.99	-90.46	-0.60	-74.99	74.99	70.76	4.23	17.718		
1,000.00	1,000.00	999.80	999.80	3.35	3.35	-90.46	-0.60	-74.99	74.99	70.25	4.74	15.823		
1,100.00	1,100.00	1,099.80	1,099.80	3.71	3.71	-90.46	-0.60	-74.99	74.99	69.75	5.25	14.294		
1,200.00	1,200.00	1,199.80	1,199.80	4.07	4.07	-90.46	-0.60	-74.99	74.99	69.24	5.75	13.034		
1,300.00	1,300.00	1,299.80	1,299.80	4.43	4.43	-90.46	-0.60	-74.99	74.99	68.73	6.26	11.979		
1,400.00	1,400.00	1,399.80	1,399.80	4.79	4.78	-90.46	-0.60	-74.99	74.99	68.23	6.77	11.082 CC, ES		
1,500.00	1,499.98	1,499.78	1,499.78	5.13	5.14	173.10	-0.60	-74.99	76.72	69.46	7.27	10.558		
1,600.00	1,599.84	1,599.64	1,599.64	5.48	5.50	173.53	-0.60	-74.99	81.92	74.16	7.76	10.555 SF		
1,700.00	1,699.45	1,699.25	1,699.25	5.83	5.86	174.13	-0.60	-74.99	90.59	82.33	8.26	10.971		
1,800.00	1,798.70	1,798.50	1,798.50	6.18	6.21	174.80	-0.60	-74.99	102.72	93.97	8.75	11.735		
1,900.00	1,897.47	1,897.27	1,897.27	6.55	6.57	175.46	-0.60	-74.99	118.31	109.06	9.25	12.792		
2,000.00	1,995.62	1,997.07	1,997.07	6.93	6.91	175.81	-1.24	-74.55	136.88	127.14	9.74	14.056		
2,100.00	2,093.06	2,097.23	2,097.16	7.34	7.24	175.40	-4.01	-72.69	157.39	147.17	10.22	15.406		
2,152.08	2,143.47	2,148.57	2,148.44	7.56	7.41	175.00	-6.18	-71.22	168.88	158.42	10.47	16.136		
2,200.00	2,189.75	2,195.21	2,195.02	7.76	7.57	174.70	-8.20	-69.86	179.85	169.16	10.69	16.818		
2,300.00	2,286.32	2,292.54	2,292.21	8.21	7.89	174.17	-12.42	-67.00	202.76	191.59	11.17	18.147		
2,400.00	2,382.90	2,389.87	2,389.40	8.67	8.22	173.75	-16.64	-64.15	225.68	214.02	11.66	19.361		
2,500.00	2,479.47	2,487.19	2,486.60	9.14	8.55	173.41	-20.87	-61.30	248.61	236.46	12.14	20.471		
2,600.00	2,576.04	2,584.52	2,583.79	9.62	8.88	173.12	-25.09	-58.45	271.54	258.91	12.64	21.489		
2,700.00	2,672.62	2,681.84	2,680.98	10.11	9.22	172.88	-29.31	-55.60	294.48	281.35	13.13	22.426		
2,800.00	2,769.19	2,779.17	2,778.18	10.60	9.55	172.68	-33.53	-52.74	317.43	303.80	13.63	23.289		
2,900.00	2,865.77	2,876.50	2,875.37	11.10	9.89	172.50	-37.75	-49.89	340.38	326.24	14.13	24.087		
3,000.00	2,962.34	2,973.82	2,972.56	11.61	10.23	172.35	-41.97	-47.04	363.33	348.69	14.63	24.826		
3,100.00	3,058.91	3,071.15	3,069.75	12.12	10.57	172.21	-46.20	-44.19	386.28	371.14	15.14	25.512		
3,200.00	3,155.49	3,168.48	3,166.95	12.64	10.91	172.09	-50.42	-41.34	409.23	393.59	15.65	26.151		
3,300.00	3,252.06	3,265.80	3,264.14	13.16	11.26	171.98	-54.64	-38.48	432.19	416.03	16.16	26.746		
3,400.00	3,348.63	3,363.13	3,361.33	13.68	11.60	171.88	-58.86	-35.63	455.15	438.48	16.67	27.303		
3,500.00	3,445.21	3,460.45	3,458.52	14.21	11.95	171.79	-63.08	-32.78	478.11	460.92	17.18	27.823		
3,600.00	3,541.78	3,557.78	3,555.72	14.74	12.29	171.71	-67.31	-29.93	501.07	483.37	17.70	28.312		
3,700.00	3,638.36	3,655.11	3,652.91	15.27	12.64	171.64	-71.53	-27.07	524.03	505.82	18.21	28.770		
3,800.00	3,734.93	3,752.43	3,750.10	15.80	12.99	171.57	-75.75	-24.22	546.99	528.26	18.73	29.202		
3,900.00	3,831.50	3,849.76	3,847.30	16.33	13.33	171.51	-79.97	-21.37	569.95	550.70	19.25	29.609		
4,000.00	3,928.08	3,947.08	3,944.49	16.87	13.68	171.45	-84.19	-18.52	592.92	573.15	19.77	29.993		
4,100.00	4,024.65	4,044.41	4,041.68	17.41	14.03	171.40	-88.41	-15.67	615.88	595.59	20.29	30.356		
4,200.00	4,121.22	4,141.74	4,138.87	17.95	14.38	171.35	-92.64	-12.81	638.84	618.03	20.81	30.700		
4,300.00	4,217.80	4,239.06	4,236.07	18.49	14.73	171.31	-96.86	-9.96	661.81	640.48	21.33	31.026		
4,400.00	4,314.37	4,336.39	4,333.26	19.03	15.08	171.26	-101.08	-7.11	684.77	662.92	21.85	31.335		
4,500.00	4,410.95	4,433.72	4,430.45	19.58	15.43	171.22	-105.30	-4.26	707.74	685.36	22.38	31.628		
4,600.00	4,507.52	4,531.04	4,527.64	20.12	15.78	171.19	-109.52	-1.41	730.70	707.80	22.90	31.908		
4,700.00	4,604.09	4,628.37	4,624.84	20.66	16.13	171.15	-113.74	1.45	753.67	730.24	23.43	32.174		
4,800.00	4,700.67	4,725.69	4,722.03	21.21	16.49	171.12	-117.97	4.30	776.63	752.68	23.95	32.427		
4,900.00	4,797.24	4,823.02	4,819.22	21.76	16.84	171.09	-122.19	7.15	799.60	775.12	24.48	32.669		
5,000.00	4,893.81	4,920.35	4,916.42	22.30	17.19	171.06	-126.41	10.00	822.57	797.56	25.00	32.900		

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 304H
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 304H	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 #2	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		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
5,100.00	4,990.39	5,017.67	5,013.61	22.85	17.54	171.03	-130.63	12.85	845.53	820.00	25.53	33.121				
5,200.00	5,086.96	5,115.00	5,110.80	23.40	17.90	171.01	-134.85	15.71	868.50	842.44	26.06	33.332				
5,300.00	5,183.54	5,212.33	5,207.99	23.95	18.25	170.98	-139.08	18.56	891.47	864.88	26.58	33.535				
5,400.00	5,280.11	5,309.65	5,305.19	24.50	18.60	170.96	-143.30	21.41	914.43	887.32	27.11	33.729				
5,500.00	5,376.68	5,406.98	5,402.38	25.05	18.96	170.93	-147.52	24.26	937.40	909.76	27.64	33.915				
5,600.00	5,473.26	5,504.30	5,499.57	25.60	19.31	170.91	-151.74	27.11	960.37	932.20	28.17	34.094				
5,700.00	5,569.83	5,601.63	5,596.77	26.15	19.67	170.89	-155.96	29.97	983.33	954.64	28.70	34.265				
5,800.00	5,666.41	5,698.96	5,693.96	26.70	20.02	170.87	-160.18	32.82	1,006.30	977.08	29.23	34.430				
5,900.00	5,762.98	5,796.28	5,791.15	27.26	20.37	170.85	-164.41	35.67	1,029.27	999.51	29.76	34.589				
6,000.00	5,859.55	5,893.61	5,888.34	27.81	20.73	170.84	-168.63	38.52	1,052.24	1,021.95	30.29	34.742				
6,100.00	5,956.13	5,990.94	5,985.54	28.36	21.08	170.82	-172.85	41.37	1,075.21	1,044.39	30.82	34.889				
6,200.00	6,052.70	6,088.26	6,082.73	28.92	21.44	170.80	-177.07	44.23	1,098.17	1,066.82	31.35	35.031				
6,300.00	6,149.27	6,185.59	6,179.92	29.47	21.79	170.79	-181.29	47.08	1,121.14	1,089.26	31.88	35.168				
6,400.00	6,245.85	6,282.91	6,277.11	30.02	22.15	170.77	-185.51	49.93	1,144.11	1,111.70	32.41	35.301				
6,500.00	6,342.42	6,380.24	6,374.31	30.58	22.50	170.76	-189.74	52.78	1,167.08	1,134.13	32.94	35.428				
6,600.00	6,439.00	6,477.57	6,471.50	31.13	22.86	170.74	-193.96	55.63	1,190.04	1,156.57	33.47	35.552				
6,700.00	6,535.57	6,574.89	6,568.69	31.69	23.22	170.73	-198.18	58.49	1,213.01	1,179.01	34.01	35.671				
6,800.00	6,632.14	6,672.22	6,665.89	32.24	23.57	170.72	-202.40	61.34	1,235.98	1,201.44	34.54	35.787				
6,900.00	6,728.72	6,769.54	6,763.08	32.80	23.93	170.71	-206.62	64.19	1,258.95	1,223.88	35.07	35.898				
7,000.00	6,825.29	6,866.87	6,860.27	33.35	24.28	170.69	-210.85	67.04	1,281.92	1,246.32	35.60	36.006				
7,100.00	6,921.86	6,964.20	6,957.46	33.91	24.64	170.68	-215.07	69.89	1,304.89	1,268.75	36.14	36.111				
7,200.00	7,018.44	7,061.52	7,054.66	34.46	25.00	170.67	-219.29	72.75	1,327.85	1,291.19	36.67	36.212				
7,300.00	7,115.01	7,150.74	7,143.76	35.02	25.32	170.67	-222.95	75.22	1,350.98	1,313.82	37.16	36.354				
7,400.00	7,211.59	7,232.49	7,225.47	35.57	25.61	170.73	-225.00	76.60	1,375.08	1,337.47	37.61	36.560				
7,497.28	7,305.53	7,312.35	7,305.33	36.11	25.89	170.84	-225.60	77.01	1,399.56	1,361.52	38.04	36.792				
7,500.00	7,308.16	7,314.98	7,307.96	36.13	25.90	170.85	-225.60	77.01	1,400.26	1,362.21	38.05	36.798				
7,600.00	7,405.19	7,412.01	7,404.99	36.66	26.22	171.08	-225.60	77.01	1,424.15	1,385.59	38.55	36.938				
7,700.00	7,503.00	7,509.82	7,502.80	37.16	26.55	171.27	-225.60	77.01	1,444.68	1,405.63	39.05	36.992				
7,800.00	7,601.48	7,608.30	7,601.28	37.61	26.88	171.43	-225.60	77.01	1,461.83	1,422.28	39.55	36.961				
7,900.00	7,700.51	7,707.33	7,700.31	38.02	27.21	171.55	-225.60	77.01	1,475.57	1,435.53	40.04	36.850				
8,000.00	7,799.96	7,806.78	7,799.76	38.39	27.55	171.64	-225.60	77.01	1,485.89	1,445.36	40.53	36.662				
8,100.00	7,899.71	7,910.28	7,902.98	38.73	27.89	171.93	-219.71	76.95	1,492.67	1,451.66	41.01	36.396				
8,200.00	7,999.65	8,009.79	7,999.74	39.02	28.18	172.82	-197.02	76.74	1,495.91	1,454.50	41.41	36.121				
8,249.36	8,049.00	8,055.42	8,042.48	39.15	28.31	-89.96	-181.08	76.59	1,496.43	1,454.85	41.58	35.993				
8,300.00	8,099.64	8,100.00	8,082.88	39.28	28.42	-89.24	-162.27	76.41	1,496.81	1,455.09	41.72	35.879				
8,400.00	8,199.64	8,176.51	8,148.41	39.54	28.60	-87.74	-122.87	76.04	1,499.00	1,457.07	41.93	35.754				
8,500.00	8,299.64	8,241.59	8,199.59	39.79	28.75	-86.21	-82.74	75.66	1,503.95	1,461.90	42.05	35.770				
8,600.00	8,399.64	8,300.00	8,241.40	40.05	28.88	-84.66	-41.99	75.27	1,512.54	1,470.45	42.09	35.938				
8,700.00	8,499.64	8,341.05	8,268.18	40.31	28.97	-83.48	-10.90	74.98	1,525.40	1,483.41	41.99	36.330				
8,800.00	8,599.64	8,378.81	8,290.81	40.57	29.06	-82.35	19.32	74.69	1,542.96	1,501.16	41.80	36.914				
8,900.00	8,699.64	8,400.00	8,302.62	40.84	29.11	-81.69	36.92	74.52	1,565.51	1,524.07	41.44	37.777				
9,000.00	8,799.64	8,437.53	8,321.90	41.10	29.20	-80.49	69.10	74.22	1,592.94	1,551.82	41.12	38.739				
9,100.00	8,899.64	8,450.00	8,327.84	41.37	29.24	-80.08	80.07	74.11	1,625.45	1,584.86	40.58	40.053				
9,200.00	8,999.64	8,480.45	8,341.32	41.64	29.32	-79.08	107.37	73.86	1,662.62	1,622.49	40.12	41.438				
9,300.00	9,099.64	8,500.00	8,349.21	41.91	29.38	-78.42	125.26	73.69	1,704.47	1,664.90	39.56	43.082				
9,400.00	9,199.64	8,500.00	8,349.21	42.18	29.38	-78.42	125.26	73.69	1,750.79	1,711.93	38.85	45.061				
9,444.40	9,244.04	8,518.98	8,356.27	42.30	29.43	-77.78	142.87	73.52	1,772.50	1,733.83	38.67	45.836				
9,450.00	9,249.64	8,519.74	8,356.54	42.31	29.43	-76.89	143.58	73.51	1,775.31	1,736.67	38.64	45.950				
9,500.00	9,299.56	8,527.11	8,359.12	42.44	29.46	-73.85	150.49	73.45	1,800.39	1,762.06	38.33	46.974				
9,550.00	9,349.05	8,550.00	8,366.55	42.57	29.52	-70.41	172.13	73.24	1,825.52	1,787.40	38.12	47.890				
9,600.00	9,397.74	8,550.00	8,366.55	42.69	29.52	-67.79	172.13	73.24	1,850.02	1,812.27	37.75	49.001				
9,650.00	9,445.26	8,550.00	8,366.55	42.80	29.52	-65.26	172.13	73.24	1,874.12	1,836.72	37.39	50.118				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 304H
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 304H	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 #2	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		
9,700.00	9,491.25	8,550.00	8,366.55	42.91	29.52	-62.87	172.13	73.24	1,897.64	1,860.60	37.04	51.233		
9,750.00	9,535.36	8,576.61	8,374.10	43.00	29.61	-60.09	197.65	73.00	1,919.86	1,882.99	36.86	52.082		
9,800.00	9,577.25	8,600.00	8,379.75	43.08	29.68	-57.64	220.34	72.78	1,941.26	1,904.59	36.66	52.946		
9,850.00	9,616.61	8,600.00	8,379.75	43.15	29.68	-55.83	220.34	72.78	1,961.16	1,924.81	36.34	53.963		
9,900.00	9,653.13	8,600.00	8,379.75	43.21	29.68	-54.17	220.34	72.78	1,979.88	1,943.84	36.04	54.933		
9,950.00	9,686.53	8,626.38	8,385.00	43.27	29.77	-52.38	246.19	72.54	1,996.75	1,960.84	35.90	55.616		
10,000.00	9,716.57	8,650.00	8,388.69	43.31	29.85	-50.87	269.52	72.32	2,012.16	1,976.40	35.76	56.265		
10,050.00	9,743.01	8,650.00	8,388.69	43.35	29.85	-49.79	269.52	72.32	2,025.62	1,990.08	35.53	57.005		
10,100.00	9,765.66	8,650.00	8,388.69	43.38	29.85	-48.86	269.52	72.32	2,037.50	2,002.16	35.34	57.650		
10,150.00	9,784.34	8,681.10	8,392.07	43.41	29.97	-47.93	300.43	72.03	2,046.94	2,011.64	35.31	57.972		
10,200.00	9,798.90	8,700.00	8,393.31	43.43	30.03	-47.27	319.28	71.85	2,054.63	2,019.37	35.25	58.282		
10,250.00	9,809.24	8,700.00	8,393.31	43.47	30.03	-46.85	319.28	71.85	2,060.27	2,025.10	35.17	58.577		
10,300.00	9,815.28	8,728.06	8,394.00	43.50	30.14	-46.54	347.33	71.58	2,063.68	2,028.47	35.21	58.606		
10,344.40	9,817.00	8,757.49	8,394.00	43.54	30.26	-46.44	376.76	71.30	2,064.81	2,029.52	35.29	58.507		
10,400.00	9,817.00	8,813.09	8,394.00	43.61	30.49	-46.44	432.36	70.78	2,064.82	2,029.34	35.47	58.206		
10,500.00	9,817.00	8,913.09	8,394.00	43.77	30.98	-46.44	532.35	69.83	2,064.82	2,028.94	35.88	57.554		
10,600.00	9,817.00	9,013.09	8,394.00	43.98	31.55	-46.44	632.35	68.88	2,064.82	2,028.45	36.37	56.777		
10,700.00	9,817.00	9,113.09	8,394.00	44.25	32.19	-46.44	732.34	67.93	2,064.83	2,027.88	36.94	55.890		
10,800.00	9,817.00	9,213.09	8,394.00	44.59	32.91	-46.44	832.34	66.99	2,064.83	2,027.23	37.60	54.911		
10,900.00	9,817.00	9,313.09	8,394.00	44.99	33.69	-46.44	932.33	66.04	2,064.83	2,026.49	38.34	53.858		
11,000.00	9,817.00	9,413.09	8,394.00	45.47	34.53	-46.44	1,032.33	65.09	2,064.84	2,025.69	39.15	52.746		
11,100.00	9,817.00	9,513.09	8,394.00	46.01	35.42	-46.44	1,132.33	64.14	2,064.84	2,024.81	40.02	51.590		
11,200.00	9,817.00	9,613.09	8,394.00	46.61	36.37	-46.44	1,232.32	63.20	2,064.84	2,023.88	40.97	50.404		
11,300.00	9,817.00	9,713.09	8,394.00	47.28	37.37	-46.44	1,332.32	62.25	2,064.84	2,022.88	41.97	49.199		
11,400.00	9,817.00	9,813.09	8,394.00	48.01	38.42	-46.44	1,432.31	61.30	2,064.85	2,021.82	43.03	47.991		
11,500.00	9,817.00	9,913.09	8,394.00	48.79	39.50	-46.44	1,532.31	60.35	2,064.85	2,020.72	44.13	46.786		
11,600.00	9,817.00	10,013.09	8,394.00	49.63	40.63	-46.44	1,632.30	59.41	2,064.85	2,019.57	45.29	45.592		
11,700.00	9,817.00	10,113.09	8,394.00	50.51	41.79	-46.44	1,732.30	58.46	2,064.86	2,018.37	46.49	44.416		
11,800.00	9,817.00	10,213.09	8,394.00	51.44	42.98	-46.44	1,832.29	57.51	2,064.86	2,017.13	47.73	43.261		
11,900.00	9,817.00	10,313.09	8,394.00	52.41	44.20	-46.44	1,932.29	56.57	2,064.86	2,015.85	49.01	42.132		
12,000.00	9,817.00	10,413.09	8,394.00	53.42	45.45	-46.44	2,032.29	55.62	2,064.87	2,014.54	50.32	41.032		
12,100.00	9,817.00	10,513.09	8,394.00	54.47	46.72	-46.45	2,132.28	54.67	2,064.87	2,013.20	51.67	39.963		
12,200.00	9,817.00	10,613.09	8,394.00	55.54	48.01	-46.45	2,232.28	53.72	2,064.87	2,011.83	53.05	38.926		
12,300.00	9,817.00	10,713.09	8,394.00	56.65	49.33	-46.45	2,332.27	52.78	2,064.88	2,010.43	54.45	37.923		
12,400.00	9,817.00	10,813.09	8,394.00	57.79	50.67	-46.45	2,432.27	51.83	2,064.88	2,009.00	55.88	36.955		
12,500.00	9,817.00	10,913.09	8,394.00	58.95	52.02	-46.45	2,532.26	50.88	2,064.88	2,007.56	57.33	36.020		
12,600.00	9,817.00	11,013.09	8,394.00	60.14	53.40	-46.45	2,632.26	49.93	2,064.89	2,006.09	58.80	35.119		
12,700.00	9,817.00	11,113.09	8,394.00	61.35	54.78	-46.45	2,732.25	48.99	2,064.89	2,004.60	60.29	34.251		
12,800.00	9,817.00	11,213.09	8,394.00	62.58	56.19	-46.45	2,832.25	48.04	2,064.89	2,003.10	61.80	33.415		
12,900.00	9,817.00	11,313.09	8,394.00	63.83	57.60	-46.45	2,932.24	47.09	2,064.90	2,001.57	63.32	32.609		
13,000.00	9,817.00	11,413.09	8,394.00	65.10	59.03	-46.45	3,032.24	46.14	2,064.90	2,000.03	64.87	31.834		
13,100.00	9,817.00	11,513.09	8,394.00	66.39	60.47	-46.45	3,132.24	45.20	2,064.90	1,998.48	66.42	31.087		
13,200.00	9,817.00	11,613.09	8,394.00	67.69	61.92	-46.45	3,232.23	44.25	2,064.91	1,996.91	67.99	30.369		
13,300.00	9,817.00	11,713.09	8,394.00	69.01	63.37	-46.45	3,332.23	43.30	2,064.91	1,995.33	69.58	29.679		
13,400.00	9,817.00	11,813.09	8,394.00	70.35	64.84	-46.45	3,432.22	42.35	2,064.91	1,993.74	71.17	29.014		
13,500.00	9,817.00	11,913.09	8,394.00	71.70	66.32	-46.45	3,532.22	41.41	2,064.92	1,992.14	72.78	28.374		
13,600.00	9,817.00	12,013.09	8,394.00	73.06	67.81	-46.45	3,632.21	40.46	2,064.92	1,990.53	74.39	27.758		
13,700.00	9,817.00	12,113.09	8,394.00	74.43	69.30	-46.45	3,732.21	39.51	2,064.92	1,988.91	76.01	27.165		
13,800.00	9,817.00	12,213.09	8,394.00	75.81	70.80	-46.45	3,832.20	38.56	2,064.92	1,987.28	77.65	26.594		
13,900.00	9,817.00	12,313.09	8,394.00	77.21	72.31	-46.45	3,932.20	37.62	2,064.93	1,985.64	79.29	26.043		
14,000.00	9,817.00	12,413.09	8,394.00	78.61	73.82	-46.45	4,032.20	36.67	2,064.93	1,983.99	80.94	25.512		
14,100.00	9,817.00	12,513.09	8,394.00	80.03	75.34	-46.45	4,132.19	35.72	2,064.93	1,982.34	82.59	25.001		

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 304H
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 304H	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 #2	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	9,817.00	12,613.09	8,394.00	81.45	76.86	-46.45	4,232.19	34.77	2,064.94	1,980.68	84.26	24.508		
14,300.00	9,817.00	12,713.09	8,394.00	82.88	78.39	-46.45	4,332.18	33.83	2,064.94	1,979.01	85.93	24.032		
14,400.00	9,817.00	12,813.09	8,394.00	84.32	79.93	-46.45	4,432.18	32.88	2,064.94	1,977.34	87.60	23.572		
14,500.00	9,817.00	12,913.09	8,394.00	85.77	81.46	-46.45	4,532.17	31.93	2,064.95	1,975.67	89.28	23.129		
14,600.00	9,817.00	13,013.09	8,394.00	87.22	83.01	-46.45	4,632.17	30.99	2,064.95	1,973.98	90.97	22.700		
14,700.00	9,817.00	13,113.09	8,394.00	88.69	84.55	-46.45	4,732.16	30.04	2,064.95	1,972.30	92.66	22.286		
14,800.00	9,817.00	13,213.09	8,394.00	90.16	86.11	-46.45	4,832.16	29.09	2,064.96	1,970.61	94.35	21.886		
14,900.00	9,817.00	13,313.09	8,394.00	91.63	87.66	-46.45	4,932.15	28.14	2,064.96	1,968.91	96.05	21.499		
15,000.00	9,817.00	13,413.09	8,394.00	93.11	89.22	-46.45	5,032.15	27.20	2,064.96	1,967.21	97.75	21.125		
15,100.00	9,817.00	13,513.09	8,394.00	94.60	90.78	-46.45	5,132.15	26.25	2,064.97	1,965.51	99.46	20.762		
15,200.00	9,817.00	13,613.09	8,394.00	96.09	92.35	-46.45	5,232.14	25.30	2,064.97	1,963.80	101.17	20.411		
15,300.00	9,817.00	13,713.09	8,394.00	97.59	93.91	-46.45	5,332.14	24.35	2,064.97	1,962.09	102.88	20.071		
15,400.00	9,817.00	13,813.09	8,394.00	99.09	95.49	-46.45	5,432.13	23.41	2,064.98	1,960.38	104.60	19.742		
15,500.00	9,817.00	13,913.09	8,394.00	100.60	97.06	-46.45	5,532.13	22.46	2,064.98	1,958.66	106.32	19.422		
15,600.00	9,817.00	14,013.09	8,394.00	102.11	98.63	-46.45	5,632.12	21.51	2,064.98	1,956.94	108.04	19.113		
15,700.00	9,817.00	14,113.09	8,394.00	103.62	100.21	-46.45	5,732.12	20.56	2,064.99	1,955.22	109.77	18.813		
15,800.00	9,817.00	14,213.09	8,394.00	105.14	101.79	-46.45	5,832.11	19.62	2,064.99	1,953.50	111.49	18.521		
15,900.00	9,817.00	14,313.09	8,394.00	106.67	103.38	-46.45	5,932.11	18.67	2,064.99	1,951.77	113.22	18.238		
16,000.00	9,817.00	14,413.09	8,394.00	108.20	104.96	-46.45	6,032.11	17.72	2,065.00	1,950.04	114.96	17.963		
16,100.00	9,817.00	14,513.09	8,394.00	109.73	106.55	-46.45	6,132.10	16.77	2,065.00	1,948.31	116.69	17.697		
16,200.00	9,817.00	14,613.09	8,394.00	111.26	108.14	-46.45	6,232.10	15.83	2,065.00	1,946.58	118.42	17.437		
16,300.00	9,817.00	14,713.09	8,394.00	112.80	109.73	-46.45	6,332.09	14.88	2,065.01	1,944.84	120.16	17.185		
16,400.00	9,817.00	14,813.09	8,394.00	114.34	111.32	-46.45	6,432.09	13.93	2,065.01	1,943.11	121.90	16.940		
16,500.00	9,817.00	14,913.09	8,394.00	115.89	112.92	-46.45	6,532.08	12.98	2,065.01	1,941.37	123.64	16.702		
16,600.00	9,817.00	15,013.09	8,394.00	117.43	114.51	-46.45	6,632.08	12.04	2,065.01	1,939.63	125.38	16.470		
16,700.00	9,817.00	15,113.09	8,394.00	118.98	116.11	-46.45	6,732.07	11.09	2,065.02	1,937.89	127.12	16.244		
16,800.00	9,817.00	15,213.09	8,394.00	120.54	117.71	-46.45	6,832.07	10.14	2,065.02	1,936.15	128.87	16.024		
16,900.00	9,817.00	15,313.09	8,394.00	122.09	119.31	-46.45	6,932.07	9.20	2,065.02	1,934.41	130.62	15.810		
17,000.00	9,817.00	15,413.09	8,394.00	123.65	120.91	-46.45	7,032.06	8.25	2,065.03	1,932.66	132.36	15.601		
17,100.00	9,817.00	15,513.09	8,394.00	125.21	122.52	-46.45	7,132.06	7.30	2,065.03	1,930.92	134.11	15.398		
17,200.00	9,817.00	15,613.09	8,394.00	126.77	124.12	-46.45	7,232.05	6.35	2,065.03	1,929.17	135.86	15.199		
17,300.00	9,817.00	15,713.09	8,394.00	128.34	125.73	-46.45	7,332.05	5.41	2,065.04	1,927.43	137.61	15.006		
17,400.00	9,817.00	15,813.09	8,394.00	129.90	127.34	-46.45	7,432.04	4.46	2,065.04	1,925.68	139.36	14.818		
17,500.00	9,817.00	15,913.09	8,394.00	131.47	128.94	-46.45	7,532.04	3.51	2,065.04	1,923.93	141.11	14.634		
17,600.00	9,817.00	16,013.09	8,394.00	133.04	130.55	-46.45	7,632.03	2.56	2,065.05	1,922.18	142.87	14.454		
17,700.00	9,817.00	16,113.09	8,394.00	134.62	132.16	-46.45	7,732.03	1.62	2,065.05	1,920.43	144.62	14.279		
17,800.00	9,817.00	16,213.09	8,394.00	136.19	133.78	-46.45	7,832.02	0.67	2,065.05	1,918.68	146.37	14.108		
17,900.00	9,817.00	16,313.09	8,394.00	137.77	135.39	-46.45	7,932.02	-0.28	2,065.06	1,916.93	148.13	13.941		
18,000.00	9,817.00	16,413.09	8,394.00	139.35	137.00	-46.45	8,032.02	-1.23	2,065.06	1,915.17	149.89	13.778		
18,100.00	9,817.00	16,513.09	8,394.00	140.93	138.62	-46.45	8,132.01	-2.17	2,065.06	1,913.42	151.64	13.618		
18,200.00	9,817.00	16,613.09	8,394.00	142.51	140.23	-46.45	8,232.01	-3.12	2,065.07	1,911.67	153.39	13.462		
18,300.00	9,817.00	16,713.09	8,394.00	144.09	141.85	-46.45	8,332.00	-4.07	2,065.07	1,909.92	155.15	13.310		
18,400.00	9,817.00	16,813.09	8,394.00	145.68	143.46	-46.45	8,432.00	-5.02	2,065.07	1,908.16	156.91	13.161		
18,500.00	9,817.00	16,913.09	8,394.00	147.26	145.08	-46.45	8,531.99	-5.96	2,065.08	1,906.41	158.67	13.015		
18,600.00	9,817.00	17,013.09	8,394.00	148.85	146.70	-46.45	8,631.99	-6.91	2,065.08	1,904.65	160.42	12.873		
18,700.00	9,817.00	17,113.09	8,394.00	150.44	148.32	-46.45	8,731.98	-7.86	2,065.08	1,902.90	162.18	12.733		
18,800.00	9,817.00	17,213.09	8,394.00	152.03	149.94	-46.45	8,831.98	-8.81	2,065.09	1,901.14	163.94	12.596		
18,900.00	9,817.00	17,313.09	8,394.00	153.62	151.56	-46.45	8,931.98	-9.75	2,065.09	1,899.39	165.70	12.463		
19,000.00	9,817.00	17,413.09	8,394.00	155.22	153.18	-46.45	9,031.97	-10.70	2,065.09	1,897.63	167.46	12.332		
19,100.00	9,817.00	17,513.09	8,394.00	156.81	154.80	-46.45	9,131.97	-11.65	2,065.10	1,895.88	169.22	12.204		
19,200.00	9,817.00	17,613.09	8,394.00	158.41	156.43	-46.45	9,231.96	-12.60	2,065.10	1,894.12	170.98	12.078		
19,300.00	9,817.00	17,713.09	8,394.00	160.00	158.05	-46.45	9,331.96	-13.54	2,065.10	1,892.37	172.74	11.955		

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 304H
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 304H	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 #2	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
19,400.00	9,817.00	17,813.09	8,394.00	161.60	159.67	-46.45	9,431.95	-14.49	2,065.10	1,890.61	174.49	11.835	
19,500.00	9,817.00	17,913.09	8,394.00	163.20	161.30	-46.45	9,531.95	-15.44	2,065.11	1,888.85	176.25	11.717	
19,600.00	9,817.00	18,013.09	8,394.00	164.80	162.92	-46.45	9,631.94	-16.38	2,065.11	1,887.10	178.01	11.601	
19,700.00	9,817.00	18,113.09	8,394.00	166.40	164.55	-46.45	9,731.94	-17.33	2,065.11	1,885.34	179.77	11.487	
19,800.00	9,817.00	18,213.09	8,394.00	168.00	166.17	-46.45	9,831.94	-18.28	2,065.12	1,883.59	181.53	11.376	
19,900.00	9,817.00	18,313.09	8,394.00	169.60	167.80	-46.45	9,931.93	-19.23	2,065.12	1,881.83	183.29	11.267	
20,000.00	9,817.00	18,413.09	8,394.00	171.21	169.43	-46.45	10,031.93	-20.17	2,065.12	1,880.07	185.05	11.160	
20,032.59	9,817.00	18,445.67	8,394.00	171.73	169.96	-46.45	10,064.51	-20.48	2,065.12	1,879.50	185.62	11.125	

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 304H
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 304H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 104H - OH - Plan #2		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	-24.99	25.00								
100.00	100.00	99.50	99.50	0.13	0.12	-90.46	-0.20	-24.99	24.99	24.81	0.18	141.198					
200.00	200.00	199.50	199.50	0.48	0.48	-90.46	-0.20	-24.99	24.99	24.31	0.68	36.583					
300.00	300.00	299.50	299.50	0.84	0.84	-90.46	-0.20	-24.99	24.99	23.80	1.19	20.999					
400.00	400.00	399.50	399.50	1.20	1.20	-90.46	-0.20	-24.99	24.99	23.29	1.70	14.726					
500.00	500.00	499.50	499.50	1.56	1.56	-90.46	-0.20	-24.99	24.99	22.79	2.20	11.339					
600.00	600.00	599.50	599.50	1.92	1.92	-90.46	-0.20	-24.99	24.99	22.28	2.71	9.218					
700.00	700.00	699.50	699.50	2.28	2.27	-90.46	-0.20	-24.99	24.99	21.77	3.22	7.766					
800.00	800.00	799.50	799.50	2.63	2.63	-90.46	-0.20	-24.99	24.99	21.27	3.72	6.709					
900.00	900.00	899.50	899.50	2.99	2.99	-90.46	-0.20	-24.99	24.99	20.76	4.23	5.905					
1,000.00	1,000.00	999.50	999.50	3.35	3.35	-90.46	-0.20	-24.99	24.99	20.25	4.74	5.274					
1,100.00	1,100.00	1,099.50	1,099.50	3.71	3.71	-90.46	-0.20	-24.99	24.99	19.75	5.25	4.764					
1,200.00	1,200.00	1,199.50	1,199.50	4.07	4.07	-90.46	-0.20	-24.99	24.99	19.24	5.75	4.344					
1,300.00	1,300.00	1,299.50	1,299.50	4.43	4.43	-90.46	-0.20	-24.99	24.99	18.73	6.26	3.992					
1,400.00	1,400.00	1,399.50	1,399.50	4.79	4.78	-90.46	-0.20	-24.99	24.99	18.22	6.77	3.693 CC					
1,500.00	1,499.98	1,499.48	1,499.48	5.13	5.14	173.40	-0.20	-24.99	26.72	19.46	7.27	3.678					
1,600.00	1,599.84	1,599.34	1,599.34	5.48	5.50	174.47	-0.20	-24.99	31.93	24.17	7.76	4.114					
1,700.00	1,699.45	1,700.33	1,700.31	5.83	5.85	175.61	-0.30	-23.24	38.88	30.63	8.25	4.714					
1,800.00	1,798.70	1,801.59	1,801.42	6.18	6.20	176.67	-0.60	-17.91	45.79	37.07	8.72	5.251					
1,900.00	1,897.47	1,903.09	1,902.53	6.55	6.55	177.68	-1.10	-9.00	52.67	43.48	9.19	5.733					
2,000.00	1,995.62	2,004.85	2,003.50	6.93	6.92	178.66	-1.81	3.52	59.50	49.86	9.65	6.168					
2,100.00	2,093.06	2,106.85	2,104.21	7.34	7.29	179.62	-2.71	19.66	66.29	56.19	10.10	6.564					
2,152.08	2,143.47	2,160.07	2,156.51	7.56	7.49	-179.88	-3.27	29.50	69.80	59.47	10.33	6.755					
2,200.00	2,189.75	2,209.12	2,204.54	7.76	7.68	-179.42	-3.83	39.42	72.62	62.08	10.55	6.886					
2,300.00	2,286.32	2,311.71	2,304.42	8.21	8.09	-178.41	-5.15	62.82	75.89	64.90	10.99	6.908					
2,400.00	2,382.90	2,414.41	2,403.48	8.67	8.53	-177.19	-6.67	89.81	75.61	64.19	11.42	6.622					
2,500.00	2,479.47	2,516.18	2,500.69	9.14	8.99	-175.63	-8.36	119.89	71.97	60.10	11.87	6.063					
2,600.00	2,576.04	2,616.06	2,595.83	9.62	9.47	-173.81	-10.07	150.26	67.51	55.12	12.39	5.447					
2,700.00	2,672.62	2,715.94	2,690.96	10.11	9.96	-171.74	-11.78	180.62	63.13	50.20	12.93	4.883					
2,800.00	2,769.19	2,815.81	2,786.09	10.60	10.47	-169.37	-13.49	210.99	58.85	45.37	13.48	4.366					
2,900.00	2,865.77	2,915.69	2,881.23	11.10	10.99	-166.62	-15.20	241.35	54.69	40.64	14.05	3.893					
3,000.00	2,962.34	3,015.57	2,976.36	11.61	11.52	-163.44	-16.91	271.72	50.66	36.02	14.64	3.461					
3,100.00	3,058.91	3,115.44	3,071.49	12.12	12.06	-159.72	-18.62	302.08	46.83	31.56	15.27	3.067					
3,200.00	3,155.49	3,215.32	3,166.62	12.64	12.61	-155.35	-20.33	332.45	43.22	27.27	15.95	2.710					
3,300.00	3,252.06	3,315.19	3,261.76	13.16	13.16	-150.23	-22.04	362.82	39.91	23.22	16.70	2.390					
3,400.00	3,348.63	3,415.07	3,356.89	13.68	13.73	-144.25	-23.75	393.18	36.98	19.44	17.54	2.109					
3,500.00	3,445.21	3,514.95	3,452.02	14.21	14.29	-137.32	-25.46	423.55	34.51	16.03	18.49	1.867					
3,600.00	3,541.78	3,614.82	3,547.16	14.74	14.86	-129.47	-27.17	453.91	32.62	13.07	19.56	1.668					
3,700.00	3,638.36	3,714.70	3,642.29	15.27	15.44	-120.84	-28.88	484.28	31.41	10.68	20.73	1.515					
3,800.00	3,734.93	3,814.58	3,737.42	15.80	16.02	-111.74	-30.59	514.64	30.96	9.02	21.94	1.411 Level 3					
3,806.54	3,741.25	3,821.11	3,743.65	15.83	16.06	-111.14	-30.70	516.63	30.96	8.94	22.02	1.406 Level 3					
3,900.00	3,831.50	3,914.45	3,832.56	16.33	16.60	-102.62	-32.30	545.01	31.31	8.22	23.09	1.356 Level 3, ES					
4,000.00	3,928.08	4,014.33	3,927.69	16.87	17.19	-93.91	-34.01	575.37	32.42	8.36	24.07	1.347 Level 3, SF					
4,100.00	4,024.65	4,114.20	4,022.82	17.41	17.78	-85.94	-35.72	605.74	34.23	9.39	24.84	1.378 Level 3					
4,200.00	4,121.22	4,214.08	4,117.95	17.95	18.37	-78.89	-37.43	636.11	36.63	11.18	25.44	1.440 Level 3					
4,300.00	4,217.80	4,313.96	4,213.09	18.49	18.96	-72.78	-39.14	666.47	39.51	13.57	25.94	1.523					
4,400.00	4,314.37	4,413.83	4,308.22	19.03	19.56	-67.56	-40.85	696.84	42.77	16.39	26.39	1.621					
4,500.00	4,410.95	4,513.71	4,403.35	19.58	20.16	-63.10	-42.56	727.20	46.34	19.53	26.82	1.728					
4,600.00	4,507.52	4,613.59	4,498.49	20.12	20.76	-59.30	-44.27	757.57	50.15	22.90	27.25	1.841					
4,700.00	4,604.09	4,713.46	4,593.62	20.66	21.36	-56.05	-45.98	787.93	54.15	26.46	27.69	1.956					
4,800.00	4,700.67	4,813.34	4,688.75	21.21	21.96	-53.26	-47.69	818.30	58.30	30.15	28.14	2.071					
4,900.00	4,797.24	4,913.22	4,783.89	21.76	22.56	-50.83	-49.40	848.66	62.57	33.95	28.61	2.187					

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 304H
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 304H	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 #2	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	4,893.81	5,013.09	4,879.02	22.30	23.17	-48.73	-51.11	879.03	66.93	37.84	29.10	2.300		
5,100.00	4,990.39	5,112.97	4,974.15	22.85	23.78	-46.88	-52.82	909.39	71.38	41.78	29.59	2.412		
5,200.00	5,086.96	5,212.84	5,069.28	23.40	24.38	-45.25	-54.54	939.76	75.89	45.79	30.10	2.521		
5,300.00	5,183.54	5,312.72	5,164.42	23.95	24.99	-43.80	-56.25	970.13	80.45	49.83	30.62	2.627		
5,400.00	5,280.11	5,412.60	5,259.55	24.50	25.60	-42.51	-57.96	1,000.49	85.06	53.92	31.15	2.731		
5,500.00	5,376.68	5,512.47	5,354.68	25.05	26.21	-41.36	-59.67	1,030.86	89.71	58.03	31.68	2.832		
5,600.00	5,473.26	5,612.35	5,449.82	25.60	26.82	-40.31	-61.38	1,061.22	94.40	62.17	32.23	2.929		
5,700.00	5,569.83	5,712.23	5,544.95	26.15	27.43	-39.37	-63.09	1,091.59	99.11	66.33	32.78	3.024		
5,800.00	5,666.41	5,812.10	5,640.08	26.70	28.04	-38.51	-64.80	1,121.95	103.84	70.51	33.33	3.116		
5,900.00	5,762.98	5,911.98	5,735.22	27.26	28.66	-37.73	-66.51	1,152.32	108.60	74.71	33.89	3.205		
6,000.00	5,859.55	6,011.85	5,830.35	27.81	29.27	-37.01	-68.22	1,182.68	113.37	78.92	34.45	3.291		
6,100.00	5,956.13	6,111.73	5,925.48	28.36	29.88	-36.35	-69.93	1,213.05	118.16	83.15	35.02	3.374		
6,200.00	6,052.70	6,211.61	6,020.61	28.92	30.50	-35.74	-71.64	1,243.42	122.97	87.38	35.59	3.455		
6,300.00	6,149.27	6,311.48	6,115.75	29.47	31.11	-35.18	-73.35	1,273.78	127.79	91.63	36.16	3.534		
6,400.00	6,245.85	6,411.36	6,210.88	30.02	31.73	-34.66	-75.06	1,304.15	132.62	95.88	36.74	3.610		
6,500.00	6,342.42	6,511.24	6,306.01	30.58	32.34	-34.18	-76.77	1,334.51	137.46	100.14	37.31	3.684		
6,600.00	6,439.00	6,611.11	6,401.15	31.13	32.96	-33.72	-78.48	1,364.88	142.30	104.41	37.90	3.755		
6,700.00	6,535.57	6,710.99	6,496.28	31.69	33.58	-33.30	-80.19	1,395.24	147.16	108.68	38.48	3.825		
6,800.00	6,632.14	6,810.87	6,591.41	32.24	34.19	-32.91	-81.90	1,425.61	152.03	112.96	39.06	3.892		
6,900.00	6,728.72	6,913.83	6,689.71	32.80	34.82	-32.66	-83.62	1,456.21	156.29	116.56	39.73	3.934		
7,000.00	6,825.29	7,018.83	6,790.94	33.35	35.41	-33.05	-85.19	1,484.01	157.59	117.10	40.50	3.891		
7,100.00	6,921.86	7,123.73	6,893.03	33.91	35.96	-34.14	-86.54	1,508.07	155.75	114.42	41.33	3.768		
7,200.00	7,018.44	7,228.26	6,995.56	34.46	36.45	-36.03	-87.68	1,528.32	150.87	108.62	42.25	3.571		
7,300.00	7,115.01	7,332.14	7,098.13	35.02	36.90	-38.89	-88.61	1,544.73	143.18	99.86	43.31	3.306		
7,400.00	7,211.59	7,435.11	7,200.32	35.57	37.29	-43.05	-89.32	1,557.32	133.06	88.46	44.61	2.983		
7,497.28	7,305.53	7,534.17	7,299.00	36.11	37.63	-48.84	-89.80	1,565.96	121.52	75.31	46.21	2.630		
7,500.00	7,308.16	7,536.92	7,301.75	36.13	37.64	-49.02	-89.81	1,566.15	121.18	74.92	46.26	2.619		
7,600.00	7,405.19	7,637.75	7,402.43	36.66	37.95	-56.62	-90.11	1,571.35	109.70	61.40	48.30	2.271		
7,700.00	7,503.00	7,737.84	7,502.50	37.16	38.22	-65.69	-90.20	1,573.01	100.39	49.84	50.55	1.986		
7,800.00	7,601.48	7,836.32	7,600.98	37.61	38.46	-75.06	-90.20	1,573.01	94.46	41.83	52.63	1.795		
7,900.00	7,700.51	7,935.35	7,700.01	38.02	38.70	-83.34	-90.20	1,573.01	91.82	37.85	53.98	1.701		
7,914.91	7,715.32	7,949.10	7,713.77	38.08	38.74	-84.36	-90.16	1,573.01	91.68	37.54	54.13	1.694		
8,000.00	7,799.96	8,021.68	7,786.09	38.39	38.91	-89.53	-84.72	1,572.96	97.55	43.67	53.88	1.811		
8,100.00	7,899.71	8,100.00	7,862.68	38.73	39.09	-93.77	-68.66	1,572.81	118.72	67.54	51.17	2.320		
8,200.00	7,999.65	8,179.61	7,937.55	39.02	39.26	-96.18	-41.79	1,572.55	153.10	103.63	49.47	3.095		
8,249.36	8,049.00	8,214.26	7,968.83	39.15	39.33	-0.22	-26.90	1,572.41	174.37	126.09	48.28	3.611		
8,300.00	8,099.64	8,250.00	8,000.10	39.28	39.39	-0.25	-9.59	1,572.24	198.84	151.43	47.41	4.194		
8,400.00	8,199.64	8,300.00	8,041.89	39.54	39.48	-0.29	17.83	1,571.98	254.28	210.48	43.80	5.805		
8,500.00	8,299.64	8,359.30	8,088.13	39.79	39.57	-0.33	54.90	1,571.63	317.26	274.73	42.53	7.460		
8,600.00	8,399.64	8,400.00	8,117.54	40.05	39.63	-0.35	83.03	1,571.36	386.71	346.55	40.17	9.627		
8,700.00	8,499.64	8,450.00	8,150.81	40.31	39.69	-0.38	120.33	1,571.01	461.24	421.93	39.31	11.734		
8,800.00	8,599.64	8,475.46	8,166.47	40.57	39.72	-0.39	140.40	1,570.82	539.58	502.42	37.16	14.520		
8,900.00	8,699.64	8,500.00	8,180.71	40.84	39.75	-0.40	160.38	1,570.63	621.29	585.72	35.58	17.463		
9,000.00	8,799.64	8,529.09	8,196.46	41.10	39.78	-0.41	184.84	1,570.39	705.55	670.89	34.66	20.357		
9,100.00	8,899.64	8,550.00	8,207.00	41.37	39.80	-0.41	202.89	1,570.22	791.96	758.33	33.64	23.544		
9,200.00	8,999.64	8,570.13	8,216.53	41.64	39.82	-0.42	220.63	1,570.05	880.12	847.27	32.85	26.793		
9,300.00	9,099.64	8,600.00	8,229.49	41.91	39.85	-0.43	247.53	1,569.80	969.95	937.34	32.61	29.747		
9,400.00	9,199.64	8,600.00	8,229.49	42.18	39.85	-0.43	247.53	1,569.80	1,060.53	1,029.03	31.50	33.668		
9,444.40	9,244.04	8,600.00	8,229.49	42.30	39.85	-0.43	247.53	1,569.80	1,101.27	1,070.18	31.09	35.421		
9,450.00	9,249.64	8,600.00	8,229.49	42.31	39.85	0.11	247.53	1,569.80	1,106.42	1,075.38	31.04	35.643		
9,500.00	9,299.56	8,600.00	8,229.49	42.44	39.85	0.09	247.53	1,569.80	1,151.59	1,121.02	30.57	37.665		
9,550.00	9,349.05	8,624.83	8,239.19	42.57	39.88	0.08	270.38	1,569.58	1,194.42	1,163.69	30.73	38.869		

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 304H
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 304H	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 #2	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	9,397.74	8,650.00	8,248.00	42.69	39.91	0.06	293.96	1,569.35	1,236.02	1,205.21	30.81	40.124		
9,650.00	9,445.26	8,650.00	8,248.00	42.80	39.91	0.06	293.96	1,569.35	1,274.90	1,244.72	30.18	42.249		
9,700.00	9,491.25	8,650.00	8,248.00	42.91	39.91	0.05	293.96	1,569.35	1,311.77	1,282.22	29.54	44.400		
9,750.00	9,535.36	8,650.00	8,248.00	43.00	39.91	0.05	293.96	1,569.35	1,346.52	1,317.60	28.92	46.561		
9,800.00	9,577.25	8,676.23	8,256.08	43.08	39.93	0.04	318.91	1,569.12	1,378.21	1,349.37	28.85	47.778		
9,850.00	9,616.61	8,700.00	8,262.40	43.15	39.96	0.04	341.82	1,568.90	1,407.71	1,379.02	28.69	49.071		
9,900.00	9,653.13	8,700.00	8,262.40	43.21	39.96	0.04	341.82	1,568.90	1,434.11	1,406.04	28.07	51.094		
9,950.00	9,686.53	8,700.00	8,262.40	43.27	39.96	0.04	341.82	1,568.90	1,458.04	1,430.54	27.49	53.029		
10,000.00	9,716.57	8,725.44	8,268.11	43.31	39.99	0.04	366.61	1,568.66	1,478.66	1,451.29	27.37	54.032		
10,050.00	9,743.01	8,750.00	8,272.57	43.35	40.02	0.03	390.76	1,568.43	1,496.65	1,469.42	27.22	54.981		
10,100.00	9,765.66	8,750.00	8,272.57	43.38	40.02	0.03	390.76	1,568.43	1,511.27	1,484.51	26.76	56.477		
10,150.00	9,784.34	8,750.00	8,272.57	43.41	40.02	0.03	390.76	1,568.43	1,523.23	1,496.85	26.38	57.742		
10,200.00	9,798.90	8,778.35	8,276.42	43.43	40.05	0.03	418.84	1,568.17	1,531.53	1,505.17	26.36	58.102		
10,250.00	9,809.24	8,800.00	8,278.43	43.47	40.08	0.03	440.40	1,567.96	1,537.01	1,510.72	26.29	58.456		
10,300.00	9,815.28	8,800.00	8,278.43	43.50	40.08	0.03	440.40	1,567.96	1,539.21	1,513.10	26.11	58.960		
10,344.40	9,817.00	8,817.46	8,279.46	43.54	40.11	0.03	457.82	1,567.79	1,538.50	1,512.38	26.12	58.903		
10,400.00	9,817.00	8,842.38	8,280.00	43.61	40.15	0.03	482.73	1,567.56	1,536.93	1,510.73	26.20	58.670		
10,500.00	9,817.00	8,906.19	8,280.00	43.77	40.26	0.03	546.54	1,566.95	1,536.50	1,510.00	26.50	57.971		
10,502.74	9,817.00	8,908.93	8,280.00	43.77	40.27	0.03	549.28	1,566.92	1,536.50	1,509.98	26.52	57.943		
10,600.00	9,817.00	9,006.19	8,280.00	43.98	40.49	0.03	646.53	1,566.00	1,536.50	1,509.52	26.98	56.957		
10,700.00	9,817.00	9,106.19	8,280.00	44.25	40.77	0.03	746.53	1,565.05	1,536.50	1,509.02	27.49	55.903		
10,800.00	9,817.00	9,206.19	8,280.00	44.59	41.12	0.03	846.52	1,564.10	1,536.50	1,508.47	28.03	54.818		
10,900.00	9,817.00	9,306.19	8,280.00	44.99	41.54	0.03	946.52	1,563.14	1,536.50	1,507.89	28.61	53.714		
11,000.00	9,817.00	9,406.19	8,280.00	45.47	42.03	0.03	1,046.51	1,562.19	1,536.50	1,507.29	29.21	52.597		
11,100.00	9,817.00	9,506.19	8,280.00	46.01	42.58	0.03	1,146.51	1,561.24	1,536.50	1,506.65	29.85	51.475		
11,200.00	9,817.00	9,606.19	8,280.00	46.61	43.21	0.03	1,246.51	1,560.29	1,536.50	1,505.99	30.51	50.355		
11,300.00	9,817.00	9,706.19	8,280.00	47.28	43.90	0.03	1,346.50	1,559.34	1,536.50	1,505.30	31.20	49.243		
11,400.00	9,817.00	9,806.19	8,280.00	48.01	44.65	0.03	1,446.50	1,558.39	1,536.50	1,504.58	31.92	48.142		
11,500.00	9,817.00	9,906.19	8,280.00	48.79	45.46	0.03	1,546.49	1,557.43	1,536.50	1,503.85	32.65	47.058		
11,600.00	9,817.00	10,006.19	8,280.00	49.63	46.33	0.03	1,646.49	1,556.48	1,536.50	1,503.09	33.41	45.993		
11,700.00	9,817.00	10,106.19	8,280.00	50.51	47.24	0.03	1,746.48	1,555.53	1,536.50	1,502.32	34.18	44.950		
11,800.00	9,817.00	10,206.19	8,280.00	51.44	48.21	0.03	1,846.48	1,554.58	1,536.50	1,501.52	34.98	43.931		
11,900.00	9,817.00	10,306.19	8,280.00	52.41	49.22	0.03	1,946.47	1,553.63	1,536.50	1,500.71	35.79	42.936		
12,000.00	9,817.00	10,406.19	8,280.00	53.42	50.27	0.03	2,046.47	1,552.68	1,536.50	1,499.89	36.61	41.968		
12,100.00	9,817.00	10,506.19	8,280.00	54.47	51.36	0.03	2,146.46	1,551.73	1,536.50	1,499.05	37.45	41.026		
12,200.00	9,817.00	10,606.19	8,280.00	55.54	52.48	0.03	2,246.46	1,550.77	1,536.50	1,498.19	38.31	40.111		
12,300.00	9,817.00	10,706.19	8,280.00	56.65	53.63	0.02	2,346.46	1,549.82	1,536.50	1,497.33	39.17	39.223		
12,400.00	9,817.00	10,806.19	8,280.00	57.79	54.81	0.02	2,446.45	1,548.87	1,536.50	1,496.45	40.05	38.362		
12,500.00	9,817.00	10,906.19	8,280.00	58.95	56.02	0.02	2,546.45	1,547.92	1,536.50	1,495.56	40.94	37.528		
12,600.00	9,817.00	11,006.19	8,280.00	60.14	57.25	0.02	2,646.44	1,546.97	1,536.50	1,494.66	41.84	36.720		
12,700.00	9,817.00	11,106.19	8,280.00	61.35	58.51	0.02	2,746.44	1,546.02	1,536.50	1,493.75	42.76	35.937		
12,800.00	9,817.00	11,206.19	8,280.00	62.58	59.79	0.02	2,846.43	1,545.06	1,536.50	1,492.82	43.68	35.180		
12,900.00	9,817.00	11,306.19	8,280.00	63.83	61.08	0.02	2,946.43	1,544.11	1,536.50	1,491.90	44.60	34.448		
13,000.00	9,817.00	11,406.19	8,280.00	65.10	62.40	0.02	3,046.42	1,543.16	1,536.50	1,490.96	45.54	33.739		
13,100.00	9,817.00	11,506.19	8,280.00	66.39	63.73	0.02	3,146.42	1,542.21	1,536.50	1,490.01	46.49	33.053		
13,200.00	9,817.00	11,606.19	8,280.00	67.69	65.07	0.02	3,246.41	1,541.26	1,536.50	1,489.06	47.44	32.390		
13,300.00	9,817.00	11,706.19	8,280.00	69.01	66.43	0.02	3,346.41	1,540.31	1,536.50	1,488.10	48.40	31.749		
13,400.00	9,817.00	11,806.19	8,280.00	70.35	67.81	0.02	3,446.41	1,539.35	1,536.50	1,487.14	49.36	31.128		
13,500.00	9,817.00	11,906.19	8,280.00	71.70	69.19	0.02	3,546.40	1,538.40	1,536.50	1,486.17	50.33	30.528		
13,600.00	9,817.00	12,006.19	8,280.00	73.06	70.59	0.02	3,646.40	1,537.45	1,536.50	1,485.19	51.31	29.947		
13,700.00	9,817.00	12,106.19	8,280.00	74.43	72.00	0.02	3,746.39	1,536.50	1,536.50	1,484.21	52.29	29.384		
13,800.00	9,817.00	12,206.19	8,280.00	75.81	73.42	0.02	3,846.39	1,535.55	1,536.50	1,483.22	53.28	28.840		

