

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. 30-025-49818
3a. Address	3b. Phone No. (include area code)	10. Field and Pool, or Exploratory [98187]
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish 13. State
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

- | | |
|---|---|
| 1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM. |
|---|---|

25. Signature	Name (Printed/Typed)	Date
Title		
Approved by (Signature)	Name (Printed/Typed)	Date
Title		
Office		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
 Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

NGMP Rec 03/03/2022

SL

(Continued on page 2)



Approval Date: 02/11/2022

KZ
03/04/2022

*(Instructions on page 2)

INSTRUCTIONS

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

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

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

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

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

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

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

NOTICES

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

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

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

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

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

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

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

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

Additional Operator Remarks

Location of Well

0. SHL: TR O / 270 FSL / 2015 FEL / TWSP: 24S / RANGE: 35E / SECTION: 36 / LAT: 32.167461 / LONG: -103.31923 (TVD: 0 feet, MD: 0 feet)

PPP: SWSE / 0 FSL / 2160 FEL / TWSP: 24S / RANGE: 35E / SECTION: 25 / LAT: 32.181244 / LONG: -103.319702 (TVD: 12181 feet, MD: 17200 feet)

PPP: TR O / 623 FSL / 2161 FEL / TWSP: 24S / RANGE: 35E / SECTION: 36 / LAT: 32.168432 / LONG: -103.319702 (TVD: 12181 feet, MD: 12515 feet)

BHL: TR B / 150 FNL / 2160 FEL / TWSP: 24S / RANGE: 35E / SECTION: 25 / LAT: 32.195343 / LONG: -103.319702 (TVD: 12181 feet, MD: 22306 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 30-025-49818	² Pool Code 98187	³ Pool Name WC-025 G-09 S253502D;UPR WOLFCAMP
⁴ Property Code 332472	⁵ Property Name FMM FED COM	⁶ Well Number 804H
⁷ OGRID No. 373910	⁸ Operator Name FRANKLIN MOUNTAIN ENERGY LLC	⁹ Elevation 3332.1'

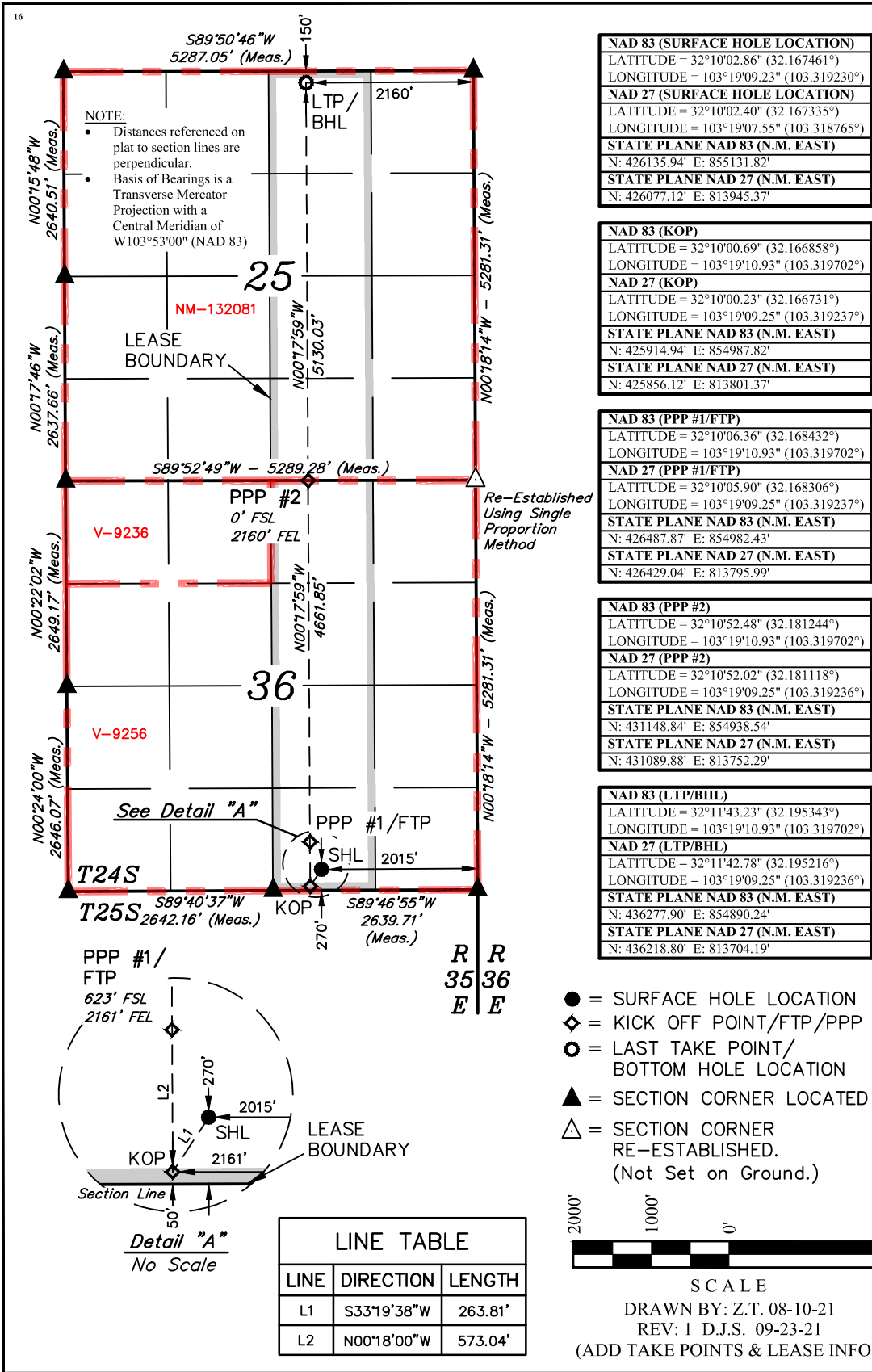
¹⁰ Surface Location

UL or lot no. O	Section 36	Township 24S	Range 35E	Lot Idn	Feet from the 270	North/South line SOUTH	Feet from the 2015	East/West line EAST	County LEA
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no. B	Section 25	Township 24S	Range 35E	Lot Idn	Feet from the 150	North/South line NORTH	Feet from the 2160	East/West line EAST	County LEA
¹² Dedicated Acres 640	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.						

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



¹⁷ OPERATOR
CERTIFICATION

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

Signature: *Shelly Albrecht* Date: 9/24/2021

Printed Name: Shelly Albrecht

salbrecht@fmellc.com

E-mail Address

¹⁸ SURVEYOR
CERTIFICATION

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

JULY 31, 2021

Date of Survey

Signature and Seal of Professional Surveyor:

PAUL BUCHELE
NEW MEXICO
23782
09-23-21
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

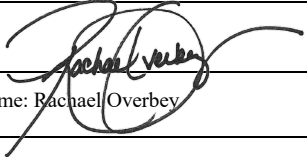
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(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 804H

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	2,111'	1,252'			Carbonates
Salado	1,900'	1,463'			Salt, Carbonate & Clastics
Base Salt	88'	3,275'			Shalely Carbonate & Shale
Capitan	-711'	4,074'			Carbonates
Lamar	-1,868'	5,231'			Carbonate & Clastics
Bell Canyon	-1,999'	5,362'			Sandstone - oil/gas/water
Cherry Canyon	-2,681'	6,044'			Sandstone - oil/gas/water
Brushy Canyon	-3,993'	7,356'			Sand/carb/shales - oil/gas/water
Bone Spring Lime	-5,167'	8,530'			Shale/Carbonates - oil/gas
Avalon	-5,234'	8,597'			Shale/Carbonates - oil/gas
Chert Zone	-5,491'	8,854'			Carbonate/Chert
First Bone Spring Sand	-6,499'	9,862'			Sandstone - oil/gas/water
Second Bone Spring Carbonates	-6,636'	9,999'			Shale/Carbonates - oil/gas
Second Bone Spring Sand	-7,052'	10,415'			Sandstone - oil/gas/water
Third Bone Spring Carbonates	-7,622'	10,985'			Shale/Carbonates - oil/gas
Third Bone Spring Sand	-8,095'	11,458'			Sandstone - oil/gas/water
Wolfcamp	-8,309'	11,672'			Overpressure shale/sand- Oil/Gas
Wolfcamp A	-8,419'	11,782'			Overpressure Shale - Oil/Gas
Wolfcamp B	-8,600'	11,963'			Overpressure Shale - Oil/Gas
HZ Target	-8,818'	12,181'			Overpressure Shale - Oil/Gas
Wolfcamp C	-8,883'	12,246'			Overpressure Shale - Oil/Gas

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

Upper Permian Sands	0- 400'	Fresh Water
Delaware Sands	5,362'	Oil
Bone Spring	9,862'	Oil
Wolfcamp	11,672'	Oil

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

4. Casing Program:

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

Casing string	Weight	Grade	Burst	Collapse	Tension	Conn	Length	API design factor			
								Burst	Collapse	Tension	Coupling
Surface 13 3/8"	54.5	J-55	2730	1130	853	BTC 909	1300	1.18	1.67	4.99	5.32
Intermediate 9 5/8"	40	HCL-80	7430	4230	916	BTC 1042	5280	1.75	1.71	2.94	3.35
Intermediate 7 5/8"	29.7	HCP-110	8280	7150	827	Stinger 564	11550	1.15	1.32	1.87	1.27
Long string 5 1/2"	23	P-110	14520	14520	729	Eagle 606 TVD	22306 12181	1.32	1.39	1.19	0.99 1.59



7 5/8" casing will be set at 11,550' MD/11,542' TVD at 0° Inc. Stress calculations on 5 1/2" casing performed assuming 22,306' depth. Actual max vertical depth is 12,181'.

Cementing Program:

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

String Type	Hole Size	Casing Size	Setting Depth	Sacks	Type of cmt	Lead Yield ft ³ /sk	Water gal/sk	TOC ft	Sacks	Type of cmt	Tail Yield ft ³ /sk	Water gal/sk	TOC	Excess
Surf	17.5	13.375	1300	803	Extenda Cem, 12.8 ppg Class C, 3lb/sk Kol-Seal	1.747	9.06	0	330	Tail, 14.8 ppg, Class C,	1.349	6.51	1000	100%
					0.125pps Poly-E-Flake					1% CaCl ₂ , 0.125pps Celo-Flake				
Int1	12.25	9.625	5280	1551	Lead, 12.8 ppg, Class C 5% Salt,	1.79	9.74	0	154	Tail, 14.8 ppg, Class C,	1.33	6.37	4980	100%
					0.125 pps Poly-E-Flake, 3lb/sk Kol-Seal					0.1% HR 800 .125 pps Poly-E-Flake				
Int2	8.75	7.625	11550	336	Lite Fill, 9.5 ppg, Class C 3lb/sk	2.13	5.97	4280	94	NeoCem 14.8 ppg, Class C	1.33	6.29	10550	50%
					Bridgemaker Gel, 5% Salt, 5pps LCM, 0.25pps Cello-Flake					0.25 pps Cello-Flake, 2% CaCl ₂				
Prod	6.75	5.5	22306	877	Tail, 14.5 ppg, Gas Migration Control	1.34	6.22	10550						20%

5. Minimum Specifications for Pressure Control:

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

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

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

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

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



6. Types and characteristics of the proposed mud system:

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

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 1,300'	Fresh - Gel	8.6-8.8	28-34	N/c
1,300' – 11,550'	Brine	8.8-10.2	28-34	N/c
11,550' – 22,306'	Oil Base	11.0-12.5	58-68	3 - 6
Lateral				

The highest mud weight needed to balance formation is expected to be 11-12.5 ppg. In order to maintain hole stability, mud weights up to 13 ppg may be utilized.

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

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

7. Auxiliary well control and monitoring equipment:

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

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

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

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

8. Logging, testing and coring program:

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

Open-hole logs are not planned for this well.

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

The estimated bottom-hole temperature at 12,181' TVD (deepest point of the well) is 195F with an estimated maximum bottom-hole pressure (BHP) at the same point of 8,234 psig (based on 13 ppg MW). Hydrogen sulfate may be present in the area. All necessary precautions will be taken before drilling operations commence. See Hydrogen Sulfide Plan below:

10. Hydrogen Sulfide Plan:

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



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

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

11. Anticipated starting date and duration of operations:

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



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

12. Disposal/environmental concerns:

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

13. Wellhead:

A multi-bowl wellhead system will be utilized.

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

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

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

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

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

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

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

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

14. Additional variance requests

A. Casing.

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

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

Franklin Mountain Energy

Project: Lea County, NM (NAD83)
Site: FMM Fed Com
Well: FMM Fed Com 804H
Wellbore: OH
Design: Plan #1



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

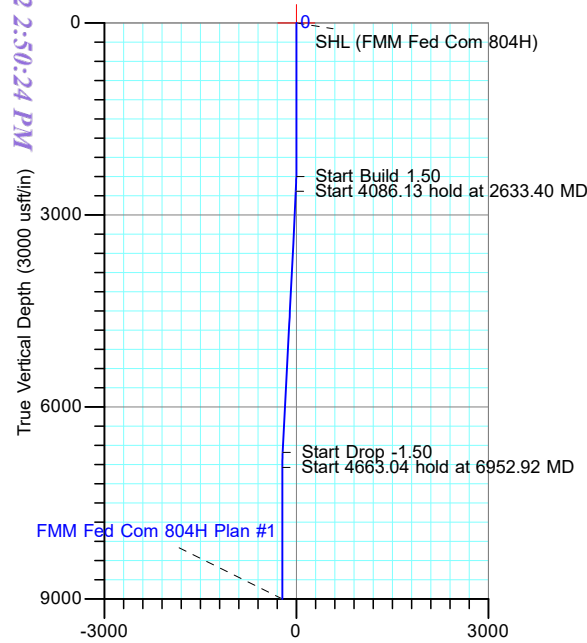
Magnetic Field
Strength: 47462.2nT
Dip Angle: 59.88°
Date: 9/7/2021
Model: IGRF2020

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



3332.1' GE + 30' KB @ 3362.10usft

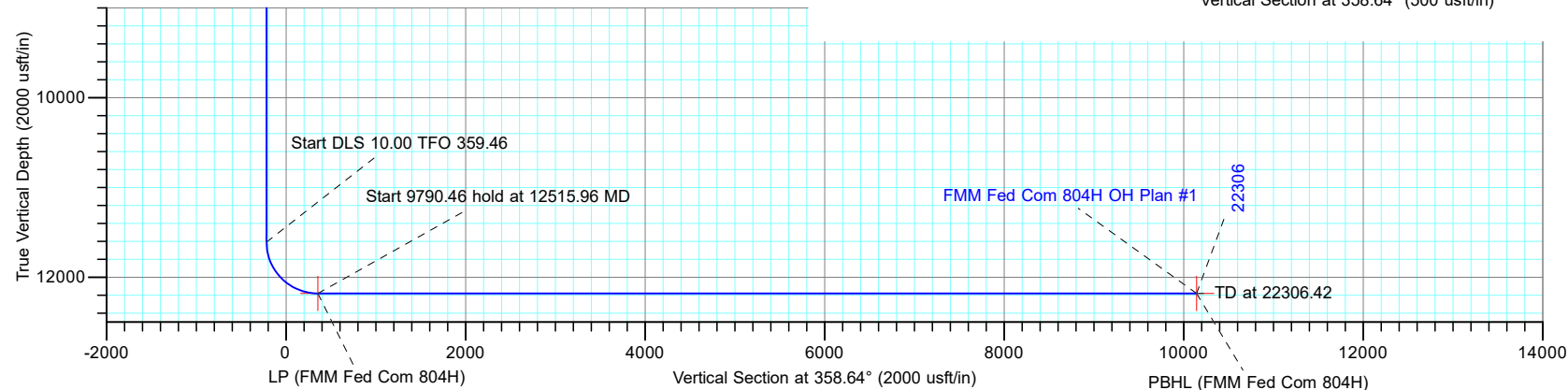
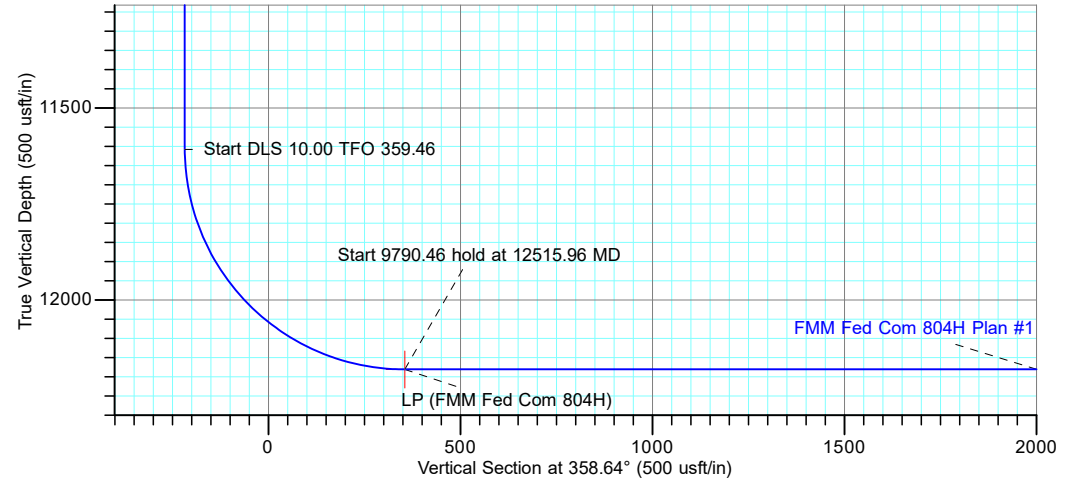


SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
2400.00	0.00	0.00	2400.00	0.00	0.00	0.00	0.00	0.00	Start 4086.13 hold at 2633.40 MD
2633.40	3.50	213.09	2633.25	-5.97	-3.89	1.50	213.09	-5.88	Start Drop -1.50
6719.52	3.50	213.09	6711.75	-215.03	-140.11	0.00	0.00	-211.63	Start 4663.04 hold at 6952.92 MD
6952.92	0.00	0.00	6945.00	-221.00	-144.00	1.50	180.00	-217.51	Start DLS 10.00 TFO 359.46
11615.96	0.00	0.00	11608.04	-221.00	-144.00	0.00	0.00	-217.51	Start 9790.46 hold at 12515.96 MD
12515.96	90.00	359.46	12181.00	351.93	-149.39	10.00	359.46	355.39	TD at 22306.42
22306.42	90.00	359.46	12181.00	10141.96	-241.58	0.00	0.00	10144.84	

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
LP (FMM Fed Com 804H)	12181.00	351.93	-149.39	32.168432	-103.319702
PBHL (FMM Fed Com 804H)	12181.00	10141.96	-241.58	32.195343	-103.319702
SHL (FMM Fed Com 804H)	0.00	0.00	0.00	32.167461	-103.319230



TOTAL DIRECTIONAL SERVICES LLC

Franklin Mountain Energy

Project: Lea County, NM (NAD83)
Site: FMM Fed Com
Well: FMM Fed Com 804H
Wellbore: OH
Design: Plan #1



Azimuths to Grid North
True North: -0.54°
Magnetic North: 5.86°
Magnetic Field
Strength: 47462.2nT
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

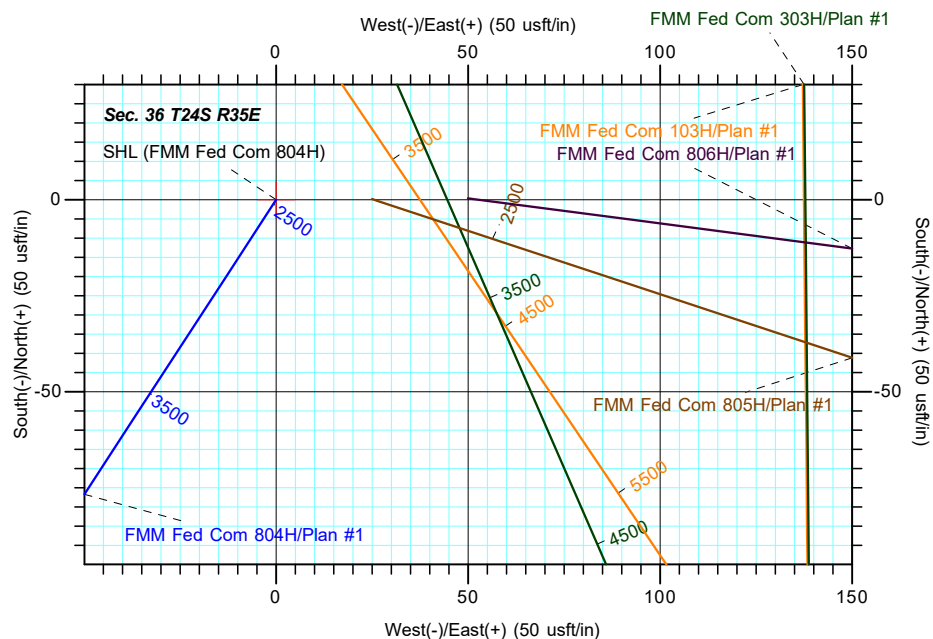


DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP (FMM Fed Com 804H)	12181.00	351.93	-149.39	426487.87	854982.43	32.168432	-103.319702
PBHL (FMM Fed Com 804H)	12181.00	10141.96	-241.58	436277.90	854890.24	32.195343	-103.319702
SHL (FMM Fed Com 804H)	0.00	0.00	0.00	426135.94	855131.82	32.167461	-103.319230

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	
2400.00	0.00	0.00	2400.00	0.00	0.00	0.00	0.00	0.00	Start Build 1.50
2633.40	3.50	213.09	2633.25	-5.97	-3.89	1.50	213.09	-5.88	Start 4086.13 hold at 2633.40 MD
6719.52	3.50	213.09	6711.75	-215.03	-140.11	0.00	0.00	-211.63	Start Drop -1.50
6952.92	0.00	0.00	6945.00	-221.00	-144.00	1.50	180.00	-217.51	Start 4663.04 hold at 6952.92 MD
11615.96	0.00	0.00	11608.04	-221.00	-144.00	0.00	0.00	-217.51	Start DLS 10.00 TFO 359.46
12515.96	90.00	359.46	12181.00	351.93	-149.39	10.00	359.46	355.39	Start 9790.46 hold at 12515.96 MD
22306.42	90.00	359.46	12181.00	10141.96	-241.58	0.00	0.00	10144.84	TD at 22306.42





Franklin Mountain Energy

Lea County, NM (NAD83)

FMM Fed Com

FMM Fed Com 804H

OH

Plan: Plan #1

Standard Planning Report

07 September, 2021





Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well FMM Fed Com 804H
Company:	Franklin Mountain Energy	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Project:	Lea County, NM (NAD83)	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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

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

Well	FMM Fed Com 804H					
Well Position	+N/-S	-56.45 usft	Northing:	426,135.94 usft	Latitude:	32.167461
	+E/-W	1,999.03 usft	Easting:	855,131.82 usft	Longitude:	-103.319230
Position Uncertainty		0.00 usft	Wellhead Elevation:		Ground Level:	3,332.10 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	9/7/2021	6.40	59.88	47,462.20282010

Design	Plan #1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	358.64

Plan Survey Tool Program	Date	9/7/2021		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	22,306.36 Plan #1 (OH)	OWSG (Rev2) MWD	
			OWSG MWD - Standard	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,400.00	0.00	0.01	2,400.00	0.00	0.00	0.00	0.00	0.00	0.01	
2,633.40	3.50	213.09	2,633.25	-5.97	-3.89	1.50	1.50	0.00	213.09	
6,719.52	3.50	213.09	6,711.75	-215.03	-140.11	0.00	0.00	0.00	0.00	
6,952.92	0.00	0.01	6,945.00	-221.00	-144.00	1.50	-1.50	0.00	180.00	
11,615.96	0.00	0.01	11,608.04	-221.00	-144.00	0.00	0.00	0.00	0.01	
12,515.96	90.00	359.46	12,181.00	351.93	-149.39	10.00	10.00	-0.06	359.46	
22,306.42	90.00	359.46	12,181.00	10,141.96	-241.58	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 804H
Company:	Franklin Mountain Energy	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Project:	Lea County, NM (NAD83)	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SHL (FMM Fed Com 804H)									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 1.50									
2,500.00	1.50	213.09	2,499.99	-1.10	-0.71	-1.08	1.50	1.50	0.00
2,600.00	3.00	213.09	2,599.91	-4.39	-2.86	-4.32	1.50	1.50	0.00
2,633.40	3.50	213.09	2,633.25	-5.97	-3.89	-5.88	1.50	1.50	0.00
Start 4086.13 hold at 2633.40 MD									
2,700.00	3.50	213.09	2,699.73	-9.38	-6.11	-9.23	0.00	0.00	0.00
2,800.00	3.50	213.09	2,799.54	-14.50	-9.45	-14.27	0.00	0.00	0.00
2,900.00	3.50	213.09	2,899.36	-19.61	-12.78	-19.30	0.00	0.00	0.00
3,000.00	3.50	213.09	2,999.17	-24.73	-16.11	-24.34	0.00	0.00	0.00
3,100.00	3.50	213.09	3,098.98	-29.84	-19.45	-29.37	0.00	0.00	0.00
3,200.00	3.50	213.09	3,198.80	-34.96	-22.78	-34.41	0.00	0.00	0.00
3,300.00	3.50	213.09	3,298.61	-40.08	-26.11	-39.44	0.00	0.00	0.00
3,400.00	3.50	213.09	3,398.42	-45.19	-29.45	-44.48	0.00	0.00	0.00
3,500.00	3.50	213.09	3,498.24	-50.31	-32.78	-49.51	0.00	0.00	0.00
3,600.00	3.50	213.09	3,598.05	-55.43	-36.11	-54.55	0.00	0.00	0.00
3,700.00	3.50	213.09	3,697.86	-60.54	-39.45	-59.59	0.00	0.00	0.00
3,800.00	3.50	213.09	3,797.68	-65.66	-42.78	-64.62	0.00	0.00	0.00
3,900.00	3.50	213.09	3,897.49	-70.77	-46.12	-69.66	0.00	0.00	0.00
4,000.00	3.50	213.09	3,997.30	-75.89	-49.45	-74.69	0.00	0.00	0.00
4,100.00	3.50	213.09	4,097.12	-81.01	-52.78	-79.73	0.00	0.00	0.00
4,200.00	3.50	213.09	4,196.93	-86.12	-56.12	-84.76	0.00	0.00	0.00
4,300.00	3.50	213.09	4,296.74	-91.24	-59.45	-89.80	0.00	0.00	0.00
4,400.00	3.50	213.09	4,396.56	-96.36	-62.78	-94.83	0.00	0.00	0.00
4,500.00	3.50	213.09	4,496.37	-101.47	-66.12	-99.87	0.00	0.00	0.00
4,600.00	3.50	213.09	4,596.18	-106.59	-69.45	-104.90	0.00	0.00	0.00
4,700.00	3.50	213.09	4,696.00	-111.70	-72.78	-109.94	0.00	0.00	0.00
4,800.00	3.50	213.09	4,795.81	-116.82	-76.12	-114.97	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 804H
Company:	Franklin Mountain Energy	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Project:	Lea County, NM (NAD83)	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,900.00	3.50	213.09	4,895.62	-121.94	-79.45	-120.01	0.00	0.00	0.00
5,000.00	3.50	213.09	4,995.44	-127.05	-82.79	-125.05	0.00	0.00	0.00
5,100.00	3.50	213.09	5,095.25	-132.17	-86.12	-130.08	0.00	0.00	0.00
5,200.00	3.50	213.09	5,195.07	-137.29	-89.45	-135.12	0.00	0.00	0.00
5,300.00	3.50	213.09	5,294.88	-142.40	-92.79	-140.15	0.00	0.00	0.00
5,400.00	3.50	213.09	5,394.69	-147.52	-96.12	-145.19	0.00	0.00	0.00
5,500.00	3.50	213.09	5,494.51	-152.63	-99.45	-150.22	0.00	0.00	0.00
5,600.00	3.50	213.09	5,594.32	-157.75	-102.79	-155.26	0.00	0.00	0.00
5,700.00	3.50	213.09	5,694.13	-162.87	-106.12	-160.29	0.00	0.00	0.00
5,800.00	3.50	213.09	5,793.95	-167.98	-109.45	-165.33	0.00	0.00	0.00
5,900.00	3.50	213.09	5,893.76	-173.10	-112.79	-170.36	0.00	0.00	0.00
6,000.00	3.50	213.09	5,993.57	-178.22	-116.12	-175.40	0.00	0.00	0.00
6,100.00	3.50	213.09	6,093.39	-183.33	-119.46	-180.43	0.00	0.00	0.00
6,200.00	3.50	213.09	6,193.20	-188.45	-122.79	-185.47	0.00	0.00	0.00
6,300.00	3.50	213.09	6,293.01	-193.56	-126.12	-190.51	0.00	0.00	0.00
6,400.00	3.50	213.09	6,392.83	-198.68	-129.46	-195.54	0.00	0.00	0.00
6,500.00	3.50	213.09	6,492.64	-203.80	-132.79	-200.58	0.00	0.00	0.00
6,600.00	3.50	213.09	6,592.45	-208.91	-136.12	-205.61	0.00	0.00	0.00
6,700.00	3.50	213.09	6,692.27	-214.03	-139.46	-210.65	0.00	0.00	0.00
6,719.52	3.50	213.09	6,711.75	-215.03	-140.11	-211.63	0.00	0.00	0.00
Start Drop -1.50									
6,800.00	2.29	213.09	6,792.13	-218.44	-142.33	-214.98	1.50	-1.50	0.00
6,900.00	0.79	213.09	6,892.09	-220.69	-143.80	-217.21	1.50	-1.50	0.00
6,952.92	0.00	0.01	6,945.00	-221.00	-144.00	-217.51	1.50	-1.50	0.00
Start 4663.04 hold at 6952.92 MD									
7,000.00	0.00	0.00	6,992.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
7,100.00	0.00	0.00	7,092.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
7,200.00	0.00	0.00	7,192.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
7,300.00	0.00	0.00	7,292.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
7,400.00	0.00	0.00	7,392.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
7,500.00	0.00	0.00	7,492.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
7,600.00	0.00	0.00	7,592.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
7,700.00	0.00	0.00	7,692.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
7,800.00	0.00	0.00	7,792.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
7,900.00	0.00	0.00	7,892.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
8,000.00	0.00	0.00	7,992.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
8,100.00	0.00	0.00	8,092.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
8,200.00	0.00	0.00	8,192.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
8,300.00	0.00	0.00	8,292.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
8,400.00	0.00	0.00	8,392.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
8,500.00	0.00	0.00	8,492.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
8,600.00	0.00	0.00	8,592.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
8,700.00	0.00	0.00	8,692.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
8,800.00	0.00	0.00	8,792.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
8,900.00	0.00	0.00	8,892.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
9,000.00	0.00	0.00	8,992.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
9,100.00	0.00	0.00	9,092.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
9,200.00	0.00	0.00	9,192.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
9,300.00	0.00	0.00	9,292.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
9,400.00	0.00	0.00	9,392.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
9,500.00	0.00	0.00	9,492.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
9,600.00	0.00	0.00	9,592.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
9,700.00	0.00	0.00	9,692.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
9,800.00	0.00	0.00	9,792.08	-221.00	-144.00	-217.51	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 804H
Company:	Franklin Mountain Energy	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Project:	Lea County, NM (NAD83)	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,900.00	0.00	0.00	9,892.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
10,000.00	0.00	0.00	9,992.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
10,100.00	0.00	0.00	10,092.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
10,200.00	0.00	0.00	10,192.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
10,300.00	0.00	0.00	10,292.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
10,400.00	0.00	0.00	10,392.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
10,500.00	0.00	0.00	10,492.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
10,600.00	0.00	0.00	10,592.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
10,700.00	0.00	0.00	10,692.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
10,800.00	0.00	0.00	10,792.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
10,900.00	0.00	0.00	10,892.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
11,000.00	0.00	0.00	10,992.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
11,100.00	0.00	0.00	11,092.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
11,200.00	0.00	0.00	11,192.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
11,300.00	0.00	0.00	11,292.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
11,400.00	0.00	0.00	11,392.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
11,500.00	0.00	0.00	11,492.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
11,600.00	0.00	0.00	11,592.08	-221.00	-144.00	-217.51	0.00	0.00	0.00
11,615.96	0.00	0.00	11,608.04	-221.00	-144.00	-217.51	0.00	0.00	0.00
Start DLS 10.00 TFO 359.46									
11,650.00	3.40	359.46	11,642.06	-219.99	-144.01	-216.50	10.00	10.00	0.00
11,700.00	8.40	359.46	11,691.78	-214.85	-144.06	-211.36	10.00	10.00	0.00
11,750.00	13.40	359.46	11,740.86	-205.39	-144.15	-201.90	10.00	10.00	0.00
11,800.00	18.40	359.46	11,788.94	-191.70	-144.28	-188.21	10.00	10.00	0.00
11,850.00	23.40	359.46	11,835.63	-173.86	-144.44	-170.37	10.00	10.00	0.00
11,900.00	28.40	359.46	11,880.59	-152.03	-144.65	-148.54	10.00	10.00	0.00
11,950.00	33.40	359.46	11,923.48	-126.35	-144.89	-122.87	10.00	10.00	0.00
12,000.00	38.40	359.46	11,963.97	-97.04	-145.17	-93.56	10.00	10.00	0.00
12,050.00	43.40	359.46	12,001.74	-64.32	-145.48	-60.83	10.00	10.00	0.00
12,100.00	48.40	359.46	12,036.53	-28.42	-145.81	-24.94	10.00	10.00	0.00
12,150.00	53.40	359.46	12,068.05	10.37	-146.18	13.85	10.00	10.00	0.00
12,200.00	58.40	359.46	12,096.07	51.76	-146.57	55.24	10.00	10.00	0.00
12,250.00	63.40	359.46	12,120.37	95.44	-146.98	98.91	10.00	10.00	0.00
12,300.00	68.40	359.46	12,140.78	141.06	-147.41	144.53	10.00	10.00	0.00
12,350.00	73.40	359.46	12,157.13	188.29	-147.85	191.76	10.00	10.00	0.00
12,400.00	78.40	359.46	12,169.30	236.77	-148.31	240.24	10.00	10.00	0.00
12,450.00	83.40	359.46	12,177.21	286.12	-148.78	289.59	10.00	10.00	0.00
12,500.00	88.40	359.46	12,180.78	335.98	-149.24	339.44	10.00	10.00	0.00
12,515.95	90.00	359.46	12,181.00	351.93	-149.39	355.39	10.00	10.00	0.00
Start 9790.46 hold at 12515.96 MD - LP (FMM Fed Com 804H)									
12,600.00	90.00	359.46	12,181.00	435.97	-150.19	439.43	0.00	0.00	0.00
12,700.00	90.00	359.46	12,181.00	535.97	-151.13	539.42	0.00	0.00	0.00
12,800.00	90.00	359.46	12,181.00	635.96	-152.07	639.40	0.00	0.00	0.00
12,900.00	90.00	359.46	12,181.00	735.96	-153.01	739.39	0.00	0.00	0.00
13,000.00	90.00	359.46	12,181.00	835.95	-153.95	839.38	0.00	0.00	0.00
13,100.00	90.00	359.46	12,181.00	935.95	-154.89	939.37	0.00	0.00	0.00
13,200.00	90.00	359.46	12,181.00	1,035.95	-155.84	1,039.36	0.00	0.00	0.00
13,300.00	90.00	359.46	12,181.00	1,135.94	-156.78	1,139.35	0.00	0.00	0.00
13,400.00	90.00	359.46	12,181.00	1,235.94	-157.72	1,239.34	0.00	0.00	0.00
13,500.00	90.00	359.46	12,181.00	1,335.93	-158.66	1,339.33	0.00	0.00	0.00
13,600.00	90.00	359.46	12,181.00	1,435.93	-159.60	1,439.32	0.00	0.00	0.00
13,700.00	90.00	359.46	12,181.00	1,535.92	-160.54	1,539.31	0.00	0.00	0.00
13,800.00	90.00	359.46	12,181.00	1,635.92	-161.49	1,639.30	0.00	0.00	0.00
13,900.00	90.00	359.46	12,181.00	1,735.92	-162.43	1,739.29	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 804H
Company:	Franklin Mountain Energy	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Project:	Lea County, NM (NAD83)	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
14,000.00	90.00	359.46	12,181.00	1,835.91	-163.37	1,839.28	0.00	0.00	0.00	
14,100.00	90.00	359.46	12,181.00	1,935.91	-164.31	1,939.27	0.00	0.00	0.00	
14,200.00	90.00	359.46	12,181.00	2,035.90	-165.25	2,039.26	0.00	0.00	0.00	
14,300.00	90.00	359.46	12,181.00	2,135.90	-166.19	2,139.25	0.00	0.00	0.00	
14,400.00	90.00	359.46	12,181.00	2,235.89	-167.13	2,239.24	0.00	0.00	0.00	
14,500.00	90.00	359.46	12,181.00	2,335.89	-168.08	2,339.23	0.00	0.00	0.00	
14,600.00	90.00	359.46	12,181.00	2,435.88	-169.02	2,439.22	0.00	0.00	0.00	
14,700.00	90.00	359.46	12,181.00	2,535.88	-169.96	2,539.21	0.00	0.00	0.00	
14,800.00	90.00	359.46	12,181.00	2,635.88	-170.90	2,639.20	0.00	0.00	0.00	
14,900.00	90.00	359.46	12,181.00	2,735.87	-171.84	2,739.19	0.00	0.00	0.00	
15,000.00	90.00	359.46	12,181.00	2,835.87	-172.78	2,839.18	0.00	0.00	0.00	
15,100.00	90.00	359.46	12,181.00	2,935.86	-173.73	2,939.17	0.00	0.00	0.00	
15,200.00	90.00	359.46	12,181.00	3,035.86	-174.67	3,039.16	0.00	0.00	0.00	
15,300.00	90.00	359.46	12,181.00	3,135.85	-175.61	3,139.15	0.00	0.00	0.00	
15,400.00	90.00	359.46	12,181.00	3,235.85	-176.55	3,239.14	0.00	0.00	0.00	
15,500.00	90.00	359.46	12,181.00	3,335.84	-177.49	3,339.12	0.00	0.00	0.00	
15,600.00	90.00	359.46	12,181.00	3,435.84	-178.43	3,439.11	0.00	0.00	0.00	
15,700.00	90.00	359.46	12,181.00	3,535.84	-179.38	3,539.10	0.00	0.00	0.00	
15,800.00	90.00	359.46	12,181.00	3,635.83	-180.32	3,639.09	0.00	0.00	0.00	
15,900.00	90.00	359.46	12,181.00	3,735.83	-181.26	3,739.08	0.00	0.00	0.00	
16,000.00	90.00	359.46	12,181.00	3,835.82	-182.20	3,839.07	0.00	0.00	0.00	
16,100.00	90.00	359.46	12,181.00	3,935.82	-183.14	3,939.06	0.00	0.00	0.00	
16,200.00	90.00	359.46	12,181.00	4,035.81	-184.08	4,039.05	0.00	0.00	0.00	
16,300.00	90.00	359.46	12,181.00	4,135.81	-185.02	4,139.04	0.00	0.00	0.00	
16,400.00	90.00	359.46	12,181.00	4,235.80	-185.97	4,239.03	0.00	0.00	0.00	
16,500.00	90.00	359.46	12,181.00	4,335.80	-186.91	4,339.02	0.00	0.00	0.00	
16,600.00	90.00	359.46	12,181.00	4,435.80	-187.85	4,439.01	0.00	0.00	0.00	
16,700.00	90.00	359.46	12,181.00	4,535.79	-188.79	4,539.00	0.00	0.00	0.00	
16,800.00	90.00	359.46	12,181.00	4,635.79	-189.73	4,638.99	0.00	0.00	0.00	
16,900.00	90.00	359.46	12,181.00	4,735.78	-190.67	4,738.98	0.00	0.00	0.00	
17,000.00	90.00	359.46	12,181.00	4,835.78	-191.62	4,838.97	0.00	0.00	0.00	
17,100.00	90.00	359.46	12,181.00	4,935.77	-192.56	4,938.96	0.00	0.00	0.00	
17,200.00	90.00	359.46	12,181.00	5,035.77	-193.50	5,038.95	0.00	0.00	0.00	
17,300.00	90.00	359.46	12,181.00	5,135.76	-194.44	5,138.94	0.00	0.00	0.00	
17,400.00	90.00	359.46	12,181.00	5,235.76	-195.38	5,238.93	0.00	0.00	0.00	
17,500.00	90.00	359.46	12,181.00	5,335.76	-196.32	5,338.92	0.00	0.00	0.00	
17,600.00	90.00	359.46	12,181.00	5,435.75	-197.27	5,438.91	0.00	0.00	0.00	
17,700.00	90.00	359.46	12,181.00	5,535.75	-198.21	5,538.90	0.00	0.00	0.00	
17,800.00	90.00	359.46	12,181.00	5,635.74	-199.15	5,638.89	0.00	0.00	0.00	
17,900.00	90.00	359.46	12,181.00	5,735.74	-200.09	5,738.88	0.00	0.00	0.00	
18,000.00	90.00	359.46	12,181.00	5,835.73	-201.03	5,838.87	0.00	0.00	0.00	
18,100.00	90.00	359.46	12,181.00	5,935.73	-201.97	5,938.86	0.00	0.00	0.00	
18,200.00	90.00	359.46	12,181.00	6,035.72	-202.91	6,038.85	0.00	0.00	0.00	
18,300.00	90.00	359.46	12,181.00	6,135.72	-203.86	6,138.83	0.00	0.00	0.00	
18,400.00	90.00	359.46	12,181.00	6,235.72	-204.80	6,238.82	0.00	0.00	0.00	
18,500.00	90.00	359.46	12,181.00	6,335.71	-205.74	6,338.81	0.00	0.00	0.00	
18,600.00	90.00	359.46	12,181.00	6,435.71	-206.68	6,438.80	0.00	0.00	0.00	
18,700.00	90.00	359.46	12,181.00	6,535.70	-207.62	6,538.79	0.00	0.00	0.00	
18,800.00	90.00	359.46	12,181.00	6,635.70	-208.56	6,638.78	0.00	0.00	0.00	
18,900.00	90.00	359.46	12,181.00	6,735.69	-209.51	6,738.77	0.00	0.00	0.00	
19,000.00	90.00	359.46	12,181.00	6,835.69	-210.45	6,838.76	0.00	0.00	0.00	
19,100.00	90.00	359.46	12,181.00	6,935.68	-211.39	6,938.75	0.00	0.00	0.00	
19,200.00	90.00	359.46	12,181.00	7,035.68	-212.33	7,038.74	0.00	0.00	0.00	
19,300.00	90.00	359.46	12,181.00	7,135.68	-213.27	7,138.73	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 804H
Company:	Franklin Mountain Energy	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Project:	Lea County, NM (NAD83)	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
19,400.00	90.00	359.46	12,181.00	7,235.67	-214.21	7,238.72	0.00	0.00	0.00	
19,500.00	90.00	359.46	12,181.00	7,335.67	-215.16	7,338.71	0.00	0.00	0.00	
19,600.00	90.00	359.46	12,181.00	7,435.66	-216.10	7,438.70	0.00	0.00	0.00	
19,700.00	90.00	359.46	12,181.00	7,535.66	-217.04	7,538.69	0.00	0.00	0.00	
19,800.00	90.00	359.46	12,181.00	7,635.65	-217.98	7,638.68	0.00	0.00	0.00	
19,900.00	90.00	359.46	12,181.00	7,735.65	-218.92	7,738.67	0.00	0.00	0.00	
20,000.00	90.00	359.46	12,181.00	7,835.64	-219.86	7,838.66	0.00	0.00	0.00	
20,100.00	90.00	359.46	12,181.00	7,935.64	-220.80	7,938.65	0.00	0.00	0.00	
20,200.00	90.00	359.46	12,181.00	8,035.64	-221.75	8,038.64	0.00	0.00	0.00	
20,300.00	90.00	359.46	12,181.00	8,135.63	-222.69	8,138.63	0.00	0.00	0.00	
20,400.00	90.00	359.46	12,181.00	8,235.63	-223.63	8,238.62	0.00	0.00	0.00	
20,500.00	90.00	359.46	12,181.00	8,335.62	-224.57	8,338.61	0.00	0.00	0.00	
20,600.00	90.00	359.46	12,181.00	8,435.62	-225.51	8,438.60	0.00	0.00	0.00	
20,700.00	90.00	359.46	12,181.00	8,535.61	-226.45	8,538.59	0.00	0.00	0.00	
20,800.00	90.00	359.46	12,181.00	8,635.61	-227.40	8,638.58	0.00	0.00	0.00	
20,900.00	90.00	359.46	12,181.00	8,735.60	-228.34	8,738.57	0.00	0.00	0.00	
21,000.00	90.00	359.46	12,181.00	8,835.60	-229.28	8,838.55	0.00	0.00	0.00	
21,100.00	90.00	359.46	12,181.00	8,935.60	-230.22	8,938.54	0.00	0.00	0.00	
21,200.00	90.00	359.46	12,181.00	9,035.59	-231.16	9,038.53	0.00	0.00	0.00	
21,300.00	90.00	359.46	12,181.00	9,135.59	-232.10	9,138.52	0.00	0.00	0.00	
21,400.00	90.00	359.46	12,181.00	9,235.58	-233.05	9,238.51	0.00	0.00	0.00	
21,500.00	90.00	359.46	12,181.00	9,335.58	-233.99	9,338.50	0.00	0.00	0.00	
21,600.00	90.00	359.46	12,181.00	9,435.57	-234.93	9,438.49	0.00	0.00	0.00	
21,700.00	90.00	359.46	12,181.00	9,535.57	-235.87	9,538.48	0.00	0.00	0.00	
21,800.00	90.00	359.46	12,181.00	9,635.57	-236.81	9,638.47	0.00	0.00	0.00	
21,900.00	90.00	359.46	12,181.00	9,735.56	-237.75	9,738.46	0.00	0.00	0.00	
22,000.00	90.00	359.46	12,181.00	9,835.56	-238.69	9,838.45	0.00	0.00	0.00	
22,100.00	90.00	359.46	12,181.00	9,935.55	-239.64	9,938.44	0.00	0.00	0.00	
22,200.00	90.00	359.46	12,181.00	10,035.55	-240.58	10,038.43	0.00	0.00	0.00	
22,306.42	90.00	359.46	12,181.00	10,141.96	-241.58	10,144.84	0.00	0.00	0.00	
TD at 22306.42 - PBHL (FMM Fed Com 804H)										

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 804H) - plan hits target center - Point	0.00	0.01	0.00	0.00	0.00	426,135.94	855,131.82	32.167461	-103.319230	
PBHL (FMM Fed Com 804H) - plan hits target center - Point	0.00	0.00	12,181.00	10,141.96	-241.58	436,277.90	854,890.24	32.195343	-103.319702	
LP (FMM Fed Com 804H) - plan misses target center by 0.01usft at 12515.95usft MD (12181.00 TVD, 351.93 N, -149.39 E) - Point	0.00	0.00	12,181.00	351.93	-149.39	426,487.87	854,982.43	32.168432	-103.319702	



Total Directional Services

Planning Report



Database:	EDM 5000.15 Single User Db	Local Co-ordinate Reference:	Well FMM Fed Com 804H
Company:	Franklin Mountain Energy	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Project:	Lea County, NM (NAD83)	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site:	FMM Fed Com	North Reference:	Grid
Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,400.00	2,400.00	0.00	0.00	Start Build 1.50
2,633.40	2,633.25	-5.97	-3.89	Start 4086.13 hold at 2633.40 MD
6,719.52	6,711.75	-215.03	-140.11	Start Drop -1.50
6,952.92	6,945.00	-221.00	-144.00	Start 4663.04 hold at 6952.92 MD
11,615.96	11,608.04	-221.00	-144.00	Start DLS 10.00 TFO 359.46
12,515.96	12,181.00	351.93	-149.39	Start 9790.46 hold at 12515.96 MD
22,306.42	12,181.00	10,141.96	-241.58	TD at 22306.42



Franklin Mountain Energy

Lea County, NM (NAD83)

FMM Fed Com

FMM Fed Com 804H

OH

Plan #1

Anticollision Report

07 September, 2021





Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

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

Survey Tool Program	Date	9/7/2021
From (usft)	To (usft)	Survey (Wellbore)
0.00	22,306.36	Plan #1 (OH)
		Tool Name
		OWSG (Rev2) MWD
		Description
		OWSG MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
FMM Fed Com						
Amoco State #001 (Offset) - OH - OH	1,155.80	1,287.02	4,197.75	4,163.65	123.130	CC
Amoco State #001 (Offset) - OH - OH	2,500.00	2,515.65	4,199.89	4,150.23	84.559	ES
Amoco State #001 (Offset) - OH - OH	3,800.00	3,775.00	4,267.98	4,187.37	52.944	SF
Blue Bay WCA State Com #001C (Offset Plan) - OH - PI	11,900.00	14,258.59	662.69	590.51	9.182	SF
Blue Bay WCA State Com #001C (Offset Plan) - OH - PI	11,909.69	14,253.91	662.63	590.47	9.182	CC, ES
FMM Fed Com 101H - OH - Plan #1	1,804.75	1,760.45	1,999.83	1,991.12	229.649	CC
FMM Fed Com 101H - OH - Plan #1	1,900.00	1,836.72	2,000.09	1,990.95	218.812	ES
FMM Fed Com 101H - OH - Plan #1	22,306.42	18,628.30	4,463.89	4,288.06	25.387	SF
FMM Fed Com 102H - OH - Plan #1	7,905.66	7,890.78	1,246.18	1,206.83	31.669	CC
FMM Fed Com 102H - OH - Plan #1	8,000.00	7,978.92	1,246.30	1,206.51	31.328	ES
FMM Fed Com 102H - OH - Plan #1	22,306.42	18,544.54	3,871.87	3,737.70	28.859	SF
FMM Fed Com 103H - OH - Plan #1	2,573.33	2,577.37	54.32	41.74	4.317	CC
FMM Fed Com 103H - OH - Plan #1	2,600.00	2,604.01	54.42	41.71	4.282	ES
FMM Fed Com 103H - OH - Plan #1	2,700.00	2,703.81	56.18	43.00	4.261	SF
FMM Fed Com 104H - OH - Plan #1	1,516.36	1,517.26	83.85	76.49	11.392	CC
FMM Fed Com 104H - OH - Plan #1	1,600.00	1,600.89	83.85	76.06	10.772	ES
FMM Fed Com 104H - OH - Plan #1	1,900.00	1,896.45	91.05	81.79	9.836	SF
FMM Fed Com 301H - OH - Plan #1	2,003.37	1,959.87	1,975.09	1,965.37	203.261	CC
FMM Fed Com 301H - OH - Plan #1	2,100.00	2,037.63	1,975.36	1,965.20	194.494	ES
FMM Fed Com 301H - OH - Plan #1	22,306.42	20,176.87	3,436.17	3,228.92	16.580	SF
FMM Fed Com 302H - OH - Plan #1	9,408.30	9,395.38	1,244.20	1,197.44	26.607	CC
FMM Fed Com 302H - OH - Plan #1	9,600.00	9,582.80	1,244.42	1,196.78	26.121	ES
FMM Fed Com 302H - OH - Plan #1	22,306.42	20,114.76	2,511.30	2,356.01	16.172	SF
FMM Fed Com 303H - OH - Plan #1	2,528.85	2,533.22	48.73	36.37	3.941	CC, ES
FMM Fed Com 303H - OH - Plan #1	2,600.00	2,604.25	49.56	36.86	3.901	SF
FMM Fed Com 304H - OH - Plan #1	1,316.19	1,317.59	97.62	91.27	15.381	CC
FMM Fed Com 304H - OH - Plan #1	1,400.00	1,401.37	97.62	90.85	14.416	ES
FMM Fed Com 304H - OH - Plan #1	1,700.00	1,694.90	106.82	98.58	12.972	SF
FMM Fed Com 801H - OH - Plan #1	2,002.84	1,959.64	1,986.04	1,976.32	204.428	CC
FMM Fed Com 801H - OH - Plan #1	2,100.00	2,037.71	1,986.31	1,976.16	195.569	ES
FMM Fed Com 801H - OH - Plan #1	22,306.42	22,587.49	2,758.57	2,514.34	11.295	SF
FMM Fed Com 802H - OH - Plan #1	11,615.96	11,577.14	1,815.97	1,758.52	31.608	CC
FMM Fed Com 802H - OH - Plan #1	22,306.42	22,404.68	1,826.13	1,581.19	7.455	ES, SF
FMM Fed Com 803H - OH - Plan #1	11,601.58	11,639.22	889.86	832.16	15.421	CC
FMM Fed Com 803H - OH - Plan #1	22,306.42	22,340.45	894.99	649.69	3.648	ES, SF
FMM Fed Com 805H - OH - Plan #1	1,916.40	1,917.20	25.00	15.61	2.663	CC
FMM Fed Com 805H - OH - Plan #1	2,000.00	2,000.80	25.00	15.19	2.548	ES, SF

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
FMM Fed Com						
FMM Fed Com 806H - OH - Plan #1	1,516.43	1,517.13	49.99	42.63	6.792	CC
FMM Fed Com 806H - OH - Plan #1	1,600.00	1,600.00	50.00	42.22	6.425	ES
FMM Fed Com 806H - OH - Plan #1	1,700.00	1,698.95	51.71	43.44	6.250	SF
Pre-Ongard Well #001 (Offset) - OH - OH	2,403.46	2,495.64	4,887.64	4,823.70	76.442	CC
Pre-Ongard Well #001 (Offset) - OH - OH	3,500.00	3,596.84	4,916.95	4,821.04	51.269	ES
Pre-Ongard Well #001 (Offset) - OH - OH	3,900.00	3,875.00	4,929.39	4,824.21	46.866	SF
Proxy WCA State Com #001H (Offset) - OH - OH	4,650.81	4,501.00	2,815.32	2,793.09	126.652	CC, ES
Proxy WCA State Com #001H (Offset) - OH - OH	5,100.00	4,501.00	2,850.93	2,827.81	123.332	SF
Proxy WCA State Com #001H (Offset) - ST01 - ST01	11,149.53	11,100.00	2,693.41	2,643.49	53.954	CC, ES
Proxy WCA State Com #001H (Offset) - ST01 - ST01	12,450.00	12,172.27	2,798.51	2,743.45	50.827	SF
Proxy WCA State Com #001H (Offset) - ST02 - ST02	16,564.84	16,521.00	2,703.80	2,588.92	23.534	CC
Proxy WCA State Com #001H (Offset) - ST02 - ST02	16,700.00	16,615.00	2,705.54	2,588.25	23.066	ES
Proxy WCA State Com #001H (Offset) - ST02 - ST02	17,200.00	16,762.00	2,736.85	2,613.57	22.200	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	Warning	
0.00	0.00	14.90	14.90	0.00	0.24	4.63	4,185.07	338.62	4,198.74					
100.00	100.00	114.90	114.90	0.13	1.84	4.63	4,185.07	338.62	4,198.74	4,196.90	1.84	2,280.239		
200.00	200.00	214.90	214.90	0.48	3.44	4.63	4,185.07	338.62	4,198.74	4,195.27	3.47	1,210.066		
300.00	300.00	314.90	314.90	0.84	5.03	4.63	4,185.07	338.62	4,198.74	4,193.64	5.10	822.513		
400.00	400.00	414.90	414.90	1.20	6.63	4.63	4,185.07	338.62	4,198.74	4,192.00	6.74	622.824		
500.00	500.00	514.90	514.90	1.56	8.23	4.63	4,185.07	338.62	4,198.74	4,190.37	8.38	501.111		
600.00	600.00	614.90	614.90	1.92	9.83	4.63	4,185.07	338.62	4,198.74	4,188.73	10.02	419.176		
700.00	700.00	715.06	714.90	2.28	13.07	4.63	4,185.07	338.62	4,198.74	4,185.48	13.26	316.577		
800.00	800.00	815.06	814.90	2.63	16.71	4.63	4,185.07	338.62	4,198.74	4,181.83	16.91	248.276		
900.00	900.00	919.15	918.93	2.99	20.49	4.62	4,187.72	338.62	4,201.39	4,180.68	20.71	202.866		
1,000.00	1,000.00	1,062.92	1,062.66	3.35	25.72	4.62	4,186.83	338.62	4,200.77	4,174.83	25.94	161.940		
1,100.00	1,100.00	1,206.75	1,206.43	3.71	30.96	4.63	4,184.44	338.62	4,199.12	4,167.95	31.17	134.704		
1,155.80	1,155.80	1,287.02	1,286.64	3.91	33.88	4.63	4,182.46	338.62	4,197.75	4,163.65	34.09	123.130	CC	
1,200.00	1,200.00	1,215.65	1,214.90	4.07	30.83	4.63	4,185.07	338.62	4,198.74	4,167.65	31.09	135.040		
1,300.00	1,300.00	1,315.66	1,314.90	4.43	32.13	4.63	4,185.07	338.62	4,198.74	4,166.31	32.43	129.473		
1,400.00	1,400.00	1,415.66	1,414.90	4.79	33.08	4.63	4,185.07	338.62	4,198.74	4,165.32	33.42	125.628		
1,500.00	1,500.00	1,515.66	1,514.90	5.14	34.52	4.63	4,185.07	338.62	4,198.74	4,163.85	34.90	120.318		
1,600.00	1,600.00	1,615.66	1,614.90	5.50	35.95	4.63	4,185.07	338.62	4,198.74	4,162.37	36.37	115.436		
1,700.00	1,700.00	1,715.66	1,714.90	5.86	37.39	4.63	4,185.07	338.62	4,198.74	4,160.90	37.85	110.934		
1,800.00	1,800.00	1,815.66	1,814.90	6.22	38.83	4.63	4,185.07	338.62	4,198.74	4,159.42	39.33	106.769		
1,900.00	1,900.00	1,915.66	1,914.90	6.58	40.27	4.63	4,185.07	338.62	4,198.74	4,157.94	40.80	102.904		
2,000.00	2,000.00	2,015.66	2,014.90	6.94	41.71	4.63	4,185.07	338.62	4,198.74	4,156.46	42.28	99.308		
2,100.00	2,100.00	2,115.66	2,114.90	7.29	43.15	4.63	4,185.07	338.62	4,198.74	4,154.99	43.76	95.954		
2,200.00	2,200.00	2,215.66	2,214.90	7.65	44.58	4.63	4,185.07	338.62	4,198.74	4,153.51	45.24	92.819		
2,300.00	2,300.00	2,315.66	2,314.90	8.01	46.02	4.63	4,185.07	338.62	4,198.74	4,152.03	46.71	89.882		
2,400.00	2,400.00	2,415.66	2,414.90	8.37	47.46	4.63	4,185.07	338.62	4,198.74	4,150.55	48.19	87.124		
2,500.00	2,499.99	2,515.65	2,514.89	8.71	48.90	151.54	4,185.07	338.62	4,199.89	4,150.23	49.67	84.559	ES	
2,600.00	2,599.91	2,615.59	2,614.81	9.04	50.67	151.54	4,185.07	338.62	4,203.35	4,151.88	51.47	81.672		
2,633.40	2,633.25	2,648.93	2,648.15	9.15	51.31	151.54	4,185.07	338.62	4,205.01	4,152.89	52.12	80.674		
2,700.00	2,699.73	2,715.41	2,714.63	9.37	52.61	151.57	4,185.07	338.62	4,208.59	4,155.16	53.43	78.763		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 635-INC-ONLY													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
2,800.00	2,799.54	2,815.22	2,814.44	9.70	54.55	151.61	4,185.07	338.62	4,213.96	4,158.56	55.40	76.063		
2,900.00	2,899.36	2,921.48	2,920.70	10.04	56.61	151.65	4,185.59	338.62	4,219.87	4,162.37	57.49	73.399		
3,000.00	2,999.17	3,028.45	3,027.67	10.37	58.69	151.69	4,185.34	338.62	4,225.01	4,165.41	59.60	70.893		
3,100.00	3,098.98	3,114.71	3,113.88	10.71	60.50	151.72	4,185.07	338.62	4,230.09	4,168.65	61.44	68.846		
3,200.00	3,198.80	3,214.52	3,213.70	11.06	63.38	151.76	4,185.07	338.62	4,235.48	4,171.14	64.34	65.833		
3,300.00	3,298.61	3,314.34	3,313.51	11.40	66.26	151.80	4,185.07	338.62	4,240.86	4,173.63	67.23	63.079		
3,400.00	3,398.42	3,414.15	3,413.32	11.75	69.14	151.84	4,185.07	338.62	4,246.24	4,176.12	70.13	60.552		
3,500.00	3,498.24	3,513.97	3,513.14	12.10	72.02	151.88	4,185.07	338.62	4,251.63	4,178.61	73.02	58.225		
3,600.00	3,598.05	3,613.78	3,612.95	12.44	74.89	151.92	4,185.07	338.62	4,257.02	4,181.10	75.92	56.075		
3,700.00	3,697.86	3,713.59	3,712.76	12.79	77.77	151.96	4,185.07	338.62	4,262.41	4,183.60	78.81	54.083		
3,800.00	3,797.68	3,775.00	3,773.73	13.15	79.54	151.98	4,185.07	338.62	4,267.98	4,187.37	80.61	52.944 SF		
3,900.00	3,897.49	3,775.00	3,773.73	13.50	79.54	151.98	4,185.07	338.62	4,275.45	4,194.82	80.63	53.025		
4,000.00	3,997.30	3,775.00	3,773.73	13.85	79.54	151.98	4,185.07	338.62	4,285.23	4,204.63	80.61	53.162		
4,100.00	4,097.12	3,775.00	3,773.73	14.21	79.54	151.98	4,185.07	338.62	4,297.33	4,216.79	80.54	53.355		
4,200.00	4,196.93	3,775.00	3,773.73	14.56	79.54	151.98	4,185.07	338.62	4,311.71	4,231.27	80.44	53.602		
4,300.00	4,296.74	3,775.00	3,773.73	14.92	79.54	151.98	4,185.07	338.62	4,328.35	4,248.06	80.29	53.906		
4,400.00	4,396.56	3,775.00	3,773.73	15.28	79.54	151.98	4,185.07	338.62	4,347.23	4,267.12	80.11	54.268		
4,500.00	4,496.37	3,775.00	3,773.73	15.64	79.54	151.98	4,185.07	338.62	4,368.32	4,288.43	79.88	54.683		
4,600.00	4,596.18	3,775.00	3,773.73	15.99	79.54	151.98	4,185.07	338.62	4,391.58	4,311.96	79.63	55.152		
4,700.00	4,696.00	3,775.00	3,773.73	16.35	79.54	151.98	4,185.07	338.62	4,416.99	4,337.65	79.34	55.674		
4,800.00	4,795.81	3,775.00	3,773.73	16.71	79.54	151.98	4,185.07	338.62	4,444.50	4,365.49	79.02	56.248		
4,900.00	4,895.62	3,775.00	3,773.73	17.07	79.54	151.98	4,185.07	338.62	4,474.08	4,395.41	78.66	56.875		
5,000.00	4,995.44	3,775.00	3,773.73	17.44	79.54	151.98	4,185.07	338.62	4,505.68	4,427.40	78.29	57.554		
5,100.00	5,095.25	3,775.00	3,773.73	17.80	79.54	151.98	4,185.07	338.62	4,539.27	4,461.39	77.88	58.284		
5,200.00	5,195.07	3,775.00	3,773.73	18.16	79.54	151.98	4,185.07	338.62	4,574.80	4,497.34	77.45	59.065		
5,300.00	5,294.88	3,775.00	3,773.73	18.52	79.54	151.98	4,185.07	338.62	4,612.22	4,535.21	77.00	59.896		
5,400.00	5,394.69	3,775.00	3,773.73	18.88	79.54	151.98	4,185.07	338.62	4,651.49	4,574.96	76.53	60.777		
5,500.00	5,494.51	3,775.00	3,773.73	19.25	79.54	151.98	4,185.07	338.62	4,692.56	4,616.52	76.05	61.707		
5,600.00	5,594.32	3,775.00	3,773.73	19.61	79.54	151.98	4,185.07	338.62	4,735.39	4,659.85	75.54	62.687		
5,700.00	5,694.13	3,775.00	3,773.73	19.98	79.54	151.98	4,185.07	338.62	4,779.93	4,704.91	75.02	63.718		
5,800.00	5,793.95	3,775.00	3,773.73	20.34	79.54	151.98	4,185.07	338.62	4,826.13	4,751.65	74.48	64.796		
5,900.00	5,893.76	3,775.00	3,773.73	20.70	79.54	151.98	4,185.07	338.62	4,873.94	4,800.01	73.94	65.922		
6,000.00	5,993.57	3,775.00	3,773.73	21.07	79.54	151.98	4,185.07	338.62	4,923.32	4,849.94	73.38	67.094		
6,100.00	6,093.39	3,775.00	3,773.73	21.43	79.54	151.98	4,185.07	338.62	4,974.22	4,901.41	72.82	68.312		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design FMM Fed Com - Blue Bay WCA State Com #001C (Offset Plan) - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	10.90	10.90	0.00	0.01	14.09	2,374.83	595.96	2,448.47					
100.00	100.00	110.90	110.90	0.13	0.17	14.09	2,374.83	595.96	2,448.47	2,448.25	0.21	N/A		
200.00	200.00	210.90	210.90	0.48	0.53	14.09	2,374.83	595.96	2,448.47	2,447.75	0.72	3,404.629		
300.00	300.00	310.90	310.90	0.84	0.89	14.09	2,374.83	595.96	2,448.47	2,447.24	1.23	1,997.474		
400.00	400.00	410.90	410.90	1.20	1.25	14.09	2,374.83	595.96	2,448.47	2,446.74	1.73	1,413.176		
500.00	500.00	510.90	510.90	1.56	1.61	14.09	2,374.83	595.96	2,448.47	2,446.23	2.24	1,093.320		
600.00	600.00	610.90	610.90	1.92	1.97	14.09	2,374.83	595.96	2,448.47	2,445.72	2.75	891.523		
700.00	700.00	710.90	710.90	2.28	2.32	14.09	2,374.83	595.96	2,448.47	2,445.21	3.25	752.608		
800.00	800.00	810.90	810.90	2.63	2.68	14.09	2,374.83	595.96	2,448.47	2,444.71	3.76	651.147		
900.00	900.00	910.90	910.90	2.99	3.04	14.09	2,374.83	595.96	2,448.47	2,444.20	4.27	573.791		
1,000.00	1,000.00	1,010.90	1,010.90	3.35	3.40	14.09	2,374.83	595.96	2,448.47	2,443.69	4.77	512.863		
1,100.00	1,100.00	1,110.90	1,110.90	3.71	3.76	14.09	2,374.83	595.96	2,448.47	2,443.19	5.28	463.632		
1,200.00	1,200.00	1,210.90	1,210.90	4.07	4.12	14.09	2,374.83	595.96	2,448.47	2,442.68	5.79	423.024		
1,300.00	1,300.00	1,310.90	1,310.90	4.43	4.48	14.09	2,374.83	595.96	2,448.47	2,442.17	6.29	388.957		
1,400.00	1,400.00	1,410.90	1,410.90	4.79	4.83	14.09	2,374.83	595.96	2,448.47	2,441.67	6.80	359.968		
1,500.00	1,500.00	1,510.90	1,510.90	5.14	5.19	14.09	2,374.83	595.96	2,448.47	2,441.16	7.31	335.000		
1,600.00	1,600.00	1,610.90	1,610.90	5.50	5.55	14.09	2,374.83	595.96	2,448.47	2,440.65	7.82	313.271		
1,700.00	1,700.00	1,710.90	1,710.90	5.86	5.91	14.09	2,374.83	595.96	2,448.47	2,440.15	8.32	294.190		
1,800.00	1,800.00	1,810.90	1,810.90	6.22	6.27	14.09	2,374.83	595.96	2,448.47	2,439.64	8.83	277.299		
1,900.00	1,900.00	1,910.90	1,910.90	6.58	6.63	14.09	2,374.83	595.96	2,448.47	2,439.13	9.34	262.242		
2,000.00	2,000.00	2,010.90	2,010.90	6.94	6.98	14.09	2,374.83	595.96	2,448.47	2,438.62	9.84	248.737		
2,100.00	2,100.00	2,110.90	2,110.90	7.29	7.34	14.09	2,374.83	595.96	2,448.47	2,438.12	10.35	236.554		
2,200.00	2,200.00	2,210.90	2,210.90	7.65	7.70	14.09	2,374.83	595.96	2,448.47	2,437.61	10.86	225.509		
2,300.00	2,300.00	2,310.90	2,310.90	8.01	8.06	14.09	2,374.83	595.96	2,448.47	2,437.10	11.36	215.449		
2,400.00	2,400.00	2,410.90	2,410.90	8.37	8.42	14.09	2,374.83	595.96	2,448.47	2,436.60	11.87	206.249		
2,500.00	2,499.99	2,510.89	2,510.89	8.71	8.78	161.00	2,374.83	595.96	2,449.71	2,437.34	12.37	198.090		
2,600.00	2,599.91	2,610.81	2,610.81	9.04	9.13	161.02	2,374.83	595.96	2,453.42	2,440.57	12.85	190.906		
2,633.40	2,633.25	2,644.15	2,644.15	9.15	9.25	161.02	2,374.83	595.96	2,455.21	2,442.20	13.01	188.662		
2,700.00	2,699.73	2,710.63	2,710.63	9.37	9.49	161.05	2,374.83	595.96	2,459.06	2,445.72	13.34	184.371		
2,800.00	2,799.54	2,810.44	2,810.44	9.70	9.85	161.10	2,374.83	595.96	2,464.83	2,451.01	13.82	178.290		
2,900.00	2,899.36	2,910.26	2,910.26	10.04	10.21	161.14	2,374.83	595.96	2,470.61	2,456.30	14.31	172.606		
3,000.00	2,999.17	3,010.07	3,010.07	10.37	10.57	161.19	2,374.83	595.96	2,476.39	2,461.59	14.80	167.282		
3,100.00	3,098.98	3,109.88	3,109.88	10.71	10.92	161.23	2,374.83	595.96	2,482.18	2,466.88	15.30	162.286		
3,200.00	3,198.80	3,209.70	3,209.70	11.06	11.28	161.28	2,374.83	595.96	2,487.96	2,472.17	15.79	157.591		
3,300.00	3,298.61	3,309.51	3,309.51	11.40	11.64	161.33	2,374.83	595.96	2,493.74	2,477.46	16.28	153.170		
3,400.00	3,398.42	3,409.32	3,409.32	11.75	12.00	161.37	2,374.83	595.96	2,499.53	2,482.76	16.78	149.001		
3,500.00	3,498.24	3,509.14	3,509.14	12.10	12.36	161.41	2,374.83	595.96	2,505.32	2,488.05	17.27	145.065		
3,600.00	3,598.05	3,608.95	3,608.95	12.44	12.71	161.46	2,374.83	595.96	2,511.11	2,493.34	17.77	141.341		
3,700.00	3,697.86	3,708.76	3,708.76	12.79	13.07	161.50	2,374.83	595.96	2,516.90	2,498.64	18.26	137.815		
3,800.00	3,797.68	3,808.58	3,808.58	13.15	13.43	161.55	2,374.83	595.96	2,522.69	2,503.93	18.76	134.471		
3,900.00	3,897.49	3,908.39	3,908.39	13.50	13.79	161.59	2,374.83	595.96	2,528.49	2,509.23	19.26	131.296		
4,000.00	3,997.30	4,008.20	4,008.20	13.85	14.14	161.63	2,374.83	595.96	2,534.28	2,514.53	19.76	128.277		
4,100.00	4,097.12	4,108.02	4,108.02	14.21	14.50	161.68	2,374.83	595.96	2,540.08	2,519.83	20.26	125.404		
4,200.00	4,196.93	4,207.83	4,207.83	14.56	14.86	161.72	2,374.83	595.96	2,545.88	2,525.13	20.75	122.666		
4,300.00	4,296.74	4,307.64	4,307.64	14.92	15.22	161.76	2,374.83	595.96	2,551.68	2,530.43	21.25	120.054		
4,400.00	4,396.56	4,407.46	4,407.46	15.28	15.58	161.81	2,374.83	595.96	2,557.48	2,535.73	21.75	117.561		
4,500.00	4,496.37	4,507.27	4,507.27	15.64	15.93	161.85	2,374.83	595.96	2,563.28	2,541.03	22.26	115.177		
4,600.00	4,596.18	4,607.08	4,607.08	15.99	16.29	161.89	2,374.83	595.96	2,569.09	2,546.33	22.76	112.897		
4,700.00	4,696.00	4,706.90	4,706.90	16.35	16.65	161.93	2,374.83	595.96	2,574.89	2,551.64	23.26	110.713		
4,800.00	4,795.81	4,806.71	4,806.71	16.71	17.01	161.98	2,374.83	595.96	2,580.70	2,556.94	23.76	108.620		
4,900.00	4,895.62	4,906.52	4,906.52	17.07	17.36	162.02	2,374.83	595.96	2,586.51	2,562.25	24.26	106.613		
5,000.00	4,995.44	5,006.34	5,006.34	17.44	17.72	162.06	2,374.83	595.96	2,592.32	2,567.56	24.76	104.686		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,095.25	5,106.15	5,106.15	17.80	18.08	162.10	2,374.83	595.96	2,598.13	2,572.87	25.27	102.834		
5,200.00	5,195.07	5,205.97	5,205.97	18.16	18.44	162.14	2,374.83	595.96	2,603.94	2,578.18	25.77	101.054		
5,300.00	5,294.88	5,305.78	5,305.78	18.52	18.80	162.18	2,374.83	595.96	2,609.76	2,583.49	26.27	99.341		
5,400.00	5,394.69	5,405.59	5,405.59	18.88	19.15	162.22	2,374.83	595.96	2,615.57	2,588.80	26.77	97.692		
5,500.00	5,494.51	5,505.41	5,505.41	19.25	19.51	162.27	2,374.83	595.96	2,621.39	2,594.11	27.28	96.102		
5,600.00	5,594.32	5,605.22	5,605.22	19.61	19.87	162.31	2,374.83	595.96	2,627.21	2,599.43	27.78	94.570		
5,700.00	5,694.13	5,705.03	5,705.03	19.98	20.23	162.35	2,374.83	595.96	2,633.03	2,604.74	28.28	93.092		
5,800.00	5,793.95	5,804.85	5,804.85	20.34	20.58	162.39	2,374.83	595.96	2,638.85	2,610.06	28.79	91.665		
5,900.00	5,893.76	5,904.66	5,904.66	20.70	20.94	162.43	2,374.83	595.96	2,644.67	2,615.38	29.29	90.287		
6,000.00	5,993.57	6,004.47	6,004.47	21.07	21.30	162.47	2,374.83	595.96	2,650.49	2,620.70	29.80	88.955		
6,100.00	6,093.39	6,104.29	6,104.29	21.43	21.66	162.51	2,374.83	595.96	2,656.32	2,626.02	30.30	87.666		
6,200.00	6,193.20	6,204.10	6,204.10	21.80	22.02	162.55	2,374.83	595.96	2,662.14	2,631.34	30.80	86.420		
6,300.00	6,293.01	6,303.91	6,303.91	22.17	22.37	162.58	2,374.83	595.96	2,667.97	2,636.66	31.31	85.214		
6,400.00	6,392.83	6,403.73	6,403.73	22.53	22.73	162.62	2,374.83	595.96	2,673.80	2,641.98	31.81	84.045		
6,500.00	6,492.64	6,503.54	6,503.54	22.90	23.09	162.66	2,374.83	595.96	2,679.63	2,647.31	32.32	82.913		
6,600.00	6,592.45	6,603.35	6,603.35	23.26	23.45	162.70	2,374.83	595.96	2,685.46	2,652.63	32.82	81.815		
6,700.00	6,692.27	6,703.17	6,703.17	23.63	23.80	162.74	2,374.83	595.96	2,691.29	2,657.96	33.33	80.750		
6,719.52	6,711.75	6,722.65	6,722.65	23.70	23.87	162.75	2,374.83	595.96	2,692.43	2,659.00	33.43	80.546		
6,800.00	6,792.13	6,803.03	6,803.03	24.00	24.16	162.79	2,374.83	595.96	2,696.31	2,662.48	33.83	79.694		
6,900.00	6,892.09	6,902.99	6,902.99	24.35	24.52	162.82	2,374.83	595.96	2,698.89	2,664.55	34.34	78.599		
6,952.92	6,945.00	6,955.90	6,955.90	24.54	24.71	15.91	2,374.83	595.96	2,699.24	2,664.64	34.60	78.009		
7,000.00	6,992.08	7,002.98	7,002.98	24.69	24.88	15.91	2,374.83	595.96	2,699.24	2,664.40	34.84	77.486		
7,100.00	7,092.08	7,102.98	7,102.98	25.03	25.24	15.91	2,374.83	595.96	2,699.24	2,663.91	35.33	76.399		
7,200.00	7,192.08	7,202.98	7,202.98	25.37	25.60	15.91	2,374.83	595.96	2,699.24	2,663.41	35.83	75.340		
7,300.00	7,292.08	7,302.98	7,302.98	25.71	25.96	15.91	2,374.83	595.96	2,699.24	2,662.91	36.32	74.310		
7,400.00	7,392.08	7,402.98	7,402.98	26.05	26.31	15.91	2,374.83	595.96	2,699.24	2,662.42	36.82	73.308		
7,500.00	7,492.08	7,502.98	7,502.98	26.39	26.67	15.91	2,374.83	595.96	2,699.24	2,661.92	37.32	72.331		
7,600.00	7,592.08	7,602.98	7,602.98	26.73	27.03	15.91	2,374.83	595.96	2,699.24	2,661.42	37.82	71.380		
7,700.00	7,692.08	7,702.98	7,702.98	27.07	27.39	15.91	2,374.83	595.96	2,699.24	2,660.93	38.31	70.453		
7,800.00	7,792.08	7,802.98	7,802.98	27.41	27.75	15.91	2,374.83	595.96	2,699.24	2,660.43	38.81	69.549		
7,900.00	7,892.08	7,902.98	7,902.98	27.76	28.11	15.91	2,374.83	595.96	2,699.24	2,659.93	39.31	68.668		
8,000.00	7,992.08	8,002.98	8,002.98	28.10	28.46	15.91	2,374.83	595.96	2,699.24	2,659.43	39.81	67.808		
8,100.00	8,092.08	8,102.98	8,102.98	28.44	28.82	15.91	2,374.83	595.96	2,699.24	2,658.93	40.31	66.969		
8,200.00	8,192.08	8,202.98	8,202.98	28.78	29.18	15.91	2,374.83	595.96	2,699.24	2,658.43	40.80	66.151		
8,300.00	8,292.08	8,302.98	8,302.98	29.13	29.54	15.91	2,374.83	595.96	2,699.24	2,657.93	41.30	65.352		
8,400.00	8,392.08	8,402.98	8,402.98	29.47	29.90	15.91	2,374.83	595.96	2,699.24	2,657.44	41.80	64.571		
8,500.00	8,492.08	8,502.98	8,502.98	29.81	30.26	15.91	2,374.83	595.96	2,699.24	2,656.94	42.30	63.809		
8,600.00	8,592.08	8,602.98	8,602.98	30.16	30.62	15.91	2,374.83	595.96	2,699.24	2,656.44	42.80	63.064		
8,700.00	8,692.08	8,702.98	8,702.98	30.50	30.97	15.91	2,374.83	595.96	2,699.24	2,655.94	43.30	62.337		
8,800.00	8,792.08	8,802.98	8,802.98	30.85	31.33	15.91	2,374.83	595.96	2,699.24	2,655.44	43.80	61.625		
8,900.00	8,892.08	8,902.98	8,902.98	31.20	31.69	15.91	2,374.83	595.96	2,699.24	2,654.94	44.30	60.930		
9,000.00	8,992.08	9,002.98	9,002.98	31.54	32.05	15.91	2,374.83	595.96	2,699.24	2,654.44	44.80	60.249		
9,100.00	9,092.08	9,102.98	9,102.98	31.89	32.41	15.91	2,374.83	595.96	2,699.24	2,653.94	45.30	59.584		
9,200.00	9,192.08	9,202.98	9,202.98	32.23	32.77	15.91	2,374.83	595.96	2,699.24	2,653.44	45.80	58.933		
9,300.00	9,292.08	14,327.51	11,915.00	32.58	59.88	91.77	-241.36	515.18	2,693.99	2,655.06	38.93	69.203		
9,400.00	9,392.08	14,327.51	11,915.00	32.93	59.88	91.77	-241.36	515.18	2,597.15	2,557.89	39.25	66.163		
9,500.00	9,492.08	14,327.51	11,915.00	33.27	59.88	91.77	-241.36	515.18	2,500.55	2,460.95	39.61	63.137		
9,600.00	9,592.08	14,327.51	11,915.00	33.62	59.88	91.77	-241.36	515.18	2,404.24	2,364.26	39.98	60.135		
9,700.00	9,692.08	14,327.51	11,915.00	33.97	59.88	91.77	-241.36	515.18	2,308.24	2,267.85	40.39	57.154		
9,800.00	9,792.08	14,327.51	11,915.00	34.32	59.88	91.77	-241.36	515.18	2,212.59	2,171.77	40.82	54.197		
9,900.00	9,892.08	14,327.51	11,915.00	34.66	59.88	91.77	-241.36	515.18	2,117.35	2,076.04	41.30	51.262		
10,000.00	9,992.08	14,327.51	11,915.00	35.01	59.88	91.77	-241.36	515.18	2,022.56	1,980.73	41.83	48.355		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - Blue Bay WCA State Com #001C (Offset Plan) - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:		0.00 usft	
Reference		Offset		Semi Major Axis			Distance									
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			
10,100.00	10,092.08	14,327.51	11,915.00	35.36	59.88	91.77	-241.36	515.18	1,928.30	1,885.90	42.40	45.478				
10,200.00	10,192.08	14,327.51	11,915.00	35.71	59.88	91.77	-241.36	515.18	1,834.65	1,791.61	43.04	42.630				
10,300.00	10,292.08	14,327.51	11,915.00	36.06	59.88	91.77	-241.36	515.18	1,741.70	1,697.96	43.74	39.817				
10,400.00	10,392.08	14,327.51	11,915.00	36.41	59.88	91.77	-241.36	515.18	1,649.59	1,605.06	44.53	37.046				
10,500.00	10,492.08	14,327.51	11,915.00	36.76	59.88	91.77	-241.36	515.18	1,558.44	1,513.03	45.41	34.318				
10,600.00	10,592.08	14,327.51	11,915.00	37.11	59.88	91.77	-241.36	515.18	1,468.44	1,422.03	46.41	31.641				
10,700.00	10,692.08	14,327.51	11,915.00	37.46	59.88	91.77	-241.36	515.18	1,379.83	1,332.29	47.54	29.024				
10,800.00	10,792.08	14,327.51	11,915.00	37.81	59.88	91.77	-241.36	515.18	1,292.87	1,244.04	48.83	26.475				
10,900.00	10,892.08	14,327.51	11,915.00	38.16	59.88	91.77	-241.36	515.18	1,207.94	1,157.62	50.31	24.009				
11,000.00	10,992.08	14,327.51	11,915.00	38.51	59.88	91.77	-241.35	515.18	1,125.48	1,073.47	52.01	21.640				
11,100.00	11,092.08	14,327.51	11,915.00	38.86	59.88	91.77	-241.35	515.18	1,046.09	992.13	53.96	19.388				
11,200.00	11,192.08	14,327.51	11,915.00	39.21	59.88	91.77	-241.35	515.18	970.52	914.33	56.18	17.275				
11,300.00	11,292.08	14,327.51	11,915.00	39.56	59.88	91.77	-241.35	515.18	899.72	841.03	58.69	15.329				
11,400.00	11,392.08	14,327.51	11,915.00	39.91	59.88	91.77	-241.35	515.18	834.92	773.45	61.47	13.583				
11,500.00	11,492.08	14,327.51	11,915.00	40.26	59.88	91.77	-241.35	515.18	777.62	713.19	64.42	12.070				
11,600.00	11,592.08	14,327.51	11,915.00	40.61	59.88	91.77	-241.35	515.18	729.58	662.20	67.37	10.829				
11,615.96	11,608.04	14,327.51	11,915.00	40.66	59.88	91.77	-241.35	515.18	722.90	655.07	67.83	10.658				
11,650.00	11,642.06	14,326.50	11,915.00	40.78	59.87	93.65	-240.34	515.21	709.68	640.93	68.75	10.323				
11,700.00	11,691.78	14,321.36	11,915.00	40.95	59.81	94.97	-235.21	515.37	693.06	623.10	69.96	9.907				
11,750.00	11,740.86	14,311.91	11,915.00	41.12	59.70	95.52	-225.77	515.66	680.00	609.06	70.94	9.586				
11,800.00	11,788.94	14,298.23	11,915.00	41.27	59.54	95.33	-212.09	516.08	670.63	598.99	71.65	9.360				
11,850.00	11,835.63	14,280.41	11,915.00	41.42	59.34	94.47	-194.27	516.63	664.93	592.86	72.06	9.227				
11,900.00	11,880.59	14,258.59	11,915.00	41.55	59.09	93.00	-172.47	517.30	662.69	590.51	72.17	9.182 SF				
11,909.69	11,889.08	14,253.91	11,915.00	41.58	59.03	92.65	-167.79	517.45	662.63	590.47	72.16	9.182 CC, ES				
11,950.00	11,923.48	14,232.94	11,915.00	41.68	58.79	91.01	-146.83	518.10	663.59	591.58	72.01	9.215				
12,000.00	11,963.97	14,203.65	11,915.00	41.80	58.46	88.60	-117.55	519.00	667.18	595.57	71.61	9.317				
12,050.00	12,001.74	14,170.94	11,915.00	41.91	58.09	85.91	-84.86	520.01	672.92	601.90	71.03	9.474				
12,100.00	12,036.53	14,135.08	11,915.00	42.02	57.69	83.06	-49.01	521.12	680.26	609.94	70.32	9.673				
12,150.00	12,068.05	14,096.31	11,915.00	42.13	57.25	80.19	-10.27	522.31	688.61	619.06	69.55	9.901				
12,200.00	12,096.07	14,054.96	11,915.00	42.24	56.80	77.43	31.07	523.59	697.42	628.66	68.76	10.143				
12,250.00	12,120.37	14,011.32	11,915.00	42.35	56.32	74.90	74.69	524.94	706.17	638.19	67.98	10.388				
12,300.00	12,140.78	13,965.72	11,915.00	42.47	55.83	72.68	120.26	526.34	714.42	647.16	67.26	10.622				
12,350.00	12,157.13	13,918.53	11,915.00	42.59	55.33	70.84	167.43	527.80	721.78	655.18	66.60	10.837				
12,400.00	12,169.30	13,870.09	11,915.00	42.71	54.82	69.42	215.85	529.30	727.95	661.92	66.04	11.023				
12,450.00	12,177.21	13,820.77	11,915.00	42.84	54.31	68.46	265.14	530.82	732.71	667.14	65.57	11.174				
12,500.00	12,180.78	13,770.96	11,915.00	42.96	53.80	67.96	314.93	532.35	735.91	670.70	65.21	11.285				
12,515.96	12,181.00	13,755.02	11,915.00	43.00	53.64	67.90	330.87	532.85	736.59	671.48	65.12	11.312				
12,600.00	12,181.00	13,671.04	11,915.00	43.24	52.80	68.00	414.80	535.44	739.73	675.05	64.68	11.437				
12,700.00	12,181.00	13,571.12	11,915.00	43.58	51.83	68.12	514.67	538.52	743.47	679.25	64.22	11.577				
12,800.00	12,181.00	13,471.20	11,915.00	43.97	50.90	68.23	614.54	541.61	747.20	683.38	63.83	11.707				
12,900.00	12,181.00	13,371.28	11,915.00	44.43	50.00	68.35	714.42	544.69	750.95	687.44	63.51	11.825				
13,000.00	12,181.00	13,271.36	11,915.00	44.94	49.15	68.46	814.29	547.77	754.69	691.43	63.26	11.930				
13,100.00	12,181.00	13,171.45	11,915.00	45.50	48.33	68.57	914.16	550.86	758.44	695.35	63.09	12.021				
13,200.00	12,181.00	13,071.53	11,915.00	46.12	47.56	68.68	1,014.03	553.94	762.19	699.20	63.00	12.099				
13,300.00	12,181.00	12,971.61	11,915.00	46.79	46.83	68.79	1,113.90	557.03	765.94	702.97	62.98	12.163				
13,400.00	12,181.00	12,871.69	11,915.00	47.50	46.15	68.90	1,213.77	560.11	769.70	706.67	63.03	12.211				
13,500.00	12,181.00	12,771.77	11,915.00	48.26	45.52	69.01	1,313.64	563.19	773.46	710.30	63.16	12.245				
13,600.00	12,181.00	12,671.85	11,915.00	49.07	44.94	69.11	1,413.51	566.28	777.22	713.85	63.37	12.264				
13,700.00	12,181.00	12,571.93	11,915.00	49.91	44.41	69.22	1,513.39	569.36	780.99	717.33	63.66	12.269				
13,800.00	12,181.00	12,472.01	11,915.00	50.80	43.94	69.32	1,613.26	572.44	784.75	720.74	64.02	12.259				
13,900.00	12,181.00	12,372.09	11,915.00	51.72	43.52	69.43	1,713.13	575.53	788.52	724.07	64.45	12.235				
14,000.00	12,181.00	12,272.18	11,915.01	52.68	43.17	69.53	1,813.00	578.61	792.29	727.34	64.95	12.198				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,100.00	12,181.00	12,177.87	11,914.91	53.67	42.88	69.62	1,907.26	581.52	796.12	730.59	65.53	12.149		
14,200.00	12,181.00	12,115.18	11,909.53	54.70	42.71	69.32	1,969.64	583.45	802.92	736.86	66.06	12.155		
14,300.00	12,181.00	12,054.90	11,896.70	55.75	42.54	68.53	2,028.47	585.27	814.48	748.05	66.43	12.261		
14,400.00	12,181.00	12,000.00	11,878.64	56.84	42.39	67.40	2,080.26	586.87	831.18	764.52	66.66	12.469		
14,500.00	12,181.00	11,950.00	11,857.13	57.95	42.26	66.07	2,125.35	588.26	853.49	786.72	66.77	12.783		
14,600.00	12,181.00	11,900.00	11,831.01	59.08	42.12	64.48	2,167.94	589.57	881.76	815.02	66.73	13.213		
14,700.00	12,181.00	11,861.04	11,807.66	60.24	42.02	63.10	2,199.09	590.53	916.20	849.53	66.67	13.742		
14,800.00	12,181.00	11,825.00	11,783.85	61.42	41.92	61.72	2,226.13	591.37	956.79	890.25	66.54	14.380		
14,900.00	12,181.00	11,800.00	11,766.18	62.63	41.85	60.71	2,243.80	591.91	1,003.34	936.91	66.43	15.103		
15,000.00	12,181.00	11,766.85	11,741.36	63.85	41.76	59.34	2,265.75	592.59	1,055.38	989.17	66.20	15.942		
15,100.00	12,181.00	11,750.00	11,728.17	65.09	41.72	58.62	2,276.24	592.92	1,112.60	1,046.52	66.08	16.837		
15,200.00	12,181.00	11,725.00	11,707.95	66.35	41.65	57.55	2,290.92	593.37	1,174.32	1,108.45	65.86	17.830		
15,300.00	12,181.00	11,700.00	11,686.98	67.63	41.58	56.45	2,304.53	593.79	1,240.17	1,174.53	65.64	18.894		
15,400.00	12,181.00	11,686.34	11,675.23	68.92	41.54	55.85	2,311.49	594.01	1,309.63	1,244.14	65.49	19.997		
15,500.00	12,181.00	11,675.00	11,665.33	70.23	41.51	55.36	2,317.02	594.18	1,382.30	1,316.95	65.35	21.151		
15,600.00	12,181.00	11,650.00	11,643.06	71.55	41.43	54.25	2,328.36	594.53	1,457.81	1,392.67	65.13	22.381		
15,700.00	12,181.00	11,650.00	11,643.06	72.89	41.43	54.25	2,328.36	594.53	1,535.63	1,470.56	65.07	23.601		
15,800.00	12,181.00	11,635.51	11,629.89	74.24	41.39	53.62	2,334.39	594.71	1,615.63	1,550.71	64.92	24.886		
15,900.00	12,181.00	11,625.00	11,620.22	75.60	41.36	53.15	2,338.52	594.84	1,697.53	1,632.73	64.80	26.196		
16,000.00	12,181.00	11,625.00	11,620.22	76.97	41.36	53.15	2,338.52	594.84	1,781.16	1,716.43	64.73	27.518		
16,100.00	12,181.00	11,600.00	11,596.88	78.35	41.29	52.06	2,347.47	595.12	1,866.16	1,801.60	64.57	28.903		
16,200.00	12,181.00	11,600.00	11,596.88	79.75	41.29	52.06	2,347.47	595.12	1,952.36	1,887.85	64.50	30.268		
16,300.00	12,181.00	11,600.00	11,596.88	81.15	41.29	52.06	2,347.47	595.12	2,039.81	1,975.37	64.44	31.654		
16,400.00	12,181.00	11,588.04	11,585.56	82.56	41.25	51.54	2,351.32	595.24	2,128.19	2,063.84	64.35	33.072		
16,500.00	12,181.00	11,575.00	11,573.11	83.98	41.21	50.98	2,355.19	595.35	2,217.58	2,153.31	64.27	34.507		
16,600.00	12,181.00	11,575.00	11,573.11	85.41	41.21	50.98	2,355.19	595.35	2,307.65	2,243.42	64.22	35.933		
16,700.00	12,181.00	11,575.00	11,573.11	86.85	41.21	50.98	2,355.19	595.35	2,398.50	2,334.32	64.18	37.372		
16,800.00	12,181.00	11,575.00	11,573.11	88.29	41.21	50.98	2,355.19	595.35	2,490.06	2,425.91	64.14	38.821		
16,900.00	12,181.00	11,562.64	11,561.21	89.74	41.18	50.45	2,358.55	595.46	2,582.06	2,517.98	64.08	40.292		
17,000.00	12,181.00	11,550.00	11,548.96	91.20	41.14	49.91	2,361.66	595.55	2,674.75	2,610.72	64.03	41.774		
17,100.00	12,181.00	11,550.00	11,548.96	92.67	41.14	49.91	2,361.66	595.55	2,767.77	2,703.77	64.00	43.245		
17,200.00	12,181.00	11,550.00	11,548.96	94.14	41.14	49.91	2,361.66	595.55	2,861.27	2,797.29	63.98	44.722		
17,300.00	12,181.00	11,550.00	11,548.96	95.62	41.14	49.91	2,361.66	595.55	2,955.19	2,891.23	63.96	46.205		
17,400.00	12,181.00	11,550.00	11,548.96	97.10	41.14	49.91	2,361.66	595.55	3,049.50	2,985.55	63.94	47.692		
17,500.00	12,181.00	11,550.00	11,548.96	98.59	41.14	49.91	2,361.66	595.55	3,144.16	3,080.23	63.93	49.183		
17,600.00	12,181.00	11,538.55	11,537.80	100.08	41.10	49.43	2,364.19	595.63	3,238.98	3,175.08	63.90	50.685		
17,700.00	12,181.00	11,525.00	11,524.51	101.58	41.06	48.86	2,366.85	595.71	3,334.31	3,270.43	63.88	52.195		
17,800.00	12,181.00	11,525.00	11,524.51	103.08	41.06	48.86	2,366.85	595.71	3,429.71	3,365.83	63.88	53.691		
17,900.00	12,181.00	11,525.00	11,524.51	104.59	41.06	48.86	2,366.85	595.71	3,525.36	3,461.48	63.88	55.189		
18,000.00	12,181.00	11,525.00	11,524.51	106.10	41.06	48.86	2,366.85	595.71	3,621.24	3,557.36	63.88	56.689		
18,100.00	12,181.00	11,525.00	11,524.51	107.62	41.06	48.86	2,366.85	595.71	3,717.34	3,653.46	63.88	58.190		
18,200.00	12,181.00	11,525.00	11,524.51	109.14	41.06	48.86	2,366.85	595.71	3,813.64	3,749.75	63.89	59.691		
18,300.00	12,181.00	11,525.00	11,524.51	110.66	41.06	48.86	2,366.85	595.71	3,910.13	3,846.23	63.90	61.193		
18,400.00	12,181.00	11,525.00	11,524.51	112.19	41.06	48.86	2,366.85	595.71	4,006.79	3,942.88	63.91	62.695		
18,500.00	12,181.00	11,525.00	11,524.51	113.72	41.06	48.86	2,366.85	595.71	4,103.61	4,039.69	63.92	64.197		
18,600.00	12,181.00	11,525.00	11,524.51	115.25	41.06	48.86	2,366.85	595.71	4,200.58	4,136.64	63.94	65.698		
18,700.00	12,181.00	11,525.00	11,524.51	116.79	41.06	48.86	2,366.85	595.71	4,297.69	4,233.73	63.95	67.199		
18,800.00	12,181.00	11,513.34	11,513.03	118.33	41.02	48.38	2,368.83	595.78	4,394.77	4,330.80	63.97	68.704		
18,900.00	12,181.00	11,511.80	11,511.50	119.87	41.02	48.32	2,369.07	595.78	4,492.08	4,428.10	63.99	70.203		
19,000.00	12,181.00	11,500.00	11,499.82	121.42	40.98	47.84	2,370.75	595.84	4,589.63	4,525.63	64.00	71.709		
19,100.00	12,181.00	11,500.00	11,499.82	122.97	40.98	47.84	2,370.75	595.84	4,687.13	4,623.10	64.03	73.204		
19,200.00	12,181.00	11,500.00	11,499.82	124.52	40.98	47.84	2,370.75	595.84	4,784.73	4,720.67	64.06	74.696		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 usft
FMM Fed Com - Blue Bay WCA State Com #001C (Offset Plan) - 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	12,181.00	11,500.00	11,499.82	126.08	40.98	47.84	2,370.75	595.84	4,882.43	4,818.35	64.08	76.189	
19,400.00	12,181.00	11,500.00	11,499.82	127.63	40.98	47.84	2,370.75	595.84	4,980.22	4,916.11	64.11	77.680	