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 304H
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 304H	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 #2	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		
13,900.00	9,817.00	12,306.19	8,280.00	77.21	74.85	0.02	3,946.38	1,534.60	1,536.50	1,482.23	54.27	28.313		
14,000.00	9,817.00	12,406.19	8,280.00	78.61	76.29	0.02	4,046.38	1,533.65	1,536.50	1,481.24	55.26	27.802		
14,100.00	9,817.00	12,506.19	8,280.00	80.03	77.74	0.02	4,146.37	1,532.69	1,536.50	1,480.23	56.27	27.308		
14,200.00	9,817.00	12,606.19	8,280.00	81.45	79.20	0.02	4,246.37	1,531.74	1,536.50	1,479.23	57.27	26.829		
14,300.00	9,817.00	12,706.19	8,280.00	82.88	80.66	0.02	4,346.36	1,530.79	1,536.50	1,478.22	58.28	26.365		
14,400.00	9,817.00	12,806.19	8,280.00	84.32	82.14	0.02	4,446.36	1,529.84	1,536.50	1,477.21	59.29	25.915		
14,500.00	9,817.00	12,906.19	8,280.00	85.77	83.61	0.02	4,546.36	1,528.89	1,536.50	1,476.19	60.31	25.479		
14,600.00	9,817.00	13,006.19	8,280.00	87.22	85.10	0.02	4,646.35	1,527.94	1,536.50	1,475.18	61.32	25.055		
14,700.00	9,817.00	13,106.19	8,280.00	88.69	86.59	0.02	4,746.35	1,526.98	1,536.50	1,474.15	62.35	24.645		
14,800.00	9,817.00	13,206.19	8,280.00	90.16	88.09	0.02	4,846.34	1,526.03	1,536.50	1,473.13	63.37	24.246		
14,900.00	9,817.00	13,306.19	8,280.00	91.63	89.59	0.02	4,946.34	1,525.08	1,536.50	1,472.10	64.40	23.859		
15,000.00	9,817.00	13,406.19	8,280.00	93.11	91.10	0.02	5,046.33	1,524.13	1,536.50	1,471.07	65.43	23.483		
15,100.00	9,817.00	13,506.19	8,280.00	94.60	92.61	0.02	5,146.33	1,523.18	1,536.50	1,470.04	66.46	23.118		
15,200.00	9,817.00	13,606.19	8,280.00	96.09	94.13	0.02	5,246.32	1,522.23	1,536.50	1,469.00	67.50	22.764		
15,300.00	9,817.00	13,706.19	8,280.00	97.59	95.65	0.02	5,346.32	1,521.27	1,536.50	1,467.96	68.54	22.419		
15,400.00	9,817.00	13,806.19	8,280.00	99.09	97.18	0.01	5,446.32	1,520.32	1,536.50	1,466.92	69.58	22.084		
15,500.00	9,817.00	13,906.19	8,280.00	100.60	98.71	0.01	5,546.31	1,519.37	1,536.50	1,465.88	70.62	21.758		
15,600.00	9,817.00	14,006.19	8,280.00	102.11	100.24	0.01	5,646.31	1,518.42	1,536.50	1,464.84	71.66	21.441		
15,700.00	9,817.00	14,106.19	8,280.00	103.62	101.78	0.01	5,746.30	1,517.47	1,536.50	1,463.79	72.71	21.133		
15,800.00	9,817.00	14,206.19	8,280.00	105.14	103.32	0.01	5,846.30	1,516.52	1,536.50	1,462.74	73.76	20.832		
15,900.00	9,817.00	14,306.19	8,280.00	106.67	104.87	0.01	5,946.29	1,515.57	1,536.50	1,461.69	74.81	20.540		
16,000.00	9,817.00	14,406.19	8,280.00	108.20	106.42	0.01	6,046.29	1,514.61	1,536.50	1,460.64	75.86	20.255		
16,100.00	9,817.00	14,506.19	8,280.00	109.73	107.97	0.01	6,146.28	1,513.66	1,536.50	1,459.59	76.91	19.978		
16,200.00	9,817.00	14,606.19	8,280.00	111.26	109.52	0.01	6,246.28	1,512.71	1,536.50	1,458.54	77.96	19.708		
16,300.00	9,817.00	14,706.19	8,280.00	112.80	111.08	0.01	6,346.27	1,511.76	1,536.50	1,457.48	79.02	19.444		
16,400.00	9,817.00	14,806.19	8,280.00	114.34	112.64	0.01	6,446.27	1,510.81	1,536.50	1,456.42	80.08	19.187		
16,500.00	9,817.00	14,906.19	8,280.00	115.89	114.20	0.01	6,546.27	1,509.86	1,536.50	1,455.36	81.14	18.937		
16,600.00	9,817.00	15,006.19	8,280.00	117.43	115.77	0.01	6,646.26	1,508.90	1,536.50	1,454.30	82.20	18.693		
16,700.00	9,817.00	15,106.19	8,280.00	118.98	117.33	0.01	6,746.26	1,507.95	1,536.50	1,453.24	83.26	18.454		
16,800.00	9,817.00	15,206.19	8,280.00	120.54	118.90	0.01	6,846.25	1,507.00	1,536.50	1,452.18	84.32	18.222		
16,900.00	9,817.00	15,306.19	8,280.00	122.09	120.48	0.01	6,946.25	1,506.05	1,536.50	1,451.11	85.39	17.995		
17,000.00	9,817.00	15,406.19	8,280.00	123.65	122.05	0.01	7,046.24	1,505.10	1,536.50	1,450.05	86.45	17.773		
17,100.00	9,817.00	15,506.19	8,280.00	125.21	123.63	0.01	7,146.24	1,504.15	1,536.50	1,448.98	87.52	17.556		
17,200.00	9,817.00	15,606.19	8,280.00	126.77	125.20	0.01	7,246.23	1,503.19	1,536.50	1,447.91	88.59	17.345		
17,300.00	9,817.00	15,706.19	8,280.00	128.34	126.78	0.01	7,346.23	1,502.24	1,536.50	1,446.85	89.65	17.138		
17,400.00	9,817.00	15,806.19	8,280.00	129.90	128.37	0.01	7,446.22	1,501.29	1,536.50	1,445.78	90.72	16.936		
17,500.00	9,817.00	15,906.19	8,280.00	131.47	129.95	0.01	7,546.22	1,500.34	1,536.50	1,444.71	91.79	16.738		
17,600.00	9,817.00	16,006.19	8,280.00	133.04	131.54	0.01	7,646.22	1,499.39	1,536.50	1,443.63	92.87	16.545		
17,700.00	9,817.00	16,106.19	8,280.00	134.62	133.12	0.01	7,746.21	1,498.44	1,536.50	1,442.56	93.94	16.356		
17,800.00	9,817.00	16,206.19	8,280.00	136.19	134.71	0.01	7,846.21	1,497.48	1,536.50	1,441.49	95.01	16.172		
17,900.00	9,817.00	16,306.19	8,280.00	137.77	136.30	0.01	7,946.20	1,496.53	1,536.50	1,440.41	96.09	15.991		
18,000.00	9,817.00	16,406.19	8,280.00	139.35	137.89	0.01	8,046.20	1,495.58	1,536.50	1,439.34	97.16	15.814		
18,100.00	9,817.00	16,506.19	8,280.00	140.93	139.49	0.01	8,146.19	1,494.63	1,536.50	1,438.26	98.24	15.641		
18,200.00	9,817.00	16,606.19	8,280.00	142.51	141.08	0.01	8,246.19	1,493.68	1,536.50	1,437.19	99.31	15.471		
18,300.00	9,817.00	16,706.19	8,280.00	144.09	142.68	0.01	8,346.18	1,492.73	1,536.50	1,436.11	100.39	15.305		
18,400.00	9,817.00	16,806.19	8,280.00	145.68	144.27	0.01	8,446.18	1,491.78	1,536.50	1,435.03	101.47	15.143		
18,500.00	9,817.00	16,906.19	8,280.00	147.26	145.87	0.00	8,546.17	1,490.82	1,536.50	1,433.95	102.55	14.984		
18,600.00	9,817.00	17,006.19	8,280.00	148.85	147.47	0.00	8,646.17	1,489.87	1,536.50	1,432.88	103.62	14.828		
18,700.00	9,817.00	17,106.19	8,280.00	150.44	149.07	0.00	8,746.17	1,488.92	1,536.50	1,431.80	104.70	14.675		
18,800.00	9,817.00	17,206.19	8,280.00	152.03	150.67	0.00	8,846.16	1,487.97	1,536.50	1,430.72	105.78	14.525		
18,900.00	9,817.00	17,306.19	8,280.00	153.62	152.27	0.00	8,946.16	1,487.02	1,536.50	1,429.63	106.87	14.378		
19,000.00	9,817.00	17,406.19	8,280.00	155.22	153.88	0.00	9,046.15	1,486.07	1,536.50	1,428.55	107.95	14.234		

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 304H
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 304H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 usft
FMM Fed Com - FMM Fed Com 104H - OH - Plan #2												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
19,100.00	9,817.00	17,506.19	8,280.00	156.81	155.48	0.00	9,146.15	1,485.11	1,536.50	1,427.47	109.03	14.093	
19,200.00	9,817.00	17,606.19	8,280.00	158.41	157.09	0.00	9,246.14	1,484.16	1,536.50	1,426.39	110.11	13.954	
19,300.00	9,817.00	17,706.19	8,280.00	160.00	158.70	0.00	9,346.14	1,483.21	1,536.50	1,425.31	111.19	13.818	
19,400.00	9,817.00	17,806.19	8,280.00	161.60	160.30	0.00	9,446.13	1,482.26	1,536.50	1,424.22	112.28	13.685	
19,500.00	9,817.00	17,906.19	8,280.00	163.20	161.91	0.00	9,546.13	1,481.31	1,536.50	1,423.14	113.36	13.554	
19,600.00	9,817.00	18,006.19	8,280.00	164.80	163.52	0.00	9,646.12	1,480.36	1,536.50	1,422.05	114.45	13.425	
19,700.00	9,817.00	18,106.19	8,280.00	166.40	165.13	0.00	9,746.12	1,479.40	1,536.50	1,420.97	115.53	13.299	
19,800.00	9,817.00	18,206.19	8,280.00	168.00	166.74	0.00	9,846.12	1,478.45	1,536.50	1,419.88	116.62	13.176	
19,900.00	9,817.00	18,306.19	8,280.00	169.60	168.35	0.00	9,946.11	1,477.50	1,536.50	1,418.80	117.70	13.054	
20,000.00	9,817.00	18,406.19	8,280.00	171.21	169.97	0.00	10,046.11	1,476.55	1,536.50	1,417.71	118.79	12.935	
20,021.88	9,817.00	18,428.07	8,280.00	171.56	170.32	0.00	10,067.99	1,476.34	1,536.50	1,417.47	119.03	12.909	
20,032.59	9,817.00	18,438.77	8,280.00	171.73	170.49	0.00	10,078.69	1,476.24	1,536.50	1,417.36	119.14	12.896	

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 304H
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 304H	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 #2	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	-18.81	-2,036.17	2,036.75					
100.00	100.00	55.10	55.10	0.13	0.07	-90.53	-18.81	-2,036.17	2,036.25	2,036.11	0.14	N/A		
200.00	200.00	155.10	155.10	0.48	0.32	-90.53	-18.81	-2,036.17	2,036.25	2,035.67	0.58	3,499.811		
300.00	300.00	255.10	255.10	0.84	0.68	-90.53	-18.81	-2,036.17	2,036.25	2,035.17	1.08	1,879.283		
400.00	400.00	355.10	355.10	1.20	1.04	-90.53	-18.81	-2,036.17	2,036.25	2,034.67	1.59	1,281.815		
500.00	500.00	455.10	455.10	1.56	1.40	-90.53	-18.81	-2,036.17	2,036.25	2,034.16	2.09	972.173		
600.00	600.00	555.10	555.10	1.92	1.76	-90.53	-18.81	-2,036.17	2,036.25	2,033.65	2.60	782.907		
700.00	700.00	655.10	655.10	2.28	2.12	-90.53	-18.81	-2,036.17	2,036.25	2,033.15	3.11	655.284		
800.00	800.00	755.10	755.10	2.63	2.47	-90.53	-18.81	-2,036.17	2,036.25	2,032.64	3.61	563.419		
900.00	900.00	855.10	855.10	2.99	2.83	-90.53	-18.81	-2,036.17	2,036.25	2,032.13	4.12	494.136		
1,000.00	1,000.00	955.10	955.10	3.35	3.19	-90.53	-18.81	-2,036.17	2,036.25	2,031.63	4.63	440.022		
1,100.00	1,100.00	1,055.10	1,055.10	3.71	3.55	-90.53	-18.81	-2,036.17	2,036.25	2,031.12	5.13	396.588		
1,200.00	1,200.00	1,155.10	1,155.10	4.07	3.91	-90.53	-18.81	-2,036.17	2,036.25	2,030.61	5.64	360.956		
1,300.00	1,300.00	1,255.10	1,255.10	4.43	4.27	-90.53	-18.81	-2,036.17	2,036.25	2,030.11	6.15	331.198		
1,400.00	1,400.00	1,355.10	1,355.10	4.79	4.62	-90.53	-18.81	-2,036.17	2,036.25	2,029.60	6.66	305.973 CC, ES		
1,500.00	1,499.98	1,455.08	1,455.08	5.13	4.98	172.87	-18.81	-2,036.17	2,037.99	2,030.83	7.15	284.843		
1,600.00	1,599.84	1,554.94	1,554.94	5.48	5.34	172.88	-18.81	-2,036.17	2,043.18	2,035.53	7.65	267.115		
1,700.00	1,699.45	1,654.55	1,654.55	5.83	5.70	172.89	-18.81	-2,036.17	2,051.83	2,043.68	8.14	251.931		
1,800.00	1,798.70	1,753.80	1,753.80	6.18	6.05	172.90	-18.81	-2,036.17	2,063.92	2,055.28	8.64	238.876		
1,900.00	1,897.47	1,852.57	1,852.57	6.55	6.41	172.91	-18.81	-2,036.17	2,079.45	2,070.31	9.14	227.617		
2,000.00	1,995.62	1,950.72	1,950.72	6.93	6.76	172.93	-18.81	-2,036.17	2,098.39	2,088.76	9.63	217.882		
2,100.00	2,093.06	2,031.22	2,031.22	7.34	7.04	172.93	-18.84	-2,036.29	2,120.91	2,110.83	10.08	210.419		
2,152.08	2,143.47	2,063.77	2,063.76	7.56	7.16	172.92	-18.92	-2,036.69	2,134.49	2,124.20	10.29	207.461		
2,200.00	2,189.75	2,100.00	2,099.99	7.76	7.28	172.95	-19.09	-2,037.45	2,147.78	2,137.29	10.49	204.651		
2,300.00	2,286.32	2,155.15	2,155.11	8.21	7.47	172.99	-19.49	-2,039.24	2,176.60	2,165.73	10.87	200.304		
2,400.00	2,382.90	2,200.00	2,199.91	8.67	7.62	173.02	-19.95	-2,041.28	2,207.02	2,195.81	11.21	196.904		
2,500.00	2,479.47	2,276.66	2,276.42	9.14	7.89	173.05	-20.98	-2,045.94	2,238.73	2,227.10	11.63	192.414		
2,600.00	2,576.04	2,336.48	2,336.05	9.62	8.09	173.08	-22.03	-2,050.63	2,272.00	2,259.98	12.02	189.095		
2,700.00	2,672.62	2,400.00	2,399.27	10.11	8.31	173.09	-23.36	-2,056.59	2,306.69	2,294.29	12.40	185.962		
2,800.00	2,769.19	2,454.16	2,453.09	10.60	8.50	173.10	-24.67	-2,062.49	2,342.79	2,330.02	12.76	183.543		
2,900.00	2,865.77	2,500.00	2,498.57	11.10	8.67	173.11	-25.91	-2,068.07	2,380.32	2,367.22	13.10	181.765		
3,000.00	2,962.34	2,569.11	2,567.01	11.61	8.91	173.11	-28.00	-2,077.48	2,419.10	2,405.61	13.50	179.226		
3,100.00	3,058.91	2,625.53	2,622.74	12.12	9.12	173.11	-29.91	-2,086.05	2,459.27	2,445.42	13.86	177.469		
3,200.00	3,155.49	2,700.00	2,696.09	12.64	9.40	173.09	-32.71	-2,098.60	2,500.87	2,486.59	14.28	175.178		
3,300.00	3,252.06	2,736.20	2,731.65	13.16	9.53	173.08	-34.18	-2,105.21	2,543.51	2,528.95	14.56	174.650		
3,400.00	3,348.63	2,810.03	2,804.04	13.68	9.82	173.06	-37.33	-2,119.39	2,587.34	2,572.36	14.98	172.731		
3,500.00	3,445.21	2,899.84	2,892.07	14.21	10.17	173.04	-41.19	-2,136.74	2,631.30	2,615.85	15.45	170.278		
3,600.00	3,541.78	2,989.66	2,980.11	14.74	10.53	173.01	-45.06	-2,154.08	2,675.26	2,659.33	15.93	167.944		
3,700.00	3,638.36	3,079.47	3,068.15	15.27	10.89	172.99	-48.92	-2,171.43	2,719.22	2,702.81	16.41	165.724		
3,800.00	3,734.93	3,169.28	3,156.19	15.80	11.26	172.96	-52.78	-2,188.77	2,763.18	2,746.29	16.89	163.611		
3,900.00	3,831.50	3,259.10	3,244.23	16.33	11.63	172.94	-56.64	-2,206.12	2,807.14	2,789.77	17.37	161.597		
4,000.00	3,928.08	3,348.91	3,332.26	16.87	12.01	172.92	-60.50	-2,223.47	2,851.10	2,833.25	17.86	159.677		
4,100.00	4,024.65	3,438.72	3,420.30	17.41	12.39	172.90	-64.36	-2,240.81	2,895.06	2,876.72	18.34	157.844		
4,200.00	4,121.22	3,528.54	3,508.34	17.95	12.77	172.88	-68.22	-2,258.16	2,939.03	2,920.20	18.83	156.094		
4,300.00	4,217.80	3,618.35	3,596.38	18.49	13.16	172.86	-72.08	-2,275.51	2,982.99	2,963.67	19.32	154.421		
4,400.00	4,314.37	3,708.17	3,684.41	19.03	13.55	172.84	-75.94	-2,292.85	3,026.95	3,007.14	19.81	152.821		
4,500.00	4,410.95	3,797.98	3,772.45	19.58	13.94	172.82	-79.80	-2,310.20	3,070.91	3,050.61	20.30	151.289		
4,600.00	4,507.52	3,887.79	3,860.49	20.12	14.34	172.80	-83.67	-2,327.55	3,114.88	3,094.08	20.79	149.821		
4,700.00	4,604.09	3,977.61	3,948.53	20.66	14.73	172.78	-87.53	-2,344.89	3,158.84	3,137.55	21.28	148.413		
4,800.00	4,700.67	4,067.42	4,036.57	21.21	15.13	172.76	-91.39	-2,362.24	3,202.80	3,181.02	21.78	147.063		
4,900.00	4,797.24	4,157.23	4,124.60	21.76	15.53	172.75	-95.25	-2,379.58	3,246.76	3,224.49	22.27	145.766		
5,000.00	4,893.81	4,247.05	4,212.64	22.30	15.94	172.73	-99.11	-2,396.93	3,290.73	3,267.96	22.77	144.520		

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 304H
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 304H	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 #2	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	4,990.39	4,336.86	4,300.68	22.85	16.34	172.72	-102.97	-2,414.28	3,334.69	3,311.43	23.27	143.322		
5,200.00	5,086.96	4,426.67	4,388.72	23.40	16.75	172.70	-106.83	-2,431.62	3,378.66	3,354.89	23.77	142.169		
5,300.00	5,183.54	4,516.49	4,476.76	23.95	17.15	172.68	-110.69	-2,448.97	3,422.62	3,398.36	24.26	141.060		
5,400.00	5,280.11	4,606.30	4,564.79	24.50	17.56	172.67	-114.55	-2,466.32	3,466.58	3,441.82	24.76	139.990		
5,500.00	5,376.68	4,696.11	4,652.83	25.05	17.97	172.66	-118.42	-2,483.66	3,510.55	3,485.29	25.26	138.959		
5,600.00	5,473.26	4,785.93	4,740.87	25.60	18.38	172.64	-122.28	-2,501.01	3,554.51	3,528.75	25.76	137.965		
5,700.00	5,569.83	4,875.74	4,828.91	26.15	18.80	172.63	-126.14	-2,518.36	3,598.48	3,572.21	26.27	137.005		
5,800.00	5,666.41	4,965.56	4,916.95	26.70	19.21	172.61	-130.00	-2,535.70	3,642.44	3,615.68	26.77	136.078		
5,900.00	5,762.98	5,055.37	5,004.98	27.26	19.62	172.60	-133.86	-2,553.05	3,686.41	3,659.14	27.27	135.182		
6,000.00	5,859.55	5,145.18	5,093.02	27.81	20.04	172.59	-137.72	-2,570.39	3,730.38	3,702.60	27.77	134.316		
6,100.00	5,956.13	5,235.00	5,181.06	28.36	20.45	172.58	-141.58	-2,587.74	3,774.34	3,746.06	28.28	133.478		
6,200.00	6,052.70	5,324.81	5,269.10	28.92	20.87	172.56	-145.44	-2,605.09	3,818.31	3,789.53	28.78	132.667		
6,300.00	6,149.27	5,414.62	5,357.14	29.47	21.29	172.55	-149.30	-2,622.43	3,862.27	3,832.99	29.29	131.881		
6,400.00	6,245.85	5,504.44	5,445.17	30.02	21.70	172.54	-153.17	-2,639.78	3,906.24	3,876.45	29.79	131.120		
6,500.00	6,342.42	5,594.25	5,533.21	30.58	22.12	172.53	-157.03	-2,657.13	3,950.20	3,919.91	30.30	130.383		
6,600.00	6,439.00	5,684.06	5,621.25	31.13	22.54	172.52	-160.89	-2,674.47	3,994.17	3,963.37	30.80	129.667		
6,700.00	6,535.57	5,773.88	5,709.29	31.69	22.96	172.51	-164.75	-2,691.82	4,038.14	4,006.83	31.31	128.973		
6,800.00	6,632.14	5,863.69	5,797.33	32.24	23.38	172.50	-168.61	-2,709.17	4,082.10	4,050.29	31.82	128.299		
6,900.00	6,728.72	5,953.51	5,885.36	32.80	23.80	172.48	-172.47	-2,726.51	4,126.07	4,093.75	32.32	127.644		
7,000.00	6,825.29	6,043.32	5,973.40	33.35	24.22	172.47	-176.33	-2,743.86	4,170.04	4,137.20	32.83	127.008		
7,100.00	6,921.86	6,133.13	6,061.44	33.91	24.64	172.46	-180.19	-2,761.20	4,214.00	4,180.66	33.34	126.390		
7,200.00	7,018.44	6,222.95	6,149.48	34.46	25.06	172.45	-184.05	-2,778.55	4,257.97	4,224.12	33.85	125.789		
7,300.00	7,115.01	6,312.76	6,237.52	35.02	25.49	172.44	-187.92	-2,795.90	4,301.94	4,267.58	34.36	125.204		
7,400.00	7,211.59	6,402.57	6,325.55	35.57	25.91	172.44	-191.78	-2,813.24	4,345.90	4,311.04	34.87	124.635		
7,497.28	7,305.53	6,489.94	6,411.19	36.11	26.32	172.43	-195.53	-2,830.12	4,388.68	4,353.31	35.37	124.096		
7,500.00	7,308.16	6,492.39	6,413.59	36.13	26.33	172.43	-195.64	-2,830.59	4,389.87	4,354.49	35.38	124.081		
7,600.00	7,405.19	6,582.98	6,502.39	36.66	26.76	172.54	-199.53	-2,848.09	4,432.19	4,396.30	35.89	123.497		
7,700.00	7,503.00	6,674.41	6,594.10	37.16	27.19	172.68	-203.42	-2,866.47	4,474.64	4,438.59	36.40	122.913		
7,800.00	7,601.48	6,766.89	6,686.58	37.61	27.62	172.75	-207.30	-2,884.85	4,517.18	4,481.07	36.91	122.329		
7,900.00	7,700.51	6,860.32	6,780.61	38.02	28.05	172.81	-211.18	-2,903.23	4,559.71	4,523.60	37.42	121.745		
8,000.00	7,799.96	6,954.75	6,875.06	38.39	28.48	172.85	-215.06	-2,921.61	4,602.24	4,566.13	37.93	121.161		
8,100.00	7,899.71	7,049.18	6,974.49	38.73	28.91	172.88	-218.94	-2,940.00	4,644.75	4,608.64	38.44	120.577		
8,200.00	7,999.65	7,143.61	7,068.92	39.02	29.34	172.89	-222.82	-2,958.38	4,687.26	4,651.15	38.95	119.993		
8,249.36	8,049.00	7,193.04	7,118.35	39.15	29.47	-90.50	-221.81	-2,948.17	4,521.34	4,479.24	42.11	107.378		
8,300.00	8,099.64	7,242.47	7,167.78	39.28	29.60	-90.50	-221.81	-2,948.17	4,521.34	4,479.01	42.34	106.792		
8,400.00	8,199.64	7,341.90	7,267.21	39.54	29.96	-90.50	-221.81	-2,948.17	4,521.34	4,478.55	42.80	105.651		
8,500.00	8,299.64	7,441.33	7,366.64	39.79	30.32	-90.50	-221.81	-2,948.17	4,521.34	4,478.09	43.25	104.531		
8,600.00	8,399.64	7,540.76	7,465.07	40.05	30.68	-90.50	-221.81	-2,948.17	4,521.34	4,477.63	43.71	103.433		
8,700.00	8,499.64	7,640.19	7,564.50	40.31	31.04	-90.50	-221.81	-2,948.17	4,521.34	4,477.17	44.17	102.355		
8,800.00	8,599.64	7,739.62	7,663.93	40.57	31.40	-90.50	-221.81	-2,948.17	4,521.34	4,476.71	44.63	101.297		
8,900.00	8,699.64	7,839.05	7,763.36	40.84	31.76	-90.50	-221.81	-2,948.17	4,521.34	4,476.25	45.10	100.258		
9,000.00	8,799.64	7,938.48	7,862.79	41.10	32.12	-90.50	-221.81	-2,948.17	4,521.34	4,475.78	45.56	99.238		
9,100.00	8,899.64	8,037.91	7,962.22	41.37	32.48	-90.50	-221.81	-2,948.17	4,521.34	4,475.32	46.02	98.237		
9,200.00	8,999.64	8,137.34	8,061.65	41.64	32.84	-90.50	-221.81	-2,948.17	4,521.34	4,474.85	46.49	97.254		
9,300.00	9,099.64	8,236.77	8,161.08	41.91	33.20	-90.50	-221.81	-2,948.17	4,521.34	4,474.39	46.96	96.289		
9,400.00	9,199.64	8,336.20	8,260.51	42.18	33.56	-90.50	-221.81	-2,948.17	4,521.34	4,473.92	47.42	95.341		
9,444.40	9,244.04	8,385.63	8,310.94	42.30	33.69	-90.50	-221.81	-2,948.17	4,521.34	4,473.71	47.63	94.926		
9,450.00	9,249.64	8,390.06	8,315.37	42.31	33.70	-89.96	-221.81	-2,948.17	4,521.34	4,473.69	47.66	94.874		
9,500.00	9,299.56	8,439.49	8,364.80	42.44	33.83	-90.00	-221.81	-2,948.17	4,521.34	4,473.45	47.89	94.415		
9,501.10	9,300.65	8,440.00	8,365.31	42.45	33.84	-90.00	-221.81	-2,948.17	4,521.34	4,473.45	47.89	94.405		
9,550.00	9,349.05	8,489.92	8,415.22	42.57	33.96	-90.09	-221.81	-2,948.17	4,521.35	4,473.23	48.11	93.970		
9,600.00	9,397.74	8,539.35	8,464.65	42.69	34.08	-90.22	-221.81	-2,948.17	4,521.38	4,473.04	48.34	93.541		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 304H
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 304H	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 #2	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	9,445.26	9,488.67	9,400.36	42.80	36.57	-90.40	-221.81	-2,948.17	4,521.47	4,472.92	48.55	93.131		
9,700.00	9,491.25	9,534.66	9,446.35	42.91	36.72	-90.61	-221.81	-2,948.17	4,521.66	4,472.90	48.76	92.742		
9,750.00	9,535.36	9,578.76	9,490.46	43.00	36.86	-90.84	-221.81	-2,948.17	4,521.99	4,473.04	48.95	92.375		
9,800.00	9,577.25	9,627.57	9,539.23	43.08	37.01	-91.11	-220.47	-2,948.18	4,522.51	4,473.36	49.16	92.000		
9,850.00	9,616.61	9,680.77	9,592.06	43.15	37.18	-91.39	-214.37	-2,948.24	4,523.19	4,473.82	49.37	91.623		
9,900.00	9,653.13	9,737.45	9,647.47	43.21	37.34	-91.68	-202.52	-2,948.36	4,524.00	4,474.42	49.58	91.251		
9,950.00	9,686.53	9,798.21	9,705.25	43.27	37.50	-91.98	-183.80	-2,948.55	4,524.93	4,475.15	49.79	90.882		
10,000.00	9,716.57	9,863.73	9,764.94	43.31	37.66	-92.27	-156.90	-2,948.81	4,525.97	4,475.96	50.00	90.516		
10,050.00	9,743.01	9,934.70	9,825.68	43.35	37.80	-92.57	-120.28	-2,949.18	4,527.06	4,476.84	50.22	90.149		
10,100.00	9,765.66	10,011.79	9,885.98	43.38	37.93	-92.87	-72.33	-2,949.65	4,528.16	4,477.72	50.44	89.775		
10,150.00	9,784.34	10,095.52	9,943.53	43.41	38.05	-93.15	-11.63	-2,950.26	4,529.22	4,478.55	50.67	89.388		
10,200.00	9,798.90	10,186.01	9,995.06	43.43	38.14	-93.41	62.63	-2,951.00	4,530.16	4,479.25	50.91	88.977		
10,250.00	9,809.24	10,282.80	10,036.52	43.47	38.22	-93.61	149.97	-2,951.86	4,530.92	4,479.74	51.18	88.533		
10,300.00	9,815.28	10,384.61	10,063.63	43.50	38.31	-93.75	247.96	-2,952.84	4,531.43	4,479.96	51.47	88.043		
10,344.40	9,817.00	10,477.54	10,072.90	43.54	38.44	-93.81	340.31	-2,953.76	4,531.63	4,479.88	51.75	87.573		
10,400.00	9,817.00	10,538.82	10,073.00	43.61	38.55	-93.81	401.59	-2,954.36	4,531.66	4,479.65	52.01	87.125		
10,500.00	9,817.00	10,638.82	10,073.00	43.77	38.81	-93.81	501.58	-2,955.36	4,531.71	4,479.17	52.54	86.252		
10,600.00	9,817.00	10,738.82	10,073.00	43.98	39.16	-93.81	601.58	-2,956.35	4,531.76	4,478.60	53.16	85.241		
10,700.00	9,817.00	10,838.82	10,073.00	44.25	39.59	-93.81	701.57	-2,957.35	4,531.81	4,477.93	53.88	84.106		
10,800.00	9,817.00	10,938.82	10,073.00	44.59	40.09	-93.81	801.57	-2,958.34	4,531.87	4,477.18	54.69	82.864		
10,900.00	9,817.00	11,038.82	10,073.00	44.99	40.68	-93.81	901.56	-2,959.33	4,531.92	4,476.33	55.58	81.532		
11,000.00	9,817.00	11,138.82	10,073.00	45.47	41.32	-93.81	1,001.56	-2,960.33	4,531.97	4,475.41	56.56	80.125		
11,100.00	9,817.00	11,238.82	10,073.00	46.01	42.03	-93.81	1,101.55	-2,961.32	4,532.02	4,474.40	57.62	78.659		
11,200.00	9,817.00	11,338.82	10,073.00	46.61	42.80	-93.81	1,201.55	-2,962.32	4,532.07	4,473.33	58.74	77.149		
11,300.00	9,817.00	11,438.82	10,073.00	47.28	43.61	-93.81	1,301.54	-2,963.31	4,532.12	4,472.18	59.94	75.609		
11,400.00	9,817.00	11,538.82	10,073.00	48.01	44.48	-93.81	1,401.54	-2,964.31	4,532.17	4,470.97	61.21	74.049		
11,500.00	9,817.00	11,638.82	10,073.00	48.79	45.39	-93.81	1,501.53	-2,965.30	4,532.22	4,469.69	62.53	72.481		
11,600.00	9,817.00	11,738.82	10,073.00	49.63	46.34	-93.81	1,601.53	-2,966.29	4,532.27	4,468.36	63.91	70.914		
11,700.00	9,817.00	11,838.82	10,073.00	50.51	47.33	-93.81	1,701.52	-2,967.29	4,532.32	4,466.97	65.35	69.355		
11,800.00	9,817.00	11,938.82	10,073.00	51.44	48.36	-93.81	1,801.52	-2,968.28	4,532.37	4,465.54	66.84	67.813		
11,900.00	9,817.00	12,038.82	10,073.00	52.41	49.42	-93.81	1,901.51	-2,969.28	4,532.43	4,464.05	68.37	66.292		
12,000.00	9,817.00	12,138.82	10,073.00	53.42	50.51	-93.81	2,001.51	-2,970.27	4,532.48	4,462.53	69.95	64.796		
12,100.00	9,817.00	12,238.82	10,073.00	54.47	51.63	-93.81	2,101.50	-2,971.26	4,532.53	4,460.96	71.57	63.330		
12,200.00	9,817.00	12,338.82	10,073.00	55.54	52.78	-93.81	2,201.50	-2,972.26	4,532.58	4,459.35	73.23	61.897		
12,300.00	9,817.00	12,438.82	10,073.00	56.65	53.96	-93.81	2,301.49	-2,973.25	4,532.63	4,457.71	74.92	60.498		
12,400.00	9,817.00	12,538.82	10,073.00	57.79	55.16	-93.81	2,401.49	-2,974.25	4,532.68	4,456.03	76.65	59.134		
12,500.00	9,817.00	12,638.82	10,073.00	58.95	56.39	-93.81	2,501.48	-2,975.24	4,532.73	4,454.32	78.41	57.808		
12,600.00	9,817.00	12,738.82	10,073.00	60.14	57.63	-93.81	2,601.48	-2,976.23	4,532.78	4,452.58	80.20	56.520		
12,700.00	9,817.00	12,838.82	10,073.00	61.35	58.90	-93.81	2,701.47	-2,977.23	4,532.83	4,450.82	82.01	55.269		
12,800.00	9,817.00	12,938.82	10,073.00	62.58	60.18	-93.81	2,801.47	-2,978.22	4,532.88	4,449.03	83.86	54.056		
12,900.00	9,817.00	13,038.82	10,073.00	63.83	61.48	-93.81	2,901.46	-2,979.22	4,532.94	4,447.21	85.72	52.880		
13,000.00	9,817.00	13,138.82	10,073.00	65.10	62.80	-93.81	3,001.46	-2,980.21	4,532.99	4,445.38	87.61	51.741		
13,100.00	9,817.00	13,238.82	10,073.00	66.39	64.13	-93.81	3,101.45	-2,981.20	4,533.04	4,443.52	89.52	50.638		
13,200.00	9,817.00	13,338.82	10,073.00	67.69	65.48	-93.81	3,201.45	-2,982.20	4,533.09	4,441.64	91.45	49.571		
13,300.00	9,817.00	13,438.82	10,073.00	69.01	66.84	-93.81	3,301.44	-2,983.19	4,533.14	4,439.75	93.39	48.538		
13,400.00	9,817.00	13,538.82	10,073.00	70.35	68.22	-93.81	3,401.44	-2,984.19	4,533.19	4,437.83	95.36	47.539		
13,500.00	9,817.00	13,638.82	10,073.00	71.70	69.60	-93.81	3,501.43	-2,985.18	4,533.24	4,435.90	97.34	46.572		
13,600.00	9,817.00	13,738.82	10,073.00	73.06	71.00	-93.81	3,601.43	-2,986.17	4,533.29	4,433.96	99.33	45.637		
13,700.00	9,817.00	13,838.82	10,073.00	74.43	72.41	-93.81	3,701.42	-2,987.17	4,533.34	4,432.00	101.34	44.732		
13,800.00	9,817.00	13,938.82	10,073.00	75.81	73.83	-93.81	3,801.42	-2,988.16	4,533.39	4,430.03	103.37	43.857		
13,900.00	9,817.00	14,038.82	10,073.00	77.21	75.25	-93.81	3,901.41	-2,989.16	4,533.44	4,428.04	105.40	43.010		
14,000.00	9,817.00	14,138.82	10,073.00	78.61	76.69	-93.81	4,001.41	-2,990.15	4,533.50	4,426.04	107.45	42.190		

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 304H
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 304H	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 #2	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	9,817.00	14,238.82	10,073.00	80.03	78.14	-93.81	4,101.40	-2,991.14	4,533.55	4,424.03	109.51	41.397		
14,200.00	9,817.00	14,338.82	10,073.00	81.45	79.59	-93.81	4,201.40	-2,992.14	4,533.60	4,422.01	111.58	40.629		
14,300.00	9,817.00	14,438.82	10,073.00	82.88	81.05	-93.81	4,301.39	-2,993.13	4,533.65	4,419.98	113.67	39.886		
14,400.00	9,817.00	14,538.82	10,073.00	84.32	82.52	-93.81	4,401.39	-2,994.13	4,533.70	4,417.94	115.76	39.166		
14,500.00	9,817.00	14,638.82	10,073.00	85.77	83.99	-93.81	4,501.38	-2,995.12	4,533.75	4,415.89	117.86	38.469		
14,600.00	9,817.00	14,738.82	10,073.00	87.22	85.47	-93.81	4,601.38	-2,996.11	4,533.80	4,413.84	119.96	37.793		
14,700.00	9,817.00	14,838.82	10,073.00	88.69	86.96	-93.81	4,701.37	-2,997.11	4,533.85	4,411.77	122.08	37.138		
14,800.00	9,817.00	14,938.82	10,073.00	90.16	88.46	-93.81	4,801.37	-2,998.10	4,533.90	4,409.70	124.20	36.504		
14,900.00	9,817.00	15,038.82	10,073.00	91.63	89.95	-93.81	4,901.36	-2,999.10	4,533.95	4,407.62	126.34	35.888		
15,000.00	9,817.00	15,138.82	10,073.00	93.11	91.46	-93.81	5,001.36	-3,000.09	4,534.00	4,405.53	128.47	35.291		
15,100.00	9,817.00	15,238.82	10,073.00	94.60	92.97	-93.81	5,101.35	-3,001.08	4,534.06	4,403.44	130.62	34.712		
15,200.00	9,817.00	15,338.82	10,073.00	96.09	94.48	-93.81	5,201.35	-3,002.08	4,534.11	4,401.34	132.77	34.150		
15,300.00	9,817.00	15,438.82	10,073.00	97.59	96.00	-93.81	5,301.34	-3,003.07	4,534.16	4,399.23	134.93	33.604		
15,400.00	9,817.00	15,538.82	10,073.00	99.09	97.52	-93.81	5,401.34	-3,004.07	4,534.21	4,397.12	137.09	33.074		
15,500.00	9,817.00	15,638.82	10,073.00	100.60	99.05	-93.81	5,501.33	-3,005.06	4,534.26	4,395.00	139.26	32.559		
15,600.00	9,817.00	15,738.82	10,073.00	102.11	100.58	-93.80	5,601.33	-3,006.05	4,534.31	4,392.88	141.44	32.059		
15,700.00	9,817.00	15,838.82	10,073.00	103.62	102.12	-93.80	5,701.32	-3,007.05	4,534.36	4,390.75	143.61	31.573		
15,800.00	9,817.00	15,938.82	10,073.00	105.14	103.65	-93.80	5,801.32	-3,008.04	4,534.41	4,388.61	145.80	31.101		
15,900.00	9,817.00	16,038.82	10,073.00	106.67	105.20	-93.80	5,901.31	-3,009.04	4,534.46	4,386.48	147.99	30.641		
16,000.00	9,817.00	16,138.82	10,073.00	108.20	106.74	-93.80	6,001.31	-3,010.03	4,534.51	4,384.34	150.18	30.194		
16,100.00	9,817.00	16,238.82	10,073.00	109.73	108.29	-93.80	6,101.30	-3,011.02	4,534.56	4,382.19	152.38	29.759		
16,200.00	9,817.00	16,338.82	10,073.00	111.26	109.84	-93.80	6,201.30	-3,012.02	4,534.62	4,380.04	154.58	29.336		
16,300.00	9,817.00	16,438.82	10,073.00	112.80	111.40	-93.80	6,301.30	-3,013.01	4,534.67	4,377.89	156.78	28.924		
16,400.00	9,817.00	16,538.82	10,073.00	114.34	112.95	-93.80	6,401.29	-3,014.01	4,534.72	4,375.73	158.99	28.522		
16,500.00	9,817.00	16,638.82	10,073.00	115.89	114.51	-93.80	6,501.29	-3,015.00	4,534.77	4,373.57	161.20	28.131		
16,600.00	9,817.00	16,738.82	10,073.00	117.43	116.07	-93.80	6,601.28	-3,015.99	4,534.82	4,371.40	163.42	27.750		
16,700.00	9,817.00	16,838.82	10,073.00	118.98	117.64	-93.80	6,701.28	-3,016.99	4,534.87	4,369.24	165.64	27.379		
16,800.00	9,817.00	16,938.82	10,073.00	120.54	119.21	-93.80	6,801.27	-3,017.98	4,534.92	4,367.06	167.86	27.017		
16,900.00	9,817.00	17,038.82	10,073.00	122.09	120.77	-93.80	6,901.27	-3,018.98	4,534.97	4,364.89	170.08	26.664		
17,000.00	9,817.00	17,138.82	10,073.00	123.65	122.35	-93.80	7,001.26	-3,019.97	4,535.02	4,362.71	172.31	26.319		
17,100.00	9,817.00	17,238.82	10,073.00	125.21	123.92	-93.80	7,101.26	-3,020.96	4,535.07	4,360.54	174.54	25.983		
17,200.00	9,817.00	17,338.82	10,073.00	126.77	125.50	-93.80	7,201.25	-3,021.96	4,535.13	4,358.35	176.77	25.655		
17,300.00	9,817.00	17,438.82	10,073.00	128.34	127.07	-93.80	7,301.25	-3,022.95	4,535.18	4,356.17	179.01	25.335		
17,400.00	9,817.00	17,538.82	10,073.00	129.90	128.65	-93.80	7,401.24	-3,023.95	4,535.23	4,353.98	181.24	25.023		
17,500.00	9,817.00	17,638.82	10,073.00	131.47	130.23	-93.80	7,501.24	-3,024.94	4,535.28	4,351.79	183.48	24.718		
17,600.00	9,817.00	17,738.82	10,073.00	133.04	131.82	-93.80	7,601.23	-3,025.93	4,535.33	4,349.60	185.73	24.420		
17,700.00	9,817.00	17,838.82	10,073.00	134.62	133.40	-93.80	7,701.23	-3,026.93	4,535.38	4,347.41	187.97	24.128		
17,800.00	9,817.00	17,938.82	10,073.00	136.19	134.99	-93.80	7,801.22	-3,027.92	4,535.43	4,345.21	190.22	23.844		
17,900.00	9,817.00	18,038.82	10,073.00	137.77	136.58	-93.80	7,901.22	-3,028.92	4,535.48	4,343.02	192.46	23.565		
18,000.00	9,817.00	18,138.82	10,073.00	139.35	138.16	-93.80	8,001.21	-3,029.91	4,535.53	4,340.82	194.71	23.293		
18,100.00	9,817.00	18,238.82	10,073.00	140.93	139.76	-93.80	8,101.21	-3,030.90	4,535.58	4,338.62	196.97	23.027		
18,200.00	9,817.00	18,338.82	10,073.00	142.51	141.35	-93.80	8,201.20	-3,031.90	4,535.63	4,336.41	199.22	22.767		
18,300.00	9,817.00	18,438.82	10,073.00	144.09	142.94	-93.80	8,301.20	-3,032.89	4,535.69	4,334.21	201.48	22.512		
18,400.00	9,817.00	18,538.82	10,073.00	145.68	144.54	-93.80	8,401.19	-3,033.89	4,535.74	4,332.00	203.73	22.263		
18,500.00	9,817.00	18,638.82	10,073.00	147.26	146.13	-93.80	8,501.19	-3,034.88	4,535.79	4,329.79	205.99	22.019		
18,600.00	9,817.00	18,738.82	10,073.00	148.85	147.73	-93.80	8,601.18	-3,035.87	4,535.84	4,327.58	208.25	21.780		
18,700.00	9,817.00	18,838.82	10,073.00	150.44	149.33	-93.80	8,701.18	-3,036.87	4,535.89	4,325.37	210.52	21.546		
18,800.00	9,817.00	18,938.82	10,073.00	152.03	150.93	-93.80	8,801.17	-3,037.86	4,535.94	4,323.16	212.78	21.317		
18,900.00	9,817.00	19,038.81	10,073.00	153.62	152.53	-93.80	8,901.17	-3,038.86	4,535.99	4,320.94	215.05	21.093		
19,000.00	9,817.00	19,138.81	10,073.00	155.22	154.13	-93.80	9,001.16	-3,039.85	4,536.04	4,318.73	217.31	20.873		
19,100.00	9,817.00	19,238.81	10,073.00	156.81	155.73	-93.80	9,101.16	-3,040.84	4,536.09	4,316.51	219.58	20.658		
19,200.00	9,817.00	19,338.81	10,073.00	158.41	157.34	-93.80	9,201.15	-3,041.84	4,536.14	4,314.29	221.85	20.447		