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-88.38	56.45	-1,999.03	2,000.32					
100.00	100.00	55.70	55.70	0.13	0.07	-88.38	56.45	-1,999.03	1,999.83	1,999.69	0.14	N/A		
200.00	200.00	155.70	155.70	0.48	0.33	-88.38	56.45	-1,999.03	1,999.83	1,999.25	0.58	3,430.151		
300.00	300.00	255.70	255.70	0.84	0.68	-88.38	56.45	-1,999.03	1,999.83	1,998.75	1.08	1,843.363		
400.00	400.00	355.70	355.70	1.20	1.04	-88.38	56.45	-1,999.03	1,999.83	1,998.24	1.59	1,257.771		
500.00	500.00	455.70	455.70	1.56	1.40	-88.38	56.45	-1,999.03	1,999.83	1,997.73	2.10	954.129		
600.00	600.00	555.70	555.70	1.92	1.76	-88.38	56.45	-1,999.03	1,999.83	1,997.23	2.60	768.473		
700.00	700.00	655.70	655.70	2.28	2.12	-88.38	56.45	-1,999.03	1,999.83	1,996.72	3.11	643.259		
800.00	800.00	755.70	755.70	2.63	2.48	-88.38	56.45	-1,999.03	1,999.83	1,996.21	3.62	553.115		
900.00	900.00	855.70	855.70	2.99	2.83	-88.38	56.45	-1,999.03	1,999.83	1,995.71	4.12	485.123		
1,000.00	1,000.00	955.70	955.70	3.35	3.19	-88.38	56.45	-1,999.03	1,999.83	1,995.20	4.63	432.012		
1,100.00	1,100.00	1,055.70	1,055.70	3.71	3.55	-88.38	56.45	-1,999.03	1,999.83	1,994.69	5.14	389.381		
1,200.00	1,200.00	1,155.70	1,155.70	4.07	3.91	-88.38	56.45	-1,999.03	1,999.83	1,994.19	5.64	354.406		
1,300.00	1,300.00	1,255.70	1,255.70	4.43	4.27	-88.38	56.45	-1,999.03	1,999.83	1,993.68	6.15	325.195		
1,400.00	1,400.00	1,355.70	1,355.70	4.79	4.63	-88.38	56.45	-1,999.03	1,999.83	1,993.17	6.66	300.432		
1,500.00	1,500.00	1,455.70	1,455.70	5.14	4.99	-88.38	56.45	-1,999.03	1,999.83	1,992.67	7.16	279.173		
1,600.00	1,600.00	1,555.70	1,555.70	5.50	5.34	-88.38	56.45	-1,999.03	1,999.83	1,992.16	7.67	260.724		
1,700.00	1,700.00	1,655.70	1,655.70	5.86	5.70	-88.38	56.45	-1,999.03	1,999.83	1,991.65	8.18	244.562		
1,800.00	1,800.00	1,755.70	1,755.70	6.22	6.06	-88.38	56.45	-1,999.03	1,999.83	1,991.15	8.68	230.286		
1,804.75	1,804.75	1,760.45	1,760.45	6.24	6.08	-88.38	56.45	-1,999.03	1,999.83	1,991.12	8.71	229.649 CC		
1,900.00	1,900.00	1,836.72	1,836.72	6.58	6.35	-88.38	56.43	-1,999.21	2,000.09	1,990.95	9.14	218.812 ES		
2,000.00	2,000.00	1,900.00	1,899.99	6.94	6.57	-88.39	56.27	-2,000.33	2,001.90	1,992.35	9.55	209.635		
2,100.00	2,100.00	1,968.49	1,968.43	7.29	6.80	-88.40	55.95	-2,002.72	2,005.40	1,995.43	9.97	201.237		
2,200.00	2,200.00	2,034.24	2,034.09	7.65	7.03	-88.42	55.49	-2,006.15	2,010.60	2,000.22	10.37	193.834		
2,300.00	2,300.00	2,100.00	2,099.69	8.01	7.25	-88.44	54.87	-2,010.70	2,017.49	2,006.71	10.78	187.182		
2,400.00	2,400.00	2,165.28	2,164.72	8.37	7.48	-88.46	54.11	-2,016.33	2,026.08	2,014.89	11.18	181.212		
2,500.00	2,499.99	2,230.56	2,229.65	8.71	7.71	58.32	53.20	-2,023.06	2,035.66	2,024.09	11.57	175.988		
2,600.00	2,599.91	2,300.00	2,298.57	9.04	7.96	58.22	52.07	-2,031.42	2,045.56	2,033.61	11.95	171.149		
2,633.40	2,633.25	2,317.42	2,315.84	9.15	8.02	58.19	51.76	-2,033.71	2,048.92	2,036.86	12.06	169.846		
2,700.00	2,699.73	2,360.68	2,358.67	9.37	8.18	58.23	50.95	-2,039.74	2,056.05	2,043.74	12.31	167.010		
2,800.00	2,799.54	2,425.42	2,422.63	9.70	8.42	58.27	49.61	-2,049.66	2,068.14	2,055.46	12.68	163.082		
2,900.00	2,899.36	2,491.33	2,487.56	10.04	8.66	58.32	48.09	-2,060.86	2,081.89	2,068.84	13.06	159.468		
3,000.00	2,999.17	2,568.02	2,562.67	10.37	9.03	58.38	45.76	-2,078.11	2,096.51	2,082.98	13.53	154.980		
3,100.00	3,098.98	2,686.92	2,679.95	10.71	9.42	58.44	43.38	-2,095.75	2,111.12	2,097.11	14.01	150.681		
3,200.00	3,198.80	2,785.82	2,777.24	11.06	9.81	58.50	41.00	-2,113.39	2,125.74	2,111.24	14.50	146.636		
3,300.00	3,298.61	2,884.72	2,874.52	11.40	10.20	58.56	38.61	-2,131.04	2,140.36	2,125.37	14.99	142.827		
3,400.00	3,398.42	2,983.62	2,971.81	11.75	10.61	58.62	36.23	-2,148.68	2,154.98	2,139.50	15.48	139.236		
3,500.00	3,498.24	3,082.52	3,069.10	12.10	11.01	58.68	33.84	-2,166.32	2,169.60	2,153.63	15.97	135.845		
3,600.00	3,598.05	3,181.42	3,166.38	12.44	11.42	58.74	31.46	-2,183.96	2,184.23	2,167.76	16.47	132.640		
3,700.00	3,697.86	3,280.32	3,263.67	12.79	11.84	58.79	29.07	-2,201.60	2,198.86	2,181.89	16.97	129.608		
3,800.00	3,797.68	3,379.22	3,360.95	13.15	12.25	58.85	26.69	-2,219.25	2,213.49	2,196.02	17.47	126.735		
3,900.00	3,897.49	3,478.12	3,458.24	13.50	12.67	58.90	24.31	-2,236.89	2,228.12	2,210.15	17.97	124.011		
4,000.00	3,997.30	3,577.03	3,555.52	13.85	13.10	58.96	21.92	-2,254.53	2,242.75	2,224.28	18.47	121.425		
4,100.00	4,097.12	3,675.93	3,652.81	14.21	13.52	59.01	19.54	-2,272.17	2,257.39	2,238.41	18.97	118.968		
4,200.00	4,196.93	3,774.83	3,750.09	14.56	13.95	59.07	17.15	-2,289.82	2,272.03	2,252.55	19.48	116.629		
4,300.00	4,296.74	3,873.73	3,847.38	14.92	14.38	59.12	14.77	-2,307.46	2,286.67	2,266.68	19.99	114.402		
4,400.00	4,396.56	3,972.63	3,944.67	15.28	14.81	59.17	12.39	-2,325.10	2,301.31	2,280.81	20.50	112.280		
4,500.00	4,496.37	4,071.53	4,041.95	15.64	15.24	59.22	10.00	-2,342.74	2,315.95	2,294.95	21.01	110.254		
4,600.00	4,596.18	4,170.43	4,139.24	15.99	15.67	59.27	7.62	-2,360.38	2,330.60	2,309.08	21.52	108.319		
4,700.00	4,696.00	4,269.33	4,236.52	16.35	16.11	59.32	5.23	-2,378.03	2,345.25	2,323.22	22.03	106.470		
4,800.00	4,795.81	4,368.23	4,333.81	16.71	16.54	59.37	2.85	-2,395.67	2,359.90	2,337.36	22.54	104.701		
4,900.00	4,895.62	4,467.13	4,431.09	17.07	16.98	59.42	0.47	-2,413.31	2,374.55	2,351.49	23.05	103.006		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 804H
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Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design FMM Fed Com - FMM Fed Com 101H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
5,000.00	4,995.44	4,566.04	4,528.38	17.44	17.42	59.47	-1.92	-2,430.95	2,389.20	2,365.63	23.57	101.382		
5,100.00	5,095.25	4,664.94	4,625.67	17.80	17.86	59.51	-4.30	-2,448.59	2,403.85	2,379.77	24.08	99.825		
5,200.00	5,195.07	4,763.84	4,722.95	18.16	18.30	59.56	-6.69	-2,466.24	2,418.51	2,393.91	24.60	98.330		
5,300.00	5,294.88	4,862.74	4,820.24	18.52	18.74	59.61	-9.07	-2,483.88	2,433.17	2,408.05	25.11	96.894		
5,400.00	5,394.69	4,961.64	4,917.52	18.88	19.18	59.65	-11.45	-2,501.52	2,447.82	2,422.20	25.63	95.514		
5,500.00	5,494.51	5,060.54	5,014.81	19.25	19.62	59.70	-13.84	-2,519.16	2,462.48	2,436.34	26.15	94.186		
5,600.00	5,594.32	5,159.44	5,112.09	19.61	20.07	59.74	-16.22	-2,536.81	2,477.15	2,450.48	26.66	92.907		
5,700.00	5,694.13	5,258.34	5,209.38	19.98	20.51	59.79	-18.61	-2,554.45	2,491.81	2,464.63	27.18	91.676		
5,800.00	5,793.95	5,357.24	5,306.66	20.34	20.96	59.83	-20.99	-2,572.09	2,506.47	2,478.77	27.70	90.489		
5,900.00	5,893.76	5,456.15	5,403.95	20.70	21.40	59.87	-23.37	-2,589.73	2,521.14	2,492.92	28.22	89.345		
6,000.00	5,993.57	5,555.05	5,501.24	21.07	21.85	59.92	-25.76	-2,607.37	2,535.81	2,507.07	28.74	88.240		
6,100.00	6,093.39	5,653.95	5,598.52	21.43	22.29	59.96	-28.14	-2,625.02	2,550.47	2,521.22	29.26	87.173		
6,200.00	6,193.20	5,752.85	5,695.81	21.80	22.74	60.00	-30.53	-2,642.66	2,565.14	2,535.37	29.78	86.143		
6,300.00	6,293.01	5,851.75	5,793.09	22.17	23.19	60.04	-32.91	-2,660.30	2,579.82	2,549.52	30.30	85.147		
6,400.00	6,392.83	5,950.65	5,890.38	22.53	23.64	60.08	-35.30	-2,677.94	2,594.49	2,563.67	30.82	84.183		
6,500.00	6,492.64	6,049.55	5,987.66	22.90	24.08	60.12	-37.68	-2,695.58	2,609.16	2,577.82	31.34	83.251		
6,600.00	6,592.45	6,148.45	6,084.95	23.26	24.53	60.16	-40.06	-2,713.23	2,623.84	2,591.97	31.86	82.348		
6,700.00	6,692.27	6,247.35	6,182.23	23.63	24.98	60.20	-42.45	-2,730.87	2,638.51	2,606.13	32.38	81.474		
6,719.52	6,711.75	6,266.66	6,201.23	23.70	25.07	60.21	-42.91	-2,734.31	2,641.38	2,608.89	32.49	81.307		
6,800.00	6,792.13	6,346.20	6,279.47	24.00	25.43	60.39	-44.83	-2,748.50	2,653.61	2,620.70	32.91	80.644		
6,900.00	6,892.09	6,444.84	6,376.50	24.35	25.88	60.58	-47.21	-2,766.10	2,669.95	2,636.53	33.42	79.890		
6,952.92	6,945.00	6,496.94	6,427.74	24.54	26.12	-86.25	-48.46	-2,775.39	2,679.12	2,645.43	33.69	79.527		
7,000.00	6,992.08	6,543.25	6,473.30	24.69	26.33	-86.28	-49.58	-2,783.65	2,687.43	2,653.51	33.92	79.221		
7,100.00	7,092.08	6,641.62	6,570.06	25.03	26.77	-86.36	-51.95	-2,801.20	2,705.09	2,670.66	34.42	78.583		
7,200.00	7,192.08	6,739.99	6,666.82	25.37	27.22	-86.43	-54.32	-2,818.75	2,722.75	2,687.83	34.92	77.962		
7,300.00	7,292.08	6,838.14	6,763.89	25.71	27.69	-86.59	-56.99	-2,836.30	2,738.74	2,702.81	35.93	76.216		
7,400.00	7,392.08	7,271.74	7,194.32	26.05	29.38	-86.69	-62.84	-2,881.80	2,746.65	2,709.71	36.94	74.354		
7,500.00	7,492.08	7,525.31	7,447.78	26.39	30.20	-86.71	-63.55	-2,887.03	2,747.55	2,709.82	37.73	72.825		
7,600.00	7,592.08	7,625.31	7,547.78	26.73	30.50	-86.71	-63.55	-2,887.03	2,747.55	2,709.34	38.20	71.917		
7,700.00	7,692.08	7,725.31	7,647.78	27.07	30.81	-86.71	-63.55	-2,887.03	2,747.55	2,708.87	38.68	71.030		
7,800.00	7,792.08	7,825.31	7,747.78	27.41	31.11	-86.71	-63.55	-2,887.03	2,747.55	2,708.39	39.16	70.164		
7,900.00	7,892.08	7,925.31	7,847.78	27.76	31.42	-86.71	-63.55	-2,887.03	2,747.55	2,707.91	39.64	69.317		
8,000.00	7,992.08	8,025.31	7,947.78	28.10	31.73	-86.71	-63.55	-2,887.03	2,747.55	2,707.43	40.12	68.489		
8,015.73	8,007.81	8,041.04	7,963.51	28.15	31.78	-86.71	-63.55	-2,887.03	2,747.55	2,707.36	40.19	68.360		
8,100.00	8,092.08	8,122.57	8,045.04	28.44	32.03	-86.71	-63.55	-2,887.03	2,747.55	2,706.96	40.59	67.687		
8,200.00	8,192.08	8,200.00	8,122.24	28.78	32.27	-86.61	-58.33	-2,887.09	2,748.02	2,706.99	41.03	66.974		
8,300.00	8,292.08	8,272.37	8,193.14	29.13	32.48	-86.31	-44.08	-2,887.23	2,749.47	2,708.02	41.45	66.327		
8,400.00	8,392.08	8,340.36	8,257.63	29.47	32.66	-85.86	-22.65	-2,887.44	2,752.08	2,710.22	41.86	65.747		
8,500.00	8,492.08	8,400.00	8,311.76	29.81	32.80	-85.35	2.31	-2,887.69	2,756.12	2,713.88	42.24	65.252		
8,600.00	8,592.08	8,450.00	8,354.94	30.16	32.92	-84.83	27.49	-2,887.94	2,761.91	2,719.32	42.59	64.856		
8,700.00	8,692.08	8,500.00	8,395.76	30.50	33.02	-84.23	56.33	-2,888.23	2,769.69	2,726.78	42.92	64.538		
8,800.00	8,792.08	8,550.00	8,433.92	30.85	33.11	-83.56	88.62	-2,888.55	2,779.73	2,736.50	43.23	64.303		
8,900.00	8,892.08	8,600.00	8,469.11	31.20	33.19	-82.83	124.11	-2,888.90	2,792.31	2,748.78	43.52	64.157		
9,000.00	8,992.08	8,622.49	8,483.91	31.54	33.23	-82.49	141.05	-2,889.07	2,807.43	2,763.71	43.72	64.208		
9,100.00	9,092.08	8,650.00	8,501.08	31.89	33.27	-82.05	162.54	-2,889.28	2,825.34	2,781.43	43.91	64.339		
9,200.00	9,192.08	8,677.64	8,517.27	32.23	33.31	-81.59	184.93	-2,889.51	2,846.07	2,801.99	44.08	64.571		
9,300.00	9,292.08	8,700.00	8,529.57	32.58	33.34	-81.21	203.60	-2,889.69	2,869.66	2,825.46	44.19	64.934		
9,400.00	9,392.08	8,720.74	8,540.32	32.93	33.37	-80.85	221.33	-2,889.87	2,896.11	2,851.83	44.28	65.407		
9,500.00	9,492.08	8,750.00	8,554.38	33.27	33.41	-80.33	246.99	-2,890.12	2,925.47	2,881.11	44.36	65.944		
9,600.00	9,592.08	8,750.00	8,554.38	33.62	33.41	-80.33	246.99	-2,890.12	2,957.54	2,913.21	44.33	66.718		
9,700.00	9,692.08	8,769.55	8,563.03	33.97	33.44	-79.97	264.51	-2,890.30	2,992.42	2,948.08	44.34	67.492		
9,800.00	9,792.08	8,800.00	8,575.31	34.32	33.49	-79.41	292.38	-2,890.57	3,030.17	2,985.81	44.36	68.306		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,900.00	9,892.08	8,800.00	8,575.31	34.66	33.49	-79.41	292.38	-2,890.57	3,070.25	3,025.98	44.26	69.361		
10,000.00	9,992.08	8,800.00	8,575.31	35.01	33.49	-79.41	292.38	-2,890.57	3,113.02	3,068.87	44.15	70.509		
10,100.00	10,092.08	8,800.00	8,575.31	35.36	33.49	-79.41	292.38	-2,890.57	3,158.39	3,114.36	44.02	71.745		
10,200.00	10,192.08	8,824.41	8,584.07	35.71	33.52	-78.96	315.16	-2,890.80	3,205.87	3,161.89	43.97	72.906		
10,300.00	10,292.08	8,850.00	8,592.21	36.06	33.56	-78.47	339.42	-2,891.04	3,255.96	3,212.04	43.92	74.140		
10,400.00	10,392.08	8,850.00	8,592.21	36.41	33.56	-78.47	339.42	-2,891.04	3,307.92	3,264.16	43.76	75.585		
10,500.00	10,492.08	8,850.00	8,592.21	36.76	33.56	-78.47	339.42	-2,891.04	3,362.06	3,318.46	43.61	77.098		
10,600.00	10,592.08	8,850.00	8,592.21	37.11	33.56	-78.47	339.42	-2,891.04	3,418.27	3,374.82	43.45	78.673		
10,700.00	10,692.08	8,850.00	8,592.21	37.46	33.56	-78.47	339.42	-2,891.04	3,476.45	3,433.16	43.29	80.304		
10,800.00	10,792.08	8,850.00	8,592.21	37.81	33.56	-78.47	339.42	-2,891.04	3,536.50	3,493.36	43.13	81.987		
10,900.00	10,892.08	8,871.29	8,598.14	38.16	33.60	-78.06	359.86	-2,891.25	3,598.01	3,554.95	43.06	83.559		
11,000.00	10,992.08	8,876.27	8,599.42	38.51	33.61	-77.97	364.68	-2,891.29	3,661.34	3,618.41	42.93	85.287		
11,100.00	11,092.08	8,900.00	8,604.94	38.86	33.65	-77.51	387.75	-2,891.52	3,726.52	3,683.65	42.87	86.926		
11,200.00	11,192.08	8,900.00	8,604.94	39.21	33.65	-77.51	387.75	-2,891.52	3,792.83	3,750.09	42.74	88.750		
11,300.00	11,292.08	8,900.00	8,604.94	39.56	33.65	-77.51	387.75	-2,891.52	3,860.58	3,817.97	42.61	90.601		
11,400.00	11,392.08	8,900.00	8,604.94	39.91	33.65	-77.51	387.75	-2,891.52	3,929.72	3,887.22	42.50	92.474		
11,500.00	11,492.08	8,900.00	8,604.94	40.26	33.65	-77.51	387.75	-2,891.52	4,000.15	3,957.76	42.39	94.367		
11,600.00	11,592.08	8,900.00	8,604.94	40.61	33.65	-77.51	387.75	-2,891.52	4,071.83	4,029.54	42.29	96.274		
11,615.96	11,608.04	8,900.00	8,604.94	40.66	33.65	-77.51	387.75	-2,891.52	4,083.38	4,041.10	42.28	96.579		
11,650.00	11,642.06	8,900.00	8,604.94	40.78	33.65	-73.54	387.75	-2,891.52	4,107.94	4,065.69	42.25	97.231		
11,700.00	11,691.78	8,900.00	8,604.94	40.95	33.65	-68.75	387.75	-2,891.52	4,143.52	4,101.32	42.20	98.184		
11,750.00	11,740.86	8,900.00	8,604.94	41.12	33.65	-64.31	387.75	-2,891.52	4,178.28	4,136.13	42.15	99.123		
11,800.00	11,788.94	8,900.00	8,604.94	41.27	33.65	-60.27	387.75	-2,891.52	4,211.99	4,169.88	42.10	100.042		
11,850.00	11,835.63	8,900.00	8,604.94	41.42	33.65	-56.64	387.75	-2,891.52	4,244.40	4,202.35	42.05	100.934		
11,900.00	11,880.59	8,900.00	8,604.94	41.55	33.65	-53.42	387.75	-2,891.52	4,275.31	4,233.31	42.00	101.790		
11,950.00	11,923.48	8,924.45	8,609.62	41.68	33.70	-50.37	411.75	-2,891.76	4,304.05	4,262.02	42.03	102.406		
12,000.00	11,963.97	8,950.00	8,613.41	41.80	33.76	-47.72	437.01	-2,892.01	4,331.48	4,289.42	42.06	102.987		
12,050.00	12,001.74	8,950.00	8,613.41	41.91	33.76	-45.64	437.01	-2,892.01	4,356.30	4,314.29	42.02	103.682		
12,100.00	12,036.53	8,950.00	8,613.41	42.02	33.76	-43.86	437.01	-2,892.01	4,378.89	4,336.91	41.98	104.311		
12,150.00	12,068.05	8,950.00	8,613.41	42.13	33.76	-42.35	437.01	-2,892.01	4,399.09	4,357.14	41.95	104.866		
12,200.00	12,096.07	8,950.00	8,613.41	42.24	33.76	-41.09	437.01	-2,892.01	4,416.81	4,374.88	41.93	105.340		
12,250.00	12,120.37	8,950.00	8,613.41	42.35	33.76	-40.06	437.01	-2,892.01	4,431.92	4,390.00	41.92	105.726		
12,300.00	12,140.78	8,950.00	8,613.41	42.47	33.76	-39.24	437.01	-2,892.01	4,444.35	4,402.43	41.92	106.018		
12,350.00	12,157.13	8,973.62	8,615.91	42.59	33.81	-38.58	460.49	-2,892.25	4,453.57	4,411.57	42.00	106.044		
12,400.00	12,169.30	9,000.00	8,617.55	42.71	33.88	-38.14	486.82	-2,892.51	4,460.42	4,418.33	42.09	105.974		
12,450.00	12,177.21	9,000.00	8,617.55	42.84	33.88	-37.93	486.82	-2,892.51	4,463.86	4,421.73	42.13	105.946		
12,500.00	12,180.78	9,000.00	8,617.55	42.96	33.88	-37.90	486.82	-2,892.51	4,464.42	4,422.23	42.19	105.810		
12,515.96	12,181.00	9,000.00	8,617.55	43.00	33.88	-37.92	486.82	-2,892.51	4,463.99	4,421.78	42.22	105.743		
12,600.00	12,181.00	9,000.00	8,617.55	43.24	33.88	-37.92	486.82	-2,892.51	4,461.76	4,419.40	42.36	105.335		
12,699.22	12,181.00	9,022.57	8,618.00	43.57	33.94	-37.93	509.38	-2,892.73	4,460.76	4,418.14	42.62	104.669		
12,700.00	12,181.00	9,022.57	8,618.00	43.58	33.94	-37.93	509.38	-2,892.73	4,460.76	4,418.14	42.62	104.664		
12,800.00	12,181.00	9,121.88	8,618.00	43.97	34.27	-37.93	608.69	-2,893.72	4,460.79	4,417.70	43.09	103.530		
12,900.00	12,181.00	9,221.88	8,618.00	44.43	34.70	-37.93	708.69	-2,894.72	4,460.82	4,417.21	43.61	102.282		
13,000.00	12,181.00	9,321.88	8,618.00	44.94	35.21	-37.93	808.68	-2,895.71	4,460.85	4,416.66	44.20	100.933		
13,100.00	12,181.00	9,421.88	8,618.00	45.50	35.81	-37.93	908.68	-2,896.70	4,460.89	4,416.05	44.83	99.497		
13,200.00	12,181.00	9,521.88	8,618.00	46.12	36.48	-37.93	1,008.67	-2,897.70	4,460.92	4,415.39	45.53	97.987		
13,300.00	12,181.00	9,621.88	8,618.00	46.79	37.22	-37.93	1,108.67	-2,898.69	4,460.95	4,414.69	46.27	96.416		
13,400.00	12,181.00	9,721.88	8,618.00	47.50	38.02	-37.93	1,208.66	-2,899.69	4,460.99	4,413.93	47.06	94.799		
13,500.00	12,181.00	9,821.88	8,618.00	48.26	38.88	-37.93	1,308.66	-2,900.68	4,461.02	4,413.13	47.89	93.146		
13,600.00	12,181.00	9,921.88	8,618.00	49.07	39.79	-37.93	1,408.65	-2,901.68	4,461.05	4,412.28	48.77	91.471		
13,700.00	12,181.00	10,021.88	8,618.00	49.91	40.75	-37.93	1,508.65	-2,902.67	4,461.08	4,411.40	49.69	89.783		
13,800.00	12,181.00	10,121.88	8,618.00	50.80	41.76	-37.93	1,608.64	-2,903.67	4,461.12	4,410.47	50.64	88.089		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
13,900.00	12,181.00	10,221.88	8,618.00	51.72	42.80	-37.93	1,708.64	-2,904.66	4,461.15	4,409.51	51.64	86.397		
14,000.00	12,181.00	10,321.88	8,618.00	52.68	43.88	-37.93	1,808.63	-2,905.66	4,461.18	4,408.52	52.66	84.711		
14,100.00	12,181.00	10,421.88	8,618.00	53.67	45.00	-37.93	1,908.63	-2,906.65	4,461.21	4,407.49	53.72	83.039		
14,200.00	12,181.00	10,521.88	8,618.00	54.70	46.15	-37.93	2,008.62	-2,907.65	4,461.25	4,406.43	54.82	81.386		
14,300.00	12,181.00	10,621.88	8,618.00	55.75	47.33	-37.93	2,108.62	-2,908.64	4,461.28	4,405.34	55.94	79.756		
14,400.00	12,181.00	10,721.88	8,618.00	56.84	48.54	-37.93	2,208.61	-2,909.64	4,461.31	4,404.23	57.08	78.153		
14,500.00	12,181.00	10,821.88	8,618.00	57.95	49.77	-37.94	2,308.61	-2,910.63	4,461.34	4,403.09	58.26	76.580		
14,600.00	12,181.00	10,921.88	8,618.00	59.08	51.03	-37.94	2,408.60	-2,911.62	4,461.38	4,401.92	59.45	75.041		
14,700.00	12,181.00	11,021.88	8,618.00	60.24	52.31	-37.94	2,508.60	-2,912.62	4,461.41	4,400.74	60.67	73.537		
14,800.00	12,181.00	11,121.88	8,618.00	61.42	53.60	-37.94	2,608.59	-2,913.61	4,461.44	4,399.54	61.91	72.068		
14,900.00	12,181.00	11,221.88	8,618.00	62.63	54.92	-37.94	2,708.59	-2,914.61	4,461.48	4,398.31	63.16	70.634		
15,000.00	12,181.00	11,321.88	8,618.00	63.85	56.26	-37.94	2,808.58	-2,915.60	4,461.51	4,397.07	64.44	69.234		
15,100.00	12,181.00	11,421.88	8,618.00	65.09	57.61	-37.94	2,908.58	-2,916.60	4,461.54	4,395.80	65.74	67.869		
15,200.00	12,181.00	11,521.88	8,618.00	66.35	58.98	-37.94	3,008.57	-2,917.59	4,461.57	4,394.52	67.05	66.541		
15,300.00	12,181.00	11,621.88	8,618.00	67.63	60.36	-37.94	3,108.57	-2,918.59	4,461.61	4,393.23	68.38	65.248		
15,400.00	12,181.00	11,721.88	8,618.00	68.92	61.75	-37.94	3,208.56	-2,919.58	4,461.64	4,391.92	69.72	63.991		
15,500.00	12,181.00	11,821.88	8,618.00	70.23	63.16	-37.94	3,308.56	-2,920.58	4,461.67	4,390.59	71.08	62.772		
15,600.00	12,181.00	11,921.88	8,618.00	71.55	64.58	-37.94	3,408.55	-2,921.57	4,461.70	4,389.26	72.44	61.588		
15,700.00	12,181.00	12,021.88	8,618.00	72.89	66.01	-37.94	3,508.55	-2,922.57	4,461.74	4,387.91	73.82	60.437		
15,800.00	12,181.00	12,121.88	8,618.00	74.24	67.45	-37.94	3,608.54	-2,923.56	4,461.77	4,386.55	75.22	59.319		
15,900.00	12,181.00	12,221.88	8,618.00	75.60	68.90	-37.94	3,708.54	-2,924.56	4,461.80	4,385.18	76.62	58.234		
16,000.00	12,181.00	12,321.88	8,618.00	76.97	70.35	-37.94	3,808.53	-2,925.55	4,461.83	4,383.80	78.03	57.179		
16,100.00	12,181.00	12,421.88	8,618.00	78.35	71.82	-37.94	3,908.53	-2,926.54	4,461.87	4,382.41	79.46	56.156		
16,200.00	12,181.00	12,521.88	8,618.00	79.75	73.30	-37.94	4,008.52	-2,927.54	4,461.90	4,381.01	80.89	55.162		
16,300.00	12,181.00	12,621.88	8,618.00	81.15	74.78	-37.94	4,108.52	-2,928.53	4,461.93	4,379.60	82.33	54.196		
16,400.00	12,181.00	12,721.88	8,618.00	82.56	76.27	-37.95	4,208.51	-2,929.53	4,461.96	4,378.19	83.78	53.260		
16,500.00	12,181.00	12,821.88	8,618.00	83.98	77.76	-37.95	4,308.51	-2,930.52	4,462.00	4,376.76	85.23	52.351		
16,600.00	12,181.00	12,921.88	8,618.00	85.41	79.26	-37.95	4,408.50	-2,931.52	4,462.03	4,375.33	86.70	51.468		
16,700.00	12,181.00	13,021.88	8,618.00	86.85	80.77	-37.95	4,508.50	-2,932.51	4,462.06	4,373.90	88.17	50.610		
16,800.00	12,181.00	13,121.88	8,618.00	88.29	82.28	-37.95	4,608.49	-2,933.51	4,462.10	4,372.45	89.64	49.776		
16,900.00	12,181.00	13,221.88	8,618.00	89.74	83.80	-37.95	4,708.48	-2,934.50	4,462.13	4,371.00	91.13	48.966		
17,000.00	12,181.00	13,321.88	8,618.00	91.20	85.32	-37.95	4,808.48	-2,935.50	4,462.16	4,369.54	92.62	48.178		
17,100.00	12,181.00	13,421.88	8,618.00	92.67	86.85	-37.95	4,908.48	-2,936.49	4,462.19	4,368.08	94.11	47.412		
17,200.00	12,181.00	13,521.88	8,618.00	94.14	88.38	-37.95	5,008.47	-2,937.49	4,462.23	4,366.61	95.61	46.669		
17,300.00	12,181.00	13,621.88	8,618.00	95.62	89.92	-37.95	5,108.47	-2,938.48	4,462.26	4,365.14	97.12	45.946		
17,400.00	12,181.00	13,721.88	8,618.00	97.10	91.46	-37.95	5,208.46	-2,939.48	4,462.29	4,363.66	98.63	45.243		
17,500.00	12,181.00	13,821.88	8,618.00	98.59	93.01	-37.95	5,308.46	-2,940.47	4,462.32	4,362.18	100.14	44.559		
17,600.00	12,181.00	13,921.88	8,618.00	100.08	94.55	-37.95	5,408.45	-2,941.46	4,462.36	4,360.69	101.66	43.893		
17,700.00	12,181.00	14,021.88	8,618.00	101.58	96.10	-37.95	5,508.45	-2,942.46	4,462.39	4,359.20	103.19	43.245		
17,800.00	12,181.00	14,121.88	8,618.00	103.08	97.66	-37.95	5,608.44	-2,943.45	4,462.42	4,357.71	104.72	42.614		
17,900.00	12,181.00	14,221.88	8,618.00	104.59	99.22	-37.95	5,708.44	-2,944.45	4,462.45	4,356.21	106.25	42.000		
18,000.00	12,181.00	14,321.88	8,618.00	106.10	100.78	-37.95	5,808.43	-2,945.44	4,462.49	4,354.70	107.79	41.402		
18,100.00	12,181.00	14,421.88	8,618.00	107.62	102.34	-37.95	5,908.43	-2,946.44	4,462.52	4,353.20	109.32	40.819		
18,200.00	12,181.00	14,521.88	8,618.00	109.14	103.91	-37.95	6,008.43	-2,947.43	4,462.55	4,351.69	110.86	40.252		
18,300.00	12,181.00	14,621.88	8,618.00	110.66	105.48	-37.96	6,108.42	-2,948.43	4,462.59	4,350.18	112.41	39.700		
18,400.00	12,181.00	14,721.88	8,618.00	112.19	107.05	-37.96	6,208.42	-2,949.42	4,462.62	4,348.66	113.95	39.161		
18,500.00	12,181.00	14,821.88	8,618.00	113.72	108.62	-37.96	6,308.41	-2,950.42	4,462.65	4,347.14	115.51	38.635		
18,600.00	12,181.00	14,921.88	8,618.00	115.25	110.20	-37.96	6,408.41	-2,951.41	4,462.68	4,345.62	117.06	38.122		
18,700.00	12,181.00	15,021.88	8,618.00	116.79	111.78	-37.96	6,508.40	-2,952.41	4,462.72	4,344.09	118.62	37.622		
18,800.00	12,181.00	15,121.88	8,618.00	118.33	113.36	-37.96	6,608.40	-2,953.40	4,462.75	4,342.57	120.18	37.134		
18,900.00	12,181.00	15,221.88	8,618.00	119.87	114.94	-37.96	6,708.39	-2,954.40	4,462.78	4,341.04	121.74	36.658		
19,000.00	12,181.00	15,321.88	8,618.00	121.42	116.53	-37.96	6,808.39	-2,955.39	4,462.81	4,339.51	123.30	36.194		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,100.00	12,181.00	15,421.88	8,618.00	122.97	118.11	-37.96	6,908.38	-2,956.38	4,462.85	4,337.98	124.87	35.740		
19,200.00	12,181.00	15,521.88	8,618.00	124.52	119.70	-37.96	7,008.38	-2,957.38	4,462.88	4,336.44	126.44	35.297		
19,300.00	12,181.00	15,621.88	8,618.00	126.08	121.29	-37.96	7,108.37	-2,958.37	4,462.91	4,334.90	128.01	34.865		
19,400.00	12,181.00	15,721.88	8,618.00	127.63	122.88	-37.96	7,208.37	-2,959.37	4,462.94	4,333.37	129.58	34.442		
19,500.00	12,181.00	15,821.88	8,618.00	129.19	124.48	-37.96	7,308.36	-2,960.36	4,462.98	4,331.82	131.15	34.029		
19,600.00	12,181.00	15,921.88	8,618.00	130.75	126.07	-37.96	7,408.36	-2,961.36	4,463.01	4,330.28	132.73	33.625		
19,700.00	12,181.00	16,021.88	8,618.00	132.32	127.67	-37.96	7,508.35	-2,962.35	4,463.04	4,328.73	134.31	33.230		
19,800.00	12,181.00	16,121.88	8,618.00	133.88	129.26	-37.96	7,608.35	-2,963.35	4,463.07	4,327.19	135.89	32.844		
19,900.00	12,181.00	16,221.88	8,618.00	135.45	130.86	-37.96	7,708.34	-2,964.34	4,463.11	4,325.64	137.47	32.467		
20,000.00	12,181.00	16,321.88	8,618.00	137.02	132.46	-37.96	7,808.34	-2,965.34	4,463.14	4,324.09	139.05	32.098		
20,100.00	12,181.00	16,421.88	8,618.00	138.59	134.06	-37.97	7,908.33	-2,966.33	4,463.17	4,322.54	140.63	31.737		
20,200.00	12,181.00	16,521.88	8,618.00	140.17	135.67	-37.97	8,008.33	-2,967.33	4,463.21	4,320.99	142.22	31.383		
20,300.00	12,181.00	16,621.88	8,618.00	141.74	137.27	-37.97	8,108.32	-2,968.32	4,463.24	4,319.43	143.80	31.037		
20,400.00	12,181.00	16,721.88	8,618.00	143.32	138.88	-37.97	8,208.32	-2,969.32	4,463.27	4,317.88	145.39	30.698		
20,500.00	12,181.00	16,821.88	8,618.00	144.90	140.48	-37.97	8,308.31	-2,970.31	4,463.30	4,316.32	146.98	30.367		
20,600.00	12,181.00	16,921.88	8,618.00	146.48	142.09	-37.97	8,408.31	-2,971.30	4,463.34	4,314.77	148.57	30.042		
20,700.00	12,181.00	17,021.88	8,618.00	148.06	143.70	-37.97	8,508.30	-2,972.30	4,463.37	4,313.21	150.16	29.724		
20,800.00	12,181.00	17,121.88	8,618.00	149.64	145.31	-37.97	8,608.30	-2,973.29	4,463.40	4,311.65	151.75	29.413		
20,900.00	12,181.00	17,221.88	8,618.00	151.23	146.92	-37.97	8,708.29	-2,974.29	4,463.43	4,310.09	153.34	29.107		
21,000.00	12,181.00	17,321.88	8,618.00	152.81	148.53	-37.97	8,808.29	-2,975.28	4,463.47	4,308.53	154.94	28.808		
21,100.00	12,181.00	17,421.88	8,618.00	154.40	150.14	-37.97	8,908.28	-2,976.28	4,463.50	4,306.97	156.53	28.515		
21,200.00	12,181.00	17,521.88	8,618.00	155.99	151.75	-37.97	9,008.28	-2,977.27	4,463.53	4,305.40	158.13	28.227		
21,300.00	12,181.00	17,621.88	8,618.00	157.58	153.37	-37.97	9,108.27	-2,978.27	4,463.56	4,303.84	159.73	27.945		
21,400.00	12,181.00	17,721.88	8,618.00	159.17	154.98	-37.97	9,208.27	-2,979.26	4,463.60	4,302.27	161.33	27.668		
21,500.00	12,181.00	17,821.88	8,618.00	160.77	156.60	-37.97	9,308.26	-2,980.26	4,463.63	4,300.71	162.92	27.397		
21,600.00	12,181.00	17,921.88	8,618.00	162.36	158.21	-37.97	9,408.26	-2,981.25	4,463.66	4,299.14	164.52	27.132		
21,700.00	12,181.00	18,021.88	8,618.00	163.96	159.83	-37.97	9,508.25	-2,982.25	4,463.70	4,297.58	166.12	26.870		
21,800.00	12,181.00	18,121.88	8,618.00	165.55	161.45	-37.97	9,608.25	-2,983.24	4,463.73	4,296.01	167.72	26.614		
21,900.00	12,181.00	18,221.88	8,618.00	167.15	163.06	-37.97	9,708.24	-2,984.24	4,463.76	4,294.44	169.32	26.362		
22,000.00	12,181.00	18,321.88	8,618.00	168.75	164.68	-37.98	9,808.24	-2,985.23	4,463.79	4,292.87	170.93	26.115		
22,100.00	12,181.00	18,421.88	8,618.00	170.35	166.30	-37.98	9,908.23	-2,986.22	4,463.83	4,291.30	172.53	25.873		
22,200.00	12,181.00	18,521.88	8,618.00	171.95	167.92	-37.98	10,008.23	-2,987.22	4,463.86	4,289.73	174.13	25.635		
22,306.42	12,181.00	18,628.30	8,618.00	173.65	169.65	-37.98	10,114.64	-2,988.28	4,463.89	4,288.06	175.84	25.387 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-88.33	56.92	-1,949.21	1,950.50					
100.00	100.00	57.60	57.60	0.13	0.07	-88.33	56.92	-1,949.21	1,950.04	1,949.90	0.14	N/A		
200.00	200.00	157.60	157.60	0.48	0.33	-88.33	56.92	-1,949.21	1,950.04	1,949.46	0.59	3,322.952		
300.00	300.00	257.60	257.60	0.84	0.69	-88.33	56.92	-1,949.21	1,950.04	1,948.95	1.09	1,790.368		
400.00	400.00	357.60	357.60	1.20	1.05	-88.33	56.92	-1,949.21	1,950.04	1,948.45	1.59	1,223.018		
500.00	500.00	457.60	457.60	1.56	1.41	-88.33	56.92	-1,949.21	1,950.04	1,947.94	2.10	928.357		
600.00	600.00	557.60	557.60	1.92	1.77	-88.33	56.92	-1,949.21	1,950.04	1,947.44	2.61	748.016		
700.00	700.00	657.60	657.60	2.28	2.12	-88.33	56.92	-1,949.21	1,950.04	1,946.93	3.11	626.309		
800.00	800.00	757.60	757.60	2.63	2.48	-88.33	56.92	-1,949.21	1,950.04	1,946.42	3.62	538.650		
900.00	900.00	857.60	857.60	2.99	2.84	-88.33	56.92	-1,949.21	1,950.04	1,945.92	4.13	472.509		
1,000.00	1,000.00	957.60	957.60	3.35	3.20	-88.33	56.92	-1,949.21	1,950.04	1,945.41	4.63	420.830		
1,100.00	1,100.00	1,057.60	1,057.60	3.71	3.56	-88.33	56.92	-1,949.21	1,950.04	1,944.90	5.14	379.339		
1,200.00	1,200.00	1,157.60	1,157.60	4.07	3.92	-88.33	56.92	-1,949.21	1,950.04	1,944.40	5.65	345.294		
1,300.00	1,300.00	1,257.60	1,257.60	4.43	4.28	-88.33	56.92	-1,949.21	1,950.04	1,943.89	6.15	316.856		
1,400.00	1,400.00	1,357.60	1,357.60	4.79	4.63	-88.33	56.92	-1,949.21	1,950.04	1,943.38	6.66	292.745		
1,500.00	1,500.00	1,457.60	1,457.60	5.14	4.99	-88.33	56.92	-1,949.21	1,950.04	1,942.88	7.17	272.043		
1,600.00	1,600.00	1,557.60	1,557.60	5.50	5.35	-88.33	56.92	-1,949.21	1,950.04	1,942.37	7.68	254.076		
1,700.00	1,700.00	1,657.60	1,657.60	5.86	5.71	-88.33	56.92	-1,949.21	1,950.04	1,941.86	8.18	238.335		
1,800.00	1,800.00	1,757.60	1,757.60	6.22	6.07	-88.33	56.92	-1,949.21	1,950.04	1,941.35	8.69	224.430		
1,900.00	1,900.00	1,857.60	1,857.60	6.58	6.43	-88.33	56.92	-1,949.21	1,950.04	1,940.85	9.20	212.058		
2,000.00	2,000.00	1,957.60	1,957.60	6.94	6.78	-88.33	56.92	-1,949.21	1,950.04	1,940.34	9.70	200.979		
2,100.00	2,100.00	2,111.52	2,111.51	7.29	7.32	-88.34	56.35	-1,947.69	1,949.25	1,938.92	10.33	188.660		
2,200.00	2,200.00	2,304.57	2,304.25	7.65	7.98	-88.44	52.70	-1,937.83	1,944.09	1,933.06	11.03	176.329		
2,300.00	2,300.00	2,481.99	2,480.72	8.01	8.59	-88.62	46.37	-1,920.77	1,934.24	1,922.56	11.67	165.685		
2,400.00	2,400.00	2,581.25	2,579.23	8.37	8.95	-88.74	42.16	-1,909.42	1,922.71	1,910.54	12.17	158.030		
2,500.00	2,499.99	2,680.45	2,677.70	8.71	9.30	-88.58	37.96	-1,898.09	1,910.50	1,897.85	12.65	151.034		
2,600.00	2,599.91	2,779.52	2,776.03	9.04	9.66	-88.40	33.76	-1,886.77	1,896.92	1,883.80	13.12	144.549		
2,633.40	2,633.25	2,812.57	2,808.83	9.15	9.78	-88.48	32.36	-1,882.99	1,892.09	1,878.81	13.28	142.457		
2,700.00	2,699.73	2,878.44	2,874.21	9.37	10.02	-88.50	29.57	-1,875.46	1,882.29	1,868.69	13.60	138.417		
2,800.00	2,799.54	2,977.35	2,972.38	9.70	10.39	-88.54	25.38	-1,864.16	1,867.59	1,853.51	14.08	132.670		
2,900.00	2,899.36	3,076.25	3,070.55	10.04	10.76	-88.58	21.19	-1,852.88	1,852.88	1,838.33	14.56	127.275		
3,000.00	2,999.17	3,175.16	3,168.72	10.37	11.13	-88.62	17.00	-1,841.56	1,838.18	1,823.14	15.04	122.203		
3,100.00	3,098.98	3,274.06	3,266.88	10.71	11.50	-88.66	12.81	-1,830.25	1,823.48	1,807.95	15.53	117.430		
3,200.00	3,198.80	3,372.97	3,365.05	11.06	11.88	-88.70	8.62	-1,818.95	1,808.78	1,792.76	16.02	112.931		
3,300.00	3,298.61	3,471.87	3,463.22	11.40	12.26	-88.74	4.43	-1,807.65	1,794.08	1,777.57	16.51	108.686		
3,400.00	3,398.42	3,570.78	3,561.39	11.75	12.64	-88.78	0.24	-1,796.35	1,779.38	1,762.38	17.00	104.674		
3,500.00	3,498.24	3,669.68	3,659.56	12.10	13.02	-88.82	-3.95	-1,785.05	1,764.68	1,747.18	17.49	100.878		
3,600.00	3,598.05	3,768.59	3,757.72	12.44	13.40	-88.87	-8.14	-1,773.74	1,749.98	1,731.99	17.99	97.283		
3,700.00	3,697.86	3,867.49	3,855.89	12.79	13.78	-88.91	-12.33	-1,762.44	1,735.28	1,716.80	18.49	93.873		
3,800.00	3,797.68	3,966.40	3,954.06	13.15	14.17	-88.96	-16.52	-1,751.14	1,720.59	1,701.60	18.98	90.636		
3,900.00	3,897.49	4,065.30	4,052.23	13.50	14.55	-89.00	-20.71	-1,739.84	1,705.89	1,686.41	19.48	87.559		
4,000.00	3,997.30	4,164.21	4,150.39	13.85	14.94	-89.05	-24.90	-1,728.54	1,691.20	1,671.21	19.98	84.631		
4,100.00	4,097.12	4,263.11	4,248.56	14.21	15.32	-89.10	-29.09	-1,717.23	1,676.50	1,656.02	20.48	81.843		
4,200.00	4,196.93	4,362.02	4,346.73	14.56	15.71	-89.14	-33.28	-1,705.93	1,661.81	1,640.83	20.99	79.184		
4,300.00	4,296.74	4,460.92	4,444.90	14.92	16.10	-89.19	-37.48	-1,694.63	1,647.12	1,625.63	21.49	76.646		
4,400.00	4,396.56	4,559.83	4,543.07	15.28	16.49	-89.24	-41.67	-1,683.33	1,632.43	1,610.44	21.99	74.221		
4,500.00	4,496.37	4,658.73	4,641.23	15.64	16.88	-89.29	-45.86	-1,672.02	1,617.74	1,595.25	22.50	71.903		
4,600.00	4,496.18	4,757.64	4,739.40	15.99	17.27	-89.35	-50.05	-1,660.72	1,603.06	1,580.05	23.00	69.685		
4,700.00	4,496.00	4,856.55	4,837.57	16.35	17.67	-89.40	-54.24	-1,649.42	1,588.37	1,564.86	23.51	67.560		
4,800.00	4,495.81	4,955.45	4,935.74	16.71	18.06	-89.45	-58.43	-1,638.12	1,573.69	1,549.67	24.02	65.523		
4,900.00	4,495.62	5,054.36	5,033.91	17.07	18.45	-89.51	-62.62	-1,626.82	1,559.01	1,534.48	24.52	63.569		
5,000.00	4,995.44	5,153.26	5,132.07	17.44	18.84	-89.56	-66.81	-1,615.51	1,544.33	1,519.29	25.03	61.692		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 102H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
5,100.00	5,095.25	5,252.17	5,230.24	17.80	19.24	59.62	-71.00	-1,604.21	1,529.65	1,504.10	25.54	59.890				
5,200.00	5,195.07	5,351.07	5,328.41	18.16	19.63	59.68	-75.19	-1,592.91	1,514.97	1,488.92	26.05	58.156				
5,300.00	5,294.88	5,449.98	5,426.58	18.52	20.03	59.74	-79.38	-1,581.61	1,500.29	1,473.73	26.56	56.488				
5,400.00	5,394.69	5,548.88	5,524.75	18.88	20.42	59.80	-83.57	-1,570.31	1,485.62	1,458.55	27.07	54.882				
5,500.00	5,494.51	5,647.79	5,622.91	19.25	20.82	59.86	-87.76	-1,559.00	1,470.94	1,443.36	27.58	53.335				
5,600.00	5,594.32	5,746.69	5,721.08	19.61	21.21	59.92	-91.95	-1,547.70	1,456.27	1,428.18	28.09	51.843				
5,700.00	5,694.13	5,845.60	5,819.25	19.98	21.61	59.98	-96.14	-1,536.40	1,441.60	1,413.00	28.60	50.404				
5,800.00	5,793.95	5,944.50	5,917.42	20.34	22.00	60.05	-100.33	-1,525.10	1,426.93	1,397.82	29.11	49.015				
5,900.00	5,893.76	6,043.41	6,015.58	20.70	22.40	60.12	-104.52	-1,513.80	1,412.27	1,382.64	29.62	47.674				
6,000.00	5,993.57	6,142.31	6,113.75	21.07	22.80	60.18	-108.71	-1,502.49	1,397.60	1,367.47	30.14	46.377				
6,100.00	6,093.39	6,241.22	6,211.92	21.43	23.20	60.25	-112.90	-1,491.19	1,382.94	1,352.29	30.65	45.124				
6,200.00	6,193.20	6,340.12	6,310.09	21.80	23.59	60.33	-117.09	-1,479.89	1,368.28	1,337.12	31.16	43.911				
6,300.00	6,293.01	6,439.03	6,408.26	22.17	23.99	60.40	-121.28	-1,468.59	1,353.62	1,321.95	31.67	42.738				
6,400.00	6,392.83	6,537.93	6,506.42	22.53	24.39	60.47	-125.47	-1,457.28	1,338.96	1,306.78	32.19	41.601				
6,500.00	6,492.64	6,636.84	6,604.59	22.90	24.79	60.55	-129.67	-1,445.98	1,324.31	1,291.61	32.70	40.500				
6,600.00	6,592.45	6,735.74	6,702.76	23.26	25.19	60.62	-133.86	-1,434.68	1,309.66	1,276.45	33.21	39.433				
6,700.00	6,692.27	6,834.65	6,800.93	23.63	25.58	60.70	-138.05	-1,423.38	1,295.01	1,261.28	33.73	38.398				
6,719.52	6,711.75	6,853.96	6,820.09	23.70	25.66	60.72	-138.86	-1,421.17	1,292.15	1,258.32	33.83	38.200				
6,800.00	6,792.13	6,927.58	6,893.17	24.00	25.96	60.60	-141.97	-1,412.80	1,280.83	1,246.60	34.23	37.415				
6,900.00	6,892.09	7,000.00	6,965.17	24.35	26.24	60.43	-144.68	-1,405.50	1,269.25	1,234.54	34.71	36.565				
6,952.92	6,945.00	7,042.84	7,007.82	24.54	26.41	-86.59	-146.05	-1,401.78	1,264.40	1,229.44	34.96	36.164				
7,000.00	6,992.08	7,078.49	7,043.35	24.69	26.54	-86.63	-147.07	-1,399.03	1,260.69	1,225.51	35.18	35.836				
7,100.00	7,092.08	7,154.37	7,119.06	25.03	26.83	-86.70	-148.86	-1,394.21	1,254.21	1,218.58	35.63	35.201				
7,200.00	7,192.08	7,230.42	7,195.02	25.37	27.10	-86.75	-150.13	-1,390.79	1,249.63	1,213.56	36.07	34.645				
7,300.00	7,292.08	7,300.00	7,264.57	25.71	27.34	-86.77	-150.83	-1,388.91	1,246.98	1,210.50	36.48	34.183				
7,400.00	7,392.08	7,385.12	7,349.68	26.05	27.63	-86.78	-151.08	-1,388.21	1,246.18	1,209.26	36.92	33.755				
7,500.00	7,492.08	7,485.12	7,449.68	26.39	27.95	-86.78	-151.08	-1,388.21	1,246.18	1,208.78	37.40	33.322				
7,600.00	7,592.08	7,585.12	7,549.68	26.73	28.28	-86.78	-151.08	-1,388.21	1,246.18	1,208.30	37.88	32.900				
7,700.00	7,692.08	7,685.12	7,649.68	27.07	28.60	-86.78	-151.08	-1,388.21	1,246.18	1,207.82	38.36	32.487				
7,800.00	7,792.08	7,785.12	7,749.68	27.41	28.93	-86.78	-151.08	-1,388.21	1,246.18	1,207.34	38.84	32.085				
7,900.00	7,892.08	7,885.12	7,849.68	27.76	29.26	-86.78	-151.08	-1,388.21	1,246.18	1,206.85	39.32	31.691				
7,905.66	7,897.74	7,890.78	7,855.34	27.77	29.28	-86.78	-151.08	-1,388.21	1,246.18	1,206.83	39.35	31.669 CC				
8,000.00	7,992.08	7,978.92	7,943.45	28.10	29.56	-86.71	-149.51	-1,388.23	1,246.30	1,206.51	39.78	31.328 ES				
8,100.00	8,092.08	8,064.27	8,027.78	28.44	29.82	-86.13	-136.89	-1,388.36	1,247.39	1,207.19	40.20	31.032				
8,200.00	8,192.08	8,144.24	8,104.29	28.78	30.04	-85.08	-113.83	-1,388.59	1,250.02	1,209.45	40.57	30.814				
8,300.00	8,292.08	8,216.60	8,170.14	29.13	30.21	-83.72	-83.96	-1,388.89	1,254.93	1,214.05	40.88	30.701				
8,400.00	8,392.08	8,280.42	8,224.70	29.47	30.33	-82.22	-50.91	-1,389.22	1,262.98	1,221.88	41.10	30.726				
8,500.00	8,492.08	8,335.83	8,268.83	29.81	30.43	-80.72	-17.46	-1,389.55	1,274.97	1,233.73	41.24	30.918				
8,600.00	8,592.08	8,383.53	8,304.09	30.16	30.50	-79.29	14.64	-1,389.88	1,291.53	1,250.27	41.26	31.304				
8,700.00	8,692.08	8,424.49	8,332.15	30.50	30.55	-77.97	44.47	-1,390.17	1,313.11	1,271.95	41.16	31.903				
8,800.00	8,792.08	8,450.00	8,348.52	30.85	30.58	-77.12	64.04	-1,390.37	1,340.01	1,299.14	40.87	32.788				
8,900.00	8,892.08	8,500.00	8,378.01	31.20	30.62	-75.37	104.40	-1,390.78	1,372.16	1,331.48	40.68	33.732				
9,000.00	8,992.08	8,516.44	8,386.92	31.54	30.63	-74.78	118.21	-1,390.91	1,409.46	1,369.27	40.18	35.077				
9,100.00	9,092.08	8,550.00	8,403.86	31.89	30.66	-73.55	147.17	-1,391.21	1,451.95	1,412.19	39.76	36.513				
9,200.00	9,192.08	8,550.00	8,403.86	32.23	30.66	-73.55	147.17	-1,391.21	1,499.11	1,460.05	39.06	38.381				
9,300.00	9,292.08	8,577.31	8,416.38	32.58	30.68	-72.54	171.44	-1,391.45	1,550.66	1,512.10	38.56	40.219				
9,400.00	9,392.08	8,600.00	8,425.89	32.93	30.69	-71.68	192.04	-1,391.66	1,606.44	1,568.43	38.01	42.262				
9,500.00	9,492.08	8,600.00	8,425.89	33.27	30.69	-71.68	192.04	-1,391.66	1,665.95	1,628.64	37.31	44.650				
9,600.00	9,592.08	8,619.69	8,433.47	33.62	30.70	-70.94	210.21	-1,391.84	1,728.86	1,692.08	36.79	46.998				
9,700.00	9,692.08	8,631.03	8,437.56	33.97	30.71	-70.51	220.78	-1,391.94	1,794.93	1,758.70	36.23	49.537				
9,800.00	9,792.08	8,650.00	8,443.92	34.32	30.73	-69.78	238.66	-1,392.12	1,863.90	1,828.11	35.78	52.089				
9,900.00	9,892.08	8,650.00	8,443.92	34.66	30.73	-69.78	238.66	-1,392.12	1,935.27	1,900.03	35.24	54.923				

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,000.00	9,992.08	8,650.00	8,443.92	35.01	30.73	-69.78	238.66	-1,392.12	2,009.08	1,974.35	34.74	57.835		
10,100.00	10,092.08	8,650.00	8,443.92	35.36	30.73	-69.78	238.66	-1,392.12	2,085.08	2,050.79	34.29	60.809		
10,200.00	10,192.08	8,673.99	8,451.11	35.71	30.75	-68.87	261.54	-1,392.35	2,162.49	2,128.46	34.04	63.535		
10,300.00	10,292.08	8,680.56	8,452.92	36.06	30.75	-68.62	267.86	-1,392.42	2,241.85	2,208.13	33.72	66.489		
10,400.00	10,392.08	8,700.00	8,457.82	36.41	30.78	-67.87	286.67	-1,392.60	2,322.90	2,289.39	33.52	69.309		
10,500.00	10,492.08	8,700.00	8,457.82	36.76	30.78	-67.87	286.67	-1,392.60	2,405.05	2,371.81	33.24	72.349		
10,600.00	10,592.08	8,700.00	8,457.82	37.11	30.78	-67.87	286.67	-1,392.60	2,488.50	2,455.49	33.01	75.382		
10,700.00	10,692.08	8,700.00	8,457.82	37.46	30.78	-67.87	286.67	-1,392.60	2,573.13	2,540.31	32.82	78.404		
10,800.00	10,792.08	8,700.00	8,457.82	37.81	30.78	-67.87	286.67	-1,392.60	2,658.83	2,626.17	32.66	81.401		
10,900.00	10,892.08	8,700.00	8,457.82	38.16	30.78	-67.87	286.67	-1,392.60	2,745.50	2,712.95	32.54	84.365		
11,000.00	10,992.08	8,700.00	8,457.82	38.51	30.78	-67.87	286.67	-1,392.60	2,833.04	2,800.59	32.46	87.291		
11,100.00	11,092.08	8,700.00	8,457.82	38.86	30.78	-67.87	286.67	-1,392.60	2,921.38	2,888.99	32.40	90.172		
11,200.00	11,192.08	8,722.42	8,462.68	39.21	30.81	-67.02	308.55	-1,392.82	3,009.98	2,977.52	32.46	92.727		
11,300.00	11,292.08	8,725.74	8,463.33	39.56	30.82	-66.90	311.81	-1,392.86	3,099.56	3,067.10	32.47	95.472		
11,400.00	11,392.08	8,728.88	8,463.92	39.91	30.82	-66.78	314.88	-1,392.89	3,189.75	3,157.26	32.49	98.167		
11,500.00	11,492.08	8,750.00	8,467.48	40.26	30.86	-65.98	335.70	-1,393.10	3,280.80	3,248.20	32.61	100.611		
11,600.00	11,592.08	8,750.00	8,467.48	40.61	30.86	-65.98	335.70	-1,393.10	3,371.96	3,339.29	32.67	103.225		
11,615.96	11,608.04	8,750.00	8,467.48	40.66	30.86	-65.98	335.70	-1,393.10	3,386.55	3,353.87	32.68	103.637		
11,650.00	11,642.06	8,750.00	8,467.48	40.78	30.86	-58.83	335.70	-1,393.10	3,417.54	3,384.84	32.70	104.514		
11,700.00	11,691.78	8,750.00	8,467.48	40.95	30.86	-50.61	335.70	-1,393.10	3,462.32	3,429.60	32.73	105.794		
11,750.00	11,740.86	8,750.00	8,467.48	41.12	30.86	-44.03	335.70	-1,393.10	3,505.98	3,473.23	32.75	107.056		
11,800.00	11,788.94	8,750.00	8,467.48	41.27	30.86	-38.80	335.70	-1,393.10	3,548.22	3,515.46	32.77	108.290		
11,850.00	11,835.63	8,750.00	8,467.48	41.42	30.86	-34.65	335.70	-1,393.10	3,588.78	3,556.01	32.78	109.489		
11,900.00	11,880.59	8,750.00	8,467.48	41.55	30.86	-31.34	335.70	-1,393.10	3,627.42	3,594.63	32.78	110.643		
11,950.00	11,923.48	8,750.00	8,467.48	41.68	30.86	-28.67	335.70	-1,393.10	3,663.90	3,631.11	32.79	111.743		
12,000.00	11,963.97	8,750.00	8,467.48	41.80	30.86	-26.51	335.70	-1,393.10	3,698.01	3,665.22	32.79	112.781		
12,050.00	12,001.74	8,750.00	8,467.48	41.91	30.86	-24.75	335.70	-1,393.10	3,729.57	3,696.78	32.79	113.747		
12,100.00	12,036.53	8,771.97	8,470.37	42.02	30.91	-23.22	357.48	-1,393.31	3,757.93	3,725.09	32.84	114.435		
12,150.00	12,068.05	8,777.79	8,470.99	42.13	30.93	-22.05	363.26	-1,393.37	3,783.59	3,750.75	32.85	115.185		
12,200.00	12,096.07	8,800.00	8,472.84	42.24	30.99	-21.06	385.40	-1,393.59	3,806.41	3,773.51	32.89	115.723		
12,250.00	12,120.37	8,800.00	8,472.84	42.35	30.99	-20.32	385.40	-1,393.59	3,825.59	3,792.70	32.89	116.312		
12,300.00	12,140.78	8,800.00	8,472.84	42.47	30.99	-19.75	385.40	-1,393.59	3,841.51	3,808.62	32.90	116.779		
12,350.00	12,157.13	8,800.00	8,472.84	42.59	30.99	-19.31	385.40	-1,393.59	3,854.10	3,821.19	32.91	117.116		
12,400.00	12,169.30	8,800.00	8,472.84	42.71	30.99	-19.00	385.40	-1,393.59	3,863.29	3,830.36	32.93	117.316		
12,450.00	12,177.21	8,816.43	8,473.65	42.84	31.04	-18.81	401.80	-1,393.76	3,868.78	3,835.79	32.98	117.289		
12,500.00	12,180.78	8,836.47	8,474.00	42.96	31.11	-18.74	421.84	-1,393.96	3,870.96	3,837.91	33.05	117.125		
12,515.96	12,181.00	8,836.47	8,474.00	43.00	31.11	-18.75	421.84	-1,393.96	3,870.80	3,837.74	33.07	117.066		
12,597.57	12,181.00	8,836.47	8,474.00	43.23	31.11	-18.75	421.84	-1,393.96	3,869.94	3,836.77	33.17	116.672		
12,600.00	12,181.00	8,838.13	8,474.00	43.24	31.11	-18.75	423.50	-1,393.98	3,869.94	3,836.77	33.17	116.655		
12,700.00	12,181.00	8,938.12	8,474.00	43.58	31.51	-18.75	523.49	-1,394.98	3,869.96	3,836.53	33.43	115.763		
12,800.00	12,181.00	9,038.12	8,474.00	43.97	32.01	-18.75	623.49	-1,395.98	3,869.98	3,836.25	33.73	114.732		
12,900.00	12,181.00	9,138.12	8,474.00	44.43	32.58	-18.75	723.48	-1,396.99	3,870.00	3,835.93	34.08	113.565		
13,000.00	12,181.00	9,238.12	8,474.00	44.94	33.22	-18.75	823.48	-1,397.99	3,870.02	3,835.55	34.47	112.277		
13,100.00	12,181.00	9,338.12	8,474.00	45.50	33.93	-18.75	923.47	-1,398.99	3,870.04	3,835.14	34.90	110.880		
13,200.00	12,181.00	9,438.12	8,474.00	46.12	34.70	-18.75	1,023.47	-1,400.00	3,870.06	3,834.68	35.38	109.389		
13,300.00	12,181.00	9,538.12	8,474.00	46.79	35.52	-18.75	1,123.46	-1,401.00	3,870.08	3,834.19	35.89	107.817		
13,400.00	12,181.00	9,638.12	8,474.00	47.50	36.41	-18.76	1,223.46	-1,402.00	3,870.10	3,833.65	36.45	106.179		
13,500.00	12,181.00	9,738.12	8,474.00	48.26	37.34	-18.76	1,323.45	-1,403.01	3,870.12	3,833.08	37.04	104.487		
13,600.00	12,181.00	9,838.12	8,474.00	49.07	38.32	-18.76	1,423.45	-1,404.01	3,870.14	3,832.48	37.66	102.752		
13,700.00	12,181.00	9,938.12	8,474.00	49.91	39.35	-18.76	1,523.44	-1,405.01	3,870.16	3,831.84	38.32	100.987		
13,800.00	12,181.00	10,038.12	8,474.00	50.80	40.41	-18.76	1,623.44	-1,406.01	3,870.18	3,831.17	39.01	99.202		
13,900.00	12,181.00	10,138.12	8,474.00	51.72	41.52	-18.76	1,723.43	-1,407.02	3,870.20	3,830.47	39.73	97.406		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,000.00	12,181.00	10,238.12	8,474.00	52.68	42.66	-18.76	1,823.43	-1,408.02	3,870.22	3,829.74	40.48	95.607		
14,100.00	12,181.00	10,338.12	8,474.00	53.67	43.83	-18.76	1,923.42	-1,409.02	3,870.24	3,828.99	41.25	93.813		
14,200.00	12,181.00	10,438.12	8,474.00	54.70	45.03	-18.76	2,023.42	-1,410.03	3,870.26	3,828.21	42.05	92.030		
14,300.00	12,181.00	10,538.12	8,474.00	55.75	46.26	-18.76	2,123.41	-1,411.03	3,870.28	3,827.40	42.88	90.263		
14,400.00	12,181.00	10,638.12	8,474.00	56.84	47.51	-18.76	2,223.41	-1,412.03	3,870.30	3,826.58	43.72	88.518		
14,500.00	12,181.00	10,738.12	8,474.00	57.95	48.79	-18.76	2,323.40	-1,413.04	3,870.32	3,825.73	44.59	86.802		
14,600.00	12,181.00	10,838.12	8,474.00	59.08	50.09	-18.77	2,423.40	-1,414.04	3,870.34	3,824.87	45.47	85.115		
14,700.00	12,181.00	10,938.12	8,474.00	60.24	51.41	-18.77	2,523.39	-1,415.04	3,870.36	3,823.98	46.38	83.457		
14,800.00	12,181.00	11,038.12	8,474.00	61.42	52.75	-18.77	2,623.39	-1,416.05	3,870.38	3,823.08	47.30	81.833		
14,900.00	12,181.00	11,138.12	8,474.00	62.63	54.10	-18.77	2,723.38	-1,417.05	3,870.40	3,822.17	48.23	80.243		
15,000.00	12,181.00	11,238.12	8,474.00	63.85	55.47	-18.77	2,823.38	-1,418.05	3,870.42	3,821.23	49.19	78.688		
15,100.00	12,181.00	11,338.12	8,474.00	65.09	56.86	-18.77	2,923.37	-1,419.05	3,870.44	3,820.28	50.15	77.170		
15,200.00	12,181.00	11,438.12	8,474.00	66.35	58.26	-18.77	3,023.36	-1,420.06	3,870.46	3,819.32	51.14	75.686		
15,300.00	12,181.00	11,538.12	8,474.00	67.63	59.67	-18.77	3,123.36	-1,421.06	3,870.48	3,818.34	52.13	74.240		
15,400.00	12,181.00	11,638.12	8,474.00	68.92	61.10	-18.77	3,223.35	-1,422.06	3,870.50	3,817.36	53.14	72.832		
15,500.00	12,181.00	11,738.12	8,474.00	70.23	62.53	-18.77	3,323.35	-1,423.07	3,870.52	3,816.36	54.16	71.464		
15,600.00	12,181.00	11,838.12	8,474.00	71.55	63.98	-18.77	3,423.34	-1,424.07	3,870.54	3,815.35	55.19	70.131		
15,700.00	12,181.00	11,938.12	8,474.00	72.89	65.44	-18.78	3,523.34	-1,425.07	3,870.56	3,814.33	56.23	68.833		
15,800.00	12,181.00	12,038.12	8,474.00	74.24	66.90	-18.78	3,623.33	-1,426.08	3,870.58	3,813.30	57.28	67.573		
15,900.00	12,181.00	12,138.12	8,474.00	75.60	68.37	-18.78	3,723.33	-1,427.08	3,870.60	3,812.26	58.34	66.348		
16,000.00	12,181.00	12,238.12	8,474.00	76.97	69.86	-18.78	3,823.32	-1,428.08	3,870.62	3,811.21	59.40	65.158		
16,100.00	12,181.00	12,338.12	8,474.00	78.35	71.34	-18.78	3,923.32	-1,429.09	3,870.64	3,810.16	60.48	64.000		
16,200.00	12,181.00	12,438.12	8,474.00	79.75	72.84	-18.78	4,023.31	-1,430.09	3,870.66	3,809.09	61.56	62.873		
16,300.00	12,181.00	12,538.12	8,474.00	81.15	74.34	-18.78	4,123.31	-1,431.09	3,870.68	3,808.02	62.65	61.778		
16,400.00	12,181.00	12,638.12	8,474.00	82.56	75.85	-18.78	4,223.30	-1,432.10	3,870.70	3,806.94	63.75	60.714		
16,500.00	12,181.00	12,738.12	8,474.00	83.98	77.37	-18.78	4,323.30	-1,433.10	3,870.72	3,805.86	64.86	59.680		
16,600.00	12,181.00	12,838.12	8,474.00	85.41	78.89	-18.78	4,423.29	-1,434.10	3,870.74	3,804.77	65.97	58.675		
16,700.00	12,181.00	12,938.12	8,474.00	86.85	80.41	-18.78	4,523.29	-1,435.10	3,870.76	3,803.67	67.09	57.698		
16,800.00	12,181.00	13,038.12	8,474.00	88.29	81.94	-18.78	4,623.28	-1,436.11	3,870.78	3,802.57	68.21	56.750		
16,900.00	12,181.00	13,138.12	8,474.00	89.74	83.48	-18.79	4,723.28	-1,437.11	3,870.80	3,801.46	69.33	55.828		
17,000.00	12,181.00	13,238.12	8,474.00	91.20	85.02	-18.79	4,823.27	-1,438.11	3,870.81	3,800.35	70.47	54.932		
17,100.00	12,181.00	13,338.12	8,474.00	92.67	86.56	-18.79	4,923.27	-1,439.12	3,870.83	3,799.23	71.60	54.060		
17,200.00	12,181.00	13,438.12	8,474.00	94.14	88.11	-18.79	5,023.26	-1,440.12	3,870.85	3,798.11	72.74	53.212		
17,300.00	12,181.00	13,538.12	8,474.00	95.62	89.66	-18.79	5,123.26	-1,441.12	3,870.87	3,796.98	73.89	52.387		
17,400.00	12,181.00	13,638.12	8,474.00	97.10	91.21	-18.79	5,223.25	-1,442.13	3,870.89	3,795.85	75.04	51.584		
17,500.00	12,181.00	13,738.12	8,474.00	98.59	92.77	-18.79	5,323.25	-1,443.13	3,870.91	3,794.72	76.19	50.803		
17,600.00	12,181.00	13,838.12	8,474.00	100.08	94.33	-18.79	5,423.24	-1,444.13	3,870.93	3,793.58	77.35	50.042		
17,700.00	12,181.00	13,938.12	8,474.00	101.58	95.90	-18.79	5,523.24	-1,445.14	3,870.95	3,792.44	78.52	49.302		
17,800.00	12,181.00	14,038.12	8,474.00	103.08	97.46	-18.79	5,623.23	-1,446.14	3,870.97	3,791.29	79.68	48.581		
17,900.00	12,181.00	14,138.12	8,474.00	104.59	99.03	-18.79	5,723.23	-1,447.14	3,870.99	3,790.14	80.85	47.878		
18,000.00	12,181.00	14,238.12	8,474.00	106.10	100.61	-18.80	5,823.22	-1,448.15	3,871.01	3,788.99	82.02	47.194		
18,100.00	12,181.00	14,338.12	8,474.00	107.62	102.18	-18.80	5,923.22	-1,449.15	3,871.03	3,787.83	83.20	46.527		
18,200.00	12,181.00	14,438.12	8,474.00	109.14	103.76	-18.80	6,023.21	-1,450.15	3,871.05	3,786.67	84.38	45.878		
18,300.00	12,181.00	14,538.12	8,474.00	110.66	105.34	-18.80	6,123.21	-1,451.15	3,871.07	3,785.52	85.56	45.246		
18,400.00	12,181.00	14,638.12	8,474.00	112.19	106.92	-18.80	6,223.20	-1,452.16	3,871.09	3,784.35	86.74	44.629		
18,500.00	12,181.00	14,738.12	8,474.00	113.72	108.50	-18.80	6,323.20	-1,453.16	3,871.11	3,783.19	87.92	44.028		
18,600.00	12,181.00	14,838.12	8,474.00	115.25	110.09	-18.80	6,423.19	-1,454.16	3,871.13	3,782.02	89.11	43.442		
18,700.00	12,181.00	14,938.12	8,474.00	116.79	111.68	-18.80	6,523.19	-1,455.17	3,871.15	3,780.85	90.30	42.870		
18,800.00	12,181.00	15,038.12	8,474.00	118.33	113.27	-18.80	6,623.18	-1,456.17	3,871.17	3,779.68	91.49	42.311		
18,900.00	12,181.00	15,138.12	8,474.00	119.87	114.86	-18.80	6,723.18	-1,457.17	3,871.19	3,778.50	92.69	41.766		
19,000.00	12,181.00	15,238.12	8,474.00	121.42	116.45	-18.80	6,823.17	-1,458.18	3,871.21	3,777.33	93.89	41.233		
19,100.00	12,181.00	15,338.12	8,474.00	122.97	118.05	-18.80	6,923.17	-1,459.18	3,871.23	3,776.15	95.08	40.714		

CC - Min centre to center distance or covergent 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 102H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
19,200.00	12,181.00	15,438.12	8,474.00	124.52	119.65	-18.81	7,023.16	-1,460.18	3,871.25	3,774.97	96.28	40.207				
19,300.00	12,181.00	15,538.12	8,474.00	126.08	121.24	-18.81	7,123.16	-1,461.19	3,871.27	3,773.79	97.48	39.712				
19,400.00	12,181.00	15,638.12	8,474.00	127.63	122.84	-18.81	7,223.15	-1,462.19	3,871.29	3,772.60	98.69	39.227				
19,500.00	12,181.00	15,738.12	8,474.00	129.19	124.44	-18.81	7,323.15	-1,463.19	3,871.31	3,771.42	99.89	38.754				
19,600.00	12,181.00	15,838.12	8,474.00	130.75	126.05	-18.81	7,423.14	-1,464.20	3,871.33	3,770.23	101.10	38.292				
19,700.00	12,181.00	15,938.12	8,474.00	132.32	127.65	-18.81	7,523.14	-1,465.20	3,871.35	3,769.04	102.31	37.841				
19,800.00	12,181.00	16,038.12	8,474.00	133.88	129.25	-18.81	7,623.13	-1,466.20	3,871.37	3,767.86	103.51	37.399				
19,900.00	12,181.00	16,138.12	8,474.00	135.45	130.86	-18.81	7,723.13	-1,467.20	3,871.39	3,766.67	104.72	36.967				
20,000.00	12,181.00	16,238.12	8,474.00	137.02	132.47	-18.81	7,823.12	-1,468.21	3,871.41	3,765.47	105.94	36.544				
20,100.00	12,181.00	16,338.12	8,474.00	138.59	134.07	-18.81	7,923.12	-1,469.21	3,871.43	3,764.28	107.15	36.130				
20,200.00	12,181.00	16,438.12	8,474.00	140.17	135.68	-18.81	8,023.11	-1,470.21	3,871.45	3,763.08	108.37	35.725				
20,300.00	12,181.00	16,538.12	8,474.00	141.74	137.29	-18.81	8,123.11	-1,471.22	3,871.47	3,761.89	109.58	35.329				
20,400.00	12,181.00	16,638.12	8,474.00	143.32	138.91	-18.82	8,223.10	-1,472.22	3,871.49	3,760.69	110.80	34.941				
20,500.00	12,181.00	16,738.12	8,474.00	144.90	140.52	-18.82	8,323.10	-1,473.22	3,871.51	3,759.49	112.02	34.561				
20,600.00	12,181.00	16,838.12	8,474.00	146.48	142.13	-18.82	8,423.09	-1,474.23	3,871.53	3,758.29	113.24	34.190				
20,700.00	12,181.00	16,938.12	8,474.00	148.06	143.74	-18.82	8,523.09	-1,475.23	3,871.55	3,757.09	114.46	33.826				
20,800.00	12,181.00	17,038.12	8,474.00	149.64	145.36	-18.82	8,623.08	-1,476.23	3,871.57	3,755.89	115.68	33.469				
20,900.00	12,181.00	17,138.12	8,474.00	151.23	146.97	-18.82	8,723.08	-1,477.24	3,871.59	3,754.69	116.90	33.120				
21,000.00	12,181.00	17,238.12	8,474.00	152.81	148.59	-18.82	8,823.07	-1,478.24	3,871.61	3,753.49	118.12	32.777				
21,100.00	12,181.00	17,338.12	8,474.00	154.40	150.21	-18.82	8,923.07	-1,479.24	3,871.63	3,752.29	119.34	32.441				
21,200.00	12,181.00	17,438.12	8,474.00	155.99	151.83	-18.82	9,023.06	-1,480.25	3,871.65	3,751.08	120.57	32.112				
21,300.00	12,181.00	17,538.12	8,474.00	157.58	153.45	-18.82	9,123.06	-1,481.25	3,871.67	3,749.87	121.79	31.789				
21,400.00	12,181.00	17,638.12	8,474.00	159.17	155.06	-18.82	9,223.05	-1,482.25	3,871.69	3,748.67	123.02	31.472				
21,500.00	12,181.00	17,738.12	8,474.00	160.77	156.68	-18.83	9,323.05	-1,483.25	3,871.71	3,747.46	124.25	31.161				
21,600.00	12,181.00	17,838.12	8,474.00	162.36	158.31	-18.83	9,423.04	-1,484.26	3,871.73	3,746.25	125.48	30.856				
21,700.00	12,181.00	17,938.12	8,474.00	163.96	159.93	-18.83	9,523.04	-1,485.26	3,871.75	3,745.04	126.71	30.557				
21,800.00	12,181.00	18,038.12	8,474.00	165.55	161.55	-18.83	9,623.03	-1,486.26	3,871.77	3,743.83	127.94	30.263				
21,900.00	12,181.00	18,138.12	8,474.00	167.15	163.17	-18.83	9,723.03	-1,487.27	3,871.79	3,742.62	129.16	29.976				
22,000.00	12,181.00	18,238.12	8,474.00	168.75	164.79	-18.83	9,823.02	-1,488.27	3,871.81	3,741.41	130.39	29.693				
22,100.00	12,181.00	18,338.12	8,474.00	170.35	166.42	-18.83	9,923.02	-1,489.27	3,871.83	3,740.20	131.62	29.416				
22,200.00	12,181.00	18,438.12	8,474.00	171.95	168.04	-18.83	10,023.01	-1,490.28	3,871.85	3,738.99	132.85	29.144				
22,306.42	12,181.00	18,544.54	8,474.00	173.65	169.77	-18.83	10,129.42	-1,491.34	3,871.87	3,737.70	134.16	28.859 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 103H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor				
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	(usft)	(usft)	(usft)					
0.00	0.00	1.20	1.20	0.00	0.00	-9.92	74.89	-13.10	76.03							
100.00	100.00	101.20	101.20	0.13	0.13	-9.92	74.89	-13.10	76.03	75.85	0.18	421.198				
200.00	200.00	201.20	201.20	0.48	0.49	-9.92	74.89	-13.10	76.03	75.34	0.69	110.595				
300.00	300.00	301.20	301.20	0.84	0.85	-9.92	74.89	-13.10	76.03	74.83	1.19	63.653				
400.00	400.00	401.20	401.20	1.20	1.21	-9.92	74.89	-13.10	76.03	74.33	1.70	44.686				
500.00	500.00	501.20	501.20	1.56	1.56	-9.92	74.89	-13.10	76.03	73.82	2.21	34.428				
600.00	600.00	601.20	601.20	1.92	1.92	-9.92	74.89	-13.10	76.03	73.31	2.72	28.000				
700.00	700.00	701.20	701.20	2.28	2.28	-9.92	74.89	-13.10	76.03	72.80	3.22	23.595				
800.00	800.00	801.20	801.20	2.63	2.64	-9.92	74.89	-13.10	76.03	72.30	3.73	20.387				
900.00	900.00	901.20	901.20	2.99	3.00	-9.92	74.89	-13.10	76.03	71.79	4.24	17.947				
1,000.00	1,000.00	1,001.20	1,001.20	3.35	3.36	-9.92	74.89	-13.10	76.03	71.28	4.74	16.029				
1,100.00	1,100.00	1,101.20	1,101.20	3.71	3.71	-9.92	74.89	-13.10	76.03	70.78	5.25	14.481				
1,200.00	1,200.00	1,201.20	1,201.20	4.07	4.07	-9.92	74.89	-13.10	76.03	70.27	5.76	13.206				
1,300.00	1,300.00	1,301.20	1,301.20	4.43	4.43	-9.92	74.89	-13.10	76.03	69.76	6.26	12.137				
1,400.00	1,400.00	1,401.20	1,401.20	4.79	4.79	-9.92	74.89	-13.10	76.03	69.26	6.77	11.229				
1,500.00	1,500.00	1,501.20	1,501.20	5.14	5.15	-9.92	74.89	-13.10	76.03	68.75	7.28	10.446				
1,600.00	1,600.00	1,601.20	1,601.20	5.50	5.51	-9.92	74.89	-13.10	76.03	68.24	7.78	9.766				
1,700.00	1,700.00	1,701.20	1,701.20	5.86	5.87	-9.92	74.89	-13.10	76.03	67.74	8.29	9.169				
1,800.00	1,800.00	1,801.20	1,801.20	6.22	6.22	-9.92	74.89	-13.10	76.03	67.23	8.80	8.641				
1,900.00	1,900.00	1,901.20	1,901.20	6.58	6.58	-9.92	74.89	-13.10	76.03	66.72	9.31	8.170				
2,000.00	2,000.00	2,002.69	2,002.68	6.94	6.93	-9.64	74.15	-12.60	75.23	65.42	9.80	7.672				
2,100.00	2,100.00	2,104.41	2,104.34	7.29	7.27	-8.47	71.20	-10.61	72.06	61.77	10.29	7.005				
2,200.00	2,200.00	2,204.54	2,204.33	7.65	7.60	-6.56	66.89	-7.69	67.40	56.63	10.77	6.256				
2,300.00	2,300.00	2,304.40	2,304.06	8.01	7.93	-4.36	62.55	-4.77	62.80	51.54	11.26	5.576				
2,400.00	2,400.00	2,404.26	2,403.78	8.37	8.27	-1.81	58.22	-1.84	58.31	46.55	11.75	4.961				
2,500.00	2,499.99	2,504.14	2,503.52	8.71	8.61	148.81	53.89	1.09	55.06	42.83	12.23	4.501				
2,573.33	2,573.27	2,577.37	2,576.65	8.95	8.86	152.62	50.71	3.23	54.32	41.74	12.58	4.317	CC			
2,600.00	2,599.91	2,604.01	2,603.25	9.04	8.95	154.19	49.56	4.01	54.42	41.71	12.71	4.282	ES			
2,633.40	2,633.25	2,637.34	2,636.54	9.15	9.06	156.25	48.11	4.99	54.85	41.98	12.87	4.263				
2,700.00	2,699.73	2,703.81	2,702.92	9.37	9.29	160.36	45.23	6.94	56.18	43.00	13.19	4.261	SF			
2,800.00	2,799.54	2,803.61	2,802.58	9.70	9.64	166.13	40.90	9.86	58.69	45.03	13.67	4.295				
2,900.00	2,899.36	2,903.41	2,902.25	10.04	9.98	171.38	36.57	12.79	61.75	47.60	14.15	4.365				
3,000.00	2,999.17	3,003.21	3,001.91	10.37	10.33	176.10	32.24	15.71	65.27	50.64	14.63	4.461				
3,100.00	3,098.98	3,103.01	3,101.58	10.71	10.68	-179.69	27.91	18.64	69.20	54.08	15.12	4.577				
3,200.00	3,198.80	3,202.82	3,201.24	11.06	11.03	-175.94	23.58	21.56	73.45	57.84	15.61	4.706				
3,300.00	3,298.61	3,302.62	3,300.90	11.40	11.39	-172.62	19.25	24.49	77.98	61.89	16.10	4.845				
3,400.00	3,398.42	3,402.42	3,400.57	11.75	11.74	-169.67	14.92	27.41	82.75	66.16	16.59	4.989				
3,500.00	3,498.24	3,502.22	3,500.23	12.10	12.09	-167.05	10.60	30.33	87.71	70.63	17.08	5.136				
3,600.00	3,598.05	3,602.02	3,599.90	12.44	12.45	-164.71	6.27	33.26	92.84	75.27	17.57	5.283				
3,700.00	3,697.86	3,701.82	3,699.56	12.79	12.80	-162.62	1.94	36.18	98.10	80.03	18.07	5.429				
3,800.00	3,797.68	3,801.62	3,799.22	13.15	13.16	-160.75	-2.39	39.11	103.48	84.92	18.57	5.574				
3,900.00	3,897.49	3,901.42	3,898.89	13.50	13.52	-159.06	-6.72	42.03	108.96	89.90	19.06	5.716				
4,000.00	3,997.30	4,001.22	3,998.55	13.85	13.88	-157.53	-11.05	44.96	114.53	94.97	19.56	5.855				
4,100.00	4,097.12	4,101.02	4,098.21	14.21	14.23	-156.15	-15.38	47.88	120.17	100.11	20.06	5.990				
4,200.00	4,196.93	4,200.82	4,197.88	14.56	14.59	-154.89	-19.71	50.81	125.87	105.31	20.56	6.121				
4,300.00	4,296.74	4,300.62	4,297.54	14.92	14.95	-153.74	-24.04	53.73	131.63	110.56	21.07	6.249				
4,400.00	4,396.56	4,400.42	4,397.21	15.28	15.31	-152.69	-28.37	56.66	137.44	115.87	21.57	6.372				
4,500.00	4,496.37	4,500.23	4,496.87	15.64	15.67	-151.72	-32.70	59.58	143.28	121.21	22.07	6.492				
4,600.00	4,596.18	4,600.03	4,596.53	15.99	16.03	-150.83	-37.03	62.50	149.17	126.60	22.58	6.608				
4,700.00	4,696.00	4,699.83	4,696.20	16.35	16.39	-150.01	-41.35	65.43	155.09	132.01	23.08	6.720				
4,800.00	4,795.81	4,799.63	4,795.86	16.71	16.75	-149.24	-45.68	68.35	161.04	137.46	23.59	6.828				
4,900.00	4,895.62	4,899.43	4,895.53	17.07	17.12	-148.53	-50.01	71.28	167.02	142.92	24.09	6.933				

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 103H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
5,000.00	4,995.44	4,999.23	4,995.19	17.44	17.48	-147.88	-54.34	74.20	173.02	148.42	24.60	7.034				
5,100.00	5,095.25	5,099.03	5,094.85	17.80	17.84	-147.26	-58.67	77.13	179.04	153.93	25.11	7.131				
5,200.00	5,195.07	5,198.83	5,194.52	18.16	18.20	-146.69	-63.00	80.05	185.08	159.46	25.61	7.226				
5,300.00	5,294.88	5,298.63	5,294.18	18.52	18.56	-146.15	-67.33	82.98	191.13	165.01	26.12	7.317				
5,400.00	5,394.69	5,398.43	5,393.85	18.88	18.93	-145.64	-71.66	85.90	197.21	170.58	26.63	7.405				
5,500.00	5,494.51	5,498.23	5,493.51	19.25	19.29	-145.17	-75.99	88.83	203.30	176.16	27.14	7.491				
5,600.00	5,594.32	5,598.03	5,593.17	19.61	19.65	-144.72	-80.32	91.75	209.40	181.75	27.65	7.573				
5,700.00	5,694.13	5,697.83	5,692.84	19.98	20.02	-144.30	-84.65	94.67	215.51	187.35	28.16	7.653				
5,800.00	5,793.95	5,797.64	5,792.50	20.34	20.38	-143.90	-88.97	97.60	221.63	192.96	28.67	7.731				
5,900.00	5,893.76	5,897.44	5,892.17	20.70	20.74	-143.52	-93.30	100.52	227.77	198.59	29.18	7.806				
6,000.00	5,993.57	5,997.24	5,991.83	21.07	21.11	-143.16	-97.63	103.45	233.91	204.22	29.69	7.878				
6,100.00	6,093.39	6,097.04	6,091.49	21.43	21.47	-142.82	-101.96	106.37	240.06	209.86	30.20	7.949				
6,200.00	6,193.20	6,196.84	6,191.16	21.80	21.84	-142.50	-106.29	109.30	246.22	215.51	30.71	8.017				
6,300.00	6,293.01	6,296.64	6,290.82	22.17	22.20	-142.19	-110.62	112.22	252.39	221.16	31.22	8.083				
6,400.00	6,392.83	6,396.44	6,390.49	22.53	22.56	-141.90	-114.95	115.15	258.56	226.83	31.74	8.147				
6,500.00	6,492.64	6,496.24	6,490.15	22.90	22.93	-141.62	-119.28	118.07	264.74	232.49	32.25	8.209				
6,600.00	6,592.45	6,596.04	6,589.81	23.26	23.29	-141.36	-123.61	121.00	270.93	238.17	32.76	8.270				
6,700.00	6,692.27	6,695.84	6,689.48	23.63	23.66	-141.11	-127.94	123.92	277.12	243.85	33.27	8.328				
6,719.52	6,711.75	6,715.32	6,708.93	23.70	23.73	-141.06	-128.78	124.49	278.33	244.96	33.37	8.340				
6,800.00	6,792.13	6,795.67	6,789.17	24.00	24.02	-140.79	-132.27	126.85	282.66	248.88	33.79	8.366				
6,900.00	6,892.09	6,895.55	6,888.91	24.35	24.39	-140.16	-136.60	129.77	286.24	251.94	34.30	8.346				
6,952.92	6,945.00	6,948.40	6,941.69	24.54	24.58	73.39	-138.89	131.32	287.34	252.78	34.56	8.313				
7,000.00	6,992.08	6,995.42	6,988.64	24.69	24.75	73.86	-140.93	132.70	288.09	253.29	34.80	8.278				
7,100.00	7,092.08	7,095.28	7,088.37	25.03	25.12	74.84	-145.26	135.63	289.74	254.44	35.30	8.208				
7,200.00	7,192.08	7,197.48	7,190.47	25.37	25.49	75.64	-148.81	138.02	291.13	255.32	35.81	8.130				
7,300.00	7,292.08	7,300.12	7,293.10	25.71	25.85	75.93	-150.10	138.90	291.64	255.34	36.31	8.033				
7,400.00	7,392.08	7,400.30	7,393.28	26.05	26.18	75.93	-150.11	138.90	291.65	254.86	36.78	7.928				
7,500.00	7,492.08	7,500.30	7,493.28	26.39	26.52	75.93	-150.11	138.90	291.65	254.38	37.26	7.827				
7,600.00	7,592.08	7,600.30	7,593.28	26.73	26.85	75.93	-150.11	138.90	291.65	253.90	37.74	7.727				
7,700.00	7,692.08	7,700.30	7,693.28	27.07	27.19	75.93	-150.11	138.90	291.65	253.42	38.22	7.630				
7,800.00	7,792.08	7,800.30	7,793.28	27.41	27.53	75.93	-150.11	138.90	291.65	252.94	38.70	7.535				
7,900.00	7,892.08	7,892.35	7,885.19	27.76	27.83	75.25	-146.51	138.87	292.62	253.48	39.14	7.476				
8,000.00	7,992.08	7,978.43	7,969.69	28.10	28.09	72.25	-130.49	138.71	297.78	258.33	39.46	7.547				
8,100.00	8,092.08	8,058.13	8,044.97	28.44	28.31	67.59	-104.54	138.47	309.33	269.82	39.51	7.829				
8,200.00	8,192.08	8,129.44	8,108.72	28.78	28.49	62.27	-72.66	138.17	329.81	290.70	39.11	8.432				
8,300.00	8,292.08	8,191.79	8,160.83	29.13	28.64	57.07	-38.49	137.84	360.96	322.76	38.19	9.451				
8,400.00	8,392.08	8,250.00	8,205.86	29.47	28.77	52.07	-1.65	137.49	403.09	366.07	37.02	10.889				
8,500.00	8,492.08	8,300.00	8,241.40	29.81	28.88	47.85	33.50	137.16	455.27	419.63	35.64	12.773				
8,600.00	8,592.08	8,331.05	8,261.86	30.16	28.95	45.32	56.84	136.94	515.71	481.85	33.87	15.227				
8,700.00	8,692.08	8,364.87	8,282.69	30.50	29.02	42.67	83.49	136.69	583.17	550.67	32.50	17.945				
8,800.00	8,792.08	8,400.00	8,302.62	30.85	29.11	40.07	112.41	136.41	656.16	624.69	31.47	20.852				
8,900.00	8,892.08	8,419.28	8,312.79	31.20	29.16	38.70	128.79	136.26	733.40	703.11	30.29	24.212				
9,000.00	8,992.08	8,450.00	8,327.84	31.54	29.24	36.63	155.56	136.00	814.26	784.61	29.65	27.466				
9,100.00	9,092.08	8,450.00	8,327.84	31.89	29.24	36.63	155.56	136.00	897.83	869.29	28.54	31.458				
9,200.00	9,192.08	8,477.62	8,340.13	32.23	29.31	34.88	180.29	135.77	983.45	955.25	28.20	34.877				
9,300.00	9,292.08	8,500.00	8,349.21	32.58	29.38	33.54	200.75	135.58	1,071.13	1,043.25	27.87	38.426				
9,400.00	9,392.08	8,500.00	8,349.21	32.93	29.38	33.54	200.75	135.58	1,160.23	1,132.92	27.31	42.488				
9,500.00	9,492.08	8,518.28	8,356.02	33.27	29.43	32.49	217.71	135.42	1,250.56	1,223.43	27.13	46.091				
9,600.00	9,592.08	8,529.17	8,359.82	33.62	29.46	31.89	227.91	135.32	1,342.00	1,315.07	26.93	49.833				
9,700.00	9,692.08	8,550.00	8,366.55	33.97	29.52	30.78	247.62	135.13	1,434.48	1,407.57	26.92	53.293				
9,800.00	9,792.08	8,550.00	8,366.55	34.32	29.52	30.78	247.62	135.13	1,527.44	1,500.72	26.72	57.163				
9,900.00	9,892.08	8,550.00	8,366.55	34.66	29.52	30.78	247.62	135.13	1,621.24	1,594.65	26.59	60.971				

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 103H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
10,000.00	9,992.08	8,550.00	8,366.55	35.01	29.52	30.78	247.62	135.13	1,715.74	1,689.23	26.52	64.701				
10,100.00	10,092.08	8,570.48	8,372.47	35.36	29.59	29.74	267.23	134.95	1,810.36	1,783.69	26.66	67.895				
10,200.00	10,192.08	8,576.82	8,374.15	35.71	29.61	29.43	273.34	134.89	1,905.62	1,878.91	26.71	71.332				
10,300.00	10,292.08	8,600.00	8,379.75	36.06	29.68	28.33	295.83	134.67	2,001.60	1,974.68	26.92	74.353				
10,400.00	10,392.08	8,600.00	8,379.75	36.41	29.68	28.33	295.83	134.67	2,097.41	2,070.43	26.97	77.755				
10,500.00	10,492.08	8,600.00	8,379.75	36.76	29.68	28.33	295.83	134.67	2,193.59	2,166.53	27.06	81.076				
10,600.00	10,592.08	8,600.00	8,379.75	37.11	29.68	28.33	295.83	134.67	2,290.09	2,262.93	27.16	84.316				
10,700.00	10,692.08	8,600.00	8,379.75	37.46	29.68	28.33	295.83	134.67	2,386.89	2,359.60	27.29	87.470				
10,800.00	10,792.08	8,600.00	8,379.75	37.81	29.68	28.33	295.83	134.67	2,483.94	2,456.50	27.44	90.538				
10,900.00	10,892.08	8,600.00	8,379.75	38.16	29.68	28.33	295.83	134.67	2,581.21	2,553.61	27.60	93.522				
11,000.00	10,992.08	8,600.00	8,379.75	38.51	29.68	28.33	295.83	134.67	2,678.69	2,650.90	27.78	96.422				
11,100.00	11,092.08	8,600.00	8,379.75	38.86	29.68	28.33	295.83	134.67	2,776.34	2,748.36	27.98	99.241				
11,200.00	11,192.08	8,600.00	8,379.75	39.21	29.68	28.33	295.83	134.67	2,874.16	2,845.97	28.18	101.980				
11,300.00	11,292.08	8,623.44	8,384.47	39.56	29.76	27.29	318.79	134.46	2,971.55	2,943.05	28.50	104.280				
11,400.00	11,392.08	8,626.31	8,384.99	39.91	29.77	27.16	321.61	134.43	3,069.50	3,040.76	28.73	106.831				
11,500.00	11,492.08	8,650.00	8,388.69	40.26	29.85	26.18	345.01	134.21	3,168.01	3,138.95	29.05	109.035				
11,600.00	11,592.08	8,650.00	8,388.69	40.61	29.85	26.18	345.01	134.21	3,266.07	3,236.77	29.30	111.487				
11,615.96	11,608.04	8,650.00	8,388.69	40.66	29.85	26.18	345.01	134.21	3,281.72	3,252.39	29.33	111.871				
11,650.00	11,642.06	8,650.00	8,388.69	40.78	29.85	20.59	345.01	134.21	3,314.95	3,285.53	29.42	112.692				
11,700.00	11,691.78	8,650.00	8,388.69	40.95	29.85	15.33	345.01	134.21	3,362.92	3,333.39	29.53	113.894				
11,750.00	11,740.86	8,650.00	8,388.69	41.12	29.85	12.21	345.01	134.21	3,409.63	3,380.00	29.63	115.084				
11,800.00	11,788.94	8,650.00	8,388.69	41.27	29.85	10.17	345.01	134.21	3,454.77	3,425.05	29.72	116.253				
11,850.00	11,835.63	8,650.00	8,388.69	41.42	29.85	8.74	345.01	134.21	3,498.08	3,468.28	29.80	117.398				
11,900.00	11,880.59	8,650.00	8,388.69	41.55	29.85	7.70	345.01	134.21	3,539.29	3,509.42	29.87	118.508				
11,950.00	11,923.48	8,650.00	8,388.69	41.68	29.85	6.91	345.01	134.21	3,578.17	3,548.25	29.92	119.572				
12,000.00	11,963.97	8,650.00	8,388.69	41.80	29.85	6.31	345.01	134.21	3,614.51	3,584.53	29.98	120.582				
12,050.00	12,001.74	8,650.00	8,388.69	41.91	29.85	5.83	345.01	134.21	3,648.10	3,618.08	30.02	121.529				
12,100.00	12,036.53	8,650.00	8,388.69	42.02	29.85	5.44	345.01	134.21	3,678.77	3,648.71	30.06	122.387				
12,150.00	12,068.05	8,672.96	8,391.35	42.13	29.94	5.12	367.81	133.99	3,705.83	3,675.69	30.14	122.966				
12,200.00	12,096.07	8,700.00	8,393.31	42.24	30.03	4.86	394.77	133.74	3,730.35	3,700.13	30.22	123.431				
12,250.00	12,120.37	8,700.00	8,393.31	42.35	30.03	4.68	394.77	133.74	3,750.78	3,720.54	30.24	124.038				
12,300.00	12,140.78	8,700.00	8,393.31	42.47	30.03	4.53	394.77	133.74	3,767.75	3,737.49	30.26	124.514				
12,350.00	12,157.13	8,700.00	8,393.31	42.59	30.03	4.42	394.77	133.74	3,781.18	3,750.90	30.28	124.863				
12,400.00	12,169.30	8,700.00	8,393.31	42.71	30.03	4.35	394.77	133.74	3,791.00	3,760.69	30.31	125.060				
12,450.00	12,177.21	8,700.00	8,393.31	42.84	30.03	4.30	394.77	133.74	3,797.18	3,766.84	30.34	125.143				
12,500.00	12,180.78	8,728.06	8,394.00	42.96	30.14	4.28	422.82	133.47	3,799.51	3,769.09	30.41	124.926				
12,515.96	12,181.00	8,728.06	8,394.00	43.00	30.14	4.28	422.82	133.47	3,799.41	3,768.98	30.43	124.853				
12,600.00	12,181.00	8,743.90	8,394.00	43.24	30.20	4.28	438.66	133.32	3,798.80	3,768.26	30.54	124.403				
12,700.00	12,181.00	8,843.90	8,394.00	43.58	30.64	4.28	538.66	132.37	3,798.79	3,768.03	30.77	123.465				
12,800.00	12,181.00	8,943.90	8,394.00	43.97	31.15	4.28	638.65	131.43	3,798.79	3,767.76	31.04	122.393				
12,900.00	12,181.00	9,043.90	8,394.00	44.43	31.75	4.28	738.65	130.48	3,798.79	3,767.45	31.34	121.194				
13,000.00	12,181.00	9,143.90	8,394.00	44.94	32.41	4.28	838.64	129.53	3,798.79	3,767.10	31.69	119.879				
13,100.00	12,181.00	9,243.90	8,394.00	45.50	33.15	4.28	938.64	128.58	3,798.79	3,766.73	32.07	118.462				
13,200.00	12,181.00	9,343.90	8,394.00	46.12	33.94	4.28	1,038.63	127.64	3,798.79	3,766.31	32.48	116.954				
13,300.00	12,181.00	9,443.90	8,394.00	46.79	34.80	4.28	1,138.63	126.69	3,798.79	3,765.86	32.93	115.369				
13,400.00	12,181.00	9,543.90	8,394.00	47.50	35.72	4.28	1,238.62	125.74	3,798.79	3,765.39	33.41	113.718				
13,500.00	12,181.00	9,643.90	8,394.00	48.26	36.68	4.28	1,338.62	124.80	3,798.79	3,764.88	33.91	112.014				
13,600.00	12,181.00	9,743.90	8,394.00	49.07	37.69	4.28	1,438.61	123.85	3,798.79	3,764.34	34.45	110.268				
13,700.00	12,181.00	9,843.90	8,394.00	49.91	38.75	4.28	1,538.61	122.90	3,798.79	3,763.77	35.02	108.489				
13,800.00	12,181.00	9,943.90	8,394.00	50.80	39.85	4.28	1,638.61	121.95	3,798.79	3,763.18	35.61	106.688				
13,900.00	12,181.00	10,043.90	8,394.00	51.72	40.98	4.28	1,738.60	121.01	3,798.79	3,762.57	36.22	104.874				
14,000.00	12,181.00	10,143.90	8,394.00	52.68	42.15	4.28	1,838.60	120.06	3,798.79	3,761.93	36.86	103.054				

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 103H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
14,100.00	12,181.00	10,243.90	8,394.00	53.67	43.35	4.28	1,938.59	119.11	3,798.79	3,761.26	37.52	101.235				
14,200.00	12,181.00	10,343.90	8,394.00	54.70	44.58	4.28	2,038.59	118.16	3,798.79	3,760.58	38.21	99.423				
14,300.00	12,181.00	10,443.90	8,394.00	55.75	45.84	4.28	2,138.58	117.22	3,798.79	3,759.88	38.91	97.625				
14,400.00	12,181.00	10,543.90	8,394.00	56.84	47.12	4.28	2,238.58	116.27	3,798.79	3,759.15	39.64	95.844				
14,500.00	12,181.00	10,643.90	8,394.00	57.95	48.42	4.28	2,338.57	115.32	3,798.79	3,758.41	40.38	94.085				
14,600.00	12,181.00	10,743.90	8,394.00	59.08	49.74	4.28	2,438.57	114.37	3,798.79	3,757.65	41.13	92.350				
14,700.00	12,181.00	10,843.90	8,394.00	60.24	51.09	4.28	2,538.57	113.43	3,798.79	3,756.88	41.91	90.643				
14,800.00	12,181.00	10,943.90	8,394.00	61.42	52.45	4.28	2,638.56	112.48	3,798.79	3,756.08	42.70	88.961				
14,900.00	12,181.00	11,043.90	8,394.00	62.63	53.82	4.28	2,738.56	111.53	3,798.79	3,755.28	43.51	87.316				
15,000.00	12,181.00	11,143.90	8,394.00	63.85	55.21	4.28	2,838.55	110.58	3,798.78	3,754.46	44.32	85.703				
15,100.00	12,181.00	11,243.90	8,394.00	65.09	56.62	4.28	2,938.55	109.64	3,798.78	3,753.63	45.16	84.125				
15,200.00	12,181.00	11,343.90	8,394.00	66.35	58.04	4.28	3,038.54	108.69	3,798.78	3,752.78	46.00	82.582				
15,300.00	12,181.00	11,443.90	8,394.00	67.63	59.47	4.28	3,138.54	107.74	3,798.78	3,751.93	46.86	81.075				
15,400.00	12,181.00	11,543.90	8,394.00	68.92	60.91	4.28	3,238.53	106.79	3,798.78	3,751.06	47.72	79.603				
15,500.00	12,181.00	11,643.90	8,394.00	70.23	62.36	4.28	3,338.53	105.85	3,798.78	3,750.19	48.60	78.168				
15,600.00	12,181.00	11,743.90	8,394.00	71.55	63.83	4.28	3,438.53	104.90	3,798.78	3,749.30	49.48	76.770				
15,700.00	12,181.00	11,843.90	8,394.00	72.89	65.30	4.28	3,538.52	103.95	3,798.78	3,748.40	50.38	75.406				
15,800.00	12,181.00	11,943.90	8,394.00	74.24	66.78	4.28	3,638.52	103.00	3,798.78	3,747.50	51.28	74.077				
15,900.00	12,181.00	12,043.90	8,394.00	75.60	68.27	4.28	3,738.51	102.06	3,798.78	3,746.59	52.19	72.783				
16,000.00	12,181.00	12,143.90	8,394.00	76.97	69.76	4.28	3,838.51	101.11	3,798.78	3,745.67	53.11	71.522				
16,100.00	12,181.00	12,243.90	8,394.00	78.35	71.26	4.28	3,938.50	100.16	3,798.78	3,744.74	54.04	70.295				
16,200.00	12,181.00	12,343.90	8,394.00	79.75	72.77	4.28	4,038.50	99.22	3,798.78	3,743.80	54.98	69.100				
16,300.00	12,181.00	12,443.90	8,394.00	81.15	74.29	4.28	4,138.49	98.27	3,798.78	3,742.86	55.92	67.936				
16,400.00	12,181.00	12,543.90	8,394.00	82.56	75.81	4.28	4,238.49	97.32	3,798.78	3,741.91	56.86	66.804				
16,500.00	12,181.00	12,643.90	8,394.00	83.98	77.33	4.28	4,338.48	96.37	3,798.78	3,740.96	57.82	65.702				
16,600.00	12,181.00	12,743.90	8,394.00	85.41	78.86	4.28	4,438.48	95.43	3,798.78	3,740.00	58.78	64.629				
16,700.00	12,181.00	12,843.90	8,394.00	86.85	80.40	4.28	4,538.48	94.48	3,798.78	3,739.03	59.74	63.585				
16,800.00	12,181.00	12,943.90	8,394.00	88.29	81.94	4.28	4,638.47	93.53	3,798.78	3,738.06	60.71	62.568				
16,900.00	12,181.00	13,043.90	8,394.00	89.74	83.48	4.28	4,738.47	92.58	3,798.78	3,737.09	61.69	61.578				
17,000.00	12,181.00	13,143.90	8,394.00	91.20	85.03	4.28	4,838.46	91.64	3,798.78	3,736.11	62.67	60.615				
17,100.00	12,181.00	13,243.90	8,394.00	92.67	86.59	4.28	4,938.46	90.69	3,798.78	3,735.12	63.66	59.677				
17,200.00	12,181.00	13,343.90	8,394.00	94.14	88.14	4.28	5,038.45	89.74	3,798.78	3,734.13	64.65	58.764				
17,300.00	12,181.00	13,443.90	8,394.00	95.62	89.70	4.28	5,138.45	88.79	3,798.77	3,733.14	65.64	57.874				
17,400.00	12,181.00	13,543.90	8,394.00	97.10	91.26	4.28	5,238.44	87.85	3,798.77	3,732.14	66.64	57.008				
17,500.00	12,181.00	13,643.90	8,394.00	98.59	92.83	4.28	5,338.44	86.90	3,798.77	3,731.14	67.64	56.163				
17,600.00	12,181.00	13,743.90	8,394.00	100.08	94.40	4.28	5,438.44	85.95	3,798.77	3,730.13	68.64	55.341				
17,700.00	12,181.00	13,843.90	8,394.00	101.58	95.97	4.28	5,538.43	85.00	3,798.77	3,729.12	69.65	54.540				
17,800.00	12,181.00	13,943.90	8,394.00	103.08	97.54	4.28	5,638.43	84.06	3,798.77	3,728.11	70.66	53.759				
17,900.00	12,181.00	14,043.90	8,394.00	104.59	99.12	4.28	5,738.42	83.11	3,798.77	3,727.09	71.68	52.997				
18,000.00	12,181.00	14,143.90	8,394.00	106.10	100.70	4.28	5,838.42	82.16	3,798.77	3,726.07	72.70	52.255				
18,100.00	12,181.00	14,243.90	8,394.00	107.62	102.28	4.28	5,938.41	81.21	3,798.77	3,725.05	73.72	51.531				
18,200.00	12,181.00	14,343.90	8,394.00	109.14	103.87	4.28	6,038.41	80.27	3,798.77	3,724.03	74.74	50.825				
18,300.00	12,181.00	14,443.90	8,394.00	110.66	105.45	4.28	6,138.40	79.32	3,798.77	3,723.00	75.77	50.137				
18,400.00	12,181.00	14,543.90	8,394.00	112.19	107.04	4.28	6,238.40	78.37	3,798.77	3,721.97	76.80	49.465				
18,500.00	12,181.00	14,643.90	8,394.00	113.72	108.63	4.28	6,338.39	77.43	3,798.77	3,720.94	77.83	48.809				
18,600.00	12,181.00	14,743.90	8,394.00	115.25	110.22	4.27	6,438.39	76.48	3,798.77	3,719.91	78.86	48.169				
18,700.00	12,181.00	14,843.90	8,394.00	116.79	111.81	4.27	6,538.39	75.53	3,798.77	3,718.87	79.90	47.544				
18,800.00	12,181.00	14,943.90	8,394.00	118.33	113.41	4.27	6,638.38	74.58	3,798.77	3,717.83	80.94	46.934				
18,900.00	12,181.00	15,043.90	8,394.00	119.87	115.01	4.27	6,738.38	73.64	3,798.77	3,716.79	81.98	46.338				
19,000.00	12,181.00	15,143.90	8,394.00	121.42	116.60	4.27	6,838.37	72.69	3,798.77	3,715.75	83.02	45.756				
19,100.00	12,181.00	15,243.90	8,394.00	122.97	118.20	4.27	6,938.37	71.74	3,798.77	3,714.70	84.07	45.188				
19,200.00	12,181.00	15,343.90	8,394.00	124.52	119.81	4.27	7,038.36	70.79	3,798.77	3,713.65	85.11	44.632				

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,300.00	12,181.00	15,443.90	8,394.00	126.08	121.41	4.27	7,138.36	69.85	3,798.77	3,712.60	86.16	44.089		
19,400.00	12,181.00	15,543.90	8,394.00	127.63	123.01	4.27	7,238.35	68.90	3,798.77	3,711.55	87.21	43.558		
19,500.00	12,181.00	15,643.90	8,394.00	129.19	124.62	4.27	7,338.35	67.95	3,798.77	3,710.50	88.26	43.039		
19,600.00	12,181.00	15,743.90	8,394.00	130.75	126.22	4.27	7,438.35	67.00	3,798.76	3,709.45	89.32	42.531		
19,700.00	12,181.00	15,843.90	8,394.00	132.32	127.83	4.27	7,538.34	66.06	3,798.76	3,708.39	90.37	42.035		
19,800.00	12,181.00	15,943.90	8,394.00	133.88	129.44	4.27	7,638.34	65.11	3,798.76	3,707.33	91.43	41.549		
19,900.00	12,181.00	16,043.90	8,394.00	135.45	131.05	4.27	7,738.33	64.16	3,798.76	3,706.28	92.49	41.073		
20,000.00	12,181.00	16,143.90	8,394.00	137.02	132.66	4.27	7,838.33	63.21	3,798.76	3,705.22	93.55	40.608		
20,100.00	12,181.00	16,243.90	8,394.00	138.59	134.27	4.27	7,938.32	62.27	3,798.76	3,704.15	94.61	40.153		
20,200.00	12,181.00	16,343.90	8,394.00	140.17	135.88	4.27	8,038.32	61.32	3,798.76	3,703.09	95.67	39.707		
20,300.00	12,181.00	16,443.90	8,394.00	141.74	137.50	4.27	8,138.31	60.37	3,798.76	3,702.03	96.73	39.270		
20,400.00	12,181.00	16,543.90	8,394.00	143.32	139.11	4.27	8,238.31	59.42	3,798.76	3,700.96	97.80	38.843		
20,500.00	12,181.00	16,643.90	8,394.00	144.90	140.73	4.27	8,338.31	58.48	3,798.76	3,699.90	98.86	38.424		
20,600.00	12,181.00	16,743.90	8,394.00	146.48	142.34	4.27	8,438.30	57.53	3,798.76	3,698.83	99.93	38.014		
20,700.00	12,181.00	16,843.90	8,394.00	148.06	143.96	4.27	8,538.30	56.58	3,798.76	3,697.76	101.00	37.612		
20,800.00	12,181.00	16,943.90	8,394.00	149.64	145.58	4.27	8,638.29	55.63	3,798.76	3,696.69	102.07	37.218		
20,900.00	12,181.00	17,043.90	8,394.00	151.23	147.20	4.27	8,738.29	54.69	3,798.76	3,695.62	103.14	36.831		
21,000.00	12,181.00	17,143.90	8,394.00	152.81	148.82	4.27	8,838.28	53.74	3,798.76	3,694.55	104.21	36.453		
21,100.00	12,181.00	17,243.90	8,394.00	154.40	150.44	4.27	8,938.28	52.79	3,798.76	3,693.47	105.28	36.081		
21,200.00	12,181.00	17,343.90	8,394.00	155.99	152.06	4.27	9,038.27	51.85	3,798.76	3,692.40	106.36	35.717		
21,300.00	12,181.00	17,443.90	8,394.00	157.58	153.68	4.27	9,138.27	50.90	3,798.76	3,691.33	107.43	35.360		
21,400.00	12,181.00	17,543.90	8,394.00	159.17	155.30	4.27	9,238.26	49.95	3,798.76	3,690.25	108.51	35.009		
21,500.00	12,181.00	17,643.90	8,394.00	160.77	156.93	4.27	9,338.26	49.00	3,798.76	3,689.17	109.58	34.666		
21,600.00	12,181.00	17,743.90	8,394.00	162.36	158.55	4.27	9,438.26	48.06	3,798.76	3,688.10	110.66	34.328		
21,700.00	12,181.00	17,843.90	8,394.00	163.96	160.17	4.27	9,538.25	47.11	3,798.76	3,687.02	111.74	33.997		
21,800.00	12,181.00	17,943.90	8,394.00	165.55	161.80	4.27	9,638.25	46.16	3,798.76	3,685.94	112.82	33.672		
21,900.00	12,181.00	18,043.90	8,394.00	167.15	163.42	4.27	9,738.24	45.21	3,798.75	3,684.86	113.89	33.355		
22,000.00	12,181.00	18,143.90	8,394.00	168.75	165.05	4.27	9,838.24	44.27	3,798.75	3,683.78	114.97	33.041		
22,100.00	12,181.00	18,243.90	8,394.00	170.35	166.67	4.27	9,938.23	43.32	3,798.75	3,682.70	116.05	32.734		
22,200.00	12,181.00	18,343.90	8,394.00	171.95	168.30	4.27	10,038.23	42.37	3,798.75	3,681.62	117.13	32.432		
22,275.53	12,181.00	18,419.43	8,394.00	173.16	169.53	4.27	10,113.76	41.66	3,798.75	3,680.80	117.95	32.207		
22,306.42	12,181.00	18,450.14	8,394.00	173.65	170.03	4.27	10,144.46	41.36	3,798.75	3,680.47	118.28	32.117		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 104H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
0.00	0.00	0.90	0.90	0.00	0.00	26.11	75.29	36.90	83.85							
100.00	100.00	100.90	100.90	0.13	0.13	26.11	75.29	36.90	83.85	83.67	0.18	466.511				
200.00	200.00	200.90	200.90	0.48	0.49	26.11	75.29	36.90	83.85	83.16	0.69	122.105				
300.00	300.00	300.90	300.90	0.84	0.85	26.11	75.29	36.90	83.85	82.65	1.19	70.245				
400.00	400.00	400.90	400.90	1.20	1.20	26.11	75.29	36.90	83.85	82.15	1.70	49.304				
500.00	500.00	500.90	500.90	1.56	1.56	26.11	75.29	36.90	83.85	81.64	2.21	37.982				
600.00	600.00	600.90	600.90	1.92	1.92	26.11	75.29	36.90	83.85	81.13	2.71	30.888				
700.00	700.00	700.90	700.90	2.28	2.28	26.11	75.29	36.90	83.85	80.62	3.22	26.028				
800.00	800.00	800.90	800.90	2.63	2.64	26.11	75.29	36.90	83.85	80.12	3.73	22.489				
900.00	900.00	900.90	900.90	2.99	3.00	26.11	75.29	36.90	83.85	79.61	4.24	19.797				
1,000.00	1,000.00	1,000.90	1,000.90	3.35	3.35	26.11	75.29	36.90	83.85	79.10	4.74	17.680				
1,100.00	1,100.00	1,100.90	1,100.90	3.71	3.71	26.11	75.29	36.90	83.85	78.60	5.25	15.973				
1,200.00	1,200.00	1,200.90	1,200.90	4.07	4.07	26.11	75.29	36.90	83.85	78.09	5.76	14.566				
1,300.00	1,300.00	1,300.90	1,300.90	4.43	4.43	26.11	75.29	36.90	83.85	77.58	6.26	13.387				
1,400.00	1,400.00	1,400.90	1,400.90	4.79	4.79	26.11	75.29	36.90	83.85	77.08	6.77	12.385				
1,500.00	1,500.00	1,500.90	1,500.90	5.14	5.15	26.11	75.29	36.90	83.85	76.57	7.28	11.522				
1,516.36	1,516.36	1,517.26	1,517.26	5.20	5.21	26.11	75.29	36.90	83.85	76.49	7.36	11.392 CC				
1,600.00	1,600.00	1,600.89	1,600.89	5.50	5.51	26.11	75.29	36.90	83.85	76.06	7.78	10.772 ES				
1,700.00	1,700.00	1,700.00	1,699.98	5.86	5.85	27.20	75.19	38.64	84.55	76.26	8.28	10.208				
1,800.00	1,800.00	1,798.32	1,798.16	6.22	6.19	30.29	74.90	43.75	86.79	78.02	8.77	9.896				
1,900.00	1,900.00	1,896.45	1,895.92	6.58	6.53	35.04	74.43	52.20	91.05	81.79	9.26	9.836 SF				
2,000.00	2,000.00	1,993.89	1,992.65	6.94	6.88	40.90	73.77	63.89	97.94	88.21	9.73	10.061				
2,100.00	2,100.00	2,090.42	2,088.02	7.29	7.23	47.18	72.94	78.71	108.08	97.88	10.20	10.597				
2,200.00	2,200.00	2,185.83	2,181.76	7.65	7.59	53.30	71.93	96.50	121.87	111.23	10.64	11.449				
2,300.00	2,300.00	2,279.95	2,273.58	8.01	7.96	58.85	70.77	117.09	139.52	128.44	11.07	12.601				
2,400.00	2,400.00	2,372.59	2,363.26	8.37	8.35	63.66	69.47	140.29	161.00	149.52	11.48	14.026				
2,500.00	2,499.99	2,463.42	2,450.41	8.71	8.75	-145.38	68.03	165.83	187.25	175.39	11.86	15.788				
2,600.00	2,599.91	2,553.74	2,536.26	9.04	9.17	-142.29	66.45	193.83	218.80	206.55	12.25	17.866				
2,633.40	2,633.25	2,585.05	2,565.94	9.15	9.32	-141.45	65.89	203.78	230.09	217.69	12.40	18.554				
2,700.00	2,699.73	2,647.43	2,625.08	9.37	9.63	-140.23	64.78	223.59	252.92	240.21	12.71	19.902				
2,800.00	2,799.54	2,741.09	2,713.88	9.70	10.11	-138.76	63.10	253.33	287.35	274.17	13.17	21.810				
2,900.00	2,899.36	2,834.76	2,802.68	10.04	10.60	-137.60	61.43	283.08	321.90	308.25	13.65	23.588				
3,000.00	2,999.17	2,928.42	2,891.48	10.37	11.10	-136.67	59.75	312.82	356.55	342.43	14.12	25.243				
3,100.00	3,098.98	3,022.08	2,980.28	10.71	11.61	-135.90	58.07	342.57	391.27	376.66	14.61	26.788				
3,200.00	3,198.80	3,115.74	3,069.07	11.06	12.13	-135.26	56.40	372.31	426.04	410.95	15.09	28.229				
3,300.00	3,298.61	3,209.41	3,157.87	11.40	12.66	-134.71	54.72	402.06	460.85	445.27	15.58	29.578				
3,400.00	3,398.42	3,303.07	3,246.67	11.75	13.19	-134.25	53.05	431.81	495.69	479.62	16.07	30.840				
3,500.00	3,498.24	3,396.73	3,335.47	12.10	13.73	-133.84	51.37	461.55	530.56	513.99	16.57	32.024				
3,600.00	3,598.05	3,490.39	3,424.26	12.44	14.28	-133.48	49.70	491.30	565.45	548.38	17.07	33.134				
3,700.00	3,697.86	3,584.05	3,513.06	12.79	14.83	-133.17	48.02	521.04	600.35	582.79	17.57	34.179				
3,800.00	3,797.68	3,677.72	3,601.86	13.15	15.39	-132.88	46.35	550.79	635.27	617.20	18.07	35.161				
3,900.00	3,897.49	3,771.38	3,690.66	13.50	15.95	-132.63	44.67	580.53	670.20	651.63	18.57	36.088				
4,000.00	3,997.30	3,865.04	3,779.45	13.85	16.51	-132.41	43.00	610.28	705.14	686.07	19.08	36.963				
4,100.00	4,097.12	3,958.70	3,868.25	14.21	17.08	-132.20	41.32	640.02	740.09	720.51	19.58	37.791				
4,200.00	4,196.93	4,052.36	3,957.05	14.56	17.65	-132.01	39.65	669.77	775.05	754.96	20.09	38.574				
4,300.00	4,296.74	4,146.03	4,045.85	14.92	18.22	-131.84	37.97	699.51	810.01	789.41	20.60	39.317				
4,400.00	4,396.56	4,239.69	4,134.64	15.28	18.79	-131.69	36.30	729.26	844.98	823.87	21.11	40.021				
4,500.00	4,496.37	4,333.35	4,223.44	15.64	19.37	-131.54	34.62	759.00	879.96	858.33	21.63	40.690				
4,600.00	4,596.18	4,427.01	4,312.24	15.99	19.94	-131.41	32.95	788.75	914.94	892.80	22.14	41.325				
4,700.00	4,696.00	4,520.68	4,401.04	16.35	20.52	-131.29	31.27	818.49	949.92	927.27	22.65	41.931				
4,800.00	4,795.81	4,614.34	4,489.83	16.71	21.10	-131.17	29.60	848.24	984.91	961.74	23.17	42.507				
4,900.00	4,895.62	4,708.00	4,578.63	17.07	21.69	-131.06	27.92	877.98	1,019.90	996.21	23.69	43.057				

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.00	4,995.44	4,801.66	4,667.43	17.44	22.27	-130.96	26.24	907.73	1,054.89	1,030.69	24.20	43.582		
5,100.00	5,095.25	4,895.32	4,756.23	17.80	22.85	-130.87	24.57	937.47	1,089.89	1,065.17	24.72	44.084		
5,200.00	5,195.07	4,988.99	4,845.03	18.16	23.44	-130.78	22.89	967.22	1,124.89	1,099.65	25.24	44.563		
5,300.00	5,294.88	5,082.65	4,933.82	18.52	24.03	-130.70	21.22	996.96	1,159.89	1,134.13	25.76	45.022		
5,400.00	5,394.69	5,176.31	5,022.62	18.88	24.62	-130.62	19.54	1,026.71	1,194.89	1,168.61	26.28	45.462		
5,500.00	5,494.51	5,269.97	5,111.42	19.25	25.21	-130.55	17.87	1,056.46	1,229.90	1,203.09	26.80	45.883		
5,600.00	5,594.32	5,363.64	5,200.22	19.61	25.80	-130.48	16.19	1,086.20	1,264.90	1,237.58	27.33	46.288		
5,700.00	5,694.13	5,457.30	5,289.01	19.98	26.39	-130.42	14.52	1,115.95	1,299.91	1,272.06	27.85	46.676		
5,800.00	5,793.95	5,550.96	5,377.81	20.34	26.98	-130.36	12.84	1,145.69	1,334.92	1,306.55	28.37	47.049		
5,900.00	5,893.76	5,644.62	5,466.61	20.70	27.57	-130.30	11.17	1,175.44	1,369.93	1,341.03	28.90	47.408		
6,000.00	5,993.57	5,738.28	5,555.41	21.07	28.16	-130.24	9.49	1,205.18	1,404.94	1,375.52	29.42	47.753		
6,100.00	6,093.39	5,831.95	5,644.20	21.43	28.76	-130.19	7.82	1,234.93	1,439.95	1,410.01	29.95	48.085		
6,200.00	6,193.20	5,925.61	5,733.00	21.80	29.35	-130.14	6.14	1,264.67	1,474.97	1,444.49	30.47	48.405		
6,300.00	6,293.01	6,019.27	5,821.80	22.17	29.95	-130.09	4.47	1,294.42	1,509.98	1,478.98	31.00	48.713		
6,400.00	6,392.83	6,112.93	5,910.60	22.53	30.54	-130.04	2.79	1,324.16	1,545.00	1,513.47	31.52	49.010		
6,500.00	6,492.64	6,206.59	5,999.39	22.90	31.14	-130.00	1.12	1,353.91	1,580.01	1,547.96	32.05	49.297		
6,600.00	6,592.45	6,300.26	6,088.19	23.26	31.73	-129.96	-0.56	1,383.65	1,615.03	1,582.45	32.58	49.574		
6,700.00	6,692.27	6,393.92	6,176.99	23.63	32.33	-129.92	-2.23	1,413.40	1,650.05	1,616.94	33.11	49.842		
6,719.52	6,711.75	6,412.20	6,194.32	23.70	32.45	-129.91	-2.56	1,419.20	1,656.88	1,623.67	33.21	49.893		
6,800.00	6,792.13	6,487.76	6,265.95	24.00	32.93	-130.19	-3.91	1,443.20	1,684.55	1,650.92	33.63	50.087		
6,900.00	6,892.09	6,582.10	6,355.40	24.35	33.53	-130.46	-5.60	1,473.16	1,717.51	1,683.35	34.16	50.285		
6,952.92	6,945.00	6,644.88	6,414.94	24.54	33.93	82.54	-6.72	1,493.02	1,734.27	1,699.76	34.51	50.256		
7,000.00	6,992.08	6,756.97	6,522.12	24.69	34.60	82.75	-8.56	1,525.74	1,747.82	1,712.67	35.15	49.729		
7,100.00	7,092.08	7,003.13	6,761.49	25.03	35.89	83.09	-11.77	1,582.76	1,770.70	1,734.33	36.37	48.688		
7,200.00	7,192.08	7,257.75	7,013.29	25.37	36.94	83.30	-13.87	1,619.93	1,785.12	1,747.77	37.35	47.797		
7,300.00	7,292.08	7,517.08	7,272.11	25.71	37.73	83.38	-14.70	1,634.70	1,790.75	1,752.70	38.05	47.064		
7,400.00	7,392.08	7,637.95	7,392.98	26.05	38.03	83.39	-14.71	1,634.90	1,790.82	1,752.31	38.51	46.497		
7,500.00	7,492.08	7,737.96	7,492.98	26.39	38.27	83.39	-14.71	1,634.90	1,790.82	1,751.85	38.97	45.952		
7,600.00	7,592.08	7,837.96	7,592.98	26.73	38.52	83.39	-14.71	1,634.90	1,790.82	1,751.39	39.43	45.417		
7,700.00	7,692.08	7,937.96	7,692.98	27.07	38.76	83.39	-14.71	1,634.90	1,790.82	1,750.93	39.89	44.894		
7,800.00	7,792.08	8,016.34	7,771.23	27.41	38.95	83.27	-11.10	1,634.87	1,791.34	1,751.00	40.34	44.403		
7,900.00	7,892.08	8,089.09	7,842.82	27.76	39.12	82.87	1.61	1,634.74	1,793.32	1,752.53	40.79	43.964		
8,000.00	7,992.08	8,157.62	7,908.27	28.10	39.27	82.23	21.79	1,634.55	1,797.05	1,755.82	41.23	43.588		
8,100.00	8,092.08	8,220.53	7,965.84	28.44	39.40	81.43	47.07	1,634.31	1,802.89	1,761.25	41.64	43.292		
8,200.00	8,192.08	8,277.17	8,015.02	28.78	39.50	80.55	75.10	1,634.05	1,811.30	1,769.26	42.03	43.093		
8,300.00	8,292.08	8,327.48	8,056.21	29.13	39.59	79.64	103.97	1,633.77	1,822.67	1,780.30	42.38	43.011		
8,400.00	8,392.08	8,371.83	8,090.29	29.47	39.65	78.76	132.33	1,633.50	1,837.38	1,794.72	42.67	43.063		
8,500.00	8,492.08	8,400.00	8,110.76	29.81	39.69	78.16	151.68	1,633.32	1,855.76	1,812.90	42.86	43.300		
8,600.00	8,592.08	8,450.00	8,144.66	30.16	39.76	77.03	188.41	1,632.97	1,877.83	1,834.75	43.08	43.590		
8,700.00	8,692.08	8,474.91	8,160.31	30.50	39.79	76.43	207.78	1,632.78	1,903.82	1,860.66	43.16	44.112		
8,800.00	8,792.08	8,500.00	8,175.22	30.85	39.82	75.82	227.96	1,632.59	1,933.77	1,890.60	43.17	44.794		
8,900.00	8,892.08	8,524.69	8,189.02	31.20	39.84	75.20	248.43	1,632.40	1,967.62	1,924.48	43.14	45.611		
9,000.00	8,992.08	8,550.00	8,202.23	31.54	39.87	74.55	270.02	1,632.19	2,005.30	1,962.24	43.06	46.567		
9,100.00	9,092.08	8,550.00	8,202.23	31.89	39.87	74.55	270.02	1,632.19	2,046.80	2,003.99	42.81	47.806		
9,200.00	9,192.08	8,580.43	8,216.83	32.23	39.90	73.75	296.71	1,631.94	2,091.61	2,048.91	42.70	48.982		
9,300.00	9,292.08	8,600.00	8,225.46	32.58	39.92	73.23	314.27	1,631.77	2,139.97	2,097.47	42.50	50.355		
9,400.00	9,392.08	8,600.00	8,225.46	32.93	39.92	73.23	314.27	1,631.77	2,191.57	2,149.41	42.16	51.978		
9,500.00	9,492.08	8,620.86	8,234.00	33.27	39.94	72.66	333.30	1,631.59	2,246.11	2,204.17	41.94	53.557		
9,600.00	9,592.08	8,631.92	8,238.24	33.62	39.95	72.36	343.52	1,631.49	2,303.56	2,261.91	41.65	55.310		
9,700.00	9,692.08	8,650.00	8,244.75	33.97	39.97	71.87	360.38	1,631.33	2,363.72	2,322.32	41.40	57.100		
9,800.00	9,792.08	8,650.00	8,244.75	34.32	39.97	71.87	360.38	1,631.33	2,426.28	2,385.23	41.04	59.116		
9,900.00	9,892.08	8,650.00	8,244.75	34.66	39.97	71.87	360.38	1,631.33	2,491.28	2,450.58	40.70	61.218		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design FMM Fed Com - FMM Fed Com 104H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,000.00	9,992.08	8,650.00	8,244.75	35.01	39.97	71.87	360.38	1,631.33	2,558.54	2,518.18	40.36	63.396		
10,100.00	10,092.08	8,674.82	8,252.82	35.36	40.00	71.18	383.85	1,631.11	2,627.37	2,587.19	40.18	65.389		
10,200.00	10,192.08	8,700.00	8,259.95	35.71	40.02	70.49	407.99	1,630.88	2,698.60	2,658.59	40.01	67.443		
10,300.00	10,292.08	8,700.00	8,259.95	36.06	40.02	70.49	407.99	1,630.88	2,771.11	2,731.39	39.72	69.762		
10,400.00	10,392.08	8,700.00	8,259.95	36.41	40.02	70.49	407.99	1,630.88	2,845.29	2,805.84	39.45	72.125		
10,500.00	10,492.08	8,700.00	8,259.95	36.76	40.02	70.49	407.99	1,630.88	2,921.00	2,881.81	39.20	74.522		
10,600.00	10,592.08	8,700.00	8,259.95	37.11	40.02	70.49	407.99	1,630.88	2,998.14	2,959.18	38.96	76.947		
10,700.00	10,692.08	8,700.00	8,259.95	37.46	40.02	70.49	407.99	1,630.88	3,076.60	3,037.85	38.75	79.392		
10,800.00	10,792.08	8,700.00	8,259.95	37.81	40.02	70.49	407.99	1,630.88	3,156.28	3,117.72	38.56	81.851		
10,900.00	10,892.08	8,700.00	8,259.95	38.16	40.02	70.49	407.99	1,630.88	3,237.08	3,198.69	38.39	84.318		
11,000.00	10,992.08	8,721.40	8,265.18	38.51	40.05	69.89	428.75	1,630.68	3,318.52	3,280.17	38.35	86.528		
11,100.00	11,092.08	8,725.13	8,266.01	38.86	40.05	69.79	432.38	1,630.65	3,401.19	3,362.95	38.24	88.942		
11,200.00	11,192.08	8,728.66	8,266.77	39.21	40.05	69.69	435.82	1,630.61	3,484.74	3,446.59	38.15	91.350		
11,300.00	11,292.08	8,750.00	8,270.94	39.56	40.08	69.10	456.75	1,630.41	3,569.40	3,531.25	38.16	93.548		
11,400.00	11,392.08	8,750.00	8,270.94	39.91	40.08	69.10	456.75	1,630.41	3,654.46	3,616.37	38.08	95.965		
11,500.00	11,492.08	8,750.00	8,270.94	40.26	40.08	69.10	456.75	1,630.41	3,740.25	3,702.22	38.03	98.362		
11,600.00	11,592.08	8,750.00	8,270.94	40.61	40.08	69.10	456.75	1,630.41	3,826.73	3,788.74	37.99	100.736		
11,615.96	11,608.04	8,750.00	8,270.94	40.66	40.08	69.10	456.75	1,630.41	3,840.59	3,802.61	37.98	101.113		
11,650.00	11,642.06	8,750.00	8,270.94	40.78	40.08	64.25	456.75	1,630.41	3,870.03	3,832.05	37.97	101.916		
11,700.00	11,691.78	8,750.00	8,270.94	40.95	40.08	57.19	456.75	1,630.41	3,912.56	3,874.61	37.95	103.090		
11,750.00	11,740.86	8,750.00	8,270.94	41.12	40.08	51.19	456.75	1,630.41	3,954.00	3,916.07	37.93	104.250		
11,800.00	11,788.94	8,750.00	8,270.94	41.27	40.08	46.15	456.75	1,630.41	3,994.07	3,956.18	37.90	105.387		
11,850.00	11,835.63	8,750.00	8,270.94	41.42	40.08	41.97	456.75	1,630.41	4,032.52	3,994.65	37.87	106.493		
11,900.00	11,880.59	8,750.00	8,270.94	41.55	40.08	38.50	456.75	1,630.41	4,069.10	4,031.26	37.83	107.561		
11,950.00	11,923.48	8,750.00	8,270.94	41.68	40.08	35.63	456.75	1,630.41	4,103.58	4,065.78	37.79	108.582		
12,000.00	11,963.97	8,750.00	8,270.94	41.80	40.08	33.25	456.75	1,630.41	4,135.75	4,098.00	37.75	109.548		
12,050.00	12,001.74	8,771.76	8,274.39	41.91	40.11	31.17	478.24	1,630.21	4,165.01	4,127.21	37.80	110.187		
12,100.00	12,036.53	8,777.06	8,275.10	42.02	40.11	29.54	483.49	1,630.16	4,191.80	4,154.02	37.78	110.953		
12,150.00	12,068.05	8,800.00	8,277.64	42.13	40.14	28.14	506.28	1,629.94	4,215.99	4,178.16	37.83	111.454		
12,200.00	12,096.07	8,800.00	8,277.64	42.24	40.14	27.08	506.28	1,629.94	4,236.73	4,198.93	37.79	112.105		
12,250.00	12,120.37	8,800.00	8,277.64	42.35	40.14	26.23	506.28	1,629.94	4,254.38	4,216.62	37.76	112.656		
12,300.00	12,140.78	8,800.00	8,277.64	42.47	40.14	25.57	506.28	1,629.94	4,268.86	4,231.12	37.74	113.100		
12,350.00	12,157.13	8,800.00	8,277.64	42.59	40.14	25.08	506.28	1,629.94	4,280.08	4,242.35	37.73	113.428		
12,400.00	12,169.30	8,800.00	8,277.64	42.71	40.14	24.74	506.28	1,629.94	4,287.99	4,250.26	37.74	113.633		
12,450.00	12,177.21	8,800.00	8,277.64	42.84	40.14	24.55	506.28	1,629.94	4,292.55	4,254.80	37.75	113.710		
12,500.00	12,180.78	8,825.74	8,279.40	42.96	40.18	24.51	531.96	1,629.70	4,293.11	4,255.26	37.86	113.407		
12,515.96	12,181.00	8,827.78	8,279.49	43.00	40.18	24.53	534.00	1,629.68	4,292.68	4,254.80	37.87	113.343		
12,600.00	12,181.00	8,852.01	8,280.00	43.24	40.22	24.53	558.22	1,629.45	4,290.32	4,252.30	38.02	112.834		
12,700.00	12,181.00	8,852.01	8,280.00	43.58	40.22	24.53	558.22	1,629.45	4,289.03	4,250.86	38.17	112.362		
12,737.08	12,181.00	8,883.78	8,280.00	43.72	40.27	24.53	589.99	1,629.15	4,289.02	4,250.70	38.32	111.922		
12,800.00	12,181.00	8,946.70	8,280.00	43.97	40.39	24.53	652.91	1,628.55	4,289.02	4,250.42	38.61	111.097		
12,900.00	12,181.00	9,046.70	8,280.00	44.43	40.63	24.53	752.91	1,627.60	4,289.02	4,249.92	39.10	109.704		
13,000.00	12,181.00	9,146.70	8,280.00	44.94	40.93	24.53	852.90	1,626.64	4,289.01	4,249.38	39.63	108.228		
13,100.00	12,181.00	9,246.70	8,280.00	45.50	41.30	24.53	952.90	1,625.69	4,289.01	4,248.81	40.20	106.681		
13,200.00	12,181.00	9,346.70	8,280.00	46.12	41.73	24.53	1,052.89	1,624.74	4,289.00	4,248.19	40.82	105.075		
13,300.00	12,181.00	9,446.70	8,280.00	46.79	42.23	24.53	1,152.89	1,623.79	4,289.00	4,247.53	41.47	103.422		
13,400.00	12,181.00	9,546.70	8,280.00	47.50	42.79	24.53	1,252.88	1,622.84	4,289.00	4,246.84	42.16	101.733		
13,500.00	12,181.00	9,646.70	8,280.00	48.26	43.43	24.53	1,352.88	1,621.89	4,288.99	4,246.11	42.88	100.018		
13,600.00	12,181.00	9,746.70	8,280.00	49.07	44.13	24.53	1,452.87	1,620.93	4,288.99	4,245.35	43.64	98.290		
13,700.00	12,181.00	9,846.70	8,280.00	49.91	44.90	24.53	1,552.87	1,619.98	4,288.98	4,244.56	44.42	96.556		
13,800.00	12,181.00	9,946.70	8,280.00	50.80	45.72	24.53	1,652.86	1,619.03	4,288.98	4,243.75	45.23	94.820		
13,900.00	12,181.00	10,046.70	8,280.00	51.72	46.60	24.53	1,752.86	1,618.08	4,288.98	4,242.90	46.07	93.088		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design FMM Fed Com - FMM Fed Com 104H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,000.00	12,181.00	10,146.70	8,280.00	52.68	47.53	24.53	1,852.86	1,617.13	4,288.97	4,242.03	46.94	91.365		
14,100.00	12,181.00	10,246.70	8,280.00	53.67	48.50	24.53	1,952.85	1,616.18	4,288.97	4,241.13	47.84	89.658		
14,200.00	12,181.00	10,346.70	8,280.00	54.70	49.52	24.53	2,052.85	1,615.22	4,288.96	4,240.21	48.75	87.972		
14,300.00	12,181.00	10,446.70	8,280.00	55.75	50.58	24.53	2,152.84	1,614.27	4,288.96	4,239.27	49.69	86.309		
14,400.00	12,181.00	10,546.70	8,280.00	56.84	51.68	24.53	2,252.84	1,613.32	4,288.96	4,238.30	50.65	84.673		
14,500.00	12,181.00	10,646.70	8,280.00	57.95	52.80	24.53	2,352.83	1,612.37	4,288.95	4,237.32	51.63	83.066		
14,600.00	12,181.00	10,746.70	8,280.00	59.08	53.96	24.53	2,452.83	1,611.42	4,288.95	4,236.32	52.63	81.492		
14,700.00	12,181.00	10,846.70	8,280.00	60.24	55.15	24.53	2,552.82	1,610.47	4,288.94	4,235.30	53.64	79.953		
14,800.00	12,181.00	10,946.70	8,280.00	61.42	56.37	24.53	2,652.82	1,609.52	4,288.94	4,234.27	54.67	78.447		
14,900.00	12,181.00	11,046.70	8,280.00	62.63	57.61	24.53	2,752.81	1,608.56	4,288.93	4,233.22	55.72	76.976		
15,000.00	12,181.00	11,146.70	8,280.00	63.85	58.87	24.53	2,852.81	1,607.61	4,288.93	4,232.15	56.78	75.538		
15,100.00	12,181.00	11,246.70	8,280.00	65.09	60.15	24.53	2,952.81	1,606.66	4,288.93	4,231.07	57.85	74.134		
15,200.00	12,181.00	11,346.70	8,280.00	66.35	61.45	24.53	3,052.80	1,605.71	4,288.92	4,229.98	58.94	72.763		
15,300.00	12,181.00	11,446.70	8,280.00	67.63	62.77	24.53	3,152.80	1,604.76	4,288.92	4,228.87	60.05	71.428		
15,400.00	12,181.00	11,546.70	8,280.00	68.92	64.10	24.53	3,252.79	1,603.81	4,288.91	4,227.75	61.16	70.127		
15,500.00	12,181.00	11,646.70	8,280.00	70.23	65.45	24.53	3,352.79	1,602.85	4,288.91	4,226.63	62.28	68.861		
15,600.00	12,181.00	11,746.70	8,280.00	71.55	66.82	24.53	3,452.78	1,601.90	4,288.91	4,225.49	63.42	67.632		
15,700.00	12,181.00	11,846.70	8,280.00	72.89	68.20	24.53	3,552.78	1,600.95	4,288.90	4,224.34	64.56	66.435		
15,800.00	12,181.00	11,946.70	8,280.00	74.24	69.59	24.53	3,652.77	1,600.00	4,288.90	4,223.19	65.71	65.270		
15,900.00	12,181.00	12,046.70	8,280.00	75.60	70.99	24.53	3,752.77	1,599.05	4,288.89	4,222.02	66.87	64.137		
16,000.00	12,181.00	12,146.70	8,280.00	76.97	72.40	24.53	3,852.76	1,598.10	4,288.89	4,220.85	68.04	63.035		
16,100.00	12,181.00	12,246.70	8,280.00	78.35	73.83	24.53	3,952.76	1,597.14	4,288.88	4,219.67	69.22	61.963		
16,200.00	12,181.00	12,346.70	8,280.00	79.75	75.26	24.53	4,052.76	1,596.19	4,288.88	4,218.48	70.40	60.919		
16,300.00	12,181.00	12,446.70	8,280.00	81.15	76.70	24.53	4,152.75	1,595.24	4,288.88	4,217.28	71.60	59.905		
16,400.00	12,181.00	12,546.70	8,280.00	82.56	78.16	24.53	4,252.75	1,594.29	4,288.87	4,216.08	72.79	58.917		
16,500.00	12,181.00	12,646.70	8,280.00	83.98	79.61	24.53	4,352.74	1,593.34	4,288.87	4,214.87	74.00	57.957		
16,600.00	12,181.00	12,746.70	8,280.00	85.41	81.08	24.53	4,452.74	1,592.39	4,288.86	4,213.65	75.21	57.024		
16,700.00	12,181.00	12,846.70	8,280.00	86.85	82.56	24.53	4,552.73	1,591.43	4,288.86	4,212.43	76.43	56.117		
16,800.00	12,181.00	12,946.70	8,280.00	88.29	84.04	24.53	4,652.73	1,590.48	4,288.86	4,211.21	77.65	55.235		
16,900.00	12,181.00	13,046.70	8,280.00	89.74	85.52	24.53	4,752.72	1,589.53	4,288.85	4,209.98	78.88	54.375		
17,000.00	12,181.00	13,146.70	8,280.00	91.20	87.02	24.53	4,852.72	1,588.58	4,288.85	4,208.74	80.11	53.538		
17,100.00	12,181.00	13,246.70	8,280.00	92.67	88.52	24.53	4,952.71	1,587.63	4,288.84	4,207.50	81.35	52.723		
17,200.00	12,181.00	13,346.70	8,280.00	94.14	90.02	24.53	5,052.71	1,586.68	4,288.84	4,206.25	82.59	51.929		
17,300.00	12,181.00	13,446.70	8,280.00	95.62	91.53	24.52	5,152.71	1,585.73	4,288.83	4,205.00	83.84	51.158		
17,400.00	12,181.00	13,546.70	8,280.00	97.10	93.04	24.52	5,252.70	1,584.77	4,288.83	4,203.75	85.08	50.407		
17,500.00	12,181.00	13,646.70	8,280.00	98.59	94.56	24.52	5,352.70	1,583.82	4,288.83	4,202.49	86.34	49.675		
17,600.00	12,181.00	13,746.70	8,280.00	100.08	96.09	24.52	5,452.69	1,582.87	4,288.82	4,201.23	87.59	48.963		
17,700.00	12,181.00	13,846.70	8,280.00	101.58	97.62	24.52	5,552.69	1,581.92	4,288.82	4,199.96	88.85	48.268		
17,800.00	12,181.00	13,946.70	8,280.00	103.08	99.15	24.52	5,652.68	1,580.97	4,288.81	4,198.70	90.12	47.591		
17,900.00	12,181.00	14,046.70	8,280.00	104.59	100.68	24.52	5,752.68	1,580.02	4,288.81	4,197.42	91.39	46.930		
18,000.00	12,181.00	14,146.70	8,280.00	106.10	102.22	24.52	5,852.67	1,579.06	4,288.81	4,196.15	92.66	46.287		
18,100.00	12,181.00	14,246.70	8,280.00	107.62	103.77	24.52	5,952.67	1,578.11	4,288.80	4,194.87	93.93	45.659		
18,200.00	12,181.00	14,346.70	8,280.00	109.14	105.31	24.52	6,052.67	1,577.16	4,288.80	4,193.59	95.21	45.046		
18,300.00	12,181.00	14,446.70	8,280.00	110.66	106.86	24.52	6,152.66	1,576.21	4,288.79	4,192.30	96.49	44.448		
18,400.00	12,181.00	14,546.70	8,280.00	112.19	108.41	24.52	6,252.66	1,575.26	4,288.79	4,191.02	97.77	43.865		
18,500.00	12,181.00	14,646.70	8,280.00	113.72	109.97	24.52	6,352.65	1,574.31	4,288.78	4,189.73	99.05	43.297		
18,600.00	12,181.00	14,746.70	8,280.00	115.25	111.53	24.52	6,452.65	1,573.35	4,288.78	4,188.44	100.34	42.743		
18,700.00	12,181.00	14,846.70	8,280.00	116.79	113.09	24.52	6,552.64	1,572.40	4,288.78	4,187.15	101.63	42.201		
18,800.00	12,181.00	14,946.70	8,280.00	118.33	114.65	24.52	6,652.64	1,571.45	4,288.77	4,185.85	102.92	41.671		
18,900.00	12,181.00	15,046.70	8,280.00	119.87	116.22	24.52	6,752.63	1,570.50	4,288.77	4,184.55	104.21	41.153		
19,000.00	12,181.00	15,146.70	8,280.00	121.42	117.79	24.52	6,852.63	1,569.55	4,288.76	4,183.26	105.51	40.648		
19,100.00	12,181.00	15,246.70	8,280.00	122.97	119.36	24.52	6,952.62	1,568.60	4,288.76	4,181.96	106.80	40.155		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 104H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance									
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	12,181.00	15,346.70	8,280.00	124.52	120.93	24.52	7,052.62	1,567.65	4,288.76	4,180.65	108.10	39.673				
19,300.00	12,181.00	15,446.70	8,280.00	126.08	122.51	24.52	7,152.62	1,566.69	4,288.75	4,179.35	109.40	39.202				
19,400.00	12,181.00	15,546.70	8,280.00	127.63	124.08	24.52	7,252.61	1,565.74	4,288.75	4,178.05	110.70	38.741				
19,500.00	12,181.00	15,646.70	8,280.00	129.19	125.66	24.52	7,352.61	1,564.79	4,288.74	4,176.74	112.01	38.291				
19,600.00	12,181.00	15,746.70	8,280.00	130.75	127.24	24.52	7,452.60	1,563.84	4,288.74	4,175.43	113.31	37.850				
19,700.00	12,181.00	15,846.70	8,280.00	132.32	128.83	24.52	7,552.60	1,562.89	4,288.73	4,174.12	114.62	37.418				
19,800.00	12,181.00	15,946.70	8,280.00	133.88	130.41	24.52	7,652.59	1,561.94	4,288.73	4,172.81	115.93	36.996				
19,900.00	12,181.00	16,046.70	8,280.00	135.45	132.00	24.52	7,752.59	1,560.98	4,288.73	4,171.49	117.24	36.582				
20,000.00	12,181.00	16,146.70	8,280.00	137.02	133.58	24.52	7,852.58	1,560.03	4,288.72	4,170.18	118.55	36.178				
20,100.00	12,181.00	16,246.70	8,280.00	138.59	135.17	24.52	7,952.58	1,559.08	4,288.72	4,168.86	119.86	35.781				
20,200.00	12,181.00	16,346.70	8,280.00	140.17	136.76	24.52	8,052.57	1,558.13	4,288.71	4,167.54	121.17	35.393				
20,300.00	12,181.00	16,446.70	8,280.00	141.74	138.36	24.52	8,152.57	1,557.18	4,288.71	4,166.22	122.49	35.014				
20,400.00	12,181.00	16,546.70	8,280.00	143.32	139.95	24.52	8,252.57	1,556.23	4,288.71	4,164.91	123.80	34.642				
20,500.00	12,181.00	16,646.70	8,280.00	144.90	141.54	24.52	8,352.56	1,555.27	4,288.70	4,163.59	125.12	34.278				
20,600.00	12,181.00	16,746.70	8,280.00	146.48	143.14	24.52	8,452.56	1,554.32	4,288.70	4,162.26	126.44	33.920				
20,700.00	12,181.00	16,846.70	8,280.00	148.06	144.74	24.52	8,552.55	1,553.37	4,288.69	4,160.94	127.75	33.570				
20,800.00	12,181.00	16,946.70	8,280.00	149.64	146.34	24.52	8,652.55	1,552.42	4,288.69	4,159.62	129.07	33.227				
20,900.00	12,181.00	17,046.70	8,280.00	151.23	147.94	24.52	8,752.54	1,551.47	4,288.69	4,158.30	130.39	32.891				
21,000.00	12,181.00	17,146.70	8,280.00	152.81	149.54	24.52	8,852.54	1,550.52	4,288.68	4,156.97	131.71	32.562				
21,100.00	12,181.00	17,246.70	8,280.00	154.40	151.14	24.52	8,952.53	1,549.57	4,288.68	4,155.65	133.03	32.238				
21,200.00	12,181.00	17,346.70	8,280.00	155.99	152.74	24.52	9,052.53	1,548.61	4,288.67	4,154.32	134.35	31.921				
21,300.00	12,181.00	17,446.70	8,280.00	157.58	154.35	24.52	9,152.52	1,547.66	4,288.67	4,152.99	135.68	31.610				
21,400.00	12,181.00	17,546.70	8,280.00	159.17	155.95	24.52	9,252.52	1,546.71	4,288.66	4,151.66	137.00	31.304				
21,500.00	12,181.00	17,646.70	8,280.00	160.77	157.56	24.52	9,352.52	1,545.76	4,288.66	4,150.34	138.32	31.004				
21,600.00	12,181.00	17,746.70	8,280.00	162.36	159.17	24.52	9,452.51	1,544.81	4,288.66	4,149.01	139.65	30.710				
21,700.00	12,181.00	17,846.70	8,280.00	163.96	160.77	24.52	9,552.51	1,543.86	4,288.65	4,147.67	140.98	30.421				
21,800.00	12,181.00	17,946.70	8,280.00	165.55	162.38	24.52	9,652.50	1,542.90	4,288.65	4,146.34	142.30	30.137				
21,900.00	12,181.00	18,046.70	8,280.00	167.15	163.99	24.52	9,752.50	1,541.95	4,288.64	4,145.01	143.63	29.858				
22,000.00	12,181.00	18,146.70	8,280.00	168.75	165.60	24.52	9,852.49	1,541.00	4,288.64	4,143.68	144.96	29.585				
22,100.00	12,181.00	18,246.70	8,280.00	170.35	167.21	24.52	9,952.49	1,540.05	4,288.64	4,142.35	146.29	29.317				
22,200.00	12,181.00	18,346.70	8,280.00	171.95	168.83	24.52	10,052.48	1,539.10	4,288.63	4,141.01	147.62	29.053				
22,302.73	12,181.00	18,448.40	8,280.00	173.59	170.47	24.52	10,154.18	1,538.13	4,288.63	4,139.65	148.98	28.787				
22,306.42	12,181.00	18,448.40	8,280.00	173.65	170.47	24.52	10,154.18	1,538.13	4,288.63	4,139.62	149.01	28.780				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-88.36	56.68	-1,974.28	1,975.57					
100.00	100.00	56.50	56.50	0.13	0.07	-88.36	56.68	-1,974.28	1,975.09	1,974.95	0.14	N/A		
200.00	200.00	156.50	156.50	0.48	0.33	-88.36	56.68	-1,974.28	1,975.09	1,974.51	0.58	3,378.422		
300.00	300.00	256.50	256.50	0.84	0.69	-88.36	56.68	-1,974.28	1,975.09	1,974.00	1.09	1,817.528		
400.00	400.00	356.50	356.50	1.20	1.04	-88.36	56.68	-1,974.28	1,975.09	1,973.50	1.59	1,240.744		
500.00	500.00	456.50	456.50	1.56	1.40	-88.36	56.68	-1,974.28	1,975.09	1,972.99	2.10	941.464		
600.00	600.00	556.50	556.50	1.92	1.76	-88.36	56.68	-1,974.28	1,975.09	1,972.49	2.60	758.401		
700.00	700.00	656.50	656.50	2.28	2.12	-88.36	56.68	-1,974.28	1,975.09	1,971.98	3.11	634.902		
800.00	800.00	756.50	756.50	2.63	2.48	-88.36	56.68	-1,974.28	1,975.09	1,971.47	3.62	545.976		
900.00	900.00	856.50	856.50	2.99	2.84	-88.36	56.68	-1,974.28	1,975.09	1,970.97	4.12	478.893		
1,000.00	1,000.00	956.50	956.50	3.35	3.20	-88.36	56.68	-1,974.28	1,975.09	1,970.46	4.63	426.486		
1,100.00	1,100.00	1,056.50	1,056.50	3.71	3.55	-88.36	56.68	-1,974.28	1,975.09	1,969.95	5.14	384.415		
1,200.00	1,200.00	1,156.50	1,156.50	4.07	3.91	-88.36	56.68	-1,974.28	1,975.09	1,969.45	5.64	349.898		
1,300.00	1,300.00	1,256.50	1,256.50	4.43	4.27	-88.36	56.68	-1,974.28	1,975.09	1,968.94	6.15	321.068		
1,400.00	1,400.00	1,356.50	1,356.50	4.79	4.63	-88.36	56.68	-1,974.28	1,975.09	1,968.43	6.66	296.627		
1,500.00	1,500.00	1,456.50	1,456.50	5.14	4.99	-88.36	56.68	-1,974.28	1,975.09	1,967.93	7.17	275.643		
1,600.00	1,600.00	1,556.50	1,556.50	5.50	5.35	-88.36	56.68	-1,974.28	1,975.09	1,967.42	7.67	257.432		
1,700.00	1,700.00	1,656.50	1,656.50	5.86	5.71	-88.36	56.68	-1,974.28	1,975.09	1,966.91	8.18	241.477		
1,800.00	1,800.00	1,756.50	1,756.50	6.22	6.06	-88.36	56.68	-1,974.28	1,975.09	1,966.41	8.69	227.385		
1,900.00	1,900.00	1,856.50	1,856.50	6.58	6.42	-88.36	56.68	-1,974.28	1,975.09	1,965.90	9.19	214.847		
2,000.00	2,000.00	1,956.50	1,956.50	6.94	6.78	-88.36	56.68	-1,974.28	1,975.09	1,965.39	9.70	203.619		
2,003.37	2,003.37	1,959.87	1,959.87	6.95	6.79	-88.36	56.68	-1,974.28	1,975.09	1,965.37	9.72	203.261	CC	
2,100.00	2,100.00	2,037.63	2,037.63	7.29	7.07	-88.36	56.64	-1,974.46	1,975.36	1,965.20	10.16	194.494	ES	
2,200.00	2,200.00	2,100.00	2,099.99	7.65	7.28	-88.36	56.40	-1,975.56	1,977.17	1,966.61	10.56	187.198		
2,300.00	2,300.00	2,170.74	2,170.68	8.01	7.52	-88.38	55.85	-1,978.00	1,980.65	1,969.67	10.98	180.359		
2,400.00	2,400.00	2,237.16	2,237.00	8.37	7.75	-88.41	55.08	-1,981.46	1,985.83	1,974.44	11.39	174.364		
2,500.00	2,499.99	2,300.00	2,299.69	8.71	7.97	58.41	54.12	-1,985.77	1,992.01	1,980.23	11.77	169.220		
2,600.00	2,599.91	2,369.70	2,369.13	9.04	8.21	58.35	52.80	-1,991.73	1,998.49	1,986.33	12.16	164.359		
2,633.40	2,633.25	2,400.00	2,399.27	9.15	8.31	58.35	52.13	-1,994.70	2,000.75	1,988.44	12.31	162.558		
2,700.00	2,699.73	2,435.82	2,434.87	9.37	8.44	58.37	51.28	-1,998.52	2,005.59	1,993.05	12.54	159.980		
2,800.00	2,799.54	2,500.00	2,498.57	9.70	8.67	58.41	49.58	-2,006.18	2,014.28	2,001.37	12.91	156.049		
2,900.00	2,899.36	2,567.53	2,565.45	10.04	8.91	58.45	47.54	-2,015.36	2,024.64	2,011.35	13.29	152.356		
3,000.00	2,999.17	2,633.06	2,630.16	10.37	9.15	58.47	45.31	-2,025.37	2,036.66	2,022.99	13.66	149.067		
3,100.00	3,098.98	2,700.00	2,696.09	10.71	9.40	58.49	42.78	-2,036.71	2,050.32	2,036.28	14.04	146.035		
3,200.00	3,198.80	2,764.51	2,759.42	11.06	9.64	58.50	40.11	-2,048.71	2,065.61	2,051.20	14.41	143.365		
3,300.00	3,298.61	2,863.21	2,856.17	11.40	10.02	58.51	35.87	-2,067.77	2,081.65	2,066.76	14.89	139.784		
3,400.00	3,398.42	2,961.92	2,952.92	11.75	10.41	58.52	31.63	-2,086.83	2,097.70	2,082.32	15.38	136.398		
3,500.00	3,498.24	3,060.62	3,049.67	12.10	10.81	58.52	27.38	-2,105.90	2,113.75	2,097.88	15.87	133.196		
3,600.00	3,598.05	3,159.32	3,146.43	12.44	11.22	58.53	23.14	-2,124.96	2,129.79	2,113.43	16.36	130.164		
3,700.00	3,697.86	3,258.03	3,243.18	12.79	11.63	58.54	18.90	-2,144.02	2,145.84	2,128.98	16.86	127.290		
3,800.00	3,797.68	3,356.73	3,339.93	13.15	12.04	58.55	14.65	-2,163.09	2,161.89	2,144.53	17.36	124.565		
3,900.00	3,897.49	3,455.44	3,436.68	13.50	12.46	58.55	10.41	-2,182.15	2,177.93	2,160.08	17.86	121.976		
4,000.00	3,997.30	3,554.14	3,533.43	13.85	12.88	58.56	6.17	-2,201.21	2,193.98	2,175.62	18.36	119.516		
4,100.00	4,097.12	3,652.84	3,630.19	14.21	13.31	58.57	1.92	-2,220.28	2,210.02	2,191.16	18.86	117.177		
4,200.00	4,196.93	3,751.55	3,726.94	14.56	13.74	58.57	-2.32	-2,239.34	2,226.07	2,206.70	19.37	114.948		
4,300.00	4,296.74	3,850.25	3,823.69	14.92	14.17	58.58	-6.56	-2,258.40	2,242.12	2,222.24	19.87	112.825		
4,400.00	4,396.56	3,948.96	3,920.44	15.28	14.61	58.59	-10.81	-2,277.47	2,258.16	2,237.78	20.38	110.800		
4,500.00	4,496.37	4,047.66	4,017.20	15.64	15.04	58.60	-15.05	-2,296.53	2,274.21	2,253.32	20.89	108.866		
4,600.00	4,596.18	4,146.36	4,113.95	15.99	15.49	58.60	-19.29	-2,315.59	2,290.26	2,268.86	21.40	107.018		
4,700.00	4,696.00	4,245.07	4,210.70	16.35	15.93	58.61	-23.54	-2,334.66	2,306.30	2,284.39	21.91	105.251		
4,800.00	4,795.81	4,343.77	4,307.45	16.71	16.37	58.62	-27.78	-2,353.72	2,322.35	2,299.92	22.43	103.560		
4,900.00	4,895.62	4,442.47	4,404.21	17.07	16.82	58.62	-32.02	-2,372.78	2,338.40	2,315.46	22.94	101.940		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 301H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
5,000.00	4,995.44	4,541.18	4,500.96	17.44	17.27	58.63	-36.27	-2,391.85	2,354.44	2,330.99	23.45	100.387				
5,100.00	5,095.25	4,639.88	4,597.71	17.80	17.72	58.63	-40.51	-2,410.91	2,370.49	2,346.52	23.97	98.897				
5,200.00	5,195.07	4,738.59	4,694.46	18.16	18.17	58.64	-44.75	-2,429.98	2,386.53	2,362.05	24.49	97.467				
5,300.00	5,294.88	4,837.29	4,791.22	18.52	18.62	58.65	-48.99	-2,449.04	2,402.58	2,377.58	25.00	96.092				
5,400.00	5,394.69	4,935.99	4,887.97	18.88	19.07	58.65	-53.24	-2,468.10	2,418.63	2,393.11	25.52	94.771				
5,500.00	5,494.51	5,034.70	4,984.72	19.25	19.53	58.66	-57.48	-2,487.17	2,434.67	2,408.64	26.04	93.500				
5,600.00	5,594.32	5,133.40	5,081.47	19.61	19.98	58.66	-61.72	-2,506.23	2,450.72	2,424.16	26.56	92.276				
5,700.00	5,694.13	5,232.10	5,178.23	19.98	20.44	58.67	-65.97	-2,525.29	2,466.77	2,439.69	27.08	91.097				
5,800.00	5,793.95	5,330.81	5,274.98	20.34	20.90	58.68	-70.21	-2,544.36	2,482.81	2,455.22	27.60	89.961				
5,900.00	5,893.76	5,429.51	5,371.73	20.70	21.35	58.68	-74.45	-2,563.42	2,498.86	2,470.74	28.12	88.865				
6,000.00	5,993.57	5,528.22	5,468.48	21.07	21.81	58.69	-78.70	-2,582.48	2,514.91	2,486.27	28.64	87.807				
6,100.00	6,093.39	5,626.92	5,565.24	21.43	22.27	58.69	-82.94	-2,601.55	2,530.96	2,501.79	29.16	86.786				
6,200.00	6,193.20	5,725.62	5,661.99	21.80	22.73	58.70	-87.18	-2,620.61	2,547.00	2,517.32	29.69	85.799				
6,300.00	6,293.01	5,824.33	5,758.74	22.17	23.20	58.70	-91.43	-2,639.67	2,563.05	2,532.84	30.21	84.846				
6,400.00	6,392.83	5,923.03	5,855.49	22.53	23.66	58.71	-95.67	-2,658.74	2,579.10	2,548.36	30.73	83.923				
6,500.00	6,492.64	6,021.74	5,952.24	22.90	24.12	58.71	-99.91	-2,677.80	2,595.14	2,563.89	31.26	83.030				
6,600.00	6,592.45	6,120.44	6,049.00	23.26	24.58	58.72	-104.16	-2,696.86	2,611.19	2,579.41	31.78	82.166				
6,700.00	6,692.27	6,219.14	6,145.75	23.63	25.05	58.72	-108.40	-2,715.93	2,627.24	2,594.93	32.30	81.329				
6,719.52	6,711.75	6,238.41	6,164.64	23.70	25.14	58.72	-109.23	-2,719.65	2,630.37	2,597.96	32.41	81.168				
6,800.00	6,792.13	6,317.77	6,242.43	24.00	25.51	58.89	-112.64	-2,734.98	2,643.72	2,610.89	32.83	80.535				
6,900.00	6,892.09	6,416.14	6,338.85	24.35	25.97	59.06	-116.87	-2,753.97	2,661.51	2,628.16	33.34	79.820				
6,952.92	6,945.00	6,468.06	6,389.74	24.54	26.22	-87.77	-119.10	-2,764.00	2,671.46	2,637.84	33.61	79.478				
7,000.00	6,992.08	6,514.21	6,434.98	24.69	26.43	-87.82	-121.09	-2,772.91	2,680.48	2,646.63	33.85	79.190				
7,100.00	7,092.08	6,612.23	6,531.07	25.03	26.90	-87.93	-125.30	-2,791.85	2,699.64	2,665.29	34.35	78.592				
7,200.00	7,192.08	6,710.26	6,627.15	25.37	27.36	-88.04	-129.51	-2,810.78	2,718.82	2,683.96	34.85	78.009				
7,300.00	7,292.08	7,010.11	6,922.99	25.71	28.68	-88.29	-140.04	-2,858.07	2,734.72	2,698.66	36.06	75.840				
7,400.00	7,392.08	7,276.51	7,188.32	26.05	29.69	-88.41	-145.09	-2,880.74	2,742.48	2,705.48	37.01	74.109				
7,500.00	7,492.08	7,536.89	7,448.58	26.39	30.52	-88.44	-146.32	-2,886.28	2,743.29	2,705.49	37.80	72.569				
7,600.00	7,592.08	7,636.89	7,548.58	26.73	30.82	-88.44	-146.32	-2,886.28	2,743.29	2,705.02	38.28	71.670				
7,700.00	7,692.08	7,736.89	7,648.58	27.07	31.12	-88.44	-146.32	-2,886.28	2,743.29	2,704.54	38.75	70.790				
7,800.00	7,792.08	7,836.89	7,748.58	27.41	31.43	-88.44	-146.32	-2,886.28	2,743.29	2,704.07	39.23	69.931				
7,900.00	7,892.08	7,936.89	7,848.58	27.76	31.73	-88.44	-146.32	-2,886.28	2,743.29	2,703.59	39.71	69.091				
8,000.00	7,992.08	8,036.89	7,948.58	28.10	32.04	-88.44	-146.32	-2,886.28	2,743.29	2,703.11	40.18	68.270				
8,100.00	8,092.08	8,136.89	8,048.58	28.44	32.34	-88.44	-146.32	-2,886.28	2,743.29	2,702.63	40.66	67.467				
8,200.00	8,192.08	8,236.89	8,148.58	28.78	32.65	-88.44	-146.32	-2,886.28	2,743.29	2,702.15	41.14	66.681				
8,300.00	8,292.08	8,336.89	8,248.58	29.13	32.96	-88.44	-146.32	-2,886.28	2,743.29	2,701.67	41.62	65.913				
8,400.00	8,392.08	8,436.89	8,348.58	29.47	33.27	-88.44	-146.32	-2,886.28	2,743.29	2,701.19	42.10	65.160				
8,500.00	8,492.08	8,536.89	8,448.58	29.81	33.58	-88.44	-146.32	-2,886.28	2,743.29	2,700.71	42.58	64.424				
8,600.00	8,592.08	8,636.89	8,548.58	30.16	33.89	-88.44	-146.32	-2,886.28	2,743.29	2,700.23	43.06	63.704				
8,700.00	8,692.08	8,736.89	8,648.58	30.50	34.20	-88.44	-146.32	-2,886.28	2,743.29	2,699.75	43.55	62.999				
8,800.00	8,792.08	8,836.89	8,748.58	30.85	34.51	-88.44	-146.32	-2,886.28	2,743.29	2,699.27	44.03	62.308				
8,900.00	8,892.08	8,936.89	8,848.58	31.20	34.83	-88.44	-146.32	-2,886.28	2,743.29	2,698.78	44.51	61.632				
9,000.00	8,992.08	9,036.89	8,948.58	31.54	35.14	-88.44	-146.32	-2,886.28	2,743.29	2,698.30	44.99	60.969				
9,100.00	9,092.08	9,136.89	9,048.58	31.89	35.46	-88.44	-146.32	-2,886.28	2,743.29	2,697.82	45.48	60.320				
9,200.00	9,192.08	9,236.89	9,148.58	32.23	35.77	-88.44	-146.32	-2,886.28	2,743.29	2,697.33	45.96	59.684				
9,300.00	9,292.08	9,336.89	9,248.58	32.58	36.09	-88.44	-146.32	-2,886.28	2,743.29	2,696.85	46.45	59.060				
9,400.00	9,392.08	9,436.89	9,348.58	32.93	36.41	-88.44	-146.32	-2,886.28	2,743.29	2,696.36	46.93	58.449				
9,500.00	9,492.08	9,536.89	9,448.58	33.27	36.73	-88.44	-146.32	-2,886.28	2,743.29	2,695.87	47.42	57.850				
9,505.65	9,497.74	9,542.54	9,454.24	33.29	36.75	-88.44	-146.32	-2,886.28	2,743.29	2,695.85	47.45	57.816				
9,600.00	9,592.08	9,629.49	9,541.15	33.62	37.02	-88.41	-144.84	-2,886.29	2,743.36	2,695.47	47.89	57.280				
9,700.00	9,692.08	9,712.48	9,623.20	33.97	37.27	-88.16	-132.93	-2,886.41	2,743.94	2,695.60	48.34	56.761				
9,800.00	9,792.08	9,790.52	9,698.04	34.32	37.48	-87.70	-111.02	-2,886.63	2,745.30	2,696.53	48.77	56.288				