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 304H
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 304H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 usft
FMM Fed Com - FMM Fed Com 301H - 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	9,817.00	19,438.81	10,073.00	160.00	158.94	-93.80	9,301.15	-3,042.83	4,536.19	4,312.07	224.12	20.240	
19,400.00	9,817.00	19,538.81	10,073.00	161.60	160.55	-93.80	9,401.14	-3,043.83	4,536.25	4,309.85	226.40	20.037	
19,500.00	9,817.00	19,638.81	10,073.00	163.20	162.16	-93.80	9,501.14	-3,044.82	4,536.30	4,307.63	228.67	19.838	
19,600.00	9,817.00	19,738.81	10,073.00	164.80	163.76	-93.80	9,601.13	-3,045.81	4,536.35	4,305.40	230.94	19.643	
19,700.00	9,817.00	19,838.81	10,073.00	166.40	165.37	-93.80	9,701.13	-3,046.81	4,536.40	4,303.18	233.22	19.451	
19,800.00	9,817.00	19,938.81	10,073.00	168.00	166.98	-93.80	9,801.12	-3,047.80	4,536.45	4,300.95	235.50	19.263	
19,900.00	9,817.00	20,038.81	10,073.00	169.60	168.59	-93.80	9,901.12	-3,048.80	4,536.50	4,298.73	237.77	19.079	
20,000.00	9,817.00	20,138.81	10,073.00	171.21	170.20	-93.80	10,001.11	-3,049.79	4,536.55	4,296.50	240.05	18.898	
20,032.59	9,817.00	20,171.40	10,073.00	171.73	170.73	-93.80	10,033.70	-3,050.11	4,536.57	4,295.77	240.80	18.840 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 304H
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 304H	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 #2	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	-18.34	-1,986.04	1,986.59					
100.00	100.00	56.80	56.80	0.13	0.07	-90.53	-18.34	-1,986.04	1,986.12	1,985.98	0.14	N/A		
200.00	200.00	156.80	156.80	0.48	0.33	-90.53	-18.34	-1,986.04	1,986.12	1,985.54	0.59	3,393.785		
300.00	300.00	256.80	256.80	0.84	0.69	-90.53	-18.34	-1,986.04	1,986.12	1,985.04	1.09	1,826.537		
400.00	400.00	356.80	356.80	1.20	1.05	-90.53	-18.34	-1,986.04	1,986.12	1,984.53	1.59	1,247.120		
500.00	500.00	456.80	456.80	1.56	1.40	-90.53	-18.34	-1,986.04	1,986.12	1,984.02	2.10	946.398		
600.00	600.00	556.80	556.80	1.92	1.76	-90.53	-18.34	-1,986.04	1,986.12	1,983.52	2.61	762.424		
700.00	700.00	656.80	656.80	2.28	2.12	-90.53	-18.34	-1,986.04	1,986.12	1,983.01	3.11	638.298		
800.00	800.00	756.80	756.80	2.63	2.48	-90.53	-18.34	-1,986.04	1,986.12	1,982.50	3.62	548.914		
900.00	900.00	856.80	856.80	2.99	2.84	-90.53	-18.34	-1,986.04	1,986.12	1,982.00	4.13	481.481		
1,000.00	1,000.00	956.80	956.80	3.35	3.20	-90.53	-18.34	-1,986.04	1,986.12	1,981.49	4.63	428.799		
1,100.00	1,100.00	1,056.80	1,056.80	3.71	3.56	-90.53	-18.34	-1,986.04	1,986.12	1,980.98	5.14	386.507		
1,200.00	1,200.00	1,156.80	1,156.80	4.07	3.91	-90.53	-18.34	-1,986.04	1,986.12	1,980.48	5.65	351.806		
1,300.00	1,300.00	1,256.80	1,256.80	4.43	4.27	-90.53	-18.34	-1,986.04	1,986.12	1,979.97	6.15	322.822		
1,400.00	1,400.00	1,356.80	1,356.80	4.79	4.63	-90.53	-18.34	-1,986.04	1,986.12	1,979.46	6.66	298.250 CC, ES		
1,500.00	1,499.98	1,456.78	1,456.78	5.13	4.99	172.87	-18.34	-1,986.04	1,987.85	1,980.70	7.16	277.672		
1,600.00	1,599.84	1,556.64	1,556.64	5.48	5.35	172.88	-18.34	-1,986.04	1,993.05	1,985.39	7.65	260.416		
1,700.00	1,699.45	1,656.25	1,656.25	5.83	5.70	172.89	-18.34	-1,986.04	2,001.70	1,993.55	8.15	245.647		
1,800.00	1,798.70	1,755.50	1,755.50	6.18	6.06	172.90	-18.34	-1,986.04	2,013.79	2,005.15	8.64	232.959		
1,900.00	1,897.47	1,854.27	1,854.27	6.55	6.41	172.92	-18.34	-1,986.04	2,029.32	2,020.18	9.14	222.026		
2,000.00	1,995.62	1,952.42	1,952.42	6.93	6.77	172.94	-18.34	-1,986.04	2,048.26	2,038.62	9.64	212.582		
2,100.00	2,093.06	2,095.07	2,095.06	7.34	7.26	172.98	-18.90	-1,985.00	2,070.04	2,059.81	10.23	202.259		
2,152.08	2,143.47	2,192.25	2,192.17	7.56	7.59	172.98	-20.64	-1,981.78	2,081.34	2,070.75	10.59	196.511		
2,200.00	2,189.75	2,282.34	2,282.08	7.76	7.89	172.99	-23.30	-1,976.86	2,091.15	2,080.23	10.92	191.516		
2,300.00	2,286.32	2,472.61	2,471.41	8.21	8.55	172.91	-32.23	-1,960.36	2,108.45	2,096.85	11.60	181.690		
2,400.00	2,382.90	2,573.16	2,571.17	8.67	8.91	172.83	-38.18	-1,949.36	2,123.52	2,111.42	12.10	175.446		
2,500.00	2,479.47	2,671.98	2,669.23	9.14	9.26	172.76	-44.03	-1,938.55	2,138.60	2,125.99	12.60	169.682		
2,600.00	2,576.04	2,770.80	2,767.28	9.62	9.62	172.68	-49.88	-1,927.75	2,153.67	2,140.56	13.11	164.306		
2,700.00	2,672.62	2,869.62	2,865.33	10.11	9.98	172.61	-55.72	-1,916.94	2,168.75	2,155.13	13.62	159.284		
2,800.00	2,769.19	2,968.44	2,963.39	10.60	10.34	172.54	-61.57	-1,906.13	2,183.83	2,169.71	14.13	154.587		
2,900.00	2,865.77	3,067.26	3,061.44	11.10	10.71	172.47	-67.42	-1,895.33	2,198.92	2,184.28	14.64	150.187		
3,000.00	2,962.34	3,166.08	3,159.49	11.61	11.08	172.40	-73.27	-1,884.52	2,214.01	2,198.85	15.16	146.059		
3,100.00	3,058.91	3,264.90	3,257.55	12.12	11.45	172.33	-79.11	-1,873.71	2,229.10	2,213.42	15.68	142.181		
3,200.00	3,155.49	3,363.72	3,355.60	12.64	11.83	172.27	-84.96	-1,862.91	2,244.20	2,228.00	16.20	138.532		
3,300.00	3,252.06	3,462.54	3,453.65	13.16	12.21	172.20	-90.81	-1,852.10	2,259.29	2,242.57	16.72	135.095		
3,400.00	3,348.63	3,561.36	3,551.71	13.68	12.58	172.14	-96.65	-1,841.29	2,274.39	2,257.14	17.25	131.852		
3,500.00	3,445.21	3,660.18	3,649.76	14.21	12.97	172.07	-102.50	-1,830.48	2,289.50	2,271.72	17.78	128.788		
3,600.00	3,541.78	3,759.00	3,747.81	14.74	13.35	172.01	-108.35	-1,819.68	2,304.60	2,286.30	18.31	125.890		
3,700.00	3,638.36	3,857.82	3,845.87	15.27	13.73	171.94	-114.20	-1,808.87	2,319.71	2,300.88	18.84	123.146		
3,800.00	3,734.93	3,956.64	3,943.92	15.80	14.12	171.88	-120.04	-1,798.06	2,334.83	2,315.46	19.37	120.543		
3,900.00	3,831.50	4,055.46	4,041.97	16.33	14.50	171.82	-125.89	-1,787.26	2,349.94	2,330.04	19.90	118.072		
4,000.00	3,928.08	4,154.28	4,140.03	16.87	14.89	171.76	-131.74	-1,776.45	2,365.06	2,344.62	20.44	115.724		
4,100.00	4,024.65	4,253.10	4,238.08	17.41	15.28	171.70	-137.58	-1,765.64	2,380.18	2,359.21	20.97	113.489		
4,200.00	4,121.22	4,351.92	4,336.13	17.95	15.67	171.64	-143.43	-1,754.84	2,395.30	2,373.79	21.51	111.361		
4,300.00	4,217.80	4,450.74	4,434.19	18.49	16.06	171.58	-149.28	-1,744.03	2,410.43	2,388.38	22.05	109.331		
4,400.00	4,314.37	4,549.56	4,532.24	19.03	16.45	171.53	-155.12	-1,733.22	2,425.55	2,402.97	22.59	107.394		
4,500.00	4,410.95	4,648.38	4,630.29	19.58	16.84	171.47	-160.97	-1,722.41	2,440.68	2,417.56	23.13	105.543		
4,600.00	4,507.52	4,747.20	4,728.34	20.12	17.23	171.41	-166.82	-1,711.61	2,455.81	2,432.15	23.67	103.773		
4,700.00	4,604.09	4,846.02	4,826.40	20.66	17.62	171.36	-172.67	-1,700.80	2,470.95	2,446.74	24.21	102.079		
4,800.00	4,700.67	4,944.84	4,924.45	21.21	18.02	171.30	-178.51	-1,689.99	2,486.08	2,461.34	24.75	100.456		
4,900.00	4,797.24	5,043.66	5,022.50	21.76	18.41	171.25	-184.36	-1,679.19	2,501.22	2,475.93	25.29	98.901		
5,000.00	4,893.81	5,142.48	5,120.56	22.30	18.81	171.20	-190.21	-1,668.38	2,516.36	2,490.53	25.83	97.408		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 304H
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 304H	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 #2	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	4,990.39	5,241.30	5,218.61	22.85	19.20	171.14	-196.05	-1,657.57	2,531.51	2,505.13	26.38	95.974		
5,200.00	5,086.96	5,340.12	5,316.66	23.40	19.60	171.09	-201.90	-1,646.77	2,546.65	2,519.73	26.92	94.597		
5,300.00	5,183.54	5,438.94	5,414.72	23.95	19.99	171.04	-207.75	-1,635.96	2,561.80	2,534.33	27.47	93.272		
5,400.00	5,280.11	5,537.76	5,512.77	24.50	20.39	170.99	-213.60	-1,625.15	2,576.95	2,548.94	28.01	91.997		
5,500.00	5,376.68	5,636.58	5,610.82	25.05	20.78	170.94	-219.44	-1,614.34	2,592.10	2,563.54	28.56	90.769		
5,600.00	5,473.26	5,735.40	5,708.88	25.60	21.18	170.89	-225.29	-1,603.54	2,607.25	2,578.15	29.10	89.586		
5,700.00	5,569.83	5,834.22	5,806.93	26.15	21.58	170.84	-231.14	-1,592.73	2,622.41	2,592.76	29.65	88.445		
5,800.00	5,666.41	5,933.04	5,904.98	26.70	21.98	170.79	-236.98	-1,581.92	2,637.56	2,607.37	30.20	87.344		
5,900.00	5,762.98	6,031.86	6,003.04	27.26	22.37	170.74	-242.83	-1,571.12	2,652.72	2,621.98	30.74	86.281		
6,000.00	5,859.55	6,130.68	6,101.09	27.81	22.77	170.70	-248.68	-1,560.31	2,667.88	2,636.59	31.29	85.255		
6,100.00	5,956.13	6,229.50	6,199.14	28.36	23.17	170.65	-254.52	-1,549.50	2,683.04	2,651.20	31.84	84.263		
6,200.00	6,052.70	6,328.32	6,297.20	28.92	23.57	170.60	-260.37	-1,538.70	2,698.21	2,665.82	32.39	83.303		
6,300.00	6,149.27	6,427.14	6,395.25	29.47	23.97	170.56	-266.22	-1,527.89	2,713.37	2,680.43	32.94	82.375		
6,400.00	6,245.85	6,525.96	6,493.30	30.02	24.37	170.51	-272.07	-1,517.08	2,728.54	2,695.05	33.49	81.476		
6,500.00	6,342.42	6,624.78	6,591.36	30.58	24.77	170.47	-277.91	-1,506.28	2,743.71	2,709.67	34.04	80.605		
6,600.00	6,439.00	6,723.60	6,689.41	31.13	25.17	170.42	-283.76	-1,495.47	2,758.88	2,724.29	34.59	79.762		
6,700.00	6,535.57	6,822.42	6,787.46	31.69	25.57	170.38	-289.61	-1,484.66	2,774.05	2,738.91	35.14	78.944		
6,800.00	6,632.14	6,900.62	6,865.05	32.24	25.99	170.34	-294.23	-1,476.11	2,789.30	2,753.67	35.63	78.291		
6,900.00	6,728.72	6,974.00	6,937.95	32.80	26.18	170.32	-298.24	-1,468.70	2,805.38	2,769.28	36.10	77.719		
7,000.00	6,825.29	7,034.42	6,998.07	33.35	26.41	170.31	-301.04	-1,463.53	2,822.84	2,786.33	36.52	77.301		
7,100.00	6,921.86	7,100.00	7,063.44	33.91	26.66	170.31	-303.57	-1,458.86	2,841.64	2,804.69	36.95	76.907		
7,200.00	7,018.44	7,154.33	7,117.65	34.46	26.86	170.32	-305.26	-1,455.73	2,861.74	2,824.41	37.33	76.654		
7,300.00	7,115.01	7,200.00	7,163.26	35.02	27.03	170.34	-306.39	-1,453.64	2,883.20	2,845.53	37.68	76.522		
7,400.00	7,211.59	7,272.84	7,236.05	35.57	27.29	170.37	-307.67	-1,451.28	2,905.86	2,867.74	38.11	76.245		
7,497.28	7,305.53	7,329.91	7,293.12	36.11	27.48	170.41	-308.20	-1,450.29	2,929.18	2,890.70	38.48	76.130		
7,500.00	7,308.16	7,331.51	7,294.71	36.13	27.49	170.42	-308.21	-1,450.27	2,929.85	2,891.36	38.49	76.127		
7,600.00	7,405.19	7,398.79	7,361.99	36.66	27.71	170.55	-308.34	-1,450.04	2,953.32	2,914.44	38.88	75.960		
7,700.00	7,503.00	7,496.60	7,459.80	37.16	28.02	170.68	-308.34	-1,450.04	2,973.82	2,934.44	39.38	75.519		
7,800.00	7,601.48	7,595.08	7,558.28	37.61	28.34	170.79	-308.34	-1,450.04	2,990.94	2,951.07	39.87	75.010		
7,900.00	7,700.51	7,694.11	7,657.31	38.02	28.66	170.88	-308.34	-1,450.04	3,004.66	2,964.30	40.37	74.437		
8,000.00	7,799.96	7,793.56	7,756.76	38.39	28.98	170.94	-308.34	-1,450.04	3,014.97	2,974.11	40.85	73.804		
8,100.00	7,899.71	7,893.31	7,856.51	38.73	29.31	170.98	-308.34	-1,450.04	3,021.83	2,980.50	41.33	73.113		
8,200.00	7,999.65	7,993.25	7,956.45	39.02	29.63	171.00	-308.34	-1,450.04	3,025.26	2,983.45	41.80	72.367		
8,249.36	8,049.00	8,042.60	8,005.80	39.15	29.79	-92.39	-308.34	-1,450.04	3,025.68	2,983.64	42.03	71.983		
8,300.00	8,099.64	8,093.24	8,056.44	39.28	29.96	-92.39	-308.34	-1,450.04	3,025.68	2,983.41	42.26	71.589		
8,400.00	8,199.64	8,193.24	8,156.44	39.54	30.29	-92.39	-308.34	-1,450.04	3,025.68	2,982.96	42.72	70.823		
8,500.00	8,299.64	8,293.24	8,256.44	39.79	30.61	-92.39	-308.34	-1,450.04	3,025.68	2,982.50	43.18	70.070		
8,600.00	8,399.64	8,393.24	8,356.44	40.05	30.94	-92.39	-308.34	-1,450.04	3,025.68	2,982.04	43.64	69.332		
8,700.00	8,499.64	8,493.24	8,456.44	40.31	31.27	-92.39	-308.34	-1,450.04	3,025.68	2,981.58	44.10	68.608		
8,800.00	8,599.64	8,593.24	8,556.44	40.57	31.60	-92.39	-308.34	-1,450.04	3,025.68	2,981.11	44.56	67.897		
8,900.00	8,699.64	8,693.24	8,656.44	40.84	31.93	-92.39	-308.34	-1,450.04	3,025.68	2,980.65	45.03	67.199		
9,000.00	8,799.64	8,793.24	8,756.44	41.10	32.26	-92.39	-308.34	-1,450.04	3,025.68	2,980.19	45.49	66.514		
9,100.00	8,899.64	8,893.24	8,856.44	41.37	32.60	-92.39	-308.34	-1,450.04	3,025.68	2,979.72	45.95	65.842		
9,200.00	8,999.64	8,993.24	8,956.44	41.64	32.93	-92.39	-308.34	-1,450.04	3,025.68	2,979.26	46.42	65.181		
9,300.00	9,099.64	9,093.24	9,056.44	41.91	33.26	-92.39	-308.34	-1,450.04	3,025.68	2,978.79	46.89	64.533		
9,400.00	9,199.64	9,193.24	9,156.44	42.18	33.59	-92.39	-308.34	-1,450.04	3,025.68	2,978.32	47.35	63.896		
9,444.40	9,244.04	9,237.64	9,200.84	42.30	33.74	-92.39	-308.34	-1,450.04	3,025.68	2,978.12	47.56	63.617		
9,450.00	9,249.64	9,243.24	9,206.44	42.31	33.76	-91.85	-308.34	-1,450.04	3,025.68	2,978.09	47.59	63.582		
9,500.00	9,299.56	9,293.16	9,256.36	42.44	33.93	-91.89	-308.34	-1,450.04	3,025.77	2,977.95	47.82	63.274		
9,550.00	9,349.05	9,342.65	9,305.85	42.57	34.09	-92.00	-308.34	-1,450.04	3,026.01	2,977.95	48.05	62.974		
9,600.00	9,397.74	9,391.34	9,354.54	42.69	34.26	-92.17	-308.34	-1,450.04	3,026.43	2,978.15	48.28	62.685		
9,650.00	9,445.26	9,443.08	9,406.28	42.80	34.43	-92.40	-308.05	-1,450.04	3,027.07	2,978.55	48.52	62.389		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 304H
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 304H	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 #2	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		
9,700.00	9,491.25	9,506.03	9,468.96	42.91	34.63	-92.70	-302.60	-1,450.10	3,027.80	2,979.01	48.79	62.061		
9,750.00	9,535.36	9,571.75	9,533.34	43.00	34.82	-92.98	-289.61	-1,450.22	3,028.55	2,979.50	49.05	61.750		
9,800.00	9,577.25	9,640.26	9,598.42	43.08	35.00	-93.24	-268.32	-1,450.44	3,029.28	2,979.99	49.29	61.458		
9,850.00	9,616.61	9,711.50	9,662.89	43.15	35.17	-93.48	-238.12	-1,450.74	3,029.97	2,980.45	49.52	61.186		
9,900.00	9,653.13	9,785.26	9,725.15	43.21	35.31	-93.68	-198.67	-1,451.13	3,030.57	2,980.84	49.74	60.933		
9,950.00	9,686.53	9,861.19	9,783.42	43.27	35.42	-93.83	-150.07	-1,451.61	3,031.06	2,981.12	49.94	60.694		
10,000.00	9,716.57	9,938.81	9,835.80	43.31	35.50	-93.94	-92.87	-1,452.18	3,031.41	2,981.27	50.14	60.463		
10,050.00	9,743.01	10,017.48	9,880.51	43.35	35.55	-93.99	-28.23	-1,452.83	3,031.60	2,981.27	50.33	60.230		
10,100.00	9,765.66	10,096.48	9,916.09	43.38	35.57	-93.98	42.24	-1,453.53	3,031.61	2,981.08	50.54	59.990		
10,150.00	9,784.34	10,175.07	9,941.53	43.41	35.57	-93.92	116.53	-1,454.27	3,031.45	2,980.71	50.75	59.735		
10,200.00	9,798.90	10,252.54	9,956.44	43.43	35.58	-93.81	192.48	-1,455.03	3,031.14	2,980.16	50.97	59.465		
10,250.00	9,809.24	10,328.26	9,960.99	43.47	35.72	-93.64	268.01	-1,455.78	3,030.68	2,979.47	51.21	59.182		
10,300.00	9,815.28	10,376.72	9,961.00	43.50	35.86	-93.57	316.46	-1,456.26	3,030.32	2,978.91	51.41	58.946		
10,339.49	9,816.98	10,416.16	9,961.00	43.54	36.00	-93.54	355.91	-1,456.65	3,030.24	2,978.66	51.58	58.749		
10,344.40	9,817.00	10,421.07	9,961.00	43.54	36.02	-93.54	360.81	-1,456.70	3,030.24	2,978.63	51.60	58.723		
10,400.00	9,817.00	10,476.67	9,961.00	43.61	36.23	-93.54	416.41	-1,457.26	3,030.27	2,978.40	51.87	58.420		
10,500.00	9,817.00	10,576.67	9,961.00	43.77	36.67	-93.54	516.41	-1,458.25	3,030.32	2,977.89	52.43	57.796		
10,600.00	9,817.00	10,676.67	9,961.00	43.98	37.17	-93.54	616.40	-1,459.25	3,030.37	2,977.28	53.09	57.082		
10,700.00	9,817.00	10,776.67	9,961.00	44.25	37.73	-93.54	716.40	-1,460.24	3,030.42	2,976.59	53.84	56.287		
10,800.00	9,817.00	10,876.67	9,961.00	44.59	38.35	-93.54	816.39	-1,461.24	3,030.48	2,975.80	54.68	55.425		
10,900.00	9,817.00	10,976.67	9,961.00	44.99	39.03	-93.54	916.39	-1,462.23	3,030.53	2,974.93	55.60	54.505		
11,000.00	9,817.00	11,076.67	9,961.00	45.47	39.76	-93.54	1,016.38	-1,463.23	3,030.58	2,973.98	56.60	53.540		
11,100.00	9,817.00	11,176.67	9,961.00	46.01	40.55	-93.54	1,116.38	-1,464.23	3,030.64	2,972.95	57.68	52.538		
11,200.00	9,817.00	11,276.67	9,961.00	46.61	41.38	-93.54	1,216.37	-1,465.22	3,030.69	2,971.85	58.84	51.509		
11,300.00	9,817.00	11,376.67	9,961.00	47.28	42.26	-93.54	1,316.37	-1,466.22	3,030.74	2,970.68	60.06	50.462		
11,400.00	9,817.00	11,476.67	9,961.00	48.01	43.19	-93.54	1,416.36	-1,467.21	3,030.79	2,969.45	61.35	49.405		
11,500.00	9,817.00	11,576.67	9,961.00	48.79	44.16	-93.54	1,516.36	-1,468.21	3,030.85	2,968.15	62.69	48.344		
11,600.00	9,817.00	11,676.67	9,961.00	49.63	45.17	-93.54	1,616.35	-1,469.21	3,030.90	2,966.80	64.10	47.286		
11,700.00	9,817.00	11,776.67	9,961.00	50.51	46.21	-93.54	1,716.35	-1,470.20	3,030.95	2,965.40	65.55	46.236		
11,800.00	9,817.00	11,876.67	9,961.00	51.44	47.29	-93.54	1,816.34	-1,471.20	3,031.01	2,963.94	67.06	45.198		
11,900.00	9,817.00	11,976.67	9,961.00	52.41	48.40	-93.54	1,916.34	-1,472.19	3,031.06	2,962.44	68.61	44.176		
12,000.00	9,817.00	12,076.67	9,961.00	53.42	49.54	-93.54	2,016.33	-1,473.19	3,031.11	2,960.90	70.21	43.173		
12,100.00	9,817.00	12,176.67	9,961.00	54.47	50.70	-93.54	2,116.33	-1,474.18	3,031.16	2,959.32	71.85	42.190		
12,200.00	9,817.00	12,276.67	9,961.00	55.54	51.90	-93.54	2,216.32	-1,475.18	3,031.22	2,957.70	73.52	41.230		
12,300.00	9,817.00	12,376.67	9,961.00	56.65	53.12	-93.54	2,316.32	-1,476.18	3,031.27	2,956.04	75.23	40.294		
12,400.00	9,817.00	12,476.67	9,961.00	57.79	54.36	-93.54	2,416.31	-1,477.17	3,031.32	2,954.35	76.97	39.383		
12,500.00	9,817.00	12,576.67	9,961.00	58.95	55.62	-93.54	2,516.31	-1,478.17	3,031.37	2,952.63	78.74	38.497		
12,600.00	9,817.00	12,676.67	9,961.00	60.14	56.90	-93.54	2,616.30	-1,479.16	3,031.43	2,950.88	80.54	37.637		
12,700.00	9,817.00	12,776.67	9,961.00	61.35	58.20	-93.54	2,716.30	-1,480.16	3,031.48	2,949.11	82.37	36.802		
12,800.00	9,817.00	12,876.67	9,961.00	62.58	59.52	-93.54	2,816.30	-1,481.16	3,031.53	2,947.31	84.23	35.993		
12,900.00	9,817.00	12,976.67	9,961.00	63.83	60.85	-93.54	2,916.29	-1,482.15	3,031.59	2,945.48	86.10	35.209		
13,000.00	9,817.00	13,076.67	9,961.00	65.10	62.20	-93.54	3,016.29	-1,483.15	3,031.64	2,943.64	88.00	34.450		
13,100.00	9,817.00	13,176.67	9,961.00	66.39	63.57	-93.54	3,116.28	-1,484.14	3,031.69	2,941.77	89.92	33.716		
13,200.00	9,817.00	13,276.67	9,961.00	67.69	64.94	-93.54	3,216.28	-1,485.14	3,031.74	2,939.89	91.86	33.005		
13,300.00	9,817.00	13,376.67	9,961.00	69.01	66.33	-93.54	3,316.27	-1,486.13	3,031.80	2,937.98	93.81	32.317		
13,400.00	9,817.00	13,476.67	9,961.00	70.35	67.73	-93.54	3,416.27	-1,487.13	3,031.85	2,936.06	95.79	31.652		
13,500.00	9,817.00	13,576.67	9,961.00	71.70	69.14	-93.54	3,516.26	-1,488.13	3,031.90	2,934.13	97.77	31.009		
13,600.00	9,817.00	13,676.67	9,961.00	73.06	70.57	-93.54	3,616.26	-1,489.12	3,031.95	2,932.18	99.78	30.387		
13,700.00	9,817.00	13,776.67	9,961.00	74.43	72.00	-93.54	3,716.25	-1,490.12	3,032.01	2,930.21	101.80	29.785		
13,800.00	9,817.00	13,876.67	9,961.00	75.81	73.44	-93.54	3,816.25	-1,491.11	3,032.06	2,928.23	103.83	29.203		
13,900.00	9,817.00	13,976.67	9,961.00	77.21	74.89	-93.54	3,916.24	-1,492.11	3,032.11	2,926.24	105.87	28.640		
14,000.00	9,817.00	14,076.67	9,961.00	78.61	76.35	-93.54	4,016.24	-1,493.11	3,032.17	2,924.24	107.92	28.095		

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 304H
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 304H	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 #2	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	9,817.00	14,176.67	9,961.00	80.03	77.82	-93.54	4,116.23	-1,494.10	3,032.22	2,922.23	109.99	27.568		
14,200.00	9,817.00	14,276.67	9,961.00	81.45	79.29	-93.54	4,216.23	-1,495.10	3,032.27	2,920.20	112.07	27.058		
14,300.00	9,817.00	14,376.67	9,961.00	82.88	80.77	-93.54	4,316.22	-1,496.09	3,032.32	2,918.17	114.15	26.564		
14,400.00	9,817.00	14,476.67	9,961.00	84.32	82.26	-93.54	4,416.22	-1,497.09	3,032.38	2,916.13	116.25	26.085		
14,500.00	9,817.00	14,576.67	9,961.00	85.77	83.75	-93.54	4,516.21	-1,498.08	3,032.43	2,914.08	118.35	25.622		
14,600.00	9,817.00	14,676.67	9,961.00	87.22	85.25	-93.54	4,616.21	-1,499.08	3,032.48	2,912.01	120.47	25.173		
14,700.00	9,817.00	14,776.67	9,961.00	88.69	86.75	-93.54	4,716.20	-1,500.08	3,032.54	2,909.95	122.59	24.737		
14,800.00	9,817.00	14,876.67	9,961.00	90.16	88.26	-93.54	4,816.20	-1,501.07	3,032.59	2,907.87	124.72	24.316		
14,900.00	9,817.00	14,976.67	9,961.00	91.63	89.78	-93.54	4,916.19	-1,502.07	3,032.64	2,905.79	126.85	23.907		
15,000.00	9,817.00	15,076.67	9,961.00	93.11	91.30	-93.54	5,016.19	-1,503.06	3,032.69	2,903.70	129.00	23.510		
15,100.00	9,817.00	15,176.67	9,961.00	94.60	92.82	-93.54	5,116.18	-1,504.06	3,032.75	2,901.60	131.15	23.125		
15,200.00	9,817.00	15,276.67	9,961.00	96.09	94.35	-93.54	5,216.18	-1,505.06	3,032.80	2,899.50	133.30	22.751		
15,300.00	9,817.00	15,376.67	9,961.00	97.59	95.88	-93.54	5,316.17	-1,506.05	3,032.85	2,897.39	135.46	22.389		
15,400.00	9,817.00	15,476.67	9,961.00	99.09	97.42	-93.54	5,416.17	-1,507.05	3,032.90	2,895.27	137.63	22.037		
15,500.00	9,817.00	15,576.67	9,961.00	100.60	98.96	-93.54	5,516.16	-1,508.04	3,032.96	2,893.15	139.80	21.695		
15,600.00	9,817.00	15,676.67	9,961.00	102.11	100.50	-93.54	5,616.16	-1,509.04	3,033.01	2,891.03	141.98	21.362		
15,700.00	9,817.00	15,776.67	9,961.00	103.62	102.05	-93.54	5,716.15	-1,510.03	3,033.06	2,888.90	144.16	21.039		
15,800.00	9,817.00	15,876.67	9,961.00	105.14	103.60	-93.54	5,816.15	-1,511.03	3,033.12	2,886.77	146.35	20.725		
15,900.00	9,817.00	15,976.67	9,961.00	106.67	105.15	-93.54	5,916.14	-1,512.03	3,033.17	2,884.63	148.54	20.420		
16,000.00	9,817.00	16,076.67	9,961.00	108.20	106.71	-93.54	6,016.14	-1,513.02	3,033.22	2,882.48	150.74	20.123		
16,100.00	9,817.00	16,176.67	9,961.00	109.73	108.27	-93.54	6,116.13	-1,514.02	3,033.27	2,880.34	152.94	19.834		
16,200.00	9,817.00	16,276.67	9,961.00	111.26	109.83	-93.54	6,216.13	-1,515.01	3,033.33	2,878.19	155.14	19.552		
16,300.00	9,817.00	16,376.67	9,961.00	112.80	111.39	-93.54	6,316.12	-1,516.01	3,033.38	2,876.03	157.35	19.278		
16,400.00	9,817.00	16,476.67	9,961.00	114.34	112.96	-93.54	6,416.12	-1,517.01	3,033.43	2,873.87	159.56	19.011		
16,500.00	9,817.00	16,576.67	9,961.00	115.89	114.53	-93.54	6,516.11	-1,518.00	3,033.48	2,871.71	161.77	18.752		
16,600.00	9,817.00	16,676.67	9,961.00	117.43	116.10	-93.54	6,616.11	-1,519.00	3,033.54	2,869.55	163.99	18.498		
16,700.00	9,817.00	16,776.67	9,961.00	118.98	117.68	-93.54	6,716.10	-1,519.99	3,033.59	2,867.38	166.21	18.251		
16,800.00	9,817.00	16,876.67	9,961.00	120.54	119.25	-93.54	6,816.10	-1,520.99	3,033.64	2,865.21	168.44	18.011		
16,900.00	9,817.00	16,976.67	9,961.00	122.09	120.83	-93.54	6,916.09	-1,521.98	3,033.70	2,863.03	170.66	17.776		
17,000.00	9,817.00	17,076.67	9,961.00	123.65	122.41	-93.54	7,016.09	-1,522.98	3,033.75	2,860.86	172.89	17.547		
17,100.00	9,817.00	17,176.67	9,961.00	125.21	123.99	-93.54	7,116.08	-1,523.98	3,033.80	2,858.68	175.12	17.324		
17,200.00	9,817.00	17,276.67	9,961.00	126.77	125.58	-93.54	7,216.08	-1,524.97	3,033.85	2,856.50	177.36	17.106		
17,300.00	9,817.00	17,376.67	9,961.00	128.34	127.16	-93.54	7,316.07	-1,525.97	3,033.91	2,854.31	179.60	16.893		
17,400.00	9,817.00	17,476.67	9,961.00	129.90	128.75	-93.54	7,416.07	-1,526.96	3,033.96	2,852.12	181.84	16.685		
17,500.00	9,817.00	17,576.67	9,961.00	131.47	130.34	-93.54	7,516.06	-1,527.96	3,034.01	2,849.93	184.08	16.482		
17,600.00	9,817.00	17,676.67	9,961.00	133.04	131.93	-93.54	7,616.06	-1,528.96	3,034.07	2,847.74	186.32	16.284		
17,700.00	9,817.00	17,776.67	9,961.00	134.62	133.52	-93.54	7,716.05	-1,529.95	3,034.12	2,845.55	188.57	16.090		
17,800.00	9,817.00	17,876.67	9,961.00	136.19	135.11	-93.54	7,816.05	-1,530.95	3,034.17	2,843.35	190.82	15.901		
17,900.00	9,817.00	17,976.67	9,961.00	137.77	136.71	-93.54	7,916.04	-1,531.94	3,034.22	2,841.15	193.07	15.716		
18,000.00	9,817.00	18,076.67	9,961.00	139.35	138.30	-93.54	8,016.04	-1,532.94	3,034.28	2,838.95	195.32	15.535		
18,100.00	9,817.00	18,176.67	9,961.00	140.93	139.90	-93.54	8,116.03	-1,533.93	3,034.33	2,836.75	197.58	15.358		
18,200.00	9,817.00	18,276.67	9,961.00	142.51	141.50	-93.54	8,216.03	-1,534.93	3,034.38	2,834.55	199.83	15.185		
18,300.00	9,817.00	18,376.67	9,961.00	144.09	143.10	-93.54	8,316.02	-1,535.93	3,034.43	2,832.34	202.09	15.015		
18,400.00	9,817.00	18,476.67	9,961.00	145.68	144.70	-93.54	8,416.02	-1,536.92	3,034.49	2,830.14	204.35	14.849		
18,500.00	9,817.00	18,576.67	9,961.00	147.26	146.30	-93.54	8,516.01	-1,537.92	3,034.54	2,827.93	206.61	14.687		
18,600.00	9,817.00	18,676.67	9,961.00	148.85	147.91	-93.54	8,616.01	-1,538.91	3,034.59	2,825.72	208.87	14.528		
18,700.00	9,817.00	18,776.67	9,961.00	150.44	149.51	-93.54	8,716.00	-1,539.91	3,034.65	2,823.51	211.14	14.373		
18,800.00	9,817.00	18,876.67	9,961.00	152.03	151.12	-93.54	8,816.00	-1,540.91	3,034.70	2,821.29	213.41	14.220		
18,900.00	9,817.00	18,976.67	9,961.00	153.62	152.72	-93.54	8,915.99	-1,541.90	3,034.75	2,819.08	215.67	14.071		
19,000.00	9,817.00	19,076.67	9,961.00	155.22	154.33	-93.54	9,015.99	-1,542.90	3,034.80	2,816.86	217.94	13.925		
19,100.00	9,817.00	19,176.67	9,961.00	156.81	155.94	-93.54	9,115.98	-1,543.89	3,034.86	2,814.64	220.21	13.782		
19,200.00	9,817.00	19,276.67	9,961.00	158.41	157.55	-93.54	9,215.98	-1,544.89	3,034.91	2,812.43	222.48	13.641		

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 304H
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 304H	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 #2	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	9,817.00	19,376.67	9,961.00	160.00	159.16	-93.54	9,315.97	-1,545.88	3,034.96	2,810.21	224.76	13.503	
19,400.00	9,817.00	19,476.67	9,961.00	161.60	160.77	-93.54	9,415.97	-1,546.88	3,035.01	2,807.98	227.03	13.368	
19,500.00	9,817.00	19,576.67	9,961.00	163.20	162.38	-93.54	9,515.96	-1,547.88	3,035.07	2,805.76	229.30	13.236	
19,600.00	9,817.00	19,676.67	9,961.00	164.80	163.99	-93.54	9,615.96	-1,548.87	3,035.12	2,803.54	231.58	13.106	
19,700.00	9,817.00	19,776.67	9,961.00	166.40	165.61	-93.54	9,715.95	-1,549.87	3,035.17	2,801.32	233.86	12.979	
19,800.00	9,817.00	19,876.67	9,961.00	168.00	167.22	-93.54	9,815.95	-1,550.86	3,035.23	2,799.09	236.14	12.854	
19,900.00	9,817.00	19,976.67	9,961.00	169.60	168.84	-93.54	9,915.94	-1,551.86	3,035.28	2,796.86	238.42	12.731	
20,000.00	9,817.00	20,076.67	9,961.00	171.21	170.45	-93.54	10,015.94	-1,552.86	3,035.33	2,794.64	240.70	12.611	
20,032.59	9,817.00	20,109.26	9,961.00	171.73	170.98	-93.54	10,048.52	-1,553.18	3,035.35	2,793.91	241.44	12.572 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 304H
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 304H	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 #2	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	-90.46	-0.40	-49.99	49.99					
100.00	100.00	100.00	100.00	0.13	0.13	-90.46	-0.40	-49.99	49.99	49.81	0.18	281.747		
200.00	200.00	200.00	200.00	0.48	0.48	-90.46	-0.40	-49.99	49.99	49.31	0.68	73.045		
300.00	300.00	300.00	300.00	0.84	0.84	-90.46	-0.40	-49.99	49.99	48.80	1.19	41.962		
400.00	400.00	400.00	400.00	1.20	1.20	-90.46	-0.40	-49.99	49.99	48.29	1.70	29.436		
500.00	500.00	500.00	500.00	1.56	1.56	-90.46	-0.40	-49.99	49.99	47.79	2.21	22.669		
600.00	600.00	600.00	600.00	1.92	1.92	-90.46	-0.40	-49.99	49.99	47.28	2.71	18.432		
700.00	700.00	700.00	700.00	2.28	2.28	-90.46	-0.40	-49.99	49.99	46.77	3.22	15.529		
800.00	800.00	800.00	800.00	2.63	2.63	-90.46	-0.40	-49.99	49.99	46.27	3.73	13.417		
900.00	900.00	900.00	900.00	2.99	2.99	-90.46	-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	-90.46	-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	-90.46	-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	-90.46	-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	-90.46	-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	-90.46	-0.40	-49.99	49.99	43.22	6.77	7.387 CC, ES		
1,500.00	1,499.98	1,499.98	1,499.98	5.13	5.14	173.18	-0.40	-49.99	51.72	44.46	7.27	7.117		
1,600.00	1,599.84	1,599.84	1,599.84	5.48	5.50	173.79	-0.40	-49.99	56.92	49.16	7.76	7.333		
1,700.00	1,699.45	1,699.45	1,699.45	5.83	5.86	174.60	-0.40	-49.99	65.59	57.34	8.26	7.943		
1,800.00	1,798.70	1,798.70	1,798.70	6.18	6.21	175.42	-0.40	-49.99	77.74	68.98	8.75	8.881		
1,900.00	1,897.47	1,898.51	1,898.50	6.55	6.56	175.46	-1.56	-49.48	92.79	83.55	9.24	10.043		
2,000.00	1,995.62	1,998.09	1,998.00	6.93	6.88	174.39	-5.11	-47.94	110.17	100.46	9.71	11.342		
2,100.00	2,093.06	2,096.91	2,096.62	7.34	7.21	172.76	-10.87	-45.43	130.02	119.83	10.19	12.757		
2,152.08	2,143.47	2,147.65	2,147.24	7.56	7.38	172.04	-14.11	-44.02	141.60	131.16	10.44	13.559		
2,200.00	2,189.75	2,194.26	2,193.73	7.76	7.53	171.52	-17.10	-42.72	152.69	142.02	10.67	14.306		
2,300.00	2,286.32	2,291.50	2,290.74	8.21	7.86	170.66	-23.32	-40.01	175.87	164.71	11.16	15.765		
2,400.00	2,382.90	2,388.75	2,387.75	8.67	8.19	170.00	-29.54	-37.30	199.08	187.43	11.64	17.097		
2,500.00	2,479.47	2,486.00	2,484.76	9.14	8.53	169.47	-35.77	-34.59	222.30	210.16	12.14	18.316		
2,600.00	2,576.04	2,583.25	2,581.77	9.62	8.86	169.05	-41.99	-31.88	245.54	232.91	12.63	19.434		
2,700.00	2,672.62	2,680.49	2,678.78	10.11	9.20	168.70	-48.21	-29.17	268.79	255.66	13.14	20.461		
2,800.00	2,769.19	2,777.74	2,775.79	10.60	9.55	168.40	-54.43	-26.46	292.05	278.41	13.64	21.409		
2,900.00	2,865.77	2,874.99	2,872.80	11.10	9.89	168.15	-60.66	-23.76	315.32	301.17	14.15	22.284		
3,000.00	2,962.34	2,972.24	2,969.81	11.61	10.23	167.93	-66.88	-21.05	338.59	323.92	14.66	23.094		
3,100.00	3,058.91	3,069.48	3,066.82	12.12	10.58	167.74	-73.10	-18.34	361.86	346.69	15.17	23.846		
3,200.00	3,155.49	3,166.73	3,163.83	12.64	10.93	167.57	-79.33	-15.63	385.14	369.45	15.69	24.546		
3,300.00	3,252.06	3,263.98	3,260.84	13.16	11.28	167.43	-85.55	-12.92	408.42	392.21	16.21	25.198		
3,400.00	3,348.63	3,361.23	3,357.85	13.68	11.63	167.29	-91.77	-10.21	431.70	414.97	16.73	25.807		
3,500.00	3,445.21	3,458.47	3,454.86	14.21	11.98	167.18	-98.00	-7.50	454.98	437.73	17.25	26.377		
3,600.00	3,541.78	3,555.72	3,551.87	14.74	12.33	167.07	-104.22	-4.79	478.27	460.50	17.77	26.910		
3,700.00	3,638.36	3,652.97	3,648.88	15.27	12.68	166.97	-110.44	-2.08	501.56	483.26	18.30	27.412		
3,800.00	3,734.93	3,750.22	3,745.89	15.80	13.04	166.88	-116.67	0.63	524.84	506.02	18.82	27.883		
3,900.00	3,831.50	3,847.46	3,842.90	16.33	13.39	166.80	-122.89	3.34	548.13	528.78	19.35	28.327		
4,000.00	3,928.08	3,944.71	3,939.91	16.87	13.74	166.73	-129.11	6.05	571.42	551.55	19.88	28.746		
4,100.00	4,024.65	4,041.96	4,036.92	17.41	14.10	166.66	-135.34	8.76	594.72	574.31	20.41	29.142		
4,200.00	4,121.22	4,139.20	4,133.93	17.95	14.46	166.60	-141.56	11.47	618.01	597.07	20.94	29.516		
4,300.00	4,217.80	4,236.45	4,230.94	18.49	14.81	166.54	-147.78	14.18	641.30	619.83	21.47	29.871		
4,400.00	4,314.37	4,333.70	4,327.95	19.03	15.17	166.49	-154.00	16.89	664.59	642.59	22.00	30.207		
4,500.00	4,410.95	4,430.95	4,424.96	19.58	15.53	166.43	-160.23	19.59	687.89	665.35	22.53	30.527		
4,600.00	4,507.52	4,528.19	4,521.98	20.12	15.88	166.39	-166.45	22.30	711.18	688.12	23.07	30.831		
4,700.00	4,604.09	4,625.44	4,618.99	20.66	16.24	166.34	-172.67	25.01	734.48	710.88	23.60	31.120		
4,800.00	4,700.67	4,722.69	4,716.00	21.21	16.60	166.30	-178.90	27.72	757.77	733.64	24.14	31.396		
4,900.00	4,797.24	4,819.94	4,813.01	21.76	16.96	166.26	-185.12	30.43	781.07	756.40	24.67	31.659		
5,000.00	4,893.81	4,917.18	4,910.02	22.30	17.32	166.22	-191.34	33.14	804.36	779.16	25.21	31.910		

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 304H
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 304H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 303H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre		Between	Between	Minimum	Separation				
Depth	Depth	Depth	Depth			Tooface	+N/-S	+E/-W	Centres	Ellipses	Separation	Factor				
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)					
5,100.00	4,990.39	5,014.43	5,007.03	22.85	17.68	166.19	-197.57	35.85	827.66	801.92	25.74	32.150				
5,200.00	5,086.96	5,111.68	5,104.04	23.40	18.04	166.16	-203.79	38.56	850.96	824.68	26.28	32.379				
5,300.00	5,183.54	5,208.93	5,201.05	23.95	18.40	166.13	-210.01	41.27	874.25	847.43	26.82	32.599				
5,400.00	5,280.11	5,306.17	5,298.06	24.50	18.76	166.10	-216.24	43.98	897.55	870.19	27.36	32.810				
5,500.00	5,376.68	5,403.42	5,395.07	25.05	19.12	166.07	-222.46	46.69	920.85	892.95	27.89	33.012				
5,600.00	5,473.26	5,500.67	5,492.08	25.60	19.48	166.04	-228.68	49.40	944.14	915.71	28.43	33.206				
5,700.00	5,569.83	5,597.92	5,589.09	26.15	19.84	166.02	-234.90	52.11	967.44	938.47	28.97	33.392				
5,800.00	5,666.41	5,695.16	5,686.10	26.70	20.20	165.99	-241.13	54.82	990.74	961.23	29.51	33.571				
5,900.00	5,762.98	5,792.41	5,783.11	27.26	20.57	165.97	-247.35	57.53	1,014.04	983.99	30.05	33.743				
6,000.00	5,859.55	5,889.66	5,880.12	27.81	20.93	165.95	-253.57	60.24	1,037.34	1,006.74	30.59	33.909				
6,100.00	5,956.13	5,986.91	5,977.13	28.36	21.29	165.92	-259.80	62.94	1,060.63	1,029.50	31.13	34.069				
6,200.00	6,052.70	6,084.15	6,074.14	28.92	21.65	165.90	-266.02	65.65	1,083.93	1,052.26	31.67	34.223				
6,300.00	6,149.27	6,181.40	6,171.15	29.47	22.01	165.89	-272.24	68.36	1,107.23	1,075.02	32.21	34.371				
6,400.00	6,245.85	6,278.65	6,268.16	30.02	22.37	165.87	-278.47	71.07	1,130.53	1,097.77	32.76	34.514				
6,500.00	6,342.42	6,375.89	6,365.17	30.58	22.74	165.85	-284.69	73.78	1,153.83	1,120.53	33.30	34.652				
6,600.00	6,439.00	6,466.82	6,455.91	31.13	23.07	165.87	-289.88	76.04	1,177.34	1,143.53	33.80	34.828				
6,700.00	6,535.57	6,555.95	6,544.98	31.69	23.40	165.98	-293.08	77.43	1,201.48	1,167.19	34.29	35.036				
6,800.00	6,632.14	6,644.64	6,633.66	32.24	23.71	166.18	-294.37	78.00	1,226.28	1,191.51	34.77	35.273				
6,900.00	6,728.72	6,739.70	6,728.72	32.80	24.02	166.46	-294.40	78.01	1,251.53	1,216.28	35.26	35.499				
7,000.00	6,825.29	6,836.28	6,825.29	33.35	24.34	166.73	-294.40	78.01	1,276.82	1,241.07	35.75	35.713				
7,100.00	6,921.86	6,932.85	6,921.86	33.91	24.66	166.99	-294.40	78.01	1,302.14	1,265.89	36.25	35.921				
7,200.00	7,018.44	7,029.42	7,018.44	34.46	24.98	167.25	-294.40	78.01	1,327.48	1,290.73	36.75	36.123				
7,300.00	7,115.01	7,126.00	7,115.01	35.02	25.30	167.49	-294.40	78.01	1,352.85	1,315.60	37.25	36.320				
7,400.00	7,211.59	7,222.57	7,211.59	35.57	25.62	167.72	-294.40	78.01	1,378.23	1,340.49	37.75	36.511				
7,497.28	7,305.53	7,316.52	7,305.53	36.11	25.94	167.94	-294.40	78.01	1,402.95	1,364.71	38.24	36.692				
7,500.00	7,308.16	7,319.15	7,308.16	36.13	25.95	167.95	-294.40	78.01	1,403.64	1,365.39	38.25	36.697				
7,600.00	7,405.19	7,416.18	7,405.19	36.66	26.27	168.25	-294.40	78.01	1,427.32	1,388.57	38.75	36.835				
7,700.00	7,503.00	7,513.99	7,503.00	37.16	26.60	168.50	-294.40	78.01	1,447.68	1,408.43	39.25	36.887				
7,800.00	7,601.48	7,612.47	7,601.48	37.61	26.93	168.71	-294.40	78.01	1,464.69	1,424.95	39.74	36.856				
7,900.00	7,700.51	7,711.50	7,700.51	38.02	27.26	168.86	-294.40	78.01	1,478.32	1,438.09	40.23	36.745				
8,000.00	7,799.96	7,810.94	7,799.96	38.39	27.60	168.98	-294.40	78.01	1,488.56	1,447.84	40.72	36.558				
8,100.00	7,899.71	7,910.70	7,899.71	38.73	27.94	169.06	-294.40	78.01	1,495.39	1,454.19	41.20	36.298				
8,200.00	7,999.65	8,010.63	7,999.65	39.02	28.27	169.10	-294.40	78.01	1,498.79	1,457.12	41.67	35.967				
8,249.36	8,049.00	8,059.99	8,049.00	39.15	28.44	-94.30	-294.40	78.01	1,499.21	1,457.31	41.90	35.780				
8,300.00	8,099.64	8,110.63	8,099.64	39.28	28.61	-94.30	-294.40	78.01	1,499.21	1,457.08	42.13	35.583				
8,400.00	8,199.64	8,210.63	8,199.64	39.54	28.95	-94.30	-294.40	78.01	1,499.21	1,456.62	42.59	35.200				
8,500.00	8,299.64	8,310.63	8,299.64	39.79	29.29	-94.30	-294.40	78.01	1,499.21	1,456.16	43.05	34.824				
8,600.00	8,399.64	8,410.63	8,399.64	40.05	29.63	-94.30	-294.40	78.01	1,499.21	1,455.70	43.51	34.455				
8,700.00	8,499.64	8,510.63	8,499.64	40.31	29.97	-94.30	-294.40	78.01	1,499.21	1,455.24	43.97	34.094				
8,800.00	8,599.64	8,610.63	8,599.64	40.57	30.31	-94.30	-294.40	78.01	1,499.21	1,454.77	44.44	33.739				
8,900.00	8,699.64	8,710.63	8,699.64	40.84	30.65	-94.30	-294.40	78.01	1,499.21	1,454.31	44.90	33.390				
9,000.00	8,799.64	8,810.63	8,799.64	41.10	30.99	-94.30	-294.40	78.01	1,499.21	1,453.84	45.36	33.048				
9,100.00	8,899.64	8,910.63	8,899.64	41.37	31.34	-94.30	-294.40	78.01	1,499.21	1,453.38	45.83	32.712				
9,200.00	8,999.64	9,010.63	8,999.64	41.64	31.68	-94.30	-294.40	78.01	1,499.21	1,452.91	46.30	32.383				
9,300.00	9,099.64	9,110.63	9,099.64	41.91	32.02	-94.30	-294.40	78.01	1,499.21	1,452.45	46.76	32.059				
9,400.00	9,199.64	9,210.63	9,199.64	42.18	32.36	-94.30	-294.40	78.01	1,499.21	1,451.98	47.23	31.742				
9,444.40	9,244.04	9,255.03	9,244.04	42.30	32.52	-94.30	-294.40	78.01	1,499.21	1,451.77	47.44	31.602				
9,450.00	9,249.64	9,260.63	9,249.64	42.31	32.54	-93.76	-294.40	78.01	1,499.21	1,451.75	47.47	31.585				
9,500.00	9,299.56	9,310.54	9,299.56	42.44	32.71	-93.84	-294.40	78.01	1,499.39	1,451.69	47.70	31.433				
9,550.00	9,349.05	9,363.74	9,352.75	42.57	32.89	-94.07	-294.06	78.01	1,499.86	1,451.90	47.95	31.277				
9,600.00	9,397.74	9,425.17	9,413.91	42.69	33.09	-94.35	-288.66	77.96	1,500.38	1,452.14	48.23	31.107				
9,650.00	9,445.26	9,487.64	9,475.16	42.80	33.28	-94.58	-276.50	77.84	1,500.84	1,452.35	48.49	30.950				

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 304H
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 304H	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 #2	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		
9,700.00	9,491.25	9,551.02	9,535.56	42.91	33.46	-94.78	-257.42	77.66	1,501.24	1,452.51	48.73	30.806		
9,750.00	9,535.36	9,615.13	9,594.14	43.00	33.63	-94.92	-231.45	77.41	1,501.55	1,452.60	48.95	30.675		
9,800.00	9,577.25	9,679.77	9,649.90	43.08	33.78	-95.02	-198.82	77.10	1,501.76	1,452.61	49.15	30.555		
9,850.00	9,616.61	9,744.72	9,701.86	43.15	33.92	-95.06	-159.91	76.73	1,501.85	1,452.52	49.33	30.443		
9,900.00	9,653.13	9,809.75	9,749.15	43.21	34.06	-95.05	-115.32	76.31	1,501.84	1,452.33	49.51	30.336		
9,950.00	9,686.53	9,874.62	9,790.98	43.27	34.19	-94.99	-65.79	75.84	1,501.70	1,452.03	49.68	30.230		
10,000.00	9,716.57	9,939.10	9,826.76	43.31	34.32	-94.88	-12.19	75.33	1,501.47	1,451.62	49.85	30.122		
10,050.00	9,743.01	10,002.98	9,856.04	43.35	34.46	-94.71	44.54	74.79	1,501.13	1,451.11	50.02	30.010		
10,100.00	9,765.66	10,066.06	9,878.58	43.38	34.61	-94.50	103.42	74.23	1,500.71	1,450.51	50.21	29.891		
10,150.00	9,784.34	10,128.19	9,894.33	43.41	34.76	-94.25	163.48	73.66	1,500.23	1,449.83	50.40	29.766		
10,200.00	9,798.90	10,189.23	9,903.38	43.43	34.92	-93.97	223.82	73.08	1,499.70	1,449.10	50.60	29.636		
10,250.00	9,809.24	10,248.24	9,906.00	43.47	35.08	-93.65	282.74	72.52	1,499.15	1,448.34	50.81	29.502		
10,300.00	9,815.28	10,297.86	9,906.00	43.50	35.23	-93.46	332.36	72.05	1,498.78	1,447.76	51.02	29.378		
10,343.64	9,817.00	10,341.45	9,906.00	43.54	35.39	-93.40	375.95	71.64	1,498.68	1,447.46	51.22	29.260		
10,344.40	9,817.00	10,342.21	9,906.00	43.54	35.39	-93.40	376.71	71.63	1,498.68	1,447.46	51.22	29.258		
10,400.00	9,817.00	10,397.81	9,906.00	43.61	35.59	-93.40	432.31	71.10	1,498.69	1,447.19	51.49	29.105		
10,500.00	9,817.00	10,497.81	9,906.00	43.77	36.03	-93.40	532.30	70.15	1,498.69	1,446.62	52.07	28.783		
10,600.00	9,817.00	10,597.81	9,906.00	43.98	36.53	-93.40	632.30	69.20	1,498.70	1,445.96	52.74	28.417		
10,700.00	9,817.00	10,697.81	9,906.00	44.25	37.10	-93.40	732.30	68.25	1,498.71	1,445.20	53.50	28.011		
10,800.00	9,817.00	10,797.81	9,906.00	44.59	37.73	-93.40	832.29	67.30	1,498.72	1,444.36	54.36	27.571		
10,900.00	9,817.00	10,897.81	9,906.00	44.99	38.42	-93.40	932.29	66.35	1,498.72	1,443.43	55.30	27.102		
11,000.00	9,817.00	10,997.81	9,906.00	45.47	39.17	-93.40	1,032.28	65.40	1,498.73	1,442.41	56.32	26.611		
11,100.00	9,817.00	11,097.81	9,906.00	46.01	39.98	-93.40	1,132.28	64.45	1,498.74	1,441.32	57.42	26.103		
11,200.00	9,817.00	11,197.81	9,906.00	46.61	40.84	-93.40	1,232.27	63.49	1,498.75	1,440.16	58.59	25.582		
11,300.00	9,817.00	11,297.81	9,906.00	47.28	41.74	-93.40	1,332.27	62.54	1,498.76	1,438.93	59.82	25.053		
11,400.00	9,817.00	11,397.81	9,906.00	48.01	42.69	-93.40	1,432.26	61.59	1,498.76	1,437.64	61.13	24.519		
11,500.00	9,817.00	11,497.81	9,906.00	48.79	43.68	-93.40	1,532.26	60.64	1,498.77	1,436.28	62.49	23.985		
11,600.00	9,817.00	11,597.81	9,906.00	49.63	44.71	-93.40	1,632.26	59.69	1,498.78	1,434.87	63.91	23.452		
11,700.00	9,817.00	11,697.81	9,906.00	50.51	45.77	-93.40	1,732.25	58.74	1,498.79	1,433.41	65.38	22.925		
11,800.00	9,817.00	11,797.81	9,906.00	51.44	46.87	-93.40	1,832.25	57.79	1,498.79	1,431.90	66.90	22.404		
11,900.00	9,817.00	11,897.81	9,906.00	52.41	48.01	-93.40	1,932.24	56.84	1,498.80	1,430.34	68.46	21.892		
12,000.00	9,817.00	11,997.81	9,906.00	53.42	49.17	-93.40	2,032.24	55.89	1,498.81	1,428.74	70.07	21.390		
12,100.00	9,817.00	12,097.81	9,906.00	54.47	50.35	-93.40	2,132.23	54.94	1,498.82	1,427.10	71.72	20.899		
12,200.00	9,817.00	12,197.81	9,906.00	55.54	51.57	-93.40	2,232.23	53.99	1,498.82	1,425.42	73.40	20.419		
12,300.00	9,817.00	12,297.81	9,906.00	56.65	52.81	-93.40	2,332.22	53.04	1,498.83	1,423.71	75.12	19.952		
12,400.00	9,817.00	12,397.81	9,906.00	57.79	54.07	-93.40	2,432.22	52.09	1,498.84	1,421.97	76.88	19.497		
12,500.00	9,817.00	12,497.81	9,906.00	58.95	55.35	-93.40	2,532.21	51.13	1,498.85	1,420.19	78.66	19.055		
12,600.00	9,817.00	12,597.81	9,906.00	60.14	56.65	-93.40	2,632.21	50.18	1,498.86	1,418.39	80.47	18.627		
12,700.00	9,817.00	12,697.81	9,906.00	61.35	57.97	-93.40	2,732.21	49.23	1,498.86	1,416.56	82.30	18.211		
12,800.00	9,817.00	12,797.81	9,906.00	62.58	59.30	-93.40	2,832.20	48.28	1,498.87	1,414.71	84.17	17.809		
12,900.00	9,817.00	12,897.81	9,906.00	63.83	60.65	-93.40	2,932.20	47.33	1,498.88	1,412.83	86.05	17.419		
13,000.00	9,817.00	12,997.81	9,906.00	65.10	62.01	-93.40	3,032.19	46.38	1,498.89	1,410.93	87.96	17.041		
13,100.00	9,817.00	13,097.81	9,906.00	66.39	63.39	-93.40	3,132.19	45.43	1,498.89	1,409.01	89.88	16.676		
13,200.00	9,817.00	13,197.81	9,906.00	67.69	64.78	-93.40	3,232.18	44.48	1,498.90	1,407.08	91.83	16.323		
13,300.00	9,817.00	13,297.81	9,906.00	69.01	66.19	-93.40	3,332.18	43.53	1,498.91	1,405.12	93.79	15.982		
13,400.00	9,817.00	13,397.81	9,906.00	70.35	67.60	-93.40	3,432.17	42.58	1,498.92	1,403.15	95.77	15.651		
13,500.00	9,817.00	13,497.81	9,906.00	71.70	69.03	-93.40	3,532.17	41.63	1,498.93	1,401.16	97.76	15.332		
13,600.00	9,817.00	13,597.81	9,906.00	73.06	70.46	-93.40	3,632.16	40.68	1,498.93	1,399.16	99.77	15.023		
13,700.00	9,817.00	13,697.81	9,906.00	74.43	71.91	-93.40	3,732.16	39.73	1,498.94	1,397.14	101.80	14.725		
13,800.00	9,817.00	13,797.81	9,906.00	75.81	73.36	-93.40	3,832.16	38.77	1,498.95	1,395.12	103.83	14.436		
13,900.00	9,817.00	13,897.81	9,906.00	77.21	74.82	-93.40	3,932.15	37.82	1,498.96	1,393.07	105.88	14.157		
14,000.00	9,817.00	13,997.81	9,906.00	78.61	76.29	-93.40	4,032.15	36.87	1,498.96	1,391.02	107.94	13.887		