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,900.00	9,892.08	9,861.48	9,762.95	34.66	37.65	-87.11	-82.44	-2,886.91	2,747.75	2,698.57	49.18	55.873		
10,000.00	9,992.08	9,924.43	9,817.18	35.01	37.78	-86.44	-50.55	-2,887.23	2,751.66	2,702.10	49.56	55.525		
10,100.00	10,092.08	9,979.38	9,861.42	35.36	37.88	-85.77	-17.99	-2,887.55	2,757.41	2,707.51	49.91	55.253		
10,200.00	10,192.08	10,026.94	9,897.04	35.71	37.96	-85.12	13.50	-2,887.87	2,765.33	2,715.11	50.22	55.065		
10,300.00	10,292.08	10,067.97	9,925.58	36.06	38.01	-84.51	42.96	-2,888.16	2,775.68	2,725.19	50.50	54.968		
10,400.00	10,392.08	10,100.00	9,946.35	36.41	38.05	-84.00	67.34	-2,888.40	2,788.67	2,737.94	50.73	54.974		
10,500.00	10,492.08	10,134.03	9,966.89	36.76	38.09	-83.44	94.46	-2,888.67	2,804.42	2,753.49	50.93	55.062		
10,600.00	10,592.08	10,150.00	9,975.97	37.11	38.11	-83.17	107.60	-2,888.80	2,823.09	2,772.02	51.06	55.287		
10,700.00	10,692.08	10,183.96	9,994.03	37.46	38.14	-82.58	136.35	-2,889.09	2,844.58	2,793.38	51.21	55.550		
10,800.00	10,792.08	10,200.00	10,001.96	37.81	38.15	-82.30	150.30	-2,889.23	2,869.07	2,817.80	51.27	55.958		
10,900.00	10,892.08	10,222.48	10,012.41	38.16	38.17	-81.89	170.20	-2,889.42	2,896.48	2,845.15	51.32	56.436		
11,000.00	10,992.08	10,250.00	10,024.13	38.51	38.19	-81.38	195.09	-2,889.67	2,926.85	2,875.48	51.37	56.980		
11,100.00	11,092.08	10,250.00	10,024.13	38.86	38.19	-81.38	195.09	-2,889.67	2,959.96	2,908.66	51.30	57.700		
11,200.00	11,192.08	10,250.00	10,024.13	39.21	38.19	-81.38	195.09	-2,889.67	2,996.04	2,944.83	51.21	58.508		
11,300.00	11,292.08	10,277.29	10,034.56	39.56	38.21	-80.87	220.31	-2,889.92	3,034.58	2,983.40	51.18	59.288		
11,400.00	11,392.08	10,300.00	10,042.32	39.91	38.23	-80.44	241.65	-2,890.13	3,075.98	3,024.85	51.13	60.165		
11,500.00	11,492.08	10,300.00	10,042.32	40.26	38.23	-80.44	241.65	-2,890.13	3,119.76	3,068.77	50.98	61.192		
11,600.00	11,592.08	10,300.00	10,042.32	40.61	38.23	-80.44	241.65	-2,890.13	3,166.09	3,115.26	50.83	62.291		
11,615.96	11,608.04	10,300.00	10,042.32	40.66	38.23	-80.44	241.65	-2,890.13	3,173.71	3,122.91	50.80	62.472		
11,650.00	11,642.06	10,300.00	10,042.32	40.78	38.23	-78.07	241.65	-2,890.13	3,190.02	3,139.27	50.75	62.864		
11,700.00	11,691.78	10,300.00	10,042.32	40.95	38.23	-75.44	241.65	-2,890.13	3,213.79	3,163.13	50.66	63.443		
11,750.00	11,740.86	10,321.33	10,048.83	41.12	38.25	-72.55	261.96	-2,890.34	3,236.92	3,186.29	50.63	63.929		
11,800.00	11,788.94	10,327.94	10,050.69	41.27	38.26	-70.03	268.30	-2,890.40	3,259.59	3,209.04	50.56	64.473		
11,850.00	11,835.63	10,350.00	10,056.38	41.42	38.28	-67.45	289.61	-2,890.61	3,281.63	3,231.10	50.53	64.948		
11,900.00	11,880.59	10,350.00	10,056.38	41.55	38.28	-65.35	289.61	-2,890.61	3,302.47	3,252.04	50.43	65.486		
11,950.00	11,923.48	10,350.00	10,056.38	41.68	38.28	-63.40	289.61	-2,890.61	3,322.28	3,271.94	50.33	66.004		
12,000.00	11,963.97	10,350.00	10,056.38	41.80	38.28	-61.62	289.61	-2,890.61	3,340.93	3,290.68	50.24	66.494		
12,050.00	12,001.74	10,369.31	10,060.68	41.91	38.30	-59.83	308.43	-2,890.80	3,358.05	3,307.83	50.22	66.868		
12,100.00	12,036.53	10,378.85	10,062.57	42.02	38.31	-58.34	317.79	-2,890.89	3,373.72	3,323.55	50.17	67.242		
12,150.00	12,068.05	10,400.00	10,066.20	42.13	38.33	-56.96	338.62	-2,891.10	3,387.84	3,337.67	50.17	67.528		
12,200.00	12,096.07	10,400.00	10,066.20	42.24	38.33	-55.91	338.62	-2,891.10	3,400.06	3,349.94	50.12	67.837		
12,250.00	12,120.37	10,400.00	10,066.20	42.35	38.33	-55.02	338.62	-2,891.10	3,410.59	3,360.50	50.09	68.090		
12,300.00	12,140.78	10,419.67	10,068.89	42.47	38.35	-54.23	358.10	-2,891.29	3,419.12	3,368.99	50.13	68.209		
12,350.00	12,157.13	10,430.32	10,070.06	42.59	38.37	-53.65	368.69	-2,891.40	3,425.75	3,375.59	50.16	68.297		
12,400.00	12,169.30	10,450.00	10,071.72	42.71	38.40	-53.24	388.29	-2,891.59	3,430.43	3,380.20	50.23	68.292		
12,450.00	12,177.21	10,450.00	10,071.72	42.84	38.40	-53.04	388.29	-2,891.59	3,432.97	3,382.69	50.28	68.275		
12,500.00	12,180.78	10,450.00	10,071.72	42.96	38.40	-52.99	388.29	-2,891.59	3,433.62	3,383.27	50.35	68.190		
12,515.96	12,181.00	10,466.21	10,072.57	43.00	38.42	-53.01	404.48	-2,891.75	3,433.25	3,382.84	50.42	68.098		
12,600.00	12,181.00	10,488.35	10,073.00	43.24	38.46	-53.02	426.61	-2,891.97	3,432.15	3,381.52	50.63	67.786		
12,616.46	12,181.00	10,488.35	10,073.00	43.30	38.46	-53.02	426.61	-2,891.97	3,432.11	3,381.44	50.67	67.731		
12,700.00	12,181.00	10,570.46	10,073.00	43.58	38.63	-53.02	508.71	-2,892.79	3,432.14	3,381.10	51.05	67.235		
12,800.00	12,181.00	10,670.46	10,073.00	43.97	38.91	-53.02	608.71	-2,893.78	3,432.19	3,380.62	51.56	66.563		
12,900.00	12,181.00	10,770.46	10,073.00	44.43	39.28	-53.02	708.71	-2,894.78	3,432.23	3,380.08	52.15	65.817		
13,000.00	12,181.00	10,870.46	10,073.00	44.94	39.74	-53.02	808.70	-2,895.77	3,432.27	3,379.47	52.80	65.003		
13,100.00	12,181.00	10,970.46	10,073.00	45.50	40.27	-53.02	908.70	-2,896.77	3,432.31	3,378.79	53.52	64.131		
13,200.00	12,181.00	11,070.46	10,073.00	46.12	40.87	-53.02	1,008.69	-2,897.76	3,432.35	3,378.05	54.30	63.210		
13,300.00	12,181.00	11,170.46	10,073.00	46.79	41.54	-53.02	1,108.69	-2,898.75	3,432.40	3,377.26	55.14	62.249		
13,400.00	12,181.00	11,270.46	10,073.00	47.50	42.27	-53.02	1,208.68	-2,899.75	3,432.44	3,376.40	56.04	61.254		
13,500.00	12,181.00	11,370.46	10,073.00	48.26	43.05	-53.03	1,308.68	-2,900.74	3,432.48	3,375.49	56.99	60.233		
13,600.00	12,181.00	11,470.46	10,073.00	49.07	43.88	-53.03	1,408.67	-2,901.74	3,432.52	3,374.53	57.99	59.192		
13,700.00	12,181.00	11,570.46	10,073.00	49.91	44.76	-53.03	1,508.67	-2,902.73	3,432.56	3,373.52	59.04	58.137		
13,800.00	12,181.00	11,670.46	10,073.00	50.80	45.68	-53.03	1,608.66	-2,903.72	3,432.60	3,372.46	60.14	57.075		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design FMM Fed Com - FMM Fed Com 301H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
13,900.00	12,181.00	11,770.46	10,073.00	51.72	46.65	-53.03	1,708.66	-2,904.72	3,432.65	3,371.36	61.28	56.012		
14,000.00	12,181.00	11,870.46	10,073.00	52.68	47.65	-53.03	1,808.65	-2,905.71	3,432.69	3,370.22	62.47	54.950		
14,100.00	12,181.00	11,970.46	10,073.00	53.67	48.69	-53.03	1,908.65	-2,906.71	3,432.73	3,369.04	63.69	53.894		
14,200.00	12,181.00	12,070.46	10,073.00	54.70	49.76	-53.03	2,008.64	-2,907.70	3,432.77	3,367.82	64.95	52.849		
14,300.00	12,181.00	12,170.46	10,073.00	55.75	50.86	-53.03	2,108.64	-2,908.69	3,432.81	3,366.57	66.25	51.818		
14,400.00	12,181.00	12,270.46	10,073.00	56.84	51.99	-53.03	2,208.63	-2,909.69	3,432.86	3,365.28	67.57	50.801		
14,500.00	12,181.00	12,370.46	10,073.00	57.95	53.15	-53.03	2,308.63	-2,910.68	3,432.90	3,363.97	68.93	49.802		
14,600.00	12,181.00	12,470.46	10,073.00	59.08	54.34	-53.03	2,408.62	-2,911.68	3,432.94	3,362.62	70.32	48.820		
14,700.00	12,181.00	12,570.46	10,073.00	60.24	55.55	-53.03	2,508.62	-2,912.67	3,432.98	3,361.25	71.73	47.858		
14,800.00	12,181.00	12,670.45	10,073.00	61.42	56.78	-53.03	2,608.61	-2,913.66	3,433.02	3,359.85	73.17	46.916		
14,900.00	12,181.00	12,770.45	10,073.00	62.63	58.03	-53.03	2,708.61	-2,914.66	3,433.07	3,358.43	74.64	45.995		
15,000.00	12,181.00	12,870.45	10,073.00	63.85	59.30	-53.03	2,808.60	-2,915.65	3,433.11	3,356.98	76.13	45.096		
15,100.00	12,181.00	12,970.45	10,073.00	65.09	60.59	-53.03	2,908.60	-2,916.65	3,433.15	3,355.51	77.64	44.220		
15,200.00	12,181.00	13,070.45	10,073.00	66.35	61.90	-53.03	3,008.59	-2,917.64	3,433.19	3,354.02	79.17	43.367		
15,300.00	12,181.00	13,170.45	10,073.00	67.63	63.22	-53.03	3,108.59	-2,918.63	3,433.23	3,352.52	80.71	42.536		
15,400.00	12,181.00	13,270.45	10,073.00	68.92	64.56	-53.04	3,208.58	-2,919.63	3,433.27	3,350.99	82.28	41.727		
15,500.00	12,181.00	13,370.45	10,073.00	70.23	65.91	-53.04	3,308.58	-2,920.62	3,433.32	3,349.45	83.86	40.940		
15,600.00	12,181.00	13,470.45	10,073.00	71.55	67.27	-53.04	3,408.57	-2,921.62	3,433.36	3,347.90	85.46	40.174		
15,700.00	12,181.00	13,570.45	10,073.00	72.89	68.65	-53.04	3,508.57	-2,922.61	3,433.40	3,346.32	87.08	39.430		
15,800.00	12,181.00	13,670.45	10,073.00	74.24	70.04	-53.04	3,608.56	-2,923.60	3,433.44	3,344.74	88.71	38.706		
15,900.00	12,181.00	13,770.45	10,073.00	75.60	71.44	-53.04	3,708.56	-2,924.60	3,433.48	3,343.14	90.35	38.003		
16,000.00	12,181.00	13,870.45	10,073.00	76.97	72.85	-53.04	3,808.55	-2,925.59	3,433.53	3,341.52	92.00	37.319		
16,100.00	12,181.00	13,970.45	10,073.00	78.35	74.28	-53.04	3,908.55	-2,926.59	3,433.57	3,339.90	93.67	36.655		
16,200.00	12,181.00	14,070.45	10,073.00	79.75	75.71	-53.04	4,008.54	-2,927.58	3,433.61	3,338.26	95.35	36.011		
16,300.00	12,181.00	14,170.45	10,073.00	81.15	77.15	-53.04	4,108.54	-2,928.57	3,433.65	3,336.62	97.04	35.385		
16,400.00	12,181.00	14,270.45	10,073.00	82.56	78.59	-53.04	4,208.53	-2,929.57	3,433.69	3,334.96	98.74	34.777		
16,500.00	12,181.00	14,370.45	10,073.00	83.98	80.05	-53.04	4,308.53	-2,930.56	3,433.74	3,333.29	100.45	34.185		
16,600.00	12,181.00	14,470.45	10,073.00	85.41	81.51	-53.04	4,408.52	-2,931.56	3,433.78	3,331.61	102.16	33.610		
16,700.00	12,181.00	14,570.45	10,073.00	86.85	82.98	-53.04	4,508.52	-2,932.55	3,433.82	3,329.93	103.89	33.053		
16,800.00	12,181.00	14,670.45	10,073.00	88.29	84.46	-53.04	4,608.51	-2,933.54	3,433.86	3,328.24	105.62	32.511		
16,900.00	12,181.00	14,770.45	10,073.00	89.74	85.94	-53.04	4,708.51	-2,934.54	3,433.90	3,326.54	107.36	31.984		
17,000.00	12,181.00	14,870.45	10,073.00	91.20	87.43	-53.04	4,808.50	-2,935.53	3,433.95	3,324.83	109.11	31.471		
17,100.00	12,181.00	14,970.45	10,073.00	92.67	88.93	-53.04	4,908.50	-2,936.53	3,433.99	3,323.12	110.87	30.973		
17,200.00	12,181.00	15,070.45	10,073.00	94.14	90.43	-53.04	5,008.49	-2,937.52	3,434.03	3,321.39	112.63	30.488		
17,300.00	12,181.00	15,170.45	10,073.00	95.62	91.94	-53.05	5,108.49	-2,938.51	3,434.07	3,319.67	114.41	30.017		
17,400.00	12,181.00	15,270.45	10,073.00	97.10	93.45	-53.05	5,208.48	-2,939.51	3,434.11	3,317.93	116.18	29.558		
17,500.00	12,181.00	15,370.45	10,073.00	98.59	94.96	-53.05	5,308.48	-2,940.50	3,434.15	3,316.19	117.96	29.112		
17,600.00	12,181.00	15,470.45	10,073.00	100.08	96.48	-53.05	5,408.47	-2,941.50	3,434.20	3,314.44	119.75	28.677		
17,700.00	12,181.00	15,570.45	10,073.00	101.58	98.01	-53.05	5,508.47	-2,942.49	3,434.24	3,312.69	121.55	28.254		
17,800.00	12,181.00	15,670.45	10,073.00	103.08	99.53	-53.05	5,608.46	-2,943.48	3,434.28	3,310.94	123.34	27.843		
17,900.00	12,181.00	15,770.45	10,073.00	104.59	101.07	-53.05	5,708.46	-2,944.48	3,434.32	3,309.18	125.15	27.442		
18,000.00	12,181.00	15,870.45	10,073.00	106.10	102.60	-53.05	5,808.45	-2,945.47	3,434.36	3,307.41	126.96	27.052		
18,100.00	12,181.00	15,970.45	10,073.00	107.62	104.14	-53.05	5,908.45	-2,946.47	3,434.41	3,305.64	128.77	26.672		
18,200.00	12,181.00	16,070.45	10,073.00	109.14	105.68	-53.05	6,008.44	-2,947.46	3,434.45	3,303.87	130.58	26.301		
18,300.00	12,181.00	16,170.45	10,073.00	110.66	107.23	-53.05	6,108.44	-2,948.45	3,434.49	3,302.09	132.40	25.940		
18,400.00	12,181.00	16,270.45	10,073.00	112.19	108.78	-53.05	6,208.43	-2,949.45	3,434.53	3,300.31	134.22	25.588		
18,500.00	12,181.00	16,370.45	10,073.00	113.72	110.33	-53.05	6,308.43	-2,950.44	3,434.57	3,298.53	136.05	25.245		
18,600.00	12,181.00	16,470.45	10,073.00	115.25	111.89	-53.05	6,408.42	-2,951.44	3,434.62	3,296.74	137.88	24.910		
18,700.00	12,181.00	16,570.45	10,073.00	116.79	113.45	-53.05	6,508.42	-2,952.43	3,434.66	3,294.94	139.71	24.584		
18,800.00	12,181.00	16,670.45	10,073.00	118.33	115.01	-53.05	6,608.41	-2,953.42	3,434.70	3,293.15	141.55	24.265		
18,900.00	12,181.00	16,770.45	10,073.00	119.87	116.57	-53.05	6,708.41	-2,954.42	3,434.74	3,291.35	143.39	23.954		
19,000.00	12,181.00	16,870.45	10,073.00	121.42	118.13	-53.05	6,808.40	-2,955.41	3,434.78	3,289.55	145.24	23.650		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,100.00	12,181.00	16,970.45	10,073.00	122.97	119.70	-53.05	6,908.40	-2,956.41	3,434.83	3,287.74	147.08	23.353		
19,200.00	12,181.00	17,070.45	10,073.00	124.52	121.27	-53.06	7,008.39	-2,957.40	3,434.87	3,285.93	148.93	23.063		
19,300.00	12,181.00	17,170.45	10,073.00	126.08	122.84	-53.06	7,108.39	-2,958.39	3,434.91	3,284.13	150.78	22.781		
19,400.00	12,181.00	17,270.45	10,073.00	127.63	124.42	-53.06	7,208.38	-2,959.39	3,434.95	3,282.31	152.64	22.504		
19,500.00	12,181.00	17,370.45	10,073.00	129.19	125.99	-53.06	7,308.38	-2,960.38	3,434.99	3,280.50	154.49	22.234		
19,600.00	12,181.00	17,470.45	10,073.00	130.75	127.57	-53.06	7,408.37	-2,961.38	3,435.03	3,278.69	156.35	21.970		
19,700.00	12,181.00	17,570.45	10,073.00	132.32	129.15	-53.06	7,508.37	-2,962.37	3,435.08	3,276.87	158.21	21.712		
19,800.00	12,181.00	17,670.45	10,073.00	133.88	130.73	-53.06	7,608.36	-2,963.36	3,435.12	3,275.05	160.07	21.460		
19,900.00	12,181.00	17,770.45	10,073.00	135.45	132.32	-53.06	7,708.36	-2,964.36	3,435.16	3,273.23	161.93	21.213		
20,000.00	12,181.00	17,870.45	10,073.00	137.02	133.90	-53.06	7,808.35	-2,965.35	3,435.20	3,271.40	163.80	20.972		
20,100.00	12,181.00	17,970.45	10,073.00	138.59	135.49	-53.06	7,908.35	-2,966.35	3,435.24	3,269.58	165.67	20.736		
20,200.00	12,181.00	18,070.45	10,073.00	140.17	137.08	-53.06	8,008.34	-2,967.34	3,435.29	3,267.75	167.54	20.504		
20,300.00	12,181.00	18,170.45	10,073.00	141.74	138.67	-53.06	8,108.34	-2,968.33	3,435.33	3,265.92	169.41	20.278		
20,400.00	12,181.00	18,270.45	10,073.00	143.32	140.26	-53.06	8,208.33	-2,969.33	3,435.37	3,264.08	171.29	20.056		
20,500.00	12,181.00	18,370.45	10,073.00	144.90	141.85	-53.06	8,308.33	-2,970.32	3,435.41	3,262.25	173.16	19.839		
20,600.00	12,181.00	18,470.45	10,073.00	146.48	143.45	-53.06	8,408.32	-2,971.32	3,435.45	3,260.41	175.04	19.627		
20,700.00	12,181.00	18,570.45	10,073.00	148.06	145.04	-53.06	8,508.32	-2,972.31	3,435.50	3,258.58	176.92	19.418		
20,800.00	12,181.00	18,670.45	10,073.00	149.64	146.64	-53.06	8,608.31	-2,973.30	3,435.54	3,256.74	178.80	19.215		
20,900.00	12,181.00	18,770.45	10,073.00	151.23	148.24	-53.06	8,708.31	-2,974.30	3,435.58	3,254.90	180.68	19.015		
21,000.00	12,181.00	18,870.45	10,073.00	152.81	149.83	-53.06	8,808.30	-2,975.29	3,435.62	3,253.06	182.56	18.819		
21,100.00	12,181.00	18,970.45	10,073.00	154.40	151.43	-53.07	8,908.30	-2,976.29	3,435.66	3,251.22	184.44	18.627		
21,200.00	12,181.00	19,070.45	10,073.00	155.99	153.04	-53.07	9,008.29	-2,977.28	3,435.71	3,249.38	186.33	18.439		
21,300.00	12,181.00	19,170.45	10,073.00	157.58	154.64	-53.07	9,108.29	-2,978.27	3,435.75	3,247.54	188.21	18.255		
21,400.00	12,181.00	19,270.45	10,073.00	159.17	156.24	-53.07	9,208.28	-2,979.27	3,435.79	3,245.69	190.10	18.074		
21,500.00	12,181.00	19,370.45	10,073.00	160.77	157.85	-53.07	9,308.28	-2,980.26	3,435.83	3,243.85	191.98	17.896		
21,600.00	12,181.00	19,470.45	10,073.00	162.36	159.45	-53.07	9,408.27	-2,981.26	3,435.87	3,242.00	193.87	17.722		
21,700.00	12,181.00	19,570.45	10,073.00	163.96	161.06	-53.07	9,508.27	-2,982.25	3,435.91	3,240.15	195.76	17.551		
21,800.00	12,181.00	19,670.45	10,073.00	165.55	162.66	-53.07	9,608.26	-2,983.24	3,435.96	3,238.30	197.66	17.384		
21,900.00	12,181.00	19,770.45	10,073.00	167.15	164.27	-53.07	9,708.26	-2,984.24	3,436.00	3,236.45	199.55	17.219		
22,000.00	12,181.00	19,870.45	10,073.00	168.75	165.88	-53.07	9,808.25	-2,985.23	3,436.04	3,234.60	201.44	17.057		
22,100.00	12,181.00	19,970.45	10,073.00	170.35	167.49	-53.07	9,908.25	-2,986.23	3,436.08	3,232.75	203.34	16.898		
22,200.00	12,181.00	20,070.45	10,073.00	171.95	169.10	-53.07	10,008.24	-2,987.22	3,436.12	3,230.89	205.23	16.743		
22,306.42	12,181.00	20,176.87	10,073.00	173.65	170.82	-53.07	10,114.66	-2,988.28	3,436.17	3,228.92	207.25	16.580 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-88.30	57.15	-1,924.15	1,925.45					
100.00	100.00	58.20	58.20	0.13	0.07	-88.30	57.15	-1,924.15	1,925.00	1,924.85	0.15	N/A		
200.00	200.00	158.20	158.20	0.48	0.33	-88.30	57.15	-1,924.15	1,925.00	1,924.41	0.59	3,273.469		
300.00	300.00	258.20	258.20	0.84	0.69	-88.30	57.15	-1,924.15	1,925.00	1,923.91	1.09	1,765.160		
400.00	400.00	358.20	358.20	1.20	1.05	-88.30	57.15	-1,924.15	1,925.00	1,923.40	1.60	1,206.238		
500.00	500.00	458.20	458.20	1.56	1.41	-88.30	57.15	-1,924.15	1,925.00	1,922.89	2.10	915.804		
600.00	600.00	558.20	558.20	1.92	1.77	-88.30	57.15	-1,924.15	1,925.00	1,922.39	2.61	737.996		
700.00	700.00	658.20	658.20	2.28	2.13	-88.30	57.15	-1,924.15	1,925.00	1,921.88	3.12	617.973		
800.00	800.00	758.20	758.20	2.63	2.48	-88.30	57.15	-1,924.15	1,925.00	1,921.37	3.62	531.515		
900.00	900.00	858.20	858.20	2.99	2.84	-88.30	57.15	-1,924.15	1,925.00	1,920.87	4.13	466.272		
1,000.00	1,000.00	958.20	958.20	3.35	3.20	-88.30	57.15	-1,924.15	1,925.00	1,920.36	4.64	415.292		
1,100.00	1,100.00	1,058.20	1,058.20	3.71	3.56	-88.30	57.15	-1,924.15	1,925.00	1,919.85	5.14	374.358		
1,200.00	1,200.00	1,158.20	1,158.20	4.07	3.92	-88.30	57.15	-1,924.15	1,925.00	1,919.35	5.65	340.769		
1,300.00	1,300.00	1,258.20	1,258.20	4.43	4.28	-88.30	57.15	-1,924.15	1,925.00	1,918.84	6.16	312.710		
1,400.00	1,400.00	1,358.20	1,358.20	4.79	4.64	-88.30	57.15	-1,924.15	1,925.00	1,918.33	6.66	288.920		
1,500.00	1,500.00	1,458.20	1,458.20	5.14	4.99	-88.30	57.15	-1,924.15	1,925.00	1,917.83	7.17	268.493		
1,600.00	1,600.00	1,558.20	1,558.20	5.50	5.35	-88.30	57.15	-1,924.15	1,925.00	1,917.32	7.68	250.764		
1,700.00	1,700.00	1,658.20	1,658.20	5.86	5.71	-88.30	57.15	-1,924.15	1,925.00	1,916.81	8.18	235.230		
1,800.00	1,800.00	1,758.20	1,758.20	6.22	6.07	-88.30	57.15	-1,924.15	1,925.00	1,916.31	8.69	221.509		
1,900.00	1,900.00	1,858.20	1,858.20	6.58	6.43	-88.30	57.15	-1,924.15	1,925.00	1,915.80	9.20	209.300		
2,000.00	2,000.00	1,958.20	1,958.20	6.94	6.79	-88.30	57.15	-1,924.15	1,925.00	1,915.29	9.70	198.367		
2,100.00	2,100.00	2,105.82	2,105.81	7.29	7.30	-88.32	56.45	-1,922.86	1,924.28	1,913.96	10.32	186.485		
2,200.00	2,200.00	2,287.18	2,286.91	7.65	7.91	-88.44	52.02	-1,914.66	1,919.68	1,908.70	10.98	174.759		
2,300.00	2,300.00	2,467.26	2,466.09	8.01	8.53	-88.69	43.57	-1,899.04	1,910.89	1,899.25	11.64	164.185		
2,400.00	2,400.00	2,570.46	2,568.50	8.37	8.90	-88.86	37.47	-1,887.77	1,899.81	1,887.67	12.14	156.512		
2,500.00	2,499.99	2,669.66	2,666.92	8.71	9.25	-88.06	31.60	-1,876.92	1,888.06	1,875.44	12.62	149.595		
2,600.00	2,599.91	2,768.76	2,765.26	9.04	9.61	-88.16	25.73	-1,866.08	1,874.94	1,861.85	13.10	143.180		
2,633.40	2,633.25	2,801.83	2,798.07	9.15	9.73	-88.21	23.78	-1,862.46	1,870.26	1,857.00	13.25	141.110		
2,700.00	2,699.73	2,867.75	2,863.48	9.37	9.97	-88.20	19.88	-1,855.25	1,860.76	1,847.19	13.57	137.108		
2,800.00	2,799.54	2,966.73	2,961.69	9.70	10.34	-88.18	14.02	-1,844.43	1,846.50	1,832.45	14.05	131.417		
2,900.00	2,899.36	3,065.70	3,059.90	10.04	10.70	-88.17	8.16	-1,833.61	1,832.25	1,817.71	14.53	126.073		
3,000.00	2,999.17	3,164.68	3,158.11	10.37	11.08	-88.15	2.31	-1,822.78	1,817.99	1,802.97	15.02	121.049		
3,100.00	3,098.98	3,263.66	3,256.31	10.71	11.45	-88.13	-3.55	-1,811.96	1,803.73	1,788.22	15.51	116.320		
3,200.00	3,198.80	3,362.64	3,354.52	11.06	11.82	-88.11	-9.41	-1,801.13	1,789.47	1,773.48	16.00	111.863		
3,300.00	3,298.61	3,461.61	3,452.73	11.40	12.20	-88.10	-15.26	-1,790.31	1,775.22	1,758.73	16.49	107.657		
3,400.00	3,398.42	3,560.59	3,550.94	11.75	12.58	-88.08	-21.12	-1,779.49	1,760.96	1,743.97	16.98	103.683		
3,500.00	3,498.24	3,659.57	3,649.15	12.10	12.96	-88.06	-26.97	-1,768.66	1,746.70	1,729.22	17.48	99.923		
3,600.00	3,598.05	3,758.54	3,747.36	12.44	13.35	-88.04	-32.83	-1,757.84	1,732.44	1,714.47	17.98	96.362		
3,700.00	3,697.86	3,857.52	3,845.57	12.79	13.73	-88.02	-38.69	-1,747.01	1,718.19	1,699.71	18.48	92.985		
3,800.00	3,797.68	3,956.50	3,943.78	13.15	14.12	-88.00	-44.54	-1,736.19	1,703.93	1,684.95	18.98	89.779		
3,900.00	3,897.49	4,055.47	4,041.99	13.50	14.50	-87.99	-50.40	-1,725.36	1,689.67	1,670.19	19.48	86.733		
4,000.00	3,997.30	4,154.45	4,140.19	13.85	14.89	-87.97	-56.26	-1,714.54	1,675.42	1,655.43	19.98	83.834		
4,100.00	4,097.12	4,253.43	4,238.40	14.21	15.28	-87.95	-62.11	-1,703.72	1,661.16	1,640.67	20.49	81.073		
4,200.00	4,196.93	4,352.40	4,336.61	14.56	15.67	-87.93	-67.97	-1,692.89	1,646.91	1,625.91	21.00	78.441		
4,300.00	4,296.74	4,451.38	4,434.82	14.92	16.06	-87.90	-73.83	-1,682.07	1,632.65	1,611.15	21.50	75.930		
4,400.00	4,396.56	4,550.36	4,533.03	15.28	16.45	-87.88	-79.68	-1,671.24	1,618.40	1,596.39	22.01	73.531		
4,500.00	4,496.37	4,649.34	4,631.24	15.64	16.84	-87.86	-85.54	-1,660.42	1,604.14	1,581.62	22.52	71.238		
4,600.00	4,496.18	4,748.31	4,729.45	15.99	17.23	-87.84	-91.39	-1,649.60	1,589.89	1,566.86	23.03	69.043		
4,700.00	4,496.00	4,847.29	4,827.66	16.35	17.63	-87.82	-97.25	-1,638.77	1,575.63	1,552.09	23.54	66.941		
4,800.00	4,495.81	4,946.27	4,925.86	16.71	18.02	-87.80	-103.11	-1,627.95	1,561.38	1,537.33	24.05	64.927		
4,900.00	4,495.62	5,045.24	5,024.07	17.07	18.42	-87.77	-108.96	-1,617.12	1,547.12	1,522.56	24.56	62.994		
5,000.00	4,995.44	5,144.22	5,122.28	17.44	18.81	-87.75	-114.82	-1,606.30	1,532.87	1,507.80	25.07	61.139		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 302H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre		Between	Between	Minimum	Separation				
Depth (usft)	Depth (usft)	Depth (usft)	Depth (usft)	(usft)	(usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Centres (usft)	Ellipses (usft)	Separation (usft)	Factor				
5,100.00	5,095.25	5,243.20	5,220.49	17.80	19.21	57.72	-120.68	-1,595.48	1,518.61	1,493.03	25.58	59.357				
5,200.00	5,195.07	5,342.17	5,318.70	18.16	19.60	57.70	-126.53	-1,584.65	1,504.36	1,478.26	26.10	57.644				
5,300.00	5,294.88	5,441.15	5,416.91	18.52	20.00	57.68	-132.39	-1,573.83	1,490.11	1,463.50	26.61	55.995				
5,400.00	5,394.69	5,540.13	5,515.12	18.88	20.40	57.65	-138.25	-1,563.00	1,475.86	1,448.73	27.13	54.408				
5,500.00	5,494.51	5,639.10	5,613.33	19.25	20.79	57.62	-144.10	-1,552.18	1,461.60	1,433.96	27.64	52.880				
5,600.00	5,594.32	5,738.08	5,711.54	19.61	21.19	57.60	-149.96	-1,541.35	1,447.35	1,419.19	28.16	51.406				
5,700.00	5,694.13	5,837.06	5,809.74	19.98	21.59	57.57	-155.81	-1,530.53	1,433.10	1,404.43	28.67	49.984				
5,800.00	5,793.95	5,936.04	5,907.95	20.34	21.99	57.54	-161.67	-1,519.71	1,418.85	1,389.66	29.19	48.612				
5,900.00	5,893.76	6,035.01	6,006.16	20.70	22.39	57.52	-167.53	-1,508.88	1,404.60	1,374.89	29.70	47.287				
6,000.00	5,993.57	6,133.99	6,104.37	21.07	22.79	57.49	-173.38	-1,498.06	1,390.34	1,360.12	30.22	46.007				
6,100.00	6,093.39	6,232.97	6,202.58	21.43	23.19	57.46	-179.24	-1,487.23	1,376.09	1,345.36	30.74	44.770				
6,200.00	6,193.20	6,331.94	6,300.79	21.80	23.59	57.43	-185.10	-1,476.41	1,361.84	1,330.59	31.25	43.572				
6,300.00	6,293.01	6,430.92	6,399.00	22.17	23.99	57.40	-190.95	-1,465.59	1,347.59	1,315.82	31.77	42.414				
6,400.00	6,392.83	6,529.90	6,497.21	22.53	24.39	57.37	-196.81	-1,454.76	1,333.34	1,301.05	32.29	41.292				
6,500.00	6,492.64	6,628.87	6,595.42	22.90	24.79	57.34	-202.66	-1,443.94	1,319.09	1,286.29	32.81	40.205				
6,600.00	6,592.45	6,727.85	6,693.62	23.26	25.19	57.30	-208.52	-1,433.11	1,304.85	1,271.52	33.33	39.152				
6,700.00	6,692.27	6,826.83	6,791.83	23.63	25.59	57.27	-214.38	-1,422.29	1,290.60	1,256.75	33.85	38.130				
6,719.52	6,711.75	6,846.15	6,811.00	23.70	25.67	57.26	-215.52	-1,420.18	1,287.82	1,253.87	33.95	37.935				
6,800.00	6,792.13	6,920.12	6,884.41	24.00	25.96	57.07	-219.87	-1,412.13	1,276.86	1,242.50	34.36	37.162				
6,900.00	6,892.09	7,000.00	6,963.81	24.35	26.28	56.82	-224.01	-1,404.48	1,265.79	1,230.94	34.85	36.320				
6,952.92	6,945.00	7,037.77	7,001.42	24.54	26.43	-90.21	-225.69	-1,401.37	1,261.21	1,226.11	35.10	35.935				
7,000.00	6,992.08	7,074.15	7,037.67	24.69	26.56	-90.28	-227.15	-1,398.69	1,257.74	1,222.43	35.32	35.615				
7,100.00	7,092.08	7,151.60	7,114.93	25.03	26.85	-90.40	-229.69	-1,393.99	1,251.69	1,215.91	35.77	34.992				
7,200.00	7,192.08	7,229.23	7,192.47	25.37	27.13	-90.48	-231.49	-1,390.65	1,247.41	1,211.20	36.22	34.444				
7,300.00	7,292.08	7,300.00	7,263.21	25.71	27.38	-90.53	-232.48	-1,388.83	1,244.95	1,208.32	36.63	33.987				
7,400.00	7,392.08	7,387.08	7,350.28	26.05	27.67	-90.55	-232.85	-1,388.15	1,244.20	1,207.13	37.07	33.560				
7,500.00	7,492.08	7,487.08	7,450.28	26.39	27.99	-90.55	-232.85	-1,388.15	1,244.20	1,206.65	37.55	33.135				
7,600.00	7,592.08	7,587.08	7,550.28	26.73	28.31	-90.55	-232.85	-1,388.15	1,244.20	1,206.18	38.03	32.719				
7,700.00	7,692.08	7,687.08	7,650.28	27.07	28.64	-90.55	-232.85	-1,388.15	1,244.20	1,205.70	38.50	32.313				
7,800.00	7,792.08	7,787.08	7,750.28	27.41	28.96	-90.55	-232.85	-1,388.15	1,244.20	1,205.22	38.98	31.916				
7,900.00	7,892.08	7,887.08	7,850.28	27.76	29.29	-90.55	-232.85	-1,388.15	1,244.20	1,204.74	39.46	31.529				
8,000.00	7,992.08	7,987.08	7,950.28	28.10	29.61	-90.55	-232.85	-1,388.15	1,244.20	1,204.26	39.94	31.150				
8,100.00	8,092.08	8,087.08	8,050.28	28.44	29.94	-90.55	-232.85	-1,388.15	1,244.20	1,203.78	40.42	30.779				
8,200.00	8,192.08	8,187.08	8,150.28	28.78	30.27	-90.55	-232.85	-1,388.15	1,244.20	1,203.30	40.90	30.417				
8,300.00	8,292.08	8,287.08	8,250.28	29.13	30.59	-90.55	-232.85	-1,388.15	1,244.20	1,202.82	41.39	30.063				
8,400.00	8,392.08	8,387.08	8,350.28	29.47	30.92	-90.55	-232.85	-1,388.15	1,244.20	1,202.34	41.87	29.717				
8,500.00	8,492.08	8,487.08	8,450.28	29.81	31.25	-90.55	-232.85	-1,388.15	1,244.20	1,201.85	42.35	29.378				
8,600.00	8,592.08	8,587.08	8,550.28	30.16	31.58	-90.55	-232.85	-1,388.15	1,244.20	1,201.37	42.84	29.046				
8,700.00	8,692.08	8,687.08	8,650.28	30.50	31.91	-90.55	-232.85	-1,388.15	1,244.20	1,200.88	43.32	28.722				
8,800.00	8,792.08	8,787.08	8,750.28	30.85	32.24	-90.55	-232.85	-1,388.15	1,244.20	1,200.40	43.80	28.404				
8,900.00	8,892.08	8,887.08	8,850.28	31.20	32.58	-90.55	-232.85	-1,388.15	1,244.20	1,199.92	44.29	28.093				
9,000.00	8,992.08	8,987.08	8,950.28	31.54	32.91	-90.55	-232.85	-1,388.15	1,244.20	1,199.43	44.77	27.788				
9,100.00	9,092.08	9,087.08	9,050.28	31.89	33.24	-90.55	-232.85	-1,388.15	1,244.20	1,198.94	45.26	27.490				
9,200.00	9,192.08	9,187.08	9,150.28	32.23	33.57	-90.55	-232.85	-1,388.15	1,244.20	1,198.46	45.75	27.197				
9,300.00	9,292.08	9,287.08	9,250.28	32.58	33.91	-90.55	-232.85	-1,388.15	1,244.20	1,197.97	46.23	26.911				
9,400.00	9,392.08	9,387.08	9,350.28	32.93	34.24	-90.55	-232.85	-1,388.15	1,244.20	1,197.48	46.72	26.630				
9,408.30	9,400.38	9,395.38	9,358.58	32.96	34.27	-90.55	-232.85	-1,388.15	1,244.20	1,197.44	46.76	26.607 CC				
9,500.00	9,492.08	9,486.78	9,449.86	33.27	34.57	-90.39	-229.50	-1,388.18	1,244.21	1,197.01	47.20	26.359				
9,600.00	9,592.08	9,582.80	9,544.01	33.62	34.85	-89.55	-211.21	-1,388.36	1,244.42	1,196.78	47.64	26.121 ES				
9,700.00	9,692.08	9,670.57	9,626.31	33.97	35.08	-88.16	-180.96	-1,388.66	1,245.54	1,197.52	48.02	25.936				
9,800.00	9,792.08	9,750.00	9,696.02	34.32	35.24	-86.42	-143.04	-1,389.04	1,248.66	1,200.31	48.35	25.827				
9,900.00	9,892.08	9,813.53	9,747.60	34.66	35.35	-84.72	-105.99	-1,389.41	1,254.92	1,206.35	48.56	25.840				

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,000.00	9,992.08	9,869.16	9,789.15	35.01	35.43	-83.05	-69.04	-1,389.78	1,265.32	1,216.64	48.68	25.994		
10,100.00	10,092.08	9,915.92	9,821.16	35.36	35.48	-81.51	-34.98	-1,390.12	1,280.59	1,231.93	48.66	26.318		
10,200.00	10,192.08	9,950.00	9,842.70	35.71	35.51	-80.33	-8.57	-1,390.38	1,301.23	1,252.76	48.47	26.848		
10,300.00	10,292.08	9,988.55	9,865.11	36.06	35.53	-78.94	22.79	-1,390.69	1,327.42	1,279.22	48.20	27.541		
10,400.00	10,392.08	10,016.89	9,880.21	36.41	35.55	-77.88	46.76	-1,390.93	1,359.23	1,311.45	47.78	28.450		
10,500.00	10,492.08	10,050.00	9,896.33	36.76	35.56	-76.62	75.67	-1,391.22	1,396.58	1,349.27	47.31	29.519		
10,600.00	10,592.08	10,050.00	9,896.33	37.11	35.56	-76.62	75.67	-1,391.22	1,439.18	1,392.61	46.57	30.907		
10,700.00	10,692.08	10,080.49	9,909.68	37.46	35.56	-75.44	103.09	-1,391.49	1,486.53	1,440.53	46.00	32.315		
10,800.00	10,792.08	10,100.00	9,917.45	37.81	35.57	-74.67	120.98	-1,391.67	1,538.59	1,493.24	45.35	33.927		
10,900.00	10,892.08	10,100.00	9,917.45	38.16	35.57	-74.67	120.98	-1,391.67	1,594.94	1,550.36	44.57	35.783		
11,000.00	10,992.08	10,123.26	9,925.90	38.51	35.57	-73.75	142.64	-1,391.89	1,654.94	1,610.96	43.98	37.628		
11,100.00	11,092.08	10,150.00	9,934.53	38.86	35.57	-72.69	167.95	-1,392.14	1,718.73	1,675.29	43.44	39.563		
11,200.00	11,192.08	10,150.00	9,934.53	39.21	35.57	-72.69	167.95	-1,392.14	1,785.27	1,742.50	42.77	41.737		
11,300.00	11,292.08	10,150.00	9,934.53	39.56	35.57	-72.69	167.95	-1,392.14	1,854.82	1,812.66	42.16	43.998		
11,400.00	11,392.08	10,150.00	9,934.53	39.91	35.57	-72.69	167.95	-1,392.14	1,927.04	1,885.45	41.60	46.327		
11,500.00	11,492.08	10,169.43	9,940.05	40.26	35.57	-71.92	186.58	-1,392.33	2,001.31	1,960.10	41.21	48.568		
11,600.00	11,592.08	10,176.29	9,941.85	40.61	35.57	-71.64	193.20	-1,392.39	2,077.76	2,036.97	40.79	50.933		
11,615.96	11,608.04	10,177.33	9,942.12	40.66	35.57	-71.60	194.20	-1,392.40	2,090.14	2,049.41	40.73	51.314		
11,650.00	11,642.06	10,179.75	9,942.73	40.78	35.57	-67.09	196.54	-1,392.42	2,116.48	2,075.87	40.60	52.126		
11,700.00	11,691.78	10,200.00	9,947.45	40.95	35.57	-61.10	216.23	-1,392.62	2,154.84	2,114.35	40.50	53.209		
11,750.00	11,740.86	10,200.00	9,947.45	41.12	35.57	-56.37	216.23	-1,392.62	2,191.94	2,151.65	40.29	54.405		
11,800.00	11,788.94	10,200.00	9,947.45	41.27	35.57	-52.17	216.23	-1,392.62	2,227.92	2,187.84	40.09	55.579		
11,850.00	11,835.63	10,200.00	9,947.45	41.42	35.57	-48.47	216.23	-1,392.62	2,262.57	2,222.68	39.89	56.722		
11,900.00	11,880.59	10,200.00	9,947.45	41.55	35.57	-45.24	216.23	-1,392.62	2,295.69	2,255.99	39.70	57.825		
11,950.00	11,923.48	10,200.00	9,947.45	41.68	35.57	-42.45	216.23	-1,392.62	2,327.11	2,287.58	39.52	58.879		
12,000.00	11,963.97	10,224.25	9,952.19	41.80	35.57	-39.74	240.01	-1,392.86	2,356.09	2,316.63	39.45	59.720		
12,050.00	12,001.74	10,250.00	9,956.12	41.91	35.58	-37.45	265.46	-1,393.11	2,383.41	2,344.03	39.39	60.511		
12,100.00	12,036.53	10,250.00	9,956.12	42.02	35.58	-35.77	265.46	-1,393.11	2,407.91	2,368.67	39.24	61.359		
12,150.00	12,068.05	10,250.00	9,956.12	42.13	35.58	-34.35	265.46	-1,393.11	2,430.09	2,390.97	39.12	62.122		
12,200.00	12,096.07	10,250.00	9,956.12	42.24	35.58	-33.15	265.46	-1,393.11	2,449.85	2,410.83	39.02	62.791		
12,250.00	12,120.37	10,270.27	9,958.40	42.35	35.59	-32.07	285.59	-1,393.31	2,466.70	2,427.72	38.98	63.273		
12,300.00	12,140.78	10,280.25	9,959.26	42.47	35.61	-31.25	295.53	-1,393.41	2,480.88	2,441.93	38.95	63.697		
12,350.00	12,157.13	10,300.00	9,960.46	42.59	35.65	-30.60	315.25	-1,393.61	2,492.29	2,453.34	38.95	63.987		
12,400.00	12,169.30	10,300.00	9,960.46	42.71	35.65	-30.17	315.25	-1,393.61	2,500.60	2,461.66	38.94	64.212		
12,450.00	12,177.21	10,311.01	9,960.83	42.84	35.67	-29.88	326.25	-1,393.72	2,506.05	2,467.07	38.98	64.290		
12,500.00	12,180.78	10,324.84	9,961.00	42.96	35.71	-29.75	340.08	-1,393.85	2,508.52	2,469.47	39.05	64.246		
12,515.96	12,181.00	10,324.84	9,961.00	43.00	35.71	-29.74	340.08	-1,393.85	2,508.66	2,469.59	39.07	64.210		
12,600.00	12,181.00	10,408.34	9,961.00	43.24	35.97	-29.74	423.58	-1,394.69	2,508.68	2,469.41	39.27	63.881		
12,700.00	12,181.00	10,508.34	9,961.00	43.58	36.36	-29.74	523.57	-1,395.68	2,508.71	2,469.15	39.56	63.414		
12,800.00	12,181.00	10,608.34	9,961.00	43.97	36.82	-29.74	623.57	-1,396.68	2,508.74	2,468.83	39.91	62.867		
12,900.00	12,181.00	10,708.34	9,961.00	44.43	37.34	-29.75	723.56	-1,397.67	2,508.76	2,468.46	40.30	62.248		
13,000.00	12,181.00	10,808.34	9,961.00	44.94	37.92	-29.75	823.56	-1,398.67	2,508.79	2,468.04	40.75	61.565		
13,100.00	12,181.00	10,908.34	9,961.00	45.50	38.56	-29.75	923.55	-1,399.66	2,508.82	2,467.57	41.25	60.823		
13,200.00	12,181.00	11,008.34	9,961.00	46.12	39.25	-29.75	1,023.55	-1,400.66	2,508.84	2,467.05	41.79	60.031		
13,300.00	12,181.00	11,108.34	9,961.00	46.79	40.00	-29.75	1,123.54	-1,401.66	2,508.87	2,466.49	42.38	59.194		
13,400.00	12,181.00	11,208.34	9,961.00	47.50	40.80	-29.75	1,223.54	-1,402.65	2,508.90	2,465.88	43.02	58.321		
13,500.00	12,181.00	11,308.34	9,961.00	48.26	41.65	-29.75	1,323.53	-1,403.65	2,508.92	2,465.23	43.70	57.418		
13,600.00	12,181.00	11,408.34	9,961.00	49.07	42.55	-29.75	1,423.53	-1,404.64	2,508.95	2,464.54	44.41	56.491		
13,700.00	12,181.00	11,508.34	9,961.00	49.91	43.49	-29.75	1,523.52	-1,405.64	2,508.98	2,463.81	45.17	55.546		
13,800.00	12,181.00	11,608.34	9,961.00	50.80	44.47	-29.76	1,623.52	-1,406.64	2,509.01	2,463.04	45.96	54.590		
13,900.00	12,181.00	11,708.34	9,961.00	51.72	45.49	-29.76	1,723.51	-1,407.63	2,509.03	2,462.24	46.79	53.626		
14,000.00	12,181.00	11,808.34	9,961.00	52.68	46.55	-29.76	1,823.51	-1,408.63	2,509.06	2,461.42	47.64	52.662		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,100.00	12,181.00	11,908.34	9,961.00	53.67	47.63	-29.76	1,923.50	-1,409.62	2,509.09	2,460.55	48.53	51.700		
14,200.00	12,181.00	12,008.34	9,961.00	54.70	48.75	-29.76	2,023.50	-1,410.62	2,509.11	2,459.66	49.45	50.741		
14,300.00	12,181.00	12,108.34	9,961.00	55.75	49.90	-29.76	2,123.49	-1,411.61	2,509.14	2,458.75	50.39	49.791		
14,400.00	12,181.00	12,208.34	9,961.00	56.84	51.08	-29.76	2,223.49	-1,412.61	2,509.17	2,457.80	51.36	48.850		
14,500.00	12,181.00	12,308.34	9,961.00	57.95	52.28	-29.76	2,323.48	-1,413.61	2,509.19	2,456.83	52.36	47.922		
14,600.00	12,181.00	12,408.34	9,961.00	59.08	53.51	-29.76	2,423.48	-1,414.60	2,509.22	2,455.84	53.38	47.008		
14,700.00	12,181.00	12,508.34	9,961.00	60.24	54.75	-29.76	2,523.48	-1,415.60	2,509.25	2,454.83	54.42	46.110		
14,800.00	12,181.00	12,608.34	9,961.00	61.42	56.02	-29.77	2,623.47	-1,416.59	2,509.27	2,453.79	55.48	45.228		
14,900.00	12,181.00	12,708.34	9,961.00	62.63	57.31	-29.77	2,723.47	-1,417.59	2,509.30	2,452.74	56.56	44.365		
15,000.00	12,181.00	12,808.34	9,961.00	63.85	58.62	-29.77	2,823.46	-1,418.59	2,509.33	2,451.67	57.66	43.522		
15,100.00	12,181.00	12,908.34	9,961.00	65.09	59.94	-29.77	2,923.46	-1,419.58	2,509.36	2,450.59	58.77	42.698		
15,200.00	12,181.00	13,008.34	9,961.00	66.35	61.28	-29.77	3,023.45	-1,420.58	2,509.38	2,449.48	59.90	41.893		
15,300.00	12,181.00	13,108.34	9,961.00	67.63	62.63	-29.77	3,123.45	-1,421.57	2,509.41	2,448.36	61.05	41.107		
15,400.00	12,181.00	13,208.34	9,961.00	68.92	64.00	-29.77	3,223.44	-1,422.57	2,509.44	2,447.23	62.21	40.340		
15,500.00	12,181.00	13,308.34	9,961.00	70.23	65.38	-29.77	3,323.44	-1,423.56	2,509.46	2,446.08	63.38	39.594		
15,600.00	12,181.00	13,408.34	9,961.00	71.55	66.77	-29.77	3,423.43	-1,424.56	2,509.49	2,444.92	64.57	38.867		
15,700.00	12,181.00	13,508.34	9,961.00	72.89	68.18	-29.78	3,523.43	-1,425.56	2,509.52	2,443.75	65.76	38.160		
15,800.00	12,181.00	13,608.34	9,961.00	74.24	69.59	-29.78	3,623.42	-1,426.55	2,509.54	2,442.57	66.97	37.472		
15,900.00	12,181.00	13,708.34	9,961.00	75.60	71.02	-29.78	3,723.42	-1,427.55	2,509.57	2,441.38	68.19	36.803		
16,000.00	12,181.00	13,808.34	9,961.00	76.97	72.45	-29.78	3,823.41	-1,428.54	2,509.60	2,440.18	69.42	36.151		
16,100.00	12,181.00	13,908.34	9,961.00	78.35	73.90	-29.78	3,923.41	-1,429.54	2,509.62	2,438.97	70.66	35.517		
16,200.00	12,181.00	14,008.34	9,961.00	79.75	75.35	-29.78	4,023.40	-1,430.54	2,509.65	2,437.74	71.91	34.901		
16,300.00	12,181.00	14,108.34	9,961.00	81.15	76.81	-29.78	4,123.40	-1,431.53	2,509.68	2,436.52	73.16	34.302		
16,400.00	12,181.00	14,208.34	9,961.00	82.56	78.28	-29.78	4,223.39	-1,432.53	2,509.71	2,435.28	74.43	33.720		
16,500.00	12,181.00	14,308.34	9,961.00	83.98	79.76	-29.78	4,323.39	-1,433.52	2,509.73	2,434.03	75.70	33.154		
16,600.00	12,181.00	14,408.34	9,961.00	85.41	81.24	-29.79	4,423.38	-1,434.52	2,509.76	2,432.78	76.98	32.604		
16,700.00	12,181.00	14,508.34	9,961.00	86.85	82.73	-29.79	4,523.38	-1,435.51	2,509.79	2,431.52	78.26	32.068		
16,800.00	12,181.00	14,608.34	9,961.00	88.29	84.22	-29.79	4,623.37	-1,436.51	2,509.81	2,430.26	79.56	31.547		
16,900.00	12,181.00	14,708.34	9,961.00	89.74	85.72	-29.79	4,723.37	-1,437.51	2,509.84	2,428.98	80.86	31.040		
17,000.00	12,181.00	14,808.34	9,961.00	91.20	87.23	-29.79	4,823.36	-1,438.50	2,509.87	2,427.71	82.16	30.548		
17,100.00	12,181.00	14,908.34	9,961.00	92.67	88.74	-29.79	4,923.36	-1,439.50	2,509.89	2,426.43	83.47	30.070		
17,200.00	12,181.00	15,008.34	9,961.00	94.14	90.26	-29.79	5,023.35	-1,440.49	2,509.92	2,425.14	84.78	29.604		
17,300.00	12,181.00	15,108.34	9,961.00	95.62	91.78	-29.79	5,123.35	-1,441.49	2,509.95	2,423.84	86.10	29.150		
17,400.00	12,181.00	15,208.34	9,961.00	97.10	93.30	-29.79	5,223.34	-1,442.49	2,509.98	2,422.54	87.43	28.708		
17,500.00	12,181.00	15,308.34	9,961.00	98.59	94.83	-29.80	5,323.34	-1,443.48	2,510.00	2,421.24	88.76	28.279		
17,600.00	12,181.00	15,408.34	9,961.00	100.08	96.37	-29.80	5,423.33	-1,444.48	2,510.03	2,419.94	90.09	27.861		
17,700.00	12,181.00	15,508.34	9,961.00	101.58	97.90	-29.80	5,523.33	-1,445.47	2,510.06	2,418.63	91.43	27.453		
17,800.00	12,181.00	15,608.34	9,961.00	103.08	99.45	-29.80	5,623.32	-1,446.47	2,510.08	2,417.31	92.77	27.057		
17,900.00	12,181.00	15,708.34	9,961.00	104.59	100.99	-29.80	5,723.32	-1,447.46	2,510.11	2,416.00	94.11	26.671		
18,000.00	12,181.00	15,808.34	9,961.00	106.10	102.54	-29.80	5,823.31	-1,448.46	2,510.14	2,414.68	95.46	26.295		
18,100.00	12,181.00	15,908.34	9,961.00	107.62	104.09	-29.80	5,923.31	-1,449.46	2,510.16	2,413.35	96.81	25.928		
18,200.00	12,181.00	16,008.34	9,961.00	109.14	105.64	-29.80	6,023.30	-1,450.45	2,510.19	2,412.02	98.17	25.570		
18,300.00	12,181.00	16,108.34	9,961.00	110.66	107.20	-29.80	6,123.30	-1,451.45	2,510.22	2,410.69	99.53	25.222		
18,400.00	12,181.00	16,208.34	9,961.00	112.19	108.76	-29.80	6,223.29	-1,452.44	2,510.24	2,409.36	100.89	24.882		
18,500.00	12,181.00	16,308.34	9,961.00	113.72	110.32	-29.81	6,323.29	-1,453.44	2,510.27	2,408.02	102.25	24.551		
18,600.00	12,181.00	16,408.34	9,961.00	115.25	111.89	-29.81	6,423.28	-1,454.44	2,510.30	2,406.68	103.61	24.227		
18,700.00	12,181.00	16,508.34	9,961.00	116.79	113.46	-29.81	6,523.28	-1,455.43	2,510.33	2,405.34	104.98	23.912		
18,800.00	12,181.00	16,608.34	9,961.00	118.33	115.03	-29.81	6,623.27	-1,456.43	2,510.35	2,404.00	106.35	23.604		
18,900.00	12,181.00	16,708.34	9,961.00	119.87	116.60	-29.81	6,723.27	-1,457.42	2,510.38	2,402.65	107.73	23.303		
19,000.00	12,181.00	16,808.34	9,961.00	121.42	118.18	-29.81	6,823.26	-1,458.42	2,510.41	2,401.31	109.10	23.010		
19,100.00	12,181.00	16,908.34	9,961.00	122.97	119.75	-29.81	6,923.26	-1,459.41	2,510.43	2,399.95	110.48	22.723		
19,200.00	12,181.00	17,008.34	9,961.00	124.52	121.33	-29.81	7,023.25	-1,460.41	2,510.46	2,398.60	111.86	22.443		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,300.00	12,181.00	17,108.34	9,961.00	126.08	122.91	-29.81	7,123.25	-1,461.41	2,510.49	2,397.25	113.24	22.170		
19,400.00	12,181.00	17,208.34	9,961.00	127.63	124.49	-29.82	7,223.24	-1,462.40	2,510.51	2,395.90	114.62	21.903		
19,500.00	12,181.00	17,308.34	9,961.00	129.19	126.08	-29.82	7,323.24	-1,463.40	2,510.54	2,394.54	116.00	21.642		
19,600.00	12,181.00	17,408.34	9,961.00	130.75	127.66	-29.82	7,423.23	-1,464.39	2,510.57	2,393.18	117.39	21.387		
19,700.00	12,181.00	17,508.34	9,961.00	132.32	129.25	-29.82	7,523.23	-1,465.39	2,510.60	2,391.82	118.78	21.137		
19,800.00	12,181.00	17,608.34	9,961.00	133.88	130.84	-29.82	7,623.22	-1,466.39	2,510.62	2,390.46	120.17	20.893		
19,900.00	12,181.00	17,708.34	9,961.00	135.45	132.43	-29.82	7,723.22	-1,467.38	2,510.65	2,389.09	121.55	20.654		
20,000.00	12,181.00	17,808.34	9,961.00	137.02	134.02	-29.82	7,823.21	-1,468.38	2,510.68	2,387.73	122.95	20.421		
20,100.00	12,181.00	17,908.34	9,961.00	138.59	135.62	-29.82	7,923.21	-1,469.37	2,510.70	2,386.36	124.34	20.192		
20,200.00	12,181.00	18,008.34	9,961.00	140.17	137.21	-29.82	8,023.20	-1,470.37	2,510.73	2,385.00	125.73	19.969		
20,300.00	12,181.00	18,108.34	9,961.00	141.74	138.81	-29.83	8,123.20	-1,471.36	2,510.76	2,383.63	127.13	19.750		
20,400.00	12,181.00	18,208.34	9,961.00	143.32	140.41	-29.83	8,223.19	-1,472.36	2,510.78	2,382.26	128.52	19.536		
20,500.00	12,181.00	18,308.34	9,961.00	144.90	142.01	-29.83	8,323.19	-1,473.36	2,510.81	2,380.89	129.92	19.326		
20,600.00	12,181.00	18,408.34	9,961.00	146.48	143.61	-29.83	8,423.18	-1,474.35	2,510.84	2,379.52	131.32	19.120		
20,700.00	12,181.00	18,508.34	9,961.00	148.06	145.21	-29.83	8,523.18	-1,475.35	2,510.87	2,378.15	132.72	18.919		
20,800.00	12,181.00	18,608.34	9,961.00	149.64	146.81	-29.83	8,623.17	-1,476.34	2,510.89	2,376.77	134.12	18.722		
20,900.00	12,181.00	18,708.34	9,961.00	151.23	148.41	-29.83	8,723.17	-1,477.34	2,510.92	2,375.40	135.52	18.528		
21,000.00	12,181.00	18,808.34	9,961.00	152.81	150.02	-29.83	8,823.16	-1,478.34	2,510.95	2,374.03	136.92	18.339		
21,100.00	12,181.00	18,908.34	9,961.00	154.40	151.62	-29.83	8,923.16	-1,479.33	2,510.97	2,372.65	138.32	18.153		
21,200.00	12,181.00	19,008.34	9,961.00	155.99	153.23	-29.83	9,023.15	-1,480.33	2,511.00	2,371.28	139.73	17.971		
21,300.00	12,181.00	19,108.34	9,961.00	157.58	154.84	-29.84	9,123.15	-1,481.32	2,511.03	2,369.90	141.13	17.793		
21,400.00	12,181.00	19,208.34	9,961.00	159.17	156.45	-29.84	9,223.14	-1,482.32	2,511.05	2,368.52	142.53	17.618		
21,500.00	12,181.00	19,308.34	9,961.00	160.77	158.06	-29.84	9,323.14	-1,483.31	2,511.08	2,367.14	143.94	17.446		
21,600.00	12,181.00	19,408.34	9,961.00	162.36	159.67	-29.84	9,423.13	-1,484.31	2,511.11	2,365.77	145.34	17.277		
21,700.00	12,181.00	19,508.34	9,961.00	163.96	161.28	-29.84	9,523.13	-1,485.31	2,511.14	2,364.39	146.75	17.112		
21,800.00	12,181.00	19,608.34	9,961.00	165.55	162.89	-29.84	9,623.12	-1,486.30	2,511.16	2,363.01	148.15	16.950		
21,900.00	12,181.00	19,708.34	9,961.00	167.15	164.50	-29.84	9,723.12	-1,487.30	2,511.19	2,361.63	149.56	16.790		
22,000.00	12,181.00	19,808.34	9,961.00	168.75	166.12	-29.84	9,823.11	-1,488.29	2,511.22	2,360.24	150.97	16.634		
22,100.00	12,181.00	19,908.34	9,961.00	170.35	167.73	-29.84	9,923.11	-1,489.29	2,511.24	2,358.86	152.38	16.480		
22,200.00	12,181.00	20,008.34	9,961.00	171.95	169.35	-29.85	10,023.10	-1,490.29	2,511.27	2,357.48	153.79	16.330		
22,306.42	12,181.00	20,114.76	9,961.00	173.65	171.07	-29.85	10,129.51	-1,491.35	2,511.30	2,356.01	155.28	16.172 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 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									
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	1.40	1.40	0.00	0.00	9.01	75.09	11.90	76.03							
100.00	100.00	101.40	101.40	0.13	0.13	9.01	75.09	11.90	76.03	75.85	0.18	419.997				
200.00	200.00	201.40	201.40	0.48	0.49	9.01	75.09	11.90	76.03	75.34	0.69	110.513				
300.00	300.00	301.40	301.40	0.84	0.85	9.01	75.09	11.90	76.03	74.83	1.19	63.626				
400.00	400.00	401.40	401.40	1.20	1.21	9.01	75.09	11.90	76.03	74.33	1.70	44.673				
500.00	500.00	501.40	501.40	1.56	1.56	9.01	75.09	11.90	76.03	73.82	2.21	34.420				
600.00	600.00	601.40	601.40	1.92	1.92	9.01	75.09	11.90	76.03	73.31	2.72	27.995				
700.00	700.00	701.40	701.40	2.28	2.28	9.01	75.09	11.90	76.03	72.80	3.22	23.591				
800.00	800.00	801.40	801.40	2.63	2.64	9.01	75.09	11.90	76.03	72.30	3.73	20.384				
900.00	900.00	901.40	901.40	2.99	3.00	9.01	75.09	11.90	76.03	71.79	4.24	17.945				
1,000.00	1,000.00	1,001.40	1,001.40	3.35	3.36	9.01	75.09	11.90	76.03	71.28	4.74	16.027				
1,100.00	1,100.00	1,101.40	1,101.40	3.71	3.72	9.01	75.09	11.90	76.03	70.78	5.25	14.480				
1,200.00	1,200.00	1,201.40	1,201.40	4.07	4.07	9.01	75.09	11.90	76.03	70.27	5.76	13.205				
1,300.00	1,300.00	1,301.40	1,301.40	4.43	4.43	9.01	75.09	11.90	76.03	69.76	6.26	12.136				
1,400.00	1,400.00	1,401.40	1,401.40	4.79	4.79	9.01	75.09	11.90	76.03	69.26	6.77	11.228				
1,500.00	1,500.00	1,501.40	1,501.40	5.14	5.15	9.01	75.09	11.90	76.03	68.75	7.28	10.446				
1,600.00	1,600.00	1,601.40	1,601.40	5.50	5.51	9.01	75.09	11.90	76.03	68.24	7.79	9.765				
1,700.00	1,700.00	1,701.40	1,701.40	5.86	5.87	9.01	75.09	11.90	76.03	67.73	8.29	9.168				
1,800.00	1,800.00	1,801.42	1,801.42	6.22	6.22	9.01	75.09	11.90	76.03	67.23	8.80	8.640				
1,900.00	1,900.00	1,903.11	1,903.09	6.58	6.57	9.58	73.81	12.46	74.88	65.58	9.30	8.055				
2,000.00	2,000.00	2,004.64	2,004.54	6.94	6.90	11.37	70.07	14.09	71.54	61.76	9.78	7.317				
2,100.00	2,100.00	2,105.36	2,105.04	7.29	7.24	14.60	64.08	16.69	66.32	56.06	10.26	6.464				
2,200.00	2,200.00	2,205.11	2,204.56	7.65	7.57	18.65	57.70	19.47	60.98	50.23	10.75	5.672				
2,300.00	2,300.00	2,304.87	2,304.07	8.01	7.91	23.44	51.32	22.25	56.00	44.75	11.24	4.980				
2,400.00	2,400.00	2,404.62	2,403.58	8.37	8.25	29.12	44.93	25.03	51.48	39.74	11.74	4.385				
2,500.00	2,499.99	2,504.42	2,503.13	8.71	8.59	-177.35	38.55	27.81	48.87	36.64	12.23	3.997				
2,528.85	2,528.83	2,533.22	2,531.87	8.81	8.69	-175.37	36.70	28.61	48.73	36.37	12.36	3.941 CC, ES				
2,600.00	2,599.91	2,604.25	2,602.72	9.04	8.94	-170.62	32.16	30.59	49.56	36.86	12.71	3.901 SF				
2,633.40	2,633.25	2,637.58	2,635.97	9.15	9.05	-168.55	30.02	31.52	50.51	37.65	12.87	3.926				
2,700.00	2,699.73	2,704.05	2,702.28	9.37	9.29	-164.76	25.77	33.37	52.88	39.69	13.19	4.010				
2,800.00	2,799.54	2,803.86	2,801.84	9.70	9.64	-159.68	19.38	36.15	56.81	43.14	13.67	4.156				
2,900.00	2,899.36	2,903.66	2,901.40	10.04	9.99	-155.30	13.00	38.93	61.14	46.98	14.16	4.319				
3,000.00	2,999.17	3,003.47	3,000.97	10.37	10.34	-151.51	6.61	41.71	65.77	51.13	14.64	4.492				
3,100.00	3,098.98	3,103.27	3,100.53	10.71	10.70	-148.23	0.22	44.49	70.66	55.52	15.13	4.669				
3,200.00	3,198.80	3,203.08	3,200.09	11.06	11.06	-145.38	-6.16	47.28	75.74	60.12	15.63	4.847				
3,300.00	3,298.61	3,302.88	3,299.65	11.40	11.42	-142.90	-12.55	50.06	80.99	64.87	16.12	5.024				
3,400.00	3,398.42	3,402.69	3,399.21	11.75	11.78	-140.72	-18.94	52.84	86.37	69.76	16.62	5.198				
3,500.00	3,498.24	3,502.49	3,498.77	12.10	12.14	-138.80	-25.32	55.62	91.87	74.75	17.11	5.368				
3,600.00	3,598.05	3,602.29	3,598.33	12.44	12.50	-137.09	-31.71	58.40	97.45	79.84	17.61	5.533				
3,700.00	3,697.86	3,702.10	3,697.89	12.79	12.86	-135.58	-38.10	61.18	103.11	85.00	18.11	5.692				
3,800.00	3,797.68	3,801.90	3,797.45	13.15	13.22	-134.22	-44.48	63.96	108.83	90.22	18.62	5.846				
3,900.00	3,897.49	3,901.71	3,897.02	13.50	13.59	-132.99	-50.87	66.74	114.61	95.49	19.12	5.995				
4,000.00	3,997.30	4,001.51	3,996.58	13.85	13.95	-131.89	-57.26	69.52	120.44	100.82	19.62	6.138				
4,100.00	4,097.12	4,101.32	4,096.14	14.21	14.32	-130.89	-63.64	72.30	126.31	106.18	20.13	6.275				
4,200.00	4,196.93	4,201.12	4,195.70	14.56	14.68	-129.97	-70.03	75.08	132.21	111.57	20.63	6.407				
4,300.00	4,296.74	4,300.93	4,295.26	14.92	15.05	-129.14	-76.42	77.86	138.14	117.00	21.14	6.534				
4,400.00	4,396.56	4,400.73	4,394.82	15.28	15.42	-128.37	-82.80	80.64	144.10	122.45	21.65	6.656				
4,500.00	4,496.37	4,500.53	4,494.38	15.64	15.78	-127.67	-89.19	83.42	150.08	127.92	22.16	6.773				
4,600.00	4,596.18	4,600.34	4,593.94	15.99	16.15	-127.02	-95.58	86.20	156.09	133.42	22.67	6.885				
4,700.00	4,696.00	4,700.14	4,693.51	16.35	16.52	-126.41	-101.96	88.98	162.11	138.93	23.18	6.994				
4,800.00	4,795.81	4,799.95	4,793.07	16.71	16.89	-125.85	-108.35	91.77	168.15	144.46	23.69	7.098				
4,900.00	4,895.62	4,899.75	4,892.63	17.07	17.26	-125.33	-114.74	94.55	174.20	150.00	24.20	7.198				

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 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 (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	4,995.44	4,999.56	4,992.19	17.44	17.62	-124.85	-121.12	97.33	180.27	155.56	24.71	7.294				
5,100.00	5,095.25	5,099.36	5,091.75	17.80	17.99	-124.39	-127.51	100.11	186.35	161.12	25.23	7.387				
5,200.00	5,195.07	5,199.17	5,191.31	18.16	18.36	-123.97	-133.90	102.89	192.44	166.70	25.74	7.476				
5,300.00	5,294.88	5,298.97	5,290.87	18.52	18.73	-123.57	-140.28	105.67	198.54	172.29	26.25	7.562				
5,400.00	5,394.69	5,398.78	5,390.43	18.88	19.10	-123.19	-146.67	108.45	204.65	177.88	26.77	7.645				
5,500.00	5,494.51	5,498.58	5,489.99	19.25	19.47	-122.84	-153.06	111.23	210.77	183.48	27.28	7.725				
5,600.00	5,594.32	5,598.38	5,589.56	19.61	19.84	-122.51	-159.44	114.01	216.89	189.09	27.80	7.802				
5,700.00	5,694.13	5,698.19	5,689.12	19.98	20.21	-122.19	-165.83	116.79	223.02	194.71	28.31	7.877				
5,800.00	5,793.95	5,797.99	5,788.68	20.34	20.59	-121.89	-172.22	119.57	229.16	200.33	28.83	7.949				
5,900.00	5,893.76	5,897.80	5,888.24	20.70	20.96	-121.61	-178.61	122.35	235.31	205.96	29.35	8.018				
6,000.00	5,993.57	5,997.60	5,987.80	21.07	21.33	-121.34	-184.99	125.13	241.46	211.59	29.86	8.085				
6,100.00	6,093.39	6,097.41	6,087.36	21.43	21.70	-121.09	-191.38	127.91	247.61	217.23	30.38	8.150				
6,200.00	6,193.20	6,197.21	6,186.92	21.80	22.07	-120.84	-197.77	130.69	253.77	222.87	30.90	8.213				
6,300.00	6,293.01	6,297.02	6,286.48	22.17	22.44	-120.61	-204.15	133.47	259.93	228.52	31.41	8.274				
6,400.00	6,392.83	6,396.90	6,386.13	22.53	22.82	-120.39	-210.54	136.26	266.10	234.17	31.93	8.333				
6,500.00	6,492.64	6,499.94	6,489.01	22.90	23.19	-120.45	-215.80	138.55	271.65	239.18	32.46	8.367				
6,600.00	6,592.45	6,603.03	6,592.05	23.26	23.56	-121.03	-218.51	139.72	276.02	243.03	32.99	8.368				
6,700.00	6,692.27	6,704.65	6,693.67	23.63	23.91	-122.04	-218.91	139.90	279.40	245.91	33.49	8.343				
6,719.52	6,711.75	6,724.14	6,713.15	23.70	23.97	-122.24	-218.91	139.90	280.04	246.45	33.58	8.338				
6,800.00	6,792.13	6,804.51	6,793.53	24.00	24.24	-122.97	-218.91	139.90	282.23	248.25	33.98	8.306				
6,900.00	6,892.09	6,904.47	6,893.49	24.35	24.57	-123.45	-218.91	139.90	283.71	249.24	34.47	8.232				
6,952.92	6,945.00	6,957.39	6,946.40	24.54	24.74	89.58	-218.91	139.90	283.91	249.19	34.72	8.177				
7,000.00	6,992.08	7,004.47	6,993.48	24.69	24.90	89.58	-218.91	139.90	283.91	248.97	34.94	8.125				
7,100.00	7,092.08	7,104.47	7,093.48	25.03	25.23	89.58	-218.91	139.90	283.91	248.49	35.42	8.016				
7,200.00	7,192.08	7,204.47	7,193.48	25.37	25.56	89.58	-218.91	139.90	283.91	248.01	35.89	7.910				
7,300.00	7,292.08	7,304.47	7,293.48	25.71	25.90	89.58	-218.91	139.90	283.91	247.54	36.37	7.806				
7,400.00	7,392.08	7,404.47	7,393.48	26.05	26.23	89.58	-218.91	139.90	283.91	247.06	36.85	7.705				
7,500.00	7,492.08	7,504.47	7,493.48	26.39	26.57	89.58	-218.91	139.90	283.91	246.58	37.33	7.606				
7,600.00	7,592.08	7,604.47	7,593.48	26.73	26.90	89.58	-218.91	139.90	283.91	246.10	37.81	7.509				
7,700.00	7,692.08	7,704.47	7,693.48	27.07	27.24	89.58	-218.91	139.90	283.91	245.62	38.29	7.415				
7,800.00	7,792.08	7,804.47	7,793.48	27.41	27.58	89.58	-218.91	139.90	283.91	245.14	38.77	7.323				
7,900.00	7,892.08	7,904.47	7,893.48	27.76	27.91	89.58	-218.91	139.90	283.91	244.66	39.25	7.234				
8,000.00	7,992.08	8,004.47	7,993.48	28.10	28.25	89.58	-218.91	139.90	283.91	244.18	39.73	7.146				
8,100.00	8,092.08	8,104.47	8,093.48	28.44	28.59	89.58	-218.91	139.90	283.91	243.69	40.21	7.060				
8,200.00	8,192.08	8,204.47	8,193.48	28.78	28.93	89.58	-218.91	139.90	283.91	243.21	40.70	6.976				
8,300.00	8,292.08	8,304.47	8,293.48	29.13	29.27	89.58	-218.91	139.90	283.91	242.73	41.18	6.894				
8,400.00	8,392.08	8,404.47	8,393.48	29.47	29.61	89.58	-218.91	139.90	283.91	242.24	41.66	6.814				
8,500.00	8,492.08	8,504.47	8,493.48	29.81	29.95	89.58	-218.91	139.90	283.91	241.76	42.15	6.736				
8,600.00	8,592.08	8,604.47	8,593.48	30.16	30.29	89.58	-218.91	139.90	283.91	241.27	42.63	6.659				
8,700.00	8,692.08	8,704.47	8,693.48	30.50	30.63	89.58	-218.91	139.90	283.91	240.79	43.12	6.584				
8,800.00	8,792.08	8,804.47	8,793.48	30.85	30.97	89.58	-218.91	139.90	283.91	240.30	43.61	6.511				
8,900.00	8,892.08	8,904.47	8,893.48	31.20	31.32	89.58	-218.91	139.90	283.91	239.81	44.09	6.439				
9,000.00	8,992.08	9,004.47	8,993.48	31.54	31.66	89.58	-218.91	139.90	283.91	239.33	44.58	6.368				
9,100.00	9,092.08	9,104.47	9,093.48	31.89	32.00	89.58	-218.91	139.90	283.91	238.84	45.07	6.299				
9,200.00	9,192.08	9,204.47	9,193.48	32.23	32.34	89.58	-218.91	139.90	283.91	238.35	45.56	6.232				
9,300.00	9,292.08	9,304.47	9,293.48	32.58	32.69	89.58	-218.91	139.90	283.91	237.86	46.05	6.166				
9,365.98	9,358.06	9,370.46	9,359.46	32.81	32.91	89.46	-218.30	139.89	283.91	237.54	46.37	6.123				
9,400.00	9,392.08	9,404.31	9,393.21	32.93	33.02	88.94	-215.74	139.87	283.92	237.39	46.53	6.102				
9,500.00	9,492.08	9,500.00	9,487.09	33.27	33.32	85.33	-197.81	139.70	284.72	237.75	46.97	6.061				
9,600.00	9,592.08	9,588.70	9,570.35	33.62	33.56	79.30	-167.46	139.41	289.35	242.09	47.26	6.123				
9,700.00	9,692.08	9,666.04	9,638.37	33.97	33.75	72.32	-130.78	139.06	302.16	255.09	47.07	6.420				
9,800.00	9,792.08	9,732.19	9,692.18	34.32	33.90	65.54	-92.39	138.70	326.68	280.56	46.12	7.083				

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 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									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
9,900.00	9,892.08	9,788.01	9,733.90	34.66	34.01	59.60	-55.34	138.34	364.18	319.69	44.49	8.185				
10,000.00	9,992.08	9,834.90	9,766.03	35.01	34.11	54.68	-21.20	138.02	413.75	371.22	42.54	9.727				
10,100.00	10,092.08	9,874.36	9,790.82	35.36	34.19	50.71	9.49	137.73	473.39	432.78	40.61	11.658				
10,200.00	10,192.08	9,900.00	9,805.78	35.71	34.24	48.25	30.31	137.53	541.05	502.41	38.64	14.003				
10,300.00	10,292.08	9,936.11	9,825.23	36.06	34.31	44.95	60.73	137.24	614.60	577.15	37.44	16.413				
10,400.00	10,392.08	9,950.00	9,832.20	36.41	34.34	43.74	72.74	137.13	693.08	657.08	36.00	19.253				
10,500.00	10,492.08	9,981.49	9,846.90	36.76	34.41	41.13	100.59	136.86	774.84	739.51	35.33	21.932				
10,600.00	10,592.08	10,000.00	9,854.81	37.11	34.45	39.68	117.32	136.70	859.59	824.99	34.60	24.847				
10,700.00	10,692.08	10,015.86	9,861.16	37.46	34.49	38.49	131.85	136.56	946.56	912.54	34.02	27.827				
10,800.00	10,792.08	10,030.02	9,866.50	37.81	34.52	37.46	144.97	136.44	1,035.32	1,001.74	33.58	30.833				
10,900.00	10,892.08	10,050.00	9,873.46	38.16	34.57	36.07	163.69	136.26	1,125.61	1,092.24	33.36	33.739				
11,000.00	10,992.08	10,050.00	9,873.46	38.51	34.57	36.07	163.69	136.26	1,216.96	1,183.99	32.97	36.915				
11,100.00	11,092.08	10,050.00	9,873.46	38.86	34.57	36.07	163.69	136.26	1,309.58	1,276.89	32.69	40.059				
11,200.00	11,192.08	10,073.03	9,880.67	39.21	34.62	34.56	185.56	136.05	1,402.57	1,369.81	32.76	42.813				
11,300.00	11,292.08	10,081.28	9,883.04	39.56	34.64	34.04	193.46	135.98	1,496.50	1,463.78	32.72	45.738				
11,400.00	11,392.08	10,100.00	9,887.99	39.91	34.69	32.90	211.51	135.81	1,591.19	1,558.36	32.82	48.479				
11,500.00	11,492.08	10,100.00	9,887.99	40.26	34.69	32.90	211.51	135.81	1,686.11	1,653.31	32.80	51.408				
11,600.00	11,592.08	10,100.00	9,887.99	40.61	34.69	32.90	211.51	135.81	1,781.59	1,748.77	32.82	54.283				
11,615.96	11,608.04	10,100.00	9,887.99	40.66	34.69	32.90	211.51	135.81	1,796.87	1,764.04	32.83	54.736				
11,650.00	11,642.06	10,100.00	9,887.99	40.78	34.69	28.07	211.51	135.81	1,829.26	1,796.42	32.84	55.701				
11,700.00	11,691.78	10,100.00	9,887.99	40.95	34.69	22.57	211.51	135.81	1,875.85	1,843.01	32.85	57.112				
11,750.00	11,740.86	10,100.00	9,887.99	41.12	34.69	18.82	211.51	135.81	1,921.07	1,888.23	32.84	58.503				
11,800.00	11,788.94	10,119.41	9,892.50	41.27	34.74	15.89	230.39	135.63	1,964.25	1,931.32	32.94	59.637				
11,850.00	11,835.63	10,125.57	9,893.80	41.42	34.75	13.91	236.41	135.57	2,005.71	1,972.78	32.94	60.897				
11,900.00	11,880.59	10,150.00	9,898.30	41.55	34.81	12.28	260.42	135.34	2,045.37	2,012.34	33.03	61.930				
11,950.00	11,923.48	10,150.00	9,898.30	41.68	34.81	11.18	260.42	135.34	2,082.10	2,049.13	32.97	63.157				
12,000.00	11,963.97	10,150.00	9,898.30	41.80	34.81	10.30	260.42	135.34	2,116.42	2,083.51	32.91	64.315				
12,050.00	12,001.74	10,150.00	9,898.30	41.91	34.81	9.59	260.42	135.34	2,148.18	2,115.33	32.85	65.394				
12,100.00	12,036.53	10,150.00	9,898.30	42.02	34.81	9.01	260.42	135.34	2,177.26	2,144.47	32.80	66.383				
12,150.00	12,068.05	10,173.00	9,901.60	42.13	34.88	8.49	283.18	135.13	2,202.98	2,170.14	32.83	67.095				
12,200.00	12,096.07	10,200.00	9,904.31	42.24	34.95	8.07	310.04	134.87	2,226.18	2,193.30	32.88	67.714				
12,250.00	12,120.37	10,200.00	9,904.31	42.35	34.95	7.78	310.04	134.87	2,245.58	2,212.75	32.83	68.392				
12,300.00	12,140.78	10,200.00	9,904.31	42.47	34.95	7.55	310.04	134.87	2,261.93	2,229.12	32.81	68.941				
12,350.00	12,157.13	10,200.00	9,904.31	42.59	34.95	7.37	310.04	134.87	2,275.14	2,242.34	32.81	69.353				
12,400.00	12,169.30	10,220.91	9,905.53	42.71	35.01	7.23	330.91	134.67	2,284.72	2,251.87	32.85	69.552				
12,450.00	12,177.21	10,244.03	9,906.00	42.84	35.07	7.14	354.02	134.45	2,291.20	2,258.29	32.90	69.633				
12,500.00	12,180.78	10,244.03	9,906.00	42.96	35.07	7.11	354.02	134.45	2,293.86	2,260.91	32.95	69.615				
12,515.96	12,181.00	10,244.64	9,906.00	43.00	35.07	7.11	354.63	134.45	2,294.03	2,261.06	32.97	69.580				
12,600.00	12,181.00	10,328.68	9,906.00	43.24	35.34	7.11	438.67	133.65	2,294.03	2,260.89	33.14	69.227				
12,700.00	12,181.00	10,428.68	9,906.00	43.58	35.72	7.11	538.67	132.70	2,294.03	2,260.66	33.37	68.746				
12,800.00	12,181.00	10,528.68	9,906.00	43.97	36.18	7.11	638.66	131.75	2,294.03	2,260.39	33.64	68.197				
12,900.00	12,181.00	10,628.68	9,906.00	44.43	36.70	7.11	738.66	130.80	2,294.02	2,260.08	33.94	67.584				
13,000.00	12,181.00	10,728.68	9,906.00	44.94	37.29	7.11	838.65	129.84	2,294.02	2,259.74	34.28	66.914				
13,100.00	12,181.00	10,828.68	9,906.00	45.50	37.94	7.11	938.65	128.89	2,294.02	2,259.37	34.66	66.192				
13,200.00	12,181.00	10,928.68	9,906.00	46.12	38.65	7.11	1,038.64	127.94	2,294.02	2,258.96	35.06	65.425				
13,300.00	12,181.00	11,028.68	9,906.00	46.79	39.42	7.11	1,138.64	126.99	2,294.02	2,258.52	35.50	64.616				
13,400.00	12,181.00	11,128.68	9,906.00	47.50	40.24	7.11	1,238.64	126.04	2,294.02	2,258.05	35.97	63.774				
13,500.00	12,181.00	11,228.68	9,906.00	48.26	41.11	7.11	1,338.63	125.09	2,294.02	2,257.55	36.47	62.902				
13,600.00	12,181.00	11,328.68	9,906.00	49.07	42.03	7.11	1,438.63	124.14	2,294.02	2,257.02	37.00	62.006				
13,700.00	12,181.00	11,428.68	9,906.00	49.91	42.99	7.11	1,538.62	123.19	2,294.02	2,256.47	37.55	61.091				
13,800.00	12,181.00	11,528.68	9,906.00	50.80	44.00	7.10	1,638.62	122.24	2,294.01	2,255.88	38.13	60.162				
13,900.00	12,181.00	11,628.68	9,906.00	51.72	45.04	7.10	1,738.61	121.29	2,294.01	2,255.28	38.73	59.223				

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design FMM Fed Com - FMM Fed Com 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 (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	12,181.00	11,728.68	9,906.00	52.68	46.11	7.10	1,838.61	120.34	2,294.01	2,254.65	39.36	58.279		
14,100.00	12,181.00	11,828.68	9,906.00	53.67	47.22	7.10	1,938.60	119.39	2,294.01	2,254.00	40.01	57.331		
14,200.00	12,181.00	11,928.68	9,906.00	54.70	48.36	7.10	2,038.60	118.44	2,294.01	2,253.32	40.69	56.384		
14,300.00	12,181.00	12,028.68	9,906.00	55.75	49.53	7.10	2,138.60	117.48	2,294.01	2,252.63	41.38	55.441		
14,400.00	12,181.00	12,128.68	9,906.00	56.84	50.73	7.10	2,238.59	116.53	2,294.01	2,251.92	42.09	54.504		
14,500.00	12,181.00	12,228.68	9,906.00	57.95	51.95	7.10	2,338.59	115.58	2,294.01	2,251.19	42.82	53.574		
14,600.00	12,181.00	12,328.68	9,906.00	59.08	53.20	7.10	2,438.58	114.63	2,294.01	2,250.44	43.57	52.657		
14,700.00	12,181.00	12,428.68	9,906.00	60.24	54.46	7.10	2,538.58	113.68	2,294.00	2,249.68	44.33	51.750		
14,800.00	12,181.00	12,528.68	9,906.00	61.42	55.75	7.10	2,638.57	112.73	2,294.00	2,248.90	45.11	50.857		
14,900.00	12,181.00	12,628.68	9,906.00	62.63	57.05	7.10	2,738.57	111.78	2,294.00	2,248.10	45.90	49.978		
15,000.00	12,181.00	12,728.68	9,906.00	63.85	58.38	7.10	2,838.56	110.83	2,294.00	2,247.29	46.71	49.113		
15,100.00	12,181.00	12,828.68	9,906.00	65.09	59.72	7.10	2,938.56	109.88	2,294.00	2,246.47	47.53	48.265		
15,200.00	12,181.00	12,928.68	9,906.00	66.35	61.07	7.10	3,038.55	108.93	2,294.00	2,245.64	48.36	47.432		
15,300.00	12,181.00	13,028.68	9,906.00	67.63	62.44	7.10	3,138.55	107.98	2,294.00	2,244.79	49.21	46.617		
15,400.00	12,181.00	13,128.68	9,906.00	68.92	63.82	7.10	3,238.55	107.03	2,294.00	2,243.93	50.07	45.818		
15,500.00	12,181.00	13,228.68	9,906.00	70.23	65.22	7.10	3,338.54	106.08	2,294.00	2,243.06	50.94	45.037		
15,600.00	12,181.00	13,328.68	9,906.00	71.55	66.62	7.10	3,438.54	105.12	2,293.99	2,242.18	51.81	44.273		
15,700.00	12,181.00	13,428.68	9,906.00	72.89	68.04	7.10	3,538.53	104.17	2,293.99	2,241.29	52.70	43.527		
15,800.00	12,181.00	13,528.68	9,906.00	74.24	69.47	7.10	3,638.53	103.22	2,293.99	2,240.39	53.60	42.797		
15,900.00	12,181.00	13,628.68	9,906.00	75.60	70.91	7.10	3,738.52	102.27	2,293.99	2,239.48	54.51	42.085		
16,000.00	12,181.00	13,728.68	9,906.00	76.97	72.36	7.10	3,838.52	101.32	2,293.99	2,238.57	55.42	41.390		
16,100.00	12,181.00	13,828.68	9,906.00	78.35	73.81	7.10	3,938.51	100.37	2,293.99	2,237.64	56.35	40.711		
16,200.00	12,181.00	13,928.68	9,906.00	79.75	75.28	7.10	4,038.51	99.42	2,293.99	2,236.71	57.28	40.050		
16,300.00	12,181.00	14,028.68	9,906.00	81.15	76.75	7.10	4,138.50	98.47	2,293.99	2,235.77	58.22	39.405		
16,400.00	12,181.00	14,128.68	9,906.00	82.56	78.23	7.10	4,238.50	97.52	2,293.99	2,234.82	59.16	38.775		
16,500.00	12,181.00	14,228.68	9,906.00	83.98	79.71	7.10	4,338.50	96.57	2,293.98	2,233.87	60.11	38.161		
16,600.00	12,181.00	14,328.68	9,906.00	85.41	81.20	7.10	4,438.49	95.62	2,293.98	2,232.91	61.07	37.563		
16,700.00	12,181.00	14,428.68	9,906.00	86.85	82.70	7.10	4,538.49	94.67	2,293.98	2,231.95	62.03	36.980		
16,800.00	12,181.00	14,528.68	9,906.00	88.29	84.21	7.10	4,638.48	93.72	2,293.98	2,230.98	63.00	36.411		
16,900.00	12,181.00	14,628.68	9,906.00	89.74	85.71	7.10	4,738.48	92.76	2,293.98	2,230.00	63.98	35.857		
17,000.00	12,181.00	14,728.68	9,906.00	91.20	87.23	7.10	4,838.47	91.81	2,293.98	2,229.02	64.95	35.317		
17,100.00	12,181.00	14,828.68	9,906.00	92.67	88.75	7.10	4,938.47	90.86	2,293.98	2,228.04	65.94	34.790		
17,200.00	12,181.00	14,928.68	9,906.00	94.14	90.27	7.10	5,038.46	89.91	2,293.98	2,227.05	66.93	34.275		
17,300.00	12,181.00	15,028.68	9,906.00	95.62	91.80	7.10	5,138.46	88.96	2,293.98	2,226.05	67.92	33.773		
17,400.00	12,181.00	15,128.68	9,906.00	97.10	93.33	7.10	5,238.46	88.01	2,293.97	2,225.05	68.92	33.285		
17,500.00	12,181.00	15,228.68	9,906.00	98.59	94.87	7.10	5,338.45	87.06	2,293.97	2,224.05	69.92	32.807		
17,600.00	12,181.00	15,328.68	9,906.00	100.08	96.41	7.10	5,438.45	86.11	2,293.97	2,223.04	70.93	32.342		
17,700.00	12,181.00	15,428.68	9,906.00	101.58	97.96	7.10	5,538.44	85.16	2,293.97	2,222.03	71.94	31.888		
17,800.00	12,181.00	15,528.68	9,906.00	103.08	99.50	7.10	5,638.44	84.21	2,293.97	2,221.02	72.95	31.445		
17,900.00	12,181.00	15,628.68	9,906.00	104.59	101.05	7.10	5,738.43	83.26	2,293.97	2,220.00	73.97	31.013		
18,000.00	12,181.00	15,728.68	9,906.00	106.10	102.61	7.10	5,838.43	82.31	2,293.97	2,218.98	74.99	30.591		
18,100.00	12,181.00	15,828.68	9,906.00	107.62	104.17	7.10	5,938.42	81.36	2,293.97	2,217.95	76.01	30.179		
18,200.00	12,181.00	15,928.68	9,906.00	109.14	105.73	7.09	6,038.42	80.41	2,293.96	2,216.93	77.04	29.777		
18,300.00	12,181.00	16,028.68	9,906.00	110.66	107.29	7.09	6,138.41	79.45	2,293.96	2,215.90	78.07	29.385		
18,400.00	12,181.00	16,128.68	9,906.00	112.19	108.85	7.09	6,238.41	78.50	2,293.96	2,214.86	79.10	29.001		
18,500.00	12,181.00	16,228.68	9,906.00	113.72	110.42	7.09	6,338.41	77.55	2,293.96	2,213.83	80.13	28.627		
18,600.00	12,181.00	16,328.68	9,906.00	115.25	111.99	7.09	6,438.40	76.60	2,293.96	2,212.79	81.17	28.261		
18,700.00	12,181.00	16,428.68	9,906.00	116.79	113.57	7.09	6,538.40	75.65	2,293.96	2,211.75	82.21	27.904		
18,800.00	12,181.00	16,528.68	9,906.00	118.33	115.14	7.09	6,638.39	74.70	2,293.96	2,210.71	83.25	27.555		
18,900.00	12,181.00	16,628.68	9,906.00	119.87	116.72	7.09	6,738.39	73.75	2,293.96	2,209.66	84.30	27.213		
19,000.00	12,181.00	16,728.68	9,906.00	121.42	118.30	7.09	6,838.38	72.80	2,293.96	2,208.61	85.34	26.880		
19,100.00	12,181.00	16,828.68	9,906.00	122.97	119.88	7.09	6,938.38	71.85	2,293.95	2,207.56	86.39	26.553		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 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 (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)									
19,200.00	12,181.00	16,928.68	9,906.00	124.52	121.46	7.09	7,038.37	70.90	2,293.95	2,206.51	87.44	26.234					
19,300.00	12,181.00	17,028.68	9,906.00	126.08	123.05	7.09	7,138.37	69.95	2,293.95	2,205.46	88.49	25.922					
19,400.00	12,181.00	17,128.68	9,906.00	127.63	124.63	7.09	7,238.36	69.00	2,293.95	2,204.40	89.55	25.617					
19,500.00	12,181.00	17,228.68	9,906.00	129.19	126.22	7.09	7,338.36	68.05	2,293.95	2,203.34	90.61	25.318					
19,600.00	12,181.00	17,328.68	9,906.00	130.75	127.81	7.09	7,438.36	67.09	2,293.95	2,202.28	91.66	25.026					
19,700.00	12,181.00	17,428.68	9,906.00	132.32	129.40	7.09	7,538.35	66.14	2,293.95	2,201.22	92.72	24.739					
19,800.00	12,181.00	17,528.68	9,906.00	133.88	131.00	7.09	7,638.35	65.19	2,293.95	2,200.16	93.79	24.459					
19,900.00	12,181.00	17,628.68	9,906.00	135.45	132.59	7.09	7,738.34	64.24	2,293.95	2,199.10	94.85	24.185					
20,000.00	12,181.00	17,728.68	9,906.00	137.02	134.19	7.09	7,838.34	63.29	2,293.94	2,198.03	95.92	23.916					
20,100.00	12,181.00	17,828.68	9,906.00	138.59	135.78	7.09	7,938.33	62.34	2,293.94	2,196.96	96.98	23.654					
20,200.00	12,181.00	17,928.68	9,906.00	140.17	137.38	7.09	8,038.33	61.39	2,293.94	2,195.89	98.05	23.396					
20,300.00	12,181.00	18,028.68	9,906.00	141.74	138.98	7.09	8,138.32	60.44	2,293.94	2,194.82	99.12	23.144					
20,400.00	12,181.00	18,128.68	9,906.00	143.32	140.58	7.09	8,238.32	59.49	2,293.94	2,193.75	100.19	22.896					
20,500.00	12,181.00	18,228.68	9,906.00	144.90	142.18	7.09	8,338.31	58.54	2,293.94	2,192.68	101.26	22.654					
20,600.00	12,181.00	18,328.68	9,906.00	146.48	143.79	7.09	8,438.31	57.59	2,293.94	2,191.60	102.33	22.416					
20,700.00	12,181.00	18,428.68	9,906.00	148.06	145.39	7.09	8,538.31	56.64	2,293.94	2,190.53	103.41	22.184					
20,800.00	12,181.00	18,528.68	9,906.00	149.64	147.00	7.09	8,638.30	55.69	2,293.94	2,189.45	104.48	21.955					
20,900.00	12,181.00	18,628.68	9,906.00	151.23	148.60	7.09	8,738.30	54.73	2,293.93	2,188.38	105.56	21.732					
21,000.00	12,181.00	18,728.68	9,906.00	152.81	150.21	7.09	8,838.29	53.78	2,293.93	2,187.30	106.63	21.512					
21,100.00	12,181.00	18,828.68	9,906.00	154.40	151.82	7.09	8,938.29	52.83	2,293.93	2,186.22	107.71	21.297					
21,200.00	12,181.00	18,928.68	9,906.00	155.99	153.43	7.09	9,038.28	51.88	2,293.93	2,185.14	108.79	21.086					
21,300.00	12,181.00	19,028.68	9,906.00	157.58	155.04	7.09	9,138.28	50.93	2,293.93	2,184.06	109.87	20.878					
21,400.00	12,181.00	19,128.68	9,906.00	159.17	156.65	7.09	9,238.27	49.98	2,293.93	2,182.98	110.95	20.675					
21,500.00	12,181.00	19,228.68	9,906.00	160.77	158.26	7.09	9,338.27	49.03	2,293.93	2,181.89	112.04	20.475					
21,600.00	12,181.00	19,328.68	9,906.00	162.36	159.88	7.09	9,438.27	48.08	2,293.93	2,180.81	113.12	20.279					
21,700.00	12,181.00	19,428.68	9,906.00	163.96	161.49	7.09	9,538.26	47.13	2,293.93	2,179.72	114.20	20.086					
21,800.00	12,181.00	19,528.68	9,906.00	165.55	163.10	7.09	9,638.26	46.18	2,293.92	2,178.64	115.29	19.897					
21,900.00	12,181.00	19,628.68	9,906.00	167.15	164.72	7.09	9,738.25	45.23	2,293.92	2,177.55	116.37	19.712					
22,000.00	12,181.00	19,728.68	9,906.00	168.75	166.34	7.09	9,838.25	44.28	2,293.92	2,176.46	117.46	19.529					
22,100.00	12,181.00	19,828.68	9,906.00	170.35	167.95	7.09	9,938.24	43.33	2,293.92	2,175.37	118.55	19.350					
22,200.00	12,181.00	19,928.68	9,906.00	171.95	169.57	7.09	10,038.24	42.37	2,293.92	2,174.28	119.64	19.174					
22,304.97	12,181.00	20,033.65	9,906.00	173.63	171.27	7.09	10,143.20	41.38	2,293.92	2,173.14	120.78	18.993					
22,306.42	12,181.00	20,034.35	9,906.00	173.65	171.28	7.09	10,143.90	41.37	2,293.92	2,173.12	120.79	18.990					

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design FMM Fed Com - FMM Fed Com 304H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	1.40	1.40	0.00	0.00	39.35	75.49	61.89	97.62					
100.00	100.00	101.40	101.40	0.13	0.13	39.35	75.49	61.89	97.62	97.44	0.18	539.268		
200.00	200.00	201.40	201.40	0.48	0.49	39.35	75.49	61.89	97.62	96.93	0.69	141.896		
300.00	300.00	301.40	301.40	0.84	0.85	39.35	75.49	61.89	97.62	96.42	1.19	81.695		
400.00	400.00	401.40	401.40	1.20	1.21	39.35	75.49	61.89	97.62	95.92	1.70	57.359		
500.00	500.00	501.40	501.40	1.56	1.56	39.35	75.49	61.89	97.62	95.41	2.21	44.195		
600.00	600.00	601.40	601.40	1.92	1.92	39.35	75.49	61.89	97.62	94.90	2.72	35.945		
700.00	700.00	701.40	701.40	2.28	2.28	39.35	75.49	61.89	97.62	94.39	3.22	30.290		
800.00	800.00	801.40	801.40	2.63	2.64	39.35	75.49	61.89	97.62	93.89	3.73	26.173		
900.00	900.00	901.40	901.40	2.99	3.00	39.35	75.49	61.89	97.62	93.38	4.24	23.041		
1,000.00	1,000.00	1,001.40	1,001.40	3.35	3.36	39.35	75.49	61.89	97.62	92.87	4.74	20.579		
1,100.00	1,100.00	1,101.40	1,101.40	3.71	3.72	39.35	75.49	61.89	97.62	92.37	5.25	18.592		
1,200.00	1,200.00	1,201.40	1,201.40	4.07	4.07	39.35	75.49	61.89	97.62	91.86	5.76	16.955		
1,300.00	1,300.00	1,301.40	1,301.40	4.43	4.43	39.35	75.49	61.89	97.62	91.35	6.26	15.583		
1,316.19	1,316.19	1,317.59	1,317.59	4.49	4.49	39.35	75.49	61.89	97.62	91.27	6.35	15.381 CC		
1,400.00	1,400.00	1,401.37	1,401.37	4.79	4.79	39.35	75.49	61.89	97.62	90.85	6.77	14.416 ES		
1,500.00	1,500.00	1,500.00	1,499.98	5.14	5.13	40.20	75.29	63.62	98.58	91.31	7.27	13.565		
1,600.00	1,600.00	1,597.44	1,597.29	5.50	5.47	42.58	74.71	68.65	101.54	93.79	7.75	13.098		
1,700.00	1,700.00	1,694.90	1,694.38	5.86	5.81	46.22	73.75	76.95	106.82	98.58	8.23	12.972 SF		
1,800.00	1,800.00	1,791.68	1,790.46	6.22	6.15	50.69	72.42	88.45	114.83	106.12	8.71	13.184		
1,900.00	1,900.00	1,887.56	1,885.21	6.58	6.50	55.52	70.73	103.01	126.00	116.82	9.18	13.732		
2,000.00	2,000.00	1,982.36	1,978.36	6.94	6.86	60.31	68.71	120.49	140.60	130.98	9.63	14.606		
2,100.00	2,100.00	2,075.88	2,069.63	7.29	7.24	64.75	66.37	140.72	158.80	148.74	10.06	15.783		
2,200.00	2,200.00	2,167.96	2,158.79	7.65	7.63	68.71	63.73	163.53	180.61	170.13	10.48	17.233		
2,300.00	2,300.00	2,258.44	2,245.65	8.01	8.03	72.14	60.82	188.70	205.95	195.07	10.88	18.924		
2,400.00	2,400.00	2,352.71	2,335.58	8.37	8.48	75.13	57.56	216.82	233.79	222.44	11.35	20.603		
2,500.00	2,499.99	2,447.90	2,426.36	8.71	8.95	-135.45	54.27	245.25	263.05	251.23	11.82	22.249		
2,600.00	2,599.91	2,542.67	2,516.74	9.04	9.43	-133.73	51.00	273.56	294.32	282.03	12.30	23.938		
2,633.40	2,633.25	2,574.21	2,546.82	9.15	9.59	-133.29	49.91	282.98	305.18	292.72	12.45	24.503		
2,700.00	2,699.73	2,637.07	2,606.77	9.37	9.92	-132.77	47.74	301.76	327.03	314.26	12.77	25.605		
2,800.00	2,799.54	2,731.44	2,696.78	9.70	10.41	-132.11	44.47	329.95	359.89	346.63	13.25	27.157		
2,900.00	2,899.36	2,825.82	2,786.78	10.04	10.92	-131.55	41.21	358.14	392.77	379.04	13.74	28.595		
3,000.00	2,999.17	2,920.19	2,876.79	10.37	11.44	-131.08	37.95	386.33	425.69	411.47	14.22	29.928		
3,100.00	3,098.98	3,014.57	2,966.80	10.71	11.96	-130.68	34.69	414.52	458.63	443.91	14.71	31.168		
3,200.00	3,198.80	3,108.94	3,056.80	11.06	12.49	-130.34	31.43	442.72	491.58	476.38	15.21	32.322		
3,300.00	3,298.61	3,203.32	3,146.81	11.40	13.02	-130.03	28.17	470.91	524.55	508.85	15.71	33.399		
3,400.00	3,398.42	3,297.69	3,236.82	11.75	13.56	-129.77	24.90	499.10	557.54	541.33	16.21	34.405		
3,500.00	3,498.24	3,392.07	3,326.82	12.10	14.10	-129.53	21.64	527.29	590.53	573.82	16.71	35.347		
3,600.00	3,598.05	3,486.44	3,416.83	12.44	14.65	-129.32	18.38	555.48	623.53	606.32	17.21	36.231		
3,700.00	3,697.86	3,580.82	3,506.84	12.79	15.19	-129.13	15.12	583.67	656.53	638.82	17.72	37.060		
3,800.00	3,797.68	3,675.19	3,596.84	13.15	15.75	-128.95	11.86	611.86	689.54	671.32	18.22	37.841		
3,900.00	3,897.49	3,769.57	3,686.85	13.50	16.30	-128.80	8.59	640.06	722.56	703.83	18.73	38.576		
4,000.00	3,997.30	3,863.94	3,776.86	13.85	16.86	-128.65	5.33	668.25	755.58	736.34	19.24	39.270		
4,100.00	4,097.12	3,958.31	3,866.86	14.21	17.41	-128.52	2.07	696.44	788.61	768.85	19.75	39.925		
4,200.00	4,196.93	4,052.69	3,956.87	14.56	17.97	-128.40	-1.19	724.63	821.63	801.37	20.26	40.545		
4,300.00	4,296.74	4,147.06	4,046.88	14.92	18.53	-128.29	-4.45	752.82	854.66	833.89	20.78	41.132		
4,400.00	4,396.56	4,241.44	4,136.88	15.28	19.10	-128.19	-7.71	781.01	887.70	866.41	21.29	41.689		
4,500.00	4,496.37	4,335.81	4,226.89	15.64	19.66	-128.09	-10.98	809.20	920.74	898.93	21.81	42.217		
4,600.00	4,596.18	4,430.19	4,316.89	15.99	20.23	-128.00	-14.24	837.39	953.77	931.45	22.33	42.720		
4,700.00	4,696.00	4,524.56	4,406.90	16.35	20.79	-127.92	-17.50	865.59	986.81	963.97	22.84	43.198		
4,800.00	4,795.81	4,618.94	4,496.91	16.71	21.36	-127.84	-20.76	893.78	1,019.86	996.49	23.36	43.653		
4,900.00	4,895.62	4,713.31	4,586.91	17.07	21.93	-127.77	-24.02	921.97	1,052.90	1,029.02	23.88	44.087		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design FMM Fed Com - FMM Fed Com 304H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.00	4,995.44	4,807.69	4,676.92	17.44	22.50	-127.70	-27.29	950.16	1,085.95	1,061.54	24.40	44.502		
5,100.00	5,095.25	4,902.06	4,766.93	17.80	23.07	-127.63	-30.55	978.35	1,118.99	1,094.07	24.92	44.897		
5,200.00	5,195.07	4,996.44	4,856.93	18.16	23.64	-127.57	-33.81	1,006.54	1,152.04	1,126.59	25.44	45.276		
5,300.00	5,294.88	5,090.81	4,946.94	18.52	24.22	-127.52	-37.07	1,034.73	1,185.09	1,159.12	25.97	45.638		
5,400.00	5,394.69	5,185.18	5,036.95	18.88	24.79	-127.46	-40.33	1,062.93	1,218.14	1,191.65	26.49	45.985		
5,500.00	5,494.51	5,279.56	5,126.95	19.25	25.36	-127.41	-43.59	1,091.12	1,251.19	1,224.18	27.01	46.318		
5,600.00	5,594.32	5,373.93	5,216.96	19.61	25.94	-127.36	-46.86	1,119.31	1,284.24	1,256.70	27.54	46.637		
5,700.00	5,694.13	5,468.31	5,306.97	19.98	26.51	-127.32	-50.12	1,147.50	1,317.29	1,289.23	28.06	46.943		
5,800.00	5,793.95	5,562.68	5,396.97	20.34	27.09	-127.27	-53.38	1,175.69	1,350.35	1,321.76	28.59	47.237		
5,900.00	5,893.76	5,657.06	5,486.98	20.70	27.66	-127.23	-56.64	1,203.88	1,383.40	1,354.29	29.11	47.520		
6,000.00	5,993.57	5,751.43	5,576.99	21.07	28.24	-127.19	-59.90	1,232.07	1,416.45	1,386.82	29.64	47.792		
6,100.00	6,093.39	5,845.81	5,666.99	21.43	28.82	-127.15	-63.16	1,260.26	1,449.51	1,419.34	30.16	48.054		
6,200.00	6,193.20	5,940.18	5,757.00	21.80	29.39	-127.11	-66.43	1,288.46	1,482.56	1,451.87	30.69	48.306		
6,300.00	6,293.01	6,034.56	5,847.01	22.17	29.97	-127.08	-69.69	1,316.65	1,515.62	1,484.40	31.22	48.549		
6,400.00	6,392.83	6,128.93	5,937.01	22.53	30.55	-127.05	-72.95	1,344.84	1,548.68	1,516.93	31.75	48.784		
6,500.00	6,492.64	6,223.30	6,027.02	22.90	31.13	-127.01	-76.21	1,373.03	1,581.73	1,549.46	32.27	49.010		
6,600.00	6,592.45	6,317.68	6,117.02	23.26	31.71	-126.98	-79.47	1,401.22	1,614.79	1,581.99	32.80	49.229		
6,700.00	6,692.27	6,412.05	6,207.03	23.63	32.28	-126.95	-82.74	1,429.41	1,647.85	1,614.52	33.33	49.439		
6,719.52	6,711.75	6,430.48	6,224.60	23.70	32.40	-126.95	-83.37	1,434.92	1,654.30	1,620.87	33.43	49.480		
6,800.00	6,792.13	6,506.59	6,297.19	24.00	32.86	-127.23	-86.00	1,457.65	1,680.42	1,646.57	33.86	49.632		
6,900.00	6,892.09	6,601.56	6,387.76	24.35	33.45	-127.50	-89.29	1,486.02	1,711.53	1,677.15	34.38	49.782		
6,952.92	6,945.00	6,651.97	6,435.85	24.54	33.76	85.48	-91.03	1,501.08	1,727.38	1,692.73	34.65	49.847		
7,000.00	6,992.08	6,753.13	6,532.77	24.69	34.35	85.67	-94.35	1,529.83	1,740.69	1,705.47	35.22	49.423		
7,100.00	7,092.08	6,997.45	6,770.59	25.03	35.62	86.02	-100.75	1,585.12	1,763.12	1,726.69	36.43	48.402		
7,200.00	7,192.08	7,249.92	7,020.39	25.37	36.65	86.24	-104.89	1,620.91	1,777.17	1,739.78	37.39	47.525		
7,300.00	7,292.08	7,506.87	7,276.88	25.71	37.44	86.32	-106.50	1,634.76	1,782.52	1,744.43	38.09	46.798		
7,400.00	7,392.08	7,623.48	7,393.48	26.05	37.73	86.32	-106.51	1,634.89	1,782.57	1,744.02	38.55	46.238		
7,500.00	7,492.08	7,723.48	7,493.48	26.39	37.97	86.32	-106.51	1,634.89	1,782.57	1,743.56	39.01	45.697		
7,600.00	7,592.08	7,823.48	7,593.48	26.73	38.21	86.32	-106.51	1,634.89	1,782.57	1,743.10	39.47	45.167		
7,700.00	7,692.08	7,923.48	7,693.48	27.07	38.46	86.32	-106.51	1,634.89	1,782.57	1,742.65	39.92	44.648		
7,800.00	7,792.08	8,023.48	7,793.48	27.41	38.71	86.32	-106.51	1,634.89	1,782.57	1,742.19	40.38	44.140		
7,900.00	7,892.08	8,123.48	7,893.48	27.76	38.96	86.32	-106.51	1,634.89	1,782.57	1,741.72	40.85	43.642		
8,000.00	7,992.08	8,223.48	7,993.48	28.10	39.21	86.32	-106.51	1,634.89	1,782.57	1,741.26	41.31	43.153		
8,100.00	8,092.08	8,323.48	8,093.48	28.44	39.47	86.32	-106.51	1,634.89	1,782.57	1,740.80	41.77	42.675		
8,200.00	8,192.08	8,423.48	8,193.48	28.78	39.72	86.32	-106.51	1,634.89	1,782.57	1,740.34	42.24	42.206		
8,300.00	8,292.08	8,523.48	8,293.48	29.13	39.98	86.32	-106.51	1,634.89	1,782.57	1,739.87	42.70	41.746		
8,400.00	8,392.08	8,623.48	8,393.48	29.47	40.24	86.32	-106.51	1,634.89	1,782.57	1,739.40	43.17	41.295		
8,500.00	8,492.08	8,723.48	8,493.48	29.81	40.50	86.32	-106.51	1,634.89	1,782.57	1,738.94	43.63	40.853		
8,600.00	8,592.08	8,823.48	8,593.48	30.16	40.76	86.32	-106.51	1,634.89	1,782.57	1,738.47	44.10	40.420		
8,700.00	8,692.08	8,923.48	8,693.48	30.50	41.02	86.32	-106.51	1,634.89	1,782.57	1,738.00	44.57	39.995		
8,800.00	8,792.08	9,023.48	8,793.48	30.85	41.29	86.32	-106.51	1,634.89	1,782.57	1,737.53	45.04	39.578		
8,900.00	8,892.08	9,123.48	8,893.48	31.20	41.55	86.32	-106.51	1,634.89	1,782.57	1,737.06	45.51	39.169		
9,000.00	8,992.08	9,223.48	8,993.48	31.54	41.82	86.32	-106.51	1,634.89	1,782.57	1,736.59	45.98	38.768		
9,100.00	9,092.08	9,323.48	9,093.48	31.89	42.09	86.32	-106.51	1,634.89	1,782.57	1,736.12	46.45	38.374		
9,200.00	9,192.08	9,423.48	9,193.48	32.23	42.36	86.32	-106.51	1,634.89	1,782.57	1,735.65	46.93	37.987		
9,204.56	9,196.65	9,428.04	9,198.05	32.25	42.37	86.32	-106.51	1,634.89	1,782.57	1,735.62	46.95	37.970		
9,300.00	9,292.08	9,516.20	9,286.17	32.58	42.61	86.27	-104.96	1,634.88	1,782.67	1,735.28	47.39	37.613		
9,400.00	9,392.08	9,600.00	9,368.99	32.93	42.82	85.88	-92.72	1,634.76	1,783.55	1,735.69	47.86	37.266		
9,500.00	9,492.08	9,678.05	9,443.77	33.27	43.00	85.17	-70.57	1,634.55	1,785.59	1,737.28	48.32	36.956		
9,600.00	9,592.08	9,750.00	9,509.46	33.62	43.15	84.23	-41.33	1,634.28	1,789.30	1,740.54	48.76	36.697		
9,700.00	9,692.08	9,812.31	9,563.00	33.97	43.26	83.22	-9.52	1,633.98	1,795.26	1,746.09	49.17	36.513		
9,800.00	9,792.08	9,867.29	9,607.14	34.32	43.34	82.18	23.23	1,633.67	1,804.01	1,754.48	49.53	36.419		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 304H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
9,900.00	9,892.08	9,914.82	9,642.62	34.66	43.40	81.18	54.84	1,633.37	1,816.06	1,766.21	49.84	36.435				
10,000.00	9,992.08	9,950.00	9,667.12	35.01	43.44	80.38	80.07	1,633.13	1,831.76	1,781.70	50.06	36.590				
10,100.00	10,092.08	10,000.00	9,699.19	35.36	43.49	79.19	118.41	1,632.77	1,851.37	1,801.10	50.28	36.825				
10,200.00	10,192.08	10,021.67	9,712.02	35.71	43.51	78.64	135.87	1,632.60	1,874.96	1,824.64	50.32	37.259				
10,300.00	10,292.08	10,050.00	9,727.79	36.06	43.53	77.91	159.40	1,632.38	1,902.70	1,852.36	50.33	37.802				
10,400.00	10,392.08	10,071.41	9,738.92	36.41	43.54	77.35	177.69	1,632.21	1,934.51	1,884.26	50.25	38.497				
10,500.00	10,492.08	10,100.00	9,752.71	36.76	43.56	76.58	202.73	1,631.97	1,970.38	1,920.22	50.16	39.283				
10,600.00	10,592.08	10,100.00	9,752.71	37.11	43.56	76.58	202.73	1,631.97	2,010.11	1,960.24	49.87	40.305				
10,700.00	10,692.08	10,125.73	9,764.03	37.46	43.58	75.88	225.83	1,631.76	2,053.50	2,003.82	49.68	41.338				
10,800.00	10,792.08	10,150.00	9,773.75	37.81	43.59	75.20	248.06	1,631.55	2,100.58	2,051.13	49.45	42.479				
10,900.00	10,892.08	10,150.00	9,773.75	38.16	43.59	75.20	248.06	1,631.55	2,150.90	2,101.83	49.07	43.833				
11,000.00	10,992.08	10,150.00	9,773.75	38.51	43.59	75.20	248.06	1,631.55	2,204.62	2,155.94	48.68	45.292				
11,100.00	11,092.08	10,174.71	9,782.68	38.86	43.60	74.51	271.10	1,631.33	2,261.01	2,212.60	48.41	46.701				
11,200.00	11,192.08	10,200.00	9,790.77	39.21	43.62	73.79	295.06	1,631.10	2,320.54	2,272.40	48.15	48.198				
11,300.00	11,292.08	10,200.00	9,790.77	39.56	43.62	73.79	295.06	1,631.10	2,382.32	2,334.57	47.75	49.889				
11,400.00	11,392.08	10,200.00	9,790.77	39.91	43.62	73.79	295.06	1,631.10	2,446.63	2,399.26	47.37	51.651				
11,500.00	11,492.08	10,200.00	9,790.77	40.26	43.62	73.79	295.06	1,631.10	2,513.27	2,466.28	47.00	53.476				
11,600.00	11,592.08	10,200.00	9,790.77	40.61	43.62	73.79	295.06	1,631.10	2,582.07	2,535.43	46.65	55.356				
11,615.96	11,608.04	10,200.00	9,790.77	40.66	43.62	73.79	295.06	1,631.10	2,593.24	2,546.65	46.59	55.660				
11,650.00	11,642.06	10,200.00	9,790.77	40.78	43.62	71.16	295.06	1,631.10	2,617.02	2,570.54	46.47	56.312				
11,700.00	11,691.78	10,222.23	9,797.01	40.95	43.63	66.17	316.40	1,630.90	2,651.07	2,604.66	46.41	57.117				
11,750.00	11,740.86	10,227.11	9,798.26	41.12	43.63	62.00	321.11	1,630.86	2,684.58	2,638.32	46.26	58.032				
11,800.00	11,788.94	10,250.00	9,803.63	41.27	43.65	57.84	343.36	1,630.65	2,717.29	2,671.10	46.19	58.827				
11,850.00	11,835.63	10,250.00	9,803.63	41.42	43.65	54.55	343.36	1,630.65	2,748.31	2,702.30	46.01	59.732				
11,900.00	11,880.59	10,250.00	9,803.63	41.55	43.65	51.62	343.36	1,630.65	2,777.89	2,732.06	45.83	60.609				
11,950.00	11,923.48	10,250.00	9,803.63	41.68	43.65	49.02	343.36	1,630.65	2,805.87	2,760.21	45.66	61.450				
12,000.00	11,963.97	10,250.00	9,803.63	41.80	43.65	46.74	343.36	1,630.65	2,832.07	2,786.57	45.50	62.248				
12,050.00	12,001.74	10,250.00	9,803.63	41.91	43.65	44.75	343.36	1,630.65	2,856.34	2,811.00	45.34	62.995				
12,100.00	12,036.53	10,276.93	9,808.79	42.02	43.66	42.83	369.79	1,630.40	2,877.94	2,832.62	45.32	63.505				
12,150.00	12,068.05	10,300.00	9,812.22	42.13	43.68	41.24	392.60	1,630.18	2,897.69	2,852.41	45.28	63.992				
12,200.00	12,096.07	10,300.00	9,812.22	42.24	43.68	40.07	392.60	1,630.18	2,914.68	2,869.51	45.17	64.528				
12,250.00	12,120.37	10,300.00	9,812.22	42.35	43.68	39.09	392.60	1,630.18	2,929.27	2,884.20	45.08	64.985				
12,300.00	12,140.78	10,300.00	9,812.22	42.47	43.68	38.31	392.60	1,630.18	2,941.40	2,896.39	45.01	65.356				
12,350.00	12,157.13	10,322.79	9,814.71	42.59	43.69	37.66	415.25	1,629.97	2,950.54	2,905.50	45.04	65.512				
12,400.00	12,169.30	10,350.00	9,816.49	42.71	43.71	37.21	442.40	1,629.71	2,957.36	2,912.26	45.10	65.573				
12,450.00	12,177.21	10,350.00	9,816.49	42.84	43.71	36.99	442.40	1,629.71	2,960.91	2,915.81	45.10	65.646				
12,500.00	12,180.78	10,350.00	9,816.49	42.96	43.71	36.94	442.40	1,629.71	2,961.84	2,916.70	45.14	65.618				
12,515.96	12,181.00	10,350.00	9,816.49	43.00	43.71	36.95	442.40	1,629.71	2,961.57	2,916.42	45.15	65.587				
12,600.00	12,181.00	10,374.03	9,817.00	43.24	43.74	36.96	466.42	1,629.49	2,960.28	2,914.95	45.34	65.296				
12,638.72	12,181.00	10,399.09	9,817.00	43.37	43.76	36.96	491.48	1,629.25	2,960.25	2,914.78	45.47	65.106				
12,700.00	12,181.00	10,460.37	9,817.00	43.58	43.83	36.96	552.75	1,628.67	2,960.25	2,914.51	45.74	64.723				
12,800.00	12,181.00	10,560.37	9,817.00	43.97	43.99	36.96	652.75	1,627.73	2,960.25	2,914.03	46.22	64.044				
12,900.00	12,181.00	10,660.37	9,817.00	44.43	44.21	36.96	752.74	1,626.79	2,960.25	2,913.49	46.76	63.307				
13,000.00	12,181.00	10,760.37	9,817.00	44.94	44.48	36.96	852.74	1,625.84	2,960.25	2,912.90	47.35	62.518				
13,100.00	12,181.00	10,860.37	9,817.00	45.50	44.81	36.96	952.73	1,624.90	2,960.25	2,912.26	47.99	61.687				
13,200.00	12,181.00	10,960.37	9,817.00	46.12	45.22	36.96	1,052.73	1,623.96	2,960.25	2,911.57	48.67	60.818				
13,300.00	12,181.00	11,060.37	9,817.00	46.79	45.68	36.96	1,152.73	1,623.02	2,960.25	2,910.84	49.41	59.918				
13,400.00	12,181.00	11,160.37	9,817.00	47.50	46.22	36.96	1,252.72	1,622.07	2,960.25	2,910.06	50.18	58.992				
13,500.00	12,181.00	11,260.37	9,817.00	48.26	46.82	36.96	1,352.72	1,621.13	2,960.25	2,909.25	51.00	58.045				
13,600.00	12,181.00	11,360.37	9,817.00	49.07	47.49	36.96	1,452.71	1,620.19	2,960.24	2,908.39	51.86	57.085				
13,700.00	12,181.00	11,460.37	9,817.00	49.91	48.21	36.96	1,552.71	1,619.24	2,960.24	2,907.49	52.75	56.115				
13,800.00	12,181.00	11,560.37	9,817.00	50.80	49.00	36.96	1,652.70	1,618.30	2,960.24	2,906.56	53.68	55.141				

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 304H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
13,900.00	12,181.00	11,660.37	9,817.00	51.72	49.83	36.96	1,752.70	1,617.36	2,960.24	2,905.59	54.65	54.169				
14,000.00	12,181.00	11,760.37	9,817.00	52.68	50.72	36.96	1,852.69	1,616.41	2,960.24	2,904.60	55.64	53.200				
14,100.00	12,181.00	11,860.37	9,817.00	53.67	51.65	36.96	1,952.69	1,615.47	2,960.24	2,903.57	56.67	52.237				
14,200.00	12,181.00	11,960.37	9,817.00	54.70	52.63	36.96	2,052.69	1,614.53	2,960.24	2,902.51	57.72	51.282				
14,300.00	12,181.00	12,060.37	9,817.00	55.75	53.64	36.96	2,152.68	1,613.59	2,960.24	2,901.43	58.81	50.338				
14,400.00	12,181.00	12,160.37	9,817.00	56.84	54.69	36.96	2,252.68	1,612.64	2,960.24	2,900.32	59.91	49.407				
14,500.00	12,181.00	12,260.37	9,817.00	57.95	55.77	36.96	2,352.67	1,611.70	2,960.24	2,899.19	61.05	48.491				
14,600.00	12,181.00	12,360.37	9,817.00	59.08	56.88	36.96	2,452.67	1,610.76	2,960.24	2,898.03	62.20	47.589				
14,700.00	12,181.00	12,460.37	9,817.00	60.24	58.03	36.96	2,552.66	1,609.81	2,960.23	2,896.85	63.38	46.705				
14,800.00	12,181.00	12,560.37	9,817.00	61.42	59.19	36.96	2,652.66	1,608.87	2,960.23	2,895.65	64.58	45.838				
14,900.00	12,181.00	12,660.37	9,817.00	62.63	60.39	36.96	2,752.65	1,607.93	2,960.23	2,894.44	65.80	44.991				
15,000.00	12,181.00	12,760.37	9,817.00	63.85	61.60	36.96	2,852.65	1,606.98	2,960.23	2,893.20	67.03	44.162				
15,100.00	12,181.00	12,860.37	9,817.00	65.09	62.84	36.96	2,952.65	1,606.04	2,960.23	2,891.95	68.28	43.352				
15,200.00	12,181.00	12,960.37	9,817.00	66.35	64.09	36.96	3,052.64	1,605.10	2,960.23	2,890.68	69.55	42.563				
15,300.00	12,181.00	13,060.37	9,817.00	67.63	65.37	36.96	3,152.64	1,604.16	2,960.23	2,889.40	70.83	41.793				
15,400.00	12,181.00	13,160.37	9,817.00	68.92	66.66	36.96	3,252.63	1,603.21	2,960.23	2,888.10	72.13	41.042				
15,500.00	12,181.00	13,260.37	9,817.00	70.23	67.97	36.96	3,352.63	1,602.27	2,960.23	2,886.79	73.44	40.309				
15,600.00	12,181.00	13,360.37	9,817.00	71.55	69.30	36.96	3,452.62	1,601.33	2,960.23	2,885.47	74.76	39.596				
15,700.00	12,181.00	13,460.37	9,817.00	72.89	70.63	36.96	3,552.62	1,600.38	2,960.23	2,884.13	76.10	38.900				
15,800.00	12,181.00	13,560.37	9,817.00	74.24	71.99	36.96	3,652.61	1,599.44	2,960.23	2,882.78	77.45	38.223				
15,900.00	12,181.00	13,660.37	9,817.00	75.60	73.35	36.96	3,752.61	1,598.50	2,960.22	2,881.42	78.81	37.564				
16,000.00	12,181.00	13,760.37	9,817.00	76.97	74.73	36.96	3,852.61	1,597.55	2,960.22	2,880.05	80.18	36.922				
16,100.00	12,181.00	13,860.37	9,817.00	78.35	76.11	36.96	3,952.60	1,596.61	2,960.22	2,878.67	81.56	36.297				
16,200.00	12,181.00	13,960.37	9,817.00	79.75	77.51	36.96	4,052.60	1,595.67	2,960.22	2,877.28	82.95	35.689				
16,300.00	12,181.00	14,060.37	9,817.00	81.15	78.92	36.96	4,152.59	1,594.73	2,960.22	2,875.88	84.34	35.099				
16,400.00	12,181.00	14,160.37	9,817.00	82.56	80.34	36.96	4,252.59	1,593.78	2,960.22	2,874.48	85.74	34.524				
16,500.00	12,181.00	14,260.37	9,817.00	83.98	81.77	36.96	4,352.58	1,592.84	2,960.22	2,873.07	87.15	33.965				
16,600.00	12,181.00	14,360.37	9,817.00	85.41	83.20	36.96	4,452.58	1,591.90	2,960.22	2,871.65	88.57	33.421				
16,700.00	12,181.00	14,460.37	9,817.00	86.85	84.65	36.96	4,552.57	1,590.95	2,960.22	2,870.22	90.00	32.891				
16,800.00	12,181.00	14,560.37	9,817.00	88.29	86.10	36.96	4,652.57	1,590.01	2,960.22	2,868.78	91.43	32.375				
16,900.00	12,181.00	14,660.37	9,817.00	89.74	87.55	36.96	4,752.57	1,589.07	2,960.22	2,867.34	92.87	31.873				
17,000.00	12,181.00	14,760.37	9,817.00	91.20	89.02	36.96	4,852.56	1,588.13	2,960.22	2,865.89	94.32	31.384				
17,100.00	12,181.00	14,860.37	9,817.00	92.67	90.49	36.96	4,952.56	1,587.18	2,960.21	2,864.44	95.77	30.908				
17,200.00	12,181.00	14,960.37	9,817.00	94.14	91.97	36.96	5,052.55	1,586.24	2,960.21	2,862.98	97.23	30.444				
17,300.00	12,181.00	15,060.37	9,817.00	95.62	93.45	36.96	5,152.55	1,585.30	2,960.21	2,861.51	98.70	29.992				
17,400.00	12,181.00	15,160.37	9,817.00	97.10	94.94	36.96	5,252.54	1,584.35	2,960.21	2,860.05	100.17	29.553				
17,500.00	12,181.00	15,260.37	9,817.00	98.59	96.44	36.96	5,352.54	1,583.41	2,960.21	2,858.57	101.64	29.125				
17,600.00	12,181.00	15,360.37	9,817.00	100.08	97.94	36.96	5,452.53	1,582.47	2,960.21	2,857.10	103.11	28.709				
17,700.00	12,181.00	15,460.37	9,817.00	101.58	99.44	36.96	5,552.53	1,581.52	2,960.21	2,855.62	104.59	28.302				
17,800.00	12,181.00	15,560.37	9,817.00	103.08	100.95	36.96	5,652.53	1,580.58	2,960.21	2,854.13	106.08	27.906				
17,900.00	12,181.00	15,660.37	9,817.00	104.59	102.46	36.96	5,752.52	1,579.64	2,960.21	2,852.64	107.57	27.520				
18,000.00	12,181.00	15,760.37	9,817.00	106.10	103.98	36.96	5,852.52	1,578.70	2,960.21	2,851.15	109.06	27.143				
18,100.00	12,181.00	15,860.37	9,817.00	107.62	105.50	36.96	5,952.51	1,577.75	2,960.21	2,849.65	110.56	26.776				
18,200.00	12,181.00	15,960.37	9,817.00	109.14	107.03	36.96	6,052.51	1,576.81	2,960.21	2,848.15	112.06	26.417				
18,300.00	12,181.00	16,060.37	9,817.00	110.66	108.56	36.96	6,152.50	1,575.87	2,960.20	2,846.64	113.56	26.067				
18,400.00	12,181.00	16,160.37	9,817.00	112.19	110.09	36.96	6,252.50	1,574.92	2,960.20	2,845.14	115.07	25.726				
18,500.00	12,181.00	16,260.37	9,817.00	113.72	111.63	36.96	6,352.49	1,573.98	2,960.20	2,843.63	116.58	25.393				
18,600.00	12,181.00	16,360.37	9,817.00	115.25	113.17	36.96	6,452.49	1,573.04	2,960.20	2,842.11	118.09	25.068				
18,700.00	12,181.00	16,460.37	9,817.00	116.79	114.71	36.96	6,552.49	1,572.09	2,960.20	2,840.60	119.60	24.751				
18,800.00	12,181.00	16,560.37	9,817.00	118.33	116.26	36.96	6,652.48	1,571.15	2,960.20	2,839.08	121.12	24.441				
18,900.00	12,181.00	16,660.37	9,817.00	119.87	117.81	36.96	6,752.48	1,570.21	2,960.20	2,837.56	122.64	24.138				
19,000.00	12,181.00	16,760.37	9,817.00	121.42	119.36	36.96	6,852.47	1,569.27	2,960.20	2,836.04	124.16	23.842				

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 304H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
19,100.00	12,181.00	16,860.37	9,817.00	122.97	120.91	36.96	6,952.47	1,568.32	2,960.20	2,834.52	125.68	23.553				
19,200.00	12,181.00	16,960.37	9,817.00	124.52	122.47	36.96	7,052.46	1,567.38	2,960.20	2,832.99	127.21	23.271				
19,300.00	12,181.00	17,060.37	9,817.00	126.08	124.03	36.96	7,152.46	1,566.44	2,960.20	2,831.46	128.74	22.994				
19,400.00	12,181.00	17,160.37	9,817.00	127.63	125.59	36.96	7,252.45	1,565.49	2,960.20	2,829.93	130.27	22.724				
19,500.00	12,181.00	17,260.37	9,817.00	129.19	127.15	36.96	7,352.45	1,564.55	2,960.19	2,828.40	131.80	22.460				
19,600.00	12,181.00	17,360.37	9,817.00	130.75	128.72	36.96	7,452.45	1,563.61	2,960.19	2,826.86	133.33	22.201				
19,700.00	12,181.00	17,460.37	9,817.00	132.32	130.29	36.96	7,552.44	1,562.66	2,960.19	2,825.32	134.87	21.949				
19,800.00	12,181.00	17,560.37	9,817.00	133.88	131.86	36.96	7,652.44	1,561.72	2,960.19	2,823.79	136.40	21.702				
19,900.00	12,181.00	17,660.37	9,817.00	135.45	133.43	36.96	7,752.43	1,560.78	2,960.19	2,822.25	137.94	21.460				
20,000.00	12,181.00	17,760.37	9,817.00	137.02	135.00	36.96	7,852.43	1,559.84	2,960.19	2,820.71	139.48	21.223				
20,100.00	12,181.00	17,860.37	9,817.00	138.59	136.58	36.96	7,952.42	1,558.89	2,960.19	2,819.17	141.02	20.991				
20,200.00	12,181.00	17,960.37	9,817.00	140.17	138.16	36.96	8,052.42	1,557.95	2,960.19	2,817.62	142.56	20.764				
20,300.00	12,181.00	18,060.37	9,817.00	141.74	139.74	36.96	8,152.41	1,557.01	2,960.19	2,816.08	144.11	20.541				
20,400.00	12,181.00	18,160.37	9,817.00	143.32	141.32	36.96	8,252.41	1,556.06	2,960.19	2,814.53	145.66	20.323				
20,500.00	12,181.00	18,260.37	9,817.00	144.90	142.90	36.96	8,352.41	1,555.12	2,960.19	2,812.98	147.20	20.110				
20,600.00	12,181.00	18,360.37	9,817.00	146.48	144.49	36.96	8,452.40	1,554.18	2,960.19	2,811.44	148.75	19.901				
20,700.00	12,181.00	18,460.37	9,817.00	148.06	146.07	36.96	8,552.40	1,553.24	2,960.18	2,809.89	150.30	19.695				
20,800.00	12,181.00	18,560.37	9,817.00	149.64	147.66	36.96	8,652.39	1,552.29	2,960.18	2,808.34	151.85	19.495				
20,900.00	12,181.00	18,660.37	9,817.00	151.23	149.25	36.96	8,752.39	1,551.35	2,960.18	2,806.79	153.40	19.298				
21,000.00	12,181.00	18,760.37	9,817.00	152.81	150.84	36.96	8,852.38	1,550.41	2,960.18	2,805.24	154.95	19.105				
21,100.00	12,181.00	18,860.37	9,817.00	154.40	152.43	36.96	8,952.38	1,549.46	2,960.18	2,803.68	156.50	18.915				
21,200.00	12,181.00	18,960.37	9,817.00	155.99	154.02	36.96	9,052.37	1,548.52	2,960.18	2,802.13	158.05	18.729				
21,300.00	12,181.00	19,060.37	9,817.00	157.58	155.62	36.96	9,152.37	1,547.58	2,960.18	2,800.57	159.61	18.547				
21,400.00	12,181.00	19,160.37	9,817.00	159.17	157.21	36.96	9,252.37	1,546.63	2,960.18	2,799.02	161.16	18.368				
21,500.00	12,181.00	19,260.37	9,817.00	160.77	158.81	36.96	9,352.36	1,545.69	2,960.18	2,797.46	162.72	18.192				
21,600.00	12,181.00	19,360.37	9,817.00	162.36	160.41	36.96	9,452.36	1,544.75	2,960.18	2,795.90	164.27	18.020				
21,700.00	12,181.00	19,460.37	9,817.00	163.96	162.00	36.96	9,552.35	1,543.81	2,960.18	2,794.35	165.83	17.851				
21,800.00	12,181.00	19,560.37	9,817.00	165.55	163.60	36.96	9,652.35	1,542.86	2,960.18	2,792.79	167.39	17.685				
21,900.00	12,181.00	19,660.37	9,817.00	167.15	165.20	36.96	9,752.34	1,541.92	2,960.17	2,791.23	168.94	17.522				
22,000.00	12,181.00	19,760.37	9,817.00	168.75	166.81	36.96	9,852.34	1,540.98	2,960.17	2,789.67	170.50	17.362				
22,100.00	12,181.00	19,860.37	9,817.00	170.35	168.41	36.96	9,952.33	1,540.03	2,960.17	2,788.11	172.06	17.204				
22,200.00	12,181.00	19,960.37	9,817.00	171.95	170.01	36.96	10,052.33	1,539.09	2,960.17	2,786.55	173.62	17.050				
22,301.88	12,181.00	20,062.22	9,817.00	173.58	171.65	36.96	10,154.18	1,538.13	2,960.17	2,784.96	175.21	16.895				
22,306.42	12,181.00	20,062.22	9,817.00	173.65	171.65	36.96	10,154.18	1,538.13	2,960.17	2,784.91	175.26	16.890				

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 801H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		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	-90.53	-18.38	-1,985.95	1,986.51							
100.00	100.00	56.80	56.80	0.13	0.07	-90.53	-18.38	-1,985.95	1,986.04	1,985.89	0.14	N/A				
200.00	200.00	156.80	156.80	0.48	0.33	-90.53	-18.38	-1,985.95	1,986.04	1,985.45	0.59	3,393.642				
300.00	300.00	256.80	256.80	0.84	0.69	-90.53	-18.38	-1,985.95	1,986.04	1,984.95	1.09	1,826.460				
400.00	400.00	356.80	356.80	1.20	1.05	-90.53	-18.38	-1,985.95	1,986.04	1,984.45	1.59	1,247.068				
500.00	500.00	456.80	456.80	1.56	1.40	-90.53	-18.38	-1,985.95	1,986.04	1,983.94	2.10	946.358				
600.00	600.00	556.80	556.80	1.92	1.76	-90.53	-18.38	-1,985.95	1,986.04	1,983.43	2.61	762.392				
700.00	700.00	656.80	656.80	2.28	2.12	-90.53	-18.38	-1,985.95	1,986.04	1,982.93	3.11	638.271				
800.00	800.00	756.80	756.80	2.63	2.48	-90.53	-18.38	-1,985.95	1,986.04	1,982.42	3.62	548.891				
900.00	900.00	856.80	856.80	2.99	2.84	-90.53	-18.38	-1,985.95	1,986.04	1,981.91	4.13	481.461				
1,000.00	1,000.00	956.80	956.80	3.35	3.20	-90.53	-18.38	-1,985.95	1,986.04	1,981.41	4.63	428.781				
1,100.00	1,100.00	1,056.80	1,056.80	3.71	3.56	-90.53	-18.38	-1,985.95	1,986.04	1,980.90	5.14	386.490				
1,200.00	1,200.00	1,156.80	1,156.80	4.07	3.91	-90.53	-18.38	-1,985.95	1,986.04	1,980.39	5.65	351.791				
1,300.00	1,300.00	1,256.80	1,256.80	4.43	4.27	-90.53	-18.38	-1,985.95	1,986.04	1,979.89	6.15	322.809				
1,400.00	1,400.00	1,356.80	1,356.80	4.79	4.63	-90.53	-18.38	-1,985.95	1,986.04	1,979.38	6.66	298.238				
1,500.00	1,500.00	1,456.80	1,456.80	5.14	4.99	-90.53	-18.38	-1,985.95	1,986.04	1,978.87	7.17	277.142				
1,600.00	1,600.00	1,556.80	1,556.80	5.50	5.35	-90.53	-18.38	-1,985.95	1,986.04	1,978.37	7.67	258.833				
1,700.00	1,700.00	1,656.80	1,656.80	5.86	5.71	-90.53	-18.38	-1,985.95	1,986.04	1,977.86	8.18	242.794				
1,800.00	1,800.00	1,756.80	1,756.80	6.22	6.06	-90.53	-18.38	-1,985.95	1,986.04	1,977.35	8.69	228.626				
1,900.00	1,900.00	1,856.80	1,856.80	6.58	6.42	-90.53	-18.38	-1,985.95	1,986.04	1,976.85	9.19	216.020				
2,000.00	2,000.00	1,956.80	1,956.80	6.94	6.78	-90.53	-18.38	-1,985.95	1,986.04	1,976.34	9.70	204.731				
2,002.84	2,002.84	1,959.64	1,959.64	6.95	6.79	-90.53	-18.38	-1,985.95	1,986.04	1,976.32	9.72	204.428 CC				
2,100.00	2,100.00	2,037.71	2,037.71	7.29	7.07	-90.53	-18.42	-1,986.13	1,986.31	1,976.16	10.16	195.569 ES				
2,200.00	2,200.00	2,100.00	2,099.99	7.65	7.28	-90.54	-18.69	-1,987.23	1,988.13	1,977.56	10.56	188.238				
2,300.00	2,300.00	2,170.38	2,170.33	8.01	7.52	-90.56	-19.28	-1,989.64	1,991.62	1,980.64	10.98	181.377				
2,400.00	2,400.00	2,236.59	2,236.43	8.37	7.75	-90.58	-20.12	-1,993.07	1,996.80	1,985.41	11.39	175.356				
2,500.00	2,499.99	2,300.00	2,299.69	8.71	7.97	56.25	-21.17	-1,997.39	2,002.95	1,991.18	11.77	170.156				
2,600.00	2,599.91	2,368.71	2,368.14	9.04	8.20	56.19	-22.60	-2,003.23	2,009.32	1,997.16	12.16	165.293				
2,633.40	2,633.25	2,400.00	2,399.27	9.15	8.31	56.19	-23.35	-2,006.28	2,011.53	1,999.22	12.31	163.440				
2,700.00	2,699.73	2,434.62	2,433.68	9.37	8.43	56.21	-24.24	-2,009.95	2,016.24	2,003.71	12.53	160.879				
2,800.00	2,799.54	2,500.00	2,498.57	9.70	8.66	56.26	-26.14	-2,017.70	2,024.76	2,011.85	12.91	156.865				
2,900.00	2,899.36	2,565.94	2,563.87	10.04	8.90	56.29	-28.32	-2,026.61	2,034.95	2,021.66	13.28	153.192				
3,000.00	2,999.17	2,631.27	2,628.40	10.37	9.14	56.32	-30.74	-2,036.51	2,046.79	2,033.13	13.66	149.874				
3,100.00	3,098.98	2,700.00	2,696.09	10.71	9.39	56.34	-33.57	-2,048.09	2,060.28	2,046.25	14.04	146.748				
3,200.00	3,198.80	2,762.60	2,757.54	11.06	9.63	56.35	-36.39	-2,059.66	2,075.41	2,061.01	14.40	144.111				
3,300.00	3,298.61	2,858.99	2,852.02	11.40	10.01	56.36	-40.93	-2,078.23	2,091.39	2,076.51	14.88	140.577				
3,400.00	3,398.42	2,957.70	2,948.77	11.75	10.40	56.38	-45.58	-2,097.24	2,107.36	2,092.00	15.36	137.164				
3,500.00	3,498.24	3,056.41	3,045.52	12.10	10.79	56.39	-50.23	-2,116.26	2,123.34	2,107.49	15.85	133.936				
3,600.00	3,598.05	3,155.13	3,142.28	12.44	11.20	56.40	-54.88	-2,135.28	2,139.32	2,122.98	16.35	130.879				
3,700.00	3,697.86	3,253.84	3,239.03	12.79	11.61	56.42	-59.53	-2,154.30	2,155.30	2,138.46	16.84	127.982				
3,800.00	3,797.68	3,352.56	3,335.78	13.15	12.02	56.43	-64.18	-2,173.31	2,171.28	2,153.95	17.34	125.234				
3,900.00	3,897.49	3,451.27	3,432.53	13.50	12.44	56.44	-68.83	-2,192.33	2,187.26	2,169.43	17.84	122.625				
4,000.00	3,997.30	3,549.98	3,529.29	13.85	12.86	56.45	-73.47	-2,211.35	2,203.24	2,184.90	18.34	120.145				
4,100.00	4,097.12	3,648.70	3,626.04	14.21	13.29	56.46	-78.12	-2,230.36	2,219.22	2,200.38	18.84	117.786				
4,200.00	4,196.93	3,747.41	3,722.79	14.56	13.72	56.48	-82.77	-2,249.38	2,235.20	2,215.86	19.35	115.540				
4,300.00	4,296.74	3,846.13	3,819.55	14.92	14.15	56.49	-87.42	-2,268.40	2,251.18	2,231.33	19.85	113.400				
4,400.00	4,396.56	3,944.84	3,916.30	15.28	14.59	56.50	-92.07	-2,287.42	2,267.16	2,246.80	20.36	111.358				
4,500.00	4,496.37	4,043.55	4,013.05	15.64	15.03	56.51	-96.72	-2,306.43	2,283.14	2,262.28	20.87	109.409				
4,600.00	4,596.18	4,142.27	4,109.81	15.99	15.47	56.52	-101.37	-2,325.45	2,299.12	2,277.75	21.38	107.546				
4,700.00	4,696.00	4,240.98	4,206.56	16.35	15.91	56.53	-106.02	-2,344.47	2,315.10	2,293.22	21.89	105.765				
4,800.00	4,795.81	4,339.70	4,303.31	16.71	16.35	56.54	-110.66	-2,363.49	2,331.09	2,308.68	22.40	104.060				
4,900.00	4,895.62	4,438.41	4,400.07	17.07	16.80	56.55	-115.31	-2,382.50	2,347.07	2,324.15	22.91	102.427				

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 801H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
5,000.00	4,995.44	4,537.12	4,496.82	17.44	17.25	56.56	-119.96	-2,401.52	2,363.05	2,339.62	23.43	100.861				
5,100.00	5,095.25	4,635.84	4,593.57	17.80	17.70	56.57	-124.61	-2,420.54	2,379.03	2,355.08	23.94	99.360				
5,200.00	5,195.07	4,734.55	4,690.33	18.16	18.15	56.58	-129.26	-2,439.56	2,395.01	2,370.55	24.46	97.918				
5,300.00	5,294.88	4,833.26	4,787.08	18.52	18.60	56.59	-133.91	-2,458.57	2,410.99	2,386.01	24.98	96.532				
5,400.00	5,394.69	4,931.98	4,883.83	18.88	19.06	56.60	-138.56	-2,477.59	2,426.97	2,401.48	25.49	95.200				
5,500.00	5,494.51	5,030.69	4,980.58	19.25	19.51	56.61	-143.20	-2,496.61	2,442.95	2,416.94	26.01	93.919				
5,600.00	5,594.32	5,129.41	5,077.34	19.61	19.97	56.62	-147.85	-2,515.63	2,458.93	2,432.40	26.53	92.686				
5,700.00	5,694.13	5,228.12	5,174.09	19.98	20.42	56.63	-152.50	-2,534.64	2,474.91	2,447.87	27.05	91.497				
5,800.00	5,793.95	5,326.83	5,270.84	20.34	20.88	56.64	-157.15	-2,553.66	2,490.90	2,463.33	27.57	90.352				
5,900.00	5,893.76	5,425.55	5,367.60	20.70	21.34	56.65	-161.80	-2,572.68	2,506.88	2,478.79	28.09	89.247				
6,000.00	5,993.57	5,524.26	5,464.35	21.07	21.80	56.66	-166.45	-2,591.69	2,522.86	2,494.25	28.61	88.181				
6,100.00	6,093.39	5,622.98	5,561.10	21.43	22.26	56.67	-171.10	-2,610.71	2,538.84	2,509.71	29.13	87.151				
6,200.00	6,193.20	5,721.69	5,657.86	21.80	22.72	56.68	-175.75	-2,629.73	2,554.82	2,525.17	29.65	86.157				
6,300.00	6,293.01	5,820.40	5,754.61	22.17	23.18	56.69	-180.39	-2,648.75	2,570.80	2,540.63	30.18	85.195				
6,400.00	6,392.83	5,919.12	5,851.36	22.53	23.65	56.69	-185.04	-2,667.76	2,586.78	2,556.09	30.70	84.265				
6,500.00	6,492.64	6,017.83	5,948.12	22.90	24.11	56.70	-189.69	-2,686.78	2,602.77	2,571.55	31.22	83.365				
6,600.00	6,592.45	6,116.55	6,044.87	23.26	24.57	56.71	-194.34	-2,705.80	2,618.75	2,587.00	31.74	82.494				
6,700.00	6,692.27	6,215.26	6,141.62	23.63	25.04	56.72	-198.99	-2,724.82	2,634.73	2,602.46	32.27	81.650				
6,719.52	6,711.75	6,234.53	6,160.51	23.70	25.13	56.72	-199.90	-2,728.53	2,637.85	2,605.48	32.37	81.488				
6,800.00	6,792.13	6,313.90	6,238.30	24.00	25.50	56.88	-203.63	-2,743.82	2,651.17	2,618.38	32.79	80.850				
6,900.00	6,892.09	6,412.26	6,334.71	24.35	25.96	57.06	-208.27	-2,762.77	2,668.99	2,635.69	33.31	80.131				
6,952.92	6,945.00	6,464.18	6,385.60	24.54	26.21	-89.78	-210.71	-2,772.77	2,678.99	2,645.42	33.58	79.788				
7,000.00	6,992.08	6,510.33	6,430.83	24.69	26.43	-89.82	-212.88	-2,781.66	2,688.07	2,654.25	33.81	79.500				
7,100.00	7,092.08	6,608.34	6,526.89	25.03	26.89	-89.92	-217.50	-2,800.54	2,707.34	2,673.03	34.31	78.900				
7,200.00	7,192.08	6,709.87	6,706.17	25.37	27.73	-90.10	-225.64	-2,833.86	2,726.05	2,690.92	35.13	77.595				
7,300.00	7,292.08	7,117.06	7,029.71	25.71	29.07	-90.30	-235.30	-2,873.37	2,738.20	2,701.86	36.33	75.367				
7,400.00	7,392.08	7,425.52	7,337.81	26.05	30.12	-90.36	-238.37	-2,885.93	2,742.01	2,704.74	37.27	73.578				
7,500.00	7,492.08	7,536.59	7,448.88	26.39	30.45	-90.36	-238.38	-2,885.95	2,742.01	2,704.25	37.76	72.620				
7,600.00	7,592.08	7,636.59	7,548.88	26.73	30.75	-90.36	-238.38	-2,885.95	2,742.01	2,703.78	38.23	71.718				
7,700.00	7,692.08	7,736.59	7,648.88	27.07	31.05	-90.36	-238.38	-2,885.95	2,742.01	2,703.30	38.71	70.836				
7,800.00	7,792.08	7,836.59	7,748.88	27.41	31.36	-90.36	-238.38	-2,885.95	2,742.01	2,702.82	39.19	69.975				
7,900.00	7,892.08	7,936.59	7,848.88	27.76	31.66	-90.36	-238.38	-2,885.95	2,742.01	2,702.35	39.66	69.133				
8,000.00	7,992.08	8,036.59	7,948.88	28.10	31.97	-90.36	-238.38	-2,885.95	2,742.01	2,701.87	40.14	68.309				
8,100.00	8,092.08	8,136.59	8,048.88	28.44	32.27	-90.36	-238.38	-2,885.95	2,742.01	2,701.39	40.62	67.504				
8,200.00	8,192.08	8,236.59	8,148.88	28.78	32.58	-90.36	-238.38	-2,885.95	2,742.01	2,700.91	41.10	66.717				
8,300.00	8,292.08	8,336.59	8,248.88	29.13	32.89	-90.36	-238.38	-2,885.95	2,742.01	2,700.43	41.58	65.947				
8,400.00	8,392.08	8,436.59	8,348.88	29.47	33.20	-90.36	-238.38	-2,885.95	2,742.01	2,699.95	42.06	65.193				
8,500.00	8,492.08	8,536.59	8,448.88	29.81	33.51	-90.36	-238.38	-2,885.95	2,742.01	2,699.47	42.54	64.455				
8,600.00	8,592.08	8,636.59	8,548.88	30.16	33.82	-90.36	-238.38	-2,885.95	2,742.01	2,698.99	43.02	63.733				
8,700.00	8,692.08	8,736.59	8,648.88	30.50	34.13	-90.36	-238.38	-2,885.95	2,742.01	2,698.50	43.51	63.027				
8,800.00	8,792.08	8,836.59	8,748.88	30.85	34.45	-90.36	-238.38	-2,885.95	2,742.01	2,698.02	43.99	62.335				
8,900.00	8,892.08	8,936.59	8,848.88	31.20	34.76	-90.36	-238.38	-2,885.95	2,742.01	2,697.54	44.47	61.657				
9,000.00	8,992.08	9,036.59	8,948.88	31.54	35.08	-90.36	-238.38	-2,885.95	2,742.01	2,697.05	44.96	60.993				
9,100.00	9,092.08	9,136.59	9,048.88	31.89	35.39	-90.36	-238.38	-2,885.95	2,742.01	2,696.57	45.44	60.343				
9,200.00	9,192.08	9,236.59	9,148.88	32.23	35.71	-90.36	-238.38	-2,885.95	2,742.01	2,696.08	45.93	59.705				
9,300.00	9,292.08	9,336.59	9,248.88	32.58	36.03	-90.36	-238.38	-2,885.95	2,742.01	2,695.60	46.41	59.081				
9,400.00	9,392.08	9,436.59	9,348.88	32.93	36.34	-90.36	-238.38	-2,885.95	2,742.01	2,695.11	46.90	58.468				
9,500.00	9,492.08	9,536.59	9,448.88	33.27	36.66	-90.36	-238.38	-2,885.95	2,742.01	2,694.63	47.38	57.868				
9,600.00	9,592.08	9,636.59	9,548.88	33.62	36.98	-90.36	-238.38	-2,885.95	2,742.01	2,694.14	47.87	57.280				
9,700.00	9,692.08	9,736.59	9,648.88	33.97	37.30	-90.36	-238.38	-2,885.95	2,742.01	2,693.65	48.36	56.703				
9,800.00	9,792.08	9,836.59	9,748.88	34.32	37.62	-90.36	-238.38	-2,885.95	2,742.01	2,693.16	48.85	56.136				
9,900.00	9,892.08	9,936.59	9,848.88	34.66	37.95	-90.36	-238.38	-2,885.95	2,742.01	2,692.68	49.33	55.581				