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 304H
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 304H	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 #2	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	9,817.00	14,097.81	9,906.00	80.03	77.77	-93.40	4,132.14	35.92	1,498.97	1,388.96	110.01	13.625		
14,200.00	9,817.00	14,197.81	9,906.00	81.45	79.25	-93.40	4,232.14	34.97	1,498.98	1,386.88	112.10	13.372		
14,300.00	9,817.00	14,297.81	9,906.00	82.88	80.74	-93.40	4,332.13	34.02	1,498.99	1,384.80	114.19	13.128		
14,400.00	9,817.00	14,397.81	9,906.00	84.32	82.24	-93.40	4,432.13	33.07	1,499.00	1,382.71	116.29	12.890		
14,500.00	9,817.00	14,497.81	9,906.00	85.77	83.74	-93.40	4,532.12	32.12	1,499.00	1,380.61	118.40	12.661		
14,600.00	9,817.00	14,597.81	9,906.00	87.22	85.25	-93.40	4,632.12	31.17	1,499.01	1,378.50	120.51	12.438		
14,700.00	9,817.00	14,697.81	9,906.00	88.69	86.76	-93.40	4,732.12	30.22	1,499.02	1,376.38	122.64	12.223		
14,800.00	9,817.00	14,797.81	9,906.00	90.16	88.28	-93.40	4,832.11	29.27	1,499.03	1,374.25	124.77	12.014		
14,900.00	9,817.00	14,897.81	9,906.00	91.63	89.80	-93.40	4,932.11	28.32	1,499.03	1,372.12	126.91	11.812		
15,000.00	9,817.00	14,997.81	9,906.00	93.11	91.33	-93.40	5,032.10	27.37	1,499.04	1,369.98	129.06	11.615		
15,100.00	9,817.00	15,097.81	9,906.00	94.60	92.86	-93.40	5,132.10	26.41	1,499.05	1,367.84	131.21	11.425		
15,200.00	9,817.00	15,197.81	9,906.00	96.09	94.40	-93.40	5,232.09	25.46	1,499.06	1,365.69	133.37	11.240		
15,300.00	9,817.00	15,297.81	9,906.00	97.59	95.93	-93.40	5,332.09	24.51	1,499.07	1,363.53	135.54	11.060		
15,400.00	9,817.00	15,397.81	9,906.00	99.09	97.48	-93.40	5,432.08	23.56	1,499.07	1,361.37	137.71	10.886		
15,500.00	9,817.00	15,497.81	9,906.00	100.60	99.02	-93.40	5,532.08	22.61	1,499.08	1,359.20	139.88	10.717		
15,600.00	9,817.00	15,597.81	9,906.00	102.11	100.57	-93.40	5,632.07	21.66	1,499.09	1,357.03	142.06	10.552		
15,700.00	9,817.00	15,697.81	9,906.00	103.62	102.13	-93.40	5,732.07	20.71	1,499.10	1,354.85	144.25	10.393		
15,800.00	9,817.00	15,797.81	9,906.00	105.14	103.68	-93.40	5,832.07	19.76	1,499.10	1,352.67	146.44	10.237		
15,900.00	9,817.00	15,897.81	9,906.00	106.67	105.24	-93.40	5,932.06	18.81	1,499.11	1,350.48	148.63	10.086		
16,000.00	9,817.00	15,997.81	9,906.00	108.20	106.81	-93.40	6,032.06	17.86	1,499.12	1,348.29	150.83	9.939		
16,100.00	9,817.00	16,097.81	9,906.00	109.73	108.37	-93.40	6,132.05	16.91	1,499.13	1,346.10	153.03	9.796		
16,200.00	9,817.00	16,197.81	9,906.00	111.26	109.94	-93.40	6,232.05	15.96	1,499.14	1,343.90	155.24	9.657		
16,300.00	9,817.00	16,297.81	9,906.00	112.80	111.51	-93.40	6,332.04	15.01	1,499.14	1,341.70	157.45	9.522		
16,400.00	9,817.00	16,397.81	9,906.00	114.34	113.08	-93.40	6,432.04	14.05	1,499.15	1,339.49	159.66	9.390		
16,500.00	9,817.00	16,497.81	9,906.00	115.89	114.65	-93.40	6,532.03	13.10	1,499.16	1,337.28	161.88	9.261		
16,600.00	9,817.00	16,597.81	9,906.00	117.43	116.23	-93.40	6,632.03	12.15	1,499.17	1,335.07	164.10	9.136		
16,700.00	9,817.00	16,697.81	9,906.00	118.98	117.81	-93.40	6,732.02	11.20	1,499.17	1,332.86	166.32	9.014		
16,800.00	9,817.00	16,797.81	9,906.00	120.54	119.39	-93.40	6,832.02	10.25	1,499.18	1,330.64	168.54	8.895		
16,900.00	9,817.00	16,897.81	9,906.00	122.09	120.97	-93.40	6,932.02	9.30	1,499.19	1,328.42	170.77	8.779		
17,000.00	9,817.00	16,997.81	9,906.00	123.65	122.56	-93.40	7,032.01	8.35	1,499.20	1,326.19	173.00	8.666		
17,100.00	9,817.00	17,097.81	9,906.00	125.21	124.14	-93.40	7,132.01	7.40	1,499.21	1,323.97	175.24	8.555		
17,200.00	9,817.00	17,197.81	9,906.00	126.77	125.73	-93.40	7,232.00	6.45	1,499.21	1,321.74	177.48	8.447		
17,300.00	9,817.00	17,297.81	9,906.00	128.34	127.32	-93.40	7,332.00	5.50	1,499.22	1,319.51	179.71	8.342		
17,400.00	9,817.00	17,397.81	9,906.00	129.90	128.91	-93.40	7,431.99	4.55	1,499.23	1,317.27	181.96	8.239		
17,500.00	9,817.00	17,497.81	9,906.00	131.47	130.50	-93.40	7,531.99	3.60	1,499.24	1,315.04	184.20	8.139		
17,600.00	9,817.00	17,597.81	9,906.00	133.04	132.10	-93.40	7,631.98	2.65	1,499.24	1,312.80	186.45	8.041		
17,700.00	9,817.00	17,697.81	9,906.00	134.62	133.69	-93.40	7,731.98	1.69	1,499.25	1,310.56	188.69	7.945		
17,800.00	9,817.00	17,797.81	9,906.00	136.19	135.29	-93.40	7,831.97	0.74	1,499.26	1,308.32	190.94	7.852		
17,900.00	9,817.00	17,897.81	9,906.00	137.77	136.89	-93.40	7,931.97	-0.21	1,499.27	1,306.07	193.20	7.760		
18,000.00	9,817.00	17,997.81	9,906.00	139.35	138.49	-93.40	8,031.97	-1.16	1,499.28	1,303.83	195.45	7.671		
18,100.00	9,817.00	18,097.81	9,906.00	140.93	140.09	-93.40	8,131.96	-2.11	1,499.28	1,301.58	197.71	7.583		
18,200.00	9,817.00	18,197.81	9,906.00	142.51	141.69	-93.40	8,231.96	-3.06	1,499.29	1,299.33	199.96	7.498		
18,300.00	9,817.00	18,297.81	9,906.00	144.09	143.29	-93.40	8,331.95	-4.01	1,499.30	1,297.08	202.22	7.414		
18,400.00	9,817.00	18,397.81	9,906.00	145.68	144.90	-93.40	8,431.95	-4.96	1,499.31	1,294.82	204.48	7.332		
18,500.00	9,817.00	18,497.81	9,906.00	147.26	146.50	-93.40	8,531.94	-5.91	1,499.31	1,292.57	206.75	7.252		
18,600.00	9,817.00	18,597.81	9,906.00	148.85	148.11	-93.40	8,631.94	-6.86	1,499.32	1,290.31	209.01	7.173		
18,700.00	9,817.00	18,697.81	9,906.00	150.44	149.72	-93.40	8,731.93	-7.81	1,499.33	1,288.05	211.28	7.097		
18,800.00	9,817.00	18,797.81	9,906.00	152.03	151.32	-93.40	8,831.93	-8.76	1,499.34	1,285.79	213.54	7.021		
18,900.00	9,817.00	18,897.81	9,906.00	153.62	152.93	-93.40	8,931.93	-9.71	1,499.35	1,283.53	215.81	6.947		
19,000.00	9,817.00	18,997.81	9,906.00	155.22	154.54	-93.40	9,031.92	-10.67	1,499.35	1,281.27	218.08	6.875		
19,100.00	9,817.00	19,097.81	9,906.00	156.81	156.15	-93.40	9,131.92	-11.62	1,499.36	1,279.01	220.35	6.804		
19,200.00	9,817.00	19,197.81	9,906.00	158.41	157.77	-93.40	9,231.91	-12.57	1,499.37	1,276.74	222.63	6.735		

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 304H
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 304H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 usft
FMM Fed Com - FMM Fed Com 303H - 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	9,817.00	19,297.81	9,906.00	160.00	159.38	-93.40	9,331.91	-13.52	1,499.38	1,274.48	224.90	6.667	
19,400.00	9,817.00	19,397.81	9,906.00	161.60	160.99	-93.40	9,431.90	-14.47	1,499.38	1,272.21	227.18	6.600	
19,500.00	9,817.00	19,497.81	9,906.00	163.20	162.61	-93.40	9,531.90	-15.42	1,499.39	1,269.94	229.45	6.535	
19,600.00	9,817.00	19,597.81	9,906.00	164.80	164.22	-93.40	9,631.89	-16.37	1,499.40	1,267.67	231.73	6.470	
19,700.00	9,817.00	19,697.81	9,906.00	166.40	165.84	-93.40	9,731.89	-17.32	1,499.41	1,265.40	234.01	6.408	
19,800.00	9,817.00	19,797.81	9,906.00	168.00	167.45	-93.40	9,831.88	-18.27	1,499.42	1,263.13	236.29	6.346	
19,900.00	9,817.00	19,897.81	9,906.00	169.60	169.07	-93.40	9,931.88	-19.22	1,499.42	1,260.86	238.57	6.285	
20,000.00	9,817.00	19,997.81	9,906.00	171.21	170.69	-93.40	10,031.88	-20.17	1,499.43	1,258.58	240.85	6.226	
20,032.59	9,817.00	20,030.40	9,906.00	171.73	171.21	-93.40	10,064.46	-20.48	1,499.43	1,257.84	241.59	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 304H
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 304H	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 #2	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	-92.62	-93.87	-2,047.84	2,050.48					
100.00	100.00	55.40	55.40	0.13	0.07	-92.62	-93.87	-2,047.84	2,049.99	2,049.85	0.14	N/A		
200.00	200.00	155.40	155.40	0.48	0.32	-92.62	-93.87	-2,047.84	2,049.99	2,049.41	0.58	3,519.809		
300.00	300.00	255.40	255.40	0.84	0.68	-92.62	-93.87	-2,047.84	2,049.99	2,048.91	1.08	1,890.782		
400.00	400.00	355.40	355.40	1.20	1.04	-92.62	-93.87	-2,047.84	2,049.99	2,048.40	1.59	1,289.892		
500.00	500.00	455.40	455.40	1.56	1.40	-92.62	-93.87	-2,047.84	2,049.99	2,047.90	2.10	978.397		
600.00	600.00	555.40	555.40	1.92	1.76	-92.62	-93.87	-2,047.84	2,049.99	2,047.39	2.60	787.969		
700.00	700.00	655.40	655.40	2.28	2.12	-92.62	-93.87	-2,047.84	2,049.99	2,046.89	3.11	659.550		
800.00	800.00	755.40	755.40	2.63	2.47	-92.62	-93.87	-2,047.84	2,049.99	2,046.38	3.61	567.105		
900.00	900.00	855.40	855.40	2.99	2.83	-92.62	-93.87	-2,047.84	2,049.99	2,045.87	4.12	497.381		
1,000.00	1,000.00	955.40	955.40	3.35	3.19	-92.62	-93.87	-2,047.84	2,049.99	2,045.37	4.63	442.920		
1,100.00	1,100.00	1,055.40	1,055.40	3.71	3.55	-92.62	-93.87	-2,047.84	2,049.99	2,044.86	5.14	399.206		
1,200.00	1,200.00	1,155.40	1,155.40	4.07	3.91	-92.62	-93.87	-2,047.84	2,049.99	2,044.35	5.64	363.344		
1,300.00	1,300.00	1,255.40	1,255.40	4.43	4.27	-92.62	-93.87	-2,047.84	2,049.99	2,043.85	6.15	333.393		
1,400.00	1,400.00	1,355.40	1,355.40	4.79	4.63	-92.62	-93.87	-2,047.84	2,049.99	2,043.34	6.66	308.003 CC, ES		
1,500.00	1,499.98	1,455.38	1,455.38	5.13	4.98	170.78	-93.87	-2,047.84	2,051.72	2,044.56	7.16	286.732		
1,600.00	1,599.84	1,555.24	1,555.24	5.48	5.34	170.78	-93.87	-2,047.84	2,056.88	2,049.23	7.65	268.880		
1,700.00	1,699.45	1,654.85	1,654.85	5.83	5.70	170.80	-93.87	-2,047.84	2,065.49	2,057.34	8.15	253.583		
1,800.00	1,798.70	1,754.10	1,754.10	6.18	6.05	170.81	-93.87	-2,047.84	2,077.52	2,068.88	8.64	240.425		
1,900.00	1,897.47	1,852.87	1,852.87	6.55	6.41	170.83	-93.87	-2,047.84	2,092.97	2,083.83	9.14	229.070		
2,000.00	1,995.62	1,951.02	1,951.02	6.93	6.76	170.85	-93.87	-2,047.84	2,111.81	2,102.18	9.63	219.245		
2,100.00	2,093.06	2,031.31	2,031.31	7.34	7.05	170.86	-93.90	-2,047.97	2,134.23	2,124.15	10.08	211.715		
2,152.08	2,143.47	2,063.75	2,063.75	7.56	7.16	170.85	-93.99	-2,048.36	2,147.75	2,137.46	10.29	208.726		
2,200.00	2,189.75	2,100.00	2,099.99	7.76	7.28	170.88	-94.18	-2,049.12	2,160.98	2,150.49	10.50	205.880		
2,300.00	2,286.32	2,154.85	2,154.81	8.21	7.47	170.93	-94.61	-2,050.89	2,189.68	2,178.81	10.87	201.483		
2,400.00	2,382.90	2,200.00	2,199.91	8.67	7.62	170.97	-95.11	-2,052.93	2,219.98	2,208.77	11.21	198.008		
2,500.00	2,479.47	2,276.00	2,275.76	9.14	7.88	171.03	-96.23	-2,057.53	2,251.59	2,239.95	11.64	193.486		
2,600.00	2,576.04	2,335.65	2,335.22	9.62	8.09	171.07	-97.37	-2,062.16	2,284.74	2,272.72	12.02	190.118		
2,700.00	2,672.62	2,400.00	2,399.27	10.11	8.31	171.10	-98.84	-2,068.17	2,319.33	2,306.92	12.41	186.895		
2,800.00	2,769.19	2,453.01	2,451.95	10.60	8.50	171.13	-100.24	-2,073.91	2,355.32	2,342.55	12.77	184.475		
2,900.00	2,865.77	2,500.00	2,498.57	11.10	8.66	171.15	-101.63	-2,079.59	2,392.73	2,379.62	13.10	182.599		
3,000.00	2,962.34	2,567.68	2,565.59	11.61	8.91	171.16	-103.87	-2,088.75	2,431.42	2,417.92	13.50	180.077		
3,100.00	3,058.91	2,623.96	2,621.19	12.12	9.11	171.18	-105.94	-2,097.24	2,471.49	2,457.62	13.86	178.282		
3,200.00	3,155.49	2,679.54	2,675.96	12.64	9.32	171.18	-108.18	-2,106.41	2,512.86	2,498.64	14.22	176.727		
3,300.00	3,252.06	2,734.39	2,729.88	13.16	9.52	171.18	-110.58	-2,116.21	2,555.52	2,540.95	14.57	175.393		
3,400.00	3,348.63	2,805.77	2,799.86	13.68	9.80	171.18	-113.92	-2,129.86	2,599.29	2,584.31	14.98	173.540		
3,500.00	3,445.21	2,895.60	2,887.90	14.21	10.15	171.18	-118.15	-2,147.17	2,643.23	2,627.77	15.45	171.052		
3,600.00	3,541.78	2,985.43	2,975.95	14.74	10.51	171.17	-122.38	-2,164.48	2,687.17	2,671.24	15.93	168.687		
3,700.00	3,638.36	3,075.26	3,063.99	15.27	10.87	171.17	-126.61	-2,181.78	2,731.10	2,714.70	16.41	166.436		
3,800.00	3,734.93	3,165.09	3,152.04	15.80	11.24	171.17	-130.84	-2,199.09	2,775.04	2,758.15	16.89	164.294		
3,900.00	3,831.50	3,254.92	3,240.08	16.33	11.61	171.17	-135.07	-2,216.39	2,818.98	2,801.61	17.37	162.253		
4,000.00	3,928.08	3,344.75	3,328.13	16.87	11.99	171.16	-139.30	-2,233.70	2,862.92	2,845.06	17.86	160.307		
4,100.00	4,024.65	3,434.58	3,416.17	17.41	12.37	171.16	-143.53	-2,251.00	2,906.86	2,888.52	18.35	158.451		
4,200.00	4,121.22	3,524.40	3,504.22	17.95	12.75	171.16	-147.76	-2,268.31	2,950.80	2,931.97	18.83	156.677		
4,300.00	4,217.80	3,614.23	3,592.26	18.49	13.14	171.15	-151.99	-2,285.62	2,994.74	2,975.42	19.32	154.983		
4,400.00	4,314.37	3,704.06	3,680.31	19.03	13.53	171.15	-156.22	-2,302.92	3,038.68	3,018.87	19.81	153.362		
4,500.00	4,410.95	3,793.89	3,768.35	19.58	13.92	171.15	-160.45	-2,320.23	3,082.62	3,062.31	20.31	151.810		
4,600.00	4,507.52	3,883.72	3,856.40	20.12	14.32	171.15	-164.68	-2,337.53	3,126.56	3,105.76	20.80	150.323		
4,700.00	4,604.09	3,973.55	3,944.44	20.66	14.71	171.14	-168.91	-2,354.84	3,170.50	3,149.20	21.29	148.897		
4,800.00	4,700.67	4,063.38	4,032.49	21.21	15.11	171.14	-173.14	-2,372.14	3,214.44	3,192.65	21.79	147.530		
4,900.00	4,797.24	4,153.21	4,120.53	21.76	15.52	171.14	-177.37	-2,389.45	3,258.38	3,236.09	22.28	146.217		
5,000.00	4,893.81	4,243.04	4,208.58	22.30	15.92	171.14	-181.60	-2,406.76	3,302.32	3,279.53	22.78	144.955		

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 304H
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 304H	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 #2	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	4,990.39	4,332.87	4,296.62	22.85	16.32	171.14	-185.83	-2,424.06	3,346.25	3,322.98	23.28	143.742		
5,200.00	5,086.96	4,422.70	4,384.67	23.40	16.73	171.13	-190.06	-2,441.37	3,390.19	3,366.42	23.78	142.575		
5,300.00	5,183.54	4,512.53	4,472.71	23.95	17.14	171.13	-194.29	-2,458.67	3,434.13	3,409.86	24.28	141.452		
5,400.00	5,280.11	4,602.36	4,560.76	24.50	17.55	171.13	-198.52	-2,475.98	3,478.07	3,453.29	24.78	140.369		
5,500.00	5,376.68	4,692.19	4,648.80	25.05	17.96	171.13	-202.75	-2,493.28	3,522.01	3,496.73	25.28	139.326		
5,600.00	5,473.26	4,782.02	4,736.85	25.60	18.37	171.13	-206.98	-2,510.59	3,565.95	3,540.17	25.78	138.319		
5,700.00	5,569.83	4,871.85	4,824.89	26.15	18.78	171.12	-211.21	-2,527.90	3,609.89	3,583.61	26.28	137.348		
5,800.00	5,666.41	4,961.68	4,912.94	26.70	19.19	171.12	-215.44	-2,545.20	3,653.83	3,627.04	26.79	136.410		
5,900.00	5,762.98	5,051.50	5,000.98	27.26	19.61	171.12	-219.67	-2,562.51	3,697.77	3,670.48	27.29	135.503		
6,000.00	5,859.55	5,141.33	5,089.03	27.81	20.02	171.12	-223.91	-2,579.81	3,741.71	3,713.92	27.79	134.627		
6,100.00	5,956.13	5,231.16	5,177.07	28.36	20.44	171.12	-228.14	-2,597.12	3,785.65	3,757.35	28.30	133.779		
6,200.00	6,052.70	5,320.99	5,265.12	28.92	20.85	171.12	-232.37	-2,614.42	3,829.59	3,800.78	28.80	132.958		
6,300.00	6,149.27	5,410.82	5,353.16	29.47	21.27	171.11	-236.60	-2,631.73	3,873.53	3,844.22	29.31	132.163		
6,400.00	6,245.85	5,500.65	5,441.21	30.02	21.69	171.11	-240.83	-2,649.04	3,917.47	3,887.65	29.81	131.393		
6,500.00	6,342.42	5,590.48	5,529.25	30.58	22.11	171.11	-245.06	-2,666.34	3,961.41	3,931.08	30.32	130.647		
6,600.00	6,439.00	5,680.31	5,617.30	31.13	22.53	171.11	-249.29	-2,683.65	4,005.34	3,974.52	30.83	129.923		
6,700.00	6,535.57	5,770.14	5,705.34	31.69	22.95	171.11	-253.52	-2,700.95	4,049.28	4,017.95	31.34	129.221		
6,800.00	6,632.14	5,859.97	5,793.39	32.24	23.37	171.11	-257.75	-2,718.26	4,093.22	4,061.38	31.84	128.539		
6,900.00	6,728.72	5,949.80	5,881.43	32.80	23.79	171.10	-261.98	-2,735.56	4,137.16	4,104.81	32.35	127.877		
7,000.00	6,825.29	6,039.63	5,969.48	33.35	24.21	171.10	-266.21	-2,752.87	4,181.10	4,148.24	32.86	127.234		
7,100.00	6,921.86	6,129.46	6,057.52	33.91	24.63	171.10	-270.44	-2,770.18	4,225.04	4,191.67	33.37	126.609		
7,200.00	7,018.44	6,219.29	6,145.57	34.46	25.06	171.10	-274.67	-2,787.48	4,268.98	4,235.10	33.88	126.001		
7,300.00	7,115.01	6,309.12	6,233.61	35.02	25.48	171.10	-278.90	-2,804.79	4,312.92	4,278.53	34.39	125.409		
7,400.00	7,211.59	6,398.95	6,321.66	35.57	25.90	171.10	-283.13	-2,822.09	4,356.86	4,321.96	34.90	124.834		
7,497.28	7,305.53	6,486.33	6,407.31	36.11	26.31	171.10	-287.24	-2,838.93	4,399.60	4,364.20	35.40	124.289		
7,500.00	7,308.16	6,488.78	6,409.71	36.13	26.32	171.10	-287.36	-2,839.40	4,400.80	4,365.39	35.41	124.274		
7,600.00	7,405.19	6,579.38	6,498.51	36.66	26.75	171.24	-291.63	-2,856.86	4,443.09	4,407.17	35.92	123.684		
7,700.00	7,503.00	6,669.11	6,587.40	37.16	27.16	171.48	-295.90	-2,874.34	4,485.38	4,449.46	36.43	123.093		
7,800.00	7,601.48	6,758.59	6,676.88	37.61	27.58	171.56	-300.17	-2,891.84	4,527.67	4,491.75	36.94	122.502		
7,900.00	7,700.51	6,847.62	6,765.91	38.02	28.00	171.63	-304.44	-2,909.34	4,569.96	4,534.04	37.45	121.911		
8,000.00	7,799.96	6,936.75	6,855.36	38.39	28.42	171.68	-308.71	-2,926.84	4,612.23	4,576.33	37.96	121.320		
8,100.00	7,899.71	7,025.82	6,944.43	38.73	28.84	171.71	-312.98	-2,944.34	4,654.52	4,618.62	38.47	120.729		
8,200.00	7,999.65	7,114.95	7,033.56	39.02	29.26	171.73	-317.25	-2,961.84	4,696.81	4,660.91	38.98	120.138		
8,249.36	8,049.00	7,164.11	7,083.00	39.15	29.39	-91.67	-318.87	-2,967.84	4,722.77	4,686.83	42.13	107.341		
8,300.00	8,099.64	7,214.75	7,133.64	39.28	29.52	-91.67	-318.87	-2,967.84	4,748.77	4,712.83	42.37	106.756		
8,400.00	8,199.64	7,304.75	7,223.64	39.54	29.78	-91.67	-318.87	-2,967.84	4,774.77	4,738.83	42.82	106.171		
8,500.00	8,299.64	7,394.75	7,313.64	39.79	30.04	-91.67	-318.87	-2,967.84	4,800.77	4,764.83	43.28	105.586		
8,600.00	8,399.64	7,484.75	7,403.64	40.05	30.30	-91.67	-318.87	-2,967.84	4,826.77	4,790.83	43.74	105.001		
8,700.00	8,499.64	7,574.75	7,493.64	40.31	30.56	-91.67	-318.87	-2,967.84	4,852.77	4,816.83	44.20	104.416		
8,800.00	8,599.64	7,664.75	7,583.64	40.57	30.82	-91.67	-318.87	-2,967.84	4,878.77	4,842.83	44.66	103.831		
8,900.00	8,699.64	7,754.75	7,673.64	40.84	31.08	-91.67	-318.87	-2,967.84	4,904.77	4,868.83	45.12	103.246		
9,000.00	8,799.64	7,844.75	7,763.64	41.10	31.34	-91.67	-318.87	-2,967.84	4,930.77	4,894.83	45.58	102.661		
9,100.00	8,899.64	7,934.75	7,853.64	41.37	31.60	-91.67	-318.87	-2,967.84	4,956.77	4,920.83	46.04	102.076		
9,200.00	8,999.64	8,024.75	7,943.64	41.64	31.86	-91.67	-318.87	-2,967.84	4,982.77	4,946.83	46.50	101.491		
9,300.00	9,099.64	8,114.75	8,033.64	41.91	32.12	-91.67	-318.87	-2,967.84	5,008.77	4,972.83	46.96	100.906		
9,400.00	9,199.64	8,204.75	8,123.64	42.18	32.38	-91.67	-318.87	-2,967.84	5,034.77	4,998.83	47.42	100.321		
9,444.40	9,244.04	8,254.15	8,173.44	42.30	32.50	-91.67	-318.87	-2,967.84	5,052.77	5,016.83	47.65	99.908		
9,450.00	9,249.64	8,259.75	8,179.04	42.31	32.51	-91.13	-318.87	-2,967.84	5,057.77	5,021.83	47.68	99.856		
9,500.00	9,299.56	8,309.66	8,228.96	42.44	32.64	-91.16	-318.87	-2,967.84	5,083.77	5,047.83	47.91	99.439		
9,550.00	9,349.05	8,359.16	8,278.45	42.57	32.77	-91.23	-318.87	-2,967.84	5,109.77	5,073.83	48.14	99.022		
9,600.00	9,397.74	8,408.85	8,327.14	42.69	32.89	-91.35	-318.87	-2,967.84	5,135.77	5,099.83	48.36	98.605		
9,650.00	9,445.26	8,458.37	8,375.66	42.80	33.01	-91.49	-318.87	-2,967.84	5,161.77	5,125.83	48.57	98.188		

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 304H
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 304H	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 #2	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		
9,700.00	9,491.25	9,534.36	9,446.65	42.91	36.66	-91.66	-313.87	-2,947.84	4,524.22	4,475.44	48.78	92.755		
9,750.00	9,535.36	9,578.47	9,490.76	43.00	36.80	-91.84	-313.87	-2,947.84	4,525.04	4,476.06	48.97	92.400		
9,800.00	9,577.25	9,620.36	9,532.65	43.08	36.93	-92.02	-313.87	-2,947.84	4,526.14	4,476.98	49.16	92.070		
9,850.00	9,616.61	9,659.71	9,572.01	43.15	37.06	-92.18	-313.87	-2,947.84	4,527.58	4,478.24	49.34	91.769		
9,900.00	9,653.13	9,696.23	9,608.53	43.21	37.17	-92.31	-313.87	-2,947.84	4,529.41	4,479.91	49.50	91.496		
9,950.00	9,686.53	9,729.64	9,641.93	43.27	37.28	-92.40	-313.87	-2,947.84	4,531.71	4,482.05	49.66	91.252		
10,000.00	9,716.57	9,759.68	9,671.97	43.31	37.38	-92.42	-313.87	-2,947.84	4,534.51	4,484.70	49.81	91.040		
10,050.00	9,743.01	9,786.12	9,698.41	43.35	37.46	-92.37	-313.87	-2,947.84	4,537.87	4,487.93	49.94	90.859		
10,100.00	9,765.66	9,808.77	9,721.06	43.38	37.54	-92.23	-313.87	-2,947.84	4,541.83	4,491.76	50.07	90.711		
10,150.00	9,784.34	9,827.44	9,739.74	43.41	37.60	-91.99	-313.87	-2,947.84	4,546.40	4,496.22	50.18	90.597		
10,200.00	9,798.90	9,842.01	9,754.30	43.43	37.64	-91.64	-313.87	-2,947.84	4,551.61	4,501.32	50.28	90.517		
10,250.00	9,809.24	9,852.35	9,764.64	43.47	37.68	-91.18	-313.87	-2,947.84	4,557.45	4,507.07	50.37	90.473		
10,300.00	9,815.28	9,858.39	9,770.68	43.50	37.69	-90.61	-313.87	-2,947.84	4,563.90	4,513.45	50.45	90.464 SF		
10,344.40	9,817.00	9,860.11	9,772.40	43.54	37.70	-90.00	-313.87	-2,947.84	4,570.12	4,519.61	50.51	90.486		
10,400.00	9,817.00	9,860.11	9,772.40	43.61	37.70	-90.00	-313.87	-2,947.84	4,578.50	4,527.93	50.58	90.529		
10,500.00	9,817.00	9,860.11	9,772.40	43.77	37.70	-90.00	-313.87	-2,947.84	4,595.24	4,544.52	50.72	90.595		
10,600.00	9,817.00	9,860.11	9,772.40	43.98	37.70	-90.00	-313.87	-2,947.84	4,614.09	4,563.19	50.90	90.652		
10,700.00	9,817.00	9,860.11	9,772.40	44.25	37.70	-90.00	-313.87	-2,947.84	4,635.01	4,583.91	51.10	90.702		
10,800.00	9,817.00	9,860.11	9,772.40	44.59	37.70	-90.00	-313.87	-2,947.84	4,658.00	4,606.66	51.33	90.746		
10,900.00	9,817.00	9,860.11	9,772.40	44.99	37.70	-90.00	-313.87	-2,947.84	4,683.00	4,631.42	51.58	90.787		
11,000.00	9,817.00	9,860.11	9,772.40	45.47	37.70	-90.00	-313.87	-2,947.84	4,709.99	4,658.14	51.86	90.828		
11,100.00	9,817.00	9,860.11	9,772.40	46.01	37.70	-90.00	-313.87	-2,947.84	4,738.94	4,686.79	52.15	90.872		
11,200.00	9,817.00	9,860.11	9,772.40	46.61	37.70	-90.00	-313.87	-2,947.84	4,769.82	4,717.35	52.46	90.919		
11,300.00	9,817.00	9,860.11	9,772.40	47.28	37.70	-90.00	-313.87	-2,947.84	4,802.57	4,749.78	52.79	90.974		
11,400.00	9,817.00	9,860.11	9,772.40	48.01	37.70	-90.00	-313.87	-2,947.84	4,837.18	4,784.04	53.13	91.037		
11,500.00	9,817.00	9,860.11	9,772.40	48.79	37.70	-90.00	-313.87	-2,947.84	4,873.58	4,820.09	53.49	91.112		
11,600.00	9,817.00	9,860.11	9,772.40	49.63	37.70	-90.00	-313.87	-2,947.84	4,911.76	4,857.90	53.86	91.200		
11,700.00	9,817.00	9,860.11	9,772.40	50.51	37.70	-90.00	-313.87	-2,947.84	4,951.66	4,897.43	54.23	91.302		
11,800.00	9,817.00	9,860.11	9,772.40	51.44	37.70	-90.00	-313.87	-2,947.84	4,993.25	4,938.63	54.62	91.421		

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 304H
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 304H	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 #2	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	-92.65	-93.63	-2,022.78	2,025.43					
100.00	100.00	55.70	55.70	0.13	0.07	-92.65	-93.63	-2,022.78	2,024.94	2,024.80	0.14	N/A		
200.00	200.00	155.70	155.70	0.48	0.33	-92.65	-93.63	-2,022.78	2,024.94	2,024.36	0.58	3,473.228		
300.00	300.00	255.70	255.70	0.84	0.68	-92.65	-93.63	-2,022.78	2,024.94	2,023.86	1.08	1,866.512		
400.00	400.00	355.70	355.70	1.20	1.04	-92.65	-93.63	-2,022.78	2,024.94	2,023.35	1.59	1,273.566		
500.00	500.00	455.70	455.70	1.56	1.40	-92.65	-93.63	-2,022.78	2,024.94	2,022.85	2.10	966.111		
600.00	600.00	555.70	555.70	1.92	1.76	-92.65	-93.63	-2,022.78	2,024.94	2,022.34	2.60	778.123		
700.00	700.00	655.70	655.70	2.28	2.12	-92.65	-93.63	-2,022.78	2,024.94	2,021.84	3.11	651.337		
800.00	800.00	755.70	755.70	2.63	2.48	-92.65	-93.63	-2,022.78	2,024.94	2,021.33	3.62	560.062		
900.00	900.00	855.70	855.70	2.99	2.83	-92.65	-93.63	-2,022.78	2,024.94	2,020.82	4.12	491.215		
1,000.00	1,000.00	955.70	955.70	3.35	3.19	-92.65	-93.63	-2,022.78	2,024.94	2,020.32	4.63	437.438		
1,100.00	1,100.00	1,055.70	1,055.70	3.71	3.55	-92.65	-93.63	-2,022.78	2,024.94	2,019.81	5.14	394.271		
1,200.00	1,200.00	1,155.70	1,155.70	4.07	3.91	-92.65	-93.63	-2,022.78	2,024.94	2,019.30	5.64	358.857		
1,300.00	1,300.00	1,255.70	1,255.70	4.43	4.27	-92.65	-93.63	-2,022.78	2,024.94	2,018.80	6.15	329.279		
1,400.00	1,400.00	1,355.70	1,355.70	4.79	4.63	-92.65	-93.63	-2,022.78	2,024.94	2,018.29	6.66	304.205 CC, ES		
1,500.00	1,499.98	1,455.68	1,455.68	5.13	4.99	170.75	-93.63	-2,022.78	2,026.67	2,019.51	7.16	283.202		
1,600.00	1,599.84	1,555.54	1,555.54	5.48	5.34	170.76	-93.63	-2,022.78	2,031.83	2,024.18	7.65	265.579		
1,700.00	1,699.45	1,655.15	1,655.15	5.83	5.70	170.77	-93.63	-2,022.78	2,040.44	2,032.29	8.15	250.484		
1,800.00	1,798.70	1,754.40	1,754.40	6.18	6.06	170.79	-93.63	-2,022.78	2,052.47	2,043.83	8.64	237.505		
1,900.00	1,897.47	1,853.17	1,853.17	6.55	6.41	170.81	-93.63	-2,022.78	2,067.91	2,058.78	9.14	226.309		
2,000.00	1,995.62	1,951.32	1,951.32	6.93	6.76	170.83	-93.63	-2,022.78	2,086.76	2,077.12	9.63	216.627		
2,100.00	2,093.06	2,048.76	2,048.76	7.34	7.11	170.85	-93.63	-2,022.78	2,108.98	2,098.85	10.13	208.237		
2,152.08	2,143.47	2,099.17	2,099.17	7.56	7.29	170.87	-93.63	-2,022.78	2,121.88	2,111.49	10.39	204.298		
2,200.00	2,189.75	2,145.45	2,145.45	7.76	7.46	170.92	-93.63	-2,022.78	2,134.17	2,123.55	10.62	200.913		
2,300.00	2,286.32	2,241.28	2,241.28	8.21	7.79	171.02	-93.86	-2,022.78	2,159.83	2,148.72	11.11	194.440		
2,400.00	2,382.90	2,336.22	2,336.19	8.67	8.11	171.07	-96.06	-2,022.77	2,185.56	2,173.97	11.58	188.689		
2,500.00	2,479.47	2,431.14	2,430.99	9.14	8.42	171.05	-100.62	-2,022.75	2,211.36	2,199.30	12.05	183.450		
2,600.00	2,576.04	2,525.92	2,525.52	9.62	8.73	170.97	-107.53	-2,022.72	2,237.24	2,224.71	12.53	178.551		
2,700.00	2,672.62	2,620.45	2,619.60	10.11	9.04	170.82	-116.75	-2,022.67	2,263.20	2,250.19	13.01	173.962		
2,800.00	2,769.19	2,716.04	2,714.54	10.60	9.36	170.64	-127.92	-2,022.62	2,289.25	2,275.76	13.50	169.599		
2,900.00	2,865.77	2,812.30	2,810.12	11.10	9.69	170.45	-139.31	-2,022.57	2,315.33	2,301.34	13.99	165.460		
3,000.00	2,962.34	2,908.56	2,905.71	11.61	10.03	170.27	-150.70	-2,022.52	2,341.43	2,326.94	14.49	161.552		
3,100.00	3,058.91	3,004.83	3,001.29	12.12	10.37	170.09	-162.09	-2,022.47	2,367.56	2,352.56	15.00	157.860		
3,200.00	3,155.49	3,101.09	3,096.88	12.64	10.71	169.91	-173.48	-2,022.42	2,393.70	2,378.19	15.51	154.370		
3,300.00	3,252.06	3,197.35	3,192.47	13.16	11.05	169.74	-184.86	-2,022.36	2,419.87	2,403.85	16.02	151.068		
3,400.00	3,348.63	3,293.61	3,288.05	13.68	11.40	169.57	-196.25	-2,022.31	2,446.05	2,429.52	16.53	147.943		
3,500.00	3,445.21	3,389.88	3,383.64	14.21	11.75	169.40	-207.64	-2,022.26	2,472.26	2,455.20	17.05	144.981		
3,600.00	3,541.78	3,486.14	3,479.23	14.74	12.11	169.24	-219.03	-2,022.21	2,498.48	2,480.91	17.57	142.173		
3,700.00	3,638.36	3,582.40	3,574.81	15.27	12.46	169.08	-230.42	-2,022.16	2,524.72	2,506.62	18.10	139.508		
3,800.00	3,734.93	3,678.66	3,670.40	15.80	12.82	168.93	-241.81	-2,022.11	2,550.98	2,532.36	18.62	136.976		
3,900.00	3,831.50	3,774.92	3,765.98	16.33	13.18	168.78	-253.20	-2,022.05	2,577.26	2,558.10	19.15	134.569		
4,000.00	3,928.08	3,871.19	3,861.57	16.87	13.54	168.63	-264.58	-2,022.00	2,603.55	2,583.87	19.68	132.278		
4,100.00	4,024.65	3,967.45	3,957.16	17.41	13.91	168.48	-275.97	-2,021.95	2,629.86	2,609.64	20.21	130.095		
4,200.00	4,121.22	4,063.98	4,053.01	17.95	14.27	168.34	-287.39	-2,021.90	2,656.18	2,635.43	20.75	128.011		
4,300.00	4,217.80	4,165.90	4,154.38	18.49	14.65	168.23	-297.96	-2,021.85	2,682.41	2,661.11	21.30	125.938		
4,400.00	4,314.37	4,268.14	4,256.31	19.03	15.03	168.17	-305.85	-2,021.81	2,708.44	2,686.60	21.85	123.984		
4,500.00	4,410.95	4,370.56	4,358.60	19.58	15.40	168.18	-311.02	-2,021.79	2,734.27	2,711.88	22.38	122.148		
4,600.00	4,507.52	4,473.00	4,461.01	20.12	15.76	168.24	-313.43	-2,021.78	2,759.89	2,736.97	22.92	120.427		
4,700.00	4,604.09	4,571.79	4,559.79	20.66	16.09	168.35	-313.63	-2,021.78	2,785.35	2,761.92	23.43	118.866		
4,800.00	4,700.67	4,668.36	4,656.37	21.21	16.42	168.46	-313.63	-2,021.78	2,810.81	2,786.87	23.94	117.409		
4,900.00	4,797.24	4,764.94	4,752.94	21.76	16.75	168.56	-313.63	-2,021.78	2,836.27	2,811.82	24.45	116.010		
5,000.00	4,893.81	4,861.51	4,849.51	22.30	17.08	168.66	-313.63	-2,021.78	2,861.75	2,836.79	24.96	114.666		

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 304H
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 304H	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 #2	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	4,990.39	4,958.09	4,946.09	22.85	17.41	168.77	-313.63	-2,021.78	2,887.23	2,861.76	25.47	113.372		
5,200.00	5,086.96	5,054.66	5,042.66	23.40	17.74	168.86	-313.63	-2,021.78	2,912.72	2,886.74	25.98	112.127		
5,300.00	5,183.54	5,151.23	5,139.24	23.95	18.07	168.96	-313.63	-2,021.78	2,938.22	2,911.73	26.49	110.928		
5,400.00	5,280.11	5,247.81	5,235.81	24.50	18.40	169.06	-313.63	-2,021.78	2,963.73	2,936.73	27.00	109.772		
5,500.00	5,376.68	5,344.38	5,332.38	25.05	18.73	169.15	-313.63	-2,021.78	2,989.24	2,961.73	27.51	108.658		
5,600.00	5,473.26	5,440.95	5,428.96	25.60	19.07	169.25	-313.63	-2,021.78	3,014.77	2,986.74	28.02	107.582		
5,700.00	5,569.83	5,537.53	5,525.53	26.15	19.40	169.34	-313.63	-2,021.78	3,040.30	3,011.76	28.54	106.544		
5,800.00	5,666.41	5,634.10	5,622.11	26.70	19.73	169.43	-313.63	-2,021.78	3,065.83	3,036.78	29.05	105.541		
5,900.00	5,762.98	5,730.68	5,718.68	27.26	20.07	169.51	-313.63	-2,021.78	3,091.38	3,061.81	29.56	104.572		
6,000.00	5,859.55	5,827.25	5,815.25	27.81	20.40	169.60	-313.63	-2,021.78	3,116.93	3,086.85	30.08	103.635		
6,100.00	5,956.13	5,923.82	5,911.83	28.36	20.74	169.69	-313.63	-2,021.78	3,142.48	3,111.89	30.59	102.728		
6,200.00	6,052.70	6,020.40	6,008.40	28.92	21.07	169.77	-313.63	-2,021.78	3,168.05	3,136.94	31.11	101.850		
6,300.00	6,149.27	6,116.97	6,104.97	29.47	21.41	169.85	-313.63	-2,021.78	3,193.62	3,162.00	31.62	101.000		
6,400.00	6,245.85	6,213.54	6,201.55	30.02	21.74	169.93	-313.63	-2,021.78	3,219.19	3,187.06	32.14	100.176		
6,500.00	6,342.42	6,310.12	6,298.12	30.58	22.08	170.01	-313.63	-2,021.78	3,244.77	3,212.12	32.65	99.378		
6,600.00	6,439.00	6,406.69	6,394.70	31.13	22.41	170.09	-313.63	-2,021.78	3,270.36	3,237.19	33.17	98.603		
6,700.00	6,535.57	6,503.27	6,491.27	31.69	22.75	170.17	-313.63	-2,021.78	3,295.96	3,262.27	33.68	97.852		
6,800.00	6,632.14	6,599.84	6,587.84	32.24	23.09	170.25	-313.63	-2,021.78	3,321.55	3,287.35	34.20	97.123		
6,900.00	6,728.72	6,696.41	6,684.42	32.80	23.42	170.32	-313.63	-2,021.78	3,347.16	3,312.44	34.72	96.415		
7,000.00	6,825.29	6,792.99	6,780.99	33.35	23.76	170.40	-313.63	-2,021.78	3,372.77	3,337.53	35.23	95.727		
7,100.00	6,921.86	6,889.56	6,877.56	33.91	24.10	170.47	-313.63	-2,021.78	3,398.38	3,362.63	35.75	95.058		
7,200.00	7,018.44	6,986.13	6,974.14	34.46	24.44	170.54	-313.63	-2,021.78	3,424.00	3,387.73	36.27	94.408		
7,300.00	7,115.01	7,082.71	7,070.71	35.02	24.78	170.61	-313.63	-2,021.78	3,449.63	3,412.84	36.79	93.776		
7,400.00	7,211.59	7,179.28	7,167.29	35.57	25.11	170.68	-313.63	-2,021.78	3,475.26	3,437.95	37.30	93.161		
7,497.28	7,305.53	7,273.23	7,261.23	36.11	25.44	170.75	-313.63	-2,021.78	3,500.19	3,462.39	37.81	92.579		
7,500.00	7,308.16	7,275.86	7,263.86	36.13	25.45	170.75	-313.63	-2,021.78	3,500.89	3,463.07	37.82	92.563		
7,600.00	7,405.19	7,372.89	7,360.89	36.66	25.79	170.89	-313.63	-2,021.78	3,524.77	3,486.43	38.34	91.939		
7,700.00	7,503.00	7,470.70	7,458.70	37.16	26.14	171.01	-313.63	-2,021.78	3,545.29	3,506.44	38.85	91.253		
7,800.00	7,601.48	7,569.18	7,557.18	37.61	26.48	171.11	-313.63	-2,021.78	3,562.43	3,523.07	39.36	90.508		
7,900.00	7,700.51	7,668.21	7,656.21	38.02	26.83	171.19	-313.63	-2,021.78	3,576.16	3,536.29	39.86	89.708		
8,000.00	7,799.96	7,767.66	7,755.66	38.39	27.18	171.24	-313.63	-2,021.78	3,586.47	3,546.10	40.36	88.855		
8,100.00	7,899.71	7,867.41	7,855.41	38.73	27.53	171.28	-313.63	-2,021.78	3,593.34	3,552.49	40.85	87.954		
8,200.00	7,999.65	7,967.34	7,955.35	39.02	27.88	171.30	-313.63	-2,021.78	3,596.77	3,555.43	41.34	87.006		
8,249.36	8,049.00	8,016.70	8,004.70	39.15	28.06	-92.10	-313.63	-2,021.78	3,597.19	3,555.61	41.57	86.527		
8,300.00	8,099.64	8,067.34	8,055.34	39.28	28.23	-92.10	-313.63	-2,021.78	3,597.19	3,555.38	41.81	86.037		
8,400.00	8,199.64	8,167.34	8,155.34	39.54	28.59	-92.10	-313.63	-2,021.78	3,597.19	3,554.91	42.28	85.084		
8,500.00	8,299.64	8,267.34	8,255.34	39.79	28.94	-92.10	-313.63	-2,021.78	3,597.19	3,554.44	42.75	84.151		
8,600.00	8,399.64	8,367.34	8,355.34	40.05	29.29	-92.10	-313.63	-2,021.78	3,597.19	3,553.97	43.22	83.236		
8,700.00	8,499.64	8,467.34	8,455.34	40.31	29.64	-92.10	-313.63	-2,021.78	3,597.19	3,553.50	43.69	82.339		
8,800.00	8,599.64	8,567.34	8,555.34	40.57	30.00	-92.10	-313.63	-2,021.78	3,597.19	3,553.03	44.16	81.460		
8,900.00	8,699.64	8,667.34	8,655.34	40.84	30.35	-92.10	-313.63	-2,021.78	3,597.19	3,552.56	44.63	80.599		
9,000.00	8,799.64	8,767.34	8,755.34	41.10	30.70	-92.10	-313.63	-2,021.78	3,597.19	3,552.08	45.10	79.753		
9,100.00	8,899.64	8,867.34	8,855.34	41.37	31.06	-92.10	-313.63	-2,021.78	3,597.19	3,551.61	45.58	78.924		
9,200.00	8,999.64	8,967.34	8,955.34	41.64	31.41	-92.10	-313.63	-2,021.78	3,597.19	3,551.14	46.05	78.111		
9,300.00	9,099.64	9,067.34	9,055.34	41.91	31.76	-92.10	-313.63	-2,021.78	3,597.19	3,550.66	46.53	77.314		
9,400.00	9,199.64	9,167.34	9,155.34	42.18	32.12	-92.10	-313.63	-2,021.78	3,597.19	3,550.19	47.00	76.531		
9,444.40	9,244.04	9,211.74	9,199.74	42.30	32.27	-92.10	-313.63	-2,021.78	3,597.19	3,549.97	47.21	76.189		
9,450.00	9,249.64	9,217.34	9,205.34	42.31	32.29	-91.56	-313.63	-2,021.78	3,597.19	3,549.95	47.24	76.146		
9,500.00	9,299.56	9,267.25	9,255.26	42.44	32.47	-91.59	-313.63	-2,021.78	3,597.26	3,549.78	47.48	75.768		
9,550.00	9,349.05	9,316.74	9,304.75	42.57	32.65	-91.68	-313.63	-2,021.78	3,597.46	3,549.75	47.71	75.402		
9,600.00	9,397.74	9,365.43	9,353.44	42.69	32.82	-91.82	-313.63	-2,021.78	3,597.82	3,549.88	47.94	75.051		
9,650.00	9,445.26	9,412.96	9,400.96	42.80	32.99	-92.00	-313.63	-2,021.78	3,598.36	3,550.20	48.16	74.716		

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 304H
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 304H	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 #2	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		
9,700.00	9,491.25	9,458.95	9,446.95	42.91	33.15	-92.21	-313.63	-2,021.78	3,599.15	3,550.77	48.38	74.401		
9,750.00	9,535.36	9,503.05	9,491.06	43.00	33.30	-92.43	-313.63	-2,021.78	3,600.23	3,551.65	48.58	74.107		
9,800.00	9,577.25	9,544.95	9,532.95	43.08	33.45	-92.65	-313.63	-2,021.78	3,601.68	3,552.90	48.78	73.836		
9,850.00	9,616.61	9,584.30	9,572.31	43.15	33.59	-92.85	-313.63	-2,021.78	3,603.56	3,554.59	48.97	73.590		
9,900.00	9,653.13	9,620.82	9,608.83	43.21	33.72	-93.00	-313.63	-2,021.78	3,605.95	3,556.80	49.15	73.371		
9,950.00	9,686.53	9,654.23	9,642.23	43.27	33.84	-93.10	-313.63	-2,021.78	3,608.92	3,559.60	49.31	73.182		
10,000.00	9,716.57	9,684.27	9,672.27	43.31	33.95	-93.12	-313.63	-2,021.78	3,612.53	3,563.06	49.47	73.023		
10,050.00	9,743.01	9,710.71	9,698.71	43.35	34.04	-93.04	-313.63	-2,021.78	3,616.85	3,567.23	49.62	72.896		
10,100.00	9,765.66	9,733.36	9,721.36	43.38	34.12	-92.86	-313.63	-2,021.78	3,621.91	3,572.16	49.75	72.803		
10,150.00	9,784.34	9,752.03	9,740.04	43.41	34.19	-92.54	-313.63	-2,021.78	3,627.76	3,577.89	49.87	72.744		
10,200.00	9,798.90	9,766.60	9,754.60	43.43	34.24	-92.10	-313.63	-2,021.78	3,634.39	3,584.41	49.98	72.722		
10,250.00	9,809.24	9,776.94	9,764.94	43.47	34.27	-91.51	-313.63	-2,021.78	3,641.81	3,591.75	50.07	72.736		
10,300.00	9,815.28	9,782.98	9,770.98	43.50	34.30	-90.77	-313.63	-2,021.78	3,650.00	3,599.86	50.15	72.788		
10,344.40	9,817.00	9,784.69	9,772.70	43.54	34.30	-90.00	-313.63	-2,021.78	3,657.87	3,607.67	50.20	72.865		
10,400.00	9,817.00	9,784.69	9,772.70	43.61	34.30	-90.00	-313.63	-2,021.78	3,668.48	3,618.21	50.27	72.982		
10,500.00	9,817.00	9,784.69	9,772.70	43.77	34.30	-90.00	-313.63	-2,021.78	3,689.58	3,639.18	50.40	73.206		
10,600.00	9,817.00	9,784.69	9,772.70	43.98	34.30	-90.00	-313.63	-2,021.78	3,713.25	3,662.69	50.56	73.448		
10,700.00	9,817.00	9,784.69	9,772.70	44.25	34.30	-90.00	-313.63	-2,021.78	3,739.45	3,688.72	50.73	73.711		
10,800.00	9,817.00	9,784.69	9,772.70	44.59	34.30	-90.00	-313.63	-2,021.78	3,768.12	3,717.20	50.92	73.995		
10,900.00	9,817.00	9,784.69	9,772.70	44.99	34.30	-90.00	-313.63	-2,021.78	3,799.21	3,748.08	51.13	74.302		
11,000.00	9,817.00	9,784.70	9,772.70	45.47	34.30	-90.00	-313.63	-2,021.78	3,832.66	3,781.30	51.35	74.631		
11,100.00	9,817.00	9,784.70	9,772.70	46.01	34.30	-90.00	-313.63	-2,021.78	3,868.40	3,816.81	51.59	74.984		
11,200.00	9,817.00	9,784.70	9,772.70	46.61	34.30	-90.00	-313.63	-2,021.78	3,906.38	3,854.54	51.84	75.361		
11,300.00	9,817.00	9,784.70	9,772.70	47.28	34.30	-90.00	-313.63	-2,021.78	3,946.52	3,894.43	52.09	75.764		
11,400.00	9,817.00	9,784.70	9,772.70	48.01	34.30	-90.00	-313.63	-2,021.78	3,988.77	3,936.42	52.35	76.192		
11,500.00	9,817.00	9,784.70	9,772.70	48.79	34.30	-90.00	-313.63	-2,021.78	4,033.06	3,980.44	52.62	76.646		
11,600.00	9,817.00	9,784.70	9,772.70	49.63	34.30	-90.00	-313.63	-2,021.78	4,079.31	4,026.42	52.89	77.127		
11,700.00	9,817.00	9,784.70	9,772.70	50.51	34.30	-90.00	-313.63	-2,021.78	4,127.48	4,074.31	53.17	77.634		
11,800.00	9,817.00	9,784.70	9,772.70	51.44	34.30	-90.00	-313.63	-2,021.78	4,177.48	4,124.04	53.44	78.169		
11,900.00	9,817.00	9,784.70	9,772.70	52.41	34.30	-90.00	-313.63	-2,021.78	4,229.25	4,175.54	53.72	78.731		
12,000.00	9,817.00	9,784.70	9,772.70	53.42	34.30	-90.00	-313.63	-2,021.78	4,282.74	4,228.75	53.99	79.321		
12,100.00	9,817.00	9,784.70	9,772.70	54.47	34.30	-90.00	-313.63	-2,021.78	4,337.87	4,283.60	54.27	79.937		
12,200.00	9,817.00	14,566.70	12,276.00	55.54	57.89	-124.84	2,210.87	-2,046.75	4,382.37	4,311.35	71.02	61.708		
12,300.00	9,817.00	14,666.70	12,276.00	56.65	59.01	-124.84	2,310.86	-2,047.74	4,382.40	4,309.98	72.42	60.510		
12,400.00	9,817.00	14,766.70	12,276.00	57.79	60.15	-124.83	2,410.86	-2,048.73	4,382.44	4,308.58	73.86	59.335		
12,500.00	9,817.00	14,866.70	12,276.00	58.95	61.32	-124.83	2,510.85	-2,049.72	4,382.48	4,307.16	75.32	58.184		
12,600.00	9,817.00	14,966.70	12,276.00	60.14	62.50	-124.83	2,610.85	-2,050.71	4,382.52	4,305.71	76.81	57.059		
12,700.00	9,817.00	15,066.70	12,276.00	61.35	63.71	-124.83	2,710.84	-2,051.70	4,382.56	4,304.24	78.32	55.959		
12,800.00	9,817.00	15,166.70	12,276.00	62.58	64.94	-124.83	2,810.84	-2,052.69	4,382.59	4,302.74	79.85	54.886		
12,900.00	9,817.00	15,266.70	12,276.00	63.83	66.18	-124.83	2,910.83	-2,053.68	4,382.63	4,301.23	81.40	53.839		
13,000.00	9,817.00	15,366.70	12,276.00	65.10	67.45	-124.83	3,010.83	-2,054.67	4,382.67	4,299.69	82.98	52.819		
13,100.00	9,817.00	15,466.70	12,276.00	66.39	68.73	-124.83	3,110.82	-2,055.66	4,382.71	4,298.14	84.57	51.825		
13,200.00	9,817.00	15,566.70	12,276.00	67.69	70.02	-124.83	3,210.82	-2,056.65	4,382.75	4,296.57	86.18	50.857		
13,300.00	9,817.00	15,666.70	12,276.00	69.01	71.33	-124.83	3,310.81	-2,057.64	4,382.78	4,294.98	87.80	49.916		
13,400.00	9,817.00	15,766.70	12,276.00	70.35	72.65	-124.83	3,410.81	-2,058.63	4,382.82	4,293.38	89.45	49.000		
13,500.00	9,817.00	15,866.70	12,276.00	71.70	73.99	-124.83	3,510.80	-2,059.61	4,382.86	4,291.76	91.10	48.109		
13,600.00	9,817.00	15,966.70	12,276.00	73.06	75.34	-124.83	3,610.80	-2,060.60	4,382.90	4,290.13	92.77	47.244		
13,700.00	9,817.00	16,066.70	12,276.00	74.43	76.70	-124.83	3,710.79	-2,061.59	4,382.94	4,288.48	94.45	46.403		
13,800.00	9,817.00	16,166.70	12,276.00	75.81	78.08	-124.83	3,810.79	-2,062.58	4,382.97	4,286.82	96.15	45.585		
13,900.00	9,817.00	16,266.70	12,276.00	77.21	79.46	-124.83	3,910.79	-2,063.57	4,383.01	4,285.15	97.86	44.790		
14,000.00	9,817.00	16,366.70	12,276.00	78.61	80.85	-124.83	4,010.78	-2,064.56	4,383.05	4,283.47	99.58	44.016		
14,100.00	9,817.00	16,466.70	12,276.00	80.03	82.26	-124.83	4,110.78	-2,065.55	4,383.09	4,281.78	101.31	43.265		