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,000.00	9,992.08	10,036.59	9,948.88	35.01	38.27	-90.36	-238.38	-2,885.95	2,742.01	2,692.19	49.82	55.036		
10,100.00	10,092.08	10,136.59	10,048.88	35.36	38.59	-90.36	-238.38	-2,885.95	2,742.01	2,691.70	50.31	54.502		
10,200.00	10,192.08	10,236.59	10,148.88	35.71	38.92	-90.36	-238.38	-2,885.95	2,742.01	2,691.21	50.80	53.977		
10,300.00	10,292.08	10,336.59	10,248.88	36.06	39.24	-90.36	-238.38	-2,885.95	2,742.01	2,690.72	51.29	53.462		
10,400.00	10,392.08	10,436.59	10,348.88	36.41	39.56	-90.36	-238.38	-2,885.95	2,742.01	2,690.23	51.78	52.956		
10,500.00	10,492.08	10,536.59	10,448.88	36.76	39.89	-90.36	-238.38	-2,885.95	2,742.01	2,689.74	52.27	52.459		
10,600.00	10,592.08	10,636.59	10,548.88	37.11	40.22	-90.36	-238.38	-2,885.95	2,742.01	2,689.25	52.76	51.972		
10,700.00	10,692.08	10,736.59	10,648.88	37.46	40.54	-90.36	-238.38	-2,885.95	2,742.01	2,688.76	53.25	51.493		
10,800.00	10,792.08	10,836.59	10,748.88	37.81	40.87	-90.36	-238.38	-2,885.95	2,742.01	2,688.27	53.74	51.022		
10,900.00	10,892.08	10,936.59	10,848.88	38.16	41.20	-90.36	-238.38	-2,885.95	2,742.01	2,687.78	54.23	50.560		
11,000.00	10,992.08	11,036.59	10,948.88	38.51	41.53	-90.36	-238.38	-2,885.95	2,742.01	2,687.28	54.72	50.106		
11,100.00	11,092.08	11,136.59	11,048.88	38.86	41.85	-90.36	-238.38	-2,885.95	2,742.01	2,686.79	55.22	49.659		
11,200.00	11,192.08	11,236.59	11,148.88	39.21	42.18	-90.36	-238.38	-2,885.95	2,742.01	2,686.30	55.71	49.220		
11,300.00	11,292.08	11,336.59	11,248.88	39.56	42.51	-90.36	-238.38	-2,885.95	2,742.01	2,685.81	56.20	48.789		
11,400.00	11,392.08	11,436.59	11,348.88	39.91	42.84	-90.36	-238.38	-2,885.95	2,742.01	2,685.32	56.69	48.365		
11,500.00	11,492.08	11,536.59	11,448.88	40.26	43.17	-90.36	-238.38	-2,885.95	2,742.01	2,684.82	57.19	47.948		
11,600.00	11,592.08	11,636.59	11,548.88	40.61	43.50	-90.36	-238.38	-2,885.95	2,742.01	2,684.33	57.68	47.538		
11,615.96	11,608.04	11,652.55	11,564.84	40.66	43.56	-90.36	-238.38	-2,885.95	2,742.01	2,684.25	57.76	47.473		
11,650.00	11,642.06	11,686.57	11,598.86	40.78	43.67	-89.85	-238.38	-2,885.95	2,742.01	2,684.08	57.93	47.337		
11,700.00	11,691.78	11,736.29	11,648.58	40.95	43.84	-89.95	-238.38	-2,885.95	2,742.00	2,683.83	58.16	47.142		
11,714.18	11,705.78	11,750.29	11,662.58	41.00	43.88	-90.00	-238.38	-2,885.95	2,742.00	2,683.77	58.23	47.088		
11,750.00	11,740.86	11,785.37	11,697.66	41.12	44.00	-90.15	-238.38	-2,885.95	2,742.01	2,683.61	58.40	46.955		
11,800.00	11,788.94	11,833.44	11,745.74	41.27	44.16	-90.41	-238.38	-2,885.95	2,742.08	2,683.46	58.62	46.778		
11,850.00	11,835.63	11,880.14	11,792.43	41.42	44.31	-90.74	-238.38	-2,885.95	2,742.27	2,683.44	58.83	46.611		
11,900.00	11,880.59	11,927.21	11,839.50	41.55	44.47	-91.13	-238.01	-2,885.96	2,742.66	2,683.62	59.04	46.455		
11,950.00	11,923.48	11,978.27	11,890.38	41.68	44.63	-91.54	-233.92	-2,886.00	2,743.24	2,683.99	59.24	46.304		
12,000.00	11,963.97	12,031.79	11,943.09	41.80	44.80	-91.96	-224.79	-2,886.09	2,743.99	2,684.54	59.44	46.162		
12,050.00	12,001.74	12,088.08	11,997.36	41.91	44.96	-92.37	-209.93	-2,886.24	2,744.90	2,685.26	59.64	46.028		
12,100.00	12,036.53	12,147.49	12,052.76	42.02	45.12	-92.79	-188.54	-2,886.45	2,745.95	2,686.13	59.82	45.901		
12,150.00	12,068.05	12,210.39	12,108.66	42.13	45.27	-93.20	-159.79	-2,886.73	2,747.11	2,687.11	60.00	45.783		
12,200.00	12,096.07	12,277.10	12,164.13	42.24	45.40	-93.60	-122.80	-2,887.10	2,748.33	2,688.16	60.18	45.671		
12,250.00	12,120.37	12,347.90	12,217.88	42.35	45.52	-93.99	-76.78	-2,887.55	2,749.58	2,689.23	60.35	45.563		
12,300.00	12,140.78	12,422.96	12,268.19	42.47	45.62	-94.36	-21.16	-2,888.10	2,750.78	2,690.27	60.51	45.458		
12,350.00	12,157.13	12,502.24	12,312.96	42.59	45.70	-94.68	44.19	-2,888.75	2,751.89	2,691.21	60.68	45.351		
12,400.00	12,169.30	12,585.43	12,349.78	42.71	45.76	-94.95	118.70	-2,889.48	2,752.82	2,691.97	60.85	45.239		
12,450.00	12,177.21	12,671.89	12,376.20	42.84	45.82	-95.16	200.95	-2,890.30	2,753.52	2,692.48	61.03	45.114		
12,500.00	12,180.78	12,760.66	12,390.15	42.96	45.90	-95.27	288.52	-2,891.16	2,753.93	2,692.70	61.23	44.975		
12,515.96	12,181.00	12,789.28	12,391.73	43.00	45.93	-95.29	317.09	-2,891.44	2,754.00	2,692.70	61.30	44.928		
12,600.00	12,181.00	12,881.07	12,392.00	43.24	46.06	-95.30	408.87	-2,892.35	2,754.06	2,692.44	61.62	44.697		
12,700.00	12,181.00	12,981.07	12,392.00	43.58	46.28	-95.30	508.87	-2,893.34	2,754.10	2,692.04	62.06	44.380		
12,800.00	12,181.00	13,081.07	12,392.00	43.97	46.57	-95.30	608.86	-2,894.33	2,754.15	2,691.57	62.58	44.008		
12,900.00	12,181.00	13,181.07	12,392.00	44.43	46.93	-95.30	708.86	-2,895.32	2,754.19	2,691.01	63.19	43.587		
13,000.00	12,181.00	13,281.07	12,392.00	44.94	47.36	-95.30	808.85	-2,896.30	2,754.24	2,690.37	63.87	43.119		
13,100.00	12,181.00	13,381.07	12,392.00	45.50	47.85	-95.30	908.85	-2,897.29	2,754.29	2,689.65	64.64	42.611		
13,200.00	12,181.00	13,481.07	12,392.00	46.12	48.40	-95.30	1,008.84	-2,898.28	2,754.33	2,688.86	65.47	42.068		
13,300.00	12,181.00	13,581.07	12,392.00	46.79	49.01	-95.30	1,108.84	-2,899.27	2,754.38	2,688.00	66.38	41.493		
13,400.00	12,181.00	13,681.07	12,392.00	47.50	49.67	-95.30	1,208.83	-2,900.26	2,754.43	2,687.07	67.36	40.893		
13,500.00	12,181.00	13,781.07	12,392.00	48.26	50.37	-95.30	1,308.83	-2,901.25	2,754.47	2,686.07	68.40	40.271		
13,600.00	12,181.00	13,881.07	12,392.00	49.07	51.12	-95.30	1,408.82	-2,902.23	2,754.52	2,685.02	69.50	39.632		
13,700.00	12,181.00	13,981.07	12,392.00	49.91	51.92	-95.29	1,508.82	-2,903.22	2,754.57	2,683.90	70.67	38.980		
13,800.00	12,181.00	14,081.07	12,392.00	50.80	52.75	-95.29	1,608.81	-2,904.21	2,754.61	2,682.73	71.89	38.319		
13,900.00	12,181.00	14,181.07	12,392.00	51.72	53.62	-95.29	1,708.81	-2,905.20	2,754.66	2,681.50	73.16	37.652		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design FMM Fed Com - FMM Fed Com 801H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,000.00	12,181.00	14,281.07	12,392.00	52.68	54.53	-95.29	1,808.80	-2,906.19	2,754.71	2,680.22	74.49	36.983		
14,100.00	12,181.00	14,381.07	12,392.00	53.67	55.47	-95.29	1,908.80	-2,907.18	2,754.75	2,678.89	75.86	36.314		
14,200.00	12,181.00	14,481.07	12,392.00	54.70	56.45	-95.29	2,008.79	-2,908.16	2,754.80	2,677.52	77.28	35.647		
14,300.00	12,181.00	14,581.07	12,392.00	55.75	57.46	-95.29	2,108.79	-2,909.15	2,754.85	2,676.10	78.74	34.986		
14,400.00	12,181.00	14,681.07	12,392.00	56.84	58.49	-95.29	2,208.78	-2,910.14	2,754.89	2,674.65	80.24	34.331		
14,500.00	12,181.00	14,781.07	12,392.00	57.95	59.56	-95.29	2,308.78	-2,911.13	2,754.94	2,673.15	81.79	33.684		
14,600.00	12,181.00	14,881.07	12,392.00	59.08	60.65	-95.29	2,408.77	-2,912.12	2,754.99	2,671.62	83.37	33.047		
14,700.00	12,181.00	14,981.07	12,392.00	60.24	61.76	-95.29	2,508.77	-2,913.11	2,755.03	2,670.05	84.98	32.421		
14,800.00	12,181.00	15,081.07	12,392.00	61.42	62.90	-95.29	2,608.76	-2,914.09	2,755.08	2,668.46	86.62	31.805		
14,900.00	12,181.00	15,181.07	12,392.00	62.63	64.07	-95.29	2,708.76	-2,915.08	2,755.13	2,666.83	88.30	31.202		
15,000.00	12,181.00	15,281.07	12,392.00	63.85	65.25	-95.29	2,808.75	-2,916.07	2,755.17	2,665.17	90.00	30.611		
15,100.00	12,181.00	15,381.07	12,392.00	65.09	66.45	-95.29	2,908.75	-2,917.06	2,755.22	2,663.48	91.74	30.034		
15,200.00	12,181.00	15,481.07	12,392.00	66.35	67.67	-95.29	3,008.74	-2,918.05	2,755.26	2,661.77	93.50	29.469		
15,300.00	12,181.00	15,581.07	12,392.00	67.63	68.91	-95.29	3,108.74	-2,919.04	2,755.31	2,660.03	95.28	28.918		
15,400.00	12,181.00	15,681.07	12,392.00	68.92	70.17	-95.29	3,208.73	-2,920.02	2,755.36	2,658.27	97.09	28.381		
15,500.00	12,181.00	15,781.07	12,392.00	70.23	71.44	-95.29	3,308.73	-2,921.01	2,755.40	2,656.49	98.91	27.857		
15,600.00	12,181.00	15,881.07	12,392.00	71.55	72.73	-95.29	3,408.72	-2,922.00	2,755.45	2,654.69	100.76	27.346		
15,700.00	12,181.00	15,981.07	12,392.00	72.89	74.03	-95.29	3,508.72	-2,922.99	2,755.50	2,652.87	102.63	26.849		
15,800.00	12,181.00	16,081.07	12,392.00	74.24	75.35	-95.29	3,608.71	-2,923.98	2,755.54	2,651.03	104.52	26.365		
15,900.00	12,181.00	16,181.07	12,392.00	75.60	76.68	-95.29	3,708.71	-2,924.97	2,755.59	2,649.17	106.42	25.893		
16,000.00	12,181.00	16,281.07	12,392.00	76.97	78.02	-95.29	3,808.70	-2,925.95	2,755.64	2,647.30	108.34	25.435		
16,100.00	12,181.00	16,381.07	12,392.00	78.35	79.37	-95.29	3,908.70	-2,926.94	2,755.68	2,645.41	110.28	24.989		
16,200.00	12,181.00	16,481.07	12,392.00	79.75	80.73	-95.29	4,008.69	-2,927.93	2,755.73	2,643.50	112.23	24.555		
16,300.00	12,181.00	16,581.07	12,392.00	81.15	82.11	-95.29	4,108.69	-2,928.92	2,755.78	2,641.58	114.19	24.133		
16,400.00	12,181.00	16,681.07	12,392.00	82.56	83.49	-95.29	4,208.68	-2,929.91	2,755.82	2,639.65	116.17	23.722		
16,500.00	12,181.00	16,781.07	12,392.00	83.98	84.89	-95.29	4,308.68	-2,930.90	2,755.87	2,637.71	118.16	23.322		
16,600.00	12,181.00	16,881.07	12,392.00	85.41	86.29	-95.29	4,408.67	-2,931.88	2,755.92	2,635.75	120.17	22.934		
16,700.00	12,181.00	16,981.07	12,392.00	86.85	87.70	-95.29	4,508.67	-2,932.87	2,755.96	2,633.78	122.18	22.556		
16,800.00	12,181.00	17,081.07	12,392.00	88.29	89.12	-95.29	4,608.66	-2,933.86	2,756.01	2,631.80	124.21	22.189		
16,900.00	12,181.00	17,181.07	12,392.00	89.74	90.55	-95.29	4,708.66	-2,934.85	2,756.06	2,629.81	126.25	21.831		
17,000.00	12,181.00	17,281.07	12,392.00	91.20	91.98	-95.29	4,808.65	-2,935.84	2,756.10	2,627.81	128.29	21.483		
17,100.00	12,181.00	17,381.07	12,392.00	92.67	93.43	-95.29	4,908.65	-2,936.82	2,756.15	2,625.80	130.35	21.144		
17,200.00	12,181.00	17,481.07	12,392.00	94.14	94.88	-95.29	5,008.65	-2,937.81	2,756.20	2,623.78	132.41	20.815		
17,300.00	12,181.00	17,581.07	12,392.00	95.62	96.33	-95.29	5,108.64	-2,938.80	2,756.24	2,621.75	134.49	20.494		
17,400.00	12,181.00	17,681.07	12,392.00	97.10	97.80	-95.29	5,208.64	-2,939.79	2,756.29	2,619.72	136.57	20.182		
17,500.00	12,181.00	17,781.07	12,392.00	98.59	99.26	-95.29	5,308.63	-2,940.78	2,756.34	2,617.68	138.66	19.878		
17,600.00	12,181.00	17,881.07	12,392.00	100.08	100.74	-95.29	5,408.63	-2,941.77	2,756.38	2,615.62	140.76	19.583		
17,700.00	12,181.00	17,981.07	12,392.00	101.58	102.22	-95.29	5,508.62	-2,942.75	2,756.43	2,613.57	142.86	19.294		
17,800.00	12,181.00	18,081.07	12,392.00	103.08	103.70	-95.29	5,608.62	-2,943.74	2,756.47	2,611.50	144.97	19.014		
17,900.00	12,181.00	18,181.07	12,392.00	104.59	105.19	-95.29	5,708.61	-2,944.73	2,756.52	2,609.43	147.09	18.740		
18,000.00	12,181.00	18,281.07	12,392.00	106.10	106.68	-95.29	5,808.61	-2,945.72	2,756.57	2,607.35	149.21	18.474		
18,100.00	12,181.00	18,381.07	12,392.00	107.62	108.18	-95.29	5,908.60	-2,946.71	2,756.61	2,605.27	151.34	18.214		
18,200.00	12,181.00	18,481.07	12,392.00	109.14	109.69	-95.29	6,008.60	-2,947.70	2,756.66	2,603.18	153.48	17.961		
18,300.00	12,181.00	18,581.07	12,392.00	110.66	111.19	-95.29	6,108.59	-2,948.68	2,756.71	2,601.09	155.62	17.714		
18,400.00	12,181.00	18,681.07	12,392.00	112.19	112.71	-95.29	6,208.59	-2,949.67	2,756.75	2,598.99	157.77	17.474		
18,500.00	12,181.00	18,781.07	12,392.00	113.72	114.22	-95.29	6,308.58	-2,950.66	2,756.80	2,596.88	159.92	17.239		
18,600.00	12,181.00	18,881.07	12,392.00	115.25	115.74	-95.29	6,408.58	-2,951.65	2,756.85	2,594.77	162.07	17.010		
18,700.00	12,181.00	18,981.07	12,392.00	116.79	117.26	-95.29	6,508.57	-2,952.64	2,756.89	2,592.66	164.24	16.786		
18,800.00	12,181.00	19,081.07	12,392.00	118.33	118.79	-95.29	6,608.57	-2,953.63	2,756.94	2,590.54	166.40	16.568		
18,900.00	12,181.00	19,181.07	12,392.00	119.87	120.32	-95.29	6,708.56	-2,954.61	2,756.99	2,588.42	168.57	16.355		
19,000.00	12,181.00	19,281.07	12,392.00	121.42	121.85	-95.29	6,808.56	-2,955.60	2,757.03	2,586.29	170.74	16.147		
19,100.00	12,181.00	19,381.07	12,392.00	122.97	123.39	-95.29	6,908.55	-2,956.59	2,757.08	2,584.16	172.92	15.944		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,200.00	12,181.00	19,481.07	12,392.00	124.52	124.93	-95.29	7,008.55	-2,957.58	2,757.13	2,582.02	175.10	15.746		
19,300.00	12,181.00	19,581.07	12,392.00	126.08	126.47	-95.29	7,108.54	-2,958.57	2,757.17	2,579.88	177.29	15.552		
19,400.00	12,181.00	19,681.07	12,392.00	127.63	128.01	-95.29	7,208.54	-2,959.56	2,757.22	2,577.74	179.48	15.362		
19,500.00	12,181.00	19,781.07	12,392.00	129.19	129.56	-95.29	7,308.53	-2,960.54	2,757.27	2,575.59	181.67	15.177		
19,600.00	12,181.00	19,881.07	12,392.00	130.75	131.11	-95.29	7,408.53	-2,961.53	2,757.31	2,573.44	183.87	14.996		
19,700.00	12,181.00	19,981.07	12,392.00	132.32	132.66	-95.29	7,508.52	-2,962.52	2,757.36	2,571.29	186.07	14.819		
19,800.00	12,181.00	20,081.07	12,392.00	133.88	134.22	-95.29	7,608.52	-2,963.51	2,757.41	2,569.14	188.27	14.646		
19,900.00	12,181.00	20,181.07	12,392.00	135.45	135.77	-95.29	7,708.51	-2,964.50	2,757.45	2,566.98	190.47	14.477		
20,000.00	12,181.00	20,281.07	12,392.00	137.02	137.33	-95.29	7,808.51	-2,965.49	2,757.50	2,564.82	192.68	14.311		
20,100.00	12,181.00	20,381.07	12,392.00	138.59	138.89	-95.29	7,908.50	-2,966.47	2,757.55	2,562.65	194.89	14.149		
20,200.00	12,181.00	20,481.07	12,392.00	140.17	140.46	-95.29	8,008.50	-2,967.46	2,757.59	2,560.48	197.11	13.990		
20,300.00	12,181.00	20,581.07	12,392.00	141.74	142.02	-95.29	8,108.49	-2,968.45	2,757.64	2,558.31	199.32	13.835		
20,400.00	12,181.00	20,681.07	12,392.00	143.32	143.59	-95.29	8,208.49	-2,969.44	2,757.68	2,556.14	201.54	13.683		
20,500.00	12,181.00	20,781.07	12,392.00	144.90	145.16	-95.29	8,308.48	-2,970.43	2,757.73	2,553.97	203.76	13.534		
20,600.00	12,181.00	20,881.07	12,392.00	146.48	146.73	-95.29	8,408.48	-2,971.42	2,757.78	2,551.79	205.99	13.388		
20,700.00	12,181.00	20,981.07	12,392.00	148.06	148.30	-95.29	8,508.47	-2,972.40	2,757.82	2,549.61	208.21	13.245		
20,800.00	12,181.00	21,081.07	12,392.00	149.64	149.88	-95.29	8,608.47	-2,973.39	2,757.87	2,547.43	210.44	13.105		
20,900.00	12,181.00	21,181.07	12,392.00	151.23	151.45	-95.29	8,708.46	-2,974.38	2,757.92	2,545.25	212.67	12.968		
21,000.00	12,181.00	21,281.07	12,392.00	152.81	153.03	-95.29	8,808.46	-2,975.37	2,757.96	2,543.06	214.90	12.833		
21,100.00	12,181.00	21,381.07	12,392.00	154.40	154.61	-95.29	8,908.45	-2,976.36	2,758.01	2,540.87	217.14	12.702		
21,200.00	12,181.00	21,481.07	12,392.00	155.99	156.19	-95.29	9,008.45	-2,977.35	2,758.06	2,538.68	219.38	12.572		
21,300.00	12,181.00	21,581.07	12,392.00	157.58	157.77	-95.29	9,108.44	-2,978.33	2,758.10	2,536.49	221.61	12.446		
21,400.00	12,181.00	21,681.07	12,392.00	159.17	159.36	-95.29	9,208.44	-2,979.32	2,758.15	2,534.30	223.85	12.321		
21,500.00	12,181.00	21,781.07	12,392.00	160.77	160.94	-95.29	9,308.43	-2,980.31	2,758.20	2,532.10	226.10	12.199		
21,600.00	12,181.00	21,881.07	12,392.00	162.36	162.53	-95.29	9,408.43	-2,981.30	2,758.24	2,529.90	228.34	12.080		
21,700.00	12,181.00	21,981.07	12,392.00	163.96	164.12	-95.29	9,508.43	-2,982.29	2,758.29	2,527.71	230.58	11.962		
21,800.00	12,181.00	22,081.07	12,392.00	165.55	165.70	-95.29	9,608.42	-2,983.28	2,758.34	2,525.51	232.83	11.847		
21,900.00	12,181.00	22,181.07	12,392.00	167.15	167.30	-95.29	9,708.42	-2,984.26	2,758.38	2,523.30	235.08	11.734		
22,000.00	12,181.00	22,281.07	12,392.00	168.75	168.89	-95.29	9,808.41	-2,985.25	2,758.43	2,521.10	237.33	11.623		
22,100.00	12,181.00	22,381.07	12,392.00	170.35	170.48	-95.29	9,908.41	-2,986.24	2,758.48	2,518.89	239.58	11.514		
22,200.00	12,181.00	22,481.07	12,392.00	171.95	172.07	-95.29	10,008.40	-2,987.23	2,758.52	2,516.69	241.83	11.407		
22,306.42	12,181.00	22,587.49	12,392.00	173.65	173.77	-95.29	10,114.81	-2,988.28	2,758.57	2,514.34	244.23	11.295 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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design FMM Fed Com - FMM Fed Com 802H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-90.53	-18.14	-1,960.89	1,961.44					
100.00	100.00	57.10	57.10	0.13	0.07	-90.53	-18.14	-1,960.89	1,960.97	1,960.83	0.14	N/A		
200.00	200.00	157.10	157.10	0.48	0.33	-90.53	-18.14	-1,960.89	1,960.97	1,960.39	0.59	3,347.348		
300.00	300.00	257.10	257.10	0.84	0.69	-90.53	-18.14	-1,960.89	1,960.97	1,959.88	1.09	1,802.280		
400.00	400.00	357.10	357.10	1.20	1.05	-90.53	-18.14	-1,960.89	1,960.97	1,959.38	1.59	1,230.782		
500.00	500.00	457.10	457.10	1.56	1.41	-90.53	-18.14	-1,960.89	1,960.97	1,958.87	2.10	934.094		
600.00	600.00	557.10	557.10	1.92	1.76	-90.53	-18.14	-1,960.89	1,960.97	1,958.37	2.61	752.559		
700.00	700.00	657.10	657.10	2.28	2.12	-90.53	-18.14	-1,960.89	1,960.97	1,957.86	3.11	630.067		
800.00	800.00	757.10	757.10	2.63	2.48	-90.53	-18.14	-1,960.89	1,960.97	1,957.35	3.62	541.853		
900.00	900.00	857.10	857.10	2.99	2.84	-90.53	-18.14	-1,960.89	1,960.97	1,956.85	4.13	475.299		
1,000.00	1,000.00	957.10	957.10	3.35	3.20	-90.53	-18.14	-1,960.89	1,960.97	1,956.34	4.63	423.302		
1,100.00	1,100.00	1,057.10	1,057.10	3.71	3.56	-90.53	-18.14	-1,960.89	1,960.97	1,955.83	5.14	381.557		
1,200.00	1,200.00	1,157.10	1,157.10	4.07	3.91	-90.53	-18.14	-1,960.89	1,960.97	1,955.33	5.65	347.305		
1,300.00	1,300.00	1,257.10	1,257.10	4.43	4.27	-90.53	-18.14	-1,960.89	1,960.97	1,954.82	6.15	318.696		
1,400.00	1,400.00	1,357.10	1,357.10	4.79	4.63	-90.53	-18.14	-1,960.89	1,960.97	1,954.31	6.66	294.440		
1,500.00	1,500.00	1,457.10	1,457.10	5.14	4.99	-90.53	-18.14	-1,960.89	1,960.97	1,953.81	7.17	273.616		
1,600.00	1,600.00	1,557.10	1,557.10	5.50	5.35	-90.53	-18.14	-1,960.89	1,960.97	1,953.30	7.67	255.542		
1,700.00	1,700.00	1,657.10	1,657.10	5.86	5.71	-90.53	-18.14	-1,960.89	1,960.97	1,952.79	8.18	239.707		
1,800.00	1,800.00	1,757.10	1,757.10	6.22	6.07	-90.53	-18.14	-1,960.89	1,960.97	1,952.29	8.69	225.721		
1,900.00	1,900.00	1,857.10	1,857.10	6.58	6.42	-90.53	-18.14	-1,960.89	1,960.97	1,951.78	9.19	213.276		
2,000.00	2,000.00	1,957.10	1,957.10	6.94	6.78	-90.53	-18.14	-1,960.89	1,960.97	1,951.27	9.70	202.132		
2,100.00	2,100.00	2,057.10	2,057.10	7.29	7.14	-90.53	-18.14	-1,960.89	1,960.97	1,950.76	10.21	192.094		
2,200.00	2,200.00	2,157.10	2,157.10	7.65	7.50	-90.53	-18.14	-1,960.89	1,960.97	1,950.26	10.72	183.007		
2,204.51	2,204.51	2,161.61	2,161.61	7.67	7.52	-90.53	-18.14	-1,960.89	1,960.97	1,950.23	10.74	182.617		
2,300.00	2,300.00	2,256.96	2,256.96	8.01	7.85	-90.54	-18.57	-1,960.89	1,960.97	1,949.76	11.21	174.861		
2,400.00	2,400.00	2,356.63	2,356.59	8.37	8.18	-90.62	-21.35	-1,960.87	1,960.99	1,949.29	11.70	167.590		
2,500.00	2,499.99	2,456.16	2,455.97	8.71	8.50	56.17	-26.73	-1,960.85	1,960.30	1,948.13	12.17	161.057		
2,600.00	2,599.91	2,555.53	2,555.01	9.04	8.83	56.06	-34.68	-1,960.81	1,958.19	1,945.56	12.63	155.004		
2,633.40	2,633.25	2,588.67	2,588.00	9.15	8.94	56.02	-37.90	-1,960.80	1,957.17	1,944.38	12.79	153.046		
2,700.00	2,699.73	2,654.70	2,653.62	9.37	9.16	55.91	-45.17	-1,960.77	1,954.98	1,941.89	13.10	149.247		
2,800.00	2,799.54	2,754.41	2,752.64	9.70	9.50	55.71	-56.97	-1,960.71	1,951.73	1,938.16	13.57	143.798		
2,900.00	2,899.36	2,854.13	2,851.66	10.04	9.84	55.51	-68.77	-1,960.66	1,948.51	1,934.45	14.05	138.668		
3,000.00	2,999.17	2,953.85	2,950.67	10.37	10.19	55.31	-80.57	-1,960.61	1,945.30	1,930.77	14.54	133.832		
3,100.00	3,098.98	3,053.56	3,049.69	10.71	10.54	55.11	-92.36	-1,960.55	1,942.12	1,927.10	15.02	129.270		
3,200.00	3,198.80	3,153.28	3,148.70	11.06	10.90	54.91	-104.16	-1,960.50	1,938.97	1,923.45	15.52	124.964		
3,300.00	3,298.61	3,252.99	3,247.72	11.40	11.25	54.70	-115.96	-1,960.44	1,935.83	1,919.82	16.01	120.897		
3,400.00	3,398.42	3,352.71	3,346.73	11.75	11.62	54.50	-127.75	-1,960.39	1,932.73	1,916.22	16.51	117.052		
3,500.00	3,498.24	3,452.42	3,445.75	12.10	11.98	54.30	-139.55	-1,960.34	1,929.64	1,912.63	17.01	113.414		
3,600.00	3,598.05	3,552.14	3,544.76	12.44	12.35	54.09	-151.35	-1,960.28	1,926.59	1,909.07	17.52	109.969		
3,700.00	3,697.86	3,651.86	3,643.78	12.79	12.72	53.89	-163.15	-1,960.23	1,923.55	1,905.53	18.03	106.703		
3,800.00	3,797.68	3,751.57	3,742.80	13.15	13.09	53.68	-174.94	-1,960.18	1,920.54	1,902.01	18.54	103.605		
3,900.00	3,897.49	3,851.29	3,841.81	13.50	13.47	53.48	-186.74	-1,960.12	1,917.56	1,898.51	19.05	100.662		
4,000.00	3,997.30	3,951.00	3,940.83	13.85	13.84	53.27	-198.54	-1,960.07	1,914.60	1,895.04	19.56	97.866		
4,100.00	4,097.12	4,050.72	4,039.84	14.21	14.22	53.06	-210.33	-1,960.02	1,911.67	1,891.59	20.08	95.206		
4,200.00	4,196.93	4,153.59	4,142.12	14.56	14.61	52.88	-221.34	-1,959.97	1,908.68	1,888.08	20.60	92.646		
4,300.00	4,296.74	4,256.98	4,245.17	14.92	14.99	52.79	-229.63	-1,959.93	1,905.53	1,884.41	21.12	90.218		
4,400.00	4,396.56	4,360.45	4,348.49	15.28	15.36	52.77	-235.14	-1,959.90	1,902.20	1,880.56	21.64	87.922		
4,500.00	4,496.37	4,463.86	4,451.86	15.64	15.73	52.84	-237.84	-1,959.89	1,898.68	1,876.53	22.14	85.748		
4,600.00	4,596.18	4,565.28	4,553.28	15.99	16.07	52.98	-238.14	-1,959.89	1,895.01	1,872.37	22.64	83.704		
4,700.00	4,696.00	4,665.10	4,653.10	16.35	16.41	53.13	-238.14	-1,959.89	1,891.34	1,868.20	23.13	81.767		
4,800.00	4,795.81	4,764.91	4,752.91	16.71	16.75	53.28	-238.14	-1,959.89	1,887.67	1,864.05	23.62	79.907		
4,900.00	4,895.62	4,864.72	4,852.72	17.07	17.09	53.43	-238.14	-1,959.89	1,884.02	1,859.91	24.12	78.121		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 802H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD															Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
							+N/-S (usft)	+E/-W (usft)								
5,000.00	4,995.44	4,964.54	4,952.54	17.44	17.43	53.58	-238.14	-1,959.89	1,880.39	1,855.78	24.61	76.404				
5,100.00	5,095.25	5,064.35	5,052.35	17.80	17.77	53.73	-238.14	-1,959.89	1,876.76	1,851.66	25.11	74.753				
5,200.00	5,195.07	5,164.16	5,152.17	18.16	18.11	53.88	-238.14	-1,959.89	1,873.15	1,847.55	25.60	73.163				
5,300.00	5,294.88	5,263.98	5,251.98	18.52	18.46	54.03	-238.14	-1,959.89	1,869.56	1,843.46	26.10	71.633				
5,400.00	5,394.69	5,363.79	5,351.79	18.88	18.80	54.18	-238.14	-1,959.89	1,865.97	1,839.37	26.60	70.159				
5,500.00	5,494.51	5,463.60	5,451.61	19.25	19.14	54.33	-238.14	-1,959.89	1,862.40	1,835.30	27.09	68.737				
5,600.00	5,594.32	5,563.42	5,551.42	19.61	19.49	54.48	-238.14	-1,959.89	1,858.84	1,831.25	27.59	67.366				
5,700.00	5,694.13	5,663.23	5,651.23	19.98	19.83	54.64	-238.14	-1,959.89	1,855.30	1,827.20	28.09	66.042				
5,800.00	5,793.95	5,763.04	5,751.05	20.34	20.18	54.79	-238.14	-1,959.89	1,851.76	1,823.17	28.59	64.764				
5,900.00	5,893.76	5,862.86	5,850.86	20.70	20.52	54.95	-238.14	-1,959.89	1,848.25	1,819.15	29.09	63.529				
6,000.00	5,993.57	5,962.67	5,950.67	21.07	20.87	55.10	-238.14	-1,959.89	1,844.74	1,815.15	29.59	62.335				
6,100.00	6,093.39	6,062.48	6,050.49	21.43	21.22	55.26	-238.14	-1,959.89	1,841.25	1,811.15	30.10	61.181				
6,200.00	6,193.20	6,162.30	6,150.30	21.80	21.56	55.41	-238.14	-1,959.89	1,837.77	1,807.17	30.60	60.063				
6,300.00	6,293.01	6,262.11	6,250.11	22.17	21.91	55.57	-238.14	-1,959.89	1,834.31	1,803.21	31.10	58.982				
6,400.00	6,392.83	6,361.92	6,349.93	22.53	22.26	55.73	-238.14	-1,959.89	1,830.86	1,799.25	31.60	57.934				
6,500.00	6,492.64	6,461.74	6,449.74	22.90	22.61	55.89	-238.14	-1,959.89	1,827.42	1,795.32	32.11	56.919				
6,600.00	6,592.45	6,561.55	6,549.55	23.26	22.95	56.04	-238.14	-1,959.89	1,824.00	1,791.39	32.61	55.935				
6,700.00	6,692.27	6,661.36	6,649.37	23.63	23.30	56.20	-238.14	-1,959.89	1,820.59	1,787.48	33.11	54.980				
6,719.52	6,711.75	6,680.85	6,668.85	23.70	23.37	56.23	-238.14	-1,959.89	1,819.93	1,786.72	33.21	54.797				
6,800.00	6,792.13	6,761.22	6,749.23	24.00	23.65	56.31	-238.14	-1,959.89	1,817.67	1,784.05	33.62	54.070				
6,900.00	6,892.09	6,861.18	6,849.19	24.35	24.00	56.36	-238.14	-1,959.89	1,816.17	1,782.06	34.12	53.235				
6,952.92	6,945.00	6,914.10	6,902.10	24.54	24.19	-90.54	-238.14	-1,959.89	1,815.97	1,781.59	34.38	52.826				
7,000.00	6,992.08	6,961.18	6,949.18	24.69	24.35	-90.54	-238.14	-1,959.89	1,815.97	1,781.36	34.61	52.476				
7,100.00	7,092.08	7,061.18	7,049.18	25.03	24.70	-90.54	-238.14	-1,959.89	1,815.97	1,780.88	35.09	51.747				
7,200.00	7,192.08	7,161.18	7,149.18	25.37	25.05	-90.54	-238.14	-1,959.89	1,815.97	1,780.39	35.58	51.038				
7,300.00	7,292.08	7,261.18	7,249.18	25.71	25.40	-90.54	-238.14	-1,959.89	1,815.97	1,779.90	36.07	50.347				
7,400.00	7,392.08	7,361.18	7,349.18	26.05	25.75	-90.54	-238.14	-1,959.89	1,815.97	1,779.41	36.56	49.674				
7,500.00	7,492.08	7,461.18	7,449.18	26.39	26.10	-90.54	-238.14	-1,959.89	1,815.97	1,778.92	37.05	49.018				
7,600.00	7,592.08	7,561.18	7,549.18	26.73	26.45	-90.54	-238.14	-1,959.89	1,815.97	1,778.43	37.54	48.378				
7,700.00	7,692.08	7,661.18	7,649.18	27.07	26.81	-90.54	-238.14	-1,959.89	1,815.97	1,777.94	38.03	47.754				
7,800.00	7,792.08	7,761.18	7,749.18	27.41	27.16	-90.54	-238.14	-1,959.89	1,815.97	1,777.45	38.52	47.146				
7,900.00	7,892.08	7,861.18	7,849.18	27.76	27.51	-90.54	-238.14	-1,959.89	1,815.97	1,776.96	39.01	46.552				
8,000.00	7,992.08	7,961.18	7,949.18	28.10	27.86	-90.54	-238.14	-1,959.89	1,815.97	1,776.47	39.50	45.973				
8,100.00	8,092.08	8,061.18	8,049.18	28.44	28.21	-90.54	-238.14	-1,959.89	1,815.97	1,775.98	39.99	45.408				
8,200.00	8,192.08	8,161.18	8,149.18	28.78	28.57	-90.54	-238.14	-1,959.89	1,815.97	1,775.49	40.48	44.856				
8,300.00	8,292.08	8,261.18	8,249.18	29.13	28.92	-90.54	-238.14	-1,959.89	1,815.97	1,774.99	40.98	44.316				
8,400.00	8,392.08	8,361.18	8,349.18	29.47	29.27	-90.54	-238.14	-1,959.89	1,815.97	1,774.50	41.47	43.790				
8,500.00	8,492.08	8,461.18	8,449.18	29.81	29.62	-90.54	-238.14	-1,959.89	1,815.97	1,774.01	41.96	43.275				
8,600.00	8,592.08	8,561.18	8,549.18	30.16	29.98	-90.54	-238.14	-1,959.89	1,815.97	1,773.51	42.46	42.772				
8,700.00	8,692.08	8,661.18	8,649.18	30.50	30.33	-90.54	-238.14	-1,959.89	1,815.97	1,773.02	42.95	42.280				
8,800.00	8,792.08	8,761.18	8,749.18	30.85	30.68	-90.54	-238.14	-1,959.89	1,815.97	1,772.52	43.45	41.799				
8,900.00	8,892.08	8,861.18	8,849.18	31.20	31.04	-90.54	-238.14	-1,959.89	1,815.97	1,772.03	43.94	41.328				
9,000.00	8,992.08	8,961.18	8,949.18	31.54	31.39	-90.54	-238.14	-1,959.89	1,815.97	1,771.54	44.43	40.868				
9,100.00	9,092.08	9,061.18	9,049.18	31.89	31.74	-90.54	-238.14	-1,959.89	1,815.97	1,771.04	44.93	40.418				
9,200.00	9,192.08	9,161.18	9,149.18	32.23	32.10	-90.54	-238.14	-1,959.89	1,815.97	1,770.54	45.43	39.977				
9,300.00	9,292.08	9,261.18	9,249.18	32.58	32.45	-90.54	-238.14	-1,959.89	1,815.97	1,770.05	45.92	39.546				
9,400.00	9,392.08	9,361.18	9,349.18	32.93	32.80	-90.54	-238.14	-1,959.89	1,815.97	1,769.55	46.42	39.123				
9,500.00	9,492.08	9,461.18	9,449.18	33.27	33.16	-90.54	-238.14	-1,959.89	1,815.97	1,769.06	46.91	38.710				
9,600.00	9,592.08	9,561.18	9,549.18	33.62	33.51	-90.54	-238.14	-1,959.89	1,815.97	1,768.56	47.41	38.304				
9,700.00	9,692.08	9,661.18	9,649.18	33.97	33.86	-90.54	-238.14	-1,959.89	1,815.97	1,768.06	47.91	37.907				
9,800.00	9,792.08	9,761.18	9,749.18	34.32	34.22	-90.54	-238.14	-1,959.89	1,815.97	1,767.57	48.40	37.518				
9,900.00	9,892.08	9,861.18	9,849.18	34.66	34.57	-90.54	-238.14	-1,959.89	1,815.97	1,767.07	48.90	37.137				

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,000.00	9,992.08	9,961.18	9,949.18	35.01	34.93	-90.54	-238.14	-1,959.89	1,815.97	1,766.57	49.40	36.763		
10,100.00	10,092.08	10,061.18	10,049.18	35.36	35.28	-90.54	-238.14	-1,959.89	1,815.97	1,766.08	49.89	36.397		
10,200.00	10,192.08	10,161.18	10,149.18	35.71	35.64	-90.54	-238.14	-1,959.89	1,815.97	1,765.58	50.39	36.038		
10,300.00	10,292.08	10,261.18	10,249.18	36.06	35.99	-90.54	-238.14	-1,959.89	1,815.97	1,765.08	50.89	35.685		
10,400.00	10,392.08	10,361.18	10,349.18	36.41	36.35	-90.54	-238.14	-1,959.89	1,815.97	1,764.58	51.39	35.339		
10,500.00	10,492.08	10,461.18	10,449.18	36.76	36.70	-90.54	-238.14	-1,959.89	1,815.97	1,764.09	51.88	35.000		
10,600.00	10,592.08	10,561.18	10,549.18	37.11	37.06	-90.54	-238.14	-1,959.89	1,815.97	1,763.59	52.38	34.667		
10,700.00	10,692.08	10,661.18	10,649.18	37.46	37.41	-90.54	-238.14	-1,959.89	1,815.97	1,763.09	52.88	34.340		
10,800.00	10,792.08	10,761.18	10,749.18	37.81	37.77	-90.54	-238.14	-1,959.89	1,815.97	1,762.59	53.38	34.020		
10,900.00	10,892.08	10,861.18	10,849.18	38.16	38.12	-90.54	-238.14	-1,959.89	1,815.97	1,762.09	53.88	33.705		
11,000.00	10,992.08	10,961.18	10,949.18	38.51	38.48	-90.54	-238.14	-1,959.89	1,815.97	1,761.59	54.38	33.396		
11,100.00	11,092.08	11,061.18	11,049.18	38.86	38.83	-90.54	-238.14	-1,959.89	1,815.97	1,761.09	54.88	33.092		
11,200.00	11,192.08	11,161.18	11,149.18	39.21	39.19	-90.54	-238.14	-1,959.89	1,815.97	1,760.59	55.38	32.794		
11,300.00	11,292.08	11,261.18	11,249.18	39.56	39.54	-90.54	-238.14	-1,959.89	1,815.97	1,760.09	55.88	32.501		
11,400.00	11,392.08	11,361.18	11,349.18	39.91	39.90	-90.54	-238.14	-1,959.89	1,815.97	1,759.60	56.37	32.213		
11,500.00	11,492.08	11,461.18	11,449.18	40.26	40.25	-90.54	-238.14	-1,959.89	1,815.97	1,759.10	56.87	31.930		
11,600.00	11,592.08	11,561.18	11,549.18	40.61	40.61	-90.54	-238.14	-1,959.89	1,815.97	1,758.60	57.37	31.652		
11,615.96	11,608.04	11,577.14	11,565.14	40.66	40.66	-90.54	-238.14	-1,959.89	1,815.97	1,758.52	57.45	31.608 CC		
11,615.98	11,608.06	11,577.16	11,565.16	40.67	40.66	-90.54	-238.14	-1,959.89	1,815.97	1,758.52	57.45	31.608		
11,650.00	11,642.06	11,611.16	11,599.16	40.78	40.78	-90.03	-238.14	-1,959.89	1,815.97	1,758.35	57.62	31.515		
11,700.00	11,691.78	11,660.88	11,648.88	40.95	40.96	-90.19	-238.14	-1,959.89	1,815.98	1,758.11	57.87	31.382		
11,750.00	11,740.86	11,709.96	11,697.96	41.12	41.14	-90.48	-238.14	-1,959.89	1,816.04	1,757.93	58.10	31.255		
11,800.00	11,788.94	11,760.19	11,748.14	41.27	41.31	-90.85	-236.37	-1,959.91	1,816.18	1,757.84	58.34	31.132		
11,850.00	11,835.63	11,811.69	11,799.23	41.42	41.49	-91.21	-230.01	-1,959.97	1,816.41	1,757.84	58.56	31.016		
11,900.00	11,880.59	11,864.39	11,850.71	41.55	41.66	-91.57	-218.79	-1,960.08	1,816.70	1,757.92	58.78	30.906		
11,950.00	11,923.48	11,918.36	11,902.12	41.68	41.82	-91.93	-202.45	-1,960.24	1,817.07	1,758.08	58.99	30.802		
12,000.00	11,963.97	11,973.63	11,952.94	41.80	41.98	-92.27	-180.77	-1,960.46	1,817.50	1,758.31	59.19	30.705		
12,050.00	12,001.74	12,030.25	12,002.59	41.91	42.14	-92.60	-153.61	-1,960.73	1,817.97	1,758.59	59.39	30.613		
12,100.00	12,036.53	12,088.22	12,050.39	42.02	42.29	-92.91	-120.85	-1,961.05	1,818.47	1,758.90	59.57	30.526		
12,150.00	12,068.05	12,147.55	12,095.63	42.13	42.44	-93.21	-82.51	-1,961.43	1,818.99	1,759.24	59.75	30.444		
12,200.00	12,096.07	12,208.18	12,137.51	42.24	42.59	-93.48	-38.71	-1,961.86	1,819.50	1,759.58	59.92	30.364		
12,250.00	12,120.37	12,270.05	12,175.24	42.35	42.74	-93.71	10.28	-1,962.35	1,819.99	1,759.90	60.09	30.286		
12,300.00	12,140.78	12,333.05	12,208.00	42.47	42.88	-93.92	64.06	-1,962.88	1,820.44	1,760.17	60.27	30.207		
12,350.00	12,157.13	12,397.03	12,235.02	42.59	43.03	-94.09	122.02	-1,963.45	1,820.82	1,760.38	60.44	30.126		
12,400.00	12,169.30	12,461.83	12,255.64	42.71	43.18	-94.22	183.40	-1,964.06	1,821.12	1,760.50	60.62	30.041		
12,450.00	12,177.21	12,527.21	12,269.28	42.84	43.34	-94.30	247.30	-1,964.69	1,821.34	1,760.53	60.81	29.952		
12,500.00	12,180.78	12,592.94	12,275.57	42.96	43.50	-94.34	312.70	-1,965.34	1,821.46	1,760.45	61.00	29.858		
12,515.96	12,181.00	12,613.96	12,276.00	43.00	43.55	-94.34	333.70	-1,965.55	1,821.47	1,760.40	61.07	29.828		
12,600.00	12,181.00	12,698.26	12,276.00	43.24	43.77	-94.34	418.00	-1,966.38	1,821.51	1,760.12	61.39	29.671		
12,700.00	12,181.00	12,798.26	12,276.00	43.58	44.10	-94.34	518.00	-1,967.37	1,821.56	1,759.70	61.86	29.449		
12,800.00	12,181.00	12,898.26	12,276.00	43.97	44.48	-94.34	618.00	-1,968.36	1,821.61	1,759.20	62.40	29.191		
12,900.00	12,181.00	12,998.26	12,276.00	44.43	44.92	-94.34	717.99	-1,969.35	1,821.65	1,758.62	63.03	28.900		
13,000.00	12,181.00	13,098.26	12,276.00	44.94	45.42	-94.34	817.99	-1,970.34	1,821.70	1,757.96	63.74	28.579		
13,100.00	12,181.00	13,198.26	12,276.00	45.50	45.97	-94.34	917.98	-1,971.33	1,821.75	1,757.22	64.53	28.232		
13,200.00	12,181.00	13,298.26	12,276.00	46.12	46.57	-94.34	1,017.98	-1,972.32	1,821.80	1,756.41	65.39	27.861		
13,300.00	12,181.00	13,398.26	12,276.00	46.79	47.23	-94.34	1,117.97	-1,973.31	1,821.84	1,755.53	66.32	27.471		
13,400.00	12,181.00	13,498.26	12,276.00	47.50	47.93	-94.34	1,217.97	-1,974.29	1,821.89	1,754.57	67.32	27.065		
13,500.00	12,181.00	13,598.26	12,276.00	48.26	48.68	-94.34	1,317.96	-1,975.28	1,821.94	1,753.56	68.38	26.645		
13,600.00	12,181.00	13,698.26	12,276.00	49.07	49.47	-94.34	1,417.96	-1,976.27	1,821.99	1,752.48	69.50	26.214		
13,700.00	12,181.00	13,798.26	12,276.00	49.91	50.30	-94.34	1,517.95	-1,977.26	1,822.03	1,751.35	70.69	25.776		
13,800.00	12,181.00	13,898.26	12,276.00	50.80	51.17	-94.34	1,617.95	-1,978.25	1,822.08	1,750.15	71.93	25.332		
13,900.00	12,181.00	13,998.26	12,276.00	51.72	52.09	-94.34	1,717.94	-1,979.24	1,822.13	1,748.91	73.22	24.885		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design FMM Fed Com - FMM Fed Com 802H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,000.00	12,181.00	14,098.26	12,276.00	52.68	53.03	-94.34	1,817.94	-1,980.23	1,822.18	1,747.61	74.56	24.438		
14,100.00	12,181.00	14,198.26	12,276.00	53.67	54.01	-94.34	1,917.93	-1,981.22	1,822.22	1,746.27	75.96	23.991		
14,200.00	12,181.00	14,298.26	12,276.00	54.70	55.03	-94.34	2,017.93	-1,982.21	1,822.27	1,744.88	77.39	23.546		
14,300.00	12,181.00	14,398.26	12,276.00	55.75	56.07	-94.34	2,117.92	-1,983.20	1,822.32	1,743.45	78.87	23.105		
14,400.00	12,181.00	14,498.26	12,276.00	56.84	57.14	-94.34	2,217.92	-1,984.19	1,822.37	1,741.97	80.39	22.669		
14,500.00	12,181.00	14,598.26	12,276.00	57.95	58.24	-94.34	2,317.91	-1,985.18	1,822.41	1,740.46	81.95	22.238		
14,600.00	12,181.00	14,698.26	12,276.00	59.08	59.37	-94.34	2,417.91	-1,986.17	1,822.46	1,738.92	83.54	21.815		
14,700.00	12,181.00	14,798.26	12,276.00	60.24	60.51	-94.34	2,517.90	-1,987.15	1,822.51	1,737.34	85.17	21.398		
14,800.00	12,181.00	14,898.26	12,276.00	61.42	61.69	-94.34	2,617.90	-1,988.14	1,822.56	1,735.73	86.83	20.990		
14,900.00	12,181.00	14,998.26	12,276.00	62.63	62.88	-94.34	2,717.89	-1,989.13	1,822.60	1,734.08	88.52	20.589		
15,000.00	12,181.00	15,098.26	12,276.00	63.85	64.09	-94.34	2,817.89	-1,990.12	1,822.65	1,732.41	90.24	20.198		
15,100.00	12,181.00	15,198.26	12,276.00	65.09	65.33	-94.34	2,917.88	-1,991.11	1,822.70	1,730.71	91.99	19.815		
15,200.00	12,181.00	15,298.26	12,276.00	66.35	66.58	-94.34	3,017.88	-1,992.10	1,822.75	1,728.99	93.76	19.441		
15,300.00	12,181.00	15,398.26	12,276.00	67.63	67.85	-94.34	3,117.87	-1,993.09	1,822.79	1,727.24	95.55	19.076		
15,400.00	12,181.00	15,498.26	12,276.00	68.92	69.13	-94.34	3,217.87	-1,994.08	1,822.84	1,725.47	97.37	18.721		
15,500.00	12,181.00	15,598.26	12,276.00	70.23	70.43	-94.34	3,317.86	-1,995.07	1,822.89	1,723.68	99.21	18.374		
15,600.00	12,181.00	15,698.26	12,276.00	71.55	71.75	-94.34	3,417.86	-1,996.06	1,822.94	1,721.87	101.07	18.036		
15,700.00	12,181.00	15,798.26	12,276.00	72.89	73.07	-94.34	3,517.85	-1,997.05	1,822.98	1,720.04	102.95	17.708		
15,800.00	12,181.00	15,898.26	12,276.00	74.24	74.42	-94.34	3,617.85	-1,998.04	1,823.03	1,718.19	104.85	17.388		
15,900.00	12,181.00	15,998.26	12,276.00	75.60	75.77	-94.34	3,717.84	-1,999.03	1,823.08	1,716.32	106.76	17.076		
16,000.00	12,181.00	16,098.26	12,276.00	76.97	77.13	-94.34	3,817.84	-2,000.02	1,823.13	1,714.44	108.69	16.773		
16,100.00	12,181.00	16,198.26	12,276.00	78.35	78.51	-94.34	3,917.83	-2,001.00	1,823.17	1,712.54	110.64	16.479		
16,200.00	12,181.00	16,298.26	12,276.00	79.75	79.90	-94.34	4,017.83	-2,001.99	1,823.22	1,710.62	112.60	16.192		
16,300.00	12,181.00	16,398.26	12,276.00	81.15	81.29	-94.34	4,117.82	-2,002.98	1,823.27	1,708.70	114.57	15.914		
16,400.00	12,181.00	16,498.26	12,276.00	82.56	82.70	-94.34	4,217.82	-2,003.97	1,823.32	1,706.76	116.56	15.643		
16,500.00	12,181.00	16,598.26	12,276.00	83.98	84.11	-94.34	4,317.81	-2,004.96	1,823.36	1,704.80	118.56	15.379		
16,600.00	12,181.00	16,698.26	12,276.00	85.41	85.54	-94.34	4,417.81	-2,005.95	1,823.41	1,702.84	120.57	15.123		
16,700.00	12,181.00	16,798.26	12,276.00	86.85	86.97	-94.34	4,517.80	-2,006.94	1,823.46	1,700.86	122.60	14.874		
16,800.00	12,181.00	16,898.26	12,276.00	88.29	88.41	-94.34	4,617.80	-2,007.93	1,823.51	1,698.88	124.63	14.631		
16,900.00	12,181.00	16,998.26	12,276.00	89.74	89.86	-94.34	4,717.79	-2,008.92	1,823.55	1,696.88	126.67	14.396		
17,000.00	12,181.00	17,098.26	12,276.00	91.20	91.31	-94.34	4,817.79	-2,009.91	1,823.60	1,694.87	128.73	14.166		
17,100.00	12,181.00	17,198.26	12,276.00	92.67	92.77	-94.34	4,917.78	-2,010.90	1,823.65	1,692.86	130.79	13.943		
17,200.00	12,181.00	17,298.26	12,276.00	94.14	94.24	-94.34	5,017.78	-2,011.89	1,823.70	1,690.83	132.86	13.726		
17,300.00	12,181.00	17,398.26	12,276.00	95.62	95.71	-94.34	5,117.77	-2,012.88	1,823.75	1,688.80	134.95	13.515		
17,400.00	12,181.00	17,498.26	12,276.00	97.10	97.19	-94.34	5,217.77	-2,013.86	1,823.79	1,686.76	137.03	13.309		
17,500.00	12,181.00	17,598.26	12,276.00	98.59	98.67	-94.34	5,317.76	-2,014.85	1,823.84	1,684.71	139.13	13.109		
17,600.00	12,181.00	17,698.26	12,276.00	100.08	100.16	-94.34	5,417.76	-2,015.84	1,823.89	1,682.65	141.23	12.914		
17,700.00	12,181.00	17,798.26	12,276.00	101.58	101.66	-94.34	5,517.75	-2,016.83	1,823.94	1,680.59	143.35	12.724		
17,800.00	12,181.00	17,898.26	12,276.00	103.08	103.15	-94.34	5,617.75	-2,017.82	1,823.98	1,678.52	145.46	12.539		
17,900.00	12,181.00	17,998.26	12,276.00	104.59	104.66	-94.34	5,717.74	-2,018.81	1,824.03	1,676.44	147.59	12.359		
18,000.00	12,181.00	18,098.26	12,276.00	106.10	106.17	-94.34	5,817.74	-2,019.80	1,824.08	1,674.36	149.72	12.183		
18,100.00	12,181.00	18,198.26	12,276.00	107.62	107.68	-94.34	5,917.74	-2,020.79	1,824.13	1,672.27	151.85	12.012		
18,200.00	12,181.00	18,298.26	12,276.00	109.14	109.20	-94.34	6,017.73	-2,021.78	1,824.17	1,670.18	154.00	11.846		
18,300.00	12,181.00	18,398.26	12,276.00	110.66	110.72	-94.34	6,117.73	-2,022.77	1,824.22	1,668.08	156.14	11.683		
18,400.00	12,181.00	18,498.26	12,276.00	112.19	112.24	-94.34	6,217.72	-2,023.76	1,824.27	1,665.97	158.29	11.525		
18,500.00	12,181.00	18,598.26	12,276.00	113.72	113.77	-94.34	6,317.72	-2,024.75	1,824.32	1,663.86	160.45	11.370		
18,600.00	12,181.00	18,698.26	12,276.00	115.25	115.30	-94.34	6,417.71	-2,025.74	1,824.36	1,661.75	162.61	11.219		
18,700.00	12,181.00	18,798.26	12,276.00	116.79	116.83	-94.33	6,517.71	-2,026.73	1,824.41	1,659.63	164.78	11.072		
18,800.00	12,181.00	18,898.26	12,276.00	118.33	118.37	-94.33	6,617.70	-2,027.71	1,824.46	1,657.51	166.95	10.928		
18,900.00	12,181.00	18,998.26	12,276.00	119.87	119.91	-94.33	6,717.70	-2,028.70	1,824.51	1,655.38	169.13	10.788		
19,000.00	12,181.00	19,098.26	12,276.00	121.42	121.46	-94.33	6,817.69	-2,029.69	1,824.55	1,653.25	171.31	10.651		
19,100.00	12,181.00	19,198.26	12,276.00	122.97	123.00	-94.33	6,917.69	-2,030.68	1,824.60	1,651.11	173.49	10.517		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,200.00	12,181.00	19,298.26	12,276.00	124.52	124.55	-94.33	7,017.68	-2,031.67	1,824.65	1,648.97	175.68	10.386		
19,300.00	12,181.00	19,398.26	12,276.00	126.08	126.10	-94.33	7,117.68	-2,032.66	1,824.70	1,646.83	177.87	10.259		
19,400.00	12,181.00	19,498.26	12,276.00	127.63	127.66	-94.33	7,217.67	-2,033.65	1,824.74	1,644.68	180.06	10.134		
19,500.00	12,181.00	19,598.26	12,276.00	129.19	129.21	-94.33	7,317.67	-2,034.64	1,824.79	1,642.53	182.26	10.012		
19,600.00	12,181.00	19,698.26	12,276.00	130.75	130.77	-94.33	7,417.66	-2,035.63	1,824.84	1,640.38	184.46	9.893		
19,700.00	12,181.00	19,798.26	12,276.00	132.32	132.33	-94.33	7,517.66	-2,036.62	1,824.89	1,638.22	186.67	9.776		
19,800.00	12,181.00	19,898.26	12,276.00	133.88	133.90	-94.33	7,617.65	-2,037.61	1,824.93	1,636.06	188.87	9.662		
19,900.00	12,181.00	19,998.26	12,276.00	135.45	135.46	-94.33	7,717.65	-2,038.60	1,824.98	1,633.90	191.08	9.551		
20,000.00	12,181.00	20,098.26	12,276.00	137.02	137.03	-94.33	7,817.64	-2,039.59	1,825.03	1,631.73	193.30	9.442		
20,100.00	12,181.00	20,198.26	12,276.00	138.59	138.60	-94.33	7,917.64	-2,040.58	1,825.08	1,629.57	195.51	9.335		
20,200.00	12,181.00	20,298.26	12,276.00	140.17	140.17	-94.33	8,017.63	-2,041.56	1,825.12	1,627.39	197.73	9.230		
20,300.00	12,181.00	20,398.26	12,276.00	141.74	141.75	-94.33	8,117.63	-2,042.55	1,825.17	1,625.22	199.95	9.128		
20,400.00	12,181.00	20,498.26	12,276.00	143.32	143.32	-94.33	8,217.62	-2,043.54	1,825.22	1,623.05	202.17	9.028		
20,500.00	12,181.00	20,598.26	12,276.00	144.90	144.90	-94.33	8,317.62	-2,044.53	1,825.27	1,620.87	204.40	8.930		
20,600.00	12,181.00	20,698.26	12,276.00	146.48	146.48	-94.33	8,417.61	-2,045.52	1,825.31	1,618.69	206.63	8.834		
20,700.00	12,181.00	20,798.26	12,276.00	148.06	148.06	-94.33	8,517.61	-2,046.51	1,825.36	1,616.51	208.86	8.740		
20,800.00	12,181.00	20,898.26	12,276.00	149.64	149.64	-94.33	8,617.60	-2,047.50	1,825.41	1,614.32	211.09	8.648		
20,900.00	12,181.00	20,998.26	12,276.00	151.23	151.22	-94.33	8,717.60	-2,048.49	1,825.46	1,612.13	213.32	8.557		
21,000.00	12,181.00	21,098.26	12,276.00	152.81	152.81	-94.33	8,817.59	-2,049.48	1,825.50	1,609.94	215.56	8.469		
21,100.00	12,181.00	21,198.26	12,276.00	154.40	154.39	-94.33	8,917.59	-2,050.47	1,825.55	1,607.75	217.80	8.382		
21,200.00	12,181.00	21,298.26	12,276.00	155.99	155.98	-94.33	9,017.58	-2,051.46	1,825.60	1,605.56	220.04	8.297		
21,300.00	12,181.00	21,398.26	12,276.00	157.58	157.57	-94.33	9,117.58	-2,052.45	1,825.65	1,603.37	222.28	8.213		
21,400.00	12,181.00	21,498.26	12,276.00	159.17	159.16	-94.33	9,217.57	-2,053.44	1,825.69	1,601.17	224.52	8.131		
21,500.00	12,181.00	21,598.26	12,276.00	160.77	160.75	-94.33	9,317.57	-2,054.42	1,825.74	1,598.97	226.77	8.051		
21,600.00	12,181.00	21,698.26	12,276.00	162.36	162.34	-94.33	9,417.56	-2,055.41	1,825.79	1,596.77	229.02	7.972		
21,700.00	12,181.00	21,798.26	12,276.00	163.96	163.94	-94.33	9,517.56	-2,056.40	1,825.84	1,594.57	231.27	7.895		
21,800.00	12,181.00	21,898.26	12,276.00	165.55	165.53	-94.33	9,617.55	-2,057.39	1,825.88	1,592.37	233.52	7.819		
21,900.00	12,181.00	21,998.26	12,276.00	167.15	167.13	-94.33	9,717.55	-2,058.38	1,825.93	1,590.16	235.77	7.745		
22,000.00	12,181.00	22,098.26	12,276.00	168.75	168.73	-94.33	9,817.54	-2,059.37	1,825.98	1,587.96	238.02	7.671		
22,100.00	12,181.00	22,198.26	12,276.00	170.35	170.32	-94.33	9,917.54	-2,060.36	1,826.03	1,585.75	240.28	7.600		
22,200.00	12,181.00	22,298.26	12,276.00	171.95	171.92	-94.33	10,017.53	-2,061.35	1,826.08	1,583.54	242.54	7.529		
22,306.42	12,181.00	22,404.68	12,276.00	173.65	173.63	-94.33	10,123.95	-2,062.40	1,826.13	1,581.19	244.94	7.455 ES, SF		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 803H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
0.00	0.00	0.00	0.00	0.00	0.00	-90.53	-17.91	-1,935.82	1,936.37							
100.00	100.00	57.70	57.70	0.13	0.07	-90.53	-17.91	-1,935.82	1,935.91	1,935.76	0.14	N/A				
200.00	200.00	157.70	157.70	0.48	0.33	-90.53	-17.91	-1,935.82	1,935.91	1,935.32	0.59	3,297.722				
300.00	300.00	257.70	257.70	0.84	0.69	-90.53	-17.91	-1,935.82	1,935.91	1,934.82	1.09	1,777.017				
400.00	400.00	357.70	357.70	1.20	1.05	-90.53	-17.91	-1,935.82	1,935.91	1,934.31	1.59	1,213.972				
500.00	500.00	457.70	457.70	1.56	1.41	-90.53	-17.91	-1,935.82	1,935.91	1,933.81	2.10	921.521				
600.00	600.00	557.70	557.70	1.92	1.77	-90.53	-17.91	-1,935.82	1,935.91	1,933.30	2.61	742.524				
700.00	700.00	657.70	657.70	2.28	2.12	-90.53	-17.91	-1,935.82	1,935.91	1,932.79	3.11	621.720				
800.00	800.00	757.70	757.70	2.63	2.48	-90.53	-17.91	-1,935.82	1,935.91	1,932.29	3.62	534.709				
900.00	900.00	857.70	857.70	2.99	2.84	-90.53	-17.91	-1,935.82	1,935.91	1,931.78	4.13	469.055				
1,000.00	1,000.00	957.70	957.70	3.35	3.20	-90.53	-17.91	-1,935.82	1,935.91	1,931.27	4.63	417.757				
1,100.00	1,100.00	1,057.70	1,057.70	3.71	3.56	-90.53	-17.91	-1,935.82	1,935.91	1,930.77	5.14	376.571				
1,200.00	1,200.00	1,157.70	1,157.70	4.07	3.92	-90.53	-17.91	-1,935.82	1,935.91	1,930.26	5.65	342.775				
1,300.00	1,300.00	1,257.70	1,257.70	4.43	4.28	-90.53	-17.91	-1,935.82	1,935.91	1,929.75	6.15	314.546				
1,400.00	1,400.00	1,357.70	1,357.70	4.79	4.63	-90.53	-17.91	-1,935.82	1,935.91	1,929.25	6.66	290.611				
1,500.00	1,500.00	1,457.70	1,457.70	5.14	4.99	-90.53	-17.91	-1,935.82	1,935.91	1,928.74	7.17	270.062				
1,600.00	1,600.00	1,557.70	1,557.70	5.50	5.35	-90.53	-17.91	-1,935.82	1,935.91	1,928.23	7.68	252.226				
1,700.00	1,700.00	1,657.70	1,657.70	5.86	5.71	-90.53	-17.91	-1,935.82	1,935.91	1,927.72	8.18	236.600				
1,800.00	1,800.00	1,757.70	1,757.70	6.22	6.07	-90.53	-17.91	-1,935.82	1,935.91	1,927.22	8.69	222.797				
1,900.00	1,900.00	1,857.70	1,857.70	6.58	6.43	-90.53	-17.91	-1,935.82	1,935.91	1,926.71	9.20	210.515				
2,000.00	2,000.00	1,957.70	1,957.70	6.94	6.78	-90.53	-17.91	-1,935.82	1,935.91	1,926.20	9.70	199.517				
2,100.00	2,100.00	2,113.64	2,113.62	7.29	7.33	-90.54	-18.29	-1,934.18	1,935.07	1,924.74	10.34	187.185				
2,200.00	2,200.00	2,310.00	2,309.66	7.65	8.00	-90.62	-20.77	-1,923.58	1,929.69	1,918.65	11.04	174.789				
2,300.00	2,300.00	2,504.73	2,503.27	8.01	8.68	-90.77	-25.49	-1,903.40	1,919.34	1,907.62	11.72	163.729				
2,400.00	2,400.00	2,696.86	2,693.00	8.37	9.38	-90.99	-32.35	-1,874.10	1,904.13	1,891.75	12.38	153.785				
2,500.00	2,499.99	2,827.35	2,821.00	8.71	9.88	-90.52	-38.12	-1,849.41	1,884.43	1,871.51	12.92	145.900				
2,600.00	2,599.91	2,925.01	2,916.72	9.04	10.27	-90.52	-42.54	-1,830.52	1,863.00	1,849.61	13.39	139.158				
2,633.40	2,633.25	2,957.56	2,948.62	9.15	10.40	-90.52	-44.02	-1,824.22	1,855.52	1,841.98	13.55	136.979				
2,700.00	2,699.73	3,022.44	3,012.20	9.37	10.66	-90.52	-46.95	-1,811.66	1,840.46	1,826.60	13.86	132.774				
2,800.00	2,799.54	3,119.85	3,107.67	9.70	11.05	-90.52	-51.36	-1,792.81	1,817.84	1,803.51	14.34	126.784				
2,900.00	2,899.36	3,217.26	3,203.13	10.04	11.46	-90.52	-55.77	-1,773.96	1,795.23	1,780.41	14.82	121.151				
3,000.00	2,999.17	3,314.67	3,298.60	10.37	11.86	-90.52	-60.18	-1,755.11	1,772.61	1,757.31	15.30	115.849				
3,100.00	3,098.98	3,412.08	3,394.07	10.71	12.27	-90.52	-64.59	-1,736.26	1,750.00	1,734.21	15.79	110.851				
3,200.00	3,198.80	3,509.49	3,489.53	11.06	12.69	-90.52	-69.00	-1,717.41	1,727.38	1,711.11	16.28	106.135				
3,300.00	3,298.61	3,606.89	3,585.00	11.40	13.11	-90.52	-73.41	-1,698.56	1,704.77	1,688.00	16.77	101.679				
3,400.00	3,398.42	3,704.30	3,680.46	11.75	13.53	-90.52	-77.82	-1,679.71	1,682.15	1,664.90	17.26	97.465				
3,500.00	3,498.24	3,801.71	3,775.93	12.10	13.96	-90.52	-82.23	-1,660.86	1,659.54	1,641.79	17.75	93.475				
3,600.00	3,598.05	3,899.12	3,871.39	12.44	14.39	-90.52	-86.64	-1,642.02	1,636.92	1,618.67	18.25	89.692				
3,700.00	3,697.86	3,996.53	3,966.86	12.79	14.82	-90.52	-91.05	-1,623.17	1,614.31	1,595.56	18.75	86.102				
3,800.00	3,797.68	4,093.94	4,062.33	13.15	15.25	-90.52	-95.46	-1,604.32	1,591.69	1,572.45	19.25	82.692				
3,900.00	3,897.49	4,191.35	4,157.79	13.50	15.69	-90.52	-99.87	-1,585.47	1,569.08	1,549.33	19.75	79.448				
4,000.00	3,997.30	4,288.76	4,253.26	13.85	16.13	-90.52	-104.28	-1,566.62	1,546.47	1,526.21	20.25	76.360				
4,100.00	4,097.12	4,386.17	4,348.72	14.21	16.57	-90.52	-108.68	-1,547.77	1,523.85	1,503.09	20.76	73.417				
4,200.00	4,196.93	4,483.57	4,444.19	14.56	17.01	-90.52	-113.09	-1,528.92	1,501.24	1,479.98	21.26	70.610				
4,300.00	4,296.74	4,580.98	4,539.66	14.92	17.45	-90.52	-117.50	-1,510.07	1,478.62	1,456.86	21.77	67.929				
4,400.00	4,396.56	4,678.39	4,635.12	15.28	17.90	-90.52	-121.91	-1,491.22	1,456.01	1,433.73	22.27	65.368				
4,500.00	4,496.37	4,775.80	4,730.59	15.64	18.34	-90.52	-126.32	-1,472.37	1,433.39	1,410.61	22.78	62.918				
4,600.00	4,496.18	4,873.21	4,826.05	15.99	18.79	-90.52	-130.73	-1,453.52	1,410.78	1,387.49	23.29	60.574				
4,700.00	4,496.00	4,970.62	4,921.52	16.35	19.24	-90.52	-135.14	-1,434.67	1,388.17	1,364.37	23.80	58.328				
4,800.00	4,495.81	5,068.03	5,016.99	16.71	19.69	-90.52	-139.55	-1,415.82	1,365.55	1,341.24	24.31	56.174				
4,900.00	4,495.62	5,165.44	5,112.45	17.07	20.14	-90.52	-143.96	-1,396.97	1,342.94	1,318.12	24.82	54.107				
5,000.00	4,495.44	5,262.85	5,207.92	17.44	20.59	-90.52	-148.37	-1,378.12	1,320.32	1,294.99	25.33	52.121				

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,100.00	5,095.25	5,360.25	5,303.38	17.80	21.04	56.61	-152.78	-1,359.27	1,297.71	1,271.87	25.84	50.214		
5,200.00	5,195.07	5,457.66	5,398.85	18.16	21.49	56.63	-157.19	-1,340.42	1,275.10	1,248.74	26.36	48.379		
5,300.00	5,294.88	5,555.07	5,494.32	18.52	21.95	56.64	-161.60	-1,321.57	1,252.48	1,225.61	26.87	46.613		
5,400.00	5,394.69	5,652.48	5,589.78	18.88	22.40	56.66	-166.01	-1,302.72	1,229.87	1,202.49	27.38	44.913		
5,500.00	5,494.51	5,749.89	5,685.25	19.25	22.86	56.68	-170.42	-1,283.87	1,207.26	1,179.36	27.90	43.275		
5,600.00	5,594.32	5,847.30	5,780.71	19.61	23.31	56.70	-174.83	-1,265.02	1,184.64	1,156.23	28.41	41.696		
5,700.00	5,694.13	5,944.71	5,876.18	19.98	23.77	56.72	-179.24	-1,246.17	1,162.03	1,133.10	28.93	40.172		
5,800.00	5,793.95	6,042.12	5,971.64	20.34	24.23	56.74	-183.65	-1,227.32	1,139.42	1,109.97	29.44	38.700		
5,900.00	5,893.76	6,139.53	6,067.11	20.70	24.68	56.76	-188.05	-1,208.47	1,116.80	1,086.84	29.96	37.279		
6,000.00	5,993.57	6,236.93	6,162.58	21.07	25.14	56.78	-192.46	-1,189.62	1,094.19	1,063.72	30.47	35.906		
6,100.00	6,093.39	6,334.34	6,258.04	21.43	25.60	56.80	-196.87	-1,170.77	1,071.58	1,040.59	30.99	34.578		
6,200.00	6,193.20	6,431.75	6,353.51	21.80	26.06	56.82	-201.28	-1,151.92	1,048.96	1,017.46	31.51	33.293		
6,300.00	6,293.01	6,529.16	6,448.97	22.17	26.52	56.85	-205.69	-1,133.07	1,026.35	994.33	32.02	32.049		
6,400.00	6,392.83	6,626.57	6,544.44	22.53	26.98	56.87	-210.10	-1,114.22	1,003.74	971.20	32.54	30.845		
6,500.00	6,492.64	6,710.92	6,627.18	22.90	27.37	56.90	-213.84	-1,098.24	981.56	948.49	33.07	29.682		
6,600.00	6,592.45	6,789.42	6,704.46	23.26	27.73	56.95	-216.97	-1,084.85	961.23	927.63	33.59	28.614		
6,700.00	6,692.27	6,868.53	6,782.61	23.63	28.07	57.03	-219.76	-1,072.92	942.86	908.75	34.11	27.645		
6,719.52	6,711.75	6,884.04	6,797.97	23.70	28.14	57.04	-220.27	-1,070.77	939.50	905.30	34.20	27.467		
6,800.00	6,792.13	6,948.26	6,861.62	24.00	28.40	56.93	-222.20	-1,062.50	926.94	892.33	34.61	26.784		
6,900.00	6,892.09	7,028.62	6,941.46	24.35	28.72	56.76	-224.28	-1,053.62	914.43	879.33	35.10	26.054		
6,952.92	6,945.00	7,071.35	6,983.99	24.54	28.89	-90.27	-225.23	-1,049.56	909.21	873.86	35.35	25.722		
7,000.00	6,992.08	7,109.45	7,021.94	24.69	29.03	-90.32	-225.98	-1,046.34	905.23	869.67	35.57	25.452		
7,100.00	7,092.08	7,190.57	7,102.86	25.03	29.33	-90.40	-227.30	-1,040.70	898.29	862.27	36.02	24.940		
7,200.00	7,192.08	7,271.91	7,184.09	25.37	29.61	-90.46	-228.23	-1,036.73	893.42	856.96	36.46	24.507		
7,300.00	7,292.08	7,353.38	7,265.52	25.71	29.87	-90.50	-228.76	-1,034.44	890.61	853.73	36.88	24.149		
7,400.00	7,392.08	7,437.64	7,349.78	26.05	30.14	-90.51	-228.91	-1,033.82	889.86	852.56	37.30	23.859		
7,500.00	7,492.08	7,537.64	7,449.78	26.39	30.44	-90.51	-228.91	-1,033.82	889.86	852.09	37.77	23.560		
7,600.00	7,592.08	7,637.64	7,549.78	26.73	30.74	-90.51	-228.91	-1,033.82	889.86	851.61	38.25	23.267		
7,700.00	7,692.08	7,737.64	7,649.78	27.07	31.04	-90.51	-228.91	-1,033.82	889.86	851.14	38.72	22.981		
7,800.00	7,792.08	7,837.64	7,749.78	27.41	31.35	-90.51	-228.91	-1,033.82	889.86	850.66	39.20	22.702		
7,900.00	7,892.08	7,937.64	7,849.78	27.76	31.65	-90.51	-228.91	-1,033.82	889.86	850.18	39.68	22.428		
8,000.00	7,992.08	8,037.64	7,949.78	28.10	31.96	-90.51	-228.91	-1,033.82	889.86	849.71	40.15	22.161		
8,100.00	8,092.08	8,137.64	8,049.78	28.44	32.26	-90.51	-228.91	-1,033.82	889.86	849.23	40.63	21.900		
8,200.00	8,192.08	8,237.64	8,149.78	28.78	32.57	-90.51	-228.91	-1,033.82	889.86	848.75	41.11	21.645		
8,300.00	8,292.08	8,337.64	8,249.78	29.13	32.88	-90.51	-228.91	-1,033.82	889.86	848.27	41.59	21.395		
8,400.00	8,392.08	8,437.64	8,349.78	29.47	33.19	-90.51	-228.91	-1,033.82	889.86	847.79	42.07	21.150		
8,500.00	8,492.08	8,537.64	8,449.78	29.81	33.50	-90.51	-228.91	-1,033.82	889.86	847.30	42.55	20.911		
8,600.00	8,592.08	8,637.64	8,549.78	30.16	33.81	-90.51	-228.91	-1,033.82	889.86	846.82	43.04	20.677		
8,700.00	8,692.08	8,737.64	8,649.78	30.50	34.13	-90.51	-228.91	-1,033.82	889.86	846.34	43.52	20.448		
8,800.00	8,792.08	8,837.64	8,749.78	30.85	34.44	-90.51	-228.91	-1,033.82	889.86	845.86	44.00	20.223		
8,900.00	8,892.08	8,937.64	8,849.78	31.20	34.76	-90.51	-228.91	-1,033.82	889.86	845.37	44.49	20.003		
9,000.00	8,992.08	9,037.64	8,949.78	31.54	35.07	-90.51	-228.91	-1,033.82	889.86	844.89	44.97	19.788		
9,100.00	9,092.08	9,137.64	9,049.78	31.89	35.39	-90.51	-228.91	-1,033.82	889.86	844.40	45.45	19.577		
9,200.00	9,192.08	9,237.64	9,149.78	32.23	35.71	-90.51	-228.91	-1,033.82	889.86	843.92	45.94	19.370		
9,300.00	9,292.08	9,337.64	9,249.78	32.58	36.02	-90.51	-228.91	-1,033.82	889.86	843.43	46.43	19.167		
9,400.00	9,392.08	9,437.64	9,349.78	32.93	36.34	-90.51	-228.91	-1,033.82	889.86	842.95	46.91	18.969		
9,500.00	9,492.08	9,537.64	9,449.78	33.27	36.66	-90.51	-228.91	-1,033.82	889.86	842.46	47.40	18.774		
9,600.00	9,592.08	9,637.64	9,549.78	33.62	36.98	-90.51	-228.91	-1,033.82	889.86	841.97	47.88	18.583		
9,700.00	9,692.08	9,737.64	9,649.78	33.97	37.30	-90.51	-228.91	-1,033.82	889.86	841.49	48.37	18.396		
9,800.00	9,792.08	9,837.64	9,749.78	34.32	37.62	-90.51	-228.91	-1,033.82	889.86	841.00	48.86	18.212		
9,900.00	9,892.08	9,937.64	9,849.78	34.66	37.95	-90.51	-228.91	-1,033.82	889.86	840.51	49.35	18.032		
10,000.00	9,992.08	10,037.64	9,949.78	35.01	38.27	-90.51	-228.91	-1,033.82	889.86	840.02	49.84	17.856		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,100.00	10,092.08	10,137.64	10,049.78	35.36	38.59	-90.51	-228.91	-1,033.82	889.86	839.53	50.33	17.682		
10,200.00	10,192.08	10,237.64	10,149.78	35.71	38.92	-90.51	-228.91	-1,033.82	889.86	839.04	50.81	17.512		
10,300.00	10,292.08	10,337.64	10,249.78	36.06	39.24	-90.51	-228.91	-1,033.82	889.86	838.55	51.30	17.345		
10,400.00	10,392.08	10,437.64	10,349.78	36.41	39.57	-90.51	-228.91	-1,033.82	889.86	838.06	51.79	17.181		
10,500.00	10,492.08	10,537.64	10,449.78	36.76	39.89	-90.51	-228.91	-1,033.82	889.86	837.57	52.28	17.020		
10,600.00	10,592.08	10,637.64	10,549.78	37.11	40.22	-90.51	-228.91	-1,033.82	889.86	837.08	52.78	16.861		
10,700.00	10,692.08	10,737.64	10,649.78	37.46	40.55	-90.51	-228.91	-1,033.82	889.86	836.59	53.27	16.706		
10,800.00	10,792.08	10,837.64	10,749.78	37.81	40.87	-90.51	-228.91	-1,033.82	889.86	836.10	53.76	16.553		
10,900.00	10,892.08	10,937.64	10,849.78	38.16	41.20	-90.51	-228.91	-1,033.82	889.86	835.61	54.25	16.403		
11,000.00	10,992.08	11,037.64	10,949.78	38.51	41.53	-90.51	-228.91	-1,033.82	889.86	835.12	54.74	16.256		
11,100.00	11,092.08	11,137.64	11,049.78	38.86	41.86	-90.51	-228.91	-1,033.82	889.86	834.63	55.23	16.111		
11,200.00	11,192.08	11,237.64	11,149.78	39.21	42.19	-90.51	-228.91	-1,033.82	889.86	834.13	55.72	15.969		
11,300.00	11,292.08	11,337.64	11,249.78	39.56	42.52	-90.51	-228.91	-1,033.82	889.86	833.64	56.22	15.829		
11,400.00	11,392.08	11,437.64	11,349.78	39.91	42.85	-90.51	-228.91	-1,033.82	889.86	833.15	56.71	15.691		
11,500.00	11,492.08	11,537.64	11,449.78	40.26	43.18	-90.51	-228.91	-1,033.82	889.86	832.66	57.20	15.556		
11,600.00	11,592.08	11,637.64	11,549.78	40.61	43.51	-90.51	-228.91	-1,033.82	889.86	832.16	57.70	15.423		
11,601.58	11,593.66	11,639.22	11,551.36	40.61	43.52	-90.51	-228.91	-1,033.82	889.86	832.16	57.70	15.421 CC		
11,615.96	11,608.04	11,653.59	11,565.74	40.66	43.56	-90.51	-228.90	-1,033.82	889.86	832.08	57.77	15.402		
11,650.00	11,642.06	11,687.58	11,599.70	40.78	43.67	-89.96	-227.73	-1,033.84	889.86	831.92	57.94	15.358		
11,700.00	11,691.78	11,737.47	11,649.29	40.95	43.83	-89.94	-222.38	-1,033.89	889.86	831.69	58.18	15.296		
11,750.00	11,740.86	11,787.35	11,698.21	41.12	43.98	-89.93	-212.74	-1,033.98	889.87	831.47	58.40	15.237		
11,800.00	11,788.94	11,837.21	11,746.09	41.27	44.13	-89.92	-198.88	-1,034.12	889.87	831.26	58.62	15.181		
11,850.00	11,835.63	11,887.05	11,792.56	41.42	44.26	-89.90	-180.93	-1,034.30	889.88	831.06	58.82	15.128		
11,900.00	11,880.59	11,936.88	11,837.29	41.55	44.38	-89.89	-159.01	-1,034.52	889.90	830.88	59.02	15.078		
11,950.00	11,923.48	11,986.69	11,879.94	41.68	44.48	-89.88	-133.30	-1,034.77	889.91	830.70	59.21	15.030		
12,000.00	11,963.97	12,036.49	11,920.17	41.80	44.58	-89.87	-103.99	-1,035.06	889.92	830.54	59.39	14.985		
12,050.00	12,001.74	12,086.27	11,957.71	41.91	44.66	-89.86	-71.31	-1,035.39	889.94	830.38	59.56	14.942		
12,100.00	12,036.53	12,136.05	11,992.26	42.02	44.72	-89.85	-35.50	-1,035.74	889.96	830.23	59.73	14.900		
12,150.00	12,068.05	12,185.82	12,023.57	42.13	44.78	-89.84	3.16	-1,036.12	889.98	830.09	59.89	14.860		
12,200.00	12,096.07	12,235.58	12,051.40	42.24	44.82	-89.84	44.39	-1,036.53	890.00	829.94	60.05	14.820		
12,250.00	12,120.37	12,285.34	12,075.55	42.35	44.86	-89.83	87.88	-1,036.96	890.02	829.80	60.22	14.781		
12,300.00	12,140.78	12,335.09	12,095.83	42.47	44.89	-89.83	133.29	-1,037.41	890.04	829.67	60.38	14.741		
12,350.00	12,157.13	12,384.84	12,112.10	42.59	44.91	-89.82	180.29	-1,037.88	890.07	829.52	60.54	14.702		
12,400.00	12,169.30	12,434.59	12,124.23	42.71	44.94	-89.82	228.52	-1,038.36	890.09	829.38	60.71	14.662		
12,450.00	12,177.21	12,484.35	12,132.14	42.84	44.97	-89.82	277.63	-1,038.84	890.11	829.24	60.87	14.622		
12,500.00	12,180.78	12,534.11	12,135.75	42.96	45.02	-89.83	327.24	-1,039.34	890.14	829.10	61.04	14.582		
12,515.96	12,181.00	12,549.99	12,136.00	43.00	45.03	-89.83	343.11	-1,039.49	890.15	829.05	61.10	14.569		
12,600.00	12,181.00	12,634.03	12,136.00	43.24	45.15	-89.83	427.15	-1,040.33	890.19	828.77	61.42	14.493		
12,700.00	12,181.00	12,734.03	12,136.00	43.58	45.36	-89.83	527.15	-1,041.32	890.24	828.36	61.88	14.387		
12,800.00	12,181.00	12,834.03	12,136.00	43.97	45.64	-89.83	627.14	-1,042.31	890.29	827.86	62.42	14.262		
12,900.00	12,181.00	12,934.03	12,136.00	44.43	46.01	-89.83	727.14	-1,043.30	890.34	827.29	63.05	14.121		
13,000.00	12,181.00	13,034.03	12,136.00	44.94	46.46	-89.83	827.13	-1,044.29	890.39	826.63	63.75	13.966		
13,100.00	12,181.00	13,134.03	12,136.00	45.50	46.96	-89.83	927.13	-1,045.28	890.44	825.90	64.54	13.798		
13,200.00	12,181.00	13,234.03	12,136.00	46.12	47.53	-89.83	1,027.12	-1,046.27	890.48	825.09	65.39	13.618		
13,300.00	12,181.00	13,334.03	12,136.00	46.79	48.16	-89.83	1,127.12	-1,047.26	890.53	824.22	66.32	13.428		
13,400.00	12,181.00	13,434.03	12,136.00	47.50	48.84	-89.83	1,227.11	-1,048.25	890.58	823.27	67.31	13.231		
13,500.00	12,181.00	13,534.03	12,136.00	48.26	49.56	-89.83	1,327.11	-1,049.25	890.63	822.26	68.37	13.026		
13,600.00	12,181.00	13,634.03	12,136.00	49.07	50.33	-89.83	1,427.10	-1,050.24	890.68	821.19	69.50	12.816		
13,700.00	12,181.00	13,734.03	12,136.00	49.91	51.14	-89.83	1,527.10	-1,051.23	890.73	820.05	70.68	12.602		
13,800.00	12,181.00	13,834.03	12,136.00	50.80	52.00	-89.83	1,627.09	-1,052.22	890.78	818.86	71.92	12.386		
13,900.00	12,181.00	13,934.03	12,136.00	51.72	52.89	-89.83	1,727.09	-1,053.21	890.83	817.62	73.21	12.168		
14,000.00	12,181.00	14,034.03	12,136.00	52.68	53.82	-89.83	1,827.08	-1,054.20	890.88	816.33	74.55	11.949		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,100.00	12,181.00	14,134.03	12,136.00	53.67	54.78	-89.83	1,927.08	-1,055.19	890.93	814.98	75.95	11.731		
14,200.00	12,181.00	14,234.03	12,136.00	54.70	55.77	-89.83	2,027.07	-1,056.18	890.98	813.60	77.38	11.514		
14,300.00	12,181.00	14,334.03	12,136.00	55.75	56.80	-89.83	2,127.07	-1,057.17	891.03	812.17	78.86	11.298		
14,400.00	12,181.00	14,434.03	12,136.00	56.84	57.85	-89.83	2,227.06	-1,058.17	891.08	810.69	80.38	11.085		
14,500.00	12,181.00	14,534.03	12,136.00	57.95	58.93	-89.83	2,327.06	-1,059.16	891.13	809.18	81.94	10.875		
14,600.00	12,181.00	14,634.03	12,136.00	59.08	60.04	-89.83	2,427.05	-1,060.15	891.18	807.64	83.54	10.668		
14,700.00	12,181.00	14,734.03	12,136.00	60.24	61.17	-89.83	2,527.05	-1,061.14	891.23	806.06	85.17	10.464		
14,800.00	12,181.00	14,834.03	12,136.00	61.42	62.33	-89.83	2,627.04	-1,062.13	891.28	804.44	86.83	10.264		
14,900.00	12,181.00	14,934.03	12,136.00	62.63	63.50	-89.83	2,727.04	-1,063.12	891.33	802.80	88.52	10.069		
15,000.00	12,181.00	15,034.03	12,136.00	63.85	64.70	-89.83	2,827.03	-1,064.11	891.38	801.13	90.25	9.877		
15,100.00	12,181.00	15,134.03	12,136.00	65.09	65.92	-89.83	2,927.03	-1,065.10	891.43	799.43	91.99	9.690		
15,200.00	12,181.00	15,234.03	12,136.00	66.35	67.15	-89.83	3,027.02	-1,066.09	891.47	797.71	93.77	9.507		
15,300.00	12,181.00	15,334.03	12,136.00	67.63	68.41	-89.83	3,127.02	-1,067.09	891.52	795.96	95.57	9.329		
15,400.00	12,181.00	15,434.03	12,136.00	68.92	69.68	-89.83	3,227.01	-1,068.08	891.57	794.19	97.39	9.155		
15,500.00	12,181.00	15,534.03	12,136.00	70.23	70.96	-89.83	3,327.01	-1,069.07	891.62	792.39	99.23	8.985		
15,600.00	12,181.00	15,634.03	12,136.00	71.55	72.26	-89.83	3,427.00	-1,070.06	891.67	790.58	101.09	8.820		
15,700.00	12,181.00	15,734.03	12,136.00	72.89	73.58	-89.83	3,527.00	-1,071.05	891.72	788.75	102.98	8.660		
15,800.00	12,181.00	15,834.03	12,136.00	74.24	74.90	-89.83	3,626.99	-1,072.04	891.77	786.89	104.88	8.503		
15,900.00	12,181.00	15,934.03	12,136.00	75.60	76.24	-89.83	3,726.99	-1,073.03	891.82	785.03	106.79	8.351		
16,000.00	12,181.00	16,034.03	12,136.00	76.97	77.60	-89.83	3,826.98	-1,074.02	891.87	783.14	108.73	8.203		
16,100.00	12,181.00	16,134.03	12,136.00	78.35	78.96	-89.83	3,926.98	-1,075.01	891.92	781.24	110.68	8.059		
16,200.00	12,181.00	16,234.03	12,136.00	79.75	80.33	-89.83	4,026.97	-1,076.00	891.97	779.33	112.64	7.919		
16,300.00	12,181.00	16,334.03	12,136.00	81.15	81.72	-89.83	4,126.97	-1,077.00	892.02	777.40	114.62	7.782		
16,400.00	12,181.00	16,434.03	12,136.00	82.56	83.11	-89.83	4,226.96	-1,077.99	892.07	775.45	116.61	7.650		
16,500.00	12,181.00	16,534.03	12,136.00	83.98	84.52	-89.83	4,326.96	-1,078.98	892.12	773.50	118.62	7.521		
16,600.00	12,181.00	16,634.03	12,136.00	85.41	85.93	-89.83	4,426.95	-1,079.97	892.17	771.53	120.63	7.396		
16,700.00	12,181.00	16,734.03	12,136.00	86.85	87.35	-89.83	4,526.95	-1,080.96	892.22	769.55	122.66	7.274		
16,800.00	12,181.00	16,834.03	12,136.00	88.29	88.78	-89.83	4,626.94	-1,081.95	892.27	767.56	124.70	7.155		
16,900.00	12,181.00	16,934.03	12,136.00	89.74	90.22	-89.83	4,726.94	-1,082.94	892.32	765.57	126.75	7.040		
17,000.00	12,181.00	17,034.03	12,136.00	91.20	91.66	-89.83	4,826.93	-1,083.93	892.37	763.56	128.81	6.928		
17,100.00	12,181.00	17,134.03	12,136.00	92.67	93.11	-89.83	4,926.93	-1,084.92	892.41	761.54	130.88	6.819		
17,200.00	12,181.00	17,234.03	12,136.00	94.14	94.57	-89.83	5,026.92	-1,085.92	892.46	759.51	132.95	6.713		
17,300.00	12,181.00	17,334.03	12,136.00	95.62	96.03	-89.83	5,126.92	-1,086.91	892.51	757.47	135.04	6.609		
17,400.00	12,181.00	17,434.03	12,136.00	97.10	97.50	-89.83	5,226.91	-1,087.90	892.56	755.43	137.13	6.509		
17,500.00	12,181.00	17,534.03	12,136.00	98.59	98.98	-89.83	5,326.91	-1,088.89	892.61	753.38	139.24	6.411		
17,600.00	12,181.00	17,634.03	12,136.00	100.08	100.46	-89.83	5,426.90	-1,089.88	892.66	751.32	141.34	6.316		
17,700.00	12,181.00	17,734.03	12,136.00	101.58	101.94	-89.83	5,526.90	-1,090.87	892.71	749.25	143.46	6.223		
17,800.00	12,181.00	17,834.03	12,136.00	103.08	103.43	-89.83	5,626.89	-1,091.86	892.76	747.18	145.58	6.132		
17,900.00	12,181.00	17,934.03	12,136.00	104.59	104.93	-89.83	5,726.89	-1,092.85	892.81	745.10	147.71	6.044		
18,000.00	12,181.00	18,034.03	12,136.00	106.10	106.43	-89.83	5,826.88	-1,093.84	892.86	743.01	149.85	5.959		
18,100.00	12,181.00	18,134.03	12,136.00	107.62	107.93	-89.83	5,926.88	-1,094.84	892.91	740.92	151.99	5.875		
18,200.00	12,181.00	18,234.03	12,136.00	109.14	109.44	-89.83	6,026.87	-1,095.83	892.96	738.83	154.13	5.793		
18,300.00	12,181.00	18,334.03	12,136.00	110.66	110.96	-89.83	6,126.87	-1,096.82	893.01	736.72	156.29	5.714		
18,400.00	12,181.00	18,434.03	12,136.00	112.19	112.47	-89.83	6,226.86	-1,097.81	893.06	734.62	158.44	5.636		
18,500.00	12,181.00	18,534.03	12,136.00	113.72	113.99	-89.83	6,326.86	-1,098.80	893.11	732.50	160.61	5.561		
18,600.00	12,181.00	18,634.03	12,136.00	115.25	115.52	-89.83	6,426.86	-1,099.79	893.16	730.38	162.77	5.487		
18,700.00	12,181.00	18,734.03	12,136.00	116.79	117.05	-89.83	6,526.85	-1,100.78	893.21	728.26	164.94	5.415		
18,800.00	12,181.00	18,834.03	12,136.00	118.33	118.58	-89.83	6,626.85	-1,101.77	893.26	726.14	167.12	5.345		
18,900.00	12,181.00	18,934.03	12,136.00	119.87	120.11	-89.83	6,726.84	-1,102.76	893.31	724.00	169.30	5.276		
19,000.00	12,181.00	19,034.03	12,136.00	121.42	121.65	-89.83	6,826.84	-1,103.75	893.36	721.87	171.49	5.209		
19,100.00	12,181.00	19,134.03	12,136.00	122.97	123.19	-89.83	6,926.83	-1,104.75	893.40	719.73	173.68	5.144		
19,200.00	12,181.00	19,234.03	12,136.00	124.52	124.73	-89.83	7,026.83	-1,105.74	893.45	717.59	175.87	5.080		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,300.00	12,181.00	19,334.03	12,136.00	126.08	126.28	-89.83	7,126.82	-1,106.73	893.50	715.44	178.06	5.018		
19,400.00	12,181.00	19,434.03	12,136.00	127.63	127.83	-89.83	7,226.82	-1,107.72	893.55	713.29	180.26	4.957		
19,500.00	12,181.00	19,534.03	12,136.00	129.19	129.38	-89.83	7,326.81	-1,108.71	893.60	711.14	182.47	4.897		
19,600.00	12,181.00	19,634.03	12,136.00	130.75	130.93	-89.83	7,426.81	-1,109.70	893.65	708.98	184.67	4.839		
19,700.00	12,181.00	19,734.03	12,136.00	132.32	132.49	-89.83	7,526.80	-1,110.69	893.70	706.82	186.88	4.782		
19,800.00	12,181.00	19,834.03	12,136.00	133.88	134.05	-89.83	7,626.80	-1,111.68	893.75	704.66	189.10	4.726		
19,900.00	12,181.00	19,934.03	12,136.00	135.45	135.61	-89.83	7,726.79	-1,112.67	893.80	702.49	191.31	4.672		
20,000.00	12,181.00	20,034.03	12,136.00	137.02	137.17	-89.83	7,826.79	-1,113.67	893.85	700.32	193.53	4.619		
20,100.00	12,181.00	20,134.03	12,136.00	138.59	138.74	-89.83	7,926.78	-1,114.66	893.90	698.15	195.75	4.567		
20,200.00	12,181.00	20,234.03	12,136.00	140.17	140.31	-89.83	8,026.78	-1,115.65	893.95	695.97	197.97	4.515		
20,300.00	12,181.00	20,334.03	12,136.00	141.74	141.87	-89.83	8,126.77	-1,116.64	894.00	693.80	200.20	4.466		
20,400.00	12,181.00	20,434.03	12,136.00	143.32	143.44	-89.83	8,226.77	-1,117.63	894.05	691.62	202.43	4.417		
20,500.00	12,181.00	20,534.03	12,136.00	144.90	145.02	-89.83	8,326.76	-1,118.62	894.10	689.44	204.66	4.369		
20,600.00	12,181.00	20,634.03	12,136.00	146.48	146.59	-89.83	8,426.76	-1,119.61	894.15	687.25	206.89	4.322		
20,700.00	12,181.00	20,734.03	12,136.00	148.06	148.17	-89.83	8,526.75	-1,120.60	894.20	685.07	209.13	4.276		
20,800.00	12,181.00	20,834.03	12,136.00	149.64	149.75	-89.83	8,626.75	-1,121.59	894.25	682.88	211.37	4.231		
20,900.00	12,181.00	20,934.03	12,136.00	151.23	151.32	-89.83	8,726.74	-1,122.59	894.30	680.69	213.61	4.187		
21,000.00	12,181.00	21,034.03	12,136.00	152.81	152.91	-89.83	8,826.74	-1,123.58	894.35	678.49	215.85	4.143		
21,100.00	12,181.00	21,134.03	12,136.00	154.40	154.49	-89.83	8,926.73	-1,124.57	894.39	676.30	218.09	4.101		
21,200.00	12,181.00	21,234.03	12,136.00	155.99	156.07	-89.83	9,026.73	-1,125.56	894.44	674.10	220.34	4.059		
21,300.00	12,181.00	21,334.03	12,136.00	157.58	157.66	-89.83	9,126.72	-1,126.55	894.49	671.90	222.59	4.019		
21,400.00	12,181.00	21,434.03	12,136.00	159.17	159.24	-89.83	9,226.72	-1,127.54	894.54	669.70	224.84	3.979		
21,500.00	12,181.00	21,534.03	12,136.00	160.77	160.83	-89.83	9,326.71	-1,128.53	894.59	667.50	227.09	3.939		
21,600.00	12,181.00	21,634.03	12,136.00	162.36	162.42	-89.83	9,426.71	-1,129.52	894.64	665.30	229.34	3.901		
21,700.00	12,181.00	21,734.03	12,136.00	163.96	164.01	-89.83	9,526.70	-1,130.51	894.69	663.09	231.60	3.863		
21,800.00	12,181.00	21,834.03	12,136.00	165.55	165.60	-89.83	9,626.70	-1,131.50	894.74	660.89	233.85	3.826		
21,900.00	12,181.00	21,934.03	12,136.00	167.15	167.19	-89.83	9,726.69	-1,132.50	894.79	658.68	236.11	3.790		
22,000.00	12,181.00	22,034.03	12,136.00	168.75	168.79	-89.83	9,826.69	-1,133.49	894.84	656.47	238.37	3.754		
22,100.00	12,181.00	22,134.03	12,136.00	170.35	170.38	-89.83	9,926.68	-1,134.48	894.89	654.26	240.63	3.719		
22,200.00	12,181.00	22,234.03	12,136.00	171.95	171.98	-89.83	10,026.68	-1,135.47	894.94	652.04	242.90	3.684		
22,306.42	12,181.00	22,340.45	12,136.00	173.65	173.68	-89.83	10,133.09	-1,136.52	894.99	649.69	245.30	3.648 ES, SF		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design FMM Fed Com - FMM Fed Com 805H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	(usft)	(usft)	(usft)			
0.00	0.00	0.80	0.80	0.00	0.00	89.54	0.20	25.00	25.00					
100.00	100.00	100.80	100.80	0.13	0.13	89.54	0.20	25.00	25.00	24.82	0.18	139.300		
200.00	200.00	200.80	200.80	0.48	0.49	89.54	0.20	25.00	25.00	24.31	0.69	36.422		
300.00	300.00	300.80	300.80	0.84	0.85	89.54	0.20	25.00	25.00	23.81	1.19	20.950		
400.00	400.00	400.80	400.80	1.20	1.20	89.54	0.20	25.00	25.00	23.30	1.70	14.704		
500.00	500.00	500.80	500.80	1.56	1.56	89.54	0.20	25.00	25.00	22.79	2.21	11.326		
600.00	600.00	600.80	600.80	1.92	1.92	89.54	0.20	25.00	25.00	22.29	2.71	9.211		
700.00	700.00	700.80	700.80	2.28	2.28	89.54	0.20	25.00	25.00	21.78	3.22	7.761		
800.00	800.00	800.80	800.80	2.63	2.64	89.54	0.20	25.00	25.00	21.27	3.73	6.706		
900.00	900.00	900.80	900.80	2.99	3.00	89.54	0.20	25.00	25.00	20.77	4.24	5.903		
1,000.00	1,000.00	1,000.80	1,000.80	3.35	3.35	89.54	0.20	25.00	25.00	20.26	4.74	5.272		
1,100.00	1,100.00	1,100.80	1,100.80	3.71	3.71	89.54	0.20	25.00	25.00	19.75	5.25	4.763		
1,200.00	1,200.00	1,200.80	1,200.80	4.07	4.07	89.54	0.20	25.00	25.00	19.24	5.76	4.343		
1,300.00	1,300.00	1,300.80	1,300.80	4.43	4.43	89.54	0.20	25.00	25.00	18.74	6.26	3.992		
1,400.00	1,400.00	1,400.80	1,400.80	4.79	4.79	89.54	0.20	25.00	25.00	18.23	6.77	3.693		
1,500.00	1,500.00	1,500.80	1,500.80	5.14	5.15	89.54	0.20	25.00	25.00	17.72	7.28	3.436		
1,600.00	1,600.00	1,600.80	1,600.80	5.50	5.51	89.54	0.20	25.00	25.00	17.22	7.78	3.212		
1,700.00	1,700.00	1,700.80	1,700.80	5.86	5.86	89.54	0.20	25.00	25.00	16.71	8.29	3.016		
1,800.00	1,800.00	1,800.80	1,800.80	6.22	6.22	89.54	0.20	25.00	25.00	16.20	8.80	2.842		
1,900.00	1,900.00	1,900.80	1,900.80	6.58	6.58	89.54	0.20	25.00	25.00	15.70	9.30	2.687		
1,916.40	1,916.40	1,917.20	1,917.20	6.64	6.64	89.54	0.20	25.00	25.00	15.61	9.39	2.663 CC		
2,000.00	2,000.00	2,000.80	2,000.80	6.94	6.94	89.54	0.20	25.00	25.00	15.19	9.81	2.548 ES, SF		
2,100.00	2,100.00	2,100.00	2,099.99	7.29	7.28	90.46	-0.21	26.24	26.26	15.95	10.30	2.549		
2,200.00	2,200.00	2,199.38	2,199.29	7.65	7.62	92.74	-1.43	29.94	30.01	19.23	10.78	2.783		
2,300.00	2,300.00	2,298.34	2,298.04	8.01	7.96	95.47	-3.45	36.06	36.33	25.07	11.25	3.228		
2,400.00	2,400.00	2,396.90	2,396.18	8.37	8.30	98.00	-6.26	44.56	45.24	33.52	11.72	3.861		
2,500.00	2,499.99	2,494.87	2,493.49	8.71	8.64	-114.05	-9.84	55.40	57.26	45.10	12.16	4.708		
2,600.00	2,599.91	2,592.93	2,590.60	9.04	8.99	-114.90	-14.10	68.30	72.53	59.92	12.61	5.751		
2,633.40	2,633.25	2,625.87	2,623.21	9.15	9.11	-115.47	-15.57	72.74	77.98	65.21	12.77	6.106		
2,700.00	2,699.73	2,691.53	2,688.21	9.37	9.35	-116.68	-18.48	81.57	89.01	75.92	13.09	6.801		
2,800.00	2,799.54	2,790.12	2,785.80	9.70	9.71	-118.03	-22.86	94.83	105.62	92.05	13.57	7.786		
2,900.00	2,899.36	2,888.70	2,883.39	10.04	10.08	-119.01	-27.24	108.10	122.27	108.23	14.05	8.705		
3,000.00	2,999.17	2,987.29	2,980.98	10.37	10.45	-119.75	-31.62	121.36	138.95	124.42	14.53	9.564		
3,100.00	3,098.98	3,085.87	3,078.57	10.71	10.83	-120.34	-36.00	134.62	155.64	140.63	15.01	10.367		
3,200.00	3,198.80	3,184.46	3,176.16	11.06	11.21	-120.81	-40.38	147.89	172.35	156.85	15.50	11.118		
3,300.00	3,298.61	3,283.04	3,273.75	11.40	11.59	-121.20	-44.76	161.15	189.07	173.08	15.99	11.823		
3,400.00	3,398.42	3,381.63	3,371.34	11.75	11.97	-121.52	-49.14	174.41	205.80	189.31	16.48	12.485		
3,500.00	3,498.24	3,480.21	3,468.93	12.10	12.36	-121.80	-53.53	187.68	222.53	205.55	16.98	13.107		
3,600.00	3,598.05	3,578.80	3,566.52	12.44	12.75	-122.04	-57.91	200.94	239.26	221.79	17.47	13.694		
3,700.00	3,697.86	3,677.38	3,664.11	12.79	13.14	-122.24	-62.29	214.20	256.00	238.03	17.97	14.246		
3,800.00	3,797.68	3,775.97	3,761.70	13.15	13.53	-122.42	-66.67	227.46	272.74	254.27	18.47	14.768		
3,900.00	3,897.49	3,874.55	3,859.30	13.50	13.92	-122.58	-71.05	240.73	289.48	270.51	18.97	15.262		
4,000.00	3,997.30	3,973.14	3,956.89	13.85	14.32	-122.73	-75.43	253.99	306.23	286.76	19.47	15.729		
4,100.00	4,097.12	4,071.73	4,054.48	14.21	14.71	-122.85	-79.81	267.25	322.97	303.00	19.97	16.172		
4,200.00	4,196.93	4,170.31	4,152.07	14.56	15.11	-122.97	-84.19	280.52	339.72	319.25	20.47	16.593		
4,300.00	4,296.74	4,268.90	4,249.66	14.92	15.51	-123.07	-88.57	293.78	356.47	335.49	20.98	16.992		
4,400.00	4,396.56	4,367.48	4,347.25	15.28	15.91	-123.17	-92.95	307.04	373.22	351.74	21.48	17.373		
4,500.00	4,496.37	4,466.07	4,444.84	15.64	16.31	-123.26	-97.33	320.31	389.97	367.98	21.99	17.735		
4,600.00	4,596.18	4,564.65	4,542.43	15.99	16.71	-123.34	-101.71	333.57	406.73	384.23	22.50	18.080		
4,700.00	4,696.00	4,663.24	4,640.02	16.35	17.12	-123.41	-106.09	346.83	423.48	400.48	23.00	18.409		
4,800.00	4,795.81	4,761.82	4,737.61	16.71	17.52	-123.48	-110.47	360.10	440.23	416.72	23.51	18.724		
4,900.00	4,895.62	4,860.41	4,835.20	17.07	17.92	-123.54	-114.85	373.36	456.99	432.97	24.02	19.024		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 805H - OH - Plan #1		Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
				(usft)	(usft)	(°)										
5,000.00	4,995.44	4,958.99	4,932.79	17.44	18.33	-123.60	-119.23	386.62	473.74	449.21	24.53	19.312				
5,100.00	5,095.25	5,057.58	5,030.38	17.80	18.73	-123.65	-123.61	399.89	490.50	465.46	25.04	19.588				
5,200.00	5,195.07	5,156.16	5,127.98	18.16	19.14	-123.70	-127.99	413.15	507.25	481.70	25.55	19.852				
5,300.00	5,294.88	5,254.75	5,225.57	18.52	19.55	-123.75	-132.37	426.41	524.01	497.94	26.06	20.105				
5,400.00	5,394.69	5,353.33	5,323.16	18.88	19.95	-123.80	-136.75	439.68	540.76	514.19	26.58	20.348				
5,500.00	5,494.51	5,451.92	5,420.75	19.25	20.36	-123.84	-141.13	452.94	557.52	530.43	27.09	20.582				
5,600.00	5,594.32	5,550.51	5,518.34	19.61	20.77	-123.88	-145.51	466.20	574.28	546.68	27.60	20.807				
5,700.00	5,694.13	5,649.09	5,615.93	19.98	21.18	-123.92	-149.89	479.47	591.03	562.92	28.11	21.023				
5,800.00	5,793.95	5,747.68	5,713.52	20.34	21.59	-123.95	-154.27	492.73	607.79	579.16	28.63	21.231				
5,900.00	5,893.76	5,846.26	5,811.11	20.70	22.00	-123.98	-158.65	505.99	624.55	595.41	29.14	21.432				
6,000.00	5,993.57	5,944.85	5,908.70	21.07	22.41	-124.02	-163.03	519.25	641.31	611.65	29.66	21.625				
6,100.00	6,093.39	6,043.43	6,006.29	21.43	22.82	-124.05	-167.41	532.52	658.06	627.89	30.17	21.811				
6,200.00	6,193.20	6,142.02	6,103.88	21.80	23.23	-124.07	-171.79	545.78	674.82	644.14	30.69	21.991				
6,300.00	6,293.01	6,240.60	6,201.47	22.17	23.64	-124.10	-176.17	559.04	691.58	660.38	31.20	22.165				
6,400.00	6,392.83	6,339.19	6,299.07	22.53	24.05	-124.13	-180.55	572.31	708.34	676.62	31.72	22.333				
6,500.00	6,492.64	6,437.77	6,396.66	22.90	24.46	-124.15	-184.93	585.57	725.10	692.86	32.23	22.495				
6,600.00	6,592.45	6,536.36	6,494.25	23.26	24.87	-124.17	-189.32	598.83	741.86	709.11	32.75	22.652				
6,700.00	6,692.27	6,634.94	6,591.84	23.63	25.28	-124.20	-193.70	612.10	758.61	725.35	33.27	22.804				
6,719.52	6,711.75	6,654.19	6,610.89	23.70	25.36	-124.20	-194.55	614.69	761.89	728.52	33.37	22.833				
6,800.00	6,792.13	6,733.60	6,689.50	24.00	25.70	-124.33	-198.08	625.37	774.90	741.12	33.78	22.939				
6,900.00	6,892.09	6,832.46	6,787.36	24.35	26.11	-124.33	-202.47	638.67	789.76	755.47	34.29	23.031				
6,952.92	6,945.00	6,896.32	6,850.63	24.54	26.37	88.85	-205.17	646.84	796.70	762.08	34.63	23.009				
7,000.00	6,992.08	6,954.58	6,908.48	24.69	26.61	89.02	-207.34	653.42	801.99	767.07	34.92	22.966				
7,100.00	7,092.08	7,078.95	7,032.29	25.03	27.09	89.30	-211.06	664.67	811.00	775.47	35.53	22.826				
7,200.00	7,192.08	7,203.97	7,157.06	25.37	27.55	89.47	-213.51	672.11	816.93	780.82	36.11	22.625				
7,300.00	7,292.08	7,329.37	7,282.39	25.71	27.98	89.56	-214.69	675.67	819.76	783.11	36.65	22.367				
7,400.00	7,392.08	7,439.87	7,392.88	26.05	28.34	89.57	-214.80	676.00	820.02	782.88	37.15	22.076				
7,500.00	7,492.08	7,539.87	7,492.88	26.39	28.66	89.57	-214.80	676.00	820.02	782.40	37.62	21.796				
7,600.00	7,592.08	7,639.87	7,592.88	26.73	28.98	89.57	-214.80	676.00	820.02	781.92	38.10	21.522				
7,700.00	7,692.08	7,739.87	7,692.88	27.07	29.30	89.57	-214.80	676.00	820.02	781.44	38.58	21.254				
7,800.00	7,792.08	7,839.87	7,792.88	27.41	29.62	89.57	-214.80	676.00	820.02	780.96	39.06	20.993				
7,900.00	7,892.08	7,939.87	7,892.88	27.76	29.94	89.57	-214.80	676.00	820.02	780.48	39.54	20.738				
8,000.00	7,992.08	8,039.87	7,992.88	28.10	30.26	89.57	-214.80	676.00	820.02	780.00	40.02	20.488				
8,100.00	8,092.08	8,139.87	8,092.88	28.44	30.59	89.57	-214.80	676.00	820.02	779.52	40.51	20.244				
8,200.00	8,192.08	8,239.87	8,192.88	28.78	30.91	89.57	-214.80	676.00	820.02	779.03	40.99	20.006				
8,300.00	8,292.08	8,339.87	8,292.88	29.13	31.24	89.57	-214.80	676.00	820.02	778.55	41.47	19.773				
8,400.00	8,392.08	8,439.87	8,392.88	29.47	31.56	89.57	-214.80	676.00	820.02	778.07	41.96	19.545				
8,500.00	8,492.08	8,539.87	8,492.88	29.81	31.89	89.57	-214.80	676.00	820.02	777.58	42.44	19.321				
8,600.00	8,592.08	8,639.87	8,592.88	30.16	32.22	89.57	-214.80	676.00	820.02	777.10	42.93	19.103				
8,700.00	8,692.08	8,739.87	8,692.88	30.50	32.55	89.57	-214.80	676.00	820.02	776.61	43.41	18.889				
8,800.00	8,792.08	8,839.87	8,792.88	30.85	32.88	89.57	-214.80	676.00	820.02	776.13	43.90	18.680				
8,900.00	8,892.08	8,939.87	8,892.88	31.20	33.21	89.57	-214.80	676.00	820.02	775.64	44.38	18.476				
9,000.00	8,992.08	9,039.87	8,992.88	31.54	33.54	89.57	-214.80	676.00	820.02	775.15	44.87	18.275				
9,100.00	9,092.08	9,139.87	9,092.88	31.89	33.87	89.57	-214.80	676.00	820.02	774.67	45.36	18.079				
9,200.00	9,192.08	9,239.87	9,192.88	32.23	34.20	89.57	-214.80	676.00	820.02	774.18	45.85	17.886				
9,300.00	9,292.08	9,339.87	9,292.88	32.58	34.53	89.57	-214.80	676.00	820.02	773.69	46.33	17.698				
9,400.00	9,392.08	9,439.87	9,392.88	32.93	34.86	89.57	-214.80	676.00	820.02	773.20	46.82	17.513				
9,500.00	9,492.08	9,539.87	9,492.88	33.27	35.19	89.57	-214.80	676.00	820.02	772.71	47.31	17.332				
9,600.00	9,592.08	9,639.87	9,592.88	33.62	35.53	89.57	-214.80	676.00	820.02	772.22	47.80	17.155				
9,700.00	9,692.08	9,739.87	9,692.88	33.97	35.86	89.57	-214.80	676.00	820.02	771.73	48.29	16.981				
9,800.00	9,792.08	9,839.87	9,792.88	34.32	36.20	89.57	-214.80	676.00	820.02	771.24	48.78	16.810				
9,900.00	9,892.08	9,939.87	9,892.88	34.66	36.53	89.57	-214.80	676.00	820.02	770.75	49.27	16.643				