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 304H
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 304H	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 #2	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	9,817.00	16,566.70	12,276.00	81.45	83.67	-124.83	4,210.77	-2,066.54	4,383.13	4,280.08	103.05	42.536		
14,300.00	9,817.00	16,666.70	12,276.00	82.88	85.09	-124.83	4,310.77	-2,067.53	4,383.16	4,278.37	104.79	41.826		
14,400.00	9,817.00	16,766.70	12,276.00	84.32	86.52	-124.83	4,410.76	-2,068.52	4,383.20	4,276.65	106.55	41.137		
14,500.00	9,817.00	16,866.70	12,276.00	85.77	87.96	-124.83	4,510.76	-2,069.51	4,383.24	4,274.92	108.32	40.467		
14,600.00	9,817.00	16,966.70	12,276.00	87.22	89.40	-124.83	4,610.75	-2,070.50	4,383.28	4,273.19	110.09	39.815		
14,700.00	9,817.00	17,066.70	12,276.00	88.69	90.85	-124.83	4,710.75	-2,071.49	4,383.32	4,271.44	111.87	39.181		
14,800.00	9,817.00	17,166.70	12,276.00	90.16	92.31	-124.83	4,810.74	-2,072.48	4,383.35	4,269.69	113.66	38.564		
14,900.00	9,817.00	17,266.70	12,276.00	91.63	93.77	-124.83	4,910.74	-2,073.46	4,383.39	4,267.93	115.46	37.964		
15,000.00	9,817.00	17,366.70	12,276.00	93.11	95.24	-124.83	5,010.73	-2,074.45	4,383.43	4,266.16	117.27	37.380		
15,100.00	9,817.00	17,466.70	12,276.00	94.60	96.72	-124.83	5,110.73	-2,075.44	4,383.47	4,264.39	119.08	36.812		
15,200.00	9,817.00	17,566.70	12,276.00	96.09	98.20	-124.83	5,210.72	-2,076.43	4,383.51	4,262.61	120.90	36.259		
15,300.00	9,817.00	17,666.70	12,276.00	97.59	99.69	-124.82	5,310.72	-2,077.42	4,383.54	4,260.83	122.72	35.720		
15,400.00	9,817.00	17,766.70	12,276.00	99.09	101.18	-124.82	5,410.71	-2,078.41	4,383.58	4,259.03	124.55	35.196		
15,500.00	9,817.00	17,866.70	12,276.00	100.60	102.68	-124.82	5,510.71	-2,079.40	4,383.62	4,257.24	126.38	34.685		
15,600.00	9,817.00	17,966.70	12,276.00	102.11	104.18	-124.82	5,610.70	-2,080.39	4,383.66	4,255.44	128.22	34.188		
15,700.00	9,817.00	18,066.70	12,276.00	103.62	105.69	-124.82	5,710.70	-2,081.38	4,383.70	4,253.63	130.07	33.703		
15,800.00	9,817.00	18,166.70	12,276.00	105.14	107.20	-124.82	5,810.69	-2,082.37	4,383.73	4,251.82	131.91	33.232		
15,900.00	9,817.00	18,266.70	12,276.00	106.67	108.72	-124.82	5,910.69	-2,083.36	4,383.77	4,250.01	133.77	32.772		
16,000.00	9,817.00	18,366.70	12,276.00	108.20	110.24	-124.82	6,010.68	-2,084.35	4,383.81	4,248.19	135.62	32.323		
16,100.00	9,817.00	18,466.70	12,276.00	109.73	111.76	-124.82	6,110.68	-2,085.34	4,383.85	4,246.36	137.48	31.886		
16,200.00	9,817.00	18,566.70	12,276.00	111.26	113.29	-124.82	6,210.67	-2,086.32	4,383.89	4,244.54	139.35	31.460		
16,300.00	9,817.00	18,666.70	12,276.00	112.80	114.82	-124.82	6,310.67	-2,087.31	4,383.92	4,242.71	141.21	31.044		
16,400.00	9,817.00	18,766.70	12,276.00	114.34	116.35	-124.82	6,410.66	-2,088.30	4,383.96	4,240.88	143.09	30.639		
16,500.00	9,817.00	18,866.70	12,276.00	115.89	117.89	-124.82	6,510.66	-2,089.29	4,384.00	4,239.04	144.96	30.243		
16,600.00	9,817.00	18,966.70	12,276.00	117.43	119.43	-124.82	6,610.65	-2,090.28	4,384.04	4,237.20	146.84	29.856		
16,700.00	9,817.00	19,066.70	12,276.00	118.98	120.97	-124.82	6,710.65	-2,091.27	4,384.08	4,235.36	148.72	29.479		
16,800.00	9,817.00	19,166.70	12,276.00	120.54	122.51	-124.82	6,810.64	-2,092.26	4,384.11	4,233.51	150.60	29.110		
16,900.00	9,817.00	19,266.70	12,276.00	122.09	124.06	-124.82	6,910.64	-2,093.25	4,384.15	4,231.66	152.49	28.750		
17,000.00	9,817.00	19,366.70	12,276.00	123.65	125.61	-124.82	7,010.63	-2,094.24	4,384.19	4,229.81	154.38	28.398		
17,100.00	9,817.00	19,466.70	12,276.00	125.21	127.17	-124.82	7,110.63	-2,095.23	4,384.23	4,227.95	156.28	28.054		
17,200.00	9,817.00	19,566.70	12,276.00	126.77	128.72	-124.82	7,210.62	-2,096.22	4,384.27	4,226.09	158.17	27.718		
17,300.00	9,817.00	19,666.70	12,276.00	128.34	130.28	-124.82	7,310.62	-2,097.21	4,384.30	4,224.23	160.07	27.389		
17,400.00	9,817.00	19,766.70	12,276.00	129.90	131.84	-124.82	7,410.61	-2,098.20	4,384.34	4,222.37	161.98	27.068		
17,500.00	9,817.00	19,866.70	12,276.00	131.47	133.40	-124.82	7,510.61	-2,099.19	4,384.38	4,220.50	163.88	26.754		
17,600.00	9,817.00	19,966.70	12,276.00	133.04	134.97	-124.82	7,610.60	-2,100.17	4,384.42	4,218.63	165.79	26.446		
17,700.00	9,817.00	20,066.70	12,276.00	134.62	136.54	-124.82	7,710.60	-2,101.16	4,384.46	4,216.76	167.70	26.145		
17,800.00	9,817.00	20,166.70	12,276.00	136.19	138.11	-124.82	7,810.59	-2,102.15	4,384.49	4,214.89	169.60	25.851		
17,900.00	9,817.00	20,266.70	12,276.00	137.77	139.68	-124.82	7,910.59	-2,103.14	4,384.53	4,213.02	171.52	25.563		
18,000.00	9,817.00	20,366.70	12,276.00	139.35	141.25	-124.82	8,010.58	-2,104.13	4,384.57	4,211.14	173.43	25.282		
18,100.00	9,817.00	20,466.70	12,276.00	140.93	142.82	-124.82	8,110.58	-2,105.12	4,384.61	4,209.27	175.34	25.006		
18,200.00	9,817.00	20,566.70	12,276.00	142.51	144.40	-124.81	8,210.57	-2,106.11	4,384.65	4,207.39	177.26	24.736		
18,300.00	9,817.00	20,666.70	12,276.00	144.09	145.98	-124.81	8,310.57	-2,107.10	4,384.68	4,205.51	179.17	24.472		
18,400.00	9,817.00	20,766.70	12,276.00	145.68	147.56	-124.81	8,410.56	-2,108.09	4,384.72	4,203.63	181.09	24.212		
18,500.00	9,817.00	20,866.70	12,276.00	147.26	149.14	-124.81	8,510.56	-2,109.08	4,384.76	4,201.75	183.01	23.958		
18,600.00	9,817.00	20,966.70	12,276.00	148.85	150.72	-124.81	8,610.55	-2,110.07	4,384.80	4,199.86	184.94	23.710		
18,700.00	9,817.00	21,066.70	12,276.00	150.44	152.31	-124.81	8,710.55	-2,111.06	4,384.84	4,197.97	186.86	23.466		
18,800.00	9,817.00	21,166.70	12,276.00	152.03	153.89	-124.81	8,810.54	-2,112.05	4,384.87	4,196.09	188.79	23.226		
18,900.00	9,817.00	21,266.70	12,276.00	153.62	155.48	-124.81	8,910.54	-2,113.03	4,384.91	4,194.20	190.72	22.992		
19,000.00	9,817.00	21,366.70	12,276.00	155.22	157.07	-124.81	9,010.54	-2,114.02	4,384.95	4,192.31	192.64	22.762		
19,100.00	9,817.00	21,466.70	12,276.00	156.81	158.66	-124.81	9,110.53	-2,115.01	4,384.99	4,190.41	194.58	22.536		
19,200.00	9,817.00	21,566.70	12,276.00	158.41	160.25	-124.81	9,210.53	-2,116.00	4,385.03	4,188.52	196.51	22.315		
19,300.00	9,817.00	21,666.70	12,276.00	160.00	161.84	-124.81	9,310.52	-2,116.99	4,385.06	4,186.62	198.44	22.098		

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 304H
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 304H	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 #2	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
19,400.00	9,817.00	21,766.70	12,276.00	161.60	163.43	-124.81	9,410.52	-2,117.98	4,385.10	4,184.73	200.38	21.884	
19,500.00	9,817.00	21,866.70	12,276.00	163.20	165.03	-124.81	9,510.51	-2,118.97	4,385.14	4,182.83	202.31	21.675	
19,600.00	9,817.00	21,966.70	12,276.00	164.80	166.62	-124.81	9,610.51	-2,119.96	4,385.18	4,180.93	204.25	21.470	
19,700.00	9,817.00	22,066.70	12,276.00	166.40	168.22	-124.81	9,710.50	-2,120.95	4,385.22	4,179.03	206.19	21.268	
19,800.00	9,817.00	22,166.70	12,276.00	168.00	169.82	-124.81	9,810.50	-2,121.94	4,385.25	4,177.13	208.13	21.070	
19,900.00	9,817.00	22,266.70	12,276.00	169.60	171.42	-124.81	9,910.49	-2,122.93	4,385.29	4,175.23	210.06	20.876	
20,000.00	9,817.00	22,366.70	12,276.00	171.21	173.02	-124.81	10,010.49	-2,123.92	4,385.33	4,173.33	212.00	20.685	
20,032.59	9,817.00	22,399.29	12,276.00	171.73	173.54	-124.81	10,043.07	-2,124.24	4,385.34	4,172.71	212.63	20.624 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 304H
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 304H	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 #2	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		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
0.00	0.00	0.00	0.00	0.00	0.00	-92.68	-93.40	-1,997.71	2,000.37							
100.00	100.00	56.30	56.30	0.13	0.07	-92.68	-93.40	-1,997.71	1,999.90	1,999.75	0.14	N/A				
200.00	200.00	156.30	156.30	0.48	0.33	-92.68	-93.40	-1,997.71	1,999.90	1,999.31	0.58	3,423.205				
300.00	300.00	256.30	256.30	0.84	0.69	-92.68	-93.40	-1,997.71	1,999.90	1,998.81	1.09	1,841.121				
400.00	400.00	356.30	356.30	1.20	1.04	-92.68	-93.40	-1,997.71	1,999.90	1,998.30	1.59	1,256.697				
500.00	500.00	456.30	456.30	1.56	1.40	-92.68	-93.40	-1,997.71	1,999.90	1,997.80	2.10	953.506				
600.00	600.00	556.30	556.30	1.92	1.76	-92.68	-93.40	-1,997.71	1,999.90	1,997.29	2.60	768.069				
700.00	700.00	656.30	656.30	2.28	2.12	-92.68	-93.40	-1,997.71	1,999.90	1,996.79	3.11	642.977				
800.00	800.00	756.30	756.30	2.63	2.48	-92.68	-93.40	-1,997.71	1,999.90	1,996.28	3.62	552.908				
900.00	900.00	856.30	856.30	2.99	2.84	-92.68	-93.40	-1,997.71	1,999.90	1,995.77	4.12	484.965				
1,000.00	1,000.00	956.30	956.30	3.35	3.20	-92.68	-93.40	-1,997.71	1,999.90	1,995.27	4.63	431.888				
1,100.00	1,100.00	1,056.30	1,056.30	3.71	3.55	-92.68	-93.40	-1,997.71	1,999.90	1,994.76	5.14	389.281				
1,200.00	1,200.00	1,156.30	1,156.30	4.07	3.91	-92.68	-93.40	-1,997.71	1,999.90	1,994.25	5.64	354.324				
1,300.00	1,300.00	1,256.30	1,256.30	4.43	4.27	-92.68	-93.40	-1,997.71	1,999.90	1,993.74	6.15	325.127				
1,400.00	1,400.00	1,356.30	1,356.30	4.79	4.63	-92.68	-93.40	-1,997.71	1,999.90	1,993.24	6.66	300.375	CC, ES			
1,500.00	1,499.98	1,456.28	1,456.28	5.13	4.99	170.73	-93.40	-1,997.71	2,001.62	1,994.46	7.16	279.643				
1,600.00	1,599.84	1,556.14	1,556.14	5.48	5.35	170.73	-93.40	-1,997.71	2,006.78	1,999.13	7.65	262.254				
1,700.00	1,699.45	1,655.75	1,655.75	5.83	5.70	170.75	-93.40	-1,997.71	2,015.39	2,007.24	8.15	247.364				
1,800.00	1,798.70	1,755.00	1,755.00	6.18	6.06	170.76	-93.40	-1,997.71	2,027.42	2,018.77	8.64	234.566				
1,900.00	1,897.47	1,853.77	1,853.77	6.55	6.41	170.78	-93.40	-1,997.71	2,042.86	2,033.72	9.14	223.531				
2,000.00	1,995.62	1,951.92	1,951.92	6.93	6.76	170.81	-93.40	-1,997.71	2,061.70	2,052.07	9.63	213.992				
2,100.00	2,093.06	2,104.06	2,104.05	7.34	7.30	170.88	-93.72	-1,996.33	2,083.28	2,073.02	10.26	203.077				
2,152.08	2,143.47	2,211.70	2,211.60	7.56	7.66	170.93	-94.73	-1,992.00	2,094.16	2,083.52	10.64	196.792				
2,200.00	2,189.75	2,311.67	2,311.33	7.76	8.01	171.00	-96.29	-1,985.34	2,103.37	2,092.37	10.99	191.342				
2,300.00	2,286.32	2,484.06	2,482.74	8.21	8.61	171.06	-100.42	-1,967.72	2,118.71	2,107.07	11.64	181.979				
2,400.00	2,382.90	2,737.73	2,733.15	8.67	9.54	171.04	-109.58	-1,928.56	2,128.73	2,116.27	12.45	170.954				
2,500.00	2,479.47	2,851.72	2,844.89	9.14	9.98	171.01	-114.72	-1,906.59	2,135.41	2,122.42	12.99	164.420				
2,600.00	2,576.04	2,951.50	2,942.67	9.62	10.37	170.97	-119.23	-1,887.28	2,142.06	2,128.56	13.50	158.659				
2,700.00	2,672.62	3,051.27	3,040.45	10.11	10.77	170.94	-123.75	-1,867.97	2,148.70	2,134.68	14.02	153.275				
2,800.00	2,769.19	3,151.04	3,138.23	10.60	11.18	170.91	-128.26	-1,848.67	2,155.35	2,140.81	14.54	148.236				
2,900.00	2,865.77	3,250.81	3,236.02	11.10	11.60	170.87	-132.78	-1,829.36	2,162.00	2,146.93	15.06	143.513				
3,000.00	2,962.34	3,350.58	3,333.80	11.61	12.01	170.84	-137.30	-1,810.05	2,168.65	2,153.05	15.59	139.081				
3,100.00	3,058.91	3,450.35	3,431.58	12.12	12.44	170.81	-141.81	-1,790.75	2,175.29	2,159.17	16.12	134.917				
3,200.00	3,155.49	3,550.12	3,529.36	12.64	12.87	170.78	-146.33	-1,771.44	2,181.94	2,165.29	16.66	130.998				
3,300.00	3,252.06	3,649.89	3,627.14	13.16	13.30	170.74	-150.85	-1,752.13	2,188.59	2,171.40	17.19	127.305				
3,400.00	3,348.63	3,749.67	3,724.92	13.68	13.73	170.71	-155.36	-1,732.83	2,195.25	2,177.52	17.73	123.820				
3,500.00	3,445.21	3,849.44	3,822.70	14.21	14.17	170.68	-159.88	-1,713.52	2,201.90	2,183.63	18.27	120.528				
3,600.00	3,541.78	3,949.21	3,920.48	14.74	14.61	170.65	-164.40	-1,694.21	2,208.55	2,189.74	18.81	117.414				
3,700.00	3,638.36	4,048.98	4,018.26	15.27	15.05	170.62	-168.91	-1,674.91	2,215.20	2,195.85	19.35	114.465				
3,800.00	3,734.93	4,148.75	4,116.04	15.80	15.50	170.59	-173.43	-1,655.60	2,221.86	2,201.96	19.90	111.668				
3,900.00	3,831.50	4,248.52	4,213.83	16.33	15.95	170.56	-177.94	-1,636.29	2,228.51	2,208.07	20.44	109.013				
4,000.00	3,928.08	4,348.29	4,311.61	16.87	16.40	170.53	-182.46	-1,616.99	2,235.17	2,214.18	20.99	106.489				
4,100.00	4,024.65	4,448.06	4,409.39	17.41	16.85	170.50	-186.98	-1,597.68	2,241.82	2,220.28	21.54	104.088				
4,200.00	4,121.22	4,547.84	4,507.17	17.95	17.30	170.46	-191.49	-1,578.37	2,248.48	2,226.39	22.09	101.801				
4,300.00	4,217.80	4,647.61	4,604.95	18.49	17.76	170.43	-196.01	-1,559.06	2,255.13	2,232.50	22.64	99.620				
4,400.00	4,314.37	4,747.38	4,702.73	19.03	18.21	170.40	-200.53	-1,539.76	2,261.79	2,238.60	23.19	97.539				
4,500.00	4,410.95	4,847.15	4,800.51	19.58	18.67	170.38	-205.04	-1,520.45	2,268.45	2,244.71	23.74	95.551				
4,600.00	4,507.52	4,946.92	4,898.29	20.12	19.13	170.35	-209.56	-1,501.14	2,275.11	2,250.81	24.29	93.649				
4,700.00	4,604.09	5,046.69	4,996.07	20.66	19.59	170.32	-214.08	-1,481.84	2,281.77	2,256.92	24.85	91.830				
4,800.00	4,700.67	5,146.46	5,093.86	21.21	20.05	170.29	-218.59	-1,462.53	2,288.43	2,263.02	25.40	90.087				
4,900.00	4,797.24	5,246.23	5,191.64	21.76	20.51	170.26	-223.11	-1,443.22	2,295.09	2,269.13	25.96	88.417				
5,000.00	4,893.81	5,346.00	5,289.42	22.30	20.97	170.23	-227.62	-1,423.92	2,301.75	2,275.23	26.51	86.814				

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 304H
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 304H	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 #2	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		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
5,100.00	4,990.39	5,445.78	5,387.20	22.85	21.44	170.20	-232.14	-1,404.61	2,308.41	2,281.34	27.07	85.275				
5,200.00	5,086.96	5,545.55	5,484.98	23.40	21.90	170.17	-236.66	-1,385.30	2,315.07	2,287.44	27.63	83.796				
5,300.00	5,183.54	5,645.32	5,582.76	23.95	22.37	170.14	-241.17	-1,366.00	2,321.74	2,293.55	28.19	82.374				
5,400.00	5,280.11	5,745.09	5,680.54	24.50	22.84	170.11	-245.69	-1,346.69	2,328.40	2,299.65	28.74	81.006				
5,500.00	5,376.68	5,844.86	5,778.32	25.05	23.30	170.09	-250.21	-1,327.38	2,335.06	2,305.76	29.30	79.688				
5,600.00	5,473.26	5,944.63	5,876.10	25.60	23.77	170.06	-254.72	-1,308.07	2,341.73	2,311.86	29.86	78.418				
5,700.00	5,569.83	6,044.40	5,973.89	26.15	24.24	170.03	-259.24	-1,288.77	2,348.39	2,317.97	30.42	77.194				
5,800.00	5,666.41	6,144.17	6,071.67	26.70	24.71	170.00	-263.75	-1,269.46	2,355.06	2,324.08	30.98	76.014				
5,900.00	5,762.98	6,243.95	6,169.45	27.26	25.18	169.98	-268.27	-1,250.15	2,361.72	2,330.18	31.54	74.874				
6,000.00	5,859.55	6,343.72	6,267.23	27.81	25.64	169.95	-272.79	-1,230.85	2,368.39	2,336.29	32.10	73.773				
6,100.00	5,956.13	6,443.49	6,365.01	28.36	26.12	169.92	-277.30	-1,211.54	2,375.06	2,342.39	32.67	72.708				
6,200.00	6,052.70	6,543.26	6,462.79	28.92	26.59	169.89	-281.82	-1,192.23	2,381.72	2,348.50	33.23	71.680				
6,300.00	6,149.27	6,643.03	6,560.57	29.47	27.06	169.87	-286.34	-1,172.93	2,388.39	2,354.60	33.79	70.684				
6,400.00	6,245.85	6,700.00	6,616.45	30.02	27.32	169.85	-288.87	-1,162.12	2,395.66	2,361.42	34.24	69.962				
6,500.00	6,342.42	6,773.39	6,688.65	30.58	27.66	169.84	-291.85	-1,149.35	2,404.38	2,369.65	34.73	69.232				
6,600.00	6,439.00	6,835.38	6,749.83	31.13	27.93	169.84	-294.13	-1,139.62	2,414.69	2,379.51	35.18	68.643				
6,700.00	6,535.57	6,900.00	6,813.77	31.69	28.21	169.85	-296.26	-1,130.50	2,426.55	2,390.92	35.63	68.113				
6,800.00	6,632.14	6,958.68	6,871.96	32.24	28.45	169.86	-297.98	-1,123.14	2,439.94	2,403.89	36.04	67.693				
6,900.00	6,728.72	7,019.93	6,932.82	32.80	28.69	169.88	-299.56	-1,116.39	2,454.85	2,418.39	36.46	67.327				
7,000.00	6,825.29	7,100.00	7,012.53	33.35	29.00	169.92	-301.29	-1,108.99	2,471.40	2,434.47	36.94	66.912				
7,100.00	6,921.86	7,141.49	7,053.88	33.91	29.15	169.94	-302.04	-1,105.80	2,489.22	2,451.95	37.26	66.798				
7,200.00	7,018.44	7,200.00	7,112.27	34.46	29.36	169.98	-302.92	-1,102.04	2,508.65	2,471.00	37.64	66.641				
7,300.00	7,115.01	7,261.59	7,173.78	35.02	29.57	170.02	-303.62	-1,099.03	2,529.56	2,491.53	38.02	66.526				
7,400.00	7,211.59	7,321.04	7,233.19	35.57	29.77	170.07	-304.09	-1,097.04	2,551.93	2,513.54	38.39	66.479				
7,497.28	7,305.53	7,378.45	7,290.59	36.11	29.95	170.12	-304.34	-1,095.97	2,575.09	2,536.36	38.73	66.488				
7,500.00	7,308.16	7,380.05	7,292.19	36.13	29.96	170.13	-304.34	-1,095.95	2,575.76	2,537.02	38.74	66.489				
7,600.00	7,405.19	7,449.35	7,361.49	36.66	30.17	170.27	-304.40	-1,095.71	2,599.21	2,560.09	39.12	66.437				
7,700.00	7,503.00	7,547.16	7,459.30	37.16	30.47	170.42	-304.40	-1,095.71	2,619.70	2,580.08	39.62	66.123				
7,800.00	7,601.48	7,645.64	7,557.78	37.61	30.76	170.54	-304.40	-1,095.71	2,636.81	2,596.70	40.11	65.738				
7,900.00	7,700.51	7,744.67	7,656.81	38.02	31.06	170.63	-304.40	-1,095.71	2,650.52	2,609.92	40.60	65.286				
8,000.00	7,799.96	7,844.12	7,756.26	38.39	31.37	170.70	-304.40	-1,095.71	2,660.81	2,619.73	41.08	64.768				
8,100.00	7,899.71	7,943.87	7,856.01	38.73	31.67	170.75	-304.40	-1,095.71	2,667.68	2,626.12	41.56	64.189				
8,200.00	7,999.65	8,043.80	7,955.95	39.02	31.98	170.77	-304.40	-1,095.71	2,671.10	2,629.07	42.03	63.551				
8,249.36	8,049.00	8,093.16	8,005.30	39.15	32.13	-92.63	-304.40	-1,095.71	2,671.52	2,629.26	42.26	63.218				
8,300.00	8,099.64	8,143.80	8,055.94	39.28	32.28	-92.63	-304.40	-1,095.71	2,671.52	2,629.03	42.49	62.876				
8,400.00	8,199.64	8,243.80	8,155.94	39.54	32.59	-92.63	-304.40	-1,095.71	2,671.52	2,628.57	42.94	62.208				
8,500.00	8,299.64	8,343.80	8,255.94	39.79	32.90	-92.63	-304.40	-1,095.71	2,671.52	2,628.12	43.40	61.553				
8,600.00	8,399.64	8,443.80	8,355.94	40.05	33.21	-92.63	-304.40	-1,095.71	2,671.52	2,627.66	43.86	60.910				
8,700.00	8,499.64	8,543.80	8,455.94	40.31	33.52	-92.63	-304.40	-1,095.71	2,671.52	2,627.20	44.32	60.279				
8,800.00	8,599.64	8,643.80	8,555.94	40.57	33.83	-92.63	-304.40	-1,095.71	2,671.52	2,626.74	44.78	59.660				
8,900.00	8,699.64	8,743.80	8,655.94	40.84	34.15	-92.63	-304.40	-1,095.71	2,671.52	2,626.28	45.24	59.052				
9,000.00	8,799.64	8,843.80	8,755.94	41.10	34.46	-92.63	-304.40	-1,095.71	2,671.52	2,625.82	45.70	58.455				
9,100.00	8,899.64	8,943.80	8,855.94	41.37	34.78	-92.63	-304.40	-1,095.71	2,671.52	2,625.35	46.17	57.868				
9,200.00	8,999.64	9,043.80	8,955.94	41.64	35.09	-92.63	-304.40	-1,095.71	2,671.52	2,624.89	46.63	57.292				
9,300.00	9,099.64	9,143.80	9,055.94	41.91	35.41	-92.63	-304.40	-1,095.71	2,671.52	2,624.42	47.09	56.727				
9,400.00	9,199.64	9,243.80	9,155.94	42.18	35.73	-92.63	-304.40	-1,095.71	2,671.52	2,623.96	47.56	56.171				
9,444.40	9,244.04	9,288.20	9,200.34	42.30	35.87	-92.63	-304.40	-1,095.71	2,671.52	2,623.75	47.77	55.928				
9,450.00	9,249.64	9,293.80	9,205.94	42.31	35.88	-92.09	-304.40	-1,095.71	2,671.52	2,623.73	47.79	55.897				
9,500.00	9,299.56	9,343.71	9,255.86	42.44	36.04	-92.13	-304.40	-1,095.71	2,671.62	2,623.59	48.03	55.627				
9,550.00	9,349.05	9,393.20	9,305.35	42.57	36.20	-92.25	-304.40	-1,095.71	2,671.89	2,623.63	48.26	55.364				
9,600.00	9,397.74	9,441.90	9,354.04	42.69	36.36	-92.44	-304.40	-1,095.71	2,672.37	2,623.87	48.49	55.110				
9,650.00	9,445.26	9,489.42	9,401.56	42.80	36.51	-92.69	-304.40	-1,095.71	2,673.10	2,624.38	48.72	54.868				

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 304H
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 304H	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 #2	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		
9,700.00	9,491.25	9,535.41	9,447.55	42.91	36.65	-92.97	-304.40	-1,095.71	2,674.15	2,625.21	48.94	54.639		
9,750.00	9,535.36	9,579.52	9,491.66	43.00	36.80	-93.26	-304.40	-1,095.71	2,675.60	2,626.44	49.16	54.426		
9,800.00	9,577.25	9,621.41	9,533.55	43.08	36.93	-93.56	-304.40	-1,095.71	2,677.54	2,628.17	49.37	54.231		
9,850.00	9,616.61	9,660.76	9,572.91	43.15	37.06	-93.82	-304.40	-1,095.71	2,680.06	2,630.49	49.58	54.057		
9,900.00	9,653.13	9,697.28	9,609.43	43.21	37.17	-94.04	-304.40	-1,095.71	2,683.27	2,633.49	49.78	53.907		
9,950.00	9,686.53	9,730.69	9,642.83	43.27	37.28	-94.17	-304.40	-1,095.71	2,687.25	2,637.29	49.97	53.782		
10,000.00	9,716.57	9,760.73	9,672.87	43.31	37.38	-94.19	-304.40	-1,095.71	2,692.10	2,641.95	50.15	53.685		
10,050.00	9,743.01	9,787.17	9,699.31	43.35	37.46	-94.09	-304.40	-1,095.71	2,697.88	2,647.56	50.32	53.619		
10,100.00	9,765.66	9,809.82	9,721.96	43.38	37.53	-93.84	-304.40	-1,095.71	2,704.66	2,654.18	50.48	53.584		
10,150.00	9,784.34	9,828.49	9,740.64	43.41	37.60	-93.42	-304.40	-1,095.71	2,712.47	2,661.85	50.62	53.583		
10,200.00	9,798.90	9,843.06	9,755.20	43.43	37.64	-92.82	-304.40	-1,095.71	2,721.33	2,670.57	50.76	53.616		
10,250.00	9,809.24	9,853.40	9,765.54	43.47	37.68	-92.03	-304.40	-1,095.71	2,731.22	2,680.35	50.87	53.686		
10,300.00	9,815.28	9,859.44	9,771.58	43.50	37.69	-91.04	-304.40	-1,095.71	2,742.12	2,691.14	50.98	53.791		
10,344.40	9,817.00	9,861.16	9,773.30	43.54	37.70	-90.00	-304.40	-1,095.71	2,752.58	2,701.53	51.05	53.914		
10,400.00	9,817.00	9,861.16	9,773.30	43.61	37.70	-90.00	-304.40	-1,095.71	2,766.65	2,715.50	51.15	54.093		
10,500.00	9,817.00	9,861.16	9,773.30	43.77	37.70	-90.00	-304.40	-1,095.71	2,794.55	2,743.22	51.32	54.450		
10,600.00	9,817.00	9,861.16	9,773.30	43.98	37.70	-90.00	-304.40	-1,095.71	2,825.71	2,774.20	51.51	54.854		
10,700.00	9,817.00	9,861.16	9,773.30	44.25	37.70	-90.00	-304.40	-1,095.71	2,860.04	2,808.32	51.72	55.303		
10,800.00	9,817.00	9,861.16	9,773.30	44.59	37.70	-90.00	-304.40	-1,095.71	2,897.41	2,845.48	51.93	55.799		
10,900.00	9,817.00	9,861.16	9,773.30	44.99	37.70	-90.00	-304.40	-1,095.71	2,937.71	2,885.56	52.14	56.339		
11,000.00	9,817.00	9,861.16	9,773.30	45.47	37.70	-90.00	-304.40	-1,095.71	2,980.82	2,928.45	52.37	56.924		
11,100.00	9,817.00	9,861.16	9,773.30	46.01	37.70	-90.00	-304.40	-1,095.71	3,026.62	2,974.03	52.59	57.553		
11,200.00	9,817.00	9,861.16	9,773.30	46.61	37.70	-90.00	-304.40	-1,095.71	3,075.00	3,022.18	52.81	58.224		
11,300.00	9,817.00	9,861.16	9,773.30	47.28	37.70	-90.00	-304.40	-1,095.71	3,125.82	3,072.78	53.04	58.936		
11,400.00	9,817.00	9,861.16	9,773.30	48.01	37.70	-90.00	-304.40	-1,095.71	3,178.98	3,125.72	53.26	59.687		
11,500.00	9,817.00	9,861.16	9,773.30	48.79	37.70	-90.00	-304.40	-1,095.71	3,234.36	3,180.88	53.48	60.478		
11,600.00	9,817.00	9,861.16	9,773.30	49.63	37.70	-90.00	-304.40	-1,095.71	3,291.84	3,238.15	53.70	61.304		
11,700.00	9,817.00	9,861.16	9,773.30	50.51	37.70	-90.00	-304.40	-1,095.71	3,351.33	3,297.42	53.91	62.167		
11,800.00	9,817.00	9,861.16	9,773.30	51.44	37.70	-90.00	-304.40	-1,095.71	3,412.70	3,358.59	54.11	63.064		
11,900.00	9,817.00	9,861.16	9,773.30	52.41	37.70	-90.00	-304.40	-1,095.71	3,475.87	3,421.56	54.32	63.993		
12,000.00	9,817.00	9,861.16	9,773.30	53.42	37.70	-90.00	-304.40	-1,095.71	3,540.74	3,486.23	54.51	64.954		
12,100.00	9,817.00	14,402.44	12,136.00	54.47	57.51	-131.50	2,119.99	-1,119.74	3,565.97	3,497.88	68.09	52.374		
12,200.00	9,817.00	14,502.44	12,136.00	55.54	58.59	-131.50	2,219.98	-1,120.73	3,566.01	3,496.62	69.39	51.392		
12,300.00	9,817.00	14,602.44	12,136.00	56.65	59.68	-131.50	2,319.98	-1,121.72	3,566.04	3,495.33	70.72	50.427		
12,400.00	9,817.00	14,702.44	12,136.00	57.79	60.81	-131.49	2,419.97	-1,122.72	3,566.08	3,494.01	72.07	49.481		
12,500.00	9,817.00	14,802.44	12,136.00	58.95	61.96	-131.49	2,519.97	-1,123.71	3,566.11	3,492.67	73.45	48.553		
12,600.00	9,817.00	14,902.44	12,136.00	60.14	63.13	-131.49	2,619.96	-1,124.70	3,566.15	3,491.31	74.84	47.647		
12,700.00	9,817.00	15,002.44	12,136.00	61.35	64.32	-131.49	2,719.96	-1,125.69	3,566.19	3,489.92	76.26	46.761		
12,800.00	9,817.00	15,102.44	12,136.00	62.58	65.53	-131.49	2,819.95	-1,126.68	3,566.22	3,488.52	77.70	45.897		
12,900.00	9,817.00	15,202.44	12,136.00	63.83	66.76	-131.49	2,919.95	-1,127.67	3,566.26	3,487.10	79.16	45.053		
13,000.00	9,817.00	15,302.44	12,136.00	65.10	68.01	-131.49	3,019.94	-1,128.66	3,566.29	3,485.66	80.63	44.229		
13,100.00	9,817.00	15,402.44	12,136.00	66.39	69.27	-131.49	3,119.94	-1,129.65	3,566.33	3,484.21	82.12	43.427		
13,200.00	9,817.00	15,502.44	12,136.00	67.69	70.55	-131.49	3,219.93	-1,130.64	3,566.37	3,482.74	83.63	42.644		
13,300.00	9,817.00	15,602.44	12,136.00	69.01	71.85	-131.49	3,319.93	-1,131.64	3,566.40	3,481.25	85.15	41.882		
13,400.00	9,817.00	15,702.44	12,136.00	70.35	73.16	-131.49	3,419.92	-1,132.63	3,566.44	3,479.75	86.69	41.140		
13,500.00	9,817.00	15,802.44	12,136.00	71.70	74.48	-131.49	3,519.92	-1,133.62	3,566.47	3,478.23	88.24	40.418		
13,600.00	9,817.00	15,902.44	12,136.00	73.06	75.82	-131.49	3,619.91	-1,134.61	3,566.51	3,476.71	89.80	39.714		
13,700.00	9,817.00	16,002.44	12,136.00	74.43	77.17	-131.49	3,719.91	-1,135.60	3,566.55	3,475.17	91.38	39.030		
13,800.00	9,817.00	16,102.44	12,136.00	75.81	78.53	-131.49	3,819.90	-1,136.59	3,566.58	3,473.61	92.97	38.364		
13,900.00	9,817.00	16,202.44	12,136.00	77.21	79.90	-131.49	3,919.90	-1,137.58	3,566.62	3,472.05	94.57	37.715		
14,000.00	9,817.00	16,302.44	12,136.00	78.61	81.28	-131.49	4,019.89	-1,138.57	3,566.65	3,470.48	96.17	37.085		
14,100.00	9,817.00	16,402.44	12,136.00	80.03	82.67	-131.49	4,119.89	-1,139.56	3,566.69	3,468.90	97.79	36.473		

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 304H
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 304H	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 #2	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	9,817.00	16,502.44	12,136.00	81.45	84.07	-131.49	4,219.88	-1,140.55	3,566.73	3,467.31	99.42	35.877		
14,300.00	9,817.00	16,602.44	12,136.00	82.88	85.48	-131.48	4,319.88	-1,141.55	3,566.76	3,465.71	101.05	35.297		
14,400.00	9,817.00	16,702.44	12,136.00	84.32	86.90	-131.48	4,419.87	-1,142.54	3,566.80	3,464.10	102.70	34.732		
14,500.00	9,817.00	16,802.44	12,136.00	85.77	88.33	-131.48	4,519.87	-1,143.53	3,566.83	3,462.49	104.35	34.182		
14,600.00	9,817.00	16,902.44	12,136.00	87.22	89.76	-131.48	4,619.86	-1,144.52	3,566.87	3,460.86	106.01	33.647		
14,700.00	9,817.00	17,002.44	12,136.00	88.69	91.20	-131.48	4,719.86	-1,145.51	3,566.91	3,459.23	107.67	33.127		
14,800.00	9,817.00	17,102.44	12,136.00	90.16	92.65	-131.48	4,819.85	-1,146.50	3,566.94	3,457.60	109.35	32.621		
14,900.00	9,817.00	17,202.44	12,136.00	91.63	94.11	-131.48	4,919.85	-1,147.49	3,566.98	3,455.95	111.02	32.128		
15,000.00	9,817.00	17,302.44	12,136.00	93.11	95.57	-131.48	5,019.84	-1,148.48	3,567.02	3,454.30	112.71	31.648		
15,100.00	9,817.00	17,402.44	12,136.00	94.60	97.03	-131.48	5,119.84	-1,149.47	3,567.05	3,452.65	114.40	31.180		
15,200.00	9,817.00	17,502.44	12,136.00	96.09	98.51	-131.48	5,219.83	-1,150.47	3,567.09	3,450.99	116.10	30.724		
15,300.00	9,817.00	17,602.44	12,136.00	97.59	99.99	-131.48	5,319.83	-1,151.46	3,567.12	3,449.32	117.80	30.280		
15,400.00	9,817.00	17,702.44	12,136.00	99.09	101.47	-131.48	5,419.82	-1,152.45	3,567.16	3,447.65	119.51	29.848		
15,500.00	9,817.00	17,802.44	12,136.00	100.60	102.96	-131.48	5,519.82	-1,153.44	3,567.20	3,445.97	121.22	29.427		
15,600.00	9,817.00	17,902.44	12,136.00	102.11	104.46	-131.48	5,619.81	-1,154.43	3,567.23	3,444.29	122.94	29.016		
15,700.00	9,817.00	18,002.44	12,136.00	103.62	105.95	-131.48	5,719.81	-1,155.42	3,567.27	3,442.61	124.66	28.616		
15,800.00	9,817.00	18,102.44	12,136.00	105.14	107.46	-131.48	5,819.80	-1,156.41	3,567.30	3,440.92	126.39	28.225		
15,900.00	9,817.00	18,202.44	12,136.00	106.67	108.97	-131.48	5,919.80	-1,157.40	3,567.34	3,439.22	128.12	27.844		
16,000.00	9,817.00	18,302.44	12,136.00	108.20	110.48	-131.48	6,019.79	-1,158.39	3,567.38	3,437.52	129.85	27.473		
16,100.00	9,817.00	18,402.44	12,136.00	109.73	111.99	-131.48	6,119.79	-1,159.39	3,567.41	3,435.82	131.59	27.110		
16,200.00	9,817.00	18,502.44	12,136.00	111.26	113.51	-131.48	6,219.78	-1,160.38	3,567.45	3,434.12	133.33	26.756		
16,300.00	9,817.00	18,602.44	12,136.00	112.80	115.04	-131.47	6,319.78	-1,161.37	3,567.48	3,432.41	135.07	26.411		
16,400.00	9,817.00	18,702.44	12,136.00	114.34	116.56	-131.47	6,419.77	-1,162.36	3,567.52	3,430.70	136.82	26.074		
16,500.00	9,817.00	18,802.44	12,136.00	115.89	118.09	-131.47	6,519.77	-1,163.35	3,567.56	3,428.98	138.57	25.745		
16,600.00	9,817.00	18,902.44	12,136.00	117.43	119.63	-131.47	6,619.76	-1,164.34	3,567.59	3,427.27	140.33	25.424		
16,700.00	9,817.00	19,002.44	12,136.00	118.98	121.16	-131.47	6,719.76	-1,165.33	3,567.63	3,425.54	142.08	25.109		
16,800.00	9,817.00	19,102.44	12,136.00	120.54	122.70	-131.47	6,819.76	-1,166.32	3,567.66	3,423.82	143.84	24.802		
16,900.00	9,817.00	19,202.44	12,136.00	122.09	124.25	-131.47	6,919.75	-1,167.31	3,567.70	3,422.09	145.61	24.502		
17,000.00	9,817.00	19,302.44	12,136.00	123.65	125.79	-131.47	7,019.75	-1,168.30	3,567.74	3,420.37	147.37	24.210		
17,100.00	9,817.00	19,402.44	12,136.00	125.21	127.34	-131.47	7,119.74	-1,169.30	3,567.77	3,418.64	149.13	23.923		
17,200.00	9,817.00	19,502.44	12,136.00	126.77	128.89	-131.47	7,219.74	-1,170.29	3,567.81	3,416.90	150.90	23.643		
17,300.00	9,817.00	19,602.44	12,136.00	128.34	130.44	-131.47	7,319.73	-1,171.28	3,567.84	3,415.17	152.68	23.369		
17,400.00	9,817.00	19,702.44	12,136.00	129.90	132.00	-131.47	7,419.73	-1,172.27	3,567.88	3,413.43	154.45	23.100		
17,500.00	9,817.00	19,802.44	12,136.00	131.47	133.56	-131.47	7,519.72	-1,173.26	3,567.92	3,411.69	156.23	22.838		
17,600.00	9,817.00	19,902.44	12,136.00	133.04	135.12	-131.47	7,619.72	-1,174.25	3,567.95	3,409.95	158.01	22.581		
17,700.00	9,817.00	20,002.44	12,136.00	134.62	136.68	-131.47	7,719.71	-1,175.24	3,567.99	3,408.20	159.78	22.330		
17,800.00	9,817.00	20,102.44	12,136.00	136.19	138.24	-131.47	7,819.71	-1,176.23	3,568.02	3,406.46	161.57	22.084		
17,900.00	9,817.00	20,202.44	12,136.00	137.77	139.81	-131.47	7,919.70	-1,177.22	3,568.06	3,404.71	163.35	21.843		
18,000.00	9,817.00	20,302.44	12,136.00	139.35	141.38	-131.47	8,019.70	-1,178.22	3,568.10	3,402.96	165.13	21.607		
18,100.00	9,817.00	20,402.44	12,136.00	140.93	142.95	-131.47	8,119.69	-1,179.21	3,568.13	3,401.21	166.92	21.376		
18,200.00	9,817.00	20,502.44	12,136.00	142.51	144.52	-131.46	8,219.69	-1,180.20	3,568.17	3,399.46	168.71	21.150		
18,300.00	9,817.00	20,602.44	12,136.00	144.09	146.09	-131.46	8,319.68	-1,181.19	3,568.20	3,397.70	170.50	20.928		
18,400.00	9,817.00	20,702.44	12,136.00	145.68	147.67	-131.46	8,419.68	-1,182.18	3,568.24	3,395.95	172.29	20.711		
18,500.00	9,817.00	20,802.44	12,136.00	147.26	149.25	-131.46	8,519.67	-1,183.17	3,568.28	3,394.19	174.08	20.498		
18,600.00	9,817.00	20,902.44	12,136.00	148.85	150.83	-131.46	8,619.67	-1,184.16	3,568.31	3,392.44	175.88	20.289		
18,700.00	9,817.00	21,002.44	12,136.00	150.44	152.41	-131.46	8,719.66	-1,185.15	3,568.35	3,390.68	177.67	20.084		
18,800.00	9,817.00	21,102.44	12,136.00	152.03	153.99	-131.46	8,819.66	-1,186.14	3,568.38	3,388.92	179.47	19.883		
18,900.00	9,817.00	21,202.44	12,136.00	153.62	155.57	-131.46	8,919.65	-1,187.14	3,568.42	3,387.15	181.27	19.686		
19,000.00	9,817.00	21,302.44	12,136.00	155.22	157.16	-131.46	9,019.65	-1,188.13	3,568.46	3,385.39	183.07	19.493		
19,100.00	9,817.00	21,402.44	12,136.00	156.81	158.74	-131.46	9,119.64	-1,189.12	3,568.49	3,383.63	184.87	19.303		
19,200.00	9,817.00	21,502.44	12,136.00	158.41	160.33	-131.46	9,219.64	-1,190.11	3,568.53	3,381.86	186.66	19.117		
19,300.00	9,817.00	21,602.44	12,136.00	160.00	161.92	-131.46	9,319.63	-1,191.10	3,568.56	3,380.10	188.47	18.935		

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 304H
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 304H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 usft
FMM Fed Com - FMM Fed Com 803H - 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
19,400.00	9,817.00	21,702.44	12,136.00	161.60	163.51	-131.46	9,419.63	-1,192.09	3,568.60	3,378.33	190.27	18.755	
19,500.00	9,817.00	21,802.44	12,136.00	163.20	165.10	-131.46	9,519.62	-1,193.08	3,568.64	3,376.56	192.07	18.579	
19,600.00	9,817.00	21,902.44	12,136.00	164.80	166.69	-131.46	9,619.62	-1,194.07	3,568.67	3,374.79	193.88	18.407	
19,700.00	9,817.00	22,002.44	12,136.00	166.40	168.29	-131.46	9,719.61	-1,195.06	3,568.71	3,373.02	195.69	18.237	
19,800.00	9,817.00	22,102.44	12,136.00	168.00	169.88	-131.46	9,819.61	-1,196.05	3,568.74	3,371.25	197.49	18.070	
19,900.00	9,817.00	22,202.44	12,136.00	169.60	171.48	-131.46	9,919.60	-1,197.05	3,568.78	3,369.48	199.30	17.907	
20,000.00	9,817.00	22,302.44	12,136.00	171.21	173.07	-131.46	10,019.60	-1,198.04	3,568.82	3,367.71	201.11	17.746	
20,032.59	9,817.00	22,335.03	12,136.00	171.73	173.59	-131.46	10,052.18	-1,198.36	3,568.83	3,367.13	201.70	17.694 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 304H
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 304H	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 #2	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									
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	-140.65	-75.49	-61.89	97.63							
100.00	100.00	98.60	98.60	0.13	0.12	-140.65	-75.49	-61.89	97.62	97.44	0.18	554.023				
200.00	200.00	198.60	198.60	0.48	0.48	-140.65	-75.49	-61.89	97.62	96.94	0.68	143.375				
300.00	300.00	298.60	298.60	0.84	0.84	-140.65	-75.49	-61.89	97.62	96.43	1.19	82.183				
400.00	400.00	398.60	398.60	1.20	1.20	-140.65	-75.49	-61.89	97.62	95.92	1.69	57.600				
500.00	500.00	498.60	498.60	1.56	1.55	-140.65	-75.49	-61.89	97.62	95.42	2.20	44.337				
600.00	600.00	598.60	598.60	1.92	1.91	-140.65	-75.49	-61.89	97.62	94.91	2.71	36.039				
700.00	700.00	698.60	698.60	2.28	2.27	-140.65	-75.49	-61.89	97.62	94.40	3.22	30.357				
800.00	800.00	798.60	798.60	2.63	2.63	-140.65	-75.49	-61.89	97.62	93.89	3.72	26.223				
900.00	900.00	898.60	898.60	2.99	2.99	-140.65	-75.49	-61.89	97.62	93.39	4.23	23.080				
1,000.00	1,000.00	998.60	998.60	3.35	3.35	-140.65	-75.49	-61.89	97.62	92.88	4.74	20.610				
1,100.00	1,100.00	1,098.60	1,098.60	3.71	3.71	-140.65	-75.49	-61.89	97.62	92.37	5.24	18.617				
1,200.00	1,200.00	1,198.60	1,198.60	4.07	4.06	-140.65	-75.49	-61.89	97.62	91.87	5.75	16.976				
1,300.00	1,300.00	1,298.60	1,298.60	4.43	4.42	-140.65	-75.49	-61.89	97.62	91.36	6.26	15.600				
1,400.00	1,400.00	1,398.60	1,398.60	4.79	4.78	-140.65	-75.49	-61.89	97.62	90.85	6.76	14.431	CC, ES			
1,500.00	1,499.98	1,498.58	1,498.58	5.13	5.14	123.58	-75.49	-61.89	98.57	91.31	7.26	13.569				
1,600.00	1,599.84	1,598.44	1,598.44	5.48	5.50	125.99	-75.49	-61.89	101.56	93.80	7.76	13.089				
1,700.00	1,699.45	1,698.05	1,698.05	5.83	5.85	129.68	-75.49	-61.89	106.92	98.67	8.26	12.950	SF			
1,800.00	1,798.70	1,797.30	1,797.30	6.18	6.21	134.22	-75.49	-61.89	115.11	106.36	8.76	13.146				
1,900.00	1,897.47	1,896.07	1,896.07	6.55	6.56	139.12	-75.49	-61.89	126.57	117.31	9.26	13.672				
2,000.00	1,995.62	1,994.22	1,994.22	6.93	6.92	143.97	-75.49	-61.89	141.63	131.87	9.76	14.513				
2,100.00	2,093.06	2,091.66	2,091.66	7.34	7.26	148.47	-75.49	-61.89	160.49	150.23	10.26	15.643				
2,152.08	2,143.47	2,142.07	2,142.07	7.56	7.45	150.61	-75.49	-61.89	171.84	161.32	10.52	16.334				
2,200.00	2,189.75	2,188.35	2,188.35	7.76	7.61	152.51	-75.49	-61.89	182.86	172.10	10.76	16.997				
2,300.00	2,286.32	2,284.92	2,284.92	8.21	7.96	155.82	-75.49	-61.89	206.38	195.13	11.26	18.337				
2,400.00	2,382.90	2,381.50	2,381.50	8.67	8.30	158.45	-75.49	-61.89	230.42	218.67	11.75	19.606				
2,500.00	2,479.47	2,474.53	2,474.52	9.14	8.63	160.40	-76.10	-62.29	255.38	243.15	12.23	20.884				
2,600.00	2,576.04	2,566.15	2,566.10	9.62	8.93	161.66	-78.52	-63.86	282.16	269.47	12.69	22.238				
2,700.00	2,672.62	2,658.39	2,658.19	10.11	9.23	162.41	-82.74	-66.61	310.58	297.43	13.15	23.617				
2,800.00	2,769.19	2,754.07	2,753.70	10.60	9.55	162.99	-87.64	-69.80	339.46	325.83	13.63	24.898				
2,900.00	2,865.77	2,849.76	2,849.21	11.10	9.87	163.47	-92.53	-72.99	368.37	354.25	14.12	26.087				
3,000.00	2,962.34	2,945.45	2,944.72	11.61	10.19	163.89	-97.43	-76.18	397.31	382.69	14.61	27.192				
3,100.00	3,058.91	3,041.13	3,040.23	12.12	10.51	164.25	-102.32	-79.37	426.25	411.15	15.10	28.222				
3,200.00	3,155.49	3,136.82	3,135.73	12.64	10.84	164.56	-107.22	-82.56	455.21	439.62	15.60	29.183				
3,300.00	3,252.06	3,232.51	3,231.24	13.16	11.17	164.84	-112.11	-85.75	484.19	468.09	16.10	30.081				
3,400.00	3,348.63	3,328.19	3,326.75	13.68	11.50	165.08	-117.01	-88.94	513.17	496.57	16.60	30.923				
3,500.00	3,445.21	3,423.88	3,422.26	14.21	11.83	165.30	-121.91	-92.13	542.16	525.06	17.10	31.712				
3,600.00	3,541.78	3,519.57	3,517.77	14.74	12.16	165.49	-126.80	-95.32	571.15	553.55	17.60	32.453				
3,700.00	3,638.36	3,615.25	3,613.28	15.27	12.50	165.67	-131.70	-98.51	600.15	582.05	18.10	33.151				
3,800.00	3,734.93	3,710.94	3,708.78	15.80	12.83	165.83	-136.59	-101.70	629.16	610.55	18.61	33.808				
3,900.00	3,831.50	3,806.63	3,804.29	16.33	13.17	165.98	-141.49	-104.89	658.17	639.05	19.12	34.428				
4,000.00	3,928.08	3,902.31	3,899.80	16.87	13.51	166.11	-146.38	-108.08	687.18	667.55	19.63	35.014				
4,100.00	4,024.65	3,998.00	3,995.31	17.41	13.85	166.24	-151.28	-111.27	716.20	696.06	20.14	35.569				
4,200.00	4,121.22	4,093.69	4,090.82	17.95	14.19	166.35	-156.17	-114.46	745.22	724.57	20.65	36.094				
4,300.00	4,217.80	4,189.37	4,186.32	18.49	14.53	166.46	-161.07	-117.65	774.24	753.08	21.16	36.593				
4,400.00	4,314.37	4,285.06	4,281.83	19.03	14.87	166.55	-165.97	-120.84	803.26	781.59	21.67	37.066				
4,500.00	4,410.95	4,380.75	4,377.34	19.58	15.21	166.64	-170.86	-124.03	832.29	810.10	22.18	37.517				
4,600.00	4,507.52	4,476.43	4,472.85	20.12	15.55	166.73	-175.76	-127.22	861.32	838.62	22.70	37.945				
4,700.00	4,604.09	4,572.12	4,568.36	20.66	15.89	166.81	-180.65	-130.41	890.35	867.13	23.21	38.353				
4,800.00	4,700.67	4,667.81	4,663.87	21.21	16.24	166.88	-185.55	-133.60	919.38	895.65	23.73	38.743				
4,900.00	4,797.24	4,763.49	4,759.37	21.76	16.58	166.95	-190.44	-136.79	948.41	924.16	24.25	39.114				
5,000.00	4,893.81	4,859.18	4,854.88	22.30	16.93	167.02	-195.34	-139.98	977.44	952.68	24.76	39.470				