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design FMM Fed Com - FMM Fed Com 805H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,000.00	9,992.08	10,039.87	9,992.88	35.01	36.87	89.57	-214.80	676.00	820.02	770.26	49.76	16.479		
10,100.00	10,092.08	10,139.87	10,092.88	35.36	37.20	89.57	-214.80	676.00	820.02	769.77	50.25	16.318		
10,200.00	10,192.08	10,239.87	10,192.88	35.71	37.54	89.57	-214.80	676.00	820.02	769.28	50.74	16.160		
10,300.00	10,292.08	10,339.87	10,292.88	36.06	37.87	89.57	-214.80	676.00	820.02	768.79	51.24	16.005		
10,400.00	10,392.08	10,439.87	10,392.88	36.41	38.21	89.57	-214.80	676.00	820.02	768.30	51.73	15.853		
10,500.00	10,492.08	10,539.87	10,492.88	36.76	38.55	89.57	-214.80	676.00	820.02	767.80	52.22	15.703		
10,600.00	10,592.08	10,639.87	10,592.88	37.11	38.89	89.57	-214.80	676.00	820.02	767.31	52.71	15.556		
10,700.00	10,692.08	10,739.87	10,692.88	37.46	39.22	89.57	-214.80	676.00	820.02	766.82	53.21	15.412		
10,800.00	10,792.08	10,839.87	10,792.88	37.81	39.56	89.57	-214.80	676.00	820.02	766.32	53.70	15.271		
10,900.00	10,892.08	10,939.87	10,892.88	38.16	39.90	89.57	-214.80	676.00	820.02	765.83	54.19	15.132		
11,000.00	10,992.08	11,039.87	10,992.88	38.51	40.24	89.57	-214.80	676.00	820.02	765.34	54.69	14.995		
11,100.00	11,092.08	11,139.87	11,092.88	38.86	40.58	89.57	-214.80	676.00	820.02	764.84	55.18	14.861		
11,200.00	11,192.08	11,239.87	11,192.88	39.21	40.92	89.57	-214.80	676.00	820.02	764.35	55.67	14.729		
11,300.00	11,292.08	11,339.87	11,292.88	39.56	41.26	89.57	-214.80	676.00	820.02	763.86	56.17	14.600		
11,400.00	11,392.08	11,439.87	11,392.88	39.91	41.60	89.57	-214.80	676.00	820.02	763.36	56.66	14.472		
11,500.00	11,492.08	11,539.87	11,492.88	40.26	41.94	89.57	-214.80	676.00	820.02	762.87	57.16	14.347		
11,568.03	11,560.11	11,607.93	11,560.91	40.50	42.17	89.46	-213.27	675.99	820.02	762.53	57.49	14.263		
11,600.00	11,592.08	11,639.66	11,592.47	40.61	42.27	89.24	-210.08	675.96	820.03	762.38	57.65	14.224		
11,615.96	11,608.04	11,655.33	11,607.99	40.66	42.32	89.08	-207.85	675.93	820.04	762.31	57.73	14.205		
11,650.00	11,642.06	11,688.50	11,640.59	40.78	42.43	89.26	-201.76	675.88	820.09	762.20	57.89	14.166		
11,700.00	11,691.78	11,736.69	11,687.20	40.95	42.57	88.73	-189.57	675.76	820.23	762.11	58.12	14.112		
11,750.00	11,740.86	11,784.30	11,732.08	41.12	42.70	88.22	-173.72	675.61	820.43	762.08	58.34	14.062		
11,800.00	11,788.94	11,831.36	11,775.00	41.27	42.83	87.72	-154.45	675.43	820.68	762.13	58.55	14.017		
11,850.00	11,835.63	11,877.92	11,815.76	41.42	42.93	87.24	-131.99	675.22	820.99	762.25	58.75	13.975		
11,900.00	11,880.59	11,924.00	11,854.18	41.55	43.03	86.78	-106.56	674.98	821.34	762.41	58.93	13.938		
11,950.00	11,923.48	11,969.65	11,890.10	41.68	43.11	86.34	-78.42	674.71	821.72	762.62	59.10	13.904		
12,000.00	11,963.97	12,014.91	11,923.39	41.80	43.19	85.94	-47.78	674.43	822.11	762.85	59.26	13.873		
12,050.00	12,001.74	12,059.80	11,953.93	41.91	43.25	85.56	-14.88	674.11	822.52	763.10	59.41	13.844		
12,100.00	12,036.53	12,104.38	11,981.60	42.02	43.30	85.21	20.04	673.79	822.92	763.36	59.56	13.817		
12,150.00	12,068.05	12,150.00	12,007.03	42.13	43.34	84.89	57.91	673.43	823.31	763.61	59.70	13.791		
12,200.00	12,096.07	12,192.70	12,028.03	42.24	43.37	84.62	95.07	673.08	823.67	763.84	59.83	13.767		
12,250.00	12,120.37	12,236.52	12,046.64	42.35	43.40	84.37	134.73	672.70	824.00	764.04	59.97	13.741		
12,300.00	12,140.78	12,280.15	12,062.11	42.47	43.42	84.17	175.52	672.32	824.29	764.19	60.10	13.714		
12,350.00	12,157.13	12,323.64	12,074.40	42.59	43.44	84.01	217.22	671.93	824.53	764.29	60.24	13.686		
12,400.00	12,169.30	12,367.02	12,083.47	42.71	43.48	83.88	259.62	671.53	824.72	764.33	60.39	13.656		
12,450.00	12,177.21	12,410.31	12,089.29	42.84	43.52	83.80	302.51	671.12	824.85	764.30	60.54	13.624		
12,500.00	12,180.78	12,453.55	12,091.86	42.96	43.58	83.76	345.66	670.72	824.91	764.21	60.70	13.589		
12,515.96	12,181.00	12,467.55	12,092.00	43.00	43.61	83.75	359.66	670.58	824.92	764.16	60.76	13.577		
12,600.00	12,181.00	12,551.60	12,092.00	43.24	43.79	83.75	443.70	669.79	824.92	763.83	61.09	13.504		
12,700.00	12,181.00	12,651.60	12,092.00	43.58	44.10	83.75	543.70	668.85	824.91	763.36	61.55	13.402		
12,800.00	12,181.00	12,751.60	12,092.00	43.97	44.48	83.75	643.70	667.91	824.91	762.81	62.10	13.283		
12,900.00	12,181.00	12,851.60	12,092.00	44.43	44.92	83.75	743.69	666.96	824.91	762.18	62.73	13.150		
13,000.00	12,181.00	12,951.60	12,092.00	44.94	45.42	83.75	843.69	666.02	824.91	761.47	63.44	13.003		
13,100.00	12,181.00	13,051.60	12,092.00	45.50	45.98	83.75	943.68	665.08	824.91	760.68	64.23	12.844		
13,200.00	12,181.00	13,151.60	12,092.00	46.12	46.59	83.75	1,043.68	664.13	824.91	759.82	65.09	12.674		
13,300.00	12,181.00	13,251.60	12,092.00	46.79	47.24	83.75	1,143.67	663.19	824.91	758.89	66.02	12.495		
13,400.00	12,181.00	13,351.60	12,092.00	47.50	47.94	83.75	1,243.67	662.25	824.91	757.89	67.01	12.309		
13,500.00	12,181.00	13,451.60	12,092.00	48.26	48.69	83.75	1,343.66	661.30	824.90	756.83	68.08	12.117		
13,600.00	12,181.00	13,551.60	12,092.00	49.07	49.48	83.75	1,443.66	660.36	824.90	755.70	69.20	11.920		
13,700.00	12,181.00	13,651.60	12,092.00	49.91	50.32	83.75	1,543.66	659.42	824.90	754.52	70.38	11.720		
13,800.00	12,181.00	13,751.60	12,092.00	50.80	51.19	83.75	1,643.65	658.48	824.90	753.28	71.62	11.517		
13,900.00	12,181.00	13,851.60	12,092.00	51.72	52.10	83.75	1,743.65	657.53	824.90	751.98	72.92	11.313		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design FMM Fed Com - FMM Fed Com 805H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis		Distance							Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,000.00	12,181.00	13,951.60	12,092.00	52.68	53.04	83.75	1,843.64	656.59	824.90	750.64	74.26	11.108		
14,100.00	12,181.00	14,051.60	12,092.00	53.67	54.02	83.75	1,943.64	655.65	824.90	749.25	75.65	10.904		
14,200.00	12,181.00	14,151.60	12,092.00	54.70	55.03	83.75	2,043.63	654.70	824.90	747.81	77.08	10.701		
14,300.00	12,181.00	14,251.60	12,092.00	55.75	56.07	83.75	2,143.63	653.76	824.89	746.33	78.56	10.500		
14,400.00	12,181.00	14,351.60	12,092.00	56.84	57.14	83.75	2,243.62	652.82	824.89	744.81	80.08	10.301		
14,500.00	12,181.00	14,451.60	12,092.00	57.95	58.23	83.75	2,343.62	651.88	824.89	743.25	81.64	10.104		
14,600.00	12,181.00	14,551.60	12,092.00	59.08	59.36	83.75	2,443.62	650.93	824.89	741.66	83.23	9.911		
14,700.00	12,181.00	14,651.60	12,092.00	60.24	60.50	83.75	2,543.61	649.99	824.89	740.03	84.85	9.721		
14,800.00	12,181.00	14,751.60	12,092.00	61.42	61.67	83.75	2,643.61	649.05	824.89	738.38	86.51	9.535		
14,900.00	12,181.00	14,851.60	12,092.00	62.63	62.86	83.75	2,743.60	648.10	824.89	736.69	88.20	9.353		
15,000.00	12,181.00	14,951.60	12,092.00	63.85	64.07	83.75	2,843.60	647.16	824.88	734.97	89.92	9.174		
15,100.00	12,181.00	15,051.60	12,092.00	65.09	65.30	83.75	2,943.59	646.22	824.88	733.22	91.66	9.000		
15,200.00	12,181.00	15,151.60	12,092.00	66.35	66.55	83.75	3,043.59	645.28	824.88	731.46	93.43	8.829		
15,300.00	12,181.00	15,251.60	12,092.00	67.63	67.81	83.75	3,143.58	644.33	824.88	729.66	95.22	8.663		
15,400.00	12,181.00	15,351.60	12,092.00	68.92	69.09	83.75	3,243.58	643.39	824.88	727.85	97.03	8.501		
15,500.00	12,181.00	15,451.60	12,092.00	70.23	70.39	83.75	3,343.58	642.45	824.88	726.01	98.87	8.343		
15,600.00	12,181.00	15,551.60	12,092.00	71.55	71.70	83.75	3,443.57	641.50	824.88	724.15	100.73	8.189		
15,700.00	12,181.00	15,651.60	12,092.00	72.89	73.03	83.75	3,543.57	640.56	824.88	722.27	102.60	8.040		
15,800.00	12,181.00	15,751.60	12,092.00	74.24	74.37	83.75	3,643.56	639.62	824.87	720.38	104.49	7.894		
15,900.00	12,181.00	15,851.60	12,092.00	75.60	75.72	83.75	3,743.56	638.68	824.87	718.47	106.41	7.752		
16,000.00	12,181.00	15,951.60	12,092.00	76.97	77.08	83.75	3,843.55	637.73	824.87	716.54	108.33	7.614		
16,100.00	12,181.00	16,051.60	12,092.00	78.35	78.45	83.75	3,943.55	636.79	824.87	714.60	110.27	7.480		
16,200.00	12,181.00	16,151.60	12,092.00	79.75	79.84	83.75	4,043.54	635.85	824.87	712.64	112.23	7.350		
16,300.00	12,181.00	16,251.60	12,092.00	81.15	81.23	83.75	4,143.54	634.90	824.87	710.67	114.20	7.223		
16,400.00	12,181.00	16,351.60	12,092.00	82.56	82.63	83.75	4,243.54	633.96	824.87	708.68	116.18	7.100		
16,500.00	12,181.00	16,451.60	12,092.00	83.98	84.05	83.75	4,343.53	633.02	824.87	706.69	118.18	6.980		
16,600.00	12,181.00	16,551.60	12,092.00	85.41	85.47	83.75	4,443.53	632.08	824.86	704.68	120.19	6.863		
16,700.00	12,181.00	16,651.60	12,092.00	86.85	86.90	83.75	4,543.52	631.13	824.86	702.66	122.20	6.750		
16,800.00	12,181.00	16,751.60	12,092.00	88.29	88.33	83.75	4,643.52	630.19	824.86	700.63	124.23	6.640		
16,900.00	12,181.00	16,851.60	12,092.00	89.74	89.78	83.75	4,743.51	629.25	824.86	698.59	126.27	6.532		
17,000.00	12,181.00	16,951.60	12,092.00	91.20	91.23	83.75	4,843.51	628.30	824.86	696.54	128.32	6.428		
17,100.00	12,181.00	17,051.60	12,092.00	92.67	92.69	83.75	4,943.50	627.36	824.86	694.48	130.38	6.327		
17,200.00	12,181.00	17,151.60	12,092.00	94.14	94.15	83.75	5,043.50	626.42	824.86	692.41	132.44	6.228		
17,300.00	12,181.00	17,251.60	12,092.00	95.62	95.62	83.75	5,143.50	625.48	824.85	690.34	134.52	6.132		
17,400.00	12,181.00	17,351.60	12,092.00	97.10	97.10	83.75	5,243.49	624.53	824.85	688.25	136.60	6.038		
17,500.00	12,181.00	17,451.60	12,092.00	98.59	98.58	83.75	5,343.49	623.59	824.85	686.16	138.69	5.947		
17,600.00	12,181.00	17,551.60	12,092.00	100.08	100.07	83.75	5,443.48	622.65	824.85	684.06	140.79	5.859		
17,700.00	12,181.00	17,651.60	12,092.00	101.58	101.56	83.75	5,543.48	621.70	824.85	681.95	142.90	5.772		
17,800.00	12,181.00	17,751.60	12,092.00	103.08	103.06	83.75	5,643.47	620.76	824.85	679.84	145.01	5.688		
17,900.00	12,181.00	17,851.60	12,092.00	104.59	104.56	83.75	5,743.47	619.82	824.85	677.72	147.12	5.606		
18,000.00	12,181.00	17,951.60	12,092.00	106.10	106.07	83.75	5,843.46	618.87	824.85	675.60	149.25	5.527		
18,100.00	12,181.00	18,051.60	12,092.00	107.62	107.58	83.75	5,943.46	617.93	824.84	673.47	151.38	5.449		
18,200.00	12,181.00	18,151.60	12,092.00	109.14	109.09	83.75	6,043.46	616.99	824.84	671.33	153.51	5.373		
18,300.00	12,181.00	18,251.60	12,092.00	110.66	110.61	83.75	6,143.45	616.05	824.84	669.19	155.65	5.299		
18,400.00	12,181.00	18,351.60	12,092.00	112.19	112.13	83.75	6,243.45	615.10	824.84	667.04	157.80	5.227		
18,500.00	12,181.00	18,451.60	12,092.00	113.72	113.66	83.75	6,343.44	614.16	824.84	664.89	159.95	5.157		
18,600.00	12,181.00	18,551.60	12,092.00	115.25	115.19	83.75	6,443.44	613.22	824.84	662.74	162.10	5.088		
18,700.00	12,181.00	18,651.60	12,092.00	116.79	116.72	83.75	6,543.43	612.27	824.84	660.57	164.26	5.021		
18,800.00	12,181.00	18,751.60	12,092.00	118.33	118.26	83.75	6,643.43	611.33	824.84	658.41	166.43	4.956		
18,900.00	12,181.00	18,851.60	12,092.00	119.87	119.80	83.75	6,743.42	610.39	824.83	656.24	168.59	4.892		
19,000.00	12,181.00	18,951.60	12,092.00	121.42	121.34	83.75	6,843.42	609.45	824.83	654.07	170.77	4.830		
19,100.00	12,181.00	19,051.60	12,092.00	122.97	122.88	83.75	6,943.42	608.50	824.83	651.89	172.94	4.769		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 805H - OH - Plan #1		Offset Site Error:		0.00 usft	
Survey Program:													0-OWSG (Rev2) MWD		Offset Well Error:		0.00 usft	
Reference		Offset		Semi Major Axis			Distance						Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor						
19,200.00	12,181.00	19,151.60	12,092.00	124.52	124.43	83.75	7,043.41	607.56	824.83	649.71	175.12	4.710						
19,300.00	12,181.00	19,251.60	12,092.00	126.08	125.98	83.75	7,143.41	606.62	824.83	647.52	177.30	4.652						
19,400.00	12,181.00	19,351.60	12,092.00	127.63	127.53	83.75	7,243.40	605.67	824.83	645.34	179.49	4.595						
19,500.00	12,181.00	19,451.60	12,092.00	129.19	129.09	83.75	7,343.40	604.73	824.83	643.14	181.68	4.540						
19,600.00	12,181.00	19,551.60	12,092.00	130.75	130.65	83.75	7,443.39	603.79	824.82	640.95	183.87	4.486						
19,700.00	12,181.00	19,651.60	12,092.00	132.32	132.21	83.75	7,543.39	602.85	824.82	638.75	186.07	4.433						
19,800.00	12,181.00	19,751.60	12,092.00	133.88	133.77	83.75	7,643.38	601.90	824.82	636.55	188.27	4.381						
19,900.00	12,181.00	19,851.60	12,092.00	135.45	135.33	83.75	7,743.38	600.96	824.82	634.35	190.47	4.330						
20,000.00	12,181.00	19,951.60	12,092.00	137.02	136.90	83.75	7,843.38	600.02	824.82	632.14	192.68	4.281						
20,100.00	12,181.00	20,051.60	12,092.00	138.59	138.47	83.75	7,943.37	599.07	824.82	629.94	194.88	4.232						
20,200.00	12,181.00	20,151.60	12,092.00	140.17	140.04	83.75	8,043.37	598.13	824.82	627.72	197.09	4.185						
20,300.00	12,181.00	20,251.60	12,092.00	141.74	141.61	83.75	8,143.36	597.19	824.82	625.51	199.31	4.138						
20,400.00	12,181.00	20,351.60	12,092.00	143.32	143.19	83.75	8,243.36	596.25	824.81	623.30	201.52	4.093						
20,500.00	12,181.00	20,451.60	12,092.00	144.90	144.76	83.75	8,343.35	595.30	824.81	621.08	203.74	4.048						
20,600.00	12,181.00	20,551.60	12,092.00	146.48	146.34	83.75	8,443.35	594.36	824.81	618.86	205.96	4.005						
20,700.00	12,181.00	20,651.60	12,092.00	148.06	147.92	83.75	8,543.34	593.42	824.81	616.63	208.18	3.962						
20,800.00	12,181.00	20,751.60	12,092.00	149.64	149.50	83.75	8,643.34	592.47	824.81	614.41	210.40	3.920						
20,900.00	12,181.00	20,851.60	12,092.00	151.23	151.08	83.75	8,743.34	591.53	824.81	612.18	212.63	3.879						
21,000.00	12,181.00	20,951.60	12,092.00	152.81	152.67	83.75	8,843.33	590.59	824.81	609.95	214.85	3.839						
21,100.00	12,181.00	21,051.60	12,092.00	154.40	154.25	83.75	8,943.33	589.65	824.81	607.72	217.08	3.800						
21,200.00	12,181.00	21,151.60	12,092.00	155.99	155.84	83.75	9,043.32	588.70	824.80	605.49	219.31	3.761						
21,300.00	12,181.00	21,251.60	12,092.00	157.58	157.43	83.75	9,143.32	587.76	824.80	603.26	221.54	3.723						
21,400.00	12,181.00	21,351.60	12,092.00	159.17	159.02	83.75	9,243.31	586.82	824.80	601.02	223.78	3.686						
21,500.00	12,181.00	21,451.60	12,092.00	160.77	160.61	83.75	9,343.31	585.87	824.80	598.79	226.01	3.649						
21,600.00	12,181.00	21,551.60	12,092.00	162.36	162.20	83.75	9,443.30	584.93	824.80	596.55	228.25	3.614						
21,700.00	12,181.00	21,651.60	12,092.00	163.96	163.79	83.75	9,543.30	583.99	824.80	594.31	230.49	3.578						
21,800.00	12,181.00	21,751.60	12,092.00	165.55	165.38	83.75	9,643.30	583.05	824.80	592.06	232.73	3.544						
21,900.00	12,181.00	21,851.60	12,092.00	167.15	166.98	83.75	9,743.29	582.10	824.80	589.82	234.98	3.510						
22,000.00	12,181.00	21,951.60	12,092.00	168.75	168.58	83.75	9,843.29	581.16	824.79	587.57	237.22	3.477						
22,100.00	12,181.00	22,051.60	12,092.00	170.35	170.17	83.75	9,943.28	580.22	824.79	585.33	239.46	3.444						
22,200.00	12,181.00	22,151.60	12,092.00	171.95	171.77	83.75	10,043.28	579.27	824.79	583.08	241.71	3.412						
22,302.97	12,181.00	22,254.56	12,092.00	173.60	173.42	83.75	10,146.24	578.30	824.79	580.77	244.02	3.380						
22,306.42	12,181.00	22,255.91	12,092.00	173.65	173.44	83.75	10,147.59	578.29	824.79	580.70	244.09	3.379						

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 806H - OH - Plan #1		Offset Site Error: 0.00 usft	
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error: 0.00 usft			
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
0.00	0.00	0.70	0.70	0.00	0.00	89.54	0.40	49.99	49.99							
100.00	100.00	100.70	100.70	0.13	0.13	89.54	0.40	49.99	49.99	49.81	0.18	278.943				
200.00	200.00	200.70	200.70	0.48	0.49	89.54	0.40	49.99	49.99	49.31	0.69	72.856				
300.00	300.00	300.70	300.70	0.84	0.84	89.54	0.40	49.99	49.99	48.80	1.19	41.900				
400.00	400.00	400.70	400.70	1.20	1.20	89.54	0.40	49.99	49.99	48.29	1.70	29.406				
500.00	500.00	500.70	500.70	1.56	1.56	89.54	0.40	49.99	49.99	47.78	2.21	22.651				
600.00	600.00	600.70	600.70	1.92	1.92	89.54	0.40	49.99	49.99	47.28	2.71	18.420				
700.00	700.00	700.70	700.70	2.28	2.28	89.54	0.40	49.99	49.99	46.77	3.22	15.521				
800.00	800.00	800.70	800.70	2.63	2.64	89.54	0.40	49.99	49.99	46.26	3.73	13.410				
900.00	900.00	900.70	900.70	2.99	3.00	89.54	0.40	49.99	49.99	45.76	4.23	11.805				
1,000.00	1,000.00	1,000.70	1,000.70	3.35	3.35	89.54	0.40	49.99	49.99	45.25	4.74	10.543				
1,100.00	1,100.00	1,100.70	1,100.70	3.71	3.71	89.54	0.40	49.99	49.99	44.74	5.25	9.524				
1,200.00	1,200.00	1,200.70	1,200.70	4.07	4.07	89.54	0.40	49.99	49.99	44.24	5.76	8.686				
1,300.00	1,300.00	1,300.70	1,300.70	4.43	4.43	89.54	0.40	49.99	49.99	43.73	6.26	7.982				
1,400.00	1,400.00	1,400.70	1,400.70	4.79	4.79	89.54	0.40	49.99	49.99	43.22	6.77	7.385				
1,500.00	1,500.00	1,500.70	1,500.70	5.14	5.15	89.54	0.40	49.99	49.99	42.72	7.28	6.870				
1,516.43	1,516.43	1,517.13	1,517.13	5.20	5.21	89.54	0.40	49.99	49.99	42.63	7.36	6.792 CC				
1,600.00	1,600.00	1,600.00	1,600.00	5.50	5.50	89.54	0.40	49.99	50.00	42.22	7.78	6.425 ES				
1,700.00	1,700.00	1,698.95	1,698.93	5.86	5.85	89.80	0.18	51.68	51.71	43.44	8.27	6.250 SF				
1,800.00	1,800.00	1,796.98	1,796.82	6.22	6.18	90.48	-0.48	56.70	56.84	48.09	8.75	6.495				
1,900.00	1,900.00	1,894.55	1,894.03	6.58	6.52	91.37	-1.56	64.99	65.35	56.14	9.22	7.092				
2,000.00	2,000.00	1,991.44	1,990.22	6.94	6.86	92.29	-3.06	76.47	77.24	67.57	9.67	7.988				
2,100.00	2,100.00	2,087.43	2,085.09	7.29	7.21	93.12	-4.95	91.01	92.47	82.36	10.11	9.146				
2,200.00	2,200.00	2,182.34	2,178.34	7.65	7.57	93.82	-7.23	108.48	110.99	100.45	10.54	10.531				
2,300.00	2,300.00	2,275.96	2,269.71	8.01	7.94	94.39	-9.87	128.70	132.75	121.79	10.96	12.116				
2,400.00	2,400.00	2,368.14	2,358.97	8.37	8.32	94.85	-12.85	151.50	157.66	146.30	11.36	13.880				
2,500.00	2,499.99	2,458.55	2,445.76	8.71	8.72	-117.83	-16.13	176.61	186.24	174.50	11.74	15.867				
2,600.00	2,599.91	2,548.33	2,531.13	9.04	9.14	-117.93	-19.72	204.14	218.88	206.76	12.12	18.061				
2,633.40	2,633.25	2,579.69	2,560.86	9.15	9.29	-118.06	-21.01	214.02	230.34	218.06	12.28	18.764				
2,700.00	2,699.73	2,642.16	2,620.09	9.37	9.60	-118.63	-23.58	233.71	253.32	240.73	12.59	20.126				
2,800.00	2,799.54	2,735.96	2,709.03	9.70	10.08	-119.30	-27.44	263.27	287.86	274.80	13.06	22.045				
2,900.00	2,899.36	2,829.75	2,797.96	10.04	10.56	-119.84	-31.30	292.84	322.43	308.90	13.53	23.824				
3,000.00	2,999.17	2,923.55	2,886.89	10.37	11.07	-120.27	-35.15	322.40	357.02	343.01	14.01	25.477				
3,100.00	3,098.98	3,017.35	2,975.83	10.71	11.58	-120.62	-39.01	351.96	391.62	377.13	14.50	27.014				
3,200.00	3,198.80	3,111.14	3,064.76	11.06	12.10	-120.92	-42.87	381.52	426.24	411.25	14.98	28.446				
3,300.00	3,298.61	3,204.94	3,153.69	11.40	12.63	-121.17	-46.73	411.09	460.86	445.39	15.47	29.783				
3,400.00	3,398.42	3,298.74	3,242.63	11.75	13.16	-121.39	-50.59	440.65	495.49	479.52	15.97	31.033				
3,500.00	3,498.24	3,392.54	3,331.56	12.10	13.70	-121.58	-54.45	470.21	530.13	513.66	16.46	32.202				
3,600.00	3,598.05	3,486.33	3,420.49	12.44	14.25	-121.74	-58.30	499.77	564.77	547.80	16.96	33.298				
3,700.00	3,697.86	3,580.13	3,509.42	12.79	14.80	-121.89	-62.16	529.33	599.41	581.95	17.46	34.328				
3,800.00	3,797.68	3,673.93	3,598.36	13.15	15.36	-122.02	-66.02	558.90	634.06	616.09	17.96	35.296				
3,900.00	3,897.49	3,767.72	3,687.29	13.50	15.92	-122.13	-69.88	588.46	668.70	650.24	18.47	36.208				
4,000.00	3,997.30	3,861.52	3,776.22	13.85	16.48	-122.24	-73.74	618.02	703.36	684.38	18.97	37.069				
4,100.00	4,097.12	3,955.32	3,865.16	14.21	17.05	-122.33	-77.60	647.58	738.01	718.53	19.48	37.882				
4,200.00	4,196.93	4,049.12	3,954.09	14.56	17.62	-122.42	-81.45	677.15	772.66	752.67	19.99	38.650				
4,300.00	4,296.74	4,142.91	4,043.02	14.92	18.19	-122.50	-85.31	706.71	807.32	786.82	20.50	39.378				
4,400.00	4,396.56	4,236.71	4,131.95	15.28	18.77	-122.57	-89.17	736.27	841.98	820.96	21.01	40.068				
4,500.00	4,496.37	4,330.51	4,220.89	15.64	19.34	-122.64	-93.03	765.83	876.64	855.11	21.53	40.723				
4,600.00	4,596.18	4,424.30	4,309.82	15.99	19.92	-122.70	-96.89	795.40	911.30	889.25	22.04	41.345				
4,700.00	4,696.00	4,518.10	4,398.75	16.35	20.50	-122.76	-100.75	824.96	945.96	923.40	22.56	41.936				
4,800.00	4,795.81	4,611.90	4,487.69	16.71	21.08	-122.81	-104.60	854.52	980.62	957.54	23.07	42.499				
4,900.00	4,895.62	4,705.69	4,576.62	17.07	21.67	-122.86	-108.46	884.08	1,015.28	991.69	23.59	43.036				

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.00	4,995.44	4,799.49	4,665.55	17.44	22.25	-122.91	-112.32	913.64	1,049.94	1,025.83	24.11	43.549		
5,100.00	5,095.25	4,893.29	4,754.49	17.80	22.84	-122.95	-116.18	943.21	1,084.60	1,059.98	24.63	44.038		
5,200.00	5,195.07	4,987.09	4,843.42	18.16	23.42	-122.99	-120.04	972.77	1,119.27	1,094.12	25.15	44.505		
5,300.00	5,294.88	5,080.88	4,932.35	18.52	24.01	-123.03	-123.90	1,002.33	1,153.93	1,128.26	25.67	44.952		
5,400.00	5,394.69	5,174.68	5,021.28	18.88	24.60	-123.07	-127.76	1,031.89	1,188.60	1,162.41	26.19	45.380		
5,500.00	5,494.51	5,268.48	5,110.22	19.25	25.19	-123.10	-131.61	1,061.46	1,223.26	1,196.55	26.71	45.790		
5,600.00	5,594.32	5,362.27	5,199.15	19.61	25.78	-123.14	-135.47	1,091.02	1,257.93	1,230.69	27.24	46.184		
5,700.00	5,694.13	5,456.07	5,288.08	19.98	26.37	-123.17	-139.33	1,120.58	1,292.59	1,264.83	27.76	46.561		
5,800.00	5,793.95	5,549.87	5,377.02	20.34	26.97	-123.19	-143.19	1,150.14	1,327.26	1,298.97	28.29	46.924		
5,900.00	5,893.76	5,643.67	5,465.95	20.70	27.56	-123.22	-147.05	1,179.71	1,361.93	1,333.11	28.81	47.272		
6,000.00	5,993.57	5,737.46	5,554.88	21.07	28.15	-123.25	-150.91	1,209.27	1,396.59	1,367.26	29.34	47.607		
6,100.00	6,093.39	5,831.26	5,643.82	21.43	28.75	-123.27	-154.76	1,238.83	1,431.26	1,401.40	29.86	47.929		
6,200.00	6,193.20	5,925.06	5,732.75	21.80	29.34	-123.30	-158.62	1,268.39	1,465.93	1,435.54	30.39	48.239		
6,300.00	6,293.01	6,018.85	5,821.68	22.17	29.94	-123.32	-162.48	1,297.95	1,500.59	1,469.68	30.92	48.538		
6,400.00	6,392.83	6,112.65	5,910.61	22.53	30.54	-123.34	-166.34	1,327.52	1,535.26	1,503.82	31.44	48.827		
6,500.00	6,492.64	6,206.45	5,999.55	22.90	31.13	-123.36	-170.20	1,357.08	1,569.93	1,537.96	31.97	49.105		
6,600.00	6,592.45	6,300.24	6,088.48	23.26	31.73	-123.38	-174.06	1,386.64	1,604.60	1,572.10	32.50	49.373		
6,700.00	6,692.27	6,394.04	6,177.41	23.63	32.33	-123.40	-177.91	1,416.20	1,639.26	1,606.23	33.03	49.632		
6,719.52	6,711.75	6,412.35	6,194.77	23.70	32.44	-123.40	-178.67	1,421.98	1,646.03	1,612.90	33.13	49.682		
6,800.00	6,792.13	6,488.00	6,266.50	24.00	32.93	-123.76	-181.78	1,445.82	1,673.49	1,639.94	33.56	49.872		
6,900.00	6,892.09	6,582.41	6,356.01	24.35	33.53	-124.11	-185.66	1,475.57	1,706.38	1,672.30	34.08	50.070		
6,952.92	6,945.00	6,645.08	6,415.46	24.54	33.93	88.85	-188.23	1,495.25	1,723.19	1,688.76	34.43	50.045		
7,000.00	6,992.08	6,757.05	6,522.54	24.69	34.60	89.02	-192.47	1,527.70	1,736.81	1,701.74	35.07	49.523		
7,100.00	7,092.08	7,002.93	6,761.64	25.03	35.89	89.30	-199.84	1,584.23	1,759.80	1,723.51	36.29	48.496		
7,200.00	7,192.08	7,257.24	7,013.13	25.37	36.93	89.47	-204.66	1,621.11	1,774.30	1,737.04	37.26	47.616		
7,300.00	7,292.08	7,516.26	7,271.63	25.71	37.73	89.54	-206.57	1,635.79	1,779.97	1,742.01	37.96	46.891		
7,400.00	7,392.08	7,637.41	7,392.78	26.05	38.02	89.54	-206.60	1,635.99	1,780.05	1,741.62	38.42	46.327		
7,500.00	7,492.08	7,737.41	7,492.78	26.39	38.27	89.54	-206.60	1,635.99	1,780.05	1,741.17	38.88	45.782		
7,600.00	7,592.08	7,837.41	7,592.78	26.73	38.51	89.54	-206.60	1,635.99	1,780.05	1,740.71	39.34	45.248		
7,700.00	7,692.08	7,937.41	7,692.78	27.07	38.76	89.54	-206.60	1,635.99	1,780.05	1,740.25	39.80	44.725		
7,800.00	7,792.08	8,037.41	7,792.78	27.41	39.00	89.54	-206.60	1,635.99	1,780.05	1,739.79	40.26	44.213		
7,900.00	7,892.08	8,137.41	7,892.78	27.76	39.25	89.54	-206.60	1,635.99	1,780.05	1,739.32	40.72	43.711		
8,000.00	7,992.08	8,237.41	7,992.78	28.10	39.50	89.54	-206.60	1,635.99	1,780.05	1,738.86	41.19	43.219		
8,100.00	8,092.08	8,337.41	8,092.78	28.44	39.75	89.54	-206.60	1,635.99	1,780.05	1,738.40	41.65	42.737		
8,200.00	8,192.08	8,437.41	8,192.78	28.78	40.01	89.54	-206.60	1,635.99	1,780.05	1,737.93	42.12	42.265		
8,300.00	8,292.08	8,537.41	8,292.78	29.13	40.26	89.54	-206.60	1,635.99	1,780.05	1,737.47	42.58	41.802		
8,400.00	8,392.08	8,637.41	8,392.78	29.47	40.52	89.54	-206.60	1,635.99	1,780.05	1,737.00	43.05	41.349		
8,500.00	8,492.08	8,737.41	8,492.78	29.81	40.78	89.54	-206.60	1,635.99	1,780.05	1,736.53	43.52	40.904		
8,600.00	8,592.08	8,837.41	8,592.78	30.16	41.04	89.54	-206.60	1,635.99	1,780.05	1,736.06	43.99	40.468		
8,700.00	8,692.08	8,937.41	8,692.78	30.50	41.30	89.54	-206.60	1,635.99	1,780.05	1,735.59	44.46	40.040		
8,800.00	8,792.08	9,037.41	8,792.78	30.85	41.56	89.54	-206.60	1,635.99	1,780.05	1,735.12	44.93	39.621		
8,900.00	8,892.08	9,137.41	8,892.78	31.20	41.83	89.54	-206.60	1,635.99	1,780.05	1,734.65	45.40	39.210		
9,000.00	8,992.08	9,237.41	8,992.78	31.54	42.10	89.54	-206.60	1,635.99	1,780.05	1,734.18	45.87	38.806		
9,100.00	9,092.08	9,337.41	9,092.78	31.89	42.36	89.54	-206.60	1,635.99	1,780.05	1,733.71	46.34	38.410		
9,200.00	9,192.08	9,437.41	9,192.78	32.23	42.63	89.54	-206.60	1,635.99	1,780.05	1,733.23	46.82	38.022		
9,300.00	9,292.08	9,537.41	9,292.78	32.58	42.90	89.54	-206.60	1,635.99	1,780.05	1,732.76	47.29	37.640		
9,400.00	9,392.08	9,637.41	9,392.78	32.93	43.17	89.54	-206.60	1,635.99	1,780.05	1,732.28	47.77	37.266		
9,500.00	9,492.08	9,737.41	9,492.78	33.27	43.44	89.54	-206.60	1,635.99	1,780.05	1,731.81	48.24	36.899		
9,600.00	9,592.08	9,837.41	9,592.78	33.62	43.72	89.54	-206.60	1,635.99	1,780.05	1,731.33	48.72	36.538		
9,700.00	9,692.08	9,937.41	9,692.78	33.97	43.99	89.54	-206.60	1,635.99	1,780.05	1,730.85	49.19	36.184		
9,800.00	9,792.08	10,037.41	9,792.78	34.32	44.27	89.54	-206.60	1,635.99	1,780.05	1,730.38	49.67	35.836		
9,900.00	9,892.08	10,137.41	9,892.78	34.66	44.55	89.54	-206.60	1,635.99	1,780.05	1,729.90	50.15	35.495		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - FMM Fed Com 806H - OH - Plan #1		Offset Site Error:		0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:		0.00 usft		
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor					
10,000.00	9,992.08	10,237.41	9,992.78	35.01	44.82	89.54	-206.60	1,635.99	1,780.05	1,729.42	50.63	35.159					
10,100.00	10,092.08	10,337.41	10,092.78	35.36	45.10	89.54	-206.60	1,635.99	1,780.05	1,728.94	51.11	34.830					
10,200.00	10,192.08	10,437.41	10,192.78	35.71	45.38	89.54	-206.60	1,635.99	1,780.05	1,728.46	51.59	34.506					
10,300.00	10,292.08	10,537.41	10,292.78	36.06	45.67	89.54	-206.60	1,635.99	1,780.05	1,727.98	52.07	34.188					
10,400.00	10,392.08	10,637.41	10,392.78	36.41	45.95	89.54	-206.60	1,635.99	1,780.05	1,727.50	52.55	33.875					
10,500.00	10,492.08	10,737.41	10,492.78	36.76	46.23	89.54	-206.60	1,635.99	1,780.05	1,727.02	53.03	33.567					
10,600.00	10,592.08	10,837.41	10,592.78	37.11	46.52	89.54	-206.60	1,635.99	1,780.05	1,726.54	53.51	33.265					
10,700.00	10,692.08	10,937.41	10,692.78	37.46	46.80	89.54	-206.60	1,635.99	1,780.05	1,726.06	53.99	32.968					
10,800.00	10,792.08	11,037.41	10,792.78	37.81	47.09	89.54	-206.60	1,635.99	1,780.05	1,725.57	54.48	32.676					
10,900.00	10,892.08	11,137.41	10,892.78	38.16	47.38	89.54	-206.60	1,635.99	1,780.05	1,725.09	54.96	32.389					
11,000.00	10,992.08	11,237.41	10,992.78	38.51	47.67	89.54	-206.60	1,635.99	1,780.05	1,724.61	55.44	32.107					
11,100.00	11,092.08	11,337.41	11,092.78	38.86	47.96	89.54	-206.60	1,635.99	1,780.05	1,724.12	55.93	31.829					
11,200.00	11,192.08	11,437.41	11,192.78	39.21	48.25	89.54	-206.60	1,635.99	1,780.05	1,723.64	56.41	31.556					
11,300.00	11,292.08	11,537.41	11,292.78	39.56	48.54	89.54	-206.60	1,635.99	1,780.05	1,723.15	56.89	31.287					
11,400.00	11,392.08	11,637.41	11,392.78	39.91	48.83	89.54	-206.60	1,635.99	1,780.05	1,722.67	57.38	31.022					
11,500.00	11,492.08	11,737.41	11,492.78	40.26	49.13	89.54	-206.60	1,635.99	1,780.05	1,722.18	57.86	30.762					
11,600.00	11,592.08	11,837.51	11,592.85	40.61	49.42	89.48	-205.00	1,635.97	1,780.05	1,721.70	58.35	30.506					
11,609.77	11,601.86	11,847.26	11,602.56	40.64	49.45	89.46	-204.19	1,635.97	1,780.05	1,721.65	58.40	30.481					
11,615.96	11,608.04	11,853.41	11,608.68	40.66	49.46	89.44	-203.59	1,635.96	1,780.05	1,721.62	58.43	30.466					
11,650.00	11,642.06	11,887.14	11,642.11	40.78	49.56	89.87	-199.15	1,635.92	1,780.05	1,721.46	58.59	30.381					
11,700.00	11,691.78	11,936.31	11,690.25	40.95	49.69	89.71	-189.18	1,635.83	1,780.07	1,721.25	58.82	30.261					
11,750.00	11,740.86	11,985.08	11,736.96	41.12	49.81	89.55	-175.25	1,635.69	1,780.10	1,721.06	59.05	30.148					
11,800.00	11,788.94	12,033.45	11,781.97	41.27	49.92	89.39	-157.56	1,635.53	1,780.15	1,720.89	59.26	30.040					
11,850.00	11,835.63	12,081.44	11,824.99	41.42	50.02	89.24	-136.32	1,635.33	1,780.20	1,720.74	59.46	29.939					
11,900.00	11,880.59	12,129.09	11,865.79	41.55	50.11	89.10	-111.75	1,635.09	1,780.27	1,720.61	59.65	29.844					
11,950.00	11,923.48	12,176.40	11,904.16	41.68	50.19	88.96	-84.07	1,634.83	1,780.34	1,720.50	59.84	29.753					
12,000.00	11,963.97	12,223.42	11,939.88	41.80	50.26	88.83	-53.54	1,634.54	1,780.42	1,720.40	60.01	29.667					
12,050.00	12,001.74	12,270.15	11,972.79	41.91	50.32	88.71	-20.38	1,634.23	1,780.50	1,720.31	60.18	29.586					
12,100.00	12,036.53	12,316.63	12,002.74	42.02	50.36	88.60	15.15	1,633.90	1,780.58	1,720.23	60.35	29.507					
12,150.00	12,068.05	12,362.87	12,029.58	42.13	50.40	88.50	52.79	1,633.54	1,780.65	1,720.15	60.51	29.430					
12,200.00	12,096.07	12,408.92	12,053.21	42.24	50.43	88.41	92.30	1,633.17	1,780.73	1,720.07	60.66	29.354					
12,250.00	12,120.37	12,454.79	12,073.51	42.35	50.46	88.33	133.41	1,632.78	1,780.80	1,719.98	60.82	29.280					
12,300.00	12,140.78	12,500.00	12,090.25	42.47	50.48	88.26	175.40	1,632.38	1,780.86	1,719.88	60.98	29.205					
12,350.00	12,157.13	12,546.10	12,103.84	42.59	50.50	88.20	219.43	1,631.97	1,780.91	1,719.77	61.14	29.130					
12,400.00	12,169.30	12,591.59	12,113.75	42.71	50.51	88.16	263.81	1,631.55	1,780.95	1,719.65	61.30	29.054					
12,450.00	12,177.21	12,637.01	12,120.10	42.84	50.53	88.13	308.77	1,631.12	1,780.98	1,719.52	61.46	28.978					
12,500.00	12,180.78	12,682.38	12,122.87	42.96	50.56	88.11	354.05	1,630.69	1,781.00	1,719.37	61.63	28.900					
12,515.96	12,181.00	12,697.08	12,123.00	43.00	50.57	88.11	368.74	1,630.56	1,781.00	1,719.32	61.68	28.876					
12,600.00	12,181.00	12,781.12	12,123.00	43.24	50.63	88.11	452.78	1,629.76	1,781.00	1,718.99	62.00	28.724					
12,700.00	12,181.00	12,881.12	12,123.00	43.58	50.75	88.11	552.78	1,628.82	1,780.99	1,718.53	62.46	28.512					
12,800.00	12,181.00	12,981.12	12,123.00	43.97	50.90	88.11	652.78	1,627.87	1,780.99	1,717.98	63.01	28.266					
12,900.00	12,181.00	13,081.12	12,123.00	44.43	51.11	88.11	752.77	1,626.93	1,780.99	1,717.35	63.63	27.989					
13,000.00	12,181.00	13,181.12	12,123.00	44.94	51.37	88.11	852.77	1,625.98	1,780.98	1,716.65	64.34	27.683					
13,100.00	12,181.00	13,281.12	12,123.00	45.50	51.68	88.11	952.76	1,625.04	1,780.98	1,715.87	65.11	27.351					
13,200.00	12,181.00	13,381.12	12,123.00	46.12	52.06	88.11	1,052.76	1,624.10	1,780.98	1,715.01	65.97	26.998					
13,300.00	12,181.00	13,481.12	12,123.00	46.79	52.49	88.11	1,152.75	1,623.15	1,780.97	1,714.09	66.89	26.626					
13,400.00	12,181.00	13,581.12	12,123.00	47.50	52.98	88.11	1,252.75	1,622.21	1,780.97	1,713.09	67.88	26.237					
13,500.00	12,181.00	13,681.12	12,123.00	48.26	53.54	88.11	1,352.74	1,621.26	1,780.97	1,712.03	68.94	25.835					
13,600.00	12,181.00	13,781.12	12,123.00	49.07	54.15	88.11	1,452.74	1,620.32	1,780.97	1,710.91	70.05	25.423					
13,700.00	12,181.00	13,881.12	12,123.00	49.91	54.81	88.11	1,552.74	1,619.37	1,780.96	1,709.73	71.23	25.003					
13,800.00	12,181.00	13,981.12	12,123.00	50.80	55.53	88.11	1,652.73	1,618.43	1,780.96	1,708.50	72.46	24.577					
13,900.00	12,181.00	14,081.12	12,123.00	51.72	56.30	88.11	1,752.73	1,617.48	1,780.96	1,707.21	73.75	24.149					

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design FMM Fed Com - FMM Fed Com 806H - OH - Plan #1													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
14,000.00	12,181.00	14,181.12	12,123.00	52.68	57.12	88.11	1,852.72	1,616.54	1,780.95	1,705.87	75.09	23.718		
14,100.00	12,181.00	14,281.12	12,123.00	53.67	57.98	88.11	1,952.72	1,615.59	1,780.95	1,704.48	76.47	23.289		
14,200.00	12,181.00	14,381.12	12,123.00	54.70	58.87	88.11	2,052.71	1,614.65	1,780.95	1,703.05	77.90	22.861		
14,300.00	12,181.00	14,481.12	12,123.00	55.75	59.81	88.11	2,152.71	1,613.71	1,780.95	1,701.57	79.38	22.437		
14,400.00	12,181.00	14,581.12	12,123.00	56.84	60.78	88.11	2,252.70	1,612.76	1,780.94	1,700.05	80.89	22.017		
14,500.00	12,181.00	14,681.12	12,123.00	57.95	61.79	88.11	2,352.70	1,611.82	1,780.94	1,698.50	82.44	21.602		
14,600.00	12,181.00	14,781.12	12,123.00	59.08	62.82	88.11	2,452.70	1,610.87	1,780.94	1,696.91	84.03	21.194		
14,700.00	12,181.00	14,881.12	12,123.00	60.24	63.89	88.11	2,552.69	1,609.93	1,780.93	1,695.28	85.65	20.792		
14,800.00	12,181.00	14,981.12	12,123.00	61.42	64.98	88.11	2,652.69	1,608.98	1,780.93	1,693.62	87.31	20.398		
14,900.00	12,181.00	15,081.12	12,123.00	62.63	66.09	88.11	2,752.68	1,608.04	1,780.93	1,691.93	89.00	20.011		
15,000.00	12,181.00	15,181.12	12,123.00	63.85	67.23	88.11	2,852.68	1,607.09	1,780.93	1,690.21	90.71	19.633		
15,100.00	12,181.00	15,281.12	12,123.00	65.09	68.39	88.11	2,952.67	1,606.15	1,780.92	1,688.47	92.45	19.263		
15,200.00	12,181.00	15,381.12	12,123.00	66.35	69.58	88.11	3,052.67	1,605.21	1,780.92	1,686.70	94.22	18.902		
15,300.00	12,181.00	15,481.12	12,123.00	67.63	70.78	88.11	3,152.66	1,604.26	1,780.92	1,684.90	96.01	18.549		
15,400.00	12,181.00	15,581.12	12,123.00	68.92	72.00	88.11	3,252.66	1,603.32	1,780.91	1,683.09	97.83	18.205		
15,500.00	12,181.00	15,681.12	12,123.00	70.23	73.24	88.11	3,352.66	1,602.37	1,780.91	1,681.25	99.66	17.869		
15,600.00	12,181.00	15,781.12	12,123.00	71.55	74.50	88.11	3,452.65	1,601.43	1,780.91	1,679.39	101.52	17.542		
15,700.00	12,181.00	15,881.12	12,123.00	72.89	75.77	88.11	3,552.65	1,600.48	1,780.91	1,677.51	103.40	17.224		
15,800.00	12,181.00	15,981.12	12,123.00	74.24	77.05	88.11	3,652.64	1,599.54	1,780.90	1,675.61	105.29	16.914		
15,900.00	12,181.00	16,081.12	12,123.00	75.60	78.35	88.11	3,752.64	1,598.59	1,780.90	1,673.70	107.20	16.612		
16,000.00	12,181.00	16,181.12	12,123.00	76.97	79.67	88.11	3,852.63	1,597.65	1,780.90	1,671.76	109.13	16.319		
16,100.00	12,181.00	16,281.12	12,123.00	78.35	81.00	88.11	3,952.63	1,596.71	1,780.89	1,669.82	111.08	16.033		
16,200.00	12,181.00	16,381.12	12,123.00	79.75	82.33	88.11	4,052.62	1,595.76	1,780.89	1,667.85	113.04	15.755		
16,300.00	12,181.00	16,481.12	12,123.00	81.15	83.68	88.11	4,152.62	1,594.82	1,780.89	1,665.88	115.01	15.485		
16,400.00	12,181.00	16,581.12	12,123.00	82.56	85.05	88.11	4,252.62	1,593.87	1,780.89	1,663.89	117.00	15.222		
16,500.00	12,181.00	16,681.12	12,123.00	83.98	86.42	88.11	4,352.61	1,592.93	1,780.88	1,661.89	118.99	14.966		
16,600.00	12,181.00	16,781.12	12,123.00	85.41	87.80	88.11	4,452.61	1,591.98	1,780.88	1,659.87	121.01	14.717		
16,700.00	12,181.00	16,881.12	12,123.00	86.85	89.19	88.11	4,552.60	1,591.04	1,780.88	1,657.85	123.03	14.475		
16,800.00	12,181.00	16,981.12	12,123.00	88.29	90.59	88.11	4,652.60	1,590.09	1,780.87	1,655.81	125.06	14.240		
16,900.00	12,181.00	17,081.12	12,123.00	89.74	92.00	88.11	4,752.59	1,589.15	1,780.87	1,653.77	127.11	14.011		
17,000.00	12,181.00	17,181.12	12,123.00	91.20	93.41	88.11	4,852.59	1,588.20	1,780.87	1,651.71	129.16	13.788		
17,100.00	12,181.00	17,281.12	12,123.00	92.67	94.84	88.11	4,952.58	1,587.26	1,780.86	1,649.64	131.22	13.571		
17,200.00	12,181.00	17,381.12	12,123.00	94.14	96.27	88.11	5,052.58	1,586.32	1,780.86	1,647.57	133.29	13.360		
17,300.00	12,181.00	17,481.12	12,123.00	95.62	97.70	88.11	5,152.58	1,585.37	1,780.86	1,645.48	135.38	13.155		
17,400.00	12,181.00	17,581.12	12,123.00	97.10	99.15	88.11	5,252.57	1,584.43	1,780.86	1,643.39	137.46	12.955		
17,500.00	12,181.00	17,681.12	12,123.00	98.59	100.60	88.11	5,352.57	1,583.48	1,780.85	1,641.29	139.56	12.760		
17,600.00	12,181.00	17,781.12	12,123.00	100.08	102.06	88.11	5,452.56	1,582.54	1,780.85	1,639.18	141.67	12.571		
17,700.00	12,181.00	17,881.12	12,123.00	101.58	103.52	88.11	5,552.56	1,581.59	1,780.85	1,637.07	143.78	12.386		
17,800.00	12,181.00	17,981.12	12,123.00	103.08	104.99	88.11	5,652.55	1,580.65	1,780.84	1,634.95	145.89	12.206		
17,900.00	12,181.00	18,081.12	12,123.00	104.59	106.46	88.11	5,752.55	1,579.70	1,780.84	1,632.82	148.02	12.031		
18,000.00	12,181.00	18,181.12	12,123.00	106.10	107.94	88.11	5,852.54	1,578.76	1,780.84	1,630.69	150.15	11.860		
18,100.00	12,181.00	18,281.12	12,123.00	107.62	109.43	88.11	5,952.54	1,577.82	1,780.84	1,628.55	152.29	11.694		
18,200.00	12,181.00	18,381.12	12,123.00	109.14	110.92	88.11	6,052.54	1,576.87	1,780.83	1,626.40	154.43	11.532		
18,300.00	12,181.00	18,481.12	12,123.00	110.66	112.41	88.11	6,152.53	1,575.93	1,780.83	1,624.25	156.58	11.373		
18,400.00	12,181.00	18,581.12	12,123.00	112.19	113.91	88.11	6,252.53	1,574.98	1,780.83	1,622.09	158.73	11.219		
18,500.00	12,181.00	18,681.12	12,123.00	113.72	115.41	88.11	6,352.52	1,574.04	1,780.82	1,619.93	160.89	11.068		
18,600.00	12,181.00	18,781.12	12,123.00	115.25	116.92	88.11	6,452.52	1,573.09	1,780.82	1,617.77	163.06	10.922		
18,700.00	12,181.00	18,881.12	12,123.00	116.79	118.43	88.11	6,552.51	1,572.15	1,780.82	1,615.59	165.22	10.778		
18,800.00	12,181.00	18,981.12	12,123.00	118.33	119.94	88.11	6,652.51	1,571.20	1,780.82	1,613.42	167.40	10.638		
18,900.00	12,181.00	19,081.12	12,123.00	119.87	121.46	88.11	6,752.50	1,570.26	1,780.81	1,611.24	169.57	10.502		
19,000.00	12,181.00	19,181.12	12,123.00	121.42	122.98	88.11	6,852.50	1,569.32	1,780.81	1,609.05	171.75	10.368		
19,100.00	12,181.00	19,281.12	12,123.00	122.97	124.51	88.11	6,952.49	1,568.37	1,780.81	1,606.87	173.94	10.238		

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 0-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
19,200.00	12,181.00	19,381.12	12,123.00	124.52	126.03	88.11	7,052.49	1,567.43	1,780.80	1,604.67	176.13	10.111		
19,300.00	12,181.00	19,481.12	12,123.00	126.08	127.57	88.11	7,152.49	1,566.48	1,780.80	1,602.48	178.32	9.986		
19,400.00	12,181.00	19,581.12	12,123.00	127.63	129.10	88.11	7,252.48	1,565.54	1,780.80	1,600.28	180.52	9.865		
19,500.00	12,181.00	19,681.12	12,123.00	129.19	130.64	88.11	7,352.48	1,564.59	1,780.80	1,598.08	182.72	9.746		
19,600.00	12,181.00	19,781.12	12,123.00	130.75	132.18	88.11	7,452.47	1,563.65	1,780.79	1,595.87	184.92	9.630		
19,700.00	12,181.00	19,881.12	12,123.00	132.32	133.72	88.11	7,552.47	1,562.70	1,780.79	1,593.66	187.13	9.516		
19,800.00	12,181.00	19,981.12	12,123.00	133.88	135.26	88.11	7,652.46	1,561.76	1,780.79	1,591.45	189.34	9.405		
19,900.00	12,181.00	20,081.12	12,123.00	135.45	136.81	88.11	7,752.46	1,560.81	1,780.78	1,589.23	191.55	9.297		
20,000.00	12,181.00	20,181.12	12,123.00	137.02	138.36	88.11	7,852.45	1,559.87	1,780.78	1,587.01	193.77	9.190		
20,100.00	12,181.00	20,281.12	12,123.00	138.59	139.91	88.11	7,952.45	1,558.93	1,780.78	1,584.79	195.98	9.086		
20,200.00	12,181.00	20,381.12	12,123.00	140.17	141.47	88.11	8,052.45	1,557.98	1,780.77	1,582.57	198.21	8.984		
20,300.00	12,181.00	20,481.12	12,123.00	141.74	143.02	88.11	8,152.44	1,557.04	1,780.77	1,580.34	200.43	8.885		
20,400.00	12,181.00	20,581.12	12,123.00	143.32	144.58	88.11	8,252.44	1,556.09	1,780.77	1,578.11	202.66	8.787		
20,500.00	12,181.00	20,681.12	12,123.00	144.90	146.14	88.11	8,352.43	1,555.15	1,780.77	1,575.88	204.88	8.692		
20,600.00	12,181.00	20,781.12	12,123.00	146.48	147.71	88.11	8,452.43	1,554.20	1,780.76	1,573.65	207.11	8.598		
20,700.00	12,181.00	20,881.12	12,123.00	148.06	149.27	88.11	8,552.42	1,553.26	1,780.76	1,571.41	209.35	8.506		
20,800.00	12,181.00	20,981.12	12,123.00	149.64	150.84	88.11	8,652.42	1,552.31	1,780.76	1,569.17	211.58	8.416		
20,900.00	12,181.00	21,081.12	12,123.00	151.23	152.40	88.11	8,752.41	1,551.37	1,780.75	1,566.93	213.82	8.328		
21,000.00	12,181.00	21,181.12	12,123.00	152.81	153.97	88.11	8,852.41	1,550.43	1,780.75	1,564.69	216.06	8.242		
21,100.00	12,181.00	21,281.12	12,123.00	154.40	155.55	88.11	8,952.41	1,549.48	1,780.75	1,562.45	218.30	8.157		
21,200.00	12,181.00	21,381.12	12,123.00	155.99	157.12	88.11	9,052.40	1,548.54	1,780.75	1,560.20	220.55	8.074		
21,300.00	12,181.00	21,481.12	12,123.00	157.58	158.70	88.11	9,152.40	1,547.59	1,780.74	1,557.95	222.79	7.993		
21,400.00	12,181.00	21,581.12	12,123.00	159.17	160.27	88.11	9,252.39	1,546.65	1,780.74	1,555.70	225.04	7.913		
21,500.00	12,181.00	21,681.12	12,123.00	160.77	161.85	88.11	9,352.39	1,545.70	1,780.74	1,553.45	227.29	7.835		
21,600.00	12,181.00	21,781.12	12,123.00	162.36	163.43	88.11	9,452.38	1,544.76	1,780.73	1,551.20	229.54	7.758		
21,700.00	12,181.00	21,881.12	12,123.00	163.96	165.01	88.11	9,552.38	1,543.81	1,780.73	1,548.94	231.79	7.682		
21,800.00	12,181.00	21,981.12	12,123.00	165.55	166.59	88.11	9,652.37	1,542.87	1,780.73	1,546.68	234.05	7.608		
21,900.00	12,181.00	22,081.12	12,123.00	167.15	168.18	88.11	9,752.37	1,541.93	1,780.73	1,544.42	236.30	7.536		
22,000.00	12,181.00	22,181.12	12,123.00	168.75	169.76	88.11	9,852.37	1,540.98	1,780.72	1,542.16	238.56	7.465		
22,100.00	12,181.00	22,281.12	12,123.00	170.35	171.35	88.11	9,952.36	1,540.04	1,780.72	1,539.90	240.82	7.394		
22,200.00	12,181.00	22,381.12	12,123.00	171.95	172.94	88.11	10,052.36	1,539.09	1,780.72	1,537.64	243.08	7.326		
22,301.88	12,181.00	22,482.95	12,123.00	173.58	174.55	88.11	10,154.18	1,538.13	1,780.71	1,535.33	245.38	7.257		
22,306.42	12,181.00	22,482.95	12,123.00	173.65	174.55	88.11	10,154.18	1,538.13	1,780.72	1,535.25	245.47	7.254		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 220-INC-ONLY													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-28.22	4,307.26	-2,311.33	4,888.22					
100.00	100.00	97.90	97.90	0.13	0.83	-28.22	4,307.26	-2,311.33	4,888.22	4,887.39	0.84	5,838.154		
200.00	200.00	197.90	197.90	0.48	1.67	-28.22	4,307.26	-2,311.33	4,888.22	4,886.48	1.74	2,806.101		
300.00	300.00	297.90	297.90	0.84	3.24	-28.22	4,307.26	-2,311.33	4,888.22	4,884.88	3.35	1,459.968		
400.00	400.00	407.67	407.67	1.20	5.19	-28.22	4,307.25	-2,311.33	4,888.23	4,882.90	5.32	918.398		
405.61	405.61	413.92	413.92	1.22	5.30	-28.22	4,307.24	-2,311.33	4,888.22	4,882.78	5.43	899.403		
500.00	500.00	497.90	497.90	1.56	6.92	-28.22	4,307.26	-2,311.33	4,888.22	4,881.13	7.09	689.069		
600.00	600.00	607.23	607.23	1.92	9.02	-28.22	4,307.26	-2,311.33	4,888.23	4,879.02	9.22	530.284		
609.88	609.88	618.12	618.11	1.95	9.23	-28.22	4,307.24	-2,311.33	4,888.21	4,878.78	9.43	518.388		
700.00	700.00	697.92	697.90	2.28	11.53	-28.22	4,307.26	-2,311.33	4,888.22	4,876.47	11.75	416.022		
800.00	800.00	797.92	797.90	2.63	14.30	-28.22	4,307.26	-2,311.33	4,888.22	4,873.68	14.54	336.102		
900.00	900.00	903.22	903.18	2.99	17.23	-28.21	4,308.69	-2,311.33	4,889.49	4,872.00	17.48	279.649		
1,000.00	1,000.00	1,024.79	1,024.74	3.35	20.60	-28.21	4,308.24	-2,311.33	4,889.16	4,868.29	20.87	234.252		
1,100.00	1,100.00	1,146.37	1,146.30	3.71	23.98	-28.22	4,307.18	-2,311.33	4,888.39	4,864.13	24.26	201.500		
1,140.38	1,140.38	1,195.47	1,195.39	3.85	25.34	-28.22	4,306.57	-2,311.33	4,887.95	4,862.33	25.63	190.722		
1,200.00	1,200.00	1,198.26	1,197.90	4.07	25.84	-28.22	4,307.26	-2,311.33	4,888.22	4,862.07	26.16	186.894		
1,300.00	1,300.00	1,351.32	1,350.89	4.43	31.17	-28.21	4,308.50	-2,311.33	4,889.61	4,858.12	31.48	155.311		
1,400.00	1,400.00	1,398.36	1,397.90	4.79	32.81	-28.22	4,307.26	-2,311.33	4,888.22	4,855.07	33.16	147.421		
1,500.00	1,500.00	1,498.58	1,497.90	5.14	36.35	-28.22	4,307.26	-2,311.33	4,888.22	4,851.51	36.71	133.151		
1,600.00	1,600.00	1,598.70	1,597.90	5.50	39.67	-28.22	4,307.26	-2,311.33	4,888.22	4,848.18	40.05	122.060		
1,700.00	1,700.00	1,698.77	1,697.90	5.86	42.67	-28.22	4,307.26	-2,311.33	4,888.22	4,845.15	43.07	113.483		
1,800.00	1,800.00	1,798.77	1,797.90	6.22	45.43	-28.22	4,307.26	-2,311.33	4,888.22	4,842.37	45.85	106.608		
1,900.00	1,900.00	1,963.02	1,962.11	6.58	49.95	-28.22	4,307.32	-2,311.33	4,888.70	4,838.32	50.38	97.037		
2,000.00	2,000.00	1,998.91	1,997.90	6.94	50.87	-28.22	4,307.26	-2,311.33	4,888.22	4,836.89	51.34	95.216		
2,100.00	2,100.00	2,098.91	2,097.90	7.29	53.39	-28.22	4,307.26	-2,311.33	4,888.22	4,834.34	53.89	90.714		
2,200.00	2,200.00	2,204.50	2,203.46	7.65	56.05	-28.21	4,308.92	-2,311.33	4,889.69	4,833.12	56.57	86.430		
2,300.00	2,300.00	2,347.57	2,346.51	8.01	59.66	-28.21	4,308.02	-2,311.33	4,889.14	4,828.94	60.20	81.220		
2,400.00	2,400.00	2,490.68	2,489.57	8.37	63.27	-28.23	4,305.69	-2,311.33	4,887.70	4,823.89	63.81	76.593		
2,403.46	2,403.46	2,495.64	2,494.52	8.38	63.40	118.69	4,305.59	-2,311.33	4,887.64	4,823.70	63.94	76.442 CC		
2,500.00	2,499.99	2,499.05	2,497.89	8.71	63.59	118.70	4,307.26	-2,311.33	4,888.85	4,824.66	64.19	76.165		
2,600.00	2,599.91	2,598.97	2,597.81	9.04	66.23	118.71	4,307.26	-2,311.33	4,890.74	4,823.90	66.84	73.166		
2,633.40	2,633.25	2,633.63	2,632.45	9.15	67.14	118.73	4,308.47	-2,311.33	4,892.72	4,824.95	67.77	72.201		
2,700.00	2,699.73	2,718.00	2,716.81	9.37	69.37	118.78	4,308.27	-2,311.33	4,894.54	4,824.54	70.00	69.922		
2,800.00	2,799.54	2,844.75	2,843.55	9.70	72.72	118.86	4,307.31	-2,311.33	4,896.82	4,823.46	73.36	66.754		
2,900.00	2,899.36	2,898.61	2,897.26	10.04	74.30	118.89	4,307.26	-2,311.33	4,899.51	4,824.53	74.98	65.345		
3,000.00	2,999.17	3,000.00	2,998.56	10.37	77.33	118.95	4,307.26	-2,311.33	4,902.46	4,824.44	78.02	62.833		
3,100.00	3,098.98	3,098.32	3,096.88	10.71	80.27	119.01	4,307.26	-2,311.33	4,905.43	4,824.45	80.98	60.576		
3,200.00	3,198.80	3,198.14	3,196.70	11.06	83.25	119.08	4,307.26	-2,311.33	4,908.40	4,824.42	83.98	58.448		
3,300.00	3,298.61	3,313.96	3,312.47	11.40	86.71	119.16	4,309.42	-2,311.33	4,913.31	4,825.86	87.45	56.182		
3,400.00	3,398.42	3,455.31	3,453.79	11.75	90.93	119.24	4,308.23	-2,311.33	4,915.55	4,823.87	91.68	53.616		
3,500.00	3,498.24	3,596.84	3,595.26	12.10	95.16	119.32	4,305.69	-2,311.33	4,916.95	4,821.04	95.90	51.269 ES		
3,600.00	3,598.05	3,597.71	3,595.95	12.44	95.37	119.32	4,307.26	-2,311.33	4,920.33	4,824.15	96.18	51.158		
3,700.00	3,697.86	3,697.52	3,695.76	12.79	98.59	119.39	4,307.26	-2,311.33	4,923.33	4,823.91	99.42	49.522		
3,800.00	3,797.68	3,797.33	3,795.58	13.15	101.81	119.45	4,307.26	-2,311.33	4,926.33	4,823.68	102.65	47.990		
3,900.00	3,897.49	3,875.00	3,872.97	13.50	104.31	119.50	4,307.26	-2,311.33	4,929.39	4,824.21	105.18	46.866 SF		
4,000.00	3,997.30	3,875.00	3,872.97	13.85	104.31	119.50	4,307.26	-2,311.33	4,933.87	4,828.67	105.20	46.902		
4,100.00	4,097.12	3,875.00	3,872.97	14.21	104.31	119.50	4,307.26	-2,311.33	4,940.37	4,835.20	105.17	46.976		
4,200.00	4,196.93	3,875.00	3,872.97	14.56	104.31	119.50	4,307.26	-2,311.33	4,948.88	4,843.78	105.10	47.087		
4,300.00	4,296.74	3,875.00	3,872.97	14.92	104.31	119.50	4,307.26	-2,311.33	4,959.39	4,854.40	104.99	47.235		
4,400.00	4,396.56	3,875.00	3,872.97	15.28	104.31	119.50	4,307.26	-2,311.33	4,971.90	4,867.05	104.84	47.421		
4,500.00	4,496.37	3,875.00	3,872.97	15.64	104.31	119.50	4,307.26	-2,311.33	4,986.37	4,881.72	104.65	47.648		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 236-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00	0.00	0.00	0.00	0.00	-88.35	83.06	-2,888.39	2,890.25					
100.00	100.00	34.59	34.59	0.13	0.06	-88.35	83.05	-2,888.41	2,889.61	2,889.47	0.14	N/A		
200.00	200.00	125.86	125.86	0.48	0.20	-88.35	82.97	-2,888.66	2,889.87	2,889.35	0.52	5,510.557		
300.00	300.00	217.13	217.12	0.84	0.35	-88.36	82.78	-2,889.18	2,890.44	2,889.53	0.91	3,170.612		
400.00	400.00	312.88	312.87	1.20	0.65	-88.36	82.53	-2,889.96	2,891.25	2,889.88	1.37	2,114.153		
500.00	500.00	413.66	413.65	1.56	1.02	-88.37	82.41	-2,890.84	2,892.11	2,890.25	1.86	1,554.443		
600.00	600.00	510.52	510.51	1.92	1.36	-88.37	82.53	-2,891.69	2,893.00	2,890.65	2.35	1,230.143		
700.00	700.00	601.20	601.18	2.28	1.69	-88.36	82.66	-2,892.66	2,894.08	2,891.24	2.83	1,021.734		
800.00	800.00	692.00	691.97	2.63	2.01	-88.36	82.68	-2,894.00	2,895.55	2,892.24	3.31	873.619		
900.00	900.00	784.00	783.96	2.99	2.34	-88.36	82.66	-2,895.67	2,897.35	2,893.55	3.80	762.514		
1,000.00	1,000.00	863.36	863.30	3.35	2.63	-88.37	82.49	-2,897.46	2,899.60	2,895.34	4.26	681.107		
1,100.00	1,100.00	947.49	947.40	3.71	2.93	-88.37	82.31	-2,899.86	2,902.44	2,897.72	4.73	614.253		
1,200.00	1,200.00	1,042.57	1,042.42	4.07	3.28	-88.38	82.27	-2,902.95	2,905.68	2,900.46	5.22	556.872		
1,300.00	1,300.00	1,142.30	1,142.10	4.43	3.64	-88.38	82.37	-2,906.23	2,908.98	2,903.25	5.72	508.427		
1,400.00	1,400.00	1,232.13	1,231.88	4.79	3.96	-88.37	82.57	-2,909.33	2,912.43	2,906.23	6.20	469.548		
1,500.00	1,500.00	1,341.06	1,340.74	5.14	4.36	-88.37	82.87	-2,913.16	2,915.95	2,909.23	6.73	433.371		
1,600.00	1,600.00	1,458.58	1,458.19	5.50	4.78	-88.37	82.76	-2,916.82	2,919.08	2,911.81	7.28	401.217		
1,700.00	1,700.00	1,598.48	1,598.06	5.86	5.28	-88.40	81.61	-2,919.67	2,921.08	2,913.20	7.88	370.883		
1,800.00	1,800.00	1,702.43	1,701.99	6.22	5.65	-88.42	80.42	-2,920.97	2,922.30	2,913.91	8.39	348.323		
1,900.00	1,900.00	1,810.28	1,809.83	6.58	6.03	-88.45	78.89	-2,922.21	2,923.41	2,914.50	8.91	328.037		
2,000.00	2,000.00	1,943.58	1,943.10	6.94	6.50	-88.49	76.80	-2,923.20	2,924.22	2,914.72	9.49	308.111		
2,100.00	2,100.00	2,134.48	2,133.95	7.29	7.13	-88.53	75.01	-2,919.27	2,921.81	2,911.63	10.18	286.952		
2,200.00	2,200.00	2,245.35	2,244.75	7.65	7.49	-88.53	74.69	-2,915.42	2,918.33	2,907.64	10.69	272.928		
2,300.00	2,300.00	2,362.15	2,361.46	8.01	7.88	-88.52	75.06	-2,910.82	2,914.41	2,903.19	11.22	259.810		
2,400.00	2,400.00	2,433.13	2,432.39	8.37	8.12	-88.51	75.42	-2,908.15	2,910.66	2,899.02	11.64	249.977		
2,500.00	2,499.99	2,516.05	2,515.28	8.71	8.39	-88.57	75.73	-2,905.76	2,907.09	2,895.00	12.08	240.557		
2,600.00	2,599.91	2,605.10	2,604.30	9.04	8.69	-88.59	75.87	-2,903.55	2,902.57	2,890.04	12.53	231.657		
2,633.40	2,633.25	2,635.00	2,634.19	9.15	8.79	-88.54	75.85	-2,902.88	2,900.83	2,888.15	12.68	228.789		
2,700.00	2,699.73	2,699.04	2,698.22	9.37	9.01	-88.51	75.83	-2,901.53	2,897.30	2,884.31	12.99	223.075		
2,800.00	2,799.54	2,795.22	2,794.37	9.70	9.34	-88.51	75.99	-2,899.56	2,892.09	2,878.64	13.45	214.957		
2,900.00	2,899.36	2,894.61	2,893.74	10.04	9.68	-88.52	75.95	-2,897.63	2,886.99	2,873.06	13.93	207.237		
3,000.00	2,999.17	2,983.84	2,982.96	10.37	9.98	-88.51	75.73	-2,896.00	2,882.00	2,867.62	14.39	200.323		
3,100.00	3,098.98	3,070.28	3,069.39	10.71	10.28	-88.51	75.51	-2,894.84	2,877.51	2,862.67	14.84	193.916		
3,200.00	3,198.80	3,155.26	3,154.37	11.06	10.58	-88.51	74.74	-2,894.11	2,873.48	2,858.19	15.29	187.924		
3,300.00	3,298.61	3,245.66	3,244.76	11.40	10.89	-88.51	73.68	-2,893.82	2,869.97	2,854.21	15.76	182.131		
3,400.00	3,398.42	3,359.62	3,358.71	11.75	11.29	-88.51	72.81	-2,893.36	2,866.43	2,850.15	16.28	176.046		
3,500.00	3,498.24	3,461.44	3,460.52	12.10	11.65	-88.51	71.86	-2,892.46	2,862.39	2,845.61	16.78	170.596		
3,600.00	3,598.05	3,561.07	3,560.15	12.44	12.00	-88.52	70.83	-2,891.68	2,858.46	2,841.19	17.27	165.502		
3,700.00	3,697.86	3,662.42	3,661.49	12.79	12.35	-88.51	69.89	-2,890.84	2,854.49	2,836.72	17.77	160.641		
3,800.00	3,797.68	3,768.02	3,767.08	13.15	12.72	-88.51	68.73	-2,889.83	2,850.39	2,832.11	18.28	155.942		
3,900.00	3,897.49	3,869.94	3,868.98	13.50	13.08	-88.51	67.73	-2,888.69	2,846.15	2,827.37	18.78	151.555		
4,000.00	3,997.30	3,969.09	3,968.12	13.85	13.43	-88.51	66.82	-2,887.64	2,841.97	2,822.69	19.28	147.443		
4,100.00	4,097.12	4,082.42	4,081.44	14.21	13.83	-88.51	66.38	-2,886.00	2,837.43	2,817.63	19.80	143.282		
4,200.00	4,196.93	4,179.52	4,178.53	14.56	14.17	-88.51	66.13	-2,884.42	2,832.74	2,812.44	20.29	139.587		
4,300.00	4,296.74	4,273.54	4,272.54	14.92	14.49	-88.51	66.02	-2,883.10	2,828.28	2,807.50	20.78	136.121		
4,400.00	4,396.56	4,377.13	4,376.12	15.28	14.86	-88.51	66.08	-2,881.69	2,823.89	2,802.60	21.28	132.674		
4,500.00	4,496.37	4,480.54	4,479.52	15.64	15.22	-88.51	66.04	-2,880.05	2,819.28	2,797.49	21.79	129.375		
4,600.00	4,496.18	4,501.00	4,499.98	15.99	15.29	-88.51	66.04	-2,879.72	2,815.78	2,793.68	22.10	127.399		
4,650.81	4,646.90	4,501.00	4,499.98	16.18	15.29	-88.51	66.04	-2,879.72	2,815.32	2,793.09	22.23	126.652 CC, ES		
4,700.00	4,696.00	4,501.00	4,499.98	16.35	15.29	-88.51	66.04	-2,879.72	2,815.75	2,793.40	22.35	126.005		
4,800.00	4,795.81	4,501.00	4,499.98	16.71	15.29	-88.51	66.04	-2,879.72	2,819.27	2,796.70	22.57	124.911		
4,900.00	4,895.62	4,501.00	4,499.98	17.07	15.29	-88.51	66.04	-2,879.72	2,826.33	2,803.55	22.77	124.107		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - Proxy WCA State Com #001H (Offset) - OH - OH		Offset Site Error:		0.00 usft
Survey Program: 236-OWSG (Rev2) MWD													Offset Well Error:		0.00 usft		
Reference		Offset		Semi Major Axis		Distance								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	4,995.44	4,501.00	4,499.98	17.44	15.29	60.44	66.04	-2,879.72	2,836.89	2,813.94	22.96	123.584	123.332 SF				
5,100.00	5,095.25	4,501.00	4,499.98	17.80	15.29	60.44	66.04	-2,879.72	2,850.93	2,827.81	23.12	123.332 SF					
5,200.00	5,195.07	4,501.00	4,499.98	18.16	15.29	60.44	66.04	-2,879.72	2,868.38	2,845.13	23.26	123.340					
5,300.00	5,294.88	4,501.00	4,499.98	18.52	15.29	60.44	66.04	-2,879.72	2,889.20	2,865.82	23.38	123.599					
5,400.00	5,394.69	4,501.00	4,499.98	18.88	15.29	60.44	66.04	-2,879.72	2,913.30	2,889.82	23.48	124.099					
5,500.00	5,494.51	4,501.00	4,499.98	19.25	15.29	60.44	66.04	-2,879.72	2,940.60	2,917.05	23.56	124.828					
5,600.00	5,594.32	4,501.00	4,499.98	19.61	15.29	60.44	66.04	-2,879.72	2,971.02	2,947.40	23.62	125.784					
5,700.00	5,694.13	4,501.00	4,499.98	19.98	15.29	60.44	66.04	-2,879.72	3,004.47	2,980.80	23.67	126.954					
5,800.00	5,793.95	4,501.00	4,499.98	20.34	15.29	60.44	66.04	-2,879.72	3,040.83	3,017.14	23.70	128.322					
5,900.00	5,893.76	4,501.00	4,499.98	20.70	15.29	60.44	66.04	-2,879.72	3,080.02	3,056.30	23.71	129.876					
6,000.00	5,993.57	4,501.00	4,499.98	21.07	15.29	60.44	66.04	-2,879.72	3,121.91	3,098.19	23.72	131.607					
6,100.00	6,093.39	4,501.00	4,499.98	21.43	15.29	60.44	66.04	-2,879.72	3,166.41	3,142.70	23.72	133.503					
6,200.00	6,193.20	4,501.00	4,499.98	21.80	15.29	60.44	66.04	-2,879.72	3,213.41	3,189.71	23.71	135.554					
6,300.00	6,293.01	4,501.00	4,499.98	22.17	15.29	60.44	66.04	-2,879.72	3,262.80	3,239.11	23.69	137.749					
6,400.00	6,392.83	4,501.00	4,499.98	22.53	15.29	60.44	66.04	-2,879.72	3,314.47	3,290.81	23.66	140.077					
6,500.00	6,492.64	4,501.00	4,499.98	22.90	15.29	60.44	66.04	-2,879.72	3,368.31	3,344.68	23.63	142.528					
6,600.00	6,592.45	4,501.00	4,499.98	23.26	15.29	60.44	66.04	-2,879.72	3,424.23	3,400.63	23.60	145.092					
6,700.00	6,692.27	4,501.00	4,499.98	23.63	15.29	60.44	66.04	-2,879.72	3,482.13	3,458.56	23.57	147.759					
6,719.52	6,711.75	4,501.00	4,499.98	23.70	15.29	60.44	66.04	-2,879.72	3,493.65	3,470.09	23.56	148.291					
6,800.00	6,792.13	4,501.00	4,499.98	24.00	15.29	61.23	66.04	-2,879.72	3,542.23	3,518.70	23.53	150.534					
6,900.00	6,892.09	4,501.00	4,499.98	24.35	15.29	62.30	66.04	-2,879.72	3,605.06	3,581.56	23.49	153.444					
6,952.92	6,945.00	4,501.00	4,499.98	24.54	15.29	-84.01	66.04	-2,879.72	3,639.36	3,615.88	23.47	155.045					
7,000.00	6,992.08	4,501.00	4,499.98	24.69	15.29	-84.01	66.04	-2,879.72	3,670.36	3,646.91	23.45	156.506					
7,100.00	7,092.08	4,501.00	4,499.98	25.03	15.29	-84.01	66.04	-2,879.72	3,737.31	3,713.91	23.41	159.655					
7,200.00	7,192.08	4,501.00	4,499.98	25.37	15.29	-84.01	66.04	-2,879.72	3,805.72	3,782.35	23.37	162.849					
7,300.00	7,292.08	4,501.00	4,499.98	25.71	15.29	-84.01	66.04	-2,879.72	3,875.50	3,852.17	23.34	166.081					
7,400.00	7,392.08	4,501.00	4,499.98	26.05	15.29	-84.01	66.04	-2,879.72	3,946.58	3,923.28	23.31	169.341					
7,500.00	7,492.08	4,501.00	4,499.98	26.39	15.29	-84.01	66.04	-2,879.72	4,018.90	3,995.61	23.28	172.621					
7,600.00	7,592.08	4,501.00	4,499.98	26.73	15.29	-84.01	66.04	-2,879.72	4,092.37	4,069.11	23.26	175.913					
7,700.00	7,692.08	4,501.00	4,499.98	27.07	15.29	-84.01	66.04	-2,879.72	4,166.96	4,143.71	23.25	179.209					
7,800.00	7,792.08	4,501.00	4,499.98	27.41	15.29	-84.01	66.04	-2,879.72	4,242.59	4,219.34	23.25	182.501					
7,900.00	7,892.08	4,501.00	4,499.98	27.76	15.29	-84.01	66.04	-2,879.72	4,319.21	4,295.96	23.25	185.782					
8,000.00	7,992.08	4,501.00	4,499.98	28.10	15.29	-84.01	66.04	-2,879.72	4,396.76	4,373.51	23.26	189.045					
8,100.00	8,092.08	4,501.00	4,499.98	28.44	15.29	-84.01	66.04	-2,879.72	4,475.21	4,451.94	23.27	192.284					
8,200.00	8,192.08	4,501.00	4,499.98	28.78	15.29	-84.01	66.04	-2,879.72	4,554.51	4,531.21	23.30	195.493					
8,300.00	8,292.08	4,501.00	4,499.98	29.13	15.29	-84.01	66.04	-2,879.72	4,634.60	4,611.27	23.33	198.666					
8,400.00	8,392.08	4,501.00	4,499.98	29.47	15.29	-84.01	66.04	-2,879.72	4,715.46	4,692.09	23.37	201.797					
8,500.00	8,492.08	4,501.00	4,499.98	29.81	15.29	-84.01	66.04	-2,879.72	4,797.04	4,773.62	23.41	204.882					
8,600.00	8,592.08	4,501.00	4,499.98	30.16	15.29	-84.01	66.04	-2,879.72	4,879.30	4,855.83	23.47	207.915					
8,700.00	8,692.08	4,501.00	4,499.98	30.50	15.29	-84.01	66.04	-2,879.72	4,962.21	4,938.68	23.53	210.894					

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - Proxy WCA State Com #001H (Offset) - ST01 - ST01		Offset Site Error:	0.00 usft
Survey Program:													236-OWSG (Rev2) MWD, 2833-OWSG (Rev2) MWD		Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							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	-88.35	83.06	-2,888.39	2,890.25							
100.00	100.00	34.59	34.59	0.13	0.06	-88.35	83.05	-2,888.41	2,889.61	2,889.47	0.14	N/A				
200.00	200.00	125.86	125.86	0.48	0.20	-88.35	82.97	-2,888.66	2,889.87	2,889.35	0.52	5,510.557				
300.00	300.00	217.13	217.12	0.84	0.35	-88.36	82.78	-2,889.18	2,890.44	2,889.53	0.91	3,170.612				
400.00	400.00	312.88	312.87	1.20	0.65	-88.36	82.53	-2,889.96	2,891.25	2,889.88	1.37	2,114.153				
500.00	500.00	413.66	413.65	1.56	1.02	-88.37	82.41	-2,890.84	2,892.11	2,890.25	1.86	1,554.443				
600.00	600.00	510.52	510.51	1.92	1.36	-88.37	82.53	-2,891.69	2,893.00	2,890.65	2.35	1,230.143				
700.00	700.00	601.20	601.18	2.28	1.69	-88.36	82.66	-2,892.66	2,894.08	2,891.24	2.83	1,021.734				
800.00	800.00	692.00	691.97	2.63	2.01	-88.36	82.68	-2,894.00	2,895.55	2,892.24	3.31	873.619				
900.00	900.00	784.00	783.96	2.99	2.34	-88.36	82.66	-2,895.67	2,897.35	2,893.55	3.80	762.514				
1,000.00	1,000.00	863.36	863.30	3.35	2.63	-88.37	82.49	-2,897.46	2,899.60	2,895.34	4.26	681.107				
1,100.00	1,100.00	947.49	947.40	3.71	2.93	-88.37	82.31	-2,899.86	2,902.44	2,897.72	4.73	614.253				
1,200.00	1,200.00	1,042.57	1,042.42	4.07	3.28	-88.38	82.27	-2,902.95	2,905.68	2,900.46	5.22	556.872				
1,300.00	1,300.00	1,142.30	1,142.10	4.43	3.64	-88.38	82.37	-2,906.23	2,908.98	2,903.25	5.72	508.427				
1,400.00	1,400.00	1,232.13	1,231.88	4.79	3.96	-88.37	82.57	-2,909.33	2,912.43	2,906.23	6.20	469.548				
1,500.00	1,500.00	1,341.06	1,340.74	5.14	4.36	-88.37	82.87	-2,913.16	2,915.95	2,909.23	6.73	433.371				
1,600.00	1,600.00	1,458.58	1,458.19	5.50	4.78	-88.37	82.76	-2,916.82	2,919.08	2,911.81	7.28	401.217				
1,700.00	1,700.00	1,598.48	1,598.06	5.86	5.28	-88.40	81.61	-2,919.67	2,921.08	2,913.20	7.88	370.883				
1,800.00	1,800.00	1,702.43	1,701.99	6.22	5.65	-88.42	80.42	-2,920.97	2,922.30	2,913.91	8.39	348.323				
1,900.00	1,900.00	1,810.28	1,809.83	6.58	6.03	-88.45	78.89	-2,922.21	2,923.41	2,914.50	8.91	328.037				
2,000.00	2,000.00	1,943.58	1,943.10	6.94	6.50	-88.49	76.80	-2,923.20	2,924.22	2,914.72	9.49	308.111				
2,100.00	2,100.00	2,134.48	2,133.95	7.29	7.13	-88.53	75.01	-2,919.27	2,921.81	2,911.63	10.18	286.952				
2,200.00	2,200.00	2,245.35	2,244.75	7.65	7.49	-88.53	74.69	-2,915.42	2,918.33	2,907.64	10.69	272.928				
2,300.00	2,300.00	2,362.15	2,361.46	8.01	7.88	-88.52	75.06	-2,910.82	2,914.41	2,903.19	11.22	259.810				
2,400.00	2,400.00	2,433.13	2,432.39	8.37	8.12	-88.51	75.42	-2,908.15	2,910.66	2,899.02	11.64	249.977				
2,500.00	2,499.99	2,516.05	2,515.28	8.71	8.39	-88.57	75.73	-2,905.76	2,907.09	2,895.00	12.08	240.557				
2,600.00	2,599.91	2,605.10	2,604.30	9.04	8.69	-88.59	75.87	-2,903.55	2,902.57	2,890.04	12.53	231.657				
2,633.40	2,633.25	2,635.00	2,634.19	9.15	8.79	-88.59	75.85	-2,902.88	2,900.83	2,888.15	12.68	228.789				
2,700.00	2,699.73	2,699.04	2,698.22	9.37	9.01	-88.59	75.83	-2,901.53	2,897.30	2,884.31	12.99	223.075				
2,800.00	2,799.54	2,770.73	2,769.89	9.70	9.20	-88.59	75.63	-2,900.22	2,892.36	2,879.00	13.36	216.546				
2,900.00	2,899.36	2,833.00	2,832.12	10.04	9.30	-88.59	73.54	-2,900.09	2,888.82	2,875.14	13.68	211.241				
3,000.00	2,999.17	2,833.00	2,832.12	10.37	9.30	-88.59	73.54	-2,900.09	2,887.56	2,873.64	13.92	207.457				
3,024.96	3,024.08	2,871.64	2,870.67	10.46	9.31	-88.59	71.12	-2,900.88	2,887.01	2,873.03	13.99	206.397				
3,100.00	3,098.98	2,926.00	2,924.72	10.71	9.32	-88.59	66.06	-2,903.78	2,888.11	2,873.92	14.18	203.646				
3,200.00	3,198.80	2,926.00	2,924.72	11.06	9.32	-88.59	66.06	-2,903.78	2,890.55	2,876.13	14.42	200.451				
3,300.00	3,298.61	2,974.95	2,973.18	11.40	9.34	-88.59	60.54	-2,907.87	2,895.51	2,880.83	14.68	197.275				
3,400.00	3,398.42	3,021.00	3,018.66	11.75	9.35	-88.62	55.13	-2,912.68	2,902.42	2,887.48	14.93	194.352				
3,500.00	3,498.24	3,248.06	3,243.39	12.10	9.51	-88.36	30.45	-2,933.41	2,908.15	2,892.81	15.34	189.620				
3,600.00	3,598.05	3,391.62	3,386.24	12.44	9.64	-88.27	18.90	-2,941.80	2,910.48	2,894.79	15.70	185.425				
3,700.00	3,697.86	3,494.46	3,488.62	12.79	9.75	-88.22	11.01	-2,947.33	2,912.48	2,896.44	16.04	181.592				
3,800.00	3,797.68	3,789.42	3,782.84	13.15	10.13	-88.14	-8.47	-2,951.17	2,909.33	2,892.79	16.55	175.819				
3,900.00	3,897.49	3,888.70	3,881.87	13.50	10.27	-88.10	-15.35	-2,949.71	2,904.50	2,887.58	16.91	171.713				
4,000.00	3,997.30	3,989.79	3,982.71	13.85	10.43	-88.07	-22.29	-2,948.22	2,899.65	2,882.36	17.29	167.687				
4,100.00	4,097.12	4,088.02	4,080.67	14.21	10.59	-88.03	-29.34	-2,946.73	2,894.77	2,877.09	17.68	163.777				
4,200.00	4,196.93	4,198.13	4,190.45	14.56	10.79	-87.98	-37.75	-2,945.11	2,889.94	2,871.86	18.08	159.867				
4,300.00	4,296.74	4,295.39	4,287.40	14.92	10.98	-87.93	-45.32	-2,943.26	2,884.66	2,866.18	18.47	156.144				
4,400.00	4,396.56	4,401.94	4,393.56	15.28	11.19	-87.86	-54.19	-2,941.47	2,879.60	2,860.71	18.89	152.453				
4,500.00	4,496.37	4,499.81	4,491.01	15.64	11.40	-87.79	-63.04	-2,939.58	2,874.28	2,854.98	19.30	148.918				
4,600.00	4,596.18	4,590.32	4,581.09	15.99	11.61	-87.71	-71.71	-2,938.05	2,869.20	2,849.49	19.71	145.557				
4,700.00	4,696.00	4,691.51	4,681.79	16.35	11.85	-87.61	-81.59	-2,936.53	2,864.31	2,844.16	20.14	142.214				
4,800.00	4,795.81	4,784.17	4,773.96	16.71	12.07	-87.52	-90.97	-2,935.19	2,859.47	2,838.91	20.57	139.045				
4,900.00	4,895.62	4,887.22	4,876.39	17.07	12.33	-87.40	-102.15	-2,933.81	2,854.75	2,833.74	21.01	135.881				

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 236-OWSG (Rev2) MWD, 2833-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
5,000.00	4,995.44	5,039.14	5,027.16	17.44	12.74	57.19	-120.53	-2,930.54	2,849.31	2,827.78	21.53	132.349		
5,100.00	5,095.25	5,149.07	5,136.14	17.80	13.05	57.02	-134.38	-2,926.51	2,842.26	2,820.26	22.00	129.209		
5,200.00	5,195.07	5,259.12	5,245.06	18.16	13.37	56.83	-149.52	-2,922.40	2,835.19	2,812.71	22.47	126.154		
5,300.00	5,294.88	5,361.27	5,346.04	18.52	13.68	56.63	-164.40	-2,918.31	2,827.88	2,804.93	22.95	123.237		
5,400.00	5,394.69	5,457.15	5,440.89	18.88	13.97	56.46	-177.89	-2,914.50	2,820.63	2,797.21	23.41	120.474		
5,500.00	5,494.51	5,582.32	5,565.24	19.25	14.34	56.32	-190.93	-2,908.94	2,812.88	2,788.97	23.91	117.627		
5,600.00	5,594.32	5,667.87	5,650.41	19.61	14.59	56.26	-197.90	-2,904.81	2,804.80	2,780.45	24.36	115.159		
5,700.00	5,694.13	5,727.00	5,709.35	19.98	14.76	56.24	-202.09	-2,902.63	2,797.86	2,773.10	24.76	112.995		
5,800.00	5,793.95	5,802.97	5,785.14	20.34	14.98	56.22	-206.94	-2,900.72	2,792.05	2,766.86	25.19	110.849		
5,900.00	5,893.76	5,888.95	5,870.95	20.70	15.23	56.20	-212.02	-2,899.29	2,787.05	2,761.42	25.63	108.743		
6,000.00	5,993.57	5,985.47	5,967.32	21.07	15.51	56.20	-217.20	-2,897.95	2,782.33	2,756.24	26.09	106.652		
6,100.00	6,093.39	6,081.20	6,062.94	21.43	15.78	56.20	-221.72	-2,896.71	2,777.70	2,751.15	26.55	104.640		
6,200.00	6,193.20	6,180.76	6,162.39	21.80	16.08	56.21	-226.36	-2,895.54	2,773.18	2,746.17	27.01	102.672		
6,300.00	6,293.01	6,284.35	6,265.86	22.17	16.38	56.22	-231.11	-2,894.24	2,768.60	2,741.11	27.48	100.738		
6,400.00	6,392.83	6,375.65	6,357.07	22.53	16.65	56.24	-235.00	-2,893.16	2,764.07	2,736.13	27.94	98.937		
6,500.00	6,492.64	6,476.06	6,457.39	22.90	16.95	56.26	-239.17	-2,892.16	2,759.73	2,731.32	28.41	97.146		
6,600.00	6,592.45	6,591.79	6,573.01	23.26	17.30	56.27	-244.12	-2,890.63	2,755.06	2,726.15	28.90	95.317		
6,700.00	6,692.27	6,700.67	6,681.83	23.63	17.62	56.34	-246.56	-2,888.73	2,749.95	2,720.56	29.38	93.590		
6,719.52	6,711.75	6,721.80	6,702.96	23.70	17.68	56.36	-246.76	-2,888.32	2,748.91	2,719.44	29.47	93.263		
6,800.00	6,792.13	6,804.08	6,785.22	24.00	17.91	56.37	-247.17	-2,886.66	2,745.04	2,715.19	29.85	91.974		
6,900.00	6,892.09	6,899.37	6,880.50	24.35	18.18	56.36	-247.72	-2,884.80	2,741.59	2,711.30	30.29	90.500		
6,952.92	6,945.00	6,948.76	6,929.87	24.54	18.32	-90.57	-248.03	-2,883.92	2,740.45	2,709.93	30.53	89.776		
7,000.00	6,992.08	6,996.51	6,977.62	24.69	18.46	-90.57	-248.38	-2,883.09	2,739.64	2,708.91	30.74	89.136		
7,100.00	7,092.08	7,100.38	7,081.46	25.03	18.76	-90.59	-249.26	-2,881.22	2,737.85	2,706.66	31.19	87.790		
7,200.00	7,192.08	7,203.91	7,184.97	25.37	19.06	-90.61	-250.01	-2,879.19	2,735.89	2,704.26	31.64	86.475		
7,300.00	7,292.08	7,303.80	7,284.84	25.71	19.35	-90.62	-250.78	-2,877.16	2,733.88	2,701.79	32.09	85.203		
7,400.00	7,392.08	7,397.63	7,378.65	26.05	19.63	-90.64	-251.71	-2,875.37	2,731.97	2,699.44	32.53	83.986		
7,500.00	7,492.08	7,461.52	7,442.53	26.39	19.82	-90.65	-252.18	-2,874.58	2,730.79	2,697.87	32.92	82.952		
7,531.24	7,523.32	7,480.22	7,461.23	26.50	19.87	-90.65	-252.18	-2,874.54	2,730.71	2,697.68	33.04	82.651		
7,600.00	7,592.08	7,524.38	7,505.39	26.73	20.00	-90.65	-252.01	-2,874.76	2,731.04	2,697.74	33.30	82.004		
7,700.00	7,692.08	7,598.00	7,579.00	27.07	20.20	-90.65	-251.82	-2,875.86	2,732.50	2,698.80	33.70	81.082		
7,800.00	7,792.08	7,685.12	7,666.09	27.41	20.45	-90.65	-251.90	-2,877.78	2,734.70	2,700.57	34.12	80.141		
7,900.00	7,892.08	7,792.67	7,773.62	27.76	20.76	-90.65	-251.98	-2,880.16	2,736.91	2,702.33	34.59	79.136		
8,000.00	7,992.08	7,898.01	7,878.94	28.10	21.07	-90.65	-251.97	-2,882.24	2,738.89	2,703.84	35.04	78.157		
8,100.00	8,092.08	8,009.18	7,990.09	28.44	21.39	-90.65	-251.92	-2,884.09	2,740.56	2,705.04	35.51	77.167		
8,200.00	8,192.08	8,121.99	8,102.89	28.78	21.73	-90.65	-252.08	-2,885.47	2,741.78	2,705.78	35.99	76.180		
8,300.00	8,292.08	8,226.31	8,207.21	29.13	22.04	-90.65	-252.21	-2,886.36	2,742.63	2,706.18	36.45	75.235		
8,400.00	8,392.08	8,339.52	8,320.42	29.47	22.39	-90.66	-252.39	-2,887.09	2,743.29	2,706.35	36.94	74.271		
8,500.00	8,492.08	8,442.57	8,423.47	29.81	22.71	-90.66	-252.67	-2,887.37	2,743.56	2,706.16	37.40	73.349		
8,600.00	8,592.08	8,548.03	8,528.92	30.16	23.04	-90.67	-253.22	-2,887.56	2,743.75	2,705.87	37.88	72.431		
8,700.00	8,692.08	8,671.88	8,652.77	30.50	23.44	-90.69	-254.23	-2,887.00	2,743.30	2,704.91	38.39	71.455		
8,800.00	8,792.08	8,787.05	8,767.92	30.85	23.81	-90.73	-255.73	-2,885.70	2,742.19	2,703.30	38.89	70.515		
8,900.00	8,892.08	8,890.64	8,871.49	31.20	24.14	-90.76	-257.19	-2,884.14	2,740.69	2,701.33	39.36	69.624		
9,000.00	8,992.08	9,011.20	8,992.03	31.54	24.52	-90.79	-258.55	-2,881.90	2,738.86	2,698.99	39.87	68.698		
9,100.00	9,092.08	9,115.88	9,096.65	31.89	24.87	-90.83	-260.53	-2,879.36	2,736.46	2,696.11	40.35	67.819		
9,200.00	9,192.08	9,185.00	9,165.73	32.23	25.09	-90.87	-262.45	-2,877.74	2,734.29	2,693.52	40.77	67.063		
9,300.00	9,292.08	9,278.00	9,258.69	32.58	25.40	-90.91	-264.48	-2,876.50	2,732.99	2,691.76	41.24	66.276		
9,400.00	9,392.08	9,371.99	9,352.68	32.93	25.71	-90.93	-265.42	-2,875.89	2,732.34	2,690.64	41.70	65.523		
9,500.00	9,492.08	9,469.12	9,449.80	33.27	26.02	-90.95	-266.24	-2,875.14	2,731.58	2,689.41	42.17	64.776		
9,600.00	9,592.08	9,574.15	9,554.82	33.62	26.35	-90.95	-266.24	-2,874.16	2,730.65	2,688.00	42.65	64.030		
9,700.00	9,692.08	9,652.61	9,633.27	33.97	26.59	-90.93	-265.34	-2,873.78	2,730.14	2,687.07	43.07	63.389		
9,800.00	9,792.08	9,759.03	9,739.68	34.32	26.91	-90.89	-263.36	-2,873.55	2,729.89	2,686.35	43.54	62.700		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - Proxy WCA State Com #001H (Offset) - ST01 - ST01		Offset Site Error:	0.00 usft
Survey Program:													236-OWSG (Rev2) MWD, 2833-OWSG (Rev2) MWD		Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							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				
9,900.00	9,892.08	9,860.06	9,840.68	34.66	27.21	-90.84	-260.97	-2,873.17	2,729.49	2,685.49	44.00	62.036				
10,000.00	9,992.08	9,975.79	9,956.32	35.01	27.55	-90.74	-256.37	-2,872.77	2,729.13	2,684.64	44.48	61.352				
10,100.00	10,092.08	10,134.22	10,114.68	35.36	28.04	-90.70	-254.14	-2,869.40	2,726.92	2,681.87	45.04	60.541				
10,200.00	10,192.08	10,200.00	10,180.42	35.71	28.26	-90.69	-253.86	-2,867.95	2,724.62	2,679.16	45.46	59.934				
10,300.00	10,292.08	10,240.00	10,220.40	36.06	28.38	-90.67	-253.07	-2,867.53	2,723.73	2,677.91	45.82	59.441				
10,338.40	10,330.49	10,348.49	10,328.87	36.19	28.73	-90.67	-252.89	-2,866.22	2,723.08	2,676.95	46.13	59.032				
10,400.00	10,392.08	10,408.96	10,389.32	36.41	28.93	-90.69	-253.74	-2,865.06	2,721.91	2,675.48	46.42	58.633				
10,500.00	10,492.08	10,540.00	10,520.30	36.76	29.35	-90.69	-253.78	-2,861.08	2,718.78	2,671.83	46.95	57.910				
10,600.00	10,592.08	10,620.00	10,600.23	37.11	29.63	-90.75	-256.40	-2,859.09	2,716.23	2,668.83	47.40	57.304				
10,700.00	10,692.08	10,760.00	10,740.07	37.46	30.10	-90.80	-258.97	-2,853.81	2,712.31	2,664.37	47.95	56.568				
10,800.00	10,792.08	10,945.05	10,924.77	37.81	30.72	-90.90	-263.60	-2,843.87	2,707.22	2,658.67	48.55	55.759				
10,900.00	10,892.08	10,990.39	10,970.00	38.16	30.87	-90.93	-264.67	-2,840.98	2,700.97	2,652.01	48.96	55.164				
11,000.00	10,992.08	11,060.00	11,039.52	38.51	31.11	-90.94	-265.39	-2,837.59	2,696.18	2,646.78	49.40	54.581				
11,100.00	11,092.08	11,080.00	11,059.52	38.86	31.17	-90.94	-265.20	-2,837.11	2,693.64	2,643.90	49.74	54.153				
11,149.53	11,141.61	11,100.00	11,079.51	39.03	31.23	-90.93	-264.80	-2,837.06	2,693.41	2,643.49	49.92	53.954	CC, ES			
11,200.00	11,192.08	11,120.00	11,099.51	39.21	31.29	-90.92	-264.31	-2,837.16	2,693.68	2,643.58	50.10	53.768				
11,300.00	11,292.08	11,160.00	11,139.48	39.56	31.42	-90.90	-263.24	-2,838.01	2,695.86	2,645.42	50.44	53.446				
11,400.00	11,392.08	11,200.00	11,179.42	39.91	31.54	-90.87	-262.16	-2,839.99	2,700.50	2,649.73	50.77	53.192				
11,500.00	11,492.08	11,229.71	11,209.04	40.26	31.63	-90.85	-261.16	-2,842.12	2,707.45	2,656.39	51.06	53.030				
11,600.00	11,592.08	11,280.00	11,259.07	40.61	31.78	-90.81	-259.28	-2,846.83	2,716.64	2,665.26	51.38	52.871				
11,615.96	11,608.04	11,292.28	11,271.27	40.66	31.82	-90.80	-258.84	-2,848.08	2,718.25	2,666.81	51.45	52.837				
11,650.00	11,642.06	11,356.16	11,334.82	40.78	32.02	-89.93	-256.57	-2,854.23	2,721.53	2,669.84	51.69	52.652				
11,700.00	11,691.78	11,452.03	11,430.30	40.95	32.31	-89.66	-253.58	-2,862.22	2,725.74	2,673.70	52.04	52.376				
11,750.00	11,740.86	11,519.58	11,497.65	41.12	32.52	-89.54	-251.51	-2,866.96	2,729.22	2,676.91	52.31	52.173				
11,800.00	11,788.94	11,601.22	11,579.11	41.27	32.77	-89.65	-249.15	-2,871.86	2,732.19	2,679.58	52.61	51.933				
11,850.00	11,835.63	11,649.73	11,627.53	41.42	32.93	-89.71	-247.87	-2,874.50	2,734.96	2,682.14	52.82	51.778				
11,900.00	11,880.59	11,695.62	11,673.34	41.55	33.07	-89.82	-246.71	-2,876.98	2,737.82	2,684.80	53.02	51.635				
11,950.00	11,923.48	11,731.29	11,708.96	41.68	33.18	-89.89	-246.09	-2,878.91	2,740.88	2,687.69	53.20	51.525				
12,000.00	11,963.97	11,760.00	11,737.61	41.80	33.28	-89.88	-245.91	-2,880.60	2,744.40	2,691.05	53.35	51.443				
12,050.00	12,001.74	11,786.20	11,763.76	41.91	33.36	-89.84	-245.86	-2,882.24	2,748.41	2,694.92	53.49	51.379				
12,100.00	12,036.53	11,812.26	11,789.77	42.02	33.44	-89.77	-245.88	-2,883.95	2,752.96	2,699.33	53.64	51.327				
12,150.00	12,068.05	11,866.72	11,844.12	42.13	33.62	-90.16	-246.10	-2,887.42	2,757.96	2,704.11	53.85	51.213				
12,200.00	12,096.07	11,916.10	11,893.43	42.24	33.78	-90.48	-246.21	-2,890.10	2,763.25	2,709.19	54.06	51.119				
12,250.00	12,120.37	11,946.26	11,923.54	42.35	33.88	-90.44	-246.33	-2,891.60	2,769.10	2,714.89	54.21	51.079				
12,300.00	12,140.78	12,015.03	11,992.26	42.47	34.11	-91.10	-246.73	-2,894.32	2,775.49	2,721.04	54.46	50.965				
12,350.00	12,157.13	12,068.79	12,046.00	42.59	34.28	-91.46	-247.11	-2,895.56	2,782.42	2,727.76	54.67	50.898				
12,400.00	12,169.30	12,121.40	12,098.61	42.71	34.46	-91.74	-247.32	-2,896.03	2,790.05	2,735.18	54.87	50.851				
12,450.00	12,177.21	12,172.27	12,149.47	42.84	34.63	-91.92	-247.58	-2,895.71	2,798.51	2,743.45	55.06	50.827	SF			
12,500.00	12,180.78	12,176.90	12,154.11	42.96	34.65	-91.06	-247.59	-2,895.64	2,807.94	2,752.78	55.16	50.904				
12,515.96	12,181.00	12,177.12	12,154.33	43.00	34.65	-90.74	-247.60	-2,895.64	2,811.15	2,755.96	55.19	50.934				
12,600.00	12,181.00	12,176.65	12,153.85	43.24	34.64	-90.73	-247.59	-2,895.65	2,829.50	2,774.13	55.36	51.108				
12,700.00	12,181.00	12,176.09	12,153.30	43.58	34.64	-90.72	-247.59	-2,895.66	2,854.40	2,798.79	55.60	51.336				
12,800.00	12,181.00	12,175.54	12,152.74	43.97	34.64	-90.70	-247.59	-2,895.66	2,882.55	2,826.68	55.88	51.587				
12,900.00	12,181.00	12,174.99	12,152.20	44.43	34.64	-90.69	-247.59	-2,895.67	2,913.87	2,857.69	56.18	51.864				
13,000.00	12,181.00	12,174.45	12,151.66	44.94	34.64	-90.68	-247.59	-2,895.68	2,948.25	2,891.74	56.51	52.168				
13,100.00	12,181.00	12,173.92	12,151.13	45.50	34.64	-90.67	-247.58	-2,895.69	2,985.59	2,928.72	56.87	52.501				
13,200.00	12,181.00	12,173.39	12,150.60	46.12	34.63	-90.66	-247.58	-2,895.69	3,025.77	2,968.53	57.24	52.863				
13,300.00	12,181.00	12,172.87	12,150.07	46.79	34.63	-90.65	-247.58	-2,895.70	3,068.68	3,011.06	57.62	53.256				
13,400.00	12,181.00	12,172.35	12,149.56	47.50	34.63	-90.64	-247.58	-2,895.71	3,114.21	3,056.20	58.01	53.680				
13,500.00	12,181.00	12,171.84	12,149.04	48.26	34.63	-90.63	-247.57	-2,895.71	3,162.26	3,103.84	58.41	54.136				
13,600.00	12,181.00	12,171.33	12,148.54	49.07	34.63	-90.62	-247.57	-2,895.72	3,212.69	3,153.88	58.82	54.623				
13,700.00	12,181.00	12,170.83	12,148.03	49.91	34.63	-90.61	-247.57	-2,895.73	3,265.41	3,206.19	59.22	55.141				

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 236-OWSG (Rev2) MWD, 2833-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
13,800.00	12,181.00	12,170.33	12,147.54	50.80	34.62	-90.60	-247.57	-2,895.73	3,320.31	3,260.69	59.62	55.691		
13,900.00	12,181.00	12,169.84	12,147.04	51.72	34.62	-90.59	-247.57	-2,895.74	3,377.28	3,317.26	60.02	56.274		
14,000.00	12,181.00	12,151.67	12,128.87	52.68	34.56	-90.21	-247.49	-2,895.93	3,436.21	3,375.83	60.38	56.910		
14,100.00	12,181.00	12,151.12	12,128.32	53.67	34.56	-90.20	-247.48	-2,895.93	3,497.00	3,436.24	60.76	57.551		
14,200.00	12,181.00	12,150.56	12,127.77	54.70	34.56	-90.18	-247.48	-2,895.94	3,559.57	3,498.43	61.14	58.221		
14,300.00	12,181.00	12,129.74	12,106.95	55.75	34.49	-89.75	-247.36	-2,896.04	3,623.82	3,562.35	61.48	58.945		
14,400.00	12,181.00	12,128.90	12,106.11	56.84	34.48	-89.73	-247.35	-2,896.04	3,689.66	3,627.83	61.83	59.670		
14,500.00	12,181.00	12,128.12	12,105.33	57.95	34.48	-89.72	-247.35	-2,896.04	3,757.00	3,694.82	62.18	60.422		
14,600.00	12,181.00	12,127.39	12,104.60	59.08	34.48	-89.70	-247.35	-2,896.04	3,825.78	3,763.26	62.52	61.198		
14,700.00	12,181.00	12,126.71	12,103.91	60.24	34.48	-89.69	-247.34	-2,896.04	3,895.90	3,833.06	62.84	61.997		
14,800.00	12,181.00	12,126.06	12,103.27	61.42	34.47	-89.67	-247.34	-2,896.04	3,967.31	3,904.15	63.15	62.819		
14,900.00	12,181.00	12,125.46	12,102.67	62.63	34.47	-89.66	-247.34	-2,896.04	4,039.93	3,976.47	63.46	63.662		
15,000.00	12,181.00	12,124.89	12,102.10	63.85	34.47	-89.65	-247.34	-2,896.04	4,113.70	4,049.94	63.75	64.526		
15,100.00	12,181.00	12,124.35	12,101.56	65.09	34.47	-89.64	-247.33	-2,896.03	4,188.55	4,124.52	64.04	65.409		
15,200.00	12,181.00	12,123.84	12,101.05	66.35	34.47	-89.63	-247.33	-2,896.03	4,264.44	4,200.13	64.31	66.310		
15,300.00	12,181.00	12,123.36	12,100.57	67.63	34.47	-89.62	-247.33	-2,896.03	4,341.31	4,276.73	64.57	67.230		
15,400.00	12,181.00	12,123.81	12,101.01	68.92	34.47	-89.63	-247.33	-2,896.03	4,419.10	4,354.27	64.83	68.166		
15,500.00	12,181.00	12,123.31	12,100.51	70.23	34.47	-89.62	-247.33	-2,896.03	4,497.77	4,432.70	65.07	69.118		
15,600.00	12,181.00	12,122.81	12,100.02	71.55	34.46	-89.61	-247.33	-2,896.03	4,577.27	4,511.96	65.31	70.086		
15,700.00	12,181.00	12,122.32	12,099.53	72.89	34.46	-89.60	-247.32	-2,896.03	4,657.56	4,592.02	65.54	71.066		
15,800.00	12,181.00	12,121.83	12,099.04	74.24	34.46	-89.59	-247.32	-2,896.03	4,738.60	4,672.85	65.76	72.060		
15,900.00	12,181.00	12,121.35	12,098.56	75.60	34.46	-89.58	-247.32	-2,896.03	4,820.36	4,754.39	65.97	73.069		
16,000.00	12,181.00	12,120.87	12,098.08	76.97	34.46	-89.57	-247.32	-2,896.03	4,902.79	4,836.62	66.17	74.090		
16,100.00	12,181.00	12,120.40	12,097.61	78.35	34.46	-89.56	-247.32	-2,896.03	4,985.86	4,919.49	66.37	75.122		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design		FMM Fed Com - Proxy WCA State Com #001H (Offset) - ST02 - ST02											Offset Site Error:	0.00 usft
Survey Program:		236-OWSG (Rev2) MWD, 2833-OWSG (Rev2) MWD, 10215-OWSG (Rev2) MWD											Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.00	0.00		0.00		0.00	-88.35	83.06	-2,888.39	2,890.25					
100.00	100.00	34.59	34.59	0.13	0.06	-88.35	83.05	-2,888.41	2,889.61	2,889.47	0.14	N/A		
200.00	200.00	125.86	125.86	0.48	0.20	-88.35	82.97	-2,888.66	2,889.87	2,889.35	0.52	5,510.557		
300.00	300.00	217.13	217.12	0.84	0.35	-88.36	82.78	-2,889.18	2,890.44	2,889.53	0.91	3,170.612		
400.00	400.00	312.88	312.87	1.20	0.65	-88.36	82.53	-2,889.96	2,891.25	2,889.88	1.37	2,114.153		
500.00	500.00	413.66	413.65	1.56	1.02	-88.37	82.41	-2,890.84	2,892.11	2,890.25	1.86	1,554.443		
600.00	600.00	510.52	510.51	1.92	1.36	-88.37	82.53	-2,891.69	2,893.00	2,890.65	2.35	1,230.143		
700.00	700.00	601.20	601.18	2.28	1.69	-88.36	82.66	-2,892.66	2,894.08	2,891.24	2.83	1,021.734		
800.00	800.00	692.00	691.97	2.63	2.01	-88.36	82.68	-2,894.00	2,895.55	2,892.24	3.31	873.619		
900.00	900.00	784.00	783.96	2.99	2.34	-88.36	82.66	-2,895.67	2,897.35	2,893.55	3.80	762.514		
1,000.00	1,000.00	863.36	863.30	3.35	2.63	-88.37	82.49	-2,897.46	2,899.60	2,895.34	4.26	681.107		
1,100.00	1,100.00	947.49	947.40	3.71	2.93	-88.37	82.31	-2,899.86	2,902.44	2,897.72	4.73	614.253		
1,200.00	1,200.00	1,042.57	1,042.42	4.07	3.28	-88.38	82.27	-2,902.95	2,905.68	2,900.46	5.22	556.872		
1,300.00	1,300.00	1,142.30	1,142.10	4.43	3.64	-88.38	82.37	-2,906.23	2,908.98	2,903.25	5.72	508.427		
1,400.00	1,400.00	1,232.13	1,231.88	4.79	3.96	-88.37	82.57	-2,909.33	2,912.43	2,906.23	6.20	469.548		
1,500.00	1,500.00	1,341.06	1,340.74	5.14	4.36	-88.37	82.87	-2,913.16	2,915.95	2,909.23	6.73	433.371		
1,600.00	1,600.00	1,458.58	1,458.19	5.50	4.78	-88.37	82.76	-2,916.82	2,919.08	2,911.81	7.28	401.217		
1,700.00	1,700.00	1,598.48	1,598.06	5.86	5.28	-88.40	81.61	-2,919.67	2,921.08	2,913.20	7.88	370.883		
1,800.00	1,800.00	1,702.43	1,701.99	6.22	5.65	-88.42	80.42	-2,920.97	2,922.30	2,913.91	8.39	348.323		
1,900.00	1,900.00	1,810.28	1,809.83	6.58	6.03	-88.45	78.89	-2,922.21	2,923.41	2,914.50	8.91	328.037		
2,000.00	2,000.00	1,943.58	1,943.10	6.94	6.50	-88.49	76.80	-2,923.20	2,924.22	2,914.72	9.49	308.111		
2,100.00	2,100.00	2,134.48	2,133.95	7.29	7.13	-88.53	75.01	-2,919.27	2,921.81	2,911.63	10.18	286.952		
2,200.00	2,200.00	2,245.35	2,244.75	7.65	7.49	-88.53	74.69	-2,915.42	2,918.33	2,907.64	10.69	272.928		
2,300.00	2,300.00	2,362.15	2,361.46	8.01	7.88	-88.52	75.06	-2,910.82	2,914.41	2,903.19	11.22	259.810		
2,400.00	2,400.00	2,433.13	2,432.39	8.37	8.12	-88.51	75.42	-2,908.15	2,910.66	2,899.02	11.64	249.977		
2,500.00	2,499.99	2,516.05	2,515.28	8.71	8.39	58.47	75.73	-2,905.76	2,907.09	2,895.00	12.08	240.557		
2,600.00	2,599.91	2,605.10	2,604.30	9.04	8.69	58.59	75.87	-2,903.55	2,902.57	2,890.04	12.53	231.657		
2,633.40	2,633.25	2,635.00	2,634.19	9.15	8.79	58.64	75.85	-2,902.88	2,900.83	2,888.15	12.68	228.789		
2,700.00	2,699.73	2,699.04	2,698.22	9.37	9.01	58.71	75.83	-2,901.53	2,897.30	2,884.31	12.99	223.075		
2,800.00	2,799.54	2,770.73	2,769.89	9.70	9.20	58.78	75.63	-2,900.22	2,892.36	2,879.00	13.36	216.546		
2,900.00	2,899.36	2,833.00	2,832.12	10.04	9.30	58.80	73.54	-2,900.09	2,888.82	2,875.14	13.68	211.241		
3,000.00	2,999.17	2,833.00	2,832.12	10.37	9.30	58.80	73.54	-2,900.09	2,887.56	2,873.64	13.92	207.457		
3,024.96	3,024.08	2,871.64	2,870.67	10.46	9.31	58.79	71.12	-2,900.88	2,887.01	2,873.03	13.99	206.397		
3,100.00	3,098.98	2,926.00	2,924.72	10.71	9.32	58.75	66.06	-2,903.78	2,888.11	2,873.92	14.18	203.646		
3,200.00	3,198.80	2,926.00	2,924.72	11.06	9.32	58.75	66.06	-2,903.78	2,890.55	2,876.13	14.42	200.451		
3,300.00	3,298.61	2,974.95	2,973.18	11.40	9.34	58.69	60.54	-2,907.87	2,895.51	2,880.83	14.68	197.275		
3,400.00	3,398.42	3,021.00	3,018.66	11.75	9.35	58.62	55.13	-2,912.68	2,902.42	2,887.48	14.93	194.352		
3,500.00	3,498.24	3,248.06	3,243.39	12.10	9.51	58.36	30.45	-2,933.41	2,908.15	2,892.81	15.34	189.620		
3,600.00	3,598.05	3,391.62	3,386.24	12.44	9.64	58.27	18.90	-2,941.80	2,910.48	2,894.79	15.70	185.425		
3,700.00	3,697.86	3,494.46	3,488.62	12.79	9.75	58.22	11.01	-2,947.33	2,912.48	2,896.44	16.04	181.592		
3,800.00	3,797.68	3,789.42	3,782.84	13.15	10.13	58.14	-8.47	-2,951.17	2,909.33	2,892.79	16.55	175.819		
3,900.00	3,897.49	3,888.70	3,881.87	13.50	10.27	58.10	-15.35	-2,949.71	2,904.50	2,887.58	16.91	171.713		
4,000.00	3,997.30	3,989.79	3,982.71	13.85	10.43	58.07	-22.29	-2,948.22	2,899.65	2,882.36	17.29	167.687		
4,100.00	4,097.12	4,088.02	4,080.67	14.21	10.59	58.03	-29.34	-2,946.73	2,894.77	2,877.09	17.68	163.777		
4,200.00	4,196.93	4,198.13	4,190.45	14.56	10.79	57.98	-37.75	-2,945.11	2,889.94	2,871.86	18.08	159.867		
4,300.00	4,296.74	4,295.39	4,287.40	14.92	10.98	57.93	-45.32	-2,943.26	2,884.66	2,866.18	18.47	156.144		
4,400.00	4,396.56	4,401.94	4,393.56	15.28	11.19	57.86	-54.19	-2,941.47	2,879.60	2,860.71	18.89	152.453		
4,500.00	4,496.37	4,499.81	4,491.01	15.64	11.40	57.79	-63.04	-2,939.58	2,874.28	2,854.98	19.30	148.918		
4,600.00	4,596.18	4,590.32	4,581.09	15.99	11.61	57.71	-71.71	-2,938.05	2,869.20	2,849.49	19.71	145.557		
4,700.00	4,696.00	4,691.51	4,681.79	16.35	11.85	57.61	-81.59	-2,936.53	2,864.31	2,844.16	20.14	142.214		
4,800.00	4,795.81	4,784.17	4,773.96	16.71	12.07	57.52	-90.97	-2,935.19	2,859.47	2,838.91	20.57	139.045		
4,900.00	4,895.62	4,887.22	4,876.39	17.07	12.33	57.40	-102.15	-2,933.81	2,854.75	2,833.74	21.01	135.881		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													FMM Fed Com - Proxy WCA State Com #001H (Offset) - ST02 - ST02		Offset Site Error:	0.00 usft
Survey Program:													236-OWSG (Rev2) MWD, 2833-OWSG (Rev2) MWD, 10215-OWSG (Rev2) MWD		Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
5,000.00	4,995.44	5,039.14	5,027.16	17.44	12.74	57.19	-120.53	-2,930.54	2,849.31	2,827.78	21.53	132.349				
5,100.00	5,095.25	5,149.07	5,136.14	17.80	13.05	57.02	-134.38	-2,926.51	2,842.26	2,820.26	22.00	129.209				
5,200.00	5,195.07	5,259.12	5,245.06	18.16	13.37	56.83	-149.52	-2,922.40	2,835.19	2,812.71	22.47	126.154				
5,300.00	5,294.88	5,361.27	5,346.04	18.52	13.68	56.63	-164.40	-2,918.31	2,827.88	2,804.93	22.95	123.237				
5,400.00	5,394.69	5,457.15	5,440.89	18.88	13.97	56.46	-177.89	-2,914.50	2,820.63	2,797.21	23.41	120.474				
5,500.00	5,494.51	5,582.32	5,565.24	19.25	14.34	56.32	-190.93	-2,908.94	2,812.88	2,788.97	23.91	117.627				
5,600.00	5,594.32	5,667.87	5,650.41	19.61	14.59	56.26	-197.90	-2,904.81	2,804.80	2,780.45	24.36	115.159				
5,700.00	5,694.13	5,727.00	5,709.35	19.98	14.76	56.24	-202.09	-2,902.63	2,797.86	2,773.10	24.76	112.995				
5,800.00	5,793.95	5,802.97	5,785.14	20.34	14.98	56.22	-206.94	-2,900.72	2,792.05	2,766.86	25.19	110.849				
5,900.00	5,893.76	5,888.95	5,870.95	20.70	15.23	56.20	-212.02	-2,899.29	2,787.05	2,761.42	25.63	108.743				
6,000.00	5,993.57	5,985.47	5,967.32	21.07	15.51	56.20	-217.20	-2,897.95	2,782.33	2,756.24	26.09	106.652				
6,100.00	6,093.39	6,081.20	6,062.94	21.43	15.78	56.20	-221.72	-2,896.71	2,777.70	2,751.15	26.55	104.640				
6,200.00	6,193.20	6,180.76	6,162.39	21.80	16.08	56.21	-226.36	-2,895.54	2,773.18	2,746.17	27.01	102.672				
6,300.00	6,293.01	6,284.35	6,265.86	22.17	16.38	56.22	-231.11	-2,894.24	2,768.60	2,741.11	27.48	100.738				
6,400.00	6,392.83	6,375.65	6,357.07	22.53	16.65	56.24	-235.00	-2,893.16	2,764.07	2,736.13	27.94	98.937				
6,500.00	6,492.64	6,476.06	6,457.39	22.90	16.95	56.26	-239.17	-2,892.16	2,759.73	2,731.32	28.41	97.146				
6,600.00	6,592.45	6,591.79	6,573.01	23.26	17.30	56.27	-244.12	-2,890.63	2,755.06	2,726.15	28.90	95.317				
6,700.00	6,692.27	6,700.67	6,681.83	23.63	17.62	56.34	-246.56	-2,888.73	2,749.95	2,720.56	29.38	93.590				
6,719.52	6,711.75	6,721.80	6,702.96	23.70	17.68	56.36	-246.76	-2,888.32	2,748.91	2,719.44	29.47	93.263				
6,800.00	6,792.13	6,804.08	6,785.22	24.00	17.91	56.37	-247.17	-2,886.66	2,745.04	2,715.19	29.85	91.974				
6,900.00	6,892.09	6,899.37	6,880.50	24.35	18.18	56.36	-247.72	-2,884.80	2,741.59	2,711.30	30.29	90.500				
6,952.92	6,945.00	6,948.76	6,929.87	24.54	18.32	-90.57	-248.03	-2,883.92	2,740.45	2,709.93	30.53	89.776				
7,000.00	6,992.08	6,996.51	6,977.62	24.69	18.46	-90.57	-248.38	-2,883.09	2,739.64	2,708.91	30.74	89.136				
7,100.00	7,092.08	7,100.38	7,081.46	25.03	18.76	-90.59	-249.26	-2,881.22	2,737.85	2,706.66	31.19	87.790				
7,200.00	7,192.08	7,203.91	7,184.97	25.37	19.06	-90.61	-250.01	-2,879.19	2,735.89	2,704.26	31.64	86.475				
7,300.00	7,292.08	7,303.80	7,284.84	25.71	19.35	-90.62	-250.78	-2,877.16	2,733.88	2,701.79	32.09	85.203				
7,400.00	7,392.08	7,397.63	7,378.65	26.05	19.63	-90.64	-251.71	-2,875.37	2,731.97	2,699.44	32.53	83.986				
7,500.00	7,492.08	7,461.52	7,442.53	26.39	19.82	-90.65	-252.18	-2,874.58	2,730.79	2,697.87	32.92	82.952				
7,531.24	7,523.32	7,480.22	7,461.23	26.50	19.87	-90.65	-252.18	-2,874.54	2,730.71	2,697.68	33.04	82.651				
7,600.00	7,592.08	7,524.38	7,505.39	26.73	20.00	-90.65	-252.01	-2,874.76	2,731.04	2,697.74	33.30	82.004				
7,700.00	7,692.08	7,598.00	7,579.00	27.07	20.20	-90.65	-251.82	-2,875.86	2,732.50	2,698.80	33.70	81.082				
7,800.00	7,792.08	7,685.12	7,666.09	27.41	20.45	-90.65	-251.90	-2,877.78	2,734.70	2,700.57	34.12	80.141				
7,900.00	7,892.08	7,792.67	7,773.62	27.76	20.76	-90.65	-251.98	-2,880.16	2,736.91	2,702.33	34.59	79.136				
8,000.00	7,992.08	7,898.01	7,878.94	28.10	21.07	-90.65	-251.97	-2,882.24	2,738.89	2,703.84	35.04	78.157				
8,100.00	8,092.08	8,009.18	7,990.09	28.44	21.39	-90.65	-251.92	-2,884.09	2,740.56	2,705.04	35.51	77.167				
8,200.00	8,192.08	8,121.99	8,102.89	28.78	21.73	-90.65	-252.08	-2,885.47	2,741.78	2,705.78	35.99	76.180				
8,300.00	8,292.08	8,226.31	8,207.21	29.13	22.04	-90.65	-252.21	-2,886.36	2,742.63	2,706.18	36.45	75.235				
8,400.00	8,392.08	8,339.52	8,320.42	29.47	22.39	-90.66	-252.39	-2,887.09	2,743.29	2,706.35	36.94	74.271				
8,500.00	8,492.08	8,442.57	8,423.47	29.81	22.71	-90.66	-252.67	-2,887.37	2,743.56	2,706.16	37.40	73.349				
8,600.00	8,592.08	8,548.03	8,528.92	30.16	23.04	-90.67	-253.22	-2,887.56	2,743.75	2,705.87	37.88	72.431				
8,700.00	8,692.08	8,671.88	8,652.77	30.50	23.44	-90.69	-254.23	-2,887.00	2,743.30	2,704.91	38.39	71.455				
8,800.00	8,792.08	8,787.05	8,767.92	30.85	23.81	-90.73	-255.73	-2,885.70	2,742.19	2,703.30	38.89	70.515				
8,900.00	8,892.08	8,890.64	8,871.49	31.20	24.14	-90.76	-257.19	-2,884.14	2,740.69	2,701.33	39.36	69.624				
9,000.00	8,992.08	9,011.20	8,992.03	31.54	24.52	-90.79	-258.55	-2,881.90	2,738.86	2,698.99	39.87	68.698				
9,100.00	9,092.08	9,115.88	9,096.65	31.89	24.87	-90.83	-260.53	-2,879.36	2,736.46	2,696.11	40.35	67.819				
9,200.00	9,192.08	9,185.00	9,165.73	32.23	25.09	-90.87	-262.45	-2,877.74	2,734.29	2,693.52	40.77	67.063				
9,300.00	9,292.08	9,278.00	9,258.69	32.58	25.40	-90.91	-264.48	-2,876.50	2,732.99	2,691.76	41.24	66.276				
9,400.00	9,392.08	9,371.99	9,352.68	32.93	25.71	-90.93	-265.42	-2,875.89	2,732.34	2,690.64	41.70	65.523				
9,500.00	9,492.08	9,469.12	9,449.80	33.27	26.02	-90.95	-266.24	-2,875.14	2,731.58	2,689.41	42.17	64.776				
9,600.00	9,592.08	9,574.15	9,554.82	33.62	26.35	-90.95	-266.24	-2,874.16	2,730.65	2,688.00	42.65	64.030				
9,700.00	9,692.08	9,652.61	9,633.27	33.97	26.59	-90.93	-265.34	-2,873.78	2,730.14	2,687.07	43.07	63.389				
9,800.00	9,792.08	9,759.03	9,739.68	34.32	26.91	-90.89	-263.36	-2,873.55	2,729.89	2,686.35	43.54	62.700				

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 236-OWSG (Rev2) MWD, 2833-OWSG (Rev2) MWD, 10215-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,900.00	9,892.08	9,860.06	9,840.68	34.66	27.21	-90.84	-260.97	-2,873.17	2,729.49	2,685.49	44.00	62.036		
10,000.00	9,992.08	9,975.79	9,956.32	35.01	27.55	-90.74	-256.37	-2,872.77	2,729.13	2,684.64	44.48	61.352		
10,100.00	10,092.08	10,134.22	10,114.68	35.36	28.04	-90.70	-254.14	-2,869.40	2,726.92	2,681.87	45.04	60.541		
10,200.00	10,192.08	10,215.00	10,195.42	35.71	28.16	-90.72	-255.21	-2,867.06	2,724.06	2,678.67	45.39	60.009		
10,300.00	10,292.08	10,275.44	10,255.84	36.06	28.17	-90.74	-256.24	-2,865.90	2,722.25	2,676.56	45.68	59.588		
10,358.42	10,350.50	10,308.00	10,288.40	36.26	28.17	-90.75	-256.62	-2,865.75	2,721.98	2,676.13	45.85	59.365		
10,400.00	10,392.08	10,338.16	10,318.55	36.41	28.17	-90.76	-256.94	-2,865.82	2,722.08	2,676.11	45.97	59.215		
10,500.00	10,492.08	10,421.21	10,401.59	36.76	28.18	-90.78	-257.98	-2,866.52	2,722.92	2,676.67	46.25	58.869		
10,600.00	10,592.08	10,561.58	10,541.93	37.11	28.21	-90.84	-260.89	-2,867.10	2,723.42	2,676.87	46.54	58.512		
10,700.00	10,692.08	10,721.52	10,701.77	37.46	28.26	-90.94	-265.74	-2,864.44	2,721.75	2,674.92	46.83	58.116		
10,800.00	10,792.08	10,883.67	10,863.76	37.81	28.32	-91.03	-269.84	-2,858.77	2,718.50	2,671.39	47.11	57.700		
10,900.00	10,892.08	10,978.00	10,957.96	38.16	28.35	-91.07	-271.57	-2,853.97	2,713.46	2,666.04	47.42	57.221		
11,000.00	10,992.08	11,018.50	10,998.43	38.51	28.37	-91.08	-271.87	-2,852.57	2,709.92	2,662.18	47.74	56.763		
11,100.00	11,092.08	11,068.00	11,047.92	38.86	28.39	-91.07	-271.39	-2,851.88	2,708.41	2,660.36	48.05	56.367		
11,117.98	11,110.06	11,068.00	11,047.92	38.82	28.39	-91.07	-271.39	-2,851.88	2,708.35	2,660.24	48.10	56.302		
11,200.00	11,192.08	11,105.34	11,085.25	39.21	28.40	-91.05	-270.67	-2,852.14	2,708.97	2,660.62	48.35	56.032		
11,300.00	11,292.08	11,158.00	11,137.88	39.56	28.42	-91.03	-269.63	-2,853.76	2,711.76	2,663.13	48.64	55.755		
11,400.00	11,392.08	11,188.35	11,168.18	39.91	28.43	-91.01	-268.95	-2,855.35	2,716.60	2,667.69	48.91	55.547		
11,500.00	11,492.08	11,247.00	11,226.64	40.26	28.45	-90.98	-267.32	-2,859.73	2,723.73	2,674.55	49.18	55.379		
11,600.00	11,592.08	11,322.58	11,301.90	40.61	28.48	-90.93	-265.05	-2,866.29	2,732.18	2,682.71	49.47	55.227		
11,615.96	11,608.04	11,344.83	11,324.07	40.66	28.49	-90.91	-264.43	-2,868.13	2,733.50	2,683.97	49.53	55.192		
11,650.00	11,642.06	11,405.43	11,384.46	40.78	28.51	-90.12	-262.90	-2,872.78	2,736.10	2,686.45	49.66	55.102		
11,700.00	11,691.78	11,787.00	11,761.45	40.95	28.66	-90.16	-229.02	-2,876.01	2,735.16	2,685.29	49.87	54.843		
11,750.00	11,740.86	11,805.63	11,778.26	41.12	28.65	-90.28	-221.04	-2,875.32	2,733.02	2,683.01	50.02	54.640		
11,800.00	11,788.94	11,832.00	11,801.43	41.27	28.64	-90.32	-208.46	-2,874.80	2,731.59	2,681.44	50.15	54.467		
11,850.00	11,835.63	11,832.00	11,801.43	41.42	28.64	-90.40	-208.46	-2,874.80	2,730.72	2,680.43	50.29	54.303		
11,896.20	11,877.25	11,857.77	11,823.35	41.54	28.63	-90.37	-194.94	-2,874.75	2,730.44	2,680.05	50.39	54.184		
11,900.00	11,880.59	11,859.27	11,824.62	41.55	28.63	-90.36	-194.11	-2,874.76	2,730.44	2,680.04	50.40	54.175		
11,950.00	11,923.48	11,877.00	11,839.30	41.68	28.62	-90.31	-184.18	-2,874.97	2,730.78	2,680.27	50.51	54.064		
12,000.00	11,963.97	11,877.00	11,839.30	41.80	28.62	-90.19	-184.18	-2,874.97	2,731.91	2,681.29	50.62	53.973		
12,050.00	12,001.74	11,922.00	11,875.26	41.91	28.60	-90.10	-157.20	-2,876.69	2,733.55	2,682.84	50.71	53.907		
12,100.00	12,036.53	11,922.00	11,875.26	42.02	28.60	-89.88	-157.20	-2,876.69	2,735.71	2,684.91	50.81	53.847		
12,150.00	12,068.05	11,941.65	11,890.37	42.13	28.59	-89.67	-144.71	-2,877.95	2,738.61	2,687.72	50.90	53.807		
12,200.00	12,096.07	11,966.00	11,908.56	42.24	28.58	-89.46	-128.63	-2,879.77	2,742.02	2,691.03	50.99	53.778		
12,250.00	12,120.37	12,159.58	12,019.41	42.35	28.58	-89.67	27.55	-2,891.50	2,745.63	2,694.54	51.10	53.733		
12,300.00	12,140.78	12,191.00	12,030.04	42.47	28.60	-89.50	57.10	-2,892.54	2,746.85	2,695.64	51.21	53.643		
12,350.00	12,157.13	12,221.91	12,038.50	42.59	28.63	-89.32	86.80	-2,893.76	2,748.37	2,697.04	51.32	53.552		
12,400.00	12,169.30	12,249.71	12,044.65	42.71	28.66	-89.13	113.88	-2,894.97	2,750.12	2,698.68	51.44	53.463		
12,450.00	12,177.21	12,294.31	12,050.57	42.84	28.72	-88.91	157.98	-2,897.31	2,752.28	2,700.70	51.58	53.364		
12,500.00	12,180.78	12,359.93	12,053.72	42.96	28.84	-88.70	223.43	-2,900.13	2,753.96	2,702.21	51.75	53.217		
12,515.96	12,181.00	12,370.72	12,053.95	43.00	28.87	-88.65	234.20	-2,900.59	2,754.48	2,702.68	51.80	53.179		
12,600.00	12,181.00	12,432.88	12,054.86	43.24	29.02	-88.67	296.28	-2,903.58	2,757.68	2,705.60	52.08	52.953		
12,700.00	12,181.00	12,901.52	12,038.62	43.58	31.23	-88.32	763.63	-2,892.12	2,751.60	2,698.03	53.57	51.368		
12,800.00	12,181.00	12,952.00	12,038.66	43.97	31.56	-88.32	813.97	-2,888.40	2,743.29	2,689.20	54.09	50.721		
12,900.00	12,181.00	13,042.00	12,039.87	44.43	32.21	-88.34	903.78	-2,882.83	2,736.11	2,681.28	54.83	49.902		
13,000.00	12,181.00	13,117.49	12,041.25	44.94	32.79	-88.37	979.15	-2,878.62	2,729.53	2,673.94	55.59	49.100		
13,100.00	12,181.00	13,212.64	12,043.10	45.50	33.58	-88.40	1,074.15	-2,873.82	2,723.49	2,666.98	56.51	48.196		
13,200.00	12,181.00	13,311.00	12,043.82	46.12	34.45	-88.41	1,172.39	-2,868.86	2,717.49	2,659.97	57.52	47.247		
13,300.00	12,181.00	13,358.33	12,043.91	46.79	34.89	-88.41	1,219.67	-2,866.93	2,712.49	2,654.15	58.33	46.501		
13,400.00	12,181.00	13,400.00	12,043.92	47.50	35.28	-88.41	1,261.34	-2,866.01	2,709.44	2,650.29	59.15	45.804		
13,500.00	12,181.00	13,467.21	12,044.96	48.26	35.95	-88.44	1,328.53	-2,865.67	2,708.03	2,647.86	60.17	45.010		
13,555.20	12,181.00	13,503.10	12,046.33	48.71	36.31	-88.46	1,364.39	-2,865.95	2,707.88	2,647.14	60.74	44.582		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 236-OWSG (Rev2) MWD, 2833-OWSG (Rev2) MWD, 10215-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
13,600.00	12,181.00	13,536.87	12,047.67	49.07	36.66	-88.49	1,398.13	-2,866.39	2,707.99	2,646.75	61.24	44.220		
13,700.00	12,181.00	13,580.00	12,049.25	49.91	37.10	-88.53	1,441.23	-2,867.14	2,709.15	2,646.97	62.19	43.565		
13,800.00	12,181.00	13,670.00	12,050.87	50.80	38.07	-88.56	1,531.14	-2,870.54	2,711.93	2,648.46	63.47	42.725		
13,900.00	12,181.00	13,731.52	12,050.15	51.72	38.75	-88.55	1,592.56	-2,873.84	2,716.07	2,651.45	64.62	42.033		
14,000.00	12,181.00	13,811.68	12,047.10	52.68	39.66	-88.49	1,672.55	-2,878.14	2,720.63	2,654.70	65.93	41.267		
14,100.00	12,181.00	13,886.89	12,043.25	53.67	40.54	-88.41	1,747.51	-2,882.94	2,726.20	2,658.96	67.24	40.546		
14,200.00	12,181.00	13,968.13	12,039.79	54.70	41.51	-88.34	1,828.47	-2,888.73	2,732.51	2,663.88	68.63	39.815		
14,300.00	12,181.00	14,052.09	12,036.13	55.75	42.53	-88.26	1,912.10	-2,895.28	2,739.50	2,669.42	70.08	39.092		
14,400.00	12,181.00	14,184.95	12,029.69	56.84	44.19	-88.13	2,044.42	-2,905.16	2,746.16	2,674.19	71.97	38.159		
14,500.00	12,181.00	14,303.72	12,025.74	57.95	45.72	-88.06	2,162.90	-2,912.33	2,751.27	2,677.49	73.78	37.288		
14,600.00	12,181.00	14,386.00	12,022.89	59.08	46.79	-88.00	2,244.96	-2,917.58	2,756.86	2,681.53	75.33	36.596		
14,700.00	12,181.00	14,476.00	12,019.55	60.24	47.99	-87.94	2,334.69	-2,923.73	2,762.90	2,685.92	76.97	35.894		
14,800.00	12,181.00	14,571.60	12,014.44	61.42	49.28	-87.83	2,429.90	-2,930.63	2,769.37	2,690.68	78.70	35.191		
14,900.00	12,181.00	14,862.03	11,995.58	62.63	53.27	-87.45	2,719.46	-2,941.59	2,772.54	2,690.36	82.17	33.740		
15,000.00	12,181.00	14,963.81	11,987.35	63.85	54.70	-87.28	2,820.89	-2,941.39	2,771.77	2,687.75	84.02	32.989		
15,032.27	12,181.00	14,985.05	11,985.60	64.25	55.00	-87.24	2,842.07	-2,941.46	2,771.71	2,687.18	84.52	32.792		
15,100.00	12,181.00	15,035.93	11,981.42	65.09	55.72	-87.16	2,892.78	-2,941.94	2,771.96	2,686.33	85.63	32.371		
15,200.00	12,181.00	15,352.67	11,963.12	66.35	60.24	-86.77	3,208.79	-2,936.53	2,771.65	2,682.35	89.30	31.038		
15,300.00	12,181.00	15,457.67	11,958.00	67.63	61.75	-86.65	3,313.34	-2,928.56	2,763.35	2,672.12	91.23	30.289		
15,400.00	12,181.00	15,558.98	11,952.39	68.92	63.21	-86.53	3,414.30	-2,922.28	2,756.56	2,663.40	93.16	29.589		
15,500.00	12,181.00	15,669.56	11,949.73	70.23	64.82	-86.46	3,524.57	-2,914.60	2,748.82	2,653.64	95.18	28.881		
15,600.00	12,181.00	15,766.00	11,948.86	71.55	66.23	-86.43	3,620.76	-2,907.67	2,740.78	2,643.67	97.11	28.225		
15,700.00	12,181.00	15,817.50	11,948.13	72.89	66.99	-86.41	3,672.15	-2,904.44	2,733.81	2,635.11	98.70	27.698		
15,800.00	12,181.00	15,918.64	11,947.79	74.24	68.49	-86.40	3,773.18	-2,899.76	2,728.28	2,627.58	100.70	27.093		
15,900.00	12,181.00	16,019.46	11,948.26	75.60	69.99	-86.40	3,873.82	-2,894.04	2,721.64	2,618.93	102.71	26.499		
16,000.00	12,181.00	16,079.25	11,948.80	76.97	70.88	-86.41	3,933.56	-2,891.53	2,716.42	2,612.03	104.39	26.021		
16,100.00	12,181.00	16,143.00	11,949.86	78.35	71.84	-86.43	3,997.27	-2,889.68	2,712.51	2,606.39	106.11	25.563		
16,200.00	12,181.00	16,227.71	11,951.42	79.75	73.12	-86.45	4,081.95	-2,888.03	2,709.52	2,601.50	108.02	25.083		
16,300.00	12,181.00	16,312.11	11,952.63	81.15	74.40	-86.48	4,166.34	-2,886.91	2,707.17	2,597.24	109.93	24.625		
16,400.00	12,181.00	16,395.66	11,953.40	82.56	75.67	-86.49	4,249.88	-2,886.26	2,705.40	2,593.55	111.85	24.188		
16,500.00	12,181.00	16,480.65	11,953.44	83.98	76.97	-86.49	4,334.87	-2,886.07	2,704.23	2,590.45	113.78	23.767		
16,564.84	12,181.00	16,521.00	11,953.63	84.91	77.59	-86.50	4,375.22	-2,886.15	2,703.80	2,588.92	114.89	23.534 CC		
16,600.00	12,181.00	16,521.00	11,953.63	85.41	77.59	-86.50	4,375.22	-2,886.15	2,704.03	2,588.77	115.26	23.460		
16,700.00	12,181.00	16,615.00	11,953.66	86.85	79.04	-86.50	4,469.18	-2,888.46	2,705.54	2,588.25	117.30	23.066 ES		
16,800.00	12,181.00	16,687.65	11,953.50	88.29	80.16	-86.50	4,541.79	-2,890.98	2,707.94	2,588.83	119.11	22.736		
16,900.00	12,181.00	16,762.00	11,953.52	89.74	81.31	-86.50	4,616.11	-2,892.92	2,709.95	2,589.02	120.93	22.409		
17,000.00	12,181.00	16,762.00	11,953.52	91.20	81.31	-86.50	4,616.11	-2,892.92	2,715.27	2,593.42	121.84	22.285		
17,100.00	12,181.00	16,762.00	11,953.52	92.67	81.31	-86.50	4,616.11	-2,892.92	2,724.25	2,601.62	122.63	22.216		
17,200.00	12,181.00	16,762.00	11,953.52	94.14	81.31	-86.50	4,616.11	-2,892.92	2,736.85	2,613.57	123.28	22.200 SF		
17,300.00	12,181.00	16,762.00	11,953.52	95.62	81.31	-86.50	4,616.11	-2,892.92	2,753.03	2,629.23	123.81	22.237		
17,400.00	12,181.00	16,762.00	11,953.52	97.10	81.31	-86.50	4,616.11	-2,892.92	2,772.73	2,648.54	124.20	22.325		
17,500.00	12,181.00	16,762.00	11,953.52	98.59	81.31	-86.50	4,616.11	-2,892.92	2,795.87	2,671.40	124.47	22.463		
17,600.00	12,181.00	16,762.00	11,953.52	100.08	81.31	-86.50	4,616.11	-2,892.92	2,822.36	2,697.75	124.61	22.650		
17,700.00	12,181.00	16,762.00	11,953.52	101.58	81.31	-86.50	4,616.11	-2,892.92	2,852.12	2,727.48	124.64	22.883		
17,800.00	12,181.00	16,762.00	11,953.52	103.08	81.31	-86.50	4,616.11	-2,892.92	2,885.03	2,760.47	124.57	23.160		
17,900.00	12,181.00	16,762.00	11,953.52	104.59	81.31	-86.50	4,616.11	-2,892.92	2,921.00	2,796.61	124.39	23.482		
18,000.00	12,181.00	16,762.00	11,953.52	106.10	81.31	-86.50	4,616.11	-2,892.92	2,959.92	2,835.79	124.13	23.846		
18,100.00	12,181.00	16,762.00	11,953.52	107.62	81.31	-86.50	4,616.11	-2,892.92	3,001.66	2,877.88	123.78	24.251		
18,200.00	12,181.00	16,762.00	11,953.52	109.14	81.31	-86.50	4,616.11	-2,892.92	3,046.11	2,922.76	123.35	24.694		
18,300.00	12,181.00	16,762.00	11,953.52	110.66	81.31	-86.50	4,616.11	-2,892.92	3,093.16	2,970.30	122.86	25.175		
18,400.00	12,181.00	16,762.00	11,953.52	112.19	81.31	-86.50	4,616.11	-2,892.92	3,142.69	3,020.37	122.32	25.693		
18,500.00	12,181.00	16,762.00	11,953.52	113.72	81.31	-86.50	4,616.11	-2,892.92	3,194.58	3,072.86	121.72	26.245		

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 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 usft
Survey Program: 236-OWSG (Rev2) MWD, 2833-OWSG (Rev2) MWD, 10215-OWSG (Rev2) MWD													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
18,600.00	12,181.00	16,762.00	11,953.52	115.25	81.31	-86.50	4,616.11	-2,892.92	3,248.72	3,127.64	121.08	26.831		
18,700.00	12,181.00	16,762.00	11,953.52	116.79	81.31	-86.50	4,616.11	-2,892.92	3,305.00	3,184.59	120.41	27.448		
18,800.00	12,181.00	16,762.00	11,953.52	118.33	81.31	-86.50	4,616.11	-2,892.92	3,363.31	3,243.60	119.71	28.096		
18,900.00	12,181.00	16,762.00	11,953.52	119.87	81.31	-86.50	4,616.11	-2,892.92	3,423.55	3,304.57	118.98	28.774		
19,000.00	12,181.00	16,762.00	11,953.52	121.42	81.31	-86.50	4,616.11	-2,892.92	3,485.62	3,367.38	118.24	29.479		
19,100.00	12,181.00	16,762.00	11,953.52	122.97	81.31	-86.50	4,616.11	-2,892.92	3,549.42	3,431.94	117.49	30.212		
19,200.00	12,181.00	16,762.00	11,953.52	124.52	81.31	-86.50	4,616.11	-2,892.92	3,614.86	3,498.14	116.72	30.969		
19,300.00	12,181.00	16,762.00	11,953.52	126.08	81.31	-86.50	4,616.11	-2,892.92	3,681.86	3,565.90	115.96	31.751		
19,400.00	12,181.00	16,762.00	11,953.52	127.63	81.31	-86.50	4,616.11	-2,892.92	3,750.32	3,635.13	115.19	32.557		
19,500.00	12,181.00	16,762.00	11,953.52	129.19	81.31	-86.50	4,616.11	-2,892.92	3,820.18	3,705.75	114.43	33.385		
19,600.00	12,181.00	16,762.00	11,953.52	130.75	81.31	-86.50	4,616.11	-2,892.92	3,891.35	3,777.68	113.67	34.234		
19,700.00	12,181.00	16,762.00	11,953.52	132.32	81.31	-86.50	4,616.11	-2,892.92	3,963.77	3,850.85	112.92	35.103		
19,800.00	12,181.00	16,762.00	11,953.52	133.88	81.31	-86.50	4,616.11	-2,892.92	4,037.36	3,925.19	112.18	35.992		
19,900.00	12,181.00	16,762.00	11,953.52	135.45	81.31	-86.50	4,616.11	-2,892.92	4,112.07	4,000.63	111.44	36.899		
20,000.00	12,181.00	16,762.00	11,953.52	137.02	81.31	-86.50	4,616.11	-2,892.92	4,187.84	4,077.12	110.72	37.823		
20,100.00	12,181.00	16,762.00	11,953.52	138.59	81.31	-86.50	4,616.11	-2,892.92	4,264.60	4,154.59	110.01	38.765		
20,200.00	12,181.00	16,762.00	11,953.52	140.17	81.31	-86.50	4,616.11	-2,892.92	4,342.31	4,233.00	109.32	39.722		
20,300.00	12,181.00	16,762.00	11,953.52	141.74	81.31	-86.50	4,616.11	-2,892.92	4,420.92	4,312.28	108.64	40.695		
20,400.00	12,181.00	16,762.00	11,953.52	143.32	81.31	-86.50	4,616.11	-2,892.92	4,500.38	4,392.41	107.97	41.682		
20,500.00	12,181.00	16,762.00	11,953.52	144.90	81.31	-86.50	4,616.11	-2,892.92	4,580.64	4,473.32	107.32	42.682		
20,600.00	12,181.00	16,762.00	11,953.52	146.48	81.31	-86.50	4,616.11	-2,892.92	4,661.66	4,554.98	106.68	43.696		
20,700.00	12,181.00	16,762.00	11,953.52	148.06	81.31	-86.50	4,616.11	-2,892.92	4,743.41	4,637.34	106.06	44.722		
20,800.00	12,181.00	16,762.00	11,953.52	149.64	81.31	-86.50	4,616.11	-2,892.92	4,825.84	4,720.38	105.46	45.760		
20,900.00	12,181.00	16,762.00	11,953.52	151.23	81.31	-86.50	4,616.11	-2,892.92	4,908.93	4,804.06	104.87	46.809		
21,000.00	12,181.00	16,762.00	11,953.52	152.81	81.31	-86.50	4,616.11	-2,892.92	4,992.64	4,888.34	104.30	47.868		

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



Total Directional Services

Anticollision Report

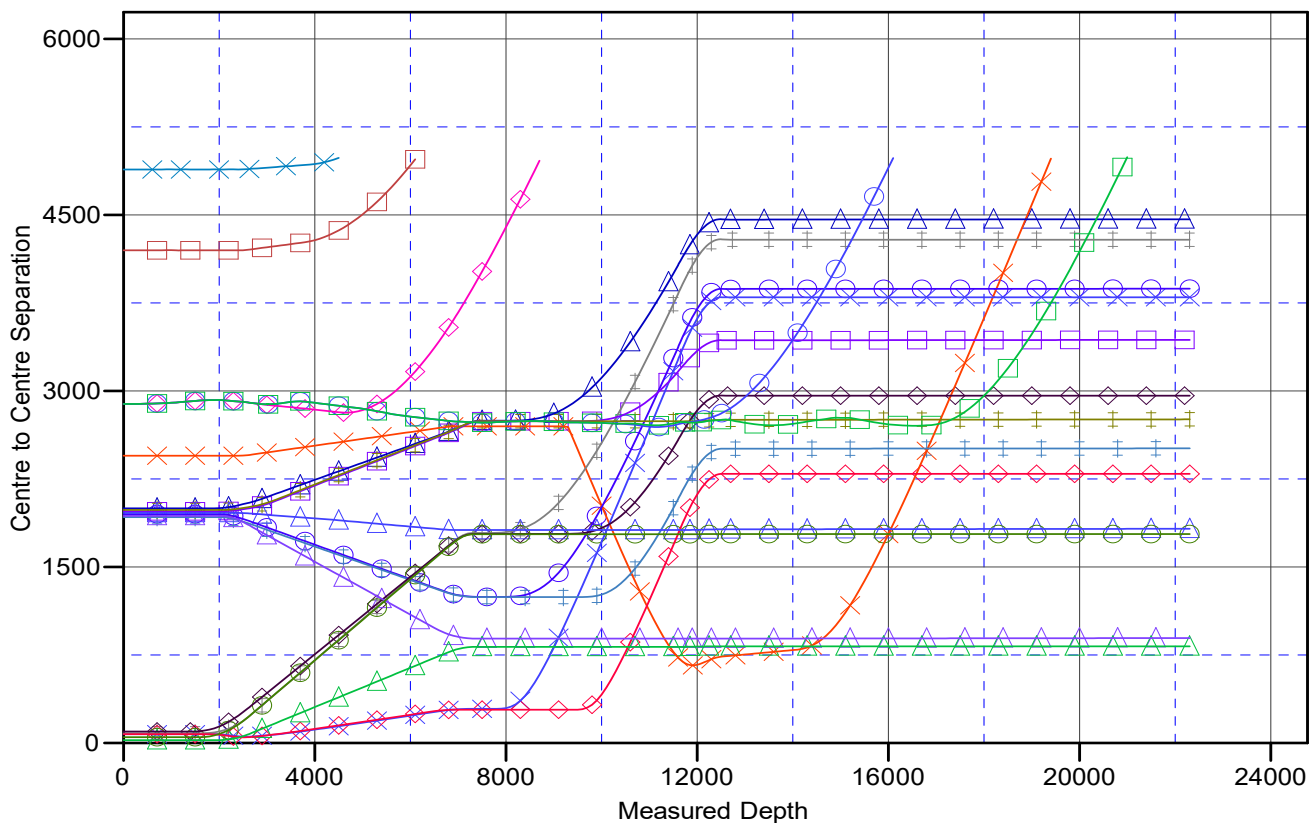


Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 3332.1' GE + 30' KB @ 3362.10usft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.333334

Coordinates are relative to: FMM Fed Com 804H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.54°

Ladder Plot



LEGEND

Amoco State #001 (Offset), OH, OH V0	FMM Fed Com 302H, OH, Plan #1 V0	FMM Fed Com 806H, OH, Plan #1 V0
Blue Bay WCA State Com #001C (Offset Plan), OH, Plan #1 V0	FMM Fed Com 303H, OH, Plan #1 V0	Pre-Ongard Well #001 (Offset), OH, OH V0
FMM Fed Com 101H, OH, Plan #1 V0	FMM Fed Com 304H, OH, Plan #1 V0	Proxy WCA State Com #001H (Offset), OH, OH V0
FMM Fed Com 102H, OH, Plan #1 V0	FMM Fed Com 801H, OH, Plan #1 V0	Proxy WCA State Com #001H (Offset), ST01, ST01 V0
FMM Fed Com 103H, OH, Plan #1 V0	FMM Fed Com 802H, OH, Plan #1 V0	Proxy WCA State Com #001H (Offset), ST02, ST02 V0
FMM Fed Com 104H, OH, Plan #1 V0	FMM Fed Com 803H, OH, Plan #1 V0	
FMM Fed Com 301H, OH, Plan #1 V0	FMM Fed Com 805H, OH, Plan #1 V0	

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



Total Directional Services

Anticollision Report



Company:	Franklin Mountain Energy	Local Co-ordinate Reference:	Well FMM Fed Com 804H
Project:	Lea County, NM (NAD83)	TVD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Reference Site:	FMM Fed Com	MD Reference:	3332.1' GE + 30' KB @ 3362.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	FMM Fed Com 804H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	EDM 5000.15 Single User Db
Reference Design:	Plan #1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 3332.1' GE + 30' KB @ 3362.10usft

Coordinates are relative to: FMM Fed Com 804H

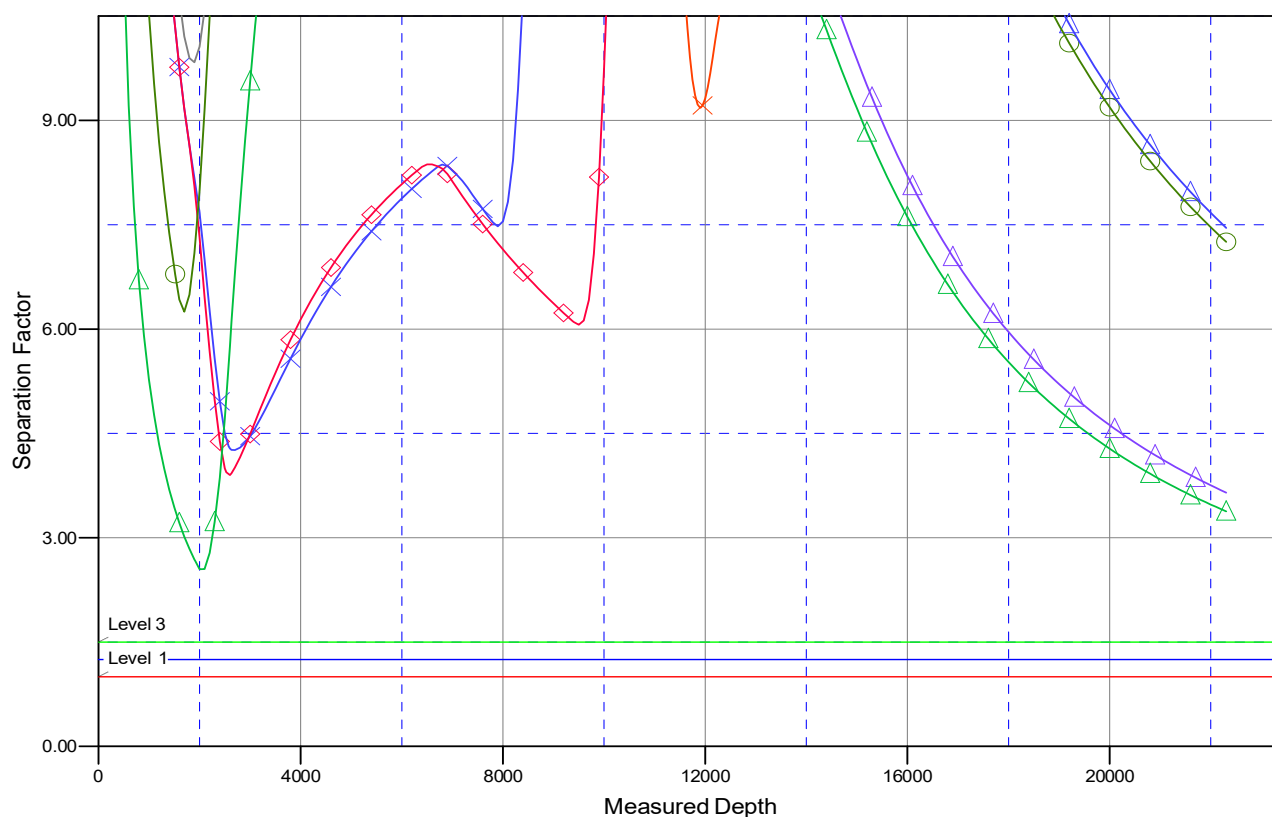
Offset Depths are relative to Offset Datum

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

Central Meridian is -104.333334

Grid Convergence at Surface is: 0.54°

Separation Factor Plot



LEGEND

Amoco State #001 (Offset), OH, OH V0	FMM Fed Com 302H, OH, Plan #1 V0	FMM Fed Com 806H, OH, Plan #1 V0
Blue Bay WCA State Com #001C (Offset Plan), OH, Plan #1 V0	FMM Fed Com 303H, OH, Plan #1 V0	Pre-Ongard Well #001 (Offset), OH, OH V0
FMM Fed Com 101H, OH, Plan #1 V0	FMM Fed Com 304H, OH, Plan #1 V0	Proxy WCA State Com #001H (Offset), OH, OH V0
FMM Fed Com 102H, OH, Plan #1 V0	FMM Fed Com 801H, OH, Plan #1 V0	Proxy WCA State Com #001H (Offset), ST01, ST01 V0
FMM Fed Com 103H, OH, Plan #1 V0	FMM Fed Com 802H, OH, Plan #1 V0	Proxy WCA State Com #001H (Offset), ST02, ST02 V0
FMM Fed Com 104H, OH, Plan #1 V0	FMM Fed Com 803H, OH, Plan #1 V0	
FMM Fed Com 301H, OH, Plan #1 V0	FMM Fed Com 805H, OH, Plan #1 V0	

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

**PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL**

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

WELL NAME & NO.:	FMM Fed Com 103H
SURFACE HOLE FOOTAGE:	345'/S & 2027'/E
BOTTOM HOLE FOOTAGE:	150'/N & 1877'/E

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

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

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

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

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

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

COA

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

A. HYDROGEN SULFIDE

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

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1500 feet** (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:

Option 1 (Single Stage):

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

Option 2:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

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

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

3. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:
 - Cement should tie-back at least **50 feet** on top of Capitan Reef top **or 200 feet** into the previous casing, whichever is greater. If cement does not circulate see B.1.a, c-d above.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, potash or capitan reef. Cement excess is less than 25%, more cement might be required.
4. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.
Cement excess is less than 25%, more cement might be required.

C. PRESSURE CONTROL

1.

Option 1:

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

Option 2:

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

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

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

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

GENERAL REQUIREMENTS

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

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

☒ Eddy County

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

☒ Lea County

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

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

A. CASING

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

B. PRESSURE CONTROL

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

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

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

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

District I

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

District II

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

District III

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

District IV

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

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

CONDITIONS

Action 86007

CONDITIONS

Operator: Franklin Mountain Energy LLC 44 Cook Street Denver, CO 80206	OGRID: 373910
	Action Number: 86007
	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