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 304H
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 304H	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 #2	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	4,990.39	4,954.87	4,950.39	22.85	17.27	167.08	-200.23	-143.17	1,006.48	981.19	25.28	39.809		
5,200.00	5,086.96	5,050.55	5,045.90	23.40	17.62	167.14	-205.13	-146.36	1,035.51	1,009.71	25.80	40.135		
5,300.00	5,183.54	5,146.24	5,141.41	23.95	17.96	167.19	-210.03	-149.55	1,064.55	1,038.23	26.32	40.446		
5,400.00	5,280.11	5,241.93	5,236.91	24.50	18.31	167.24	-214.92	-152.74	1,093.59	1,066.75	26.84	40.745		
5,500.00	5,376.68	5,337.61	5,332.42	25.05	18.66	167.29	-219.82	-155.93	1,122.62	1,095.26	27.36	41.032		
5,600.00	5,473.26	5,433.30	5,427.93	25.60	19.01	167.34	-224.71	-159.12	1,151.66	1,123.78	27.88	41.307		
5,700.00	5,569.83	5,528.99	5,523.44	26.15	19.35	167.39	-229.61	-162.31	1,180.70	1,152.30	28.40	41.572		
5,800.00	5,666.41	5,624.67	5,618.95	26.70	19.70	167.43	-234.50	-165.50	1,209.74	1,180.82	28.92	41.826		
5,900.00	5,762.98	5,720.36	5,714.46	27.26	20.05	167.47	-239.40	-168.69	1,238.78	1,209.34	29.44	42.071		
6,000.00	5,859.55	5,816.05	5,809.96	27.81	20.40	167.51	-244.29	-171.88	1,267.82	1,237.86	29.97	42.307		
6,100.00	5,956.13	5,911.73	5,905.47	28.36	20.75	167.54	-249.19	-175.07	1,296.87	1,266.38	30.49	42.534		
6,200.00	6,052.70	6,007.42	6,000.98	28.92	21.10	167.58	-254.09	-178.26	1,325.91	1,294.89	31.01	42.753		
6,300.00	6,149.27	6,103.11	6,096.49	29.47	21.45	167.61	-258.98	-181.45	1,354.95	1,323.41	31.54	42.965		
6,400.00	6,245.85	6,198.80	6,192.00	30.02	21.80	167.65	-263.88	-184.64	1,383.99	1,351.93	32.06	43.169		
6,500.00	6,342.42	6,294.48	6,287.50	30.58	22.15	167.68	-268.77	-187.83	1,413.04	1,380.45	32.58	43.366		
6,600.00	6,439.00	6,390.17	6,383.01	31.13	22.50	167.71	-273.67	-191.02	1,442.08	1,408.97	33.11	43.556		
6,700.00	6,535.57	6,485.86	6,478.52	31.69	22.85	167.74	-278.56	-194.21	1,471.12	1,437.49	33.63	43.740		
6,800.00	6,632.14	6,581.54	6,574.03	32.24	23.20	167.76	-283.46	-197.40	1,500.17	1,466.01	34.16	43.918		
6,900.00	6,728.72	6,677.23	6,669.54	32.80	23.55	167.79	-288.35	-200.59	1,529.21	1,494.53	34.68	44.090		
7,000.00	6,825.29	6,790.92	6,783.06	33.35	23.96	167.84	-293.61	-204.02	1,557.95	1,522.65	35.30	44.138		
7,100.00	6,921.86	6,919.94	6,912.03	33.91	24.42	168.01	-296.37	-205.81	1,584.89	1,548.92	35.97	44.066		
7,200.00	7,018.44	7,024.95	7,017.04	34.46	24.78	168.21	-296.49	-205.89	1,610.39	1,573.88	36.51	44.107		
7,300.00	7,115.01	7,121.53	7,113.61	35.02	25.11	168.40	-296.49	-205.89	1,635.83	1,598.82	37.02	44.190		
7,400.00	7,211.59	7,218.10	7,210.19	35.57	25.43	168.58	-296.49	-205.89	1,661.30	1,623.77	37.53	44.271		
7,497.28	7,305.53	7,312.05	7,304.13	36.11	25.75	168.75	-296.49	-205.89	1,686.08	1,648.06	38.02	44.347		
7,500.00	7,308.16	7,314.68	7,306.76	36.13	25.76	168.75	-296.49	-205.89	1,686.78	1,648.74	38.03	44.349		
7,600.00	7,405.19	7,411.71	7,403.79	36.66	26.09	169.00	-296.49	-205.89	1,710.52	1,671.98	38.54	44.382		
7,700.00	7,503.00	7,509.52	7,501.60	37.16	26.42	169.21	-296.49	-205.89	1,730.93	1,691.88	39.04	44.332		
7,800.00	7,601.48	7,608.00	7,600.08	37.61	26.76	169.38	-296.49	-205.89	1,747.98	1,708.43	39.55	44.202		
7,900.00	7,700.51	7,707.02	7,699.11	38.02	27.10	169.52	-296.49	-205.89	1,761.64	1,721.60	40.04	43.995		
8,000.00	7,799.96	7,806.47	7,798.56	38.39	27.44	169.62	-296.49	-205.89	1,771.90	1,731.37	40.53	43.716		
8,100.00	7,899.71	7,906.23	7,898.31	38.73	27.78	169.68	-296.49	-205.89	1,778.74	1,737.72	41.02	43.366		
8,200.00	7,999.65	8,006.16	7,998.25	39.02	28.12	169.71	-296.49	-205.89	1,782.15	1,740.66	41.49	42.949		
8,249.36	8,049.00	8,055.52	8,047.60	39.15	28.29	-93.68	-296.49	-205.89	1,782.57	1,740.85	41.73	42.722		
8,300.00	8,099.64	8,106.16	8,098.24	39.28	28.46	-93.68	-296.49	-205.89	1,782.57	1,740.61	41.96	42.484		
8,400.00	8,199.64	8,206.16	8,198.24	39.54	28.80	-93.68	-296.49	-205.89	1,782.57	1,740.15	42.42	42.021		
8,500.00	8,299.64	8,306.16	8,298.24	39.79	29.15	-93.68	-296.49	-205.89	1,782.57	1,739.69	42.88	41.568		
8,600.00	8,399.64	8,406.16	8,398.24	40.05	29.49	-93.68	-296.49	-205.89	1,782.57	1,739.22	43.35	41.123		
8,700.00	8,499.64	8,506.16	8,498.24	40.31	29.84	-93.68	-296.49	-205.89	1,782.57	1,738.76	43.81	40.686		
8,800.00	8,599.64	8,606.16	8,598.24	40.57	30.18	-93.68	-296.49	-205.89	1,782.57	1,738.29	44.28	40.258		
8,900.00	8,699.64	8,706.16	8,698.24	40.84	30.53	-93.68	-296.49	-205.89	1,782.57	1,737.83	44.75	39.838		
9,000.00	8,799.64	8,806.16	8,798.24	41.10	30.87	-93.68	-296.49	-205.89	1,782.57	1,737.36	45.21	39.426		
9,100.00	8,899.64	8,906.16	8,898.24	41.37	31.22	-93.68	-296.49	-205.89	1,782.57	1,736.89	45.68	39.022		
9,200.00	8,999.64	9,006.16	8,998.24	41.64	31.56	-93.68	-296.49	-205.89	1,782.57	1,736.42	46.15	38.625		
9,300.00	9,099.64	9,106.16	9,098.24	41.91	31.91	-93.68	-296.49	-205.89	1,782.57	1,735.95	46.62	38.236		
9,400.00	9,199.64	9,206.16	9,198.24	42.18	32.25	-93.68	-296.49	-205.89	1,782.57	1,735.48	47.09	37.854		
9,444.40	9,244.04	9,250.56	9,242.64	42.30	32.41	-93.68	-296.49	-205.89	1,782.57	1,735.27	47.30	37.686		
9,450.00	9,249.64	9,256.16	9,248.24	42.31	32.43	-93.14	-296.49	-205.89	1,782.57	1,735.25	47.33	37.665		
9,500.00	9,299.56	9,306.07	9,298.16	42.44	32.60	-93.21	-296.49	-205.89	1,782.72	1,735.16	47.56	37.481		
9,550.00	9,349.05	9,355.56	9,347.65	42.57	32.77	-93.40	-296.49	-205.89	1,783.13	1,735.33	47.80	37.306		
9,600.00	9,397.74	9,404.25	9,396.34	42.69	32.94	-93.68	-296.49	-205.89	1,783.84	1,735.82	48.03	37.141		
9,650.00	9,445.26	9,451.78	9,443.86	42.80	33.11	-94.04	-296.49	-205.89	1,784.94	1,736.68	48.26	36.987		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 304H
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 304H	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 #2	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		
9,700.00	9,491.25	9,497.77	9,489.85	42.91	33.27	-94.46	-296.49	-205.89	1,786.52	1,738.04	48.48	36.849		
9,750.00	9,535.36	9,541.87	9,533.96	43.00	33.42	-94.90	-296.49	-205.89	1,788.70	1,740.00	48.70	36.729		
9,800.00	9,577.25	9,583.77	9,575.85	43.08	33.56	-95.34	-296.49	-205.89	1,791.61	1,742.70	48.91	36.631		
9,850.00	9,616.61	9,623.12	9,615.21	43.15	33.70	-95.74	-296.49	-205.89	1,795.39	1,746.27	49.11	36.556		
9,900.00	9,653.13	9,659.64	9,651.73	43.21	33.83	-96.05	-296.49	-205.89	1,800.18	1,750.87	49.31	36.510		
9,950.00	9,686.53	9,693.05	9,685.13	43.27	33.94	-96.25	-296.49	-205.89	1,806.12	1,756.63	49.49	36.494		
10,000.00	9,716.57	9,723.09	9,715.17	43.31	34.05	-96.29	-296.49	-205.89	1,813.33	1,763.67	49.66	36.512		
10,050.00	9,743.01	9,749.53	9,741.61	43.35	34.14	-96.13	-296.49	-205.89	1,821.92	1,772.09	49.82	36.567		
10,100.00	9,765.66	9,772.18	9,764.26	43.38	34.22	-95.76	-296.49	-205.89	1,831.95	1,781.98	49.97	36.662		
10,150.00	9,784.34	9,790.85	9,782.94	43.41	34.28	-95.13	-296.49	-205.89	1,843.47	1,793.37	50.10	36.796		
10,200.00	9,798.90	9,805.41	9,797.50	43.43	34.34	-94.23	-296.49	-205.89	1,856.50	1,806.28	50.21	36.973		
10,250.00	9,809.24	9,815.76	9,807.84	43.47	34.37	-93.04	-296.49	-205.89	1,870.99	1,820.68	50.31	37.191		
10,300.00	9,815.28	9,821.79	9,813.88	43.50	34.39	-91.56	-296.49	-205.89	1,886.87	1,836.49	50.38	37.452		
10,344.40	9,817.00	9,823.51	9,815.60	43.54	34.40	-90.00	-296.49	-205.89	1,902.05	1,851.62	50.43	37.716		
10,400.00	9,817.00	9,823.51	9,815.60	43.61	34.40	-90.00	-296.49	-205.89	1,922.36	1,871.88	50.48	38.080		
10,500.00	9,817.00	9,823.51	9,815.60	43.77	34.40	-90.00	-296.49	-205.89	1,962.33	1,911.75	50.58	38.796		
10,600.00	9,817.00	9,823.51	9,815.60	43.98	34.40	-90.00	-296.49	-205.89	2,006.49	1,955.81	50.68	39.591		
10,700.00	9,817.00	9,823.51	9,815.60	44.25	34.40	-90.00	-296.49	-205.89	2,054.57	2,003.78	50.78	40.459		
10,800.00	9,817.00	9,823.51	9,815.60	44.59	34.40	-90.00	-296.49	-205.89	2,106.30	2,055.42	50.88	41.395		
10,900.00	9,817.00	9,823.51	9,815.60	44.99	34.40	-90.00	-296.49	-205.89	2,161.42	2,110.44	50.98	42.396		
11,000.00	9,817.00	9,823.51	9,815.60	45.47	34.40	-90.00	-296.49	-205.89	2,219.69	2,168.61	51.08	43.457		
11,100.00	9,817.00	9,823.51	9,815.60	46.01	34.40	-90.00	-296.49	-205.89	2,280.85	2,229.68	51.17	44.573		
11,200.00	9,817.00	9,823.51	9,815.60	46.61	34.40	-90.00	-296.49	-205.89	2,344.68	2,293.42	51.26	45.741		
11,300.00	9,817.00	9,823.51	9,815.60	47.28	34.40	-90.00	-296.49	-205.89	2,410.97	2,359.62	51.35	46.955		
11,400.00	9,817.00	9,823.51	9,815.60	48.01	34.40	-90.00	-296.49	-205.89	2,479.52	2,428.09	51.43	48.213		
11,500.00	9,817.00	9,823.51	9,815.60	48.79	34.40	-90.00	-296.49	-205.89	2,550.15	2,498.64	51.51	49.510		
11,600.00	9,817.00	9,823.51	9,815.60	49.63	34.40	-90.00	-296.49	-205.89	2,622.70	2,571.11	51.58	50.844		
11,700.00	9,817.00	9,823.51	9,815.60	50.51	34.40	-90.00	-296.49	-205.89	2,697.00	2,645.34	51.65	52.212		
11,800.00	9,817.00	9,823.51	9,815.60	51.44	34.40	-90.00	-296.49	-205.89	2,772.91	2,721.19	51.72	53.610		
11,900.00	9,817.00	9,823.51	9,815.60	52.41	34.40	-90.00	-296.49	-205.89	2,850.31	2,798.53	51.79	55.037		
12,000.00	9,817.00	9,823.51	9,815.60	53.42	34.40	-90.00	-296.49	-205.89	2,929.09	2,877.24	51.85	56.490		
12,100.00	9,817.00	14,369.29	12,181.00	54.47	56.51	-143.04	2,129.70	-228.74	2,960.24	2,900.74	59.50	49.750		
12,200.00	9,817.00	14,469.29	12,181.00	55.54	57.61	-143.04	2,229.69	-229.68	2,960.24	2,899.61	60.63	48.828		
12,300.00	9,817.00	14,569.29	12,181.00	56.65	58.73	-143.04	2,329.69	-230.62	2,960.24	2,898.46	61.77	47.921		
12,400.00	9,817.00	14,669.29	12,181.00	57.79	59.89	-143.04	2,429.68	-231.56	2,960.24	2,897.29	62.94	47.030		
12,500.00	9,817.00	14,769.29	12,181.00	58.95	61.06	-143.04	2,529.68	-232.50	2,960.23	2,896.10	64.13	46.156		
12,600.00	9,817.00	14,869.29	12,181.00	60.14	62.26	-143.04	2,629.68	-233.44	2,960.23	2,894.89	65.35	45.301		
12,700.00	9,817.00	14,969.29	12,181.00	61.35	63.48	-143.04	2,729.67	-234.39	2,960.23	2,893.66	66.57	44.466		
12,800.00	9,817.00	15,069.29	12,181.00	62.58	64.71	-143.04	2,829.67	-235.33	2,960.23	2,892.41	67.82	43.649		
12,900.00	9,817.00	15,169.29	12,181.00	63.83	65.97	-143.04	2,929.66	-236.27	2,960.23	2,891.15	69.08	42.852		
13,000.00	9,817.00	15,269.29	12,181.00	65.10	67.24	-143.04	3,029.66	-237.21	2,960.23	2,889.87	70.36	42.075		
13,100.00	9,817.00	15,369.29	12,181.00	66.39	68.53	-143.04	3,129.65	-238.15	2,960.23	2,888.58	71.65	41.317		
13,200.00	9,817.00	15,469.29	12,181.00	67.69	69.83	-143.04	3,229.65	-239.09	2,960.23	2,887.28	72.95	40.577		
13,300.00	9,817.00	15,569.29	12,181.00	69.01	71.15	-143.04	3,329.65	-240.03	2,960.23	2,885.96	74.27	39.857		
13,400.00	9,817.00	15,669.29	12,181.00	70.35	72.48	-143.04	3,429.64	-240.98	2,960.23	2,884.62	75.60	39.155		
13,500.00	9,817.00	15,769.29	12,181.00	71.70	73.82	-143.04	3,529.64	-241.92	2,960.23	2,883.28	76.95	38.471		
13,600.00	9,817.00	15,869.29	12,181.00	73.06	75.18	-143.04	3,629.63	-242.86	2,960.23	2,881.92	78.30	37.805		
13,700.00	9,817.00	15,969.29	12,181.00	74.43	76.55	-143.04	3,729.63	-243.80	2,960.22	2,880.56	79.67	37.157		
13,800.00	9,817.00	16,069.29	12,181.00	75.81	77.93	-143.04	3,829.62	-244.74	2,960.22	2,879.18	81.05	36.526		
13,900.00	9,817.00	16,169.29	12,181.00	77.21	79.32	-143.04	3,929.62	-245.68	2,960.22	2,877.79	82.43	35.911		
14,000.00	9,817.00	16,269.29	12,181.00	78.61	80.72	-143.04	4,029.61	-246.63	2,960.22	2,876.40	83.83	35.314		
14,100.00	9,817.00	16,369.29	12,181.00	80.03	82.13	-143.04	4,129.61	-247.57	2,960.22	2,875.00	85.22	34.734		

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 304H
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 304H	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 #2	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	9,817.00	16,469.29	12,181.00	81.45	83.55	-143.04	4,229.61	-248.51	2,960.22	2,873.59	86.63	34.170		
14,300.00	9,817.00	16,569.29	12,181.00	82.88	84.97	-143.04	4,329.60	-249.45	2,960.22	2,872.17	88.05	33.620		
14,400.00	9,817.00	16,669.29	12,181.00	84.32	86.41	-143.04	4,429.60	-250.39	2,960.22	2,870.75	89.47	33.085		
14,500.00	9,817.00	16,769.29	12,181.00	85.77	87.85	-143.04	4,529.59	-251.33	2,960.22	2,869.31	90.90	32.564		
14,600.00	9,817.00	16,869.29	12,181.00	87.22	89.30	-143.04	4,629.59	-252.28	2,960.22	2,867.88	92.34	32.057		
14,700.00	9,817.00	16,969.29	12,181.00	88.69	90.75	-143.04	4,729.58	-253.22	2,960.22	2,866.43	93.79	31.563		
14,800.00	9,817.00	17,069.29	12,181.00	90.16	92.22	-143.04	4,829.58	-254.16	2,960.22	2,864.98	95.24	31.083		
14,900.00	9,817.00	17,169.29	12,181.00	91.63	93.69	-143.04	4,929.57	-255.10	2,960.21	2,863.52	96.69	30.614		
15,000.00	9,817.00	17,269.29	12,181.00	93.11	95.16	-143.04	5,029.57	-256.04	2,960.21	2,862.06	98.16	30.158		
15,100.00	9,817.00	17,369.29	12,181.00	94.60	96.64	-143.04	5,129.57	-256.98	2,960.21	2,860.59	99.62	29.714		
15,200.00	9,817.00	17,469.29	12,181.00	96.09	98.13	-143.04	5,229.56	-257.92	2,960.21	2,859.12	101.09	29.282		
15,300.00	9,817.00	17,569.29	12,181.00	97.59	99.62	-143.04	5,329.56	-258.87	2,960.21	2,857.64	102.57	28.861		
15,400.00	9,817.00	17,669.29	12,181.00	99.09	101.12	-143.04	5,429.55	-259.81	2,960.21	2,856.17	104.04	28.451		
15,500.00	9,817.00	17,769.29	12,181.00	100.60	102.62	-143.04	5,529.55	-260.75	2,960.21	2,854.68	105.53	28.052		
15,600.00	9,817.00	17,869.29	12,181.00	102.11	104.13	-143.04	5,629.54	-261.69	2,960.21	2,853.19	107.01	27.662		
15,700.00	9,817.00	17,969.29	12,181.00	103.62	105.64	-143.04	5,729.54	-262.63	2,960.21	2,851.70	108.51	27.282		
15,800.00	9,817.00	18,069.29	12,181.00	105.14	107.15	-143.04	5,829.53	-263.57	2,960.21	2,850.21	110.00	26.911		
15,900.00	9,817.00	18,169.29	12,181.00	106.67	108.67	-143.04	5,929.53	-264.52	2,960.21	2,848.71	111.50	26.549		
16,000.00	9,817.00	18,269.29	12,181.00	108.20	110.19	-143.04	6,029.53	-265.46	2,960.21	2,847.20	113.00	26.196		
16,100.00	9,817.00	18,369.29	12,181.00	109.73	111.72	-143.04	6,129.52	-266.40	2,960.20	2,845.69	114.51	25.851		
16,200.00	9,817.00	18,469.29	12,181.00	111.26	113.25	-143.04	6,229.52	-267.34	2,960.20	2,844.19	116.02	25.515		
16,300.00	9,817.00	18,569.29	12,181.00	112.80	114.78	-143.04	6,329.51	-268.28	2,960.20	2,842.67	117.53	25.187		
16,400.00	9,817.00	18,669.29	12,181.00	114.34	116.32	-143.04	6,429.51	-269.22	2,960.20	2,841.16	119.04	24.867		
16,500.00	9,817.00	18,769.29	12,181.00	115.89	117.86	-143.04	6,529.50	-270.17	2,960.20	2,839.65	120.56	24.555		
16,600.00	9,817.00	18,869.29	12,181.00	117.43	119.40	-143.04	6,629.50	-271.11	2,960.20	2,838.13	122.07	24.250		
16,700.00	9,817.00	18,969.29	12,181.00	118.98	120.95	-143.04	6,729.49	-272.05	2,960.20	2,836.61	123.59	23.951		
16,800.00	9,817.00	19,069.29	12,181.00	120.54	122.49	-143.04	6,829.49	-272.99	2,960.20	2,835.08	125.12	23.660		
16,900.00	9,817.00	19,169.29	12,181.00	122.09	124.04	-143.04	6,929.49	-273.93	2,960.20	2,833.56	126.64	23.375		
17,000.00	9,817.00	19,269.29	12,181.00	123.65	125.60	-143.04	7,029.48	-274.87	2,960.20	2,832.03	128.17	23.096		
17,100.00	9,817.00	19,369.29	12,181.00	125.21	127.15	-143.04	7,129.48	-275.81	2,960.20	2,830.50	129.70	22.824		
17,200.00	9,817.00	19,469.29	12,181.00	126.77	128.71	-143.04	7,229.47	-276.76	2,960.20	2,828.96	131.23	22.557		
17,300.00	9,817.00	19,569.29	12,181.00	128.34	130.27	-143.04	7,329.47	-277.70	2,960.19	2,827.43	132.76	22.297		
17,400.00	9,817.00	19,669.29	12,181.00	129.90	131.84	-143.04	7,429.46	-278.64	2,960.19	2,825.90	134.30	22.042		
17,500.00	9,817.00	19,769.29	12,181.00	131.47	133.40	-143.04	7,529.46	-279.58	2,960.19	2,824.36	135.83	21.793		
17,600.00	9,817.00	19,869.29	12,181.00	133.04	134.97	-143.04	7,629.45	-280.52	2,960.19	2,822.82	137.37	21.549		
17,700.00	9,817.00	19,969.29	12,181.00	134.62	136.54	-143.04	7,729.45	-281.46	2,960.19	2,821.28	138.91	21.310		
17,800.00	9,817.00	20,069.29	12,181.00	136.19	138.11	-143.04	7,829.45	-282.41	2,960.19	2,819.74	140.45	21.077		
17,900.00	9,817.00	20,169.29	12,181.00	137.77	139.68	-143.04	7,929.44	-283.35	2,960.19	2,818.20	141.99	20.848		
18,000.00	9,817.00	20,269.29	12,181.00	139.35	141.26	-143.04	8,029.44	-284.29	2,960.19	2,816.65	143.53	20.624		
18,100.00	9,817.00	20,369.29	12,181.00	140.93	142.83	-143.04	8,129.43	-285.23	2,960.19	2,815.11	145.08	20.404		
18,200.00	9,817.00	20,469.29	12,181.00	142.51	144.41	-143.04	8,229.43	-286.17	2,960.19	2,813.56	146.63	20.189		
18,300.00	9,817.00	20,569.29	12,181.00	144.09	145.99	-143.04	8,329.42	-287.11	2,960.19	2,812.01	148.17	19.978		
18,400.00	9,817.00	20,669.29	12,181.00	145.68	147.57	-143.04	8,429.42	-288.06	2,960.18	2,810.46	149.72	19.771		
18,500.00	9,817.00	20,769.29	12,181.00	147.26	149.16	-143.04	8,529.41	-289.00	2,960.18	2,808.91	151.27	19.569		
18,600.00	9,817.00	20,869.29	12,181.00	148.85	150.74	-143.04	8,629.41	-289.94	2,960.18	2,807.36	152.82	19.370		
18,700.00	9,817.00	20,969.29	12,181.00	150.44	152.33	-143.04	8,729.41	-290.88	2,960.18	2,805.81	154.37	19.176		
18,800.00	9,817.00	21,069.29	12,181.00	152.03	153.91	-143.04	8,829.40	-291.82	2,960.18	2,804.26	155.92	18.985		
18,900.00	9,817.00	21,169.29	12,181.00	153.62	155.50	-143.04	8,929.40	-292.76	2,960.18	2,802.71	157.47	18.798		
19,000.00	9,817.00	21,269.29	12,181.00	155.22	157.09	-143.04	9,029.39	-293.70	2,960.18	2,801.15	159.03	18.614		
19,100.00	9,817.00	21,369.29	12,181.00	156.81	158.68	-143.04	9,129.39	-294.65	2,960.18	2,799.60	160.58	18.434		
19,200.00	9,817.00	21,469.29	12,181.00	158.41	160.28	-143.04	9,229.38	-295.59	2,960.18	2,798.04	162.14	18.257		
19,300.00	9,817.00	21,569.29	12,181.00	160.00	161.87	-143.04	9,329.38	-296.53	2,960.18	2,796.48	163.69	18.084		

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 304H
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 304H	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 #2	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
19,400.00	9,817.00	21,669.29	12,181.00	161.60	163.47	-143.04	9,429.37	-297.47	2,960.18	2,794.93	165.25	17.913	
19,500.00	9,817.00	21,769.29	12,181.00	163.20	165.06	-143.04	9,529.37	-298.41	2,960.18	2,793.37	166.80	17.746	
19,600.00	9,817.00	21,869.29	12,181.00	164.80	166.66	-143.04	9,629.37	-299.35	2,960.17	2,791.81	168.36	17.582	
19,700.00	9,817.00	21,969.29	12,181.00	166.40	168.26	-143.04	9,729.36	-300.30	2,960.17	2,790.25	169.92	17.421	
19,800.00	9,817.00	22,069.29	12,181.00	168.00	169.86	-143.04	9,829.36	-301.24	2,960.17	2,788.69	171.48	17.263	
19,900.00	9,817.00	22,169.29	12,181.00	169.60	171.46	-143.04	9,929.35	-302.18	2,960.17	2,787.14	173.04	17.107	
20,000.00	9,817.00	22,269.29	12,181.00	171.21	173.06	-143.04	10,029.35	-303.12	2,960.17	2,785.58	174.60	16.954	
20,032.59	9,817.00	22,301.88	12,181.00	171.73	173.58	-143.04	10,061.93	-303.43	2,960.17	2,785.07	175.10	16.905	

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 304H
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 304H	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 #2	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	-153.90	-75.29	-36.89	83.84					
100.00	100.00	99.40	99.40	0.13	0.12	-153.90	-75.29	-36.89	83.84	83.66	0.18	473.942		
200.00	200.00	199.40	199.40	0.48	0.48	-153.90	-75.29	-36.89	83.84	83.16	0.68	122.779		
300.00	300.00	299.40	299.40	0.84	0.84	-153.90	-75.29	-36.89	83.84	82.65	1.19	70.466		
400.00	400.00	399.40	399.40	1.20	1.20	-153.90	-75.29	-36.89	83.84	82.15	1.70	49.412		
500.00	500.00	499.40	499.40	1.56	1.56	-153.90	-75.29	-36.89	83.84	81.64	2.20	38.045		
600.00	600.00	599.40	599.40	1.92	1.92	-153.90	-75.29	-36.89	83.84	81.13	2.71	30.930		
700.00	700.00	699.40	699.40	2.28	2.27	-153.90	-75.29	-36.89	83.84	80.62	3.22	26.057		
800.00	800.00	799.40	799.40	2.63	2.63	-153.90	-75.29	-36.89	83.84	80.12	3.72	22.510		
900.00	900.00	899.40	899.40	2.99	2.99	-153.90	-75.29	-36.89	83.84	79.61	4.23	19.813		
1,000.00	1,000.00	999.40	999.40	3.35	3.35	-153.90	-75.29	-36.89	83.84	79.10	4.74	17.694		
1,100.00	1,100.00	1,099.40	1,099.40	3.71	3.71	-153.90	-75.29	-36.89	83.84	78.60	5.25	15.984		
1,200.00	1,200.00	1,199.40	1,199.40	4.07	4.07	-153.90	-75.29	-36.89	83.84	78.09	5.75	14.575		
1,300.00	1,300.00	1,299.40	1,299.40	4.43	4.42	-153.90	-75.29	-36.89	83.84	77.58	6.26	13.395		
1,400.00	1,400.00	1,399.40	1,399.40	4.79	4.78	-153.90	-75.29	-36.89	83.84	77.08	6.77	12.391 CC, ES		
1,500.00	1,499.98	1,499.38	1,499.38	5.13	5.14	110.61	-75.29	-36.89	84.44	77.17	7.27	11.621		
1,600.00	1,599.84	1,599.24	1,599.24	5.48	5.50	113.82	-75.29	-36.89	86.42	78.66	7.76	11.135		
1,700.00	1,699.45	1,698.85	1,698.85	5.83	5.86	118.80	-75.29	-36.89	90.30	82.04	8.26	10.933 SF		
1,800.00	1,798.70	1,798.10	1,798.10	6.18	6.21	125.00	-75.29	-36.89	96.79	88.03	8.76	11.048		
1,900.00	1,897.47	1,896.87	1,896.87	6.55	6.57	131.71	-75.29	-36.89	106.58	97.32	9.26	11.507		
2,000.00	1,995.62	1,995.02	1,995.02	6.93	6.92	138.27	-75.29	-36.89	120.22	110.46	9.77	12.311		
2,100.00	2,093.06	2,094.79	2,094.78	7.34	7.27	144.02	-75.66	-35.77	137.18	126.92	10.27	13.363		
2,152.08	2,143.47	2,146.94	2,146.90	7.56	7.44	146.48	-76.18	-34.21	146.88	136.36	10.52	13.957		
2,200.00	2,189.75	2,195.10	2,195.01	7.76	7.60	148.51	-76.85	-32.16	155.94	145.18	10.76	14.493		
2,300.00	2,286.32	2,296.41	2,296.11	8.21	7.95	151.64	-78.89	-25.97	173.84	162.59	11.25	15.447		
2,400.00	2,382.90	2,398.71	2,397.99	8.67	8.30	153.69	-81.81	-17.15	190.05	178.29	11.75	16.170		
2,500.00	2,479.47	2,501.86	2,500.42	9.14	8.67	154.97	-85.61	-5.63	204.30	192.04	12.26	16.668		
2,600.00	2,576.04	2,602.83	2,600.40	9.62	9.03	155.70	-90.03	7.75	216.84	204.07	12.77	16.981		
2,700.00	2,672.62	2,702.03	2,698.60	10.11	9.39	156.31	-94.44	21.09	229.24	215.95	13.29	17.250		
2,800.00	2,769.19	2,801.23	2,796.80	10.60	9.76	156.86	-98.85	34.44	241.66	227.84	13.81	17.496		
2,900.00	2,865.77	2,900.43	2,895.00	11.10	10.13	157.35	-103.25	47.78	254.10	239.76	14.34	17.722		
3,000.00	2,962.34	2,999.63	2,993.20	11.61	10.50	157.80	-107.66	61.13	266.56	251.69	14.87	17.929		
3,100.00	3,058.91	3,098.83	3,091.40	12.12	10.88	158.21	-112.07	74.48	279.03	263.63	15.40	18.120		
3,200.00	3,155.49	3,198.03	3,189.60	12.64	11.26	158.58	-116.48	87.82	291.51	275.58	15.93	18.297		
3,300.00	3,252.06	3,297.23	3,287.80	13.16	11.64	158.93	-120.89	101.17	304.01	287.54	16.47	18.461		
3,400.00	3,348.63	3,396.44	3,386.00	13.68	12.03	159.24	-125.29	114.51	316.52	299.51	17.00	18.613		
3,500.00	3,445.21	3,495.64	3,484.20	14.21	12.42	159.53	-129.70	127.86	329.03	311.49	17.54	18.755		
3,600.00	3,541.78	3,594.84	3,582.40	14.74	12.81	159.80	-134.11	141.21	341.55	323.47	18.08	18.887		
3,700.00	3,638.36	3,694.04	3,680.60	15.27	13.20	160.05	-138.52	154.55	354.08	335.46	18.63	19.011		
3,800.00	3,734.93	3,793.24	3,778.80	15.80	13.60	160.29	-142.92	167.90	366.62	347.45	19.17	19.127		
3,900.00	3,831.50	3,892.44	3,877.00	16.33	13.99	160.51	-147.33	181.24	379.16	359.45	19.71	19.236		
4,000.00	3,928.08	3,991.64	3,975.20	16.87	14.39	160.71	-151.74	194.59	391.71	371.45	20.26	19.338		
4,100.00	4,024.65	4,090.84	4,073.40	17.41	14.79	160.90	-156.15	207.94	404.26	383.46	20.80	19.434		
4,200.00	4,121.22	4,190.04	4,171.60	17.95	15.19	161.08	-160.55	221.28	416.81	395.47	21.35	19.525		
4,300.00	4,217.80	4,289.24	4,269.80	18.49	15.59	161.25	-164.96	234.63	429.37	407.48	21.89	19.611		
4,400.00	4,314.37	4,388.44	4,368.00	19.03	16.00	161.41	-169.37	247.97	441.94	419.49	22.44	19.692		
4,500.00	4,410.95	4,487.64	4,466.20	19.58	16.40	161.56	-173.78	261.32	454.50	431.51	22.99	19.769		
4,600.00	4,507.52	4,586.84	4,564.40	20.12	16.80	161.71	-178.18	274.67	467.07	443.53	23.54	19.842		
4,700.00	4,604.09	4,686.04	4,662.59	20.66	17.21	161.84	-182.59	288.01	479.64	455.55	24.09	19.911		
4,800.00	4,700.67	4,785.24	4,760.79	21.21	17.61	161.97	-187.00	301.36	492.22	467.58	24.64	19.977		
4,900.00	4,797.24	4,884.44	4,858.99	21.76	18.02	162.09	-191.41	314.70	504.79	479.60	25.19	20.040		
5,000.00	4,893.81	4,983.64	4,957.19	22.30	18.43	162.21	-195.82	328.05	517.37	491.63	25.74	20.100		

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 304H
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 304H	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 #2	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				
5,100.00	4,990.39	5,082.84	5,055.39	22.85	18.84	162.32	-200.22	341.40	529.95	503.66	26.29	20.157				
5,200.00	5,086.96	5,182.04	5,153.59	23.40	19.25	162.43	-204.63	354.74	542.53	515.69	26.84	20.211				
5,300.00	5,183.54	5,281.24	5,251.79	23.95	19.66	162.53	-209.04	368.09	555.12	527.72	27.39	20.264				
5,400.00	5,280.11	5,380.44	5,349.99	24.50	20.07	162.62	-213.45	381.43	567.70	539.76	27.95	20.313				
5,500.00	5,376.68	5,479.64	5,448.19	25.05	20.48	162.72	-217.85	394.78	580.29	551.79	28.50	20.361				
5,600.00	5,473.26	5,578.84	5,546.39	25.60	20.89	162.80	-222.26	408.12	592.88	563.83	29.05	20.407				
5,700.00	5,569.83	5,678.04	5,644.59	26.15	21.30	162.89	-226.67	421.47	605.47	575.86	29.61	20.451				
5,800.00	5,666.41	5,777.25	5,742.79	26.70	21.71	162.97	-231.08	434.82	618.06	587.90	30.16	20.493				
5,900.00	5,762.98	5,876.45	5,840.99	27.26	22.12	163.05	-235.48	448.16	630.65	599.94	30.71	20.533				
6,000.00	5,859.55	5,975.65	5,939.19	27.81	22.53	163.12	-239.89	461.51	643.25	611.98	31.27	20.572				
6,100.00	5,956.13	6,074.85	6,037.39	28.36	22.95	163.20	-244.30	474.85	655.84	624.02	31.82	20.609				
6,200.00	6,052.70	6,174.05	6,135.59	28.92	23.36	163.26	-248.71	488.20	668.44	636.06	32.38	20.645				
6,300.00	6,149.27	6,273.25	6,233.79	29.47	23.77	163.33	-253.11	501.55	681.03	648.10	32.93	20.680				
6,400.00	6,245.85	6,372.45	6,331.99	30.02	24.19	163.40	-257.52	514.89	693.63	660.14	33.49	20.713				
6,500.00	6,342.42	6,471.65	6,430.19	30.58	24.60	163.46	-261.93	528.24	706.23	672.19	34.04	20.746				
6,600.00	6,439.00	6,570.85	6,528.39	31.13	25.02	163.52	-266.34	541.58	718.83	684.23	34.60	20.777				
6,700.00	6,535.57	6,670.05	6,626.59	31.69	25.43	163.58	-270.75	554.93	731.43	696.27	35.15	20.807				
6,800.00	6,632.14	6,769.25	6,724.79	32.24	25.84	163.63	-275.15	568.28	744.03	708.32	35.71	20.836				
6,900.00	6,728.72	6,863.90	6,818.50	32.80	26.24	163.69	-279.33	580.93	756.72	720.47	36.25	20.876				
7,000.00	6,825.29	6,948.00	6,901.94	33.35	26.58	163.78	-282.60	590.83	770.89	734.15	36.73	20.985				
7,100.00	6,921.86	7,031.55	6,985.06	33.91	26.91	163.94	-285.28	598.94	786.98	749.78	37.20	21.156				
7,200.00	7,018.44	7,114.51	7,067.74	34.46	27.22	164.15	-287.38	605.29	804.99	767.34	37.64	21.386				
7,300.00	7,115.01	7,200.00	7,153.09	35.02	27.53	164.42	-288.95	610.04	824.91	786.83	38.08	21.662				
7,400.00	7,211.59	7,278.31	7,231.34	35.57	27.81	164.70	-289.86	612.80	846.71	808.25	38.46	22.017				
7,497.28	7,305.53	7,356.84	7,309.86	36.11	28.07	165.03	-290.27	614.04	869.73	830.91	38.82	22.402				
7,500.00	7,308.16	7,359.03	7,312.05	36.13	28.08	165.04	-290.27	614.05	870.40	831.56	38.83	22.414				
7,600.00	7,405.19	7,451.57	7,404.59	36.66	28.37	165.54	-290.29	614.11	893.75	854.47	39.28	22.753				
7,700.00	7,503.00	7,549.39	7,502.40	37.16	28.69	165.97	-290.29	614.11	913.91	874.14	39.76	22.984				
7,800.00	7,601.48	7,647.86	7,600.88	37.61	29.00	166.31	-290.29	614.11	930.76	890.51	40.24	23.128				
7,900.00	7,700.51	7,746.89	7,699.91	38.02	29.32	166.57	-290.29	614.11	944.27	903.55	40.72	23.188				
8,000.00	7,799.96	7,846.34	7,799.36	38.39	29.64	166.76	-290.29	614.11	954.42	913.22	41.20	23.165				
8,100.00	7,899.71	7,946.09	7,899.11	38.73	29.96	166.89	-290.29	614.11	961.19	919.52	41.68	23.064				
8,200.00	7,999.65	8,046.03	7,999.05	39.02	30.28	166.95	-290.29	614.11	964.57	922.43	42.15	22.887				
8,249.36	8,049.00	8,095.38	8,048.40	39.15	30.44	-96.44	-290.29	614.11	964.99	922.61	42.37	22.774				
8,300.00	8,099.64	8,146.02	8,099.04	39.28	30.61	-96.44	-290.29	614.11	964.99	922.38	42.60	22.650				
8,400.00	8,199.64	8,246.02	8,199.04	39.54	30.93	-96.44	-290.29	614.11	964.99	921.92	43.06	22.410				
8,500.00	8,299.64	8,346.02	8,299.04	39.79	31.26	-96.44	-290.29	614.11	964.99	921.47	43.52	22.174				
8,600.00	8,399.64	8,446.02	8,399.04	40.05	31.58	-96.44	-290.29	614.11	964.99	921.01	43.98	21.943				
8,700.00	8,499.64	8,546.02	8,499.04	40.31	31.91	-96.44	-290.29	614.11	964.99	920.55	44.44	21.716				
8,800.00	8,599.64	8,646.02	8,599.04	40.57	32.24	-96.44	-290.29	614.11	964.99	920.09	44.90	21.493				
8,900.00	8,699.64	8,746.02	8,699.04	40.84	32.57	-96.44	-290.29	614.11	964.99	919.63	45.36	21.274				
9,000.00	8,799.64	8,846.02	8,799.04	41.10	32.90	-96.44	-290.29	614.11	964.99	919.16	45.82	21.059				
9,100.00	8,899.64	8,946.02	8,899.04	41.37	33.23	-96.44	-290.29	614.11	964.99	918.70	46.29	20.848				
9,200.00	8,999.64	9,046.02	8,999.04	41.64	33.56	-96.44	-290.29	614.11	964.99	918.23	46.75	20.641				
9,300.00	9,099.64	9,146.02	9,099.04	41.91	33.89	-96.44	-290.29	614.11	964.99	917.77	47.22	20.437				
9,400.00	9,199.64	9,246.02	9,199.04	42.18	34.22	-96.44	-290.29	614.11	964.99	917.30	47.68	20.237				
9,444.40	9,244.04	9,290.42	9,243.44	42.30	34.36	-96.44	-290.29	614.11	964.99	917.10	47.89	20.150				
9,450.00	9,249.64	9,296.02	9,249.04	42.31	34.38	-95.90	-290.29	614.11	964.99	917.07	47.92	20.139				
9,500.00	9,299.56	9,345.94	9,298.96	42.44	34.55	-96.03	-290.29	614.11	965.27	917.11	48.16	20.044				
9,550.00	9,349.05	9,395.43	9,348.45	42.57	34.71	-96.37	-290.29	614.11	966.03	917.62	48.41	19.956				
9,600.00	9,397.74	9,444.12	9,397.14	42.69	34.88	-96.88	-290.29	614.11	967.37	918.70	48.67	19.877				
9,650.00	9,445.26	9,491.64	9,444.66	42.80	35.03	-97.54	-290.29	614.11	969.42	920.48	48.93	19.810				

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 304H
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 304H	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 #2	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		
9,700.00	9,491.25	9,537.63	9,490.65	42.91	35.19	-98.31	-290.29	614.11	972.35	923.14	49.21	19.760		
9,750.00	9,535.36	9,581.74	9,534.76	43.00	35.33	-99.11	-290.29	614.11	976.39	926.90	49.49	19.729		
9,800.00	9,577.25	9,623.63	9,576.65	43.08	35.47	-99.91	-290.29	614.11	981.75	931.97	49.77	19.724		
9,850.00	9,616.61	9,662.99	9,616.01	43.15	35.60	-100.62	-290.29	614.11	988.67	938.61	50.06	19.749		
9,900.00	9,653.13	9,699.51	9,652.53	43.21	35.73	-101.18	-290.29	614.11	997.40	947.05	50.35	19.810		
9,950.00	9,686.53	9,732.91	9,685.93	43.27	35.84	-101.53	-290.29	614.11	1,008.14	957.51	50.63	19.911		
10,000.00	9,716.57	9,762.95	9,715.97	43.31	35.94	-101.59	-290.29	614.11	1,021.06	970.15	50.91	20.056		
10,050.00	9,743.01	9,789.40	9,742.41	43.35	36.03	-101.31	-290.29	614.11	1,036.29	985.12	51.18	20.248		
10,100.00	9,765.66	9,812.04	9,765.06	43.38	36.10	-100.62	-290.29	614.11	1,053.90	1,002.47	51.43	20.491		
10,150.00	9,784.34	9,830.72	9,783.74	43.41	36.16	-99.48	-290.29	614.11	1,073.87	1,022.21	51.67	20.785		
10,200.00	9,798.90	9,845.28	9,798.30	43.43	36.21	-97.83	-290.29	614.11	1,096.15	1,044.27	51.88	21.130		
10,250.00	9,809.24	9,855.62	9,808.64	43.47	36.25	-95.64	-290.29	614.11	1,120.58	1,068.52	52.06	21.524		
10,300.00	9,815.28	9,861.66	9,814.68	43.50	36.27	-92.90	-290.29	614.11	1,146.97	1,094.75	52.22	21.966		
10,344.40	9,817.00	9,863.38	9,816.40	43.54	36.27	-90.00	-290.29	614.11	1,171.84	1,119.51	52.33	22.393		
10,400.00	9,817.00	9,863.38	9,816.40	43.61	36.27	-90.00	-290.29	614.11	1,204.59	1,152.14	52.45	22.966		
10,500.00	9,817.00	9,863.38	9,816.40	43.77	36.27	-90.00	-290.29	614.11	1,267.52	1,214.88	52.64	24.077		
10,600.00	9,817.00	9,863.38	9,816.40	43.98	36.27	-90.00	-290.29	614.11	1,334.98	1,282.17	52.81	25.280		
10,700.00	9,817.00	9,863.38	9,816.40	44.25	36.27	-90.00	-290.29	614.11	1,406.32	1,353.37	52.94	26.563		
10,800.00	9,817.00	9,863.38	9,816.40	44.59	36.27	-90.00	-290.29	614.11	1,480.98	1,427.92	53.06	27.913		
10,900.00	9,817.00	9,863.38	9,816.40	44.99	36.27	-90.00	-290.29	614.11	1,558.48	1,505.33	53.15	29.322		
11,000.00	9,817.00	9,863.38	9,816.40	45.47	36.27	-90.00	-290.29	614.11	1,638.42	1,585.19	53.23	30.781		
11,100.00	9,817.00	9,863.38	9,816.40	46.01	36.27	-90.00	-290.29	614.11	1,720.46	1,667.16	53.29	32.283		
11,200.00	9,817.00	9,863.38	9,816.40	46.61	36.27	-90.00	-290.29	614.11	1,804.31	1,750.96	53.35	33.822		
11,300.00	9,817.00	9,863.38	9,816.40	47.28	36.27	-90.00	-290.29	614.11	1,889.73	1,836.34	53.39	35.393		
11,400.00	9,817.00	9,863.38	9,816.40	48.01	36.27	-90.00	-290.29	614.11	1,976.53	1,923.09	53.43	36.992		
11,500.00	9,817.00	9,863.38	9,816.40	48.79	36.27	-90.00	-290.29	614.11	2,064.51	2,011.05	53.46	38.614		
11,600.00	9,817.00	9,863.38	9,816.40	49.63	36.27	-90.00	-290.29	614.11	2,153.55	2,100.06	53.49	40.258		
11,700.00	9,817.00	9,863.38	9,816.40	50.51	36.27	-90.00	-290.29	614.11	2,243.51	2,189.99	53.52	41.919		
11,800.00	9,817.00	9,863.38	9,816.40	51.44	36.27	-90.00	-290.29	614.11	2,334.29	2,280.75	53.54	43.597		
11,900.00	9,817.00	9,863.38	9,816.40	52.41	36.27	-90.00	-290.29	614.11	2,425.79	2,372.23	53.56	45.289		
12,000.00	9,817.00	14,220.87	12,092.00	53.42	55.74	-157.13	2,037.41	592.16	2,469.76	2,418.04	51.71	47.758		
12,100.00	9,817.00	14,320.87	12,092.00	54.47	56.81	-157.13	2,137.41	591.22	2,469.76	2,417.14	52.62	46.936		
12,200.00	9,817.00	14,420.87	12,092.00	55.54	57.89	-157.13	2,237.40	590.28	2,469.76	2,416.21	53.54	46.126		
12,300.00	9,817.00	14,520.87	12,092.00	56.65	59.01	-157.13	2,337.40	589.33	2,469.76	2,415.27	54.49	45.329		
12,400.00	9,817.00	14,620.87	12,092.00	57.79	60.15	-157.13	2,437.39	588.39	2,469.76	2,414.31	55.44	44.545		
12,500.00	9,817.00	14,720.87	12,092.00	58.95	61.31	-157.13	2,537.39	587.45	2,469.76	2,413.34	56.42	43.775		
12,600.00	9,817.00	14,820.87	12,092.00	60.14	62.49	-157.13	2,637.38	586.50	2,469.76	2,412.35	57.41	43.020		
12,700.00	9,817.00	14,920.87	12,092.00	61.35	63.69	-157.13	2,737.38	585.56	2,469.76	2,411.34	58.41	42.280		
12,800.00	9,817.00	15,020.87	12,092.00	62.58	64.92	-157.13	2,837.38	584.62	2,469.76	2,410.32	59.43	41.556		
12,900.00	9,817.00	15,120.87	12,092.00	63.83	66.16	-157.13	2,937.37	583.68	2,469.76	2,409.29	60.46	40.847		
13,000.00	9,817.00	15,220.87	12,092.00	65.10	67.42	-157.13	3,037.37	582.73	2,469.76	2,408.25	61.51	40.153		
13,100.00	9,817.00	15,320.87	12,092.00	66.39	68.70	-157.13	3,137.36	581.79	2,469.76	2,407.19	62.56	39.476		
13,200.00	9,817.00	15,420.87	12,092.00	67.69	69.99	-157.13	3,237.36	580.85	2,469.76	2,406.13	63.63	38.815		
13,300.00	9,817.00	15,520.87	12,092.00	69.01	71.30	-157.13	3,337.35	579.90	2,469.76	2,405.05	64.70	38.170		
13,400.00	9,817.00	15,620.87	12,092.00	70.35	72.62	-157.13	3,437.35	578.96	2,469.76	2,403.97	65.79	37.540		
13,500.00	9,817.00	15,720.87	12,092.00	71.70	73.95	-157.13	3,537.34	578.02	2,469.76	2,402.87	66.89	36.925		
13,600.00	9,817.00	15,820.87	12,092.00	73.06	75.30	-157.13	3,637.34	577.08	2,469.76	2,401.77	67.99	36.325		
13,700.00	9,817.00	15,920.87	12,092.00	74.43	76.66	-157.13	3,737.34	576.13	2,469.76	2,400.66	69.10	35.741		
13,800.00	9,817.00	16,020.87	12,092.00	75.81	78.03	-157.13	3,837.33	575.19	2,469.76	2,399.54	70.22	35.171		
13,900.00	9,817.00	16,120.87	12,092.00	77.21	79.41	-157.13	3,937.33	574.25	2,469.76	2,398.41	71.35	34.615		
14,000.00	9,817.00	16,220.87	12,092.00	78.61	80.80	-157.13	4,037.32	573.30	2,469.76	2,397.27	72.48	34.073		
14,100.00	9,817.00	16,320.87	12,092.00	80.03	82.20	-157.13	4,137.32	572.36	2,469.76	2,396.13	73.63	33.545		

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 304H
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 304H	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 #2	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		
14,200.00	9,817.00	16,420.87	12,092.00	81.45	83.61	-157.13	4,237.31	571.42	2,469.76	2,394.98	74.77	33.029		
14,300.00	9,817.00	16,520.87	12,092.00	82.88	85.03	-157.13	4,337.31	570.48	2,469.76	2,393.83	75.93	32.528		
14,400.00	9,817.00	16,620.87	12,092.00	84.32	86.46	-157.13	4,437.30	569.53	2,469.76	2,392.67	77.09	32.039		
14,500.00	9,817.00	16,720.87	12,092.00	85.77	87.89	-157.13	4,537.30	568.59	2,469.76	2,391.51	78.25	31.562		
14,600.00	9,817.00	16,820.87	12,092.00	87.22	89.33	-157.13	4,637.30	567.65	2,469.76	2,390.33	79.42	31.096		
14,700.00	9,817.00	16,920.87	12,092.00	88.69	90.78	-157.13	4,737.29	566.70	2,469.76	2,389.16	80.60	30.642		
14,800.00	9,817.00	17,020.87	12,092.00	90.16	92.24	-157.13	4,837.29	565.76	2,469.76	2,387.97	81.78	30.199		
14,900.00	9,817.00	17,120.87	12,092.00	91.63	93.70	-157.13	4,937.28	564.82	2,469.76	2,386.79	82.97	29.768		
15,000.00	9,817.00	17,220.87	12,092.00	93.11	95.17	-157.13	5,037.28	563.87	2,469.76	2,385.60	84.16	29.348		
15,100.00	9,817.00	17,320.87	12,092.00	94.60	96.64	-157.13	5,137.27	562.93	2,469.76	2,384.41	85.35	28.937		
15,200.00	9,817.00	17,420.87	12,092.00	96.09	98.12	-157.13	5,237.27	561.99	2,469.76	2,383.21	86.55	28.536		
15,300.00	9,817.00	17,520.87	12,092.00	97.59	99.61	-157.13	5,337.26	561.05	2,469.76	2,382.01	87.75	28.145		
15,400.00	9,817.00	17,620.87	12,092.00	99.09	101.10	-157.13	5,437.26	560.10	2,469.76	2,380.80	88.95	27.764		
15,500.00	9,817.00	17,720.87	12,092.00	100.60	102.60	-157.13	5,537.26	559.16	2,469.76	2,379.59	90.16	27.392		
15,600.00	9,817.00	17,820.87	12,092.00	102.11	104.10	-157.13	5,637.25	558.22	2,469.76	2,378.38	91.37	27.029		
15,700.00	9,817.00	17,920.87	12,092.00	103.62	105.60	-157.13	5,737.25	557.27	2,469.76	2,377.17	92.59	26.674		
15,800.00	9,817.00	18,020.87	12,092.00	105.14	107.11	-157.13	5,837.24	556.33	2,469.76	2,375.95	93.81	26.328		
15,900.00	9,817.00	18,120.87	12,092.00	106.67	108.62	-157.13	5,937.24	555.39	2,469.76	2,374.73	95.03	25.989		
16,000.00	9,817.00	18,220.87	12,092.00	108.20	110.14	-157.13	6,037.23	554.45	2,469.76	2,373.50	96.25	25.659		
16,100.00	9,817.00	18,320.87	12,092.00	109.73	111.66	-157.13	6,137.23	553.50	2,469.76	2,372.28	97.48	25.336		
16,200.00	9,817.00	18,420.87	12,092.00	111.26	113.19	-157.13	6,237.22	552.56	2,469.76	2,371.05	98.71	25.021		
16,300.00	9,817.00	18,520.87	12,092.00	112.80	114.72	-157.13	6,337.22	551.62	2,469.76	2,369.82	99.94	24.713		
16,400.00	9,817.00	18,620.87	12,092.00	114.34	116.25	-157.13	6,437.22	550.67	2,469.76	2,368.58	101.17	24.411		
16,500.00	9,817.00	18,720.87	12,092.00	115.89	117.78	-157.13	6,537.21	549.73	2,469.76	2,367.35	102.41	24.117		
16,600.00	9,817.00	18,820.87	12,092.00	117.43	119.32	-157.13	6,637.21	548.79	2,469.76	2,366.11	103.65	23.829		
16,700.00	9,817.00	18,920.87	12,092.00	118.98	120.86	-157.13	6,737.20	547.85	2,469.76	2,364.87	104.89	23.547		
16,800.00	9,817.00	19,020.87	12,092.00	120.54	122.41	-157.13	6,837.20	546.90	2,469.76	2,363.63	106.13	23.271		
16,900.00	9,817.00	19,120.87	12,092.00	122.09	123.96	-157.13	6,937.19	545.96	2,469.76	2,362.38	107.37	23.002		
17,000.00	9,817.00	19,220.87	12,092.00	123.65	125.50	-157.13	7,037.19	545.02	2,469.76	2,361.14	108.62	22.738		
17,100.00	9,817.00	19,320.87	12,092.00	125.21	127.06	-157.13	7,137.18	544.07	2,469.76	2,359.89	109.86	22.480		
17,200.00	9,817.00	19,420.87	12,092.00	126.77	128.61	-157.13	7,237.18	543.13	2,469.76	2,358.64	111.11	22.228		
17,300.00	9,817.00	19,520.87	12,092.00	128.34	130.17	-157.13	7,337.18	542.19	2,469.76	2,357.39	112.36	21.980		
17,400.00	9,817.00	19,620.87	12,092.00	129.90	131.73	-157.13	7,437.17	541.25	2,469.76	2,356.14	113.62	21.738		
17,500.00	9,817.00	19,720.87	12,092.00	131.47	133.29	-157.13	7,537.17	540.30	2,469.76	2,354.89	114.87	21.501		
17,600.00	9,817.00	19,820.87	12,092.00	133.04	134.85	-157.13	7,637.16	539.36	2,469.76	2,353.63	116.12	21.269		
17,700.00	9,817.00	19,920.87	12,092.00	134.62	136.42	-157.13	7,737.16	538.42	2,469.76	2,352.38	117.38	21.041		
17,800.00	9,817.00	20,020.87	12,092.00	136.19	137.99	-157.13	7,837.15	537.47	2,469.75	2,351.12	118.63	20.818		
17,900.00	9,817.00	20,120.87	12,092.00	137.77	139.56	-157.13	7,937.15	536.53	2,469.75	2,349.86	119.89	20.600		
18,000.00	9,817.00	20,220.87	12,092.00	139.35	141.13	-157.13	8,037.14	535.59	2,469.75	2,348.60	121.15	20.386		
18,100.00	9,817.00	20,320.87	12,092.00	140.93	142.70	-157.13	8,137.14	534.65	2,469.75	2,347.34	122.41	20.176		
18,200.00	9,817.00	20,420.87	12,092.00	142.51	144.28	-157.13	8,237.14	533.70	2,469.75	2,346.08	123.68	19.970		
18,300.00	9,817.00	20,520.87	12,092.00	144.09	145.86	-157.13	8,337.13	532.76	2,469.75	2,344.82	124.94	19.768		
18,400.00	9,817.00	20,620.87	12,092.00	145.68	147.43	-157.13	8,437.13	531.82	2,469.75	2,343.55	126.20	19.570		
18,500.00	9,817.00	20,720.87	12,092.00	147.26	149.01	-157.13	8,537.12	530.87	2,469.75	2,342.29	127.46	19.376		
18,600.00	9,817.00	20,820.87	12,092.00	148.85	150.60	-157.13	8,637.12	529.93	2,469.75	2,341.02	128.73	19.186		
18,700.00	9,817.00	20,920.87	12,092.00	150.44	152.18	-157.13	8,737.11	528.99	2,469.75	2,339.76	130.00	18.999		
18,800.00	9,817.00	21,020.87	12,092.00	152.03	153.76	-157.13	8,837.11	528.05	2,469.75	2,338.49	131.27	18.815		
18,900.00	9,817.00	21,120.87	12,092.00	153.62	155.35	-157.13	8,937.10	527.10	2,469.75	2,337.22	132.53	18.635		
19,000.00	9,817.00	21,220.87	12,092.00	155.22	156.94	-157.13	9,037.10	526.16	2,469.75	2,335.95	133.80	18.458		
19,100.00	9,817.00	21,320.87	12,092.00	156.81	158.53	-157.13	9,137.10	525.22	2,469.75	2,334.68	135.07	18.285		
19,200.00	9,817.00	21,420.87	12,092.00	158.41	160.12	-157.13	9,237.09	524.27	2,469.75	2,333.42	136.34	18.115		
19,300.00	9,817.00	21,520.87	12,092.00	160.00	161.71	-157.13	9,337.09	523.33	2,469.75	2,332.15	137.61	17.948		

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 304H
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 304H	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 #2	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
19,400.00	9,817.00	21,620.87	12,092.00	161.60	163.30	-157.13	9,437.08	522.39	2,469.75	2,330.87	138.88	17.783	
19,500.00	9,817.00	21,720.87	12,092.00	163.20	164.89	-157.13	9,537.08	521.44	2,469.75	2,329.60	140.15	17.622	
19,600.00	9,817.00	21,820.87	12,092.00	164.80	166.49	-157.13	9,637.07	520.50	2,469.75	2,328.33	141.43	17.463	
19,700.00	9,817.00	21,920.87	12,092.00	166.40	168.09	-157.13	9,737.07	519.56	2,469.75	2,327.06	142.70	17.308	
19,800.00	9,817.00	22,020.87	12,092.00	168.00	169.68	-157.13	9,837.06	518.62	2,469.75	2,325.79	143.97	17.155	
19,900.00	9,817.00	22,120.87	12,092.00	169.60	171.28	-157.13	9,937.06	517.67	2,469.75	2,324.51	145.24	17.004	
20,000.00	9,817.00	22,220.87	12,092.00	171.21	172.88	-157.13	10,037.06	516.73	2,469.75	2,323.24	146.52	16.857	
20,032.59	9,817.00	22,253.45	12,092.00	171.73	173.40	-157.13	10,069.64	516.42	2,469.75	2,322.82	146.93	16.809	

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 304H
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 304H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 806H - OH - Plan #2		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	76.03							
100.00	100.00	99.30	99.30	0.13	0.12	-170.99	-75.09	-11.90	76.03	75.85	0.18	429.982				
200.00	200.00	199.30	199.30	0.48	0.48	-170.99	-75.09	-11.90	76.03	75.34	0.68	111.376				
300.00	300.00	299.30	299.30	0.84	0.84	-170.99	-75.09	-11.90	76.03	74.84	1.19	63.911				
400.00	400.00	399.30	399.30	1.20	1.20	-170.99	-75.09	-11.90	76.03	74.33	1.70	44.813				
500.00	500.00	499.30	499.30	1.56	1.56	-170.99	-75.09	-11.90	76.03	73.82	2.20	34.503				
600.00	600.00	599.30	599.30	1.92	1.92	-170.99	-75.09	-11.90	76.03	73.32	2.71	28.050				
700.00	700.00	699.30	699.30	2.28	2.27	-170.99	-75.09	-11.90	76.03	72.81	3.22	23.630				
800.00	800.00	799.30	799.30	2.63	2.63	-170.99	-75.09	-11.90	76.03	72.30	3.72	20.414				
900.00	900.00	899.30	899.30	2.99	2.99	-170.99	-75.09	-11.90	76.03	71.80	4.23	17.968				
1,000.00	1,000.00	999.30	999.30	3.35	3.35	-170.99	-75.09	-11.90	76.03	71.29	4.74	16.045				
1,100.00	1,100.00	1,099.30	1,099.30	3.71	3.71	-170.99	-75.09	-11.90	76.03	70.78	5.25	14.495				
1,200.00	1,200.00	1,199.30	1,199.30	4.07	4.07	-170.99	-75.09	-11.90	76.03	70.27	5.75	13.217				
1,300.00	1,300.00	1,299.30	1,299.30	4.43	4.42	-170.99	-75.09	-11.90	76.03	69.77	6.26	12.147				
1,400.00	1,400.00	1,399.30	1,399.30	4.79	4.78	-170.99	-75.09	-11.90	76.03	69.26	6.77	11.237 CC				
1,500.00	1,499.98	1,499.28	1,499.28	5.13	5.14	93.72	-75.09	-11.90	76.12	68.85	7.27	10.476				
1,600.00	1,599.84	1,599.14	1,599.14	5.48	5.50	97.61	-75.09	-11.90	76.64	68.88	7.76	9.874				
1,700.00	1,699.45	1,699.33	1,699.31	5.83	5.85	102.70	-75.31	-10.19	77.90	69.65	8.25	9.437				
1,800.00	1,798.70	1,799.77	1,799.61	6.18	6.19	107.58	-75.99	-5.00	79.81	71.06	8.75	9.124				
1,900.00	1,897.47	1,900.46	1,899.91	6.55	6.54	112.17	-77.13	3.71	82.30	73.06	9.25	8.901				
2,000.00	1,995.62	2,001.40	2,000.09	6.93	6.90	116.44	-78.72	15.94	85.33	75.58	9.76	8.747				
2,100.00	2,093.06	2,102.59	2,100.01	7.34	7.27	120.35	-80.78	31.70	88.83	78.56	10.27	8.647				
2,152.08	2,143.47	2,155.38	2,151.91	7.56	7.47	122.25	-82.04	41.32	90.81	80.27	10.55	8.611				
2,200.00	2,189.75	2,204.05	2,199.58	7.76	7.65	123.74	-83.30	51.01	92.50	81.70	10.80	8.566				
2,300.00	2,286.32	2,305.84	2,298.72	8.21	8.06	125.36	-86.29	73.89	94.70	83.36	11.34	8.350				
2,400.00	2,382.90	2,407.33	2,396.71	8.67	8.49	125.19	-89.70	100.07	94.97	83.05	11.92	7.969				
2,500.00	2,479.47	2,507.32	2,492.97	9.14	8.93	124.49	-93.21	126.90	94.64	82.11	12.53	7.551				
2,600.00	2,576.04	2,607.31	2,589.24	9.62	9.39	123.78	-96.71	153.72	94.33	81.16	13.17	7.164				
2,700.00	2,672.62	2,707.31	2,685.50	10.11	9.86	123.07	-100.21	180.55	94.03	80.21	13.81	6.807				
2,800.00	2,769.19	2,807.30	2,781.76	10.60	10.34	122.35	-103.71	207.38	93.74	79.27	14.47	6.476				
2,900.00	2,865.77	2,907.29	2,878.03	11.10	10.83	121.63	-107.21	234.20	93.47	78.32	15.15	6.170				
3,000.00	2,962.34	3,007.28	2,974.29	11.61	11.33	120.91	-110.71	261.03	93.21	77.38	15.83	5.887				
3,100.00	3,058.91	3,107.28	3,070.55	12.12	11.84	120.18	-114.21	287.86	92.97	76.44	16.53	5.624				
3,200.00	3,155.49	3,207.27	3,166.82	12.64	12.35	119.45	-117.71	314.68	92.75	75.51	17.24	5.381				
3,300.00	3,252.06	3,307.26	3,263.08	13.16	12.87	118.71	-121.22	341.51	92.54	74.59	17.95	5.155				
3,400.00	3,348.63	3,407.26	3,359.34	13.68	13.39	117.97	-124.72	368.34	92.34	73.67	18.68	4.945				
3,500.00	3,445.21	3,507.25	3,455.61	14.21	13.91	117.23	-128.22	395.16	92.17	72.76	19.41	4.749				
3,600.00	3,541.78	3,607.24	3,551.87	14.74	14.44	116.49	-131.72	421.99	92.00	71.86	20.15	4.567				
3,700.00	3,638.36	3,707.23	3,648.13	15.27	14.98	115.74	-135.22	448.81	91.85	70.96	20.89	4.397				
3,800.00	3,734.93	3,807.23	3,744.40	15.80	15.52	114.99	-138.72	475.64	91.72	70.08	21.64	4.238				
3,900.00	3,831.50	3,907.22	3,840.66	16.33	16.06	114.24	-142.22	502.47	91.60	69.20	22.40	4.089				
4,000.00	3,928.08	4,007.21	3,936.92	16.87	16.60	113.48	-145.72	529.29	91.50	68.34	23.17	3.950				
4,100.00	4,024.65	4,107.20	4,033.19	17.41	17.14	112.73	-149.23	556.12	91.42	67.48	23.94	3.819				
4,200.00	4,121.22	4,207.20	4,129.45	17.95	17.69	111.97	-152.73	582.95	91.35	66.64	24.71	3.696				
4,300.00	4,217.80	4,307.19	4,225.71	18.49	18.24	111.21	-156.23	609.77	91.30	65.80	25.49	3.581				
4,400.00	4,314.37	4,407.18	4,321.98	19.03	18.79	110.46	-159.73	636.60	91.26	64.98	26.28	3.473				
4,500.00	4,410.95	4,507.18	4,418.24	19.58	19.34	109.70	-163.23	663.43	91.24	64.17	27.06	3.371				
4,582.65	4,490.76	4,589.82	4,497.80	20.02	19.80	109.07	-166.13	685.60	91.23	63.51	27.72	3.291				
4,600.00	4,507.52	4,607.17	4,514.50	20.12	19.89	108.94	-166.73	690.25	91.23	63.38	27.86	3.275				
4,700.00	4,604.09	4,707.16	4,610.77	20.66	20.45	108.18	-170.23	717.08	91.24	62.59	28.65	3.185				
4,800.00	4,700.67	4,807.15	4,707.03	21.21	21.00	107.42	-173.74	743.90	91.27	61.82	29.45	3.099				
4,900.00	4,797.24	4,907.15	4,803.29	21.76	21.56	106.66	-177.24	770.73	91.31	61.06	30.25	3.019				

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 304H
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 304H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 806H - OH - Plan #2		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	4,893.81	5,007.14	4,899.56	22.30	22.12	105.91	-180.74	797.56	91.37	60.32	31.05	2.942				
5,100.00	4,990.39	5,107.13	4,995.82	22.85	22.68	105.15	-184.24	824.38	91.45	59.59	31.86	2.870				
5,200.00	5,086.96	5,207.12	5,092.08	23.40	23.24	104.40	-187.74	851.21	91.54	58.87	32.67	2.802				
5,300.00	5,183.54	5,307.12	5,188.35	23.95	23.80	103.64	-191.24	878.04	91.64	58.17	33.48	2.738				
5,400.00	5,280.11	5,407.11	5,284.61	24.50	24.36	102.89	-194.74	904.86	91.77	57.48	34.29	2.676				
5,500.00	5,376.68	5,507.10	5,380.87	25.05	24.92	102.14	-198.24	931.69	91.90	56.80	35.10	2.618				
5,600.00	5,473.26	5,607.09	5,477.14	25.60	25.48	101.40	-201.75	958.52	92.06	56.15	35.91	2.563				
5,700.00	5,569.83	5,707.09	5,573.40	26.15	26.05	100.65	-205.25	985.34	92.23	55.50	36.72	2.511				
5,800.00	5,666.41	5,807.08	5,669.66	26.70	26.61	99.91	-208.75	1,012.17	92.41	54.87	37.54	2.462				
5,900.00	5,762.98	5,907.07	5,765.93	27.26	27.17	99.17	-212.25	1,038.99	92.61	54.26	38.35	2.415				
6,000.00	5,859.55	6,007.07	5,862.19	27.81	27.74	98.44	-215.75	1,065.82	92.83	53.66	39.16	2.370				
6,100.00	5,956.13	6,107.06	5,958.45	28.36	28.30	97.71	-219.25	1,092.65	93.06	53.08	39.97	2.328				
6,200.00	6,052.70	6,207.05	6,054.72	28.92	28.87	96.98	-222.75	1,119.47	93.30	52.52	40.78	2.288				
6,300.00	6,149.27	6,307.04	6,150.98	29.47	29.44	96.26	-226.25	1,146.30	93.56	51.97	41.59	2.249				
6,400.00	6,245.85	6,407.04	6,247.24	30.02	30.00	95.54	-229.76	1,173.13	93.84	51.44	42.40	2.213				
6,500.00	6,342.42	6,507.03	6,343.51	30.58	30.57	94.82	-233.26	1,199.95	94.13	50.92	43.21	2.178				
6,600.00	6,439.00	6,607.02	6,439.77	31.13	31.14	94.11	-236.76	1,226.78	94.43	50.42	44.01	2.146				
6,700.00	6,535.57	6,707.01	6,536.03	31.69	31.71	93.41	-240.26	1,253.61	94.75	49.94	44.82	2.114				
6,800.00	6,632.14	6,807.01	6,632.30	32.24	32.27	92.71	-243.76	1,280.43	95.09	49.47	45.62	2.084				
6,900.00	6,728.72	6,907.00	6,728.56	32.80	32.84	92.01	-247.26	1,307.26	95.43	49.02	46.41	2.056				
7,000.00	6,825.29	7,006.99	6,824.82	33.35	33.41	91.32	-250.76	1,334.08	95.79	48.59	47.21	2.029				
7,100.00	6,921.86	7,106.99	6,921.09	33.91	33.98	90.63	-254.27	1,360.91	96.17	48.17	48.00	2.004				
7,200.00	7,018.44	7,206.98	7,017.35	34.46	34.55	89.95	-257.77	1,387.74	96.56	47.77	48.79	1.979				
7,300.00	7,115.01	7,306.97	7,113.61	35.02	35.12	89.28	-261.27	1,414.56	96.96	47.39	49.57	1.956				
7,400.00	7,211.59	7,406.96	7,209.88	35.57	35.69	88.61	-264.77	1,441.39	97.38	47.02	50.35	1.934				
7,497.28	7,305.53	7,504.23	7,303.52	36.11	36.24	87.96	-268.18	1,467.49	97.79	46.68	51.11	1.913				
7,500.00	7,308.16	7,506.96	7,306.14	36.13	36.26	87.95	-268.27	1,468.22	97.81	46.67	51.13	1.913				
7,600.00	7,405.19	7,607.14	7,403.04	36.66	36.81	87.25	-271.56	1,493.41	98.23	46.35	51.87	1.894				
7,700.00	7,503.00	7,707.37	7,500.82	37.16	37.32	86.55	-274.41	1,515.23	98.61	46.06	52.55	1.876				
7,800.00	7,601.48	7,807.64	7,599.35	37.61	37.78	85.87	-276.81	1,533.66	98.96	45.79	53.17	1.861				
7,900.00	7,700.51	7,907.95	7,698.51	38.02	38.21	85.19	-278.77	1,548.67	99.28	45.55	53.73	1.848				
8,000.00	7,799.96	8,008.31	7,798.18	38.39	38.60	84.52	-280.28	1,560.22	99.55	45.33	54.22	1.836				
8,100.00	7,899.71	8,108.70	7,898.24	38.73	38.94	83.86	-281.33	1,568.31	99.79	45.13	54.66	1.826				
8,200.00	7,999.65	8,209.14	7,998.56	39.02	39.25	83.20	-281.94	1,572.92	99.99	44.95	55.04	1.817				
8,249.36	8,049.00	8,258.73	8,048.14	39.15	39.39	179.48	-282.07	1,573.91	100.07	44.87	55.20	1.813				
8,300.00	8,099.64	8,309.53	8,098.94	39.28	39.52	179.37	-282.09	1,574.10	100.10	44.72	55.38	1.808				
8,400.00	8,199.64	8,409.53	8,198.94	39.54	39.77	179.37	-282.09	1,574.10	100.10	44.36	55.74	1.796				
8,500.00	8,299.64	8,509.53	8,298.94	39.79	40.03	179.37	-282.09	1,574.10	100.10	43.99	56.11	1.784				
8,600.00	8,399.64	8,609.53	8,398.94	40.05	40.29	179.37	-282.09	1,574.10	100.10	43.62	56.47	1.772				
8,700.00	8,499.64	8,709.53	8,498.94	40.31	40.55	179.37	-282.09	1,574.10	100.10	43.25	56.84	1.761				
8,800.00	8,599.64	8,809.53	8,598.94	40.57	40.81	179.37	-282.09	1,574.10	100.10	42.88	57.21	1.749				
8,900.00	8,699.64	8,909.53	8,698.94	40.84	41.07	179.37	-282.09	1,574.10	100.10	42.51	57.59	1.738				
9,000.00	8,799.64	9,009.53	8,798.94	41.10	41.33	179.37	-282.09	1,574.10	100.10	42.13	57.96	1.727				
9,100.00	8,899.64	9,109.53	8,898.94	41.37	41.60	179.37	-282.09	1,574.10	100.10	41.75	58.34	1.716				
9,200.00	8,999.64	9,209.53	8,998.94	41.64	41.86	179.37	-282.09	1,574.10	100.10	41.37	58.72	1.705				
9,300.00	9,099.64	9,309.53	9,098.94	41.91	42.13	179.37	-282.09	1,574.10	100.10	40.99	59.10	1.694				
9,400.00	9,199.64	9,409.53	9,198.94	42.18	42.40	179.37	-282.09	1,574.10	100.10	40.61	59.49	1.683				
9,444.40	9,244.04	9,453.93	9,243.34	42.30	42.52	179.37	-282.09	1,574.10	100.10	40.44	59.66	1.678 ES				
9,450.00	9,249.64	9,459.53	9,248.94	42.31	42.54	179.91	-282.09	1,574.10	100.12	40.44	59.68	1.678 SF				
9,500.00	9,299.56	9,509.45	9,298.86	42.44	42.67	179.91	-282.09	1,574.10	102.79	42.92	59.88	1.717				
9,550.00	9,349.05	9,558.94	9,348.35	42.57	42.80	179.92	-282.09	1,574.10	109.80	49.73	60.07	1.828				
9,600.00	9,397.74	9,607.63	9,397.04	42.69	42.94	179.92	-282.09	1,574.10	121.10	60.83	60.27	2.009				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 304H
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 304H	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 #2	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	9,445.26	9,655.15	9,444.56	42.80	43.07	179.93	-282.09	1,574.10	136.59	76.14	60.46	2.259		
9,700.00	9,491.25	9,701.14	9,490.55	42.91	43.19	179.94	-282.09	1,574.10	156.17	95.53	60.64	2.576		
9,750.00	9,535.36	9,745.25	9,534.66	43.00	43.31	179.94	-282.09	1,574.10	179.68	118.88	60.81	2.955		
9,800.00	9,577.25	9,787.14	9,576.55	43.08	43.43	179.95	-282.09	1,574.10	206.95	145.99	60.96	3.395		
9,850.00	9,616.61	9,826.50	9,615.91	43.15	43.54	179.95	-282.09	1,574.10	237.77	176.66	61.11	3.891		
9,900.00	9,653.13	9,863.02	9,652.43	43.21	43.64	179.95	-282.09	1,574.10	271.89	210.65	61.24	4.440		
9,950.00	9,686.53	9,896.42	9,685.83	43.27	43.73	179.95	-282.09	1,574.10	309.07	247.72	61.36	5.037		
10,000.00	9,716.57	9,926.46	9,715.87	43.31	43.81	179.95	-282.09	1,574.10	349.02	287.57	61.46	5.679		
10,050.00	9,743.01	9,952.91	9,742.31	43.35	43.88	179.95	-282.09	1,574.10	391.44	329.90	61.54	6.360		
10,100.00	9,765.66	9,975.55	9,764.96	43.38	43.95	179.95	-282.09	1,574.10	436.00	374.39	61.62	7.076		
10,150.00	9,784.34	9,994.23	9,783.64	43.41	44.00	179.94	-282.09	1,574.10	482.37	420.69	61.67	7.821		
10,200.00	9,798.90	10,008.79	9,798.20	43.43	44.04	179.93	-282.09	1,574.10	530.18	468.47	61.72	8.591		
10,250.00	9,809.24	10,019.13	9,808.54	43.47	44.07	179.91	-282.09	1,574.10	579.08	517.34	61.75	9.379		
10,300.00	9,815.28	10,025.17	9,814.58	43.50	44.08	179.82	-282.09	1,574.10	628.70	566.94	61.76	10.179		
10,344.40	9,817.00	10,026.89	9,816.30	43.54	44.09	90.06	-282.09	1,574.10	673.05	611.29	61.77	10.896		
10,400.00	9,817.00	10,026.89	9,816.30	43.61	44.09	90.06	-282.09	1,574.10	728.66	666.89	61.77	11.796		
10,500.00	9,817.00	10,026.89	9,816.30	43.77	44.09	90.07	-282.09	1,574.10	828.66	766.88	61.77	13.414		
10,600.00	9,817.00	10,026.89	9,816.30	43.98	44.09	90.08	-282.09	1,574.10	928.66	866.88	61.78	15.032		
10,700.00	9,817.00	10,026.89	9,816.30	44.25	44.09	90.09	-282.09	1,574.10	1,028.66	966.87	61.78	16.649		
10,800.00	9,817.00	10,026.89	9,816.30	44.59	44.09	90.09	-282.09	1,574.10	1,128.66	1,066.87	61.79	18.266		
10,900.00	9,817.00	10,026.89	9,816.30	44.99	44.09	90.10	-282.09	1,574.10	1,228.66	1,166.86	61.79	19.883		
11,000.00	9,817.00	10,026.89	9,816.30	45.47	44.09	90.11	-282.09	1,574.10	1,328.66	1,266.86	61.80	21.499		
11,100.00	9,817.00	10,026.89	9,816.30	46.01	44.09	90.12	-282.09	1,574.10	1,428.66	1,366.85	61.81	23.115		
11,200.00	9,817.00	10,026.89	9,816.30	46.61	44.09	90.13	-282.09	1,574.10	1,528.66	1,466.84	61.81	24.730		
11,300.00	9,817.00	10,026.89	9,816.30	47.28	44.09	90.14	-282.09	1,574.10	1,628.66	1,566.84	61.82	26.345		
11,400.00	9,817.00	10,026.89	9,816.30	48.01	44.09	90.14	-282.09	1,574.10	1,728.66	1,666.83	61.83	27.959		
11,500.00	9,817.00	10,026.89	9,816.30	48.79	44.09	90.15	-282.09	1,574.10	1,828.66	1,766.82	61.84	29.572		
11,600.00	9,817.00	10,026.89	9,816.30	49.63	44.09	90.16	-282.09	1,574.10	1,928.66	1,866.81	61.85	31.184		
11,700.00	9,817.00	10,026.89	9,816.30	50.51	44.09	90.17	-282.09	1,574.10	2,028.66	1,966.80	61.86	32.796		
11,800.00	9,817.00	10,026.89	9,816.30	51.44	44.09	90.18	-282.09	1,574.10	2,128.66	2,066.79	61.87	34.407		
11,900.00	9,817.00	10,026.89	9,816.30	52.41	44.09	90.19	-282.09	1,574.10	2,228.66	2,166.78	61.88	36.018		
12,000.00	9,817.00	14,416.33	12,123.00	53.42	59.60	180.00	2,046.46	1,552.11	2,306.70	2,263.39	43.31	53.258		
12,100.00	9,817.00	14,516.33	12,123.00	54.47	60.57	180.00	2,146.46	1,551.16	2,306.70	2,262.65	44.05	52.371		
12,200.00	9,817.00	14,616.33	12,123.00	55.54	61.57	180.00	2,246.45	1,550.22	2,306.70	2,261.91	44.79	51.495		
12,300.00	9,817.00	14,716.33	12,123.00	56.65	62.60	180.00	2,346.45	1,549.27	2,306.70	2,261.14	45.56	50.632		
12,400.00	9,817.00	14,816.33	12,123.00	57.79	63.66	180.00	2,446.44	1,548.33	2,306.70	2,260.36	46.34	49.782		
12,500.00	9,817.00	14,916.33	12,123.00	58.95	64.75	180.00	2,546.44	1,547.38	2,306.70	2,259.57	47.13	48.946		
12,600.00	9,817.00	15,016.33	12,123.00	60.14	65.86	180.00	2,646.44	1,546.44	2,306.70	2,258.77	47.93	48.125		
12,700.00	9,817.00	15,116.33	12,123.00	61.35	66.99	180.00	2,746.43	1,545.49	2,306.70	2,257.95	48.75	47.319		
12,800.00	9,817.00	15,216.33	12,123.00	62.58	68.15	180.00	2,846.43	1,544.55	2,306.70	2,257.13	49.58	46.529		
12,900.00	9,817.00	15,316.33	12,123.00	63.83	69.33	180.00	2,946.42	1,543.61	2,306.70	2,256.29	50.41	45.756		
13,000.00	9,817.00	15,416.33	12,123.00	65.10	70.53	180.00	3,046.42	1,542.66	2,306.70	2,255.44	51.26	44.998		
13,100.00	9,817.00	15,516.33	12,123.00	66.39	71.74	180.00	3,146.41	1,541.72	2,306.70	2,254.58	52.12	44.257		
13,200.00	9,817.00	15,616.33	12,123.00	67.69	72.98	180.00	3,246.41	1,540.77	2,306.70	2,253.71	52.99	43.532		
13,300.00	9,817.00	15,716.33	12,123.00	69.01	74.23	180.00	3,346.40	1,539.83	2,306.70	2,252.84	53.86	42.824		
13,400.00	9,817.00	15,816.33	12,123.00	70.35	75.50	180.00	3,446.40	1,538.88	2,306.70	2,251.95	54.75	42.131		
13,500.00	9,817.00	15,916.33	12,123.00	71.70	76.78	180.00	3,546.40	1,537.94	2,306.70	2,251.06	55.64	41.455		
13,600.00	9,817.00	16,016.33	12,123.00	73.06	78.08	180.00	3,646.39	1,536.99	2,306.70	2,250.16	56.54	40.795		
13,700.00	9,817.00	16,116.33	12,123.00	74.43	79.39	180.00	3,746.39	1,536.05	2,306.70	2,249.25	57.45	40.150		
13,800.00	9,817.00	16,216.33	12,123.00	75.81	80.71	180.00	3,846.38	1,535.11	2,306.70	2,248.33	58.37	39.520		
13,900.00	9,817.00	16,316.33	12,123.00	77.21	82.04	180.00	3,946.38	1,534.16	2,306.70	2,247.41	59.29	38.906		
14,000.00	9,817.00	16,416.33	12,123.00	78.61	83.39	180.00	4,046.37	1,533.22	2,306.70	2,246.48	60.22	38.306		

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 304H
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 304H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 806H - OH - Plan #2		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	9,817.00	16,516.33	12,123.00	80.03	84.75	180.00	4,146.37	1,532.27	2,306.70	2,245.55	61.15	37.721				
14,200.00	9,817.00	16,616.33	12,123.00	81.45	86.11	180.00	4,246.36	1,531.33	2,306.70	2,244.61	62.09	37.150				
14,300.00	9,817.00	16,716.33	12,123.00	82.88	87.49	180.00	4,346.36	1,530.38	2,306.70	2,243.66	63.04	36.592				
14,400.00	9,817.00	16,816.33	12,123.00	84.32	88.88	180.00	4,446.36	1,529.44	2,306.70	2,242.71	63.99	36.048				
14,500.00	9,817.00	16,916.33	12,123.00	85.77	90.27	180.00	4,546.35	1,528.49	2,306.70	2,241.76	64.94	35.518				
14,600.00	9,817.00	17,016.33	12,123.00	87.22	91.68	180.00	4,646.35	1,527.55	2,306.70	2,240.79	65.91	35.000				
14,700.00	9,817.00	17,116.33	12,123.00	88.69	93.09	180.00	4,746.34	1,526.61	2,306.70	2,239.83	66.87	34.495				
14,800.00	9,817.00	17,216.33	12,123.00	90.16	94.51	180.00	4,846.34	1,525.66	2,306.70	2,238.86	67.84	34.002				
14,900.00	9,817.00	17,316.33	12,123.00	91.63	95.94	180.00	4,946.33	1,524.72	2,306.70	2,237.89	68.81	33.520				
15,000.00	9,817.00	17,416.33	12,123.00	93.11	97.38	180.00	5,046.33	1,523.77	2,306.70	2,236.91	69.79	33.051				
15,100.00	9,817.00	17,516.33	12,123.00	94.60	98.82	180.00	5,146.32	1,522.83	2,306.70	2,235.92	70.78	32.592				
15,200.00	9,817.00	17,616.33	12,123.00	96.09	100.27	180.00	5,246.32	1,521.88	2,306.70	2,234.94	71.76	32.144				
15,300.00	9,817.00	17,716.33	12,123.00	97.59	101.72	180.00	5,346.32	1,520.94	2,306.70	2,233.95	72.75	31.707				
15,400.00	9,817.00	17,816.33	12,123.00	99.09	103.18	180.00	5,446.31	1,519.99	2,306.70	2,232.96	73.74	31.280				
15,500.00	9,817.00	17,916.33	12,123.00	100.60	104.65	180.00	5,546.31	1,519.05	2,306.70	2,231.96	74.74	30.863				
15,600.00	9,817.00	18,016.33	12,123.00	102.11	106.12	180.00	5,646.30	1,518.10	2,306.70	2,230.96	75.74	30.456				
15,700.00	9,817.00	18,116.33	12,123.00	103.62	107.60	180.00	5,746.30	1,517.16	2,306.70	2,229.96	76.74	30.058				
15,800.00	9,817.00	18,216.33	12,123.00	105.14	109.08	180.00	5,846.29	1,516.22	2,306.70	2,228.95	77.75	29.669				
15,900.00	9,817.00	18,316.33	12,123.00	106.67	110.57	180.00	5,946.29	1,515.27	2,306.70	2,227.95	78.75	29.290				
16,000.00	9,817.00	18,416.33	12,123.00	108.20	112.06	180.00	6,046.28	1,514.33	2,306.70	2,226.93	79.77	28.918				
16,100.00	9,817.00	18,516.33	12,123.00	109.73	113.55	180.00	6,146.28	1,513.38	2,306.70	2,225.92	80.78	28.556				
16,200.00	9,817.00	18,616.33	12,123.00	111.26	115.05	180.00	6,246.28	1,512.44	2,306.70	2,224.90	81.80	28.201				
16,300.00	9,817.00	18,716.33	12,123.00	112.80	116.56	180.00	6,346.27	1,511.49	2,306.70	2,223.89	82.81	27.854				
16,400.00	9,817.00	18,816.33	12,123.00	114.34	118.07	180.00	6,446.27	1,510.55	2,306.70	2,222.87	83.83	27.515				
16,500.00	9,817.00	18,916.33	12,123.00	115.89	119.58	180.00	6,546.26	1,509.60	2,306.70	2,221.84	84.86	27.183				
16,600.00	9,817.00	19,016.33	12,123.00	117.43	121.10	180.00	6,646.26	1,508.66	2,306.70	2,220.82	85.88	26.859				
16,700.00	9,817.00	19,116.33	12,123.00	118.98	122.62	180.00	6,746.25	1,507.72	2,306.70	2,219.79	86.91	26.541				
16,800.00	9,817.00	19,216.33	12,123.00	120.54	124.14	180.00	6,846.25	1,506.77	2,306.70	2,218.76	87.94	26.231				
16,900.00	9,817.00	19,316.33	12,123.00	122.09	125.66	180.00	6,946.24	1,505.83	2,306.70	2,217.73	88.97	25.927				
17,000.00	9,817.00	19,416.33	12,123.00	123.65	127.19	180.00	7,046.24	1,504.88	2,306.70	2,216.70	90.00	25.629				
17,100.00	9,817.00	19,516.33	12,123.00	125.21	128.73	180.00	7,146.24	1,503.94	2,306.70	2,215.66	91.04	25.338				
17,200.00	9,817.00	19,616.33	12,123.00	126.77	130.26	180.00	7,246.23	1,502.99	2,306.70	2,214.63	92.07	25.053				
17,300.00	9,817.00	19,716.33	12,123.00	128.34	131.80	180.00	7,346.23	1,502.05	2,306.70	2,213.59	93.11	24.773				
17,400.00	9,817.00	19,816.33	12,123.00	129.90	133.34	180.00	7,446.22	1,501.10	2,306.70	2,212.55	94.15	24.500				
17,500.00	9,817.00	19,916.33	12,123.00	131.47	134.88	180.00	7,546.22	1,500.16	2,306.70	2,211.51	95.19	24.232				
17,600.00	9,817.00	20,016.33	12,123.00	133.04	136.43	180.00	7,646.21	1,499.22	2,306.70	2,210.46	96.24	23.969				
17,700.00	9,817.00	20,116.33	12,123.00	134.62	137.98	180.00	7,746.21	1,498.27	2,306.70	2,209.42	97.28	23.712				
17,800.00	9,817.00	20,216.33	12,123.00	136.19	139.53	180.00	7,846.20	1,497.33	2,306.70	2,208.37	98.33	23.459				
17,900.00	9,817.00	20,316.33	12,123.00	137.77	141.08	180.00	7,946.20	1,496.38	2,306.70	2,207.33	99.37	23.212				
18,000.00	9,817.00	20,416.33	12,123.00	139.35	142.64	180.00	8,046.20	1,495.44	2,306.70	2,206.28	100.42	22.970				
18,100.00	9,817.00	20,516.33	12,123.00	140.93	144.19	180.00	8,146.19	1,494.49	2,306.70	2,205.23	101.47	22.732				
18,200.00	9,817.00	20,616.33	12,123.00	142.51	145.75	180.00	8,246.19	1,493.55	2,306.70	2,204.18	102.52	22.499				
18,300.00	9,817.00	20,716.33	12,123.00	144.09	147.32	180.00	8,346.18	1,492.60	2,306.70	2,203.12	103.58	22.270				
18,400.00	9,817.00	20,816.33	12,123.00	145.68	148.88	180.00	8,446.18	1,491.66	2,306.70	2,202.07	104.63	22.046				
18,500.00	9,817.00	20,916.33	12,123.00	147.26	150.44	180.00	8,546.17	1,490.72	2,306.70	2,201.01	105.69	21.826				
18,600.00	9,817.00	21,016.33	12,123.00	148.85	152.01	180.00	8,646.17	1,489.77	2,306.70	2,199.96	106.74	21.610				
18,700.00	9,817.00	21,116.33	12,123.00	150.44	153.58	180.00	8,746.16	1,488.83	2,306.70	2,198.90	107.80	21.398				
18,800.00	9,817.00	21,216.33	12,123.00	152.03	155.15	180.00	8,846.16	1,487.88	2,306.70	2,197.84	108.86	21.190				
18,900.00	9,817.00	21,316.33	12,123.00	153.62	156.72	180.00	8,946.16	1,486.94	2,306.70	2,196.78	109.92	20.986				
19,000.00	9,817.00	21,416.33	12,123.00	155.22	158.30	180.00	9,046.15	1,485.99	2,306.70	2,195.72	110.98	20.786				
19,100.00	9,817.00	21,516.33	12,123.00	156.81	159.87	180.00	9,146.15	1,485.05	2,306.70	2,194.66	112.04	20.589				
19,200.00	9,817.00	21,616.33	12,123.00	158.41	161.45	180.00	9,246.14	1,484.10	2,306.70	2,193.60	113.10	20.395				

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 304H
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 304H	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 #2	Offset TVD Reference:	Offset Datum

Offset Design FMM Fed Com - FMM Fed Com 806H - OH - Plan #2												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	9,817.00	21,716.33	12,123.00	160.00	163.03	180.00	9,346.14	1,483.16	2,306.70	2,192.54	114.16	20.206	
19,400.00	9,817.00	21,816.33	12,123.00	161.60	164.61	180.00	9,446.13	1,482.21	2,306.70	2,191.47	115.23	20.019	
19,500.00	9,817.00	21,916.33	12,123.00	163.20	166.19	180.00	9,546.13	1,481.27	2,306.70	2,190.41	116.29	19.836	
19,600.00	9,817.00	22,016.33	12,123.00	164.80	167.77	180.00	9,646.12	1,480.33	2,306.70	2,189.34	117.36	19.656	
19,700.00	9,817.00	22,116.33	12,123.00	166.40	169.36	180.00	9,746.12	1,479.38	2,306.70	2,188.28	118.42	19.479	
19,800.00	9,817.00	22,216.33	12,123.00	168.00	170.94	180.00	9,846.11	1,478.44	2,306.70	2,187.21	119.49	19.305	
19,900.00	9,817.00	22,316.33	12,123.00	169.60	172.53	180.00	9,946.11	1,477.49	2,306.70	2,186.14	120.56	19.134	
20,000.00	9,817.00	22,416.33	12,123.00	171.21	174.11	180.00	10,046.11	1,476.55	2,306.70	2,185.12	121.58	18.972	
20,032.59	9,817.00	22,448.92	12,123.00	171.73	174.61	180.00	10,078.69	1,476.24	2,306.70	2,184.85	121.85	18.931	

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 304H
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 304H	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 #2	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	-29.28	4,231.77	-2,373.22	4,851.81					
100.00	100.00	96.50	96.50	0.13	0.82	-29.28	4,231.77	-2,373.22	4,851.81	4,850.98	0.83	5,876.803		
200.00	200.00	196.50	196.50	0.48	1.66	-29.28	4,231.77	-2,373.22	4,851.81	4,850.08	1.73	2,803.495		
300.00	300.00	296.50	296.50	0.84	3.22	-29.28	4,231.77	-2,373.22	4,851.81	4,848.48	3.32	1,459.554		
400.00	400.00	405.93	405.93	1.20	5.15	-29.28	4,231.77	-2,373.22	4,851.81	4,846.52	5.29	916.748		
407.41	407.41	414.17	414.17	1.23	5.30	-29.28	4,231.75	-2,373.22	4,851.80	4,846.36	5.44	891.768		
500.00	500.00	496.50	496.50	1.56	6.89	-29.28	4,231.77	-2,373.22	4,851.81	4,844.74	7.07	686.469		
600.00	600.00	605.51	605.51	1.92	8.98	-29.28	4,231.78	-2,373.22	4,851.82	4,842.64	9.19	528.181		
611.26	611.26	617.90	617.89	1.96	9.22	-29.28	4,231.75	-2,373.22	4,851.80	4,842.37	9.43	514.697		
700.00	700.00	696.52	696.50	2.28	11.49	-29.28	4,231.77	-2,373.22	4,851.81	4,840.10	11.71	414.267		
800.00	800.00	796.52	796.50	2.63	14.26	-29.28	4,231.77	-2,373.22	4,851.81	4,837.30	14.51	334.477		
900.00	900.00	901.42	901.38	2.99	17.18	-29.28	4,233.20	-2,373.22	4,853.06	4,835.62	17.43	278.353		
1,000.00	1,000.00	1,022.52	1,022.47	3.35	20.54	-29.28	4,232.76	-2,373.22	4,852.74	4,831.93	20.81	233.200		
1,100.00	1,100.00	1,143.64	1,143.58	3.71	23.90	-29.28	4,231.72	-2,373.22	4,851.99	4,827.80	24.19	200.616		
1,138.17	1,138.17	1,189.87	1,189.80	3.85	25.18	-29.29	4,231.16	-2,373.22	4,851.59	4,826.11	25.47	190.452 CC		
1,200.00	1,200.00	1,196.86	1,196.50	4.07	25.79	-29.28	4,231.77	-2,373.22	4,851.81	4,825.70	26.11	185.844		
1,300.00	1,300.00	1,342.87	1,342.45	4.43	30.88	-29.28	4,233.11	-2,373.22	4,853.19	4,822.00	31.19	155.594		
1,400.00	1,400.00	1,396.96	1,396.50	4.79	32.76	-29.28	4,231.77	-2,373.22	4,851.81	4,818.70	33.11	146.537		
1,500.00	1,499.98	1,497.16	1,496.48	5.13	36.30	-125.88	4,231.77	-2,373.22	4,852.83	4,816.17	36.66	132.371		
1,600.00	1,599.84	1,597.13	1,596.34	5.48	39.62	-125.88	4,231.77	-2,373.22	4,855.90	4,815.91	39.99	121.414 ES		
1,700.00	1,699.45	1,696.82	1,695.95	5.83	42.62	-125.88	4,231.77	-2,373.22	4,861.02	4,818.01	43.02	113.004		
1,800.00	1,798.70	1,796.07	1,795.20	6.18	45.35	-125.88	4,231.77	-2,373.22	4,868.20	4,822.43	45.77	106.356		
1,900.00	1,897.47	1,954.53	1,953.62	6.55	49.72	-125.98	4,231.95	-2,373.22	4,877.97	4,827.83	50.14	97.281		
2,000.00	1,995.62	1,993.14	1,992.12	6.93	50.72	-125.88	4,231.77	-2,373.22	4,888.77	4,837.58	51.19	95.504		
2,100.00	2,093.06	2,090.57	2,089.56	7.34	53.18	-125.87	4,231.77	-2,373.22	4,902.17	4,848.50	53.68	91.328		
2,152.08	2,143.47	2,140.98	2,139.97	7.56	54.45	-125.86	4,231.77	-2,373.22	4,909.99	4,855.02	54.96	89.330		
2,200.00	2,189.75	2,187.83	2,186.79	7.76	55.63	-125.97	4,233.44	-2,373.22	4,918.89	4,862.73	56.16	87.585		
2,300.00	2,286.32	2,325.17	2,324.11	8.21	59.10	-126.31	4,232.77	-2,373.22	4,934.11	4,874.47	59.65	82.721		
2,400.00	2,382.90	2,462.63	2,461.53	8.67	62.57	-126.66	4,230.77	-2,373.22	4,948.63	4,885.50	63.13	78.383		
2,500.00	2,479.47	2,477.14	2,475.97	9.14	63.02	-126.68	4,231.77	-2,373.22	4,964.61	4,900.97	63.65	78.004		
2,600.00	2,576.04	2,573.71	2,572.54	9.62	65.56	-126.92	4,231.77	-2,373.22	4,980.51	4,914.28	66.23	75.201		
2,700.00	2,672.62	2,681.62	2,680.44	10.11	68.41	-127.17	4,232.91	-2,373.22	4,997.47	4,928.36	69.11	72.312 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 304H
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 304H	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 #2	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	-89.85	7.57	-2,950.28	2,950.97					
100.00	100.00	33.22	33.22	0.13	0.05	-89.85	7.56	-2,950.30	2,950.31	2,950.17	0.14	N/A CC		
200.00	200.00	124.25	124.25	0.48	0.20	-89.85	7.48	-2,950.54	2,950.57	2,950.05	0.52	5,636.976 ES		
300.00	300.00	215.27	215.26	0.84	0.35	-89.86	7.30	-2,951.06	2,951.14	2,950.23	0.91	3,241.244		
400.00	400.00	310.81	310.81	1.20	0.65	-89.86	7.04	-2,951.83	2,951.95	2,950.59	1.36	2,164.132		
500.00	500.00	411.76	411.75	1.56	1.01	-89.87	6.92	-2,952.71	2,952.82	2,950.96	1.86	1,590.247		
600.00	600.00	508.72	508.71	1.92	1.36	-89.86	7.04	-2,953.56	2,953.70	2,951.35	2.35	1,257.955		
700.00	700.00	599.34	599.32	2.28	1.68	-89.86	7.17	-2,954.53	2,954.77	2,951.94	2.83	1,044.634		
800.00	800.00	692.00	691.97	2.63	2.01	-89.86	7.19	-2,955.89	2,956.24	2,952.92	3.31	891.937		
900.00	900.00	780.05	780.00	2.99	2.33	-89.86	7.17	-2,957.48	2,958.03	2,954.24	3.79	780.284		
1,000.00	1,000.00	860.63	860.57	3.35	2.62	-89.86	7.01	-2,959.28	2,960.26	2,956.01	4.25	696.353		
1,100.00	1,100.00	944.63	944.54	3.71	2.92	-89.87	6.82	-2,961.66	2,963.10	2,958.38	4.72	627.942		
1,200.00	1,200.00	1,039.20	1,039.05	4.07	3.26	-89.87	6.78	-2,964.73	2,966.33	2,961.12	5.21	569.332		
1,300.00	1,300.00	1,139.04	1,138.84	4.43	3.62	-89.87	6.87	-2,968.01	2,969.63	2,963.91	5.71	519.709		
1,400.00	1,400.00	1,229.00	1,228.74	4.79	3.95	-89.86	7.07	-2,971.11	2,973.07	2,966.87	6.20	479.886		
1,500.00	1,499.98	1,337.53	1,337.21	5.13	4.34	173.53	7.37	-2,974.93	2,978.33	2,971.61	6.71	443.665		
1,600.00	1,599.84	1,452.94	1,452.56	5.48	4.76	173.53	7.30	-2,978.55	2,986.67	2,979.43	7.24	412.391		
1,700.00	1,699.45	1,593.37	1,592.95	5.83	5.26	173.51	6.17	-2,981.48	2,997.39	2,989.56	7.83	382.670		
1,800.00	1,798.70	1,697.73	1,697.30	6.18	5.63	173.48	4.99	-2,982.80	3,010.75	3,002.41	8.34	361.101		
1,900.00	1,897.47	1,803.66	1,803.21	6.55	6.01	173.45	3.51	-2,984.03	3,027.43	3,018.59	8.85	342.213		
2,000.00	1,995.62	1,921.70	1,921.23	6.93	6.42	173.42	1.65	-2,985.07	3,047.29	3,037.90	9.38	324.747		
2,100.00	2,093.06	2,130.16	2,129.63	7.34	7.12	173.43	-0.46	-2,981.30	3,067.48	3,057.36	10.11	303.301		
2,152.08	2,143.47	2,187.22	2,186.66	7.56	7.30	173.43	-0.70	-2,979.38	3,078.75	3,068.37	10.38	296.696		
2,200.00	2,189.75	2,239.38	2,238.79	7.76	7.47	173.46	-0.80	-2,977.53	3,089.46	3,078.84	10.62	290.974		
2,300.00	2,286.32	2,354.53	2,353.85	8.21	7.85	173.53	-0.48	-2,973.03	3,111.47	3,100.33	11.14	279.408		
2,400.00	2,382.90	2,425.51	2,424.78	8.67	8.09	173.58	-0.11	-2,970.29	3,133.54	3,121.98	11.56	271.105		
2,500.00	2,479.47	2,502.88	2,502.11	9.14	8.35	173.63	0.21	-2,968.00	3,156.45	3,144.45	12.00	263.085		
2,600.00	2,576.04	2,588.35	2,587.55	9.62	8.64	173.67	0.37	-2,965.83	3,179.79	3,167.33	12.46	255.224		
2,700.00	2,672.62	2,677.61	2,676.79	10.11	8.94	173.72	0.33	-2,963.87	3,203.46	3,190.53	12.93	247.728		
2,800.00	2,769.19	2,771.32	2,770.48	10.60	9.26	173.77	0.47	-2,961.93	3,227.27	3,213.85	13.42	240.535		
2,900.00	2,865.77	2,866.13	2,865.27	11.10	9.58	173.82	0.51	-2,960.08	3,251.19	3,237.28	13.91	233.770		
3,000.00	2,962.34	2,957.19	2,956.32	11.61	9.89	173.86	0.30	-2,958.33	3,275.14	3,260.75	14.39	227.579		
3,100.00	3,058.91	3,038.37	3,037.49	12.12	10.17	173.90	0.16	-2,957.11	3,299.50	3,284.65	14.85	222.163		
3,200.00	3,155.49	3,120.80	3,119.91	12.64	10.46	173.93	-0.39	-2,956.24	3,324.28	3,308.96	15.32	217.032		
3,300.00	3,252.06	3,203.00	3,202.10	13.16	10.74	173.96	-1.32	-2,955.81	3,349.57	3,333.78	15.78	212.213		
3,400.00	3,348.63	3,295.83	3,294.93	13.68	11.07	173.99	-2.22	-2,955.58	3,375.13	3,358.85	16.28	207.316		
3,500.00	3,445.21	3,414.28	3,413.37	14.21	11.48	174.03	-3.15	-2,954.76	3,400.25	3,383.40	16.84	201.862		
3,600.00	3,541.78	3,506.22	3,505.30	14.74	11.80	174.05	-4.13	-2,954.01	3,425.26	3,407.92	17.34	197.540		
3,700.00	3,638.36	3,604.90	3,603.97	15.27	12.15	174.08	-5.03	-2,953.21	3,450.29	3,432.44	17.85	193.254		
3,800.00	3,734.93	3,705.39	3,704.45	15.80	12.50	174.11	-6.07	-2,952.35	3,475.27	3,456.89	18.37	189.144		
3,900.00	3,831.50	3,808.30	3,807.35	16.33	12.86	174.14	-7.19	-2,951.29	3,500.08	3,481.18	18.90	185.179		
4,000.00	3,928.08	3,903.80	3,902.85	16.87	13.20	174.17	-8.07	-2,950.21	3,524.80	3,505.39	19.41	181.606		
4,100.00	4,024.65	4,012.06	4,011.09	17.41	13.58	174.20	-8.94	-2,948.99	3,549.53	3,529.58	19.95	177.905		
4,200.00	4,121.22	4,117.99	4,117.01	17.95	13.95	174.24	-9.20	-2,947.31	3,573.82	3,553.33	20.49	174.435		
4,300.00	4,217.80	4,207.45	4,206.45	18.49	14.26	174.28	-9.41	-2,945.90	3,598.12	3,577.14	20.98	171.506		
4,400.00	4,314.37	4,299.70	4,298.70	19.03	14.59	174.32	-9.47	-2,944.64	3,622.63	3,601.15	21.48	168.660		
4,500.00	4,410.95	4,405.80	4,404.79	19.58	14.96	174.36	-9.41	-2,943.14	3,647.10	3,625.08	22.02	165.651		
4,600.00	4,507.52	4,501.00	4,499.98	20.12	15.29	174.40	-9.45	-2,941.61	3,671.38	3,648.86	22.53	162.988		
4,700.00	4,604.09	4,501.00	4,499.98	20.66	15.29	174.40	-9.45	-2,941.61	3,697.02	3,674.25	22.76	162.415		
4,800.00	4,700.67	4,501.00	4,499.98	21.21	15.29	174.40	-9.45	-2,941.61	3,725.16	3,702.17	22.99	162.057		
4,900.00	4,797.24	4,501.00	4,499.98	21.76	15.29	174.40	-9.45	-2,941.61	3,755.75	3,732.55	23.20	161.902 SF		
5,000.00	4,893.81	4,501.00	4,499.98	22.30	15.29	174.40	-9.45	-2,941.61	3,788.74	3,765.34	23.40	161.942		

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 304H
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 304H	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 #2	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		
5,100.00	4,990.39	4,501.00	4,499.98	22.85	15.29	174.40	-9.45	-2,941.61	3,824.06	3,800.48	23.58	162.165		
5,200.00	5,086.96	4,501.00	4,499.98	23.40	15.29	174.40	-9.45	-2,941.61	3,861.64	3,837.89	23.75	162.562		
5,300.00	5,183.54	4,501.00	4,499.98	23.95	15.29	174.40	-9.45	-2,941.61	3,901.43	3,877.51	23.92	163.123		
5,400.00	5,280.11	4,501.00	4,499.98	24.50	15.29	174.40	-9.45	-2,941.61	3,943.35	3,919.29	24.07	163.840		
5,500.00	5,376.68	4,501.00	4,499.98	25.05	15.29	174.40	-9.45	-2,941.61	3,987.34	3,963.14	24.21	164.704		
5,600.00	5,473.26	4,501.00	4,499.98	25.60	15.29	174.40	-9.45	-2,941.61	4,033.33	4,008.99	24.34	165.706		
5,700.00	5,569.83	4,501.00	4,499.98	26.15	15.29	174.40	-9.45	-2,941.61	4,081.26	4,056.80	24.46	166.838		
5,800.00	5,666.41	4,501.00	4,499.98	26.70	15.29	174.40	-9.45	-2,941.61	4,131.05	4,106.47	24.58	168.093		
5,900.00	5,762.98	4,501.00	4,499.98	27.26	15.29	174.40	-9.45	-2,941.61	4,182.63	4,157.95	24.68	169.470		
6,000.00	5,859.55	4,501.00	4,499.98	27.81	15.29	174.40	-9.45	-2,941.61	4,235.95	4,211.17	24.78	170.954		
6,100.00	5,956.13	4,501.00	4,499.98	28.36	15.29	174.40	-9.45	-2,941.61	4,290.94	4,266.07	24.87	172.534		
6,200.00	6,052.70	4,501.00	4,499.98	28.92	15.29	174.40	-9.45	-2,941.61	4,347.53	4,322.58	24.96	174.209		
6,300.00	6,149.27	4,501.00	4,499.98	29.47	15.29	174.40	-9.45	-2,941.61	4,405.67	4,380.63	25.04	175.976		
6,400.00	6,245.85	4,501.00	4,499.98	30.02	15.29	174.40	-9.45	-2,941.61	4,465.29	4,440.18	25.11	177.823		
6,500.00	6,342.42	4,501.00	4,499.98	30.58	15.29	174.40	-9.45	-2,941.61	4,526.33	4,501.15	25.18	179.742		
6,600.00	6,439.00	4,501.00	4,499.98	31.13	15.29	174.40	-9.45	-2,941.61	4,588.74	4,563.49	25.25	181.729		
6,700.00	6,535.57	4,501.00	4,499.98	31.69	15.29	174.40	-9.45	-2,941.61	4,652.46	4,627.15	25.32	183.777		
6,800.00	6,632.14	4,501.00	4,499.98	32.24	15.29	174.40	-9.45	-2,941.61	4,717.44	4,692.06	25.38	185.881		
6,900.00	6,728.72	4,501.00	4,499.98	32.80	15.29	174.40	-9.45	-2,941.61	4,783.63	4,758.19	25.44	188.034		
7,000.00	6,825.29	4,501.00	4,499.98	33.35	15.29	174.40	-9.45	-2,941.61	4,850.98	4,825.48	25.50	190.232		
7,100.00	6,921.86	4,501.00	4,499.98	33.91	15.29	174.40	-9.45	-2,941.61	4,919.44	4,893.88	25.56	192.470		
7,200.00	7,018.44	4,501.00	4,499.98	34.46	15.29	174.40	-9.45	-2,941.61	4,988.96	4,963.35	25.62	194.741		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 304H
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 304H	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 #2	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	-89.85	7.57	-2,950.28	2,950.97					
100.00	100.00	33.22	33.22	0.13	0.05	-89.85	7.56	-2,950.30	2,950.31	2,950.17	0.14	N/A CC		
200.00	200.00	124.25	124.25	0.48	0.20	-89.85	7.48	-2,950.54	2,950.57	2,950.05	0.52	5,636.976 ES		
300.00	300.00	215.27	215.26	0.84	0.35	-89.86	7.30	-2,951.06	2,951.14	2,950.23	0.91	3,241.244		
400.00	400.00	310.81	310.81	1.20	0.65	-89.86	7.04	-2,951.83	2,951.95	2,950.59	1.36	2,164.132		
500.00	500.00	411.76	411.75	1.56	1.01	-89.87	6.92	-2,952.71	2,952.82	2,950.96	1.86	1,590.247		
600.00	600.00	508.72	508.71	1.92	1.36	-89.86	7.04	-2,953.56	2,953.70	2,951.35	2.35	1,257.955		
700.00	700.00	599.34	599.32	2.28	1.68	-89.86	7.17	-2,954.53	2,954.77	2,951.94	2.83	1,044.634		
800.00	800.00	692.00	691.97	2.63	2.01	-89.86	7.19	-2,955.89	2,956.24	2,952.92	3.31	891.937		
900.00	900.00	780.05	780.00	2.99	2.33	-89.86	7.17	-2,957.48	2,958.03	2,954.24	3.79	780.284		
1,000.00	1,000.00	860.63	860.57	3.35	2.62	-89.86	7.01	-2,959.28	2,960.26	2,956.01	4.25	696.353		
1,100.00	1,100.00	944.63	944.54	3.71	2.92	-89.87	6.82	-2,961.66	2,963.10	2,958.38	4.72	627.942		
1,200.00	1,200.00	1,039.20	1,039.05	4.07	3.26	-89.87	6.78	-2,964.73	2,966.33	2,961.12	5.21	569.332		
1,300.00	1,300.00	1,139.04	1,138.84	4.43	3.62	-89.87	6.87	-2,968.01	2,969.63	2,963.91	5.71	519.709		
1,400.00	1,400.00	1,229.00	1,228.74	4.79	3.95	-89.86	7.07	-2,971.11	2,973.07	2,966.87	6.20	479.886		
1,500.00	1,499.98	1,337.53	1,337.21	5.13	4.34	173.53	7.37	-2,974.93	2,978.33	2,971.61	6.71	443.665		
1,600.00	1,599.84	1,452.94	1,452.56	5.48	4.76	173.53	7.30	-2,978.55	2,986.67	2,979.43	7.24	412.391		
1,700.00	1,699.45	1,593.37	1,592.95	5.83	5.26	173.51	6.17	-2,981.48	2,997.39	2,989.56	7.83	382.670		
1,800.00	1,798.70	1,697.73	1,697.30	6.18	5.63	173.48	4.99	-2,982.80	3,010.75	3,002.41	8.34	361.101		
1,900.00	1,897.47	1,803.66	1,803.21	6.55	6.01	173.45	3.51	-2,984.03	3,027.43	3,018.59	8.85	342.213		
2,000.00	1,995.62	1,921.70	1,921.23	6.93	6.42	173.42	1.65	-2,985.07	3,047.29	3,037.90	9.38	324.747		
2,100.00	2,093.06	2,130.16	2,129.63	7.34	7.12	173.43	-0.46	-2,981.30	3,067.48	3,057.36	10.11	303.301		
2,152.08	2,143.47	2,187.22	2,186.66	7.56	7.30	173.43	-0.70	-2,979.38	3,078.75	3,068.37	10.38	296.696		
2,200.00	2,189.75	2,239.38	2,238.79	7.76	7.47	173.46	-0.80	-2,977.53	3,089.46	3,078.84	10.62	290.974		
2,300.00	2,286.32	2,354.53	2,353.85	8.21	7.85	173.53	-0.48	-2,973.03	3,111.47	3,100.33	11.14	279.408		
2,400.00	2,382.90	2,425.51	2,424.78	8.67	8.09	173.58	-0.11	-2,970.29	3,133.54	3,121.98	11.56	271.105		
2,500.00	2,479.47	2,502.88	2,502.11	9.14	8.35	173.63	0.21	-2,968.00	3,156.45	3,144.45	12.00	263.085		
2,600.00	2,576.04	2,588.35	2,587.55	9.62	8.64	173.67	0.37	-2,965.83	3,179.79	3,167.33	12.46	255.224		
2,700.00	2,672.62	2,677.61	2,676.79	10.11	8.94	173.72	0.33	-2,963.87	3,203.46	3,190.53	12.93	247.728		
2,800.00	2,769.19	2,735.00	2,734.17	10.60	9.13	173.75	0.40	-2,962.67	3,227.48	3,214.15	13.33	242.157		
2,900.00	2,865.77	2,806.60	2,805.75	11.10	9.26	173.77	-0.81	-2,961.90	3,252.39	3,238.71	13.68	237.782		
3,000.00	2,962.34	2,833.00	2,832.12	11.61	9.30	173.76	-1.95	-2,961.98	3,278.94	3,264.97	13.97	234.776		
3,100.00	3,058.91	2,875.93	2,874.95	12.12	9.31	173.73	-4.70	-2,962.92	3,307.18	3,292.95	14.23	232.387		
3,200.00	3,155.49	2,926.00	2,924.72	12.64	9.32	173.67	-9.43	-2,965.67	3,337.69	3,323.19	14.50	230.190		
3,300.00	3,252.06	2,926.00	2,924.72	13.16	9.32	173.67	-9.43	-2,965.67	3,369.65	3,354.91	14.74	228.660		
3,400.00	3,348.63	2,971.97	2,970.23	13.68	9.34	173.60	-14.61	-2,969.48	3,403.46	3,388.46	15.00	226.849		
3,500.00	3,445.21	3,021.00	3,018.66	14.21	9.35	173.52	-20.36	-2,974.57	3,438.93	3,423.66	15.27	225.166		
3,600.00	3,541.78	3,183.38	3,179.23	14.74	9.46	173.28	-38.61	-2,990.29	3,474.00	3,458.33	15.67	221.696		
3,700.00	3,638.36	3,393.37	3,387.97	15.27	9.64	173.08	-56.72	-3,003.78	3,505.32	3,489.18	16.14	217.139		
3,800.00	3,734.93	3,485.00	3,479.20	15.80	9.74	173.01	-63.77	-3,008.71	3,536.28	3,519.78	16.50	214.322		
3,900.00	3,831.50	3,825.57	3,818.90	16.33	10.18	172.81	-86.48	-3,012.53	3,561.08	3,543.91	17.18	207.339		
4,000.00	3,928.08	3,922.54	3,915.63	16.87	10.32	172.75	-93.16	-3,011.10	3,585.47	3,567.89	17.57	204.041		
4,100.00	4,024.65	4,021.49	4,014.33	17.41	10.48	172.69	-100.01	-3,009.63	3,609.83	3,591.85	17.98	200.773		
4,200.00	4,121.22	4,112.79	4,105.37	17.95	10.64	172.63	-106.69	-3,008.27	3,634.20	3,615.82	18.38	197.681		
4,300.00	4,217.80	4,235.78	4,227.99	18.49	10.86	172.55	-116.14	-3,006.27	3,658.48	3,639.64	18.84	194.165		
4,400.00	4,314.37	4,313.78	4,305.72	19.03	11.01	172.49	-122.29	-3,004.85	3,682.54	3,663.30	19.24	191.396		
4,500.00	4,410.95	4,428.04	4,419.56	19.58	11.25	172.40	-131.97	-3,002.84	3,706.69	3,686.98	19.70	188.138		
4,600.00	4,507.52	4,513.00	4,504.14	20.12	11.43	172.32	-139.77	-3,001.23	3,730.70	3,710.58	20.12	185.393		
4,700.00	4,604.09	4,599.61	4,590.34	20.66	11.63	172.24	-148.10	-2,999.80	3,754.98	3,734.43	20.55	182.706		
4,800.00	4,700.67	4,700.00	4,690.24	21.21	11.87	172.14	-157.90	-2,998.29	3,779.40	3,758.39	21.01	179.881		
4,900.00	4,797.24	4,785.83	4,775.62	21.76	12.08	172.05	-166.63	-2,997.06	3,803.91	3,782.47	21.45	177.360		
5,000.00	4,893.81	4,886.26	4,875.45	22.30	12.33	171.93	-177.53	-2,995.71	3,828.54	3,806.62	21.92	174.675		

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 304H
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 304H	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 #2	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			
5,100.00	4,990.39	5,082.04	5,069.71	22.85	12.86	171.68	-201.30	-2,990.88	3,852.36	3,829.76	22.59	170.508				
5,200.00	5,086.96	5,165.00	5,151.92	23.40	13.09	171.56	-211.99	-2,987.83	3,874.77	3,851.73	23.05	168.127				
5,300.00	5,183.54	5,273.16	5,258.95	23.95	13.41	171.40	-227.02	-2,983.73	3,897.15	3,873.59	23.56	165.412				
5,400.00	5,280.11	5,372.55	5,357.19	24.50	13.71	171.23	-241.56	-2,979.74	3,919.35	3,895.29	24.06	162.891				
5,500.00	5,376.68	5,474.11	5,457.70	25.05	14.02	171.08	-255.52	-2,975.71	3,941.61	3,917.04	24.57	160.435				
5,600.00	5,473.26	5,510.19	5,592.98	25.60	14.42	170.96	-268.80	-2,969.47	3,963.11	3,937.96	25.14	157.623				
5,700.00	5,569.83	5,676.72	5,659.23	26.15	14.62	170.93	-274.05	-2,966.33	3,984.51	3,958.95	25.56	155.864				
5,800.00	5,666.41	5,727.00	5,709.35	26.70	14.76	170.90	-277.58	-2,964.52	4,006.97	3,981.03	25.95	154.429				
5,900.00	5,762.98	5,793.22	5,775.41	27.26	14.95	170.88	-281.82	-2,962.81	4,030.37	4,004.01	26.36	152.882				
6,000.00	5,859.55	5,868.19	5,850.23	27.81	15.17	170.86	-286.32	-2,961.49	4,054.52	4,027.73	26.80	151.304				
6,100.00	5,956.13	5,958.20	5,940.10	28.36	15.43	170.84	-291.31	-2,960.21	4,078.99	4,051.72	27.27	149.600				
6,200.00	6,052.70	6,051.53	6,033.30	28.92	15.70	170.83	-295.82	-2,958.96	4,103.53	4,075.79	27.74	147.915				
6,300.00	6,149.27	6,144.93	6,126.60	29.47	15.97	170.82	-300.16	-2,957.85	4,128.20	4,099.98	28.22	146.287				
6,400.00	6,245.85	6,245.82	6,227.37	30.02	16.27	170.81	-304.89	-2,956.63	4,152.85	4,124.13	28.72	144.613				
6,500.00	6,342.42	6,338.52	6,319.97	30.58	16.54	170.81	-308.93	-2,955.45	4,177.43	4,148.23	29.20	143.086				
6,600.00	6,439.00	6,428.92	6,410.29	31.13	16.81	170.81	-312.71	-2,954.53	4,202.24	4,172.57	29.67	141.638				
6,700.00	6,535.57	6,541.38	6,522.65	31.69	17.15	170.81	-317.42	-2,953.27	4,226.97	4,196.78	30.20	139.975				
6,800.00	6,632.14	6,660.33	6,641.51	32.24	17.50	170.82	-321.51	-2,951.36	4,251.19	4,220.44	30.74	138.291				
6,900.00	6,728.72	6,770.36	6,751.51	32.80	17.81	170.87	-322.51	-2,949.24	4,274.99	4,243.74	31.25	136.794				
7,000.00	6,825.29	6,863.56	6,844.69	33.35	18.08	170.91	-322.99	-2,947.37	4,298.71	4,266.99	31.72	135.514				
7,100.00	6,921.86	6,950.52	6,931.64	33.91	18.32	170.95	-323.53	-2,945.78	4,322.61	4,290.43	32.18	134.328				
7,200.00	7,018.44	7,050.33	7,031.43	34.46	18.61	170.99	-324.33	-2,944.03	4,346.60	4,313.93	32.67	133.044				
7,300.00	7,115.01	7,155.26	7,136.34	35.02	18.92	171.04	-325.16	-2,942.05	4,370.45	4,337.28	33.17	131.740				
7,400.00	7,211.59	7,254.86	7,235.91	35.57	19.21	171.08	-325.87	-2,940.04	4,394.18	4,360.52	33.67	130.517				
7,497.28	7,305.53	7,344.86	7,325.89	36.11	19.48	171.12	-326.66	-2,938.24	4,417.29	4,383.15	34.13	129.418				
7,500.00	7,308.16	7,347.22	7,328.25	36.13	19.48	171.12	-326.68	-2,938.19	4,417.93	4,383.79	34.14	129.389				
7,600.00	7,405.19	7,409.00	7,390.01	36.66	19.67	171.22	-327.33	-2,937.05	4,440.19	4,405.64	34.54	128.541				
7,700.00	7,503.00	7,469.83	7,450.84	37.16	19.84	171.30	-327.68	-2,936.44	4,459.87	4,424.95	34.93	127.697				
7,800.00	7,601.48	7,503.00	7,484.01	37.61	19.94	171.36	-327.60	-2,936.49	4,477.38	4,442.15	35.23	127.099				
7,900.00	7,700.51	7,577.63	7,558.63	38.02	20.15	171.43	-327.34	-2,937.36	4,492.34	4,456.71	35.62	126.111				
8,000.00	7,799.96	7,654.31	7,635.30	38.39	20.36	171.49	-327.33	-2,938.96	4,504.71	4,468.69	36.02	125.075				
8,100.00	7,899.71	7,757.98	7,738.94	38.73	20.66	171.53	-327.51	-2,941.31	4,513.86	4,477.38	36.47	123.754				
8,200.00	7,999.65	7,867.46	7,848.40	39.02	20.98	171.55	-327.43	-2,943.54	4,519.31	4,482.37	36.94	122.341				
8,249.36	8,049.00	7,924.45	7,905.38	39.15	21.15	-91.84	-327.46	-2,944.61	4,520.66	4,483.48	37.17	121.613				
8,300.00	8,099.64	7,984.87	7,965.79	39.28	21.32	-91.84	-327.42	-2,945.61	4,521.50	4,484.09	37.41	120.855				
8,400.00	8,199.64	8,107.81	8,088.71	39.54	21.69	-91.84	-327.55	-2,947.21	4,522.80	4,484.90	37.90	119.337				
8,500.00	8,299.64	8,217.59	8,198.49	39.79	22.02	-91.85	-327.69	-2,948.18	4,523.68	4,485.33	38.35	117.946				
8,600.00	8,399.64	8,339.18	8,320.08	40.05	22.39	-91.85	-327.88	-2,948.98	4,524.36	4,485.52	38.84	116.478				
8,700.00	8,499.64	8,444.27	8,425.17	40.31	22.71	-91.85	-328.16	-2,949.27	4,524.64	4,485.35	39.29	115.149				
8,800.00	8,599.64	8,555.68	8,536.57	40.57	23.07	-91.86	-328.77	-2,949.45	4,524.83	4,485.07	39.77	113.786				
8,900.00	8,699.64	8,697.62	8,678.51	40.84	23.52	-91.87	-330.00	-2,948.66	4,524.28	4,483.96	40.32	112.201				
9,000.00	8,799.64	8,824.02	8,804.89	41.10	23.93	-91.90	-331.81	-2,947.04	4,523.05	4,482.21	40.84	110.751				
9,100.00	8,899.64	8,930.87	8,911.72	41.37	24.27	-91.92	-333.10	-2,945.39	4,521.55	4,480.24	41.30	109.469				
9,200.00	8,999.64	9,062.72	9,043.52	41.64	24.69	-91.94	-334.87	-2,942.58	4,519.45	4,477.61	41.84	108.028				
9,300.00	9,099.64	9,156.02	9,136.77	41.91	25.00	-91.97	-337.07	-2,940.29	4,517.07	4,474.80	42.27	106.860				
9,400.00	9,199.64	9,221.01	9,201.72	42.18	25.21	-91.99	-338.93	-2,938.95	4,515.16	4,472.53	42.63	105.910				
9,444.40	9,244.04	9,245.31	9,226.01	42.30	25.29	-92.00	-339.46	-2,938.64	4,514.61	4,471.83	42.78	105.532				
9,450.00	9,249.64	9,248.38	9,229.08	42.31	25.30	-91.46	-339.51	-2,938.60	4,514.56	4,471.76	42.80	105.485				
9,500.00	9,299.56	9,278.00	9,258.69	42.44	25.40	-91.52	-339.97	-2,938.39	4,514.28	4,471.31	42.97	105.062				
9,550.00	9,349.05	9,334.19	9,314.88	42.57	25.58	-91.64	-340.58	-2,938.07	4,514.21	4,471.00	43.21	104.481				
9,589.40	9,387.50	9,381.91	9,362.60	42.67	25.74	-91.78	-340.99	-2,937.69	4,514.17	4,470.77	43.40	104.011				
9,600.00	9,397.74	9,388.90	9,369.59	42.69	25.76	-91.80	-341.05	-2,937.64	4,514.17	4,470.73	43.44	103.924				

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 304H
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 304H	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 #2	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		
9,650.00	9,445.26	9,433.57	9,414.25	42.80	25.91	-91.97	-341.42	-2,937.29	4,514.31	4,470.68	43.64	103.450		
9,700.00	9,491.25	9,481.24	9,461.92	42.91	26.06	-92.17	-341.82	-2,936.93	4,514.70	4,470.86	43.84	102.976		
9,750.00	9,535.36	9,537.51	9,518.19	43.00	26.24	-92.45	-341.92	-2,936.43	4,515.27	4,471.20	44.07	102.468		
9,800.00	9,577.25	9,575.09	9,555.77	43.08	26.36	-92.62	-341.72	-2,936.04	4,516.11	4,471.87	44.23	102.094		
9,850.00	9,616.61	9,602.54	9,583.22	43.15	26.44	-92.70	-341.48	-2,935.84	4,517.42	4,473.05	44.37	101.803		
9,900.00	9,653.13	9,628.17	9,608.84	43.21	26.52	-92.74	-341.18	-2,935.72	4,519.28	4,474.77	44.51	101.540		
9,950.00	9,686.53	9,652.30	9,632.97	43.27	26.59	-92.72	-340.84	-2,935.67	4,521.69	4,477.06	44.64	101.301		
10,000.00	9,716.57	9,687.65	9,668.31	43.31	26.70	-92.78	-340.25	-2,935.62	4,524.66	4,479.86	44.79	101.011		
10,050.00	9,743.01	9,719.09	9,699.75	43.35	26.79	-92.76	-339.67	-2,935.55	4,528.17	4,483.23	44.94	100.757		
10,100.00	9,765.66	9,745.65	9,726.30	43.38	26.87	-92.65	-339.13	-2,935.48	4,532.27	4,487.19	45.08	100.544		
10,150.00	9,784.34	9,766.74	9,747.38	43.41	26.93	-92.42	-338.69	-2,935.41	4,537.01	4,491.81	45.20	100.377		
10,200.00	9,798.90	9,783.51	9,764.15	43.43	26.98	-92.08	-338.32	-2,935.35	4,542.40	4,497.09	45.31	100.248		
10,250.00	9,809.24	9,795.82	9,776.46	43.47	27.02	-91.62	-338.04	-2,935.31	4,548.44	4,503.03	45.41	100.159		
10,300.00	9,815.28	9,803.56	9,784.20	43.50	27.04	-91.04	-337.86	-2,935.28	4,555.13	4,509.63	45.50	100.111		
10,344.40	9,817.00	9,806.52	9,787.16	43.54	27.05	-90.43	-337.80	-2,935.27	4,561.58	4,516.01	45.57	100.104		
10,400.00	9,817.00	9,807.91	9,788.54	43.61	27.05	-90.45	-337.76	-2,935.26	4,570.27	4,524.62	45.65	100.112		
10,500.00	9,817.00	9,810.42	9,791.06	43.77	27.06	-90.48	-337.71	-2,935.26	4,587.56	4,541.74	45.83	100.108		
10,600.00	9,817.00	9,812.96	9,793.59	43.98	27.07	-90.51	-337.65	-2,935.25	4,606.96	4,560.93	46.03	100.088		
10,700.00	9,817.00	9,815.51	9,796.14	44.25	27.08	-90.54	-337.59	-2,935.24	4,628.44	4,582.18	46.26	100.054		
10,800.00	9,817.00	9,818.08	9,798.72	44.59	27.08	-90.57	-337.53	-2,935.23	4,651.96	4,605.45	46.52	100.009		
10,900.00	9,817.00	9,820.68	9,801.31	44.99	27.09	-90.61	-337.47	-2,935.22	4,677.51	4,630.71	46.79	99.959		
11,000.00	9,817.00	9,823.29	9,803.93	45.47	27.10	-90.64	-337.40	-2,935.21	4,705.03	4,657.94	47.10	99.905		
11,100.00	9,817.00	9,825.93	9,806.56	46.01	27.11	-90.67	-337.34	-2,935.20	4,734.52	4,687.10	47.42	99.852		
11,200.00	9,817.00	9,828.59	9,809.22	46.61	27.12	-90.71	-337.28	-2,935.19	4,765.91	4,718.16	47.75	99.802		
11,300.00	9,817.00	9,831.27	9,811.90	47.28	27.12	-90.74	-337.21	-2,935.17	4,799.18	4,751.08	48.11	99.760		
11,400.00	9,817.00	9,833.97	9,814.60	48.01	27.13	-90.78	-337.15	-2,935.16	4,834.29	4,785.82	48.48	99.727		
11,500.00	9,817.00	9,836.70	9,817.33	48.79	27.14	-90.81	-337.08	-2,935.15	4,871.20	4,822.35	48.85	99.708		
11,600.00	9,817.00	9,839.61	9,820.24	49.63	27.15	-90.85	-337.01	-2,935.14	4,909.87	4,860.63	49.25	99.703 SF		
11,700.00	9,817.00	9,843.60	9,824.23	50.51	27.16	-90.90	-336.91	-2,935.12	4,950.26	4,900.61	49.65	99.709		
11,800.00	9,817.00	9,847.92	9,828.55	51.44	27.17	-90.95	-336.80	-2,935.11	4,992.32	4,942.26	50.05	99.737		

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 304H
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 304H	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 #2	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		
0.00	0.00	0.00	0.00	0.00	0.00	-89.85	7.57	-2,950.28	2,950.97					
100.00	100.00	33.22	33.22	0.13	0.05	-89.85	7.56	-2,950.30	2,950.31	2,950.17	0.14	N/A CC		
200.00	200.00	124.25	124.25	0.48	0.20	-89.85	7.48	-2,950.54	2,950.57	2,950.05	0.52	5,636.976 ES		
300.00	300.00	215.27	215.26	0.84	0.35	-89.86	7.30	-2,951.06	2,951.14	2,950.23	0.91	3,241.244		
400.00	400.00	310.81	310.81	1.20	0.65	-89.86	7.04	-2,951.83	2,951.95	2,950.59	1.36	2,164.132		
500.00	500.00	411.76	411.75	1.56	1.01	-89.87	6.92	-2,952.71	2,952.82	2,950.96	1.86	1,590.247		
600.00	600.00	508.72	508.71	1.92	1.36	-89.86	7.04	-2,953.56	2,953.70	2,951.35	2.35	1,257.955		
700.00	700.00	599.34	599.32	2.28	1.68	-89.86	7.17	-2,954.53	2,954.77	2,951.94	2.83	1,044.634		
800.00	800.00	692.00	691.97	2.63	2.01	-89.86	7.19	-2,955.89	2,956.24	2,952.92	3.31	891.937		
900.00	900.00	780.05	780.00	2.99	2.33	-89.86	7.17	-2,957.48	2,958.03	2,954.24	3.79	780.284		
1,000.00	1,000.00	860.63	860.57	3.35	2.62	-89.86	7.01	-2,959.28	2,960.26	2,956.01	4.25	696.353		
1,100.00	1,100.00	944.63	944.54	3.71	2.92	-89.87	6.82	-2,961.66	2,963.10	2,958.38	4.72	627.942		
1,200.00	1,200.00	1,039.20	1,039.05	4.07	3.26	-89.87	6.78	-2,964.73	2,966.33	2,961.12	5.21	569.332		
1,300.00	1,300.00	1,139.04	1,138.84	4.43	3.62	-89.87	6.87	-2,968.01	2,969.63	2,963.91	5.71	519.709		
1,400.00	1,400.00	1,229.00	1,228.74	4.79	3.95	-89.86	7.07	-2,971.11	2,973.07	2,966.87	6.20	479.886		
1,500.00	1,499.98	1,337.53	1,337.21	5.13	4.34	173.53	7.37	-2,974.93	2,978.33	2,971.61	6.71	443.665		
1,600.00	1,599.84	1,452.94	1,452.56	5.48	4.76	173.53	7.30	-2,978.55	2,986.67	2,979.43	7.24	412.391		
1,700.00	1,699.45	1,593.37	1,592.95	5.83	5.26	173.51	6.17	-2,981.48	2,997.39	2,989.56	7.83	382.670		
1,800.00	1,798.70	1,697.73	1,697.30	6.18	5.63	173.48	4.99	-2,982.80	3,010.75	3,002.41	8.34	361.101		
1,900.00	1,897.47	1,803.66	1,803.21	6.55	6.01	173.45	3.51	-2,984.03	3,027.43	3,018.59	8.85	342.213		
2,000.00	1,995.62	1,921.70	1,921.23	6.93	6.42	173.42	1.65	-2,985.07	3,047.29	3,037.90	9.38	324.747		
2,100.00	2,093.06	2,130.16	2,129.63	7.34	7.12	173.43	-0.46	-2,981.30	3,067.48	3,057.36	10.11	303.301		
2,152.08	2,143.47	2,187.22	2,186.66	7.56	7.30	173.43	-0.70	-2,979.38	3,078.75	3,068.37	10.38	296.696		
2,200.00	2,189.75	2,239.38	2,238.79	7.76	7.47	173.46	-0.80	-2,977.53	3,089.46	3,078.84	10.62	290.974		
2,300.00	2,286.32	2,354.53	2,353.85	8.21	7.85	173.53	-0.48	-2,973.03	3,111.47	3,100.33	11.14	279.408		
2,400.00	2,382.90	2,425.51	2,424.78	8.67	8.09	173.58	-0.11	-2,970.29	3,133.54	3,121.98	11.56	271.105		
2,500.00	2,479.47	2,502.88	2,502.11	9.14	8.35	173.63	0.21	-2,968.00	3,156.45	3,144.45	12.00	263.085		
2,600.00	2,576.04	2,588.35	2,587.55	9.62	8.64	173.67	0.37	-2,965.83	3,179.79	3,167.33	12.46	255.224		
2,700.00	2,672.62	2,677.61	2,676.79	10.11	8.94	173.72	0.33	-2,963.87	3,203.46	3,190.53	12.93	247.728		
2,800.00	2,769.19	2,735.00	2,734.17	10.60	9.13	173.75	0.40	-2,962.67	3,227.48	3,214.15	13.33	242.157		
2,900.00	2,865.77	2,806.60	2,805.75	11.10	9.26	173.77	-0.81	-2,961.90	3,252.39	3,238.71	13.68	237.782		
3,000.00	2,962.34	2,833.00	2,832.12	11.61	9.30	173.76	-1.95	-2,961.98	3,278.94	3,264.97	13.97	234.776		
3,100.00	3,058.91	2,875.93	2,874.95	12.12	9.31	173.73	-4.70	-2,962.92	3,307.18	3,292.95	14.23	232.387		
3,200.00	3,155.49	2,926.00	2,924.72	12.64	9.32	173.67	-9.43	-2,965.67	3,337.69	3,323.19	14.50	230.190		
3,300.00	3,252.06	2,926.00	2,924.72	13.16	9.32	173.67	-9.43	-2,965.67	3,369.65	3,354.91	14.74	228.660		
3,400.00	3,348.63	2,971.97	2,970.23	13.68	9.34	173.60	-14.61	-2,969.48	3,403.46	3,388.46	15.00	226.849		
3,500.00	3,445.21	3,021.00	3,018.66	14.21	9.35	173.52	-20.36	-2,974.57	3,438.93	3,423.66	15.27	225.166		
3,600.00	3,541.78	3,183.38	3,179.23	14.74	9.46	173.28	-38.61	-2,990.29	3,474.00	3,458.33	15.67	221.696		
3,700.00	3,638.36	3,393.37	3,387.97	15.27	9.64	173.08	-56.72	-3,003.78	3,505.32	3,489.18	16.14	217.139		
3,800.00	3,734.93	3,485.00	3,479.20	15.80	9.74	173.01	-63.77	-3,008.71	3,536.28	3,519.78	16.50	214.322		
3,900.00	3,831.50	3,825.57	3,818.90	16.33	10.18	172.81	-86.48	-3,012.53	3,561.08	3,543.91	17.18	207.339		
4,000.00	3,928.08	3,922.54	3,915.63	16.87	10.32	172.75	-93.16	-3,011.10	3,585.47	3,567.89	17.57	204.041		
4,100.00	4,024.65	4,021.49	4,014.33	17.41	10.48	172.69	-100.01	-3,009.63	3,609.83	3,591.85	17.98	200.773		
4,200.00	4,121.22	4,112.79	4,105.37	17.95	10.64	172.63	-106.69	-3,008.27	3,634.20	3,615.82	18.38	197.681		
4,300.00	4,217.80	4,235.78	4,227.99	18.49	10.86	172.55	-116.14	-3,006.27	3,658.48	3,639.64	18.84	194.165		
4,400.00	4,314.37	4,313.78	4,305.72	19.03	11.01	172.49	-122.29	-3,004.85	3,682.54	3,663.30	19.24	191.396		
4,500.00	4,410.95	4,428.04	4,419.56	19.58	11.25	172.40	-131.97	-3,002.84	3,706.69	3,686.98	19.70	188.138		
4,600.00	4,507.52	4,513.00	4,504.14	20.12	11.43	172.32	-139.77	-3,001.23	3,730.70	3,710.58	20.12	185.393		
4,700.00	4,604.09	4,599.61	4,590.34	20.66	11.63	172.24	-148.10	-2,999.80	3,754.98	3,734.43	20.55	182.706		
4,800.00	4,700.67	4,700.00	4,690.24	21.21	11.87	172.14	-157.90	-2,998.29	3,779.40	3,758.39	21.01	179.881		
4,900.00	4,797.24	4,785.83	4,775.62	21.76	12.08	172.05	-166.63	-2,997.06	3,803.91	3,782.47	21.45	177.360		
5,000.00	4,893.81	4,886.26	4,875.45	22.30	12.33	171.93	-177.53	-2,995.71	3,828.54	3,806.62	21.92	174.675		

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 304H
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 304H	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 #2	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			
5,100.00	4,990.39	5,082.04	5,069.71	22.85	12.86	171.68	-201.30	-2,990.88	3,852.36	3,829.76	22.59	170.508			
5,200.00	5,086.96	5,165.00	5,151.92	23.40	13.09	171.56	-211.99	-2,987.83	3,874.77	3,851.73	23.05	168.127			
5,300.00	5,183.54	5,273.16	5,258.95	23.95	13.41	171.40	-227.02	-2,983.73	3,897.15	3,873.59	23.56	165.412			
5,400.00	5,280.11	5,372.55	5,357.19	24.50	13.71	171.23	-241.56	-2,979.74	3,919.35	3,895.29	24.06	162.891			
5,500.00	5,376.68	5,474.11	5,457.70	25.05	14.02	171.08	-255.52	-2,975.71	3,941.61	3,917.04	24.57	160.435			
5,600.00	5,473.26	5,570.19	5,552.98	25.60	14.42	170.96	-268.80	-2,969.47	3,963.11	3,937.96	25.14	157.623			
5,700.00	5,569.83	5,676.72	5,659.23	26.15	14.62	170.93	-274.05	-2,966.33	3,984.51	3,958.95	25.56	155.864			
5,800.00	5,666.41	5,727.00	5,709.35	26.70	14.76	170.90	-277.58	-2,964.52	4,006.97	3,981.03	25.95	154.429			
5,900.00	5,762.98	5,793.22	5,775.41	27.26	14.95	170.88	-281.82	-2,962.81	4,030.37	4,004.01	26.36	152.882			
6,000.00	5,859.55	5,868.19	5,850.23	27.81	15.17	170.86	-286.32	-2,961.49	4,054.52	4,027.73	26.80	151.304			
6,100.00	5,956.13	5,958.20	5,940.10	28.36	15.43	170.84	-291.31	-2,960.21	4,078.99	4,051.72	27.27	149.600			
6,200.00	6,052.70	6,051.53	6,033.30	28.92	15.70	170.83	-295.82	-2,958.96	4,103.53	4,075.79	27.74	147.915			
6,300.00	6,149.27	6,144.93	6,126.60	29.47	15.97	170.82	-300.16	-2,957.85	4,128.20	4,099.98	28.22	146.287			
6,400.00	6,245.85	6,245.82	6,227.37	30.02	16.27	170.81	-304.89	-2,956.63	4,152.85	4,124.13	28.72	144.613			
6,500.00	6,342.42	6,338.52	6,319.97	30.58	16.54	170.81	-308.93	-2,955.45	4,177.43	4,148.23	29.20	143.086			
6,600.00	6,439.00	6,428.92	6,410.29	31.13	16.81	170.81	-312.71	-2,954.53	4,202.24	4,172.57	29.67	141.638			
6,700.00	6,535.57	6,541.38	6,522.65	31.69	17.15	170.81	-317.42	-2,953.27	4,226.97	4,196.78	30.20	139.975			
6,800.00	6,632.14	6,660.33	6,641.51	32.24	17.50	170.82	-321.51	-2,951.36	4,251.19	4,220.44	30.74	138.291			
6,900.00	6,728.72	6,770.36	6,751.51	32.80	17.81	170.87	-322.51	-2,949.24	4,274.99	4,243.74	31.25	136.794			
7,000.00	6,825.29	6,863.56	6,844.69	33.35	18.08	170.91	-322.99	-2,947.37	4,298.71	4,266.99	31.72	135.514			
7,100.00	6,921.86	6,950.52	6,931.64	33.91	18.32	170.95	-323.53	-2,945.78	4,322.61	4,290.43	32.18	134.328			
7,200.00	7,018.44	7,050.33	7,031.43	34.46	18.61	170.99	-324.33	-2,944.03	4,346.60	4,313.93	32.67	133.044			
7,300.00	7,115.01	7,155.26	7,136.34	35.02	18.92	171.04	-325.16	-2,942.05	4,370.45	4,337.28	33.17	131.740			
7,400.00	7,211.59	7,254.86	7,235.91	35.57	19.21	171.08	-325.87	-2,940.04	4,394.18	4,360.52	33.67	130.517			
7,497.28	7,305.53	7,344.86	7,325.89	36.11	19.48	171.12	-326.66	-2,938.24	4,417.29	4,383.15	34.13	129.418			
7,500.00	7,308.16	7,347.22	7,328.25	36.13	19.48	171.12	-326.68	-2,938.19	4,417.93	4,383.79	34.14	129.389			
7,600.00	7,405.19	7,409.00	7,390.01	36.66	19.67	171.22	-327.33	-2,937.05	4,440.19	4,405.64	34.54	128.541			
7,700.00	7,503.00	7,469.83	7,450.84	37.16	19.84	171.30	-327.68	-2,936.44	4,459.87	4,424.95	34.93	127.697			
7,800.00	7,601.48	7,503.00	7,484.01	37.61	19.94	171.36	-327.60	-2,936.49	4,477.38	4,442.15	35.23	127.099			
7,900.00	7,700.51	7,577.63	7,558.63	38.02	20.15	171.43	-327.34	-2,937.36	4,492.34	4,456.71	35.62	126.111			
8,000.00	7,799.96	7,654.31	7,635.30	38.39	20.36	171.49	-327.33	-2,938.96	4,504.71	4,468.69	36.02	125.075			
8,100.00	7,899.71	7,757.98	7,738.94	38.73	20.66	171.53	-327.51	-2,941.31	4,513.86	4,477.38	36.47	123.754			
8,200.00	7,999.65	7,867.46	7,848.40	39.02	20.98	171.55	-327.43	-2,943.54	4,519.31	4,482.37	36.94	122.341			
8,249.36	8,049.00	7,924.45	7,905.38	39.15	21.15	-91.84	-327.46	-2,944.61	4,520.66	4,483.48	37.17	121.613			
8,300.00	8,099.64	7,984.87	7,965.79	39.28	21.32	-91.84	-327.42	-2,945.61	4,521.50	4,484.09	37.41	120.855			
8,400.00	8,199.64	8,107.81	8,088.71	39.54	21.69	-91.84	-327.55	-2,947.21	4,522.80	4,484.90	37.90	119.337			
8,500.00	8,299.64	8,217.59	8,198.49	39.79	22.02	-91.85	-327.69	-2,948.18	4,523.68	4,485.33	38.35	117.946			
8,600.00	8,399.64	8,339.18	8,320.08	40.05	22.39	-91.85	-327.88	-2,948.98	4,524.36	4,485.52	38.84	116.478			
8,700.00	8,499.64	8,444.27	8,425.17	40.31	22.71	-91.85	-328.16	-2,949.27	4,524.64	4,485.35	39.29	115.149			
8,800.00	8,599.64	8,555.68	8,536.57	40.57	23.07	-91.86	-328.77	-2,949.45	4,524.83	4,485.07	39.77	113.786			
8,900.00	8,699.64	8,697.62	8,678.51	40.84	23.52	-91.87	-330.00	-2,948.66	4,524.28	4,483.96	40.32	112.201			
9,000.00	8,799.64	8,824.02	8,804.89	41.10	23.93	-91.90	-331.81	-2,947.04	4,523.05	4,482.21	40.84	110.751			
9,100.00	8,899.64	8,930.87	8,911.72	41.37	24.27	-91.92	-333.10	-2,945.39	4,521.55	4,480.24	41.30	109.469			
9,200.00	8,999.64	9,062.72	9,043.52	41.64	24.69	-91.94	-334.87	-2,942.58	4,519.45	4,477.61	41.84	108.028			
9,300.00	9,099.64	9,156.02	9,136.77	41.91	25.00	-91.97	-337.07	-2,940.29	4,517.07	4,474.80	42.27	106.860			
9,400.00	9,199.64	9,221.01	9,201.72	42.18	25.21	-91.99	-338.93	-2,938.95	4,515.16	4,472.53	42.63	105.910			
9,444.40	9,244.04	9,245.31	9,226.01	42.30	25.29	-92.00	-339.46	-2,938.64	4,514.61	4,471.83	42.78	105.532			
9,450.00	9,249.64	9,248.38	9,229.08	42.31	25.30	-91.46	-339.51	-2,938.60	4,514.56	4,471.76	42.80	105.485			
9,500.00	9,299.56	9,278.00	9,258.69	42.44	25.40	-91.52	-339.97	-2,938.39	4,514.28	4,471.31	42.97	105.062			
9,550.00	9,349.05	9,334.19	9,314.88	42.57	25.58	-91.64	-340.58	-2,938.07	4,514.21	4,471.00	43.21	104.481			
9,589.40	9,387.50	9,381.91	9,362.60	42.67	25.74	-91.78	-340.99	-2,937.69	4,514.17	4,470.77	43.40	104.011			
9,600.00	9,397.74	9,388.90	9,369.59	42.69	25.76	-91.80	-341.05	-2,937.64	4,514.17	4,470.73	43.44	103.924			

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 304H
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 304H	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 #2	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				
9,650.00	9,445.26	9,433.57	9,414.25	42.80	25.91	-91.97	-341.42	-2,937.29	4,514.31	4,470.68	43.64	103.450				
9,700.00	9,491.25	9,481.24	9,461.92	42.91	26.06	-92.17	-341.82	-2,936.93	4,514.70	4,470.86	43.84	102.976				
9,750.00	9,535.36	9,537.51	9,518.19	43.00	26.24	-92.45	-341.92	-2,936.43	4,515.27	4,471.20	44.07	102.468				
9,800.00	9,577.25	9,575.09	9,555.77	43.08	26.36	-92.62	-341.72	-2,936.04	4,516.11	4,471.87	44.23	102.094				
9,850.00	9,616.61	9,602.54	9,583.22	43.15	26.44	-92.70	-341.48	-2,935.84	4,517.42	4,473.05	44.37	101.803				
9,900.00	9,653.13	9,628.17	9,608.84	43.21	26.52	-92.74	-341.18	-2,935.72	4,519.28	4,474.77	44.51	101.540				
9,950.00	9,686.53	9,652.30	9,632.97	43.27	26.59	-92.72	-340.84	-2,935.67	4,521.69	4,477.06	44.64	101.301				
10,000.00	9,716.57	9,687.65	9,668.31	43.31	26.70	-92.78	-340.25	-2,935.62	4,524.66	4,479.86	44.79	101.011				
10,050.00	9,743.01	9,719.09	9,699.75	43.35	26.79	-92.76	-339.67	-2,935.55	4,528.17	4,483.23	44.94	100.757				
10,100.00	9,765.66	9,745.65	9,726.30	43.38	26.87	-92.65	-339.13	-2,935.48	4,532.27	4,487.19	45.08	100.544				
10,150.00	9,784.34	9,766.74	9,747.38	43.41	26.93	-92.42	-338.69	-2,935.41	4,537.01	4,491.81	45.20	100.377				
10,200.00	9,798.90	9,783.51	9,764.15	43.43	26.98	-92.08	-338.32	-2,935.35	4,542.40	4,497.09	45.31	100.248				
10,250.00	9,809.24	9,795.82	9,776.46	43.47	27.02	-91.62	-338.04	-2,935.31	4,548.44	4,503.03	45.41	100.159				
10,300.00	9,815.28	9,803.56	9,784.20	43.50	27.04	-91.04	-337.86	-2,935.28	4,555.13	4,509.63	45.50	100.111				
10,344.40	9,817.00	9,806.52	9,787.16	43.54	27.05	-90.43	-337.80	-2,935.27	4,561.58	4,516.01	45.57	100.104				
10,400.00	9,817.00	9,807.91	9,788.54	43.61	27.05	-90.45	-337.76	-2,935.26	4,570.27	4,524.62	45.65	100.112				
10,500.00	9,817.00	9,810.42	9,791.06	43.77	27.06	-90.48	-337.71	-2,935.26	4,587.56	4,541.74	45.83	100.108				
10,600.00	9,817.00	9,812.96	9,793.59	43.98	27.07	-90.51	-337.65	-2,935.25	4,606.96	4,560.93	46.03	100.088				
10,700.00	9,817.00	9,815.51	9,796.14	44.25	27.08	-90.54	-337.59	-2,935.24	4,628.44	4,582.18	46.26	100.054				
10,800.00	9,817.00	9,818.08	9,798.72	44.59	27.08	-90.57	-337.53	-2,935.23	4,651.96	4,605.45	46.52	100.009				
10,900.00	9,817.00	9,820.68	9,801.31	44.99	27.09	-90.61	-337.47	-2,935.22	4,677.51	4,630.71	46.79	99.959				
11,000.00	9,817.00	9,823.29	9,803.93	45.47	27.10	-90.64	-337.40	-2,935.21	4,705.03	4,657.94	47.10	99.905				
11,100.00	9,817.00	9,825.93	9,806.56	46.01	27.11	-90.67	-337.34	-2,935.20	4,734.52	4,687.10	47.42	99.852				
11,200.00	9,817.00	9,828.59	9,809.22	46.61	27.12	-90.71	-337.28	-2,935.19	4,765.91	4,718.16	47.75	99.802				
11,300.00	9,817.00	9,831.27	9,811.90	47.28	27.12	-90.74	-337.21	-2,935.17	4,799.18	4,751.08	48.11	99.760				
11,400.00	9,817.00	9,833.97	9,814.60	48.01	27.13	-90.78	-337.15	-2,935.16	4,834.29	4,785.82	48.48	99.727				
11,500.00	9,817.00	9,836.70	9,817.33	48.79	27.14	-90.81	-337.08	-2,935.15	4,871.20	4,822.35	48.85	99.708				
11,600.00	9,817.00	9,839.61	9,820.24	49.63	27.15	-90.85	-337.01	-2,935.14	4,909.87	4,860.63	49.25	99.703				
11,700.00	9,817.00	9,843.60	9,824.23	50.51	27.16	-90.90	-336.91	-2,935.12	4,950.26	4,900.61	49.65	99.709				
11,800.00	9,817.00	9,847.92	9,828.55	51.44	27.17	-90.95	-336.80	-2,935.11	4,992.32	4,942.26	50.05	99.737				
13,700.00	9,817.00	16,088.38	11,948.91	74.43	71.02	-116.07	3,867.20	-2,953.11	4,998.61	4,902.10	96.51	51.791				
13,800.00	9,817.00	16,143.00	11,949.86	75.81	71.84	-116.09	3,921.78	-2,951.57	4,995.91	4,898.03	97.88	51.041				
13,900.00	9,817.00	16,209.24	11,951.12	77.21	72.84	-116.11	3,988.00	-2,950.23	4,994.01	4,894.63	99.38	50.252				
14,000.00	9,817.00	16,290.54	11,952.33	78.61	74.07	-116.13	4,069.28	-2,949.04	4,992.52	4,891.46	101.06	49.400				
14,100.00	9,817.00	16,382.84	11,953.34	80.03	75.48	-116.15	4,161.57	-2,948.22	4,991.35	4,888.47	102.88	48.514				
14,200.00	9,817.00	16,466.10	11,953.41	81.45	76.75	-116.16	4,244.83	-2,947.96	4,990.28	4,885.66	104.61	47.703				
14,295.60	9,817.00	16,521.00	11,953.63	82.82	77.59	-116.16	4,299.73	-2,948.04	4,989.81	4,883.84	105.97	47.088				
14,300.00	9,817.00	16,521.00	11,953.63	82.88	77.59	-116.16	4,299.73	-2,948.04	4,989.81	4,883.81	106.00	47.074				
14,400.00	9,817.00	16,563.89	11,953.78	84.32	78.25	-116.16	4,342.61	-2,948.59	4,990.39	4,883.15	107.24	46.535				
14,500.00	9,817.00	16,615.00	11,953.66	85.77	79.04	-116.16	4,393.69	-2,950.35	4,992.33	4,883.74	108.58	45.978				
14,600.00	9,817.00	16,760.97	11,953.52	87.22	81.29	-116.14	4,539.59	-2,954.79	4,994.21	4,883.08	111.13	44.940				
14,700.00	9,817.00	16,762.00	11,953.52	88.69	81.31	-116.14	4,540.62	-2,954.81	4,996.48	4,884.65	111.83	44.678 SF				

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



Total Directional Services

Anticollision Report

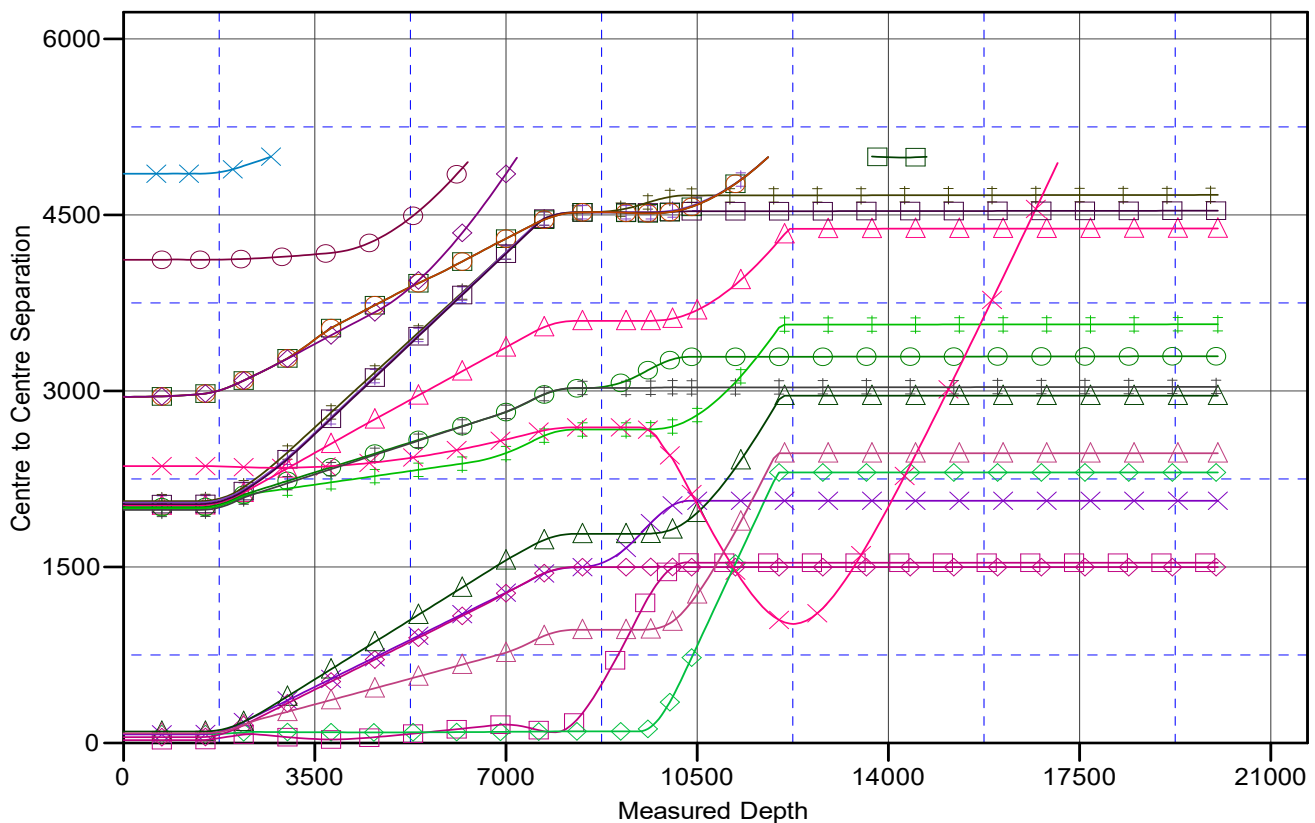


Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 304H
Project:	Lea County, NM (NAD83)	TVD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Reference Site:	FMM Fed Com	MD Reference:	3333.5' GE + 30' KB @ 3363.50usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 304H	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 #2	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 304H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.54°

Ladder Plot



LEGEND

FMM Fed Com 101H, OH, Plan #1 V0	FMM Fed Com 102H, OH, Plan #1 V0	FMM Fed Com 302H, OH, Plan #1 V0
FMM Fed Com 104H, OH, Plan #2 V0	FMM Fed Com 303H, OH, Plan #1 V0	FMM Fed Com 301H, OH, Plan #1 V0
Amoco State #001 (Offset), OH, OH V0	Pre-Orangard Well #001 (Offset), OH, OH V0	Proxy WCA State Com #001H (Offset), ST02, ST02 V0
FMM Fed Com 806H, OH, Plan #2 V0	FMM Fed Com 804H, 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), OH, OH V0
FMM Fed Com 801H, OH, Plan #1 V0	Blue Bay WCA State Com #001C (Offset Plan), OH, Plan #1 V0	
FMM Fed Com 802H, 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 304H
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 304H	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 #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 3333.5' GE + 30' KB @ 3363.50usft

Offset Depths are relative to Offset Datum

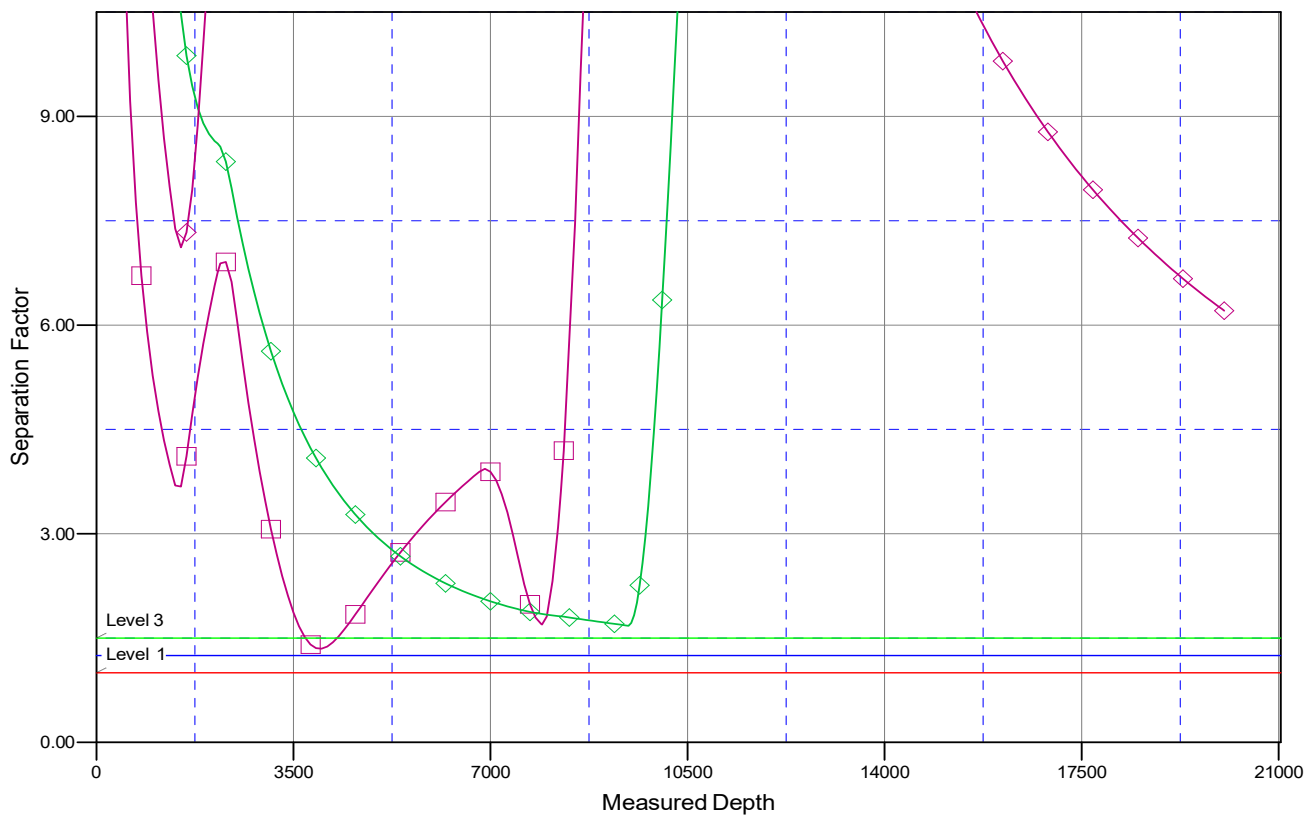
Central Meridian is -104.333334

Coordinates are relative to: FMM Fed Com 304H

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

Grid Convergence at Surface is: 0.54°

Separation Factor Plot



LEGEND

FMM Fed Com 101H, OH, Plan #1 V0	FMM Fed Com 102H, OH, Plan #1 V0	FMM Fed Com 302H, OH, Plan #1 V0
FMM Fed Com 104H, OH, Plan #2 V0	FMM Fed Com 303H, OH, Plan #1 V0	FMM Fed Com 301H, OH, Plan #1 V0
Amoco State #001 (Offset), OH, OH V0	Pre-Ongard Well #001 (Offset), OH, OH V0	Proxy WCA State Com #001H (Offset), ST02, ST02 V0
FMM Fed Com 806H, OH, Plan #2 V0	FMM Fed Com 804H, 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), OH, OH V0
FMM Fed Com 801H, OH, Plan #1 V0	Blue Bay WCA State Com #001C (Offset Plan), OH, Plan #1 V0	
FMM Fed Com 802H, 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 85997

CONDITIONS

Operator: Franklin Mountain Energy LLC 44 Cook Street Denver, CO 80206	OGRID: 373910
	Action Number: 85997
	